

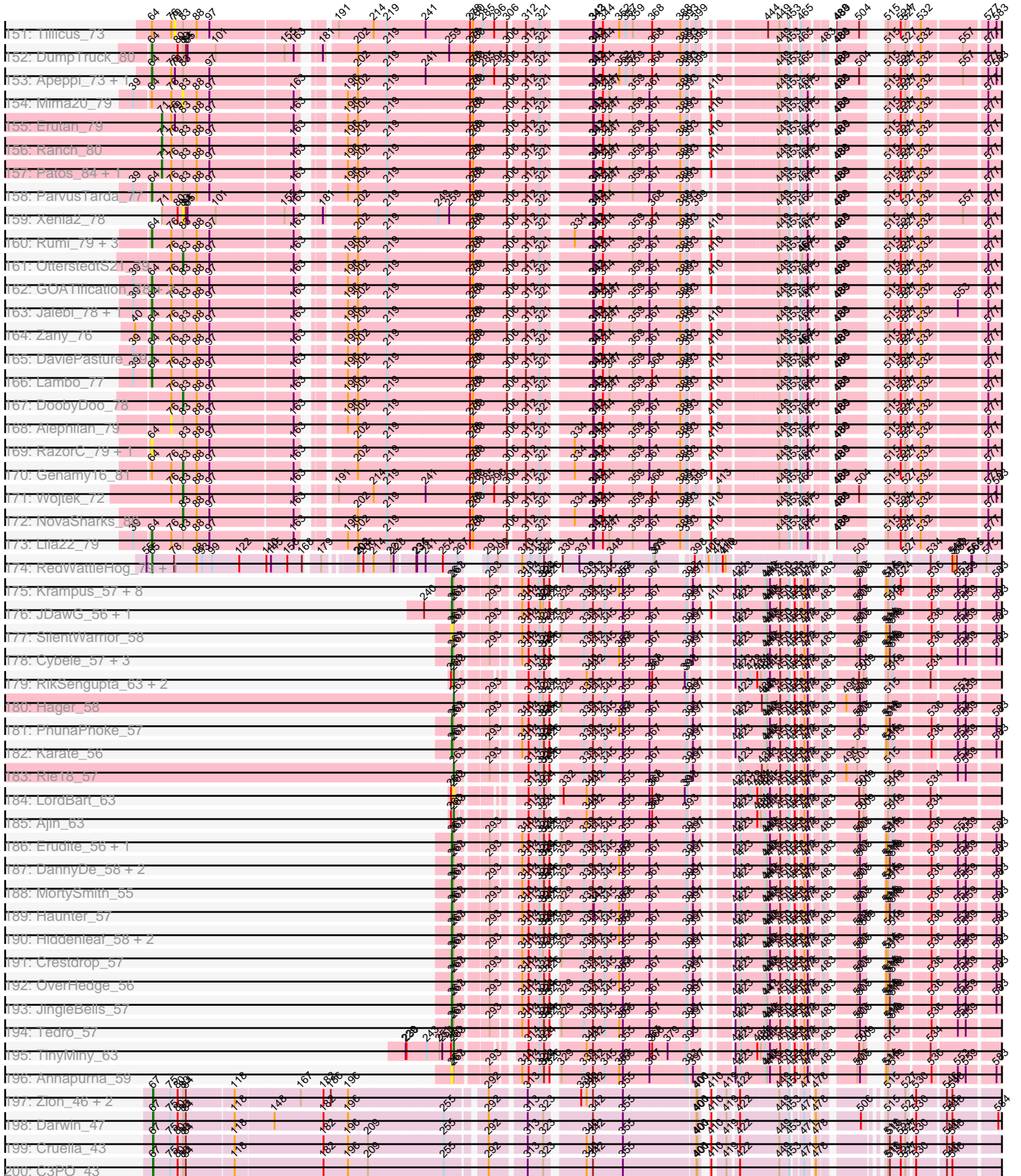




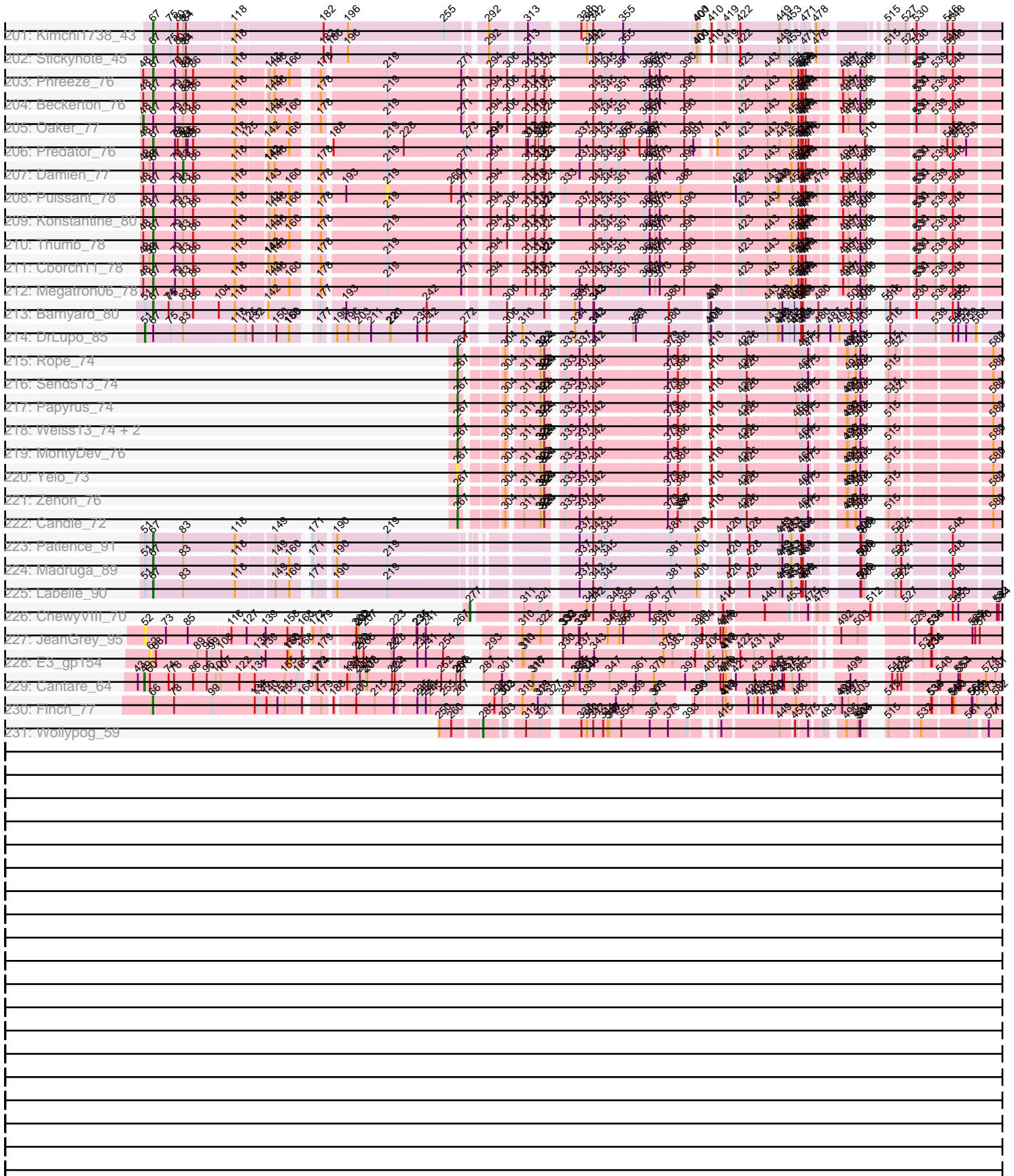




# Zoomed Pham 199888



# Zoomed Pham 199888



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 199888 Report

This analysis was run 01/18/25 on database version 583.

Pham number 199888 has 499 members, 63 are drafts.

Phages represented in each track:

- Track 1 : Settecandela\_119, Phrappuccino\_119
- Track 2 : Indlulamithi\_76
- Track 3 : Leopard\_84, Onyinye\_84
- Track 4 : Aikoy\_85
- Track 5 : Leviticus\_53
- Track 6 : Lika\_54
- Track 7 : Legacy\_52
- Track 8 : Danzina\_56
- Track 9 : Triste\_55, Chucky\_54, Emaanora\_57, Whatever\_54, TagePhighter\_56
- Track 10 : Lannister\_54
- Track 11 : Goby\_55, Toma\_55
- Track 12 : BryanRecycles\_55, Rusticus\_55, Izzy\_55, Jash\_55, Oliynyk\_55
- Track 13 : Hippo\_54
- Track 14 : Bovely\_53, Nerdos\_52, Indigo\_52, Phettuccine\_53, Aaronocolus\_53
- Track 15 : Snorlax\_54, Dwayne\_54, Ejemplo\_52, TuanPN\_52
- Track 16 : Katalie\_54, RedBear\_55, South40\_54
- Track 17 : Sujidade\_55
- Track 18 : Lorelei\_55
- Track 19 : BeardedLady\_53
- Track 20 : Celeste\_56
- Track 21 : Maneekul\_54
- Track 22 : Esperer\_53
- Track 23 : SunsetPointe\_52, Ozzie\_52
- Track 24 : Godpower\_56
- Track 25 : Zemlya\_55
- Track 26 : BarryBee\_57
- Track 27 : SarahRose\_54
- Track 28 : Brataylor\_57
- Track 29 : Yasdnil\_54
- Track 30 : Dattran\_57
- Track 31 : Caliburn\_52
- Track 32 : Nabi\_55
- Track 33 : Asten\_54
- Track 34 : EnochSoames\_57
- Track 35 : Nanodon\_56
- Track 36 : Werner\_54
- Track 37 : OzzyJ\_56



- Track 38 : Hydra\_54
- Track 39 : Eddasa\_55
- Track 40 : Unstoppable\_53
- Track 41 : Rana\_55
- Track 42 : VieEnRose\_54
- Track 43 : Urza\_53, Itza\_54, Celia\_53
- Track 44 : Rooney\_51
- Track 45 : Dryad\_56
- Track 46 : ShakeNBake\_51
- Track 47 : Gibson\_51
- Track 48 : Yara\_46
- Track 49 : Wentworth\_52
- Track 50 : Wilkos\_53
- Track 51 : Greenbelt\_76
- Track 52 : PHTown\_51
- Track 53 : Lizz\_51
- Track 54 : Concombre\_214, LolaVinca\_207, Phusco\_207, Blackbrain\_206, Asterius\_205, NoodleTree\_215, DirtMonster\_202, Kamryn\_208, Essence\_206, Rahel\_210, RoMag\_204, Capablanca\_214, SmallFry\_209, Jezreel\_206, FrayBell\_212, Demodog\_215, TinyTim\_207, Domi\_203, Iota\_204, Shnickers\_207, SrishMeg2525\_206, ShiaLabeouf\_206, Melpomini\_204, Darko\_208, Specks\_213, Phlegm\_213, SVoro\_206, BananaFence\_206, Bxz1\_199, Tortoise16\_207, LordLeafolot\_211, JigglyPuff\_216, CindyLou\_210, NuevoMundo\_212, Tainan\_210, Spec\_204, Teardrop\_206, Gabriel\_212, Mikro\_205, Maby2021\_209, FoxtrotP1\_207
- Track 55 : Shelob\_210, MikeLiesIn\_211, Basquiat\_206, Naval22\_214, Ngannou\_206, Turret\_202, ChickenPhender\_205, EmToTheThree\_209, Bonray\_211, Gamgam\_210, InigoMontoya\_212, Atlantean\_209, Lee7\_209, Janiyra\_212, Flabslab\_204, Nidhogg\_210, Stubby\_193, Morizzled23\_206, JustHall\_203, Bipolarisk\_207, Chargie21\_206, Delilah\_207, Ading\_210, Momo\_210, Babyland\_212, NedWong\_208, InterFolia\_212, ParkTD\_208, Fludd\_209, Matsumoto\_208, Willis\_210, Khaleesi\_208, Belieber\_202, Lethe\_211, Kboogie\_213, Quasimodo\_211, Naija\_210, Catera\_201, DrPhinkDaddy\_206, Cactojaque\_204, EmmaElysia\_212, StubbySaigey\_214, Ewok\_208, Trinitium\_205, YoungMoneyMata\_207, McWolfish\_206, ValleyTerrace\_210, Amataga\_210, Napoleon13\_206, Loanshark\_206, Patter\_210, Latch\_209, Chomp\_209, YemiJoy2021\_210, Audrick\_211, Zeenon\_211, Izajani\_207, Ava3\_208, ScottMcG\_202, ChaylaJr\_206, Pivoine\_210, Jessibeth14\_209, PurduePete\_209, Spud\_203
- Track 56 : HyRo\_197, Shifa\_186
- Track 57 : Colt\_200, Cane17\_200, Blubba\_198
- Track 58 : Grasshills\_217, Bigswole\_214, BigCity\_218, EggyFarm\_218, Pier\_210
- Track 59 : Erdmann\_210, Shrimp\_211, ArcherS7\_209, Delylah\_211, Caravan\_200, Derek\_206, LifeSavor\_208, Jedediah\_209, EasyJones\_212, Drazdys\_207, Burrough\_211, Breeniome\_208, Gizmo\_215, Mangeria\_210, Tyke\_207, Bangla1971\_209, DTDevon\_211, Guwapp\_204, Bread\_204, JPickles\_205, Salacia\_209, Pio\_217
- Track 60 : Astraea\_203, Littleton\_212, ZygoTaiga\_206, Roots515\_211, McGee\_208, FudgeTart\_204, Daffodil\_214, Rizal\_201, ErnieJ\_202, Wally\_207, Pinkcreek\_193, Megamind\_206, Zalkecks\_208, Yucca\_209, BackyardAgain\_204, Rabinovish\_202, SilverDipper\_213
- Track 61 : Grungle\_193
- Track 62 : JayJay\_207
- Track 63 : Phox\_210, Koguma\_208
- Track 64 : StephanieG\_205, IkeLoa\_201, BadAgartude\_203

- Track 65 : Nappy\_210, Dandelion\_217
- Track 66 : LRRHood\_202, CharlieB\_203, Lukilu\_200, ET08\_197
- Track 67 : Ghost\_209, Alice\_196, Pleione\_213
- Track 68 : Tonenili\_231
- Track 69 : MoMoMixon\_207, Sebata\_210
- Track 70 : Shaqnato\_200, Yassified\_206, Norm\_209, Sauce\_205, Ronan\_205, Blackdragon\_204, QBert\_201, Sprinklers\_207, Halldule\_202
- Track 71 : Ablatia\_207
- Track 72 : LinStu\_208, Adlitam\_208, Dietrick\_198, Jemmno\_208, GlutenPhree\_209
- Track 73 : JulietS\_202, BeanWater\_201
- Track 74 : l3\_219
- Track 75 : Jaygup\_205
- Track 76 : Cali\_202
- Track 77 : Issimir\_202
- Track 78 : Greely\_198
- Track 79 : Myrna\_192
- Track 80 : ScoobyDoobyDoo\_190
- Track 81 : Phabba\_203
- Track 82 : Maselop\_59, Braxoaddie\_59, CoffeeBean\_59, Polyuyuki\_59
- Track 83 : MacGully\_67
- Track 84 : GuyFagieri\_58
- Track 85 : Apiary\_59
- Track 86 : GRU1\_49
- Track 87 : Dalilpop\_64
- Track 88 : Turuncu\_63
- Track 89 : Flapper\_64
- Track 90 : GTE5\_49
- Track 91 : Bonum\_63
- Track 92 : MerCougar\_61
- Track 93 : Wheezy\_60
- Track 94 : SuperSulley\_61, Buggaboo\_61
- Track 95 : GTE8\_48
- Track 96 : Foxboro\_61
- Track 97 : Commandaria\_61
- Track 98 : StarStruck\_61, Outis\_61
- Track 99 : GrootJr\_62, NovumRegina\_60
- Track 100 : NosilaM\_62
- Track 101 : Jifall16\_59, Kurt\_60, Emianna\_60, KidneyBean\_60, Phomeo\_59
- Track 102 : Arti\_59
- Track 103 : Kabluna\_63
- Track 104 : Tracker\_60
- Track 105 : NatB6\_60
- Track 106 : Skysand\_61
- Track 107 : Lollipop1437\_64
- Track 108 : Float294\_60
- Track 109 : RedRaider\_67
- Track 110 : Ennea\_66
- Track 111 : Patio\_62
- Track 112 : WhoseManz\_60, Marietta\_61
- Track 113 : HubbaBubba\_55
- Track 114 : Sukkupi\_60, Yndexa\_60
- Track 115 : IDyn\_59
- Track 116 : NadineRae\_59



- Track 117 : BiPauneto\_61
- Track 118 : Scuba\_68
- Track 119 : Fury\_67, Pleakley\_67
- Track 120 : Gumball\_66, SirHarley\_69
- Track 121 : WaldoWhy\_69, Chill\_69
- Track 122 : Nova\_66, Erk16\_66, Giuseppe\_68, Visconti\_68, Penelope2018\_67, Troll4\_66, Delton\_67, Thoth\_67, KandZ\_65, Prager\_67, BigMama\_65
- Track 123 : Helpful\_70, Mopey\_68
- Track 124 : Butterscotch\_65
- Track 125 : PBI1\_63
- Track 126 : Adjutor\_65
- Track 127 : PLOT\_66
- Track 128 : Hawkeye\_75
- Track 129 : Madi\_65
- Track 130 : Beyoncage\_66, Djokovic\_66, Sienna\_66, BiteSize\_66, Terapin\_67
- Track 131 : LilyPad\_66
- Track 132 : Suzy\_65
- Track 133 : LittleFella\_70
- Track 134 : Skog\_212
- Track 135 : CherryTomatoes\_154, Pupper\_153
- Track 136 : SCentae\_152
- Track 137 : Oogie\_96
- Track 138 : ScarletRaider\_99
- Track 139 : FlyingTortilla\_98
- Track 140 : Toneprano\_95, Gray\_98
- Track 141 : Pakusa\_93, Twin\_92
- Track 142 : Schomber\_96, Aoki\_92, Hanem\_97, Kabocha\_99, EmoNemo\_92
- Track 143 : Lenoshki\_97, Beted\_97
- Track 144 : Chidiebere\_98
- Track 145 : DalanDe\_85
- Track 146 : MintFritos\_93
- Track 147 : GMA6\_80
- Track 148 : UBSmoodge\_101
- Track 149 : ChisanaKitsune\_95
- Track 150 : GretelLyn\_79, Sadboi\_79, MoiGyank\_82, Gibbin\_81, Yikes\_80
- Track 151 : Tillicus\_73
- Track 152 : DumpTruck\_80
- Track 153 : Apeppi\_73, LuckyLeo\_75
- Track 154 : Mima20\_79
- Track 155 : Erutan\_79
- Track 156 : Ranch\_80
- Track 157 : Patos\_84, NorManre\_84
- Track 158 : ParvusTarda\_77
- Track 159 : Xenia2\_78
- Track 160 : Rumi\_79, Alyssamiracle\_81, Jamemuya19\_79, Astralis\_80
- Track 161 : OtterstedtS21\_79
- Track 162 : GOATification\_78, Fulcrum\_78, BirthdayBoy\_81
- Track 163 : Jalebi\_78, Sampudon\_80
- Track 164 : Zany\_76
- Track 165 : DaviePasture\_79
- Track 166 : Lambo\_77
- Track 167 : DoobyDoo\_78
- Track 168 : Alephilan\_79

- Track 169 : RazorC\_79, Avian\_78
- Track 170 : Genamy16\_81
- Track 171 : Wojtek\_72
- Track 172 : NovaSharks\_80
- Track 173 : Lila22\_79
- Track 174 : RedWattleHog\_79, Stormageddon\_76
- Track 175 : Krampus\_57, Artiphact\_56, Gilda\_57, NarutoRun\_57, Pharpay\_56, Rachella\_57, Kate\_57, Anakin\_57, AnnaSerena\_57
- Track 176 : JDawG\_56, Aesir\_56
- Track 177 : SilentWarrior\_58
- Track 178 : Cybele\_57, Neptune\_57, CoolCookie\_56, Potty\_56
- Track 179 : RikSengupta\_63, Kors\_64, Sparcetus\_63
- Track 180 : Hager\_58
- Track 181 : PhunaPhoke\_57
- Track 182 : Karate\_56
- Track 183 : Rie18\_57
- Track 184 : LordBart\_63
- Track 185 : Ajin\_63
- Track 186 : Erudite\_56, Dauntless\_56
- Track 187 : DannyDe\_58, Poultruss\_56, FreddieHg\_58
- Track 188 : MortySmith\_55
- Track 189 : Haunter\_57
- Track 190 : Hiddenleaf\_58, Snakehole\_58, Chivey\_58
- Track 191 : Crestdrop\_57
- Track 192 : OverHedge\_56
- Track 193 : JingleBells\_57
- Track 194 : Tedro\_57
- Track 195 : TinyMiny\_63
- Track 196 : Annapurna\_59
- Track 197 : Zion\_46, PeteyPab\_45, PotatoChip\_46
- Track 198 : Darwin\_47
- Track 199 : Cruella\_43
- Track 200 : C3PO\_43
- Track 201 : Kimchi1738\_43
- Track 202 : Stickynote\_45
- Track 203 : Phreeze\_76
- Track 204 : Beckerton\_76
- Track 205 : Oaker\_77
- Track 206 : Predator\_76
- Track 207 : Damien\_77
- Track 208 : Puissant\_78
- Track 209 : Konstantine\_80
- Track 210 : Thumb\_78
- Track 211 : Cborch11\_78
- Track 212 : Megatron06\_78
- Track 213 : Barnyard\_80
- Track 214 : DrLupo\_85
- Track 215 : Rope\_74
- Track 216 : Send513\_74
- Track 217 : Papyrus\_74
- Track 218 : Weiss13\_74, Nilo\_76, Riparian\_76
- Track 219 : MontyDev\_76
- Track 220 : Yelo\_73

- Track 221 : Zenon\_76
- Track 222 : Candle\_72
- Track 223 : Patience\_91
- Track 224 : Madrugá\_89
- Track 225 : Labelle\_90
- Track 226 : ChewyVIII\_70
- Track 227 : JeanGrey\_95
- Track 228 : E3\_gp154
- Track 229 : Cantare\_64
- Track 230 : Finch\_77
- Track 231 : Wollypog\_59

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

The start number called the most often in the published annotations is 62, it was called in 110 of the 436 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Ablatia\_207, Ading\_210, Amataga\_210, Asterius\_205, Atlantean\_209, Audrick\_211, Ava3\_208, Babyland\_212, BadAgartude\_203, BananaFence\_206, Basquiat\_206, Belieber\_202, Bipolarisk\_207, Blackbrain\_206, Blackdragon\_204, Blubba\_198, Bonray\_211, Bxz1\_199, Cactojaque\_204, Cane17\_200, Capablanca\_214, Catera\_201, Chargie21\_206, ChaylaJr\_206, CherryTomatoes\_154, ChickenPhender\_205, Chomp\_209, CindyLou\_210, Colt\_200, Concombre\_214, Darko\_208, Delilah\_207, Demodog\_215, DirtMonster\_202, Domi\_203, DrPhinkDaddy\_206, E3\_gp154, EmToTheThree\_209, EmmaElysia\_212, Essence\_206, Ewok\_208, Flabslab\_204, Fludd\_209, FoxtrotP1\_207, FrayBell\_212, Gabriel\_212, Gangam\_210, Grungle\_193, Halldule\_202, HyRo\_197, IkeLoa\_201, InigoMontoya\_212, InterFolia\_212, Iota\_204, Izajani\_207, Janiyrá\_212, JayJay\_207, Jessibeth14\_209, Jezreel\_206, JigglyPuff\_216, JustHall\_203, Kamryn\_208, Kboogie\_213, Khaleesi\_208, Latch\_209, Lee7\_209, Lethe\_211, Loanshark\_206, LolaVinca\_207, LordLeafolot\_211, Maby2021\_209, Matsumoto\_208, McWolfish\_206, Melpomini\_204, MikeLiesIn\_211, Mikro\_205, Momo\_210, Morizzled23\_206, Naija\_210, Napoleon13\_206, Naval22\_214, NedWong\_208, Ngannou\_206, Nidhogg\_210, NoodleTree\_215, Norm\_209, NuevoMundo\_212, ParkTD\_208, Patter\_210, Phlegm\_213, Phusco\_207, Pivoine\_210, Pupper\_153, PurduePete\_209, QBert\_201, Quasimodo\_211, Rahel\_210, RoMag\_204, Ronan\_205, SCentae\_152, SVoro\_206, Sauce\_205, ScottMcG\_202, Shaqnato\_200, Shelob\_210, ShiaLabeouf\_206, Shifa\_186, Shnickers\_207, Skog\_212, SmallFry\_209, Spec\_204, Specks\_213, Sprinklers\_207, Spud\_203, SrishMeg2525\_206, StephanieG\_205, StubbySaigey\_214, Stubby\_193, Tainan\_210, Teardrop\_206, TinyTim\_207, Tortoise16\_207, Trinitium\_205, Turret\_202, ValleyTerrace\_210, Willis\_210, Yassified\_206, YemiJoy2021\_210, YoungMoneyMata\_207, Zeenon\_211,

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

- Adlitam\_208, Alice\_196, ArcherS7\_209, Astraea\_203, BackyardAgain\_204, Bangla1971\_209, BeanWater\_201, BigCity\_218, Bigswole\_214, Bread\_204, Breeniome\_208, Burrough\_211, Cali\_202, Caravan\_200, CharlieB\_203, DTDevon\_211, Daffodil\_214, Dandelion\_217, Delylah\_211, Derek\_206, Dietrick\_198, Drazdys\_207, ET08\_197, EasyJones\_212, EggyFarm\_218, Erdmann\_210,

ErnieJ\_202, FudgeTart\_204, Ghost\_209, Gizmo\_215, GlutenPhree\_209, Grasshills\_217, Guwapp\_204, I3\_219, Issimir\_202, JPickles\_205, Jaygup\_205, Jedediah\_209, Jemmno\_208, JulietS\_202, Koguma\_208, LRRHood\_202, LifeSavor\_208, LinStu\_208, Littleton\_212, Lukilu\_200, Mangeria\_210, McGee\_208, Megamind\_206, MoMoMixon\_207, Nappy\_210, Phox\_210, Phrappuccino\_119, Pier\_210, Pinkcreek\_193, Pio\_217, Pleione\_213, Rabinovish\_202, Rizal\_201, Roots515\_211, Salacia\_209, Sebata\_210, Settecandela\_119, Shrimp\_211, SilverDipper\_213, Tyke\_207, Wally\_207, Yucca\_209, Zalkecks\_208, ZygoTaiga\_206,

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

- Aaronocolus\_53, Adjutor\_65, Aesir\_56, Aikoy\_85, Ajin\_63, Alephilan\_79, Aloki\_92, Alyssamiracle\_81, Anakin\_57, AnnaSerena\_57, Annapurna\_59, Apeppi\_73, Apiary\_59, Arti\_59, Artiphact\_56, Asten\_54, Astralis\_80, Avian\_78, Barnyard\_80, BarryBee\_57, BeardedLady\_53, Beckerton\_76, Beted\_97, Beyoncage\_66, BiPauneto\_61, BigMama\_65, BirthdayBoy\_81, BiteSize\_66, Bonum\_63, Bovely\_53, Brataylor\_57, Braxoaddie\_59, BryanRecycles\_55, Buggaboo\_61, Butterscotch\_65, C3PO\_43, Caliburn\_52, Candle\_72, Cantare\_64, Cborch11\_78, Celeste\_56, Celia\_53, ChewyVIII\_70, Chidiebere\_98, Chill\_69, ChisanaKitsune\_95, Chivey\_58, Chucky\_54, CoffeeBean\_59, Commandaria\_61, CoolCookie\_56, Crestdrop\_57, Cruella\_43, Cybele\_57, DalanDe\_85, Dalilpop\_64, Damien\_77, DannyDe\_58, Danzina\_56, Darwin\_47, Dattran\_57, Dauntless\_56, DaviePasture\_79, Delton\_67, Djokovic\_66, DoobyDoo\_78, DrLupo\_85, Dryad\_56, DumpTruck\_80, Dwayne\_54, Eddasa\_55, Ejemplo\_52, Emaanora\_57, Emianna\_60, EmoNemo\_92, Ennea\_66, EnochSoames\_57, Erk16\_66, Erudite\_56, Erutan\_79, Esperer\_53, Finch\_77, Flapper\_64, Float294\_60, FlyingTortilla\_98, Foxboro\_61, FreddieHg\_58, Fulcrum\_78, Fury\_67, GMA6\_80, GOATification\_78, GRU1\_49, GTE5\_49, GTE8\_48, Genamy16\_81, Gibbin\_81, Gibson\_51, Gilda\_57, Giuseppe\_68, Goby\_55, Godpower\_56, Gray\_98, Greely\_198, Greenbelt\_76, GretelLyn\_79, GrootJr\_62, Gumball\_66, GuyFagieri\_58, Hager\_58, Hanem\_97, Haunter\_57, Hawkeye\_75, Helpful\_70, Hiddenleaf\_58, Hippo\_54, HubbaBubba\_55, Hydra\_54, IDyn\_59, Indigo\_52, Indlulamithi\_76, Itza\_54, Izzy\_55, JDawG\_56, Jalebi\_78, Jamemuya19\_79, Jash\_55, JeanGrey\_95, Jifall16\_59, JingleBells\_57, Kabluna\_63, Kabocha\_99, KandZ\_65, Karate\_56, Katalie\_54, Kate\_57, KidneyBean\_60, Kimchi1738\_43, Konstantine\_80, Kors\_64, Krampus\_57, Kurt\_60, Labelle\_90, Lambo\_77, Lannister\_54, Legacy\_52, Lenoshki\_97, Leopard\_84, Leviticus\_53, Lika\_54, Lila22\_79, LilyPad\_66, LittleFella\_70, Lizz\_51, Lollipop1437\_64, LordBart\_63, Lorelei\_55, LuckyLeo\_75, MacGully\_67, Madi\_65, Madrugua\_89, Maneekul\_54, Marietta\_61, Maselop\_59, Megatron06\_78, MerCougar\_61, Mima20\_79, MintFritos\_93, MoiGyank\_82, MontyDev\_76, Mopey\_68, MortySmith\_55, Myrna\_192, Nabi\_55, NadineRae\_59, Nanodon\_56, NarutoRun\_57, NatB6\_60, Neptune\_57, Nerdos\_52, Nilo\_76, NorManre\_84, NosilaM\_62, NovaSharks\_80, Nova\_66, NovumRegina\_60, Oaker\_77, Oliynyk\_55, Onyinye\_84, Oogie\_96, OtterstedtS21\_79, Outis\_61, OverHedge\_56, Ozzie\_52, OzzyJ\_56, PBI1\_63, PHTowN\_51, PLOT\_66, Pakusa\_93, Papyrus\_74, ParvusTarda\_77, Patience\_91, Patio\_62, Patos\_84, Penelope2018\_67, PeteyPab\_45, Phabba\_203, Pharpay\_56, Phettuccine\_53, Phomeo\_59, Phreeze\_76, PhunaPhoke\_57, Pleakley\_67, Polyyuki\_59, PotatoChip\_46, Potty\_56, Poultruss\_56, Prager\_67, Predator\_76, Puissant\_78, Rachella\_57, Rana\_55, Ranch\_80, RazorC\_79, RedBear\_55, RedRaider\_67, RedWattleHog\_79, Rie18\_57, RikSengupta\_63, Riparian\_76, Rooney\_51, Rope\_74, Rumi\_79, Rusticus\_55, Sadboi\_79, Sampudon\_80, SarahRose\_54, ScarletRaider\_99, Schomber\_96, ScoobyDoobyDoo\_190, Scuba\_68, Send513\_74, ShakeNBake\_51, Sienna\_66, SilentWarrior\_58, SirHarley\_69, Skysand\_61, Snakehole\_58, Snorlax\_54,



South40\_54, Sparcetus\_63, StarStruck\_61, Stickynote\_45, Stormageddon\_76, Sujidade\_55, Sukkupi\_60, SunsetPointe\_52, SuperSulley\_61, Suzy\_65, TAgePighter\_56, Tedro\_57, Terapin\_67, Thoth\_67, Thumb\_78, Tillicus\_73, TinyMiny\_63, Toma\_55, Tonenili\_231, Toneprano\_95, Tracker\_60, Triste\_55, Troll4\_66, TuanPN\_52, Turuncu\_63, Twin\_92, UBSmoodge\_101, Unstoppable\_53, Urza\_53, VieEnRose\_54, Visconti\_68, WaldoWhy\_69, Weiss13\_74, Wentworth\_52, Werner\_54, Whatever\_54, Wheezy\_60, WhoseManz\_60, Wilkos\_53, Wojtek\_72, Wollypog\_59, Xenia2\_78, Yara\_46, Yasdnil\_54, Yelo\_73, Yikes\_80, Yndexa\_60, Zany\_76, Zemlya\_55, Zenon\_76, Zion\_46,

### Summary by start number:

#### Start 18:

- Found in 23 of 499 ( 4.6% ) of genes in pham
- Manual Annotations of this start: 5 of 436
- Called 21.7% of time when present
- Phage (with cluster) where this start called: CharlieB\_203 (C1), ET08\_197 (C1), Issimir\_202 (C1), LRRHood\_202 (C1), Lukilu\_200 (C1),

#### Start 24:

- Found in 193 of 499 ( 38.7% ) of genes in pham
- Manual Annotations of this start: 44 of 436
- Called 22.8% of time when present
- Phage (with cluster) where this start called: ArcherS7\_209 (C1), Astraea\_203 (C1), BackyardAgain\_204 (C1), Bangla1971\_209 (C1), Bread\_204 (C1), Breeniome\_208 (C1), Burrough\_211 (C1), Caravan\_200 (C1), DTDevon\_211 (C1), Daffodil\_214 (C1), Dandelion\_217 (C1), Delylah\_211 (C1), Derek\_206 (C1), Drazdys\_207 (C1), EasyJones\_212 (C1), Erdmann\_210 (C1), ErnieJ\_202 (C1), FudgeTart\_204 (C1), Gizmo\_215 (C1), Guwapp\_204 (C1), I3\_219 (C1), JPickles\_205 (C1), Jedediah\_209 (C1), Koguma\_208 (C1), LifeSavor\_208 (C1), Littleton\_212 (C1), Mangeria\_210 (C1), McGee\_208 (C1), Megamind\_206 (C1), Nappy\_210 (C1), Phox\_210 (C1), Pinkcreek\_193 (C1), Pio\_217 (C1), Rabinovish\_202 (C1), Rizal\_201 (C1), Roots515\_211 (C1), Salacia\_209 (C1), Shrimp\_211 (C1), SilverDipper\_213 (C1), Tyke\_207 (C1), Wally\_207 (C1), Yucca\_209 (C1), Zalkecks\_208 (C1), ZygoTaiga\_206 (C1),

#### Start 25:

- Found in 193 of 499 ( 38.7% ) of genes in pham
- Manual Annotations of this start: 6 of 436
- Called 3.1% of time when present
- Phage (with cluster) where this start called: Alice\_196 (C1), Cali\_202 (C1), Ghost\_209 (C1), MoMoMixon\_207 (C1), Pleione\_213 (C1), Sebata\_210 (C1),

#### Start 26:

- Found in 23 of 499 ( 4.6% ) of genes in pham
- Manual Annotations of this start: 20 of 436
- Called 91.3% of time when present
- Phage (with cluster) where this start called: Adjutor\_65 (D1), BigMama\_65 (D1), Butterscotch\_65 (D1), Chill\_69 (D1), Delton\_67 (D1), Erk16\_66 (D1), GMA6\_80 (DQ), Giuseppe\_68 (D1), Gumball\_66 (D1), Hawkeye\_75 (D2), Helpful\_70 (D1), KandZ\_65 (D1), Mopey\_68 (D1), Nova\_66 (D1), Penelope2018\_67 (D1), Prager\_67 (D1), SirHarley\_69 (D1), Thoth\_67 (D1), Troll4\_66 (D1), Visconti\_68 (D1), WaldoWhy\_69 (D1),

Start 31:

- Found in 193 of 499 ( 38.7% ) of genes in pham
- Manual Annotations of this start: 8 of 436
- Called 6.7% of time when present
- Phage (with cluster) where this start called: Adlitam\_208 (C1), BeanWater\_201 (C1), BigCity\_218 (C1), Bigswole\_214 (C1), Dietrick\_198 (C1), EggyFarm\_218 (C1), GlutenPhree\_209 (C1), Grasshills\_217 (C1), Jaygup\_205 (C1), Jemmno\_208 (C1), JulietS\_202 (C1), LinStu\_208 (C1), Pier\_210 (C1),

Start 35:

- Found in 227 of 499 ( 45.5% ) of genes in pham
- Manual Annotations of this start: 1 of 436
- Called 0.4% of time when present
- Phage (with cluster) where this start called: Lorelei\_55 (BD1),

Start 37:

- Found in 3 of 499 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 2 of 436
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Fury\_67 (CR5), Pleakley\_67 (CR5), Scuba\_68 (CR5),

Start 39:

- Found in 17 of 499 ( 3.4% ) of genes in pham
- Manual Annotations of this start: 2 of 436
- Called 11.8% of time when present
- Phage (with cluster) where this start called: Phrappuccino\_119 (AA), Settecandela\_119 (AA),

Start 44:

- Found in 16 of 499 ( 3.2% ) of genes in pham
- Manual Annotations of this start: 1 of 436
- Called 18.8% of time when present
- Phage (with cluster) where this start called: Chidiebere\_98 (DQ), Pakusa\_93 (DQ), Twin\_92 (DQ),

Start 48:

- Found in 10 of 499 ( 2.0% ) of genes in pham
- Manual Annotations of this start: 1 of 436
- Called 10.0% of time when present
- Phage (with cluster) where this start called: Oaker\_77 (H1),

Start 49:

- Found in 1 of 499 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 436
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cantare\_64 (singleton),

Start 50:

- Found in 17 of 499 ( 3.4% ) of genes in pham
- Manual Annotations of this start: 1 of 436
- Called 5.9% of time when present

- Phage (with cluster) where this start called: DalanDe\_85 (DQ),

#### Start 51:

- Found in 5 of 499 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 1 of 436
- Called 20.0% of time when present
- Phage (with cluster) where this start called: DrLupo\_85 (H2),

#### Start 52:

- Found in 4 of 499 ( 0.8% ) of genes in pham
- No Manual Annotations of this start.
- Called 25.0% of time when present
- Phage (with cluster) where this start called: JeanGrey\_95 (singleton),

#### Start 53:

- Found in 18 of 499 ( 3.6% ) of genes in pham
- Manual Annotations of this start: 8 of 436
- Called 83.3% of time when present
- Phage (with cluster) where this start called: Aloki\_92 (DQ), Beted\_97 (DQ), ChisanaKitsune\_95 (DQ), EmoNemo\_92 (DQ), FlyingTortilla\_98 (DQ), Gray\_98 (DQ), Hanem\_97 (DQ), Kabocha\_99 (DQ), Lenoshki\_97 (DQ), MintFritos\_93 (DQ), Oogie\_96 (DQ), ScarletRaider\_99 (DQ), Schomber\_96 (DQ), Toneprano\_95 (DQ), UBSmoodge\_101 (DQ),

#### Start 56:

- Found in 10 of 499 ( 2.0% ) of genes in pham
- No Manual Annotations of this start.
- Called 10.0% of time when present
- Phage (with cluster) where this start called: Wilkos\_53 (BN),

#### Start 57:

- Found in 4 of 499 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 3 of 436
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Greely\_198 (C2), Myrna\_192 (C2), Phabba\_203 (C2), ScoobyDoobyDoo\_190 (C2),

#### Start 58:

- Found in 22 of 499 ( 4.4% ) of genes in pham
- Manual Annotations of this start: 1 of 436
- Called 4.5% of time when present
- Phage (with cluster) where this start called: Indlulamithi\_76 (AC),

#### Start 62:

- Found in 200 of 499 ( 40.1% ) of genes in pham
- Manual Annotations of this start: 110 of 436
- Called 65.0% of time when present
- Phage (with cluster) where this start called: Ablatia\_207 (C1), Ading\_210 (C1), Amataga\_210 (C1), Asterius\_205 (C1), Atlantean\_209 (C1), Audrick\_211 (C1), Ava3\_208 (C1), Babyland\_212 (C1), BadAgartude\_203 (C1), BananaFence\_206 (C1), Basquiat\_206 (C1), Belieber\_202 (C1), Bipolarisk\_207 (C1), Blackbrain\_206 (C1), Blackdragon\_204 (C1), Blubba\_198 (C1), Bonray\_211 (C1), Bxz1\_199 (C1), Cactojaque\_204 (C1), Cane17\_200 (C1), Capablanca\_214 (C1), Catera\_201 (C1),

Chargie21\_206 (C1), ChaylaJr\_206 (C1), CherryTomatoes\_154 (DO), ChickenPhender\_205 (C1), Chomp\_209 (C1), CindyLou\_210 (C1), Colt\_200 (C1), Concombre\_214 (C1), Darko\_208 (C1), Delilah\_207 (C1), Demodog\_215 (C1), DirtMonster\_202 (C1), Domi\_203 (C1), DrPhinkDaddy\_206 (C1), E3\_gp154 (singleton), EmToTheThree\_209 (C1), EmmaElysia\_212 (C1), Essence\_206 (C1), Ewok\_208 (C1), Flabslab\_204 (C1), Fludd\_209 (C1), FoxtrotP1\_207 (C1), FrayBell\_212 (C1), Gabriel\_212 (C1), Gamgam\_210 (C1), Grungle\_193 (C1), Haldule\_202 (C1), HyRo\_197 (C1), IkeLoa\_201 (C1), InigoMontoya\_212 (C1), InterFolia\_212 (C1), Iota\_204 (C1), Izajani\_207 (C1), Janiyra\_212 (C1), JayJay\_207 (C1), Jessibeth14\_209 (C1), Jezreel\_206 (C1), JigglyPuff\_216 (C1), JustHall\_203 (C1), Kamryn\_208 (C1), Kboogie\_213 (C1), Khaleesi\_208 (C1), Latch\_209 (C1), Lee7\_209 (C1), Lethe\_211 (C1), Loanshark\_206 (C1), LolaVinca\_207 (C1), LordLeafolot\_211 (C1), Maby2021\_209 (C1), Matsumoto\_208 (C1), McWolfish\_206 (C1), Melpomini\_204 (C1), MikeLiesIn\_211 (C1), Mikro\_205 (C1), Momo\_210 (C1), Morizzled23\_206 (C1), Naija\_210 (C1), Napoleon13\_206 (C1), Naval22\_214 (C1), NedWong\_208 (C1), Ngannou\_206 (C1), Nidhogg\_210 (C1), NoodleTree\_215 (C1), Norm\_209 (C1), NuevoMundo\_212 (C1), ParkTD\_208 (C1), Patter\_210 (C1), Phlegm\_213 (C1), Phusco\_207 (C1), Pivoine\_210 (C1), Pupper\_153 (DO), PurduePete\_209 (C1), QBert\_201 (C1), Quasimodo\_211 (C1), Rahel\_210 (C1), RoMag\_204 (C1), Ronan\_205 (C1), SCentae\_152 (DO), SVoro\_206 (C1), Sauce\_205 (C1), ScottMcG\_202 (C1), Shaq nato\_200 (C1), Shelob\_210 (C1), ShiaLabeouf\_206 (C1), Shifa\_186 (C1), Shnickers\_207 (C1), Skog\_212 (DO), SmallFry\_209 (C1), Spec\_204 (C1), Specks\_213 (C1), Sprinklers\_207 (C1), Spud\_203 (C1), SrishMeg2525\_206 (C1), StephanieG\_205 (C1), StubbySaigey\_214 (C1), Stubby\_193 (C1), Tainan\_210 (C1), Teardrop\_206 (C1), TinyTim\_207 (C1), Tortoise16\_207 (C1), Trinitium\_205 (C1), Turret\_202 (C1), ValleyTerrace\_210 (C1), Willis\_210 (C1), Yassified\_206 (C1), YemiJoy2021\_210 (C1), YoungMoneyMata\_207 (C1), Zeenon\_211 (C1),

#### Start 63:

- Found in 60 of 499 ( 12.0% ) of genes in pham
- Manual Annotations of this start: 55 of 436
- Called 93.3% of time when present
- Phage (with cluster) where this start called: Aaronocolus\_53 (BD1), Asten\_54 (BD1), BarryBee\_57 (BD1), BeardedLady\_53 (BD1), Bovely\_53 (BD1), Brataylor\_57 (BD1), BryanRecycles\_55 (BD1), Caliburn\_52 (BD1), Celeste\_56 (BD1), Celia\_53 (BD6), Chucky\_54 (BD1), Danzina\_56 (BD1), Dattran\_57 (BD1), Dwayne\_54 (BD1), Eddasa\_55 (BD1), Ejemplo\_52 (BD1), Emaanora\_57 (BD1), EnochSoames\_57 (BD1), Esperer\_53 (BD1), Goby\_55 (BD1), Godpower\_56 (BD1), Hippo\_54 (BD1), Hydra\_54 (BD1), Indigo\_52 (BD1), Itza\_54 (BD6), Izzy\_55 (BD1), Jash\_55 (BD1), Katalie\_54 (BD1), Lannister\_54 (BD1), Legacy\_52 (BD1), Leviticus\_53 (BD1), Maneekul\_54 (BD1), Nabi\_55 (BD1), Nanodon\_56 (BD1), Nerdos\_52 (BD1), Oliynyk\_55 (BD1), Ozzie\_52 (BD1), OzzyJ\_56 (BD1), Phettuccine\_53 (BD1), RedBear\_55 (BD1), Rusticus\_55 (BD1), SarahRose\_54 (BD1), Snorlax\_54 (BD1), South40\_54 (BD1), Sujidade\_55 (BD1), SunsetPointe\_52 (BD1), TagePhighter\_56 (BD1), Toma\_55 (BD1), Tonenili\_231 (C1), Triste\_55 (BD1), TuanPN\_52 (BD1), Unstoppable\_53 (BD1), Urza\_53 (BD6), VieEnRose\_54 (BD6), Werner\_54 (BD1), Whatever\_54 (BD1),

#### Start 64:

- Found in 27 of 499 ( 5.4% ) of genes in pham
- Manual Annotations of this start: 20 of 436
- Called 88.9% of time when present



- Phage (with cluster) where this start called: Alyssamiracle\_81 (DV), Apeppi\_73 (DV), Astralis\_80 (DV), Avian\_78 (DV), BirthdayBoy\_81 (DV), DaviePasture\_79 (DV), DumpTruck\_80 (DV), Fulcrum\_78 (DV), GOATification\_78 (DV), Gibbin\_81 (DV), Gretellyn\_79 (DV), Jalebi\_78 (DV), Jamemuya19\_79 (DV), Lambo\_77 (DV), Lila22\_79 (DV), LuckyLeo\_75 (DV), MoiGyank\_82 (DV), ParvusTarda\_77 (DV), RazorC\_79 (DV), Rumi\_79 (DV), Sadboi\_79 (DV), Sampudon\_80 (DV), Yikes\_80 (DV), Zany\_76 (DV),

#### Start 65:

- Found in 5 of 499 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 4 of 436
- Called 80.0% of time when present
- Phage (with cluster) where this start called: Rana\_55 (BD1), RedWattleHog\_79 (DX), Stormageddon\_76 (DX), Zemlya\_55 (BD1),

#### Start 66:

- Found in 2 of 499 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 436
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Finch\_77 (singleton),

#### Start 67:

- Found in 106 of 499 ( 21.2% ) of genes in pham
- Manual Annotations of this start: 71 of 436
- Called 72.6% of time when present
- Phage (with cluster) where this start called: Apiary\_59 (CR), Arti\_59 (CR2), Barnyard\_80 (H2), Beckerton\_76 (H1), BiPauneto\_61 (CR4), Bonum\_63 (CR2), Braxoaddie\_59 (CR), Buggaboo\_61 (CR2), C3PO\_43 (EN), Cborch11\_78 (H1), CoffeeBean\_59 (CR), Commandaria\_61 (CR2), Cruella\_43 (EN), Dalilpop\_64 (CR1), Darwin\_47 (EN), Dryad\_56 (BN), Emianna\_60 (CR2), Ennea\_66 (CR3), Flapper\_64 (CR1), Float294\_60 (CR3), Foxboro\_61 (CR2), GTE5\_49 (CR1), GTE8\_48 (CR2), Gibson\_51 (BN), Greenbelt\_76 (BN), GrootJr\_62 (CR2), GuyFagieri\_58 (CR), HubbaBubba\_55 (CR4), IDyn\_59 (CR4), Jifall16\_59 (CR2), Kabluna\_63 (CR2), KidneyBean\_60 (CR2), Kimchi1738\_43 (EN), Konstantine\_80 (H1), Kurt\_60 (CR2), Labelle\_90 (U), Lika\_54 (BD1), Lizz\_51 (BN), Lollipop1437\_64 (CR3), Madrugua\_89 (U), Marietta\_61 (CR4), Maselop\_59 (CR), Megatron06\_78 (H1), MerCougar\_61 (CR2), NadineRae\_59 (CR4), NatB6\_60 (CR2), NosilaM\_62 (CR2), NovumRegina\_60 (CR2), Outis\_61 (CR2), PBI1\_63 (D1), PHTowN\_51 (BN), PLOT\_66 (D1), Patience\_91 (U), Patio\_62 (CR3), PeteyPab\_45 (EN), Phomeo\_59 (CR2), Phreeze\_76 (H1), Polyuyki\_59 (CR), PotatoChip\_46 (EN), Predator\_76 (H1), RedRaider\_67 (CR3), Rooney\_51 (BN), ShakeNBake\_51 (BN), Skysand\_61 (CR3), StarStruck\_61 (CR2), Stickynote\_45 (EN), Sukkupi\_60 (CR4), SuperSulley\_61 (CR2), Thumb\_78 (H1), Tracker\_60 (CR2), Turuncu\_63 (CR1), Wentworth\_52 (BN), Wheezy\_60 (CR2), WhoseManz\_60 (CR4), Yara\_46 (BN), Yndexa\_60 (CR4), Zion\_46 (EN),

#### Start 71:

- Found in 5 of 499 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 4 of 436
- Called 80.0% of time when present
- Phage (with cluster) where this start called: Erutan\_79 (DV), NorManre\_84 (DV), Patos\_84 (DV), Ranch\_80 (DV),

Start 76:

- Found in 64 of 499 ( 12.8% ) of genes in pham
- Manual Annotations of this start: 1 of 436
- Called 3.1% of time when present
- Phage (with cluster) where this start called: Alephilan\_79 (DV), Yasdnil\_54 (BD1),

Start 79:

- Found in 34 of 499 ( 6.8% ) of genes in pham
- No Manual Annotations of this start.
- Called 2.9% of time when present
- Phage (with cluster) where this start called: Tillicus\_73 (DV),

Start 83:

- Found in 167 of 499 ( 33.5% ) of genes in pham
- Manual Annotations of this start: 6 of 436
- Called 5.4% of time when present
- Phage (with cluster) where this start called: Damien\_77 (H1), DoobyDoo\_78 (DV), GRU1\_49 (CR1), Genamy16\_81 (DV), Mima20\_79 (DV), NovaSharks\_80 (DV), OtterstedtS21\_79 (DV), Wojtek\_72 (DV), Xenia2\_78 (DV),

Start 219:

- Found in 84 of 499 ( 16.8% ) of genes in pham
- No Manual Annotations of this start.
- Called 1.2% of time when present
- Phage (with cluster) where this start called: Puissant\_78 (H1),

Start 261:

- Found in 33 of 499 ( 6.6% ) of genes in pham
- Manual Annotations of this start: 29 of 436
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aesir\_56 (EF), Anakin\_57 (EF), AnnaSerena\_57 (EF), Annapurna\_59 (EF), Artiphact\_56 (EF), Chivey\_58 (EF), CoolCookie\_56 (EF), Crestdrop\_57 (EF), Cybele\_57 (EF), DannyDe\_58 (EF), Dauntless\_56 (EF), Erudite\_56 (EF), FreddieHg\_58 (EF), Gilda\_57 (EF), Haunter\_57 (EF), Hiddenleaf\_58 (EF), JDawG\_56 (EF), JingleBells\_57 (EF), Karate\_56 (EF), Kate\_57 (EF), Krampus\_57 (EF), MortySmith\_55 (EF), NarutoRun\_57 (EF), Neptune\_57 (EF), OverHedge\_56 (EF), Pharpay\_56 (EF), PhunaPhoke\_57 (EF), Potty\_56 (EF), Poultruss\_56 (EF), Rachella\_57 (EF), SilentWarrior\_58 (EF), Snakehole\_58 (EF), Tedro\_57 (EF),

Start 262:

- Found in 63 of 499 ( 12.6% ) of genes in pham
- Manual Annotations of this start: 3 of 436
- Called 4.8% of time when present
- Phage (with cluster) where this start called: Aikoy\_85 (AE), Leopard\_84 (AE), Onyinye\_84 (AE),

Start 263:

- Found in 51 of 499 ( 10.2% ) of genes in pham
- Manual Annotations of this start: 6 of 436
- Called 15.7% of time when present
- Phage (with cluster) where this start called: Ajin\_63 (EF), Hager\_58 (EF), Kors\_64 (EF), LordBart\_63 (EF), Rie18\_57 (EF), RikSengupta\_63 (EF), Sparcetus\_63 (EF),

TinyMiny\_63 (EF),

Start 267:

- Found in 288 of 499 ( 57.7% ) of genes in pham
- Manual Annotations of this start: 9 of 436
- Called 3.5% of time when present
- Phage (with cluster) where this start called: Candle\_72 (R), MontyDev\_76 (R), Nilo\_76 (R), Papyrus\_74 (R), Riparian\_76 (R), Rope\_74 (R), Send513\_74 (R), Weiss13\_74 (R), Yelo\_73 (R), Zenon\_76 (R),

Start 274:

- Found in 1 of 499 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 436
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MacGully\_67 (CR),

Start 275:

- Found in 1 of 499 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 436
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LittleFella\_70 (DG2),

Start 277:

- Found in 1 of 499 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 436
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ChewyVIII\_70 (singleton),

Start 281:

- Found in 29 of 499 ( 5.8% ) of genes in pham
- Manual Annotations of this start: 8 of 436
- Called 27.6% of time when present
- Phage (with cluster) where this start called: Beyoncage\_66 (DG1), BiteSize\_66 (DG1), Djokovic\_66 (DG1), LilyPad\_66 (DG1), Madi\_65 (DG1), Sienna\_66 (DG1), Suzy\_65 (DG1), Terapin\_67 (DG1),

Start 285:

- Found in 5 of 499 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 1 of 436
- Called 20.0% of time when present
- Phage (with cluster) where this start called: Wollypog\_59 (singleton),

### **Summary by clusters:**

There are 29 clusters represented in this pham: DO, singleton, BN, DX, DV, DQ, BD6, BD1, C2, C1, AA, AC, EN, AE, EF, DG2, R, U, CR, CR2, CR3, CR1, CR4, CR5, H2, H1, DG1, D2, D1,

Info for manual annotations of cluster AA:

- Start number 39 was manually annotated 2 times for cluster AA.

Info for manual annotations of cluster AC:

- Start number 58 was manually annotated 1 time for cluster AC.

Info for manual annotations of cluster AE:

- Start number 262 was manually annotated 3 times for cluster AE.

Info for manual annotations of cluster BD1:

- Start number 35 was manually annotated 1 time for cluster BD1.
- Start number 63 was manually annotated 50 times for cluster BD1.
- Start number 65 was manually annotated 2 times for cluster BD1.
- Start number 67 was manually annotated 1 time for cluster BD1.
- Start number 76 was manually annotated 1 time for cluster BD1.

Info for manual annotations of cluster BD6:

- Start number 63 was manually annotated 4 times for cluster BD6.

Info for manual annotations of cluster BN:

- Start number 67 was manually annotated 8 times for cluster BN.

Info for manual annotations of cluster C1:

- Start number 18 was manually annotated 5 times for cluster C1.
- Start number 24 was manually annotated 44 times for cluster C1.
- Start number 25 was manually annotated 6 times for cluster C1.
- Start number 31 was manually annotated 8 times for cluster C1.
- Start number 62 was manually annotated 106 times for cluster C1.
- Start number 63 was manually annotated 1 time for cluster C1.

Info for manual annotations of cluster C2:

- Start number 57 was manually annotated 3 times for cluster C2.

Info for manual annotations of cluster CR:

- Start number 67 was manually annotated 6 times for cluster CR.
- Start number 274 was manually annotated 1 time for cluster CR.

Info for manual annotations of cluster CR1:

- Start number 67 was manually annotated 3 times for cluster CR1.

Info for manual annotations of cluster CR2:

- Start number 67 was manually annotated 20 times for cluster CR2.

Info for manual annotations of cluster CR3:

- Start number 67 was manually annotated 5 times for cluster CR3.

Info for manual annotations of cluster CR4:

- Start number 67 was manually annotated 7 times for cluster CR4.

Info for manual annotations of cluster CR5:

- Start number 37 was manually annotated 2 times for cluster CR5.

Info for manual annotations of cluster D1:

- Start number 26 was manually annotated 19 times for cluster D1.
- Start number 67 was manually annotated 2 times for cluster D1.

Info for manual annotations of cluster D2:

- Start number 26 was manually annotated 1 time for cluster D2.



Info for manual annotations of cluster DG1:

- Start number 281 was manually annotated 8 times for cluster DG1.

Info for manual annotations of cluster DG2:

- Start number 275 was manually annotated 1 time for cluster DG2.

Info for manual annotations of cluster DO:

- Start number 62 was manually annotated 4 times for cluster DO.

Info for manual annotations of cluster DQ:

- Start number 44 was manually annotated 1 time for cluster DQ.
- Start number 50 was manually annotated 1 time for cluster DQ.
- Start number 53 was manually annotated 8 times for cluster DQ.

Info for manual annotations of cluster DV:

- Start number 64 was manually annotated 20 times for cluster DV.
- Start number 71 was manually annotated 4 times for cluster DV.
- Start number 83 was manually annotated 5 times for cluster DV.

Info for manual annotations of cluster DX:

- Start number 65 was manually annotated 2 times for cluster DX.

Info for manual annotations of cluster EF:

- Start number 261 was manually annotated 29 times for cluster EF.
- Start number 263 was manually annotated 6 times for cluster EF.

Info for manual annotations of cluster EN:

- Start number 67 was manually annotated 8 times for cluster EN.

Info for manual annotations of cluster H1:

- Start number 48 was manually annotated 1 time for cluster H1.
- Start number 67 was manually annotated 7 times for cluster H1.
- Start number 83 was manually annotated 1 time for cluster H1.

Info for manual annotations of cluster H2:

- Start number 51 was manually annotated 1 time for cluster H2.
- Start number 67 was manually annotated 1 time for cluster H2.

Info for manual annotations of cluster R:

- Start number 267 was manually annotated 9 times for cluster R.

Info for manual annotations of cluster U:

- Start number 67 was manually annotated 3 times for cluster U.

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

Gene: Aaronocolus\_53 Start: 40236, Stop: 36757, Start Num: 63

Candidate Starts for Aaronocolus\_53:

(6, 40446), (Start: 63 @40236 has 55 MA's), (78, 40164), (Start: 83 @40137 has 6 MA's), (85, 40122), (120, 39960), (126, 39933), (129, 39927), (152, 39837), (156, 39822), (169, 39768), (170, 39765),

(194, 39669), (214, 39591), (236, 39444), (247, 39405), (256, 39360), (Start: 262 @39339 has 3 MA's), (Start: 267 @39324 has 9 MA's), (296, 39282), (300, 39270), (313, 39204), (316, 39192), (330, 39129), (345, 39000), (346, 38991), (351, 38955), (364, 38871), (367, 38853), (382, 38796), (383, 38793), (385, 38781), (420, 38643), (421, 38637), (422, 38622), (424, 38616), (431, 38583), (451, 38505), (455, 38472), (503, 38331), (520, 38274), (524, 38250), (526, 38244), (537, 38175), (547, 38112), (567, 38046), (572, 38025), (578, 38007), (590, 37950), (591, 37941), (615, 37833), (617, 37824), (621, 37812), (623, 37791), (633, 37761), (638, 37734), (658, 37668), (661, 37659), (665, 37647), (685, 37560), (695, 37536), (709, 37488), (744, 37344), (760, 37269), (803, 37095), (810, 37059), (819, 37011), (826, 36978),

Gene: Ablatia\_207 Start: 113334, Stop: 116729, Start Num: 62

Candidate Starts for Ablatia\_207:

(Start: 24 @113241 has 44 MA's), (Start: 25 @113247 has 6 MA's), (Start: 31 @113259 has 8 MA's), (Start: 35 @113268 has 1 MA's), (Start: 62 @113334 has 110 MA's), (78, 113409), (97, 113523), (105, 113547), (121, 113607), (146, 113718), (154, 113757), (162, 113781), (170, 113823), (200, 113922), (210, 113964), (215, 113982), (223, 114045), (234, 114105), (235, 114108), (241, 114135), (249, 114177), (Start: 267 @114240 has 9 MA's), (310, 114360), (317, 114396), (321, 114414), (324, 114429), (337, 114546), (343, 114585), (359, 114705), (365, 114747), (374, 114792), (376, 114801), (387, 114852), (398, 114894), (414, 114960), (416, 114969), (417, 114972), (418, 114978), (419, 114981), (420, 114990), (421, 114996), (422, 115011), (446, 115098), (470, 115203), (484, 115257), (501, 115344), (507, 115374), (516, 115404), (523, 115437), (525, 115446), (536, 115518), (541, 115548), (569, 115665), (578, 115710), (587, 115752), (619, 115896), (635, 115956), (666, 116058), (696, 116145), (697, 116148), (705, 116166), (713, 116202), (714, 116205), (735, 116265), (739, 116283), (763, 116379), (772, 116409), (777, 116427), (785, 116457), (808, 116550), (812, 116565), (828, 116646), (829, 116652), (832, 116664),

Gene: Ading\_210 Start: 113961, Stop: 117356, Start Num: 62

Candidate Starts for Ading\_210:

(Start: 24 @113868 has 44 MA's), (Start: 25 @113874 has 6 MA's), (Start: 31 @113886 has 8 MA's), (Start: 35 @113895 has 1 MA's), (Start: 62 @113961 has 110 MA's), (78, 114036), (97, 114150), (105, 114174), (121, 114234), (146, 114345), (154, 114384), (162, 114408), (170, 114450), (200, 114549), (210, 114591), (211, 114597), (215, 114609), (223, 114672), (234, 114732), (235, 114735), (241, 114762), (249, 114804), (Start: 267 @114867 has 9 MA's), (310, 114987), (317, 115023), (321, 115041), (324, 115056), (337, 115173), (343, 115212), (359, 115332), (365, 115374), (374, 115419), (376, 115428), (387, 115479), (398, 115521), (414, 115587), (416, 115596), (417, 115599), (418, 115605), (419, 115608), (420, 115617), (421, 115623), (422, 115638), (446, 115725), (470, 115830), (484, 115884), (501, 115971), (507, 116001), (516, 116031), (523, 116064), (525, 116073), (536, 116145), (541, 116175), (569, 116292), (578, 116337), (587, 116379), (619, 116523), (635, 116583), (666, 116685), (696, 116772), (697, 116775), (705, 116793), (713, 116829), (714, 116832), (735, 116892), (739, 116910), (763, 117006), (772, 117036), (777, 117054), (785, 117084), (808, 117177), (812, 117192), (828, 117273), (829, 117279), (832, 117291),

Gene: Adjutor\_65 Start: 49699, Stop: 53001, Start Num: 26

Candidate Starts for Adjutor\_65:

(Start: 26 @49699 has 20 MA's), (Start: 58 @49786 has 1 MA's), (61, 49792), (Start: 67 @49801 has 71 MA's), (Start: 83 @49897 has 6 MA's), (118, 50053), (141, 50140), (142, 50143), (154, 50194), (219, 50458), (226, 50497), (239, 50569), (242, 50578), (259, 50653), (Start: 281 @50719 has 8 MA's), (282, 50725), (298, 50779), (306, 50797), (313, 50848), (314, 50851), (320, 50881), (335, 50965), (336, 50974), (340, 51001), (342, 51016), (367, 51193), (368, 51202), (393, 51307), (420, 51388), (430, 51448), (449, 51523), (453, 51556), (458, 51562), (472, 51583), (475, 51592), (488, 51637), (505, 51706), (510, 51721), (527, 51790), (536, 51853), (545, 51886), (546, 51889), (557, 51940), (579, 52015), (606, 52138), (611, 52156), (628, 52234), (629, 52237), (631, 52249), (643, 52294), (651, 52315), (654, 52327), (661, 52357), (668, 52378), (716, 52450), (740, 52507), (763, 52606),

(781, 52672), (803, 52762), (811, 52795), (816, 52825), (825, 52870), (836, 52912), (844, 52942), (849, 52954), (853, 52969), (856, 52978),

Gene: Adlitam\_208 Start: 112490, Stop: 115960, Start Num: 31

Candidate Starts for Adlitam\_208:

(Start: 24 @112472 has 44 MA's), (Start: 25 @112478 has 6 MA's), (Start: 31 @112490 has 8 MA's), (Start: 35 @112499 has 1 MA's), (Start: 62 @112565 has 110 MA's), (78, 112640), (97, 112754), (105, 112778), (121, 112838), (146, 112949), (154, 112988), (162, 113012), (170, 113054), (200, 113153), (210, 113195), (211, 113201), (215, 113213), (223, 113276), (234, 113336), (235, 113339), (241, 113366), (249, 113408), (Start: 267 @113471 has 9 MA's), (310, 113591), (317, 113627), (321, 113645), (324, 113660), (337, 113777), (343, 113816), (359, 113936), (365, 113978), (374, 114023), (376, 114032), (387, 114083), (398, 114125), (414, 114191), (416, 114200), (417, 114203), (418, 114209), (419, 114212), (420, 114221), (421, 114227), (422, 114242), (446, 114329), (470, 114434), (484, 114488), (501, 114575), (507, 114605), (516, 114635), (523, 114668), (525, 114677), (536, 114749), (541, 114779), (569, 114896), (578, 114941), (587, 114983), (619, 115127), (635, 115187), (666, 115289), (696, 115376), (697, 115379), (705, 115397), (713, 115433), (714, 115436), (735, 115496), (739, 115514), (763, 115610), (772, 115640), (777, 115658), (785, 115688), (808, 115781), (812, 115796), (828, 115877), (829, 115883), (832, 115895),

Gene: Aesir\_56 Start: 40899, Stop: 43199, Start Num: 261

Candidate Starts for Aesir\_56:

(240, 40809), (Start: 261 @40899 has 29 MA's), (Start: 263 @40905 has 6 MA's), (293, 40980), (310, 41052), (314, 41073), (321, 41106), (322, 41109), (323, 41118), (326, 41139), (329, 41145), (339, 41214), (342, 41238), (345, 41277), (355, 41334), (367, 41415), (393, 41529), (397, 41541), (410, 41571), (421, 41616), (423, 41634), (441, 41712), (443, 41718), (445, 41727), (450, 41760), (453, 41790), (458, 41796), (472, 41817), (475, 41826), (483, 41856), (503, 41931), (505, 41940), (515, 41970), (519, 41985), (536, 42087), (553, 42159), (559, 42183), (583, 42267), (605, 42357), (606, 42369), (611, 42387), (626, 42471), (629, 42480), (635, 42513), (656, 42585), (748, 42765), (754, 42795), (772, 42858), (788, 42930), (818, 43053), (825, 43086), (838, 43131), (851, 43176), (853, 43182),

Gene: Aikoy\_85 Start: 57850, Stop: 60138, Start Num: 262

Candidate Starts for Aikoy\_85:

(Start: 262 @57850 has 3 MA's), (278, 57883), (279, 57889), (306, 57979), (310, 58012), (315, 58036), (320, 58063), (335, 58147), (336, 58156), (337, 58159), (342, 58198), (343, 58201), (347, 58252), (361, 58330), (362, 58342), (420, 58570), (422, 58591), (439, 58654), (443, 58666), (453, 58738), (458, 58744), (474, 58768), (475, 58774), (479, 58789), (483, 58804), (489, 58822), (496, 58846), (505, 58888), (517, 58927), (524, 58960), (557, 59122), (559, 59131), (592, 59266), (603, 59293), (611, 59338), (635, 59452), (654, 59512), (753, 59728), (778, 59815), (780, 59818), (789, 59860), (826, 60025), (833, 60055), (848, 60103), (851, 60115), (856, 60130),

Gene: Ajin\_63 Start: 42544, Stop: 44799, Start Num: 263

Candidate Starts for Ajin\_63:

(260, 42535), (Start: 263 @42544 has 6 MA's), (314, 42679), (321, 42712), (324, 42727), (340, 42829), (342, 42844), (355, 42940), (367, 43021), (368, 43030), (393, 43135), (421, 43222), (423, 43240), (434, 43291), (437, 43303), (441, 43318), (445, 43333), (450, 43366), (453, 43396), (458, 43402), (472, 43423), (475, 43432), (483, 43462), (504, 43543), (509, 43558), (515, 43576), (519, 43591), (534, 43690), (592, 43921), (606, 43975), (611, 43993), (613, 44005), (626, 44077), (629, 44086), (714, 44275), (716, 44278), (732, 44296), (739, 44329), (749, 44374), (766, 44437), (772, 44461), (780, 44491), (803, 44581), (818, 44653), (825, 44686), (838, 44731), (849, 44767), (851, 44776), (853, 44782),

Gene: Alephilan\_79 Start: 52529, Stop: 55810, Start Num: 76

Candidate Starts for Alephlan\_79:

(Start: 76 @52529 has 1 MA's), (Start: 83 @52565 has 6 MA's), (88, 52610), (97, 52652), (163, 52913), (196, 53015), (202, 53048), (219, 53144), (278, 53414), (280, 53423), (306, 53531), (312, 53576), (321, 53618), (342, 53750), (343, 53753), (344, 53783), (359, 53873), (367, 53927), (388, 54026), (393, 54041), (410, 54083), (449, 54257), (453, 54290), (465, 54308), (475, 54326), (488, 54371), (489, 54374), (515, 54470), (524, 54512), (527, 54524), (532, 54560), (577, 54740), (586, 54782), (592, 54818), (606, 54872), (611, 54890), (629, 54986), (631, 54998), (700, 55187), (740, 55277), (765, 55382), (769, 55397), (773, 55412), (778, 55433), (781, 55445), (782, 55451), (783, 55454), (789, 55481), (801, 55526), (822, 55634), (835, 55679), (841, 55703), (853, 55739),

Gene: Alice\_196 Start: 112446, Stop: 115928, Start Num: 25

Candidate Starts for Alice\_196:

(Start: 24 @112440 has 44 MA's), (Start: 25 @112446 has 6 MA's), (Start: 31 @112458 has 8 MA's), (Start: 35 @112467 has 1 MA's), (Start: 62 @112533 has 110 MA's), (78, 112608), (97, 112722), (105, 112746), (121, 112806), (146, 112917), (154, 112956), (162, 112980), (170, 113022), (200, 113121), (210, 113163), (211, 113169), (215, 113181), (223, 113244), (234, 113304), (235, 113307), (241, 113334), (249, 113376), (Start: 267 @113439 has 9 MA's), (310, 113559), (317, 113595), (321, 113613), (324, 113628), (337, 113745), (343, 113784), (359, 113904), (365, 113946), (374, 113991), (376, 114000), (387, 114051), (398, 114093), (414, 114159), (416, 114168), (417, 114171), (418, 114177), (419, 114180), (420, 114189), (421, 114195), (422, 114210), (446, 114297), (470, 114402), (484, 114456), (501, 114543), (507, 114573), (516, 114603), (523, 114636), (525, 114645), (536, 114717), (541, 114747), (569, 114864), (578, 114909), (587, 114951), (619, 115095), (635, 115155), (666, 115257), (696, 115344), (697, 115347), (705, 115365), (713, 115401), (714, 115404), (735, 115464), (739, 115482), (763, 115578), (772, 115608), (777, 115626), (785, 115656), (808, 115749), (812, 115764), (828, 115845), (829, 115851), (832, 115863),

Gene: Alok\_i\_92 Start: 70036, Stop: 72849, Start Num: 53

Candidate Starts for Alok\_i\_92:

(Start: 44 @70021 has 1 MA's), (Start: 50 @70033 has 1 MA's), (Start: 53 @70036 has 8 MA's), (78, 70129), (86, 70189), (122, 70339), (123, 70342), (124, 70348), (147, 70447), (153, 70477), (154, 70480), (170, 70543), (174, 70564), (175, 70567), (185, 70594), (211, 70711), (214, 70720), (222, 70777), (224, 70786), (236, 70852), (252, 70918), (313, 71083), (317, 71101), (320, 71116), (322, 71122), (324, 71134), (332, 71161), (333, 71164), (339, 71224), (340, 71233), (341, 71236), (343, 71248), (346, 71293), (358, 71362), (361, 71386), (392, 71542), (396, 71560), (402, 71584), (405, 71602), (424, 71698), (432, 71740), (435, 71746), (446, 71782), (447, 71791), (450, 71809), (451, 71815), (453, 71839), (454, 71845), (455, 71848), (462, 71866), (463, 71869), (499, 71962), (509, 72007), (511, 72013), (518, 72037), (519, 72040), (521, 72049), (522, 72055), (524, 72067), (545, 72184), (547, 72202), (548, 72205), (551, 72214), (579, 72328), (582, 72343), (615, 72490), (618, 72502), (620, 72508), (629, 72541), (636, 72574), (640, 72592), (645, 72604), (647, 72613), (676, 72727), (682, 72739), (686, 72754), (712, 72829), (714, 72838),

Gene: Alyssamiracle\_81 Start: 50715, Stop: 54056, Start Num: 64

Candidate Starts for Alyssamiracle\_81:

(Start: 64 @50715 has 20 MA's), (Start: 76 @50775 has 1 MA's), (Start: 83 @50811 has 6 MA's), (88, 50856), (97, 50898), (163, 51159), (202, 51294), (219, 51390), (278, 51660), (280, 51669), (306, 51777), (312, 51822), (321, 51864), (334, 51942), (342, 51996), (343, 51999), (344, 52029), (359, 52119), (367, 52173), (388, 52272), (393, 52287), (410, 52329), (449, 52503), (453, 52536), (465, 52554), (475, 52572), (488, 52617), (489, 52620), (515, 52716), (524, 52758), (527, 52770), (532, 52806), (577, 52986), (586, 53028), (592, 53064), (605, 53106), (606, 53118), (611, 53136), (629, 53232), (631, 53244), (714, 53439), (740, 53523), (765, 53628), (769, 53643), (773, 53658), (778, 53679), (781, 53691), (782, 53697), (783, 53700), (789, 53727), (801, 53772), (822, 53880), (835, 53925), (841, 53949), (853, 53985),

Gene: Amataga\_210 Start: 112377, Stop: 115772, Start Num: 62

Candidate Starts for Amataga\_210:

(Start: 24 @112284 has 44 MA's), (Start: 25 @112290 has 6 MA's), (Start: 31 @112302 has 8 MA's), (Start: 35 @112311 has 1 MA's), (Start: 62 @112377 has 110 MA's), (78, 112452), (97, 112566), (105, 112590), (121, 112650), (146, 112761), (154, 112800), (162, 112824), (170, 112866), (200, 112965), (210, 113007), (211, 113013), (215, 113025), (223, 113088), (234, 113148), (235, 113151), (241, 113178), (249, 113220), (Start: 267 @113283 has 9 MA's), (310, 113403), (317, 113439), (321, 113457), (324, 113472), (337, 113589), (343, 113628), (359, 113748), (365, 113790), (374, 113835), (376, 113844), (387, 113895), (398, 113937), (414, 114003), (416, 114012), (417, 114015), (418, 114021), (419, 114024), (420, 114033), (421, 114039), (422, 114054), (446, 114141), (470, 114246), (484, 114300), (501, 114387), (507, 114417), (516, 114447), (523, 114480), (525, 114489), (536, 114561), (541, 114591), (569, 114708), (578, 114753), (587, 114795), (619, 114939), (635, 114999), (666, 115101), (696, 115188), (697, 115191), (705, 115209), (713, 115245), (714, 115248), (735, 115308), (739, 115326), (763, 115422), (772, 115452), (777, 115470), (785, 115500), (808, 115593), (812, 115608), (828, 115689), (829, 115695), (832, 115707),

Gene: Anakin\_57 Start: 41234, Stop: 43537, Start Num: 261

Candidate Starts for Anakin\_57:

(Start: 261 @41234 has 29 MA's), (Start: 263 @41240 has 6 MA's), (293, 41318), (310, 41390), (314, 41411), (321, 41444), (323, 41456), (324, 41459), (326, 41477), (339, 41552), (342, 41576), (345, 41615), (352, 41660), (355, 41672), (367, 41753), (393, 41867), (397, 41879), (421, 41954), (423, 41972), (441, 42050), (443, 42056), (445, 42065), (450, 42098), (453, 42128), (458, 42134), (472, 42155), (475, 42164), (483, 42194), (503, 42269), (505, 42278), (514, 42302), (515, 42308), (519, 42323), (524, 42350), (536, 42425), (553, 42497), (559, 42521), (583, 42605), (605, 42695), (606, 42707), (611, 42725), (625, 42803), (626, 42809), (629, 42818), (635, 42851), (656, 42923), (748, 43103), (754, 43133), (772, 43196), (788, 43268), (818, 43391), (825, 43424), (838, 43469), (851, 43514), (853, 43520),

Gene: AnnaSerena\_57 Start: 41268, Stop: 43571, Start Num: 261

Candidate Starts for AnnaSerena\_57:

(Start: 261 @41268 has 29 MA's), (Start: 263 @41274 has 6 MA's), (293, 41352), (310, 41424), (314, 41445), (321, 41478), (323, 41490), (324, 41493), (326, 41511), (339, 41586), (342, 41610), (345, 41649), (352, 41694), (355, 41706), (367, 41787), (393, 41901), (397, 41913), (421, 41988), (423, 42006), (441, 42084), (443, 42090), (445, 42099), (450, 42132), (453, 42162), (458, 42168), (472, 42189), (475, 42198), (483, 42228), (503, 42303), (505, 42312), (514, 42336), (515, 42342), (519, 42357), (524, 42384), (536, 42459), (553, 42531), (559, 42555), (583, 42639), (605, 42729), (606, 42741), (611, 42759), (625, 42837), (626, 42843), (629, 42852), (635, 42885), (656, 42957), (748, 43137), (754, 43167), (772, 43230), (788, 43302), (818, 43425), (825, 43458), (838, 43503), (851, 43548), (853, 43554),

Gene: Annapurna\_59 Start: 40745, Stop: 43048, Start Num: 261

Candidate Starts for Annapurna\_59:

(Start: 261 @40745 has 29 MA's), (Start: 263 @40751 has 6 MA's), (293, 40829), (310, 40901), (314, 40922), (321, 40955), (323, 40967), (324, 40970), (326, 40988), (329, 40994), (339, 41063), (342, 41087), (345, 41126), (352, 41171), (355, 41183), (367, 41264), (393, 41378), (397, 41390), (421, 41465), (423, 41483), (441, 41561), (443, 41567), (445, 41576), (450, 41609), (453, 41639), (458, 41645), (472, 41666), (475, 41675), (483, 41705), (503, 41780), (505, 41789), (514, 41813), (515, 41819), (519, 41834), (536, 41936), (553, 42008), (559, 42032), (583, 42116), (605, 42206), (606, 42218), (611, 42236), (625, 42314), (626, 42320), (629, 42329), (635, 42362), (656, 42434), (748, 42614), (754, 42644), (772, 42707), (788, 42779), (818, 42902), (825, 42935), (838, 42980), (851, 43025), (853, 43031),

Gene: Apeppi\_73 Start: 51198, Stop: 54536, Start Num: 64

Candidate Starts for Apeppi\_73:

(Start: 64 @51198 has 20 MA's), (Start: 76 @51258 has 1 MA's), (79, 51270), (Start: 83 @51294 has 6 MA's), (97, 51381), (202, 51777), (219, 51873), (241, 51996), (278, 52143), (280, 52152), (Start: 285 @52185 has 1 MA's), (296, 52221), (306, 52263), (312, 52308), (321, 52350), (342, 52482), (343, 52485), (344, 52515), (352, 52566), (357, 52587), (359, 52605), (368, 52668), (388, 52758), (393, 52773), (399, 52794), (449, 52989), (453, 53022), (465, 53040), (488, 53103), (489, 53106), (504, 53169), (515, 53202), (524, 53244), (527, 53256), (532, 53292), (557, 53406), (577, 53472), (583, 53499), (586, 53514), (592, 53550), (606, 53604), (611, 53622), (629, 53718), (634, 53742), (657, 53814), (743, 54018), (769, 54129), (773, 54144), (778, 54165), (781, 54177), (782, 54183), (783, 54186), (789, 54213), (801, 54258), (822, 54366), (833, 54405), (835, 54411), (841, 54435), (846, 54450), (849, 54456), (853, 54471),

Gene: Apiary\_59 Start: 45761, Stop: 42345, Start Num: 67

Candidate Starts for Apiary\_59:

(Start: 67 @45761 has 71 MA's), (80, 45680), (Start: 83 @45665 has 6 MA's), (101, 45557), (103, 45551), (118, 45503), (138, 45422), (150, 45380), (206, 45170), (209, 45155), (211, 45146), (217, 45122), (219, 45092), (226, 45053), (242, 44972), (250, 44930), (290, 44795), (313, 44681), (324, 44630), (326, 44612), (330, 44603), (340, 44525), (342, 44510), (345, 44471), (352, 44432), (367, 44339), (377, 44288), (379, 44282), (387, 44243), (421, 44138), (422, 44123), (423, 44120), (449, 44006), (450, 44003), (453, 43973), (465, 43955), (467, 43952), (471, 43946), (473, 43943), (482, 43910), (488, 43889), (527, 43721), (539, 43643), (547, 43604), (548, 43601), (550, 43595), (555, 43577), (582, 43481), (586, 43463), (592, 43427), (611, 43355), (629, 43262), (631, 43250), (650, 43187), (665, 43130), (693, 43001), (704, 42971), (720, 42911), (721, 42908), (729, 42866), (732, 42854), (751, 42764), (760, 42728), (776, 42683), (779, 42668), (788, 42626), (800, 42581), (813, 42527), (814, 42518), (816, 42506), (817, 42500), (821, 42482), (833, 42431), (834, 42428), (846, 42386),

Gene: ArcherS7\_209 Start: 113326, Stop: 116814, Start Num: 24

Candidate Starts for ArcherS7\_209:

(Start: 24 @113326 has 44 MA's), (Start: 25 @113332 has 6 MA's), (Start: 31 @113344 has 8 MA's), (Start: 35 @113353 has 1 MA's), (Start: 62 @113419 has 110 MA's), (78, 113494), (97, 113608), (105, 113632), (121, 113692), (146, 113803), (154, 113842), (162, 113866), (170, 113908), (200, 114007), (210, 114049), (211, 114055), (215, 114067), (223, 114130), (234, 114190), (235, 114193), (241, 114220), (249, 114262), (Start: 267 @114325 has 9 MA's), (317, 114481), (321, 114499), (324, 114514), (337, 114631), (343, 114670), (359, 114790), (365, 114832), (374, 114877), (376, 114886), (387, 114937), (398, 114979), (414, 115045), (416, 115054), (417, 115057), (418, 115063), (419, 115066), (420, 115075), (421, 115081), (422, 115096), (446, 115183), (470, 115288), (484, 115342), (501, 115429), (507, 115459), (516, 115489), (523, 115522), (525, 115531), (536, 115603), (541, 115633), (569, 115750), (578, 115795), (587, 115837), (619, 115981), (635, 116041), (666, 116143), (696, 116230), (697, 116233), (705, 116251), (713, 116287), (714, 116290), (735, 116350), (739, 116368), (763, 116464), (772, 116494), (777, 116512), (785, 116542), (808, 116635), (812, 116650), (828, 116731), (829, 116737), (832, 116749),

Gene: Arti\_59 Start: 47894, Stop: 44583, Start Num: 67

Candidate Starts for Arti\_59:

(1, 48146), (9, 48059), (12, 48032), (Start: 67 @47894 has 71 MA's), (79, 47822), (Start: 83 @47798 has 6 MA's), (116, 47645), (118, 47636), (196, 47354), (197, 47348), (201, 47324), (220, 47216), (226, 47186), (276, 46979), (321, 46808), (330, 46766), (340, 46688), (342, 46673), (362, 46535), (413, 46337), (423, 46280), (439, 46220), (449, 46169), (475, 46100), (488, 46055), (538, 45815), (548, 45770), (550, 45764), (555, 45746), (582, 45650), (592, 45596), (626, 45452), (629, 45443), (651, 45368), (671, 45293), (687, 45239), (714, 45149), (736, 45068), (742, 45047), (779, 44903), (780, 44900), (821, 44717), (836, 44660), (856, 44594),

Gene: Artiphact\_56 Start: 41258, Stop: 43561, Start Num: 261

Candidate Starts for Artiphact\_56:

(Start: 261 @41258 has 29 MA's), (Start: 263 @41264 has 6 MA's), (293, 41342), (310, 41414), (314, 41435), (321, 41468), (323, 41480), (324, 41483), (326, 41501), (339, 41576), (342, 41600), (345, 41639), (352, 41684), (355, 41696), (367, 41777), (393, 41891), (397, 41903), (421, 41978), (423, 41996), (441, 42074), (443, 42080), (445, 42089), (450, 42122), (453, 42152), (458, 42158), (472, 42179), (475, 42188), (483, 42218), (503, 42293), (505, 42302), (514, 42326), (515, 42332), (519, 42347), (524, 42374), (536, 42449), (553, 42521), (559, 42545), (583, 42629), (605, 42719), (606, 42731), (611, 42749), (625, 42827), (626, 42833), (629, 42842), (635, 42875), (656, 42947), (748, 43127), (754, 43157), (772, 43220), (788, 43292), (818, 43415), (825, 43448), (838, 43493), (851, 43538), (853, 43544),

Gene: Asten\_54 Start: 42455, Stop: 38970, Start Num: 63

Candidate Starts for Asten\_54:

(Start: 35 @42524 has 1 MA's), (Start: 63 @42455 has 55 MA's), (Start: 76 @42392 has 1 MA's), (78, 42383), (85, 42341), (101, 42248), (120, 42179), (136, 42110), (152, 42056), (170, 41984), (180, 41948), (194, 41888), (236, 41663), (247, 41624), (252, 41597), (256, 41579), (Start: 262 @41558 has 3 MA's), (Start: 267 @41543 has 9 MA's), (296, 41501), (313, 41423), (316, 41411), (344, 41225), (345, 41219), (351, 41174), (364, 41090), (367, 41072), (382, 41015), (383, 41012), (385, 41000), (420, 40862), (421, 40856), (422, 40841), (424, 40835), (431, 40802), (451, 40724), (455, 40691), (503, 40550), (508, 40532), (524, 40469), (526, 40463), (537, 40394), (547, 40331), (553, 40310), (567, 40265), (590, 40169), (591, 40160), (593, 40154), (615, 40052), (617, 40043), (621, 40031), (623, 40010), (633, 39980), (638, 39953), (658, 39887), (661, 39878), (665, 39866), (685, 39779), (733, 39611), (744, 39563), (771, 39452), (803, 39314), (804, 39305), (810, 39278), (819, 39230), (826, 39197), (832, 39170), (861, 39065), (862, 39053),

Gene: Asterius\_205 Start: 112786, Stop: 116181, Start Num: 62

Candidate Starts for Asterius\_205:

(Start: 24 @112693 has 44 MA's), (Start: 25 @112699 has 6 MA's), (Start: 31 @112711 has 8 MA's), (Start: 35 @112720 has 1 MA's), (Start: 62 @112786 has 110 MA's), (78, 112861), (97, 112975), (105, 112999), (121, 113059), (146, 113170), (154, 113209), (162, 113233), (170, 113275), (200, 113374), (210, 113416), (211, 113422), (215, 113434), (223, 113497), (234, 113557), (235, 113560), (241, 113587), (249, 113629), (Start: 267 @113692 has 9 MA's), (317, 113848), (321, 113866), (324, 113881), (337, 113998), (343, 114037), (359, 114157), (365, 114199), (374, 114244), (376, 114253), (387, 114304), (398, 114346), (414, 114412), (416, 114421), (417, 114424), (418, 114430), (419, 114433), (420, 114442), (421, 114448), (422, 114463), (446, 114550), (470, 114655), (484, 114709), (501, 114796), (507, 114826), (516, 114856), (523, 114889), (525, 114898), (536, 114970), (541, 115000), (569, 115117), (578, 115162), (587, 115204), (619, 115348), (635, 115408), (666, 115510), (696, 115597), (697, 115600), (705, 115618), (713, 115654), (714, 115657), (735, 115717), (739, 115735), (763, 115831), (772, 115861), (777, 115879), (785, 115909), (808, 116002), (812, 116017), (828, 116098), (829, 116104), (832, 116116),

Gene: Astraea\_203 Start: 111888, Stop: 115376, Start Num: 24

Candidate Starts for Astraea\_203:

(Start: 24 @111888 has 44 MA's), (Start: 25 @111894 has 6 MA's), (Start: 31 @111906 has 8 MA's), (Start: 35 @111915 has 1 MA's), (Start: 62 @111981 has 110 MA's), (78, 112056), (97, 112170), (105, 112194), (121, 112254), (146, 112365), (154, 112404), (162, 112428), (170, 112470), (200, 112569), (210, 112611), (211, 112617), (215, 112629), (223, 112692), (234, 112752), (235, 112755), (241, 112782), (249, 112824), (Start: 267 @112887 has 9 MA's), (310, 113007), (317, 113043), (321, 113061), (324, 113076), (337, 113193), (343, 113232), (359, 113352), (365, 113394), (374, 113439), (376, 113448), (387, 113499), (398, 113541), (414, 113607), (416, 113616), (417, 113619), (418, 113625), (419, 113628), (420, 113637), (421, 113643), (422, 113658), (446, 113745), (470, 113850), (484, 113904), (501, 113991), (507, 114021), (516, 114051), (523, 114084), (525, 114093), (536,



114165), (541, 114195), (569, 114312), (578, 114357), (587, 114399), (619, 114543), (635, 114603), (666, 114705), (696, 114792), (697, 114795), (705, 114813), (713, 114849), (714, 114852), (735, 114912), (739, 114930), (763, 115026), (772, 115056), (777, 115074), (785, 115104), (808, 115197), (812, 115212), (828, 115293), (829, 115299), (832, 115311),

Gene: Astralis\_80 Start: 50294, Stop: 53635, Start Num: 64

Candidate Starts for Astralis\_80:

(Start: 64 @50294 has 20 MA's), (Start: 76 @50354 has 1 MA's), (Start: 83 @50390 has 6 MA's), (88, 50435), (97, 50477), (163, 50738), (202, 50873), (219, 50969), (278, 51239), (280, 51248), (306, 51356), (312, 51401), (321, 51443), (334, 51521), (342, 51575), (343, 51578), (344, 51608), (359, 51698), (367, 51752), (388, 51851), (393, 51866), (410, 51908), (449, 52082), (453, 52115), (465, 52133), (475, 52151), (488, 52196), (489, 52199), (515, 52295), (524, 52337), (527, 52349), (532, 52385), (577, 52565), (586, 52607), (592, 52643), (605, 52685), (606, 52697), (611, 52715), (629, 52811), (631, 52823), (714, 53018), (740, 53102), (765, 53207), (769, 53222), (773, 53237), (778, 53258), (781, 53270), (782, 53276), (783, 53279), (789, 53306), (801, 53351), (822, 53459), (835, 53504), (841, 53528), (853, 53564),

Gene: Atlantean\_209 Start: 112377, Stop: 115772, Start Num: 62

Candidate Starts for Atlantean\_209:

(Start: 24 @112284 has 44 MA's), (Start: 25 @112290 has 6 MA's), (Start: 31 @112302 has 8 MA's), (Start: 35 @112311 has 1 MA's), (Start: 62 @112377 has 110 MA's), (78, 112452), (97, 112566), (105, 112590), (121, 112650), (146, 112761), (154, 112800), (162, 112824), (170, 112866), (200, 112965), (210, 113007), (211, 113013), (215, 113025), (223, 113088), (234, 113148), (235, 113151), (241, 113178), (249, 113220), (Start: 267 @113283 has 9 MA's), (310, 113403), (317, 113439), (321, 113457), (324, 113472), (337, 113589), (343, 113628), (359, 113748), (365, 113790), (374, 113835), (376, 113844), (387, 113895), (398, 113937), (414, 114003), (416, 114012), (417, 114015), (418, 114021), (419, 114024), (420, 114033), (421, 114039), (422, 114054), (446, 114141), (470, 114246), (484, 114300), (501, 114387), (507, 114417), (516, 114447), (523, 114480), (525, 114489), (536, 114561), (541, 114591), (569, 114708), (578, 114753), (587, 114795), (619, 114939), (635, 114999), (666, 115101), (696, 115188), (697, 115191), (705, 115209), (713, 115245), (714, 115248), (735, 115308), (739, 115326), (763, 115422), (772, 115452), (777, 115470), (785, 115500), (808, 115593), (812, 115608), (828, 115689), (829, 115695), (832, 115707),

Gene: Audrick\_211 Start: 112267, Stop: 115662, Start Num: 62

Candidate Starts for Audrick\_211:

(Start: 24 @112174 has 44 MA's), (Start: 25 @112180 has 6 MA's), (Start: 31 @112192 has 8 MA's), (Start: 35 @112201 has 1 MA's), (Start: 62 @112267 has 110 MA's), (78, 112342), (97, 112456), (105, 112480), (121, 112540), (146, 112651), (154, 112690), (162, 112714), (170, 112756), (200, 112855), (210, 112897), (211, 112903), (215, 112915), (223, 112978), (234, 113038), (235, 113041), (241, 113068), (249, 113110), (Start: 267 @113173 has 9 MA's), (310, 113293), (317, 113329), (321, 113347), (324, 113362), (337, 113479), (343, 113518), (359, 113638), (365, 113680), (374, 113725), (376, 113734), (387, 113785), (398, 113827), (414, 113893), (416, 113902), (417, 113905), (418, 113911), (419, 113914), (420, 113923), (421, 113929), (422, 113944), (446, 114031), (470, 114136), (484, 114190), (501, 114277), (507, 114307), (516, 114337), (523, 114370), (525, 114379), (536, 114451), (541, 114481), (569, 114598), (578, 114643), (587, 114685), (619, 114829), (635, 114889), (666, 114991), (696, 115078), (697, 115081), (705, 115099), (713, 115135), (714, 115138), (735, 115198), (739, 115216), (763, 115312), (772, 115342), (777, 115360), (785, 115390), (808, 115483), (812, 115498), (828, 115579), (829, 115585), (832, 115597),

Gene: Ava3\_208 Start: 112811, Stop: 116206, Start Num: 62

Candidate Starts for Ava3\_208:

(Start: 24 @112718 has 44 MA's), (Start: 25 @112724 has 6 MA's), (Start: 31 @112736 has 8 MA's), (Start: 35 @112745 has 1 MA's), (Start: 62 @112811 has 110 MA's), (78, 112886), (97, 113000), (105,

113024), (121, 113084), (146, 113195), (154, 113234), (162, 113258), (170, 113300), (200, 113399), (210, 113441), (211, 113447), (215, 113459), (223, 113522), (234, 113582), (235, 113585), (241, 113612), (249, 113654), (Start: 267 @113717 has 9 MA's), (310, 113837), (317, 113873), (321, 113891), (324, 113906), (337, 114023), (343, 114062), (359, 114182), (365, 114224), (374, 114269), (376, 114278), (387, 114329), (398, 114371), (414, 114437), (416, 114446), (417, 114449), (418, 114455), (419, 114458), (420, 114467), (421, 114473), (422, 114488), (446, 114575), (470, 114680), (484, 114734), (501, 114821), (507, 114851), (516, 114881), (523, 114914), (525, 114923), (536, 114995), (541, 115025), (569, 115142), (578, 115187), (587, 115229), (619, 115373), (635, 115433), (666, 115535), (696, 115622), (697, 115625), (705, 115643), (713, 115679), (714, 115682), (735, 115742), (739, 115760), (763, 115856), (772, 115886), (777, 115904), (785, 115934), (808, 116027), (812, 116042), (828, 116123), (829, 116129), (832, 116141),

Gene: Avian\_78 Start: 50443, Stop: 53784, Start Num: 64

Candidate Starts for Avian\_78:

(Start: 64 @50443 has 20 MA's), (Start: 83 @50539 has 6 MA's), (88, 50584), (97, 50626), (163, 50887), (202, 51022), (219, 51118), (278, 51388), (280, 51397), (306, 51505), (312, 51550), (321, 51592), (334, 51670), (342, 51724), (343, 51727), (344, 51757), (359, 51847), (367, 51901), (388, 52000), (393, 52015), (410, 52057), (449, 52231), (453, 52264), (465, 52282), (475, 52300), (488, 52345), (489, 52348), (515, 52444), (524, 52486), (527, 52498), (532, 52534), (577, 52714), (586, 52756), (592, 52792), (605, 52834), (606, 52846), (611, 52864), (629, 52960), (631, 52972), (714, 53167), (740, 53251), (765, 53356), (769, 53371), (773, 53386), (778, 53407), (781, 53419), (782, 53425), (783, 53428), (789, 53455), (801, 53500), (822, 53608), (835, 53653), (841, 53677), (853, 53713),

Gene: Babyland\_212 Start: 113154, Stop: 116549, Start Num: 62

Candidate Starts for Babyland\_212:

(Start: 24 @113061 has 44 MA's), (Start: 25 @113067 has 6 MA's), (Start: 31 @113079 has 8 MA's), (Start: 35 @113088 has 1 MA's), (Start: 62 @113154 has 110 MA's), (78, 113229), (97, 113343), (105, 113367), (121, 113427), (146, 113538), (154, 113577), (162, 113601), (170, 113643), (200, 113742), (210, 113784), (211, 113790), (215, 113802), (223, 113865), (234, 113925), (235, 113928), (241, 113955), (249, 113997), (Start: 267 @114060 has 9 MA's), (310, 114180), (317, 114216), (321, 114234), (324, 114249), (337, 114366), (343, 114405), (359, 114525), (365, 114567), (374, 114612), (376, 114621), (387, 114672), (398, 114714), (414, 114780), (416, 114789), (417, 114792), (418, 114798), (419, 114801), (420, 114810), (421, 114816), (422, 114831), (446, 114918), (470, 115023), (484, 115077), (501, 115164), (507, 115194), (516, 115224), (523, 115257), (525, 115266), (536, 115338), (541, 115368), (569, 115485), (578, 115530), (587, 115572), (619, 115716), (635, 115776), (666, 115878), (696, 115965), (697, 115968), (705, 115986), (713, 116022), (714, 116025), (735, 116085), (739, 116103), (763, 116199), (772, 116229), (777, 116247), (785, 116277), (808, 116370), (812, 116385), (828, 116466), (829, 116472), (832, 116484),

Gene: BackyardAgain\_204 Start: 110970, Stop: 114458, Start Num: 24

Candidate Starts for BackyardAgain\_204:

(Start: 24 @110970 has 44 MA's), (Start: 25 @110976 has 6 MA's), (Start: 31 @110988 has 8 MA's), (Start: 35 @110997 has 1 MA's), (Start: 62 @111063 has 110 MA's), (78, 111138), (97, 111252), (105, 111276), (121, 111336), (146, 111447), (154, 111486), (162, 111510), (170, 111552), (200, 111651), (210, 111693), (211, 111699), (215, 111711), (223, 111774), (234, 111834), (235, 111837), (241, 111864), (249, 111906), (Start: 267 @111969 has 9 MA's), (310, 112089), (317, 112125), (321, 112143), (324, 112158), (337, 112275), (343, 112314), (359, 112434), (365, 112476), (374, 112521), (376, 112530), (387, 112581), (398, 112623), (414, 112689), (416, 112698), (417, 112701), (418, 112707), (419, 112710), (420, 112719), (421, 112725), (422, 112740), (446, 112827), (470, 112932), (484, 112986), (501, 113073), (507, 113103), (516, 113133), (523, 113166), (525, 113175), (536, 113247), (541, 113277), (569, 113394), (578, 113439), (587, 113481), (619, 113625), (635, 113685), (666, 113787), (696, 113874), (697, 113877), (705, 113895), (713, 113931), (714, 113934), (735,

113994), (739, 114012), (763, 114108), (772, 114138), (777, 114156), (785, 114186), (808, 114279), (812, 114294), (828, 114375), (829, 114381), (832, 114393),

Gene: BadAgartude\_203 Start: 112479, Stop: 115874, Start Num: 62

Candidate Starts for BadAgartude\_203:

(10, 112311), (Start: 24 @112386 has 44 MA's), (Start: 25 @112392 has 6 MA's), (Start: 31 @112404 has 8 MA's), (Start: 35 @112413 has 1 MA's), (Start: 62 @112479 has 110 MA's), (78, 112554), (97, 112668), (105, 112692), (121, 112752), (146, 112863), (154, 112902), (162, 112926), (170, 112968), (200, 113067), (210, 113109), (211, 113115), (215, 113127), (223, 113190), (234, 113250), (235, 113253), (241, 113280), (249, 113322), (Start: 267 @113385 has 9 MA's), (317, 113541), (321, 113559), (324, 113574), (337, 113691), (343, 113730), (359, 113850), (365, 113892), (374, 113937), (376, 113946), (387, 113997), (398, 114039), (414, 114105), (416, 114114), (417, 114117), (418, 114123), (419, 114126), (420, 114135), (421, 114141), (422, 114156), (446, 114243), (470, 114348), (484, 114402), (501, 114489), (507, 114519), (516, 114549), (523, 114582), (525, 114591), (536, 114663), (541, 114693), (569, 114810), (578, 114855), (587, 114897), (619, 115041), (635, 115101), (666, 115203), (696, 115290), (697, 115293), (705, 115311), (713, 115347), (714, 115350), (735, 115410), (739, 115428), (763, 115524), (772, 115554), (777, 115572), (785, 115602), (808, 115695), (812, 115710), (828, 115791), (829, 115797), (832, 115809),

Gene: BananaFence\_206 Start: 112610, Stop: 116005, Start Num: 62

Candidate Starts for BananaFence\_206:

(Start: 24 @112517 has 44 MA's), (Start: 25 @112523 has 6 MA's), (Start: 31 @112535 has 8 MA's), (Start: 35 @112544 has 1 MA's), (Start: 62 @112610 has 110 MA's), (78, 112685), (97, 112799), (105, 112823), (121, 112883), (146, 112994), (154, 113033), (162, 113057), (170, 113099), (200, 113198), (210, 113240), (211, 113246), (215, 113258), (223, 113321), (234, 113381), (235, 113384), (241, 113411), (249, 113453), (Start: 267 @113516 has 9 MA's), (317, 113672), (321, 113690), (324, 113705), (337, 113822), (343, 113861), (359, 113981), (365, 114023), (374, 114068), (376, 114077), (387, 114128), (398, 114170), (414, 114236), (416, 114245), (417, 114248), (418, 114254), (419, 114257), (420, 114266), (421, 114272), (422, 114287), (446, 114374), (470, 114479), (484, 114533), (501, 114620), (507, 114650), (516, 114680), (523, 114713), (525, 114722), (536, 114794), (541, 114824), (569, 114941), (578, 114986), (587, 115028), (619, 115172), (635, 115232), (666, 115334), (696, 115421), (697, 115424), (705, 115442), (713, 115478), (714, 115481), (735, 115541), (739, 115559), (763, 115655), (772, 115685), (777, 115703), (785, 115733), (808, 115826), (812, 115841), (828, 115922), (829, 115928), (832, 115940),

Gene: Bangla1971\_209 Start: 112290, Stop: 115778, Start Num: 24

Candidate Starts for Bangla1971\_209:

(Start: 24 @112290 has 44 MA's), (Start: 25 @112296 has 6 MA's), (Start: 31 @112308 has 8 MA's), (Start: 35 @112317 has 1 MA's), (Start: 62 @112383 has 110 MA's), (78, 112458), (97, 112572), (105, 112596), (121, 112656), (146, 112767), (154, 112806), (162, 112830), (170, 112872), (200, 112971), (210, 113013), (211, 113019), (215, 113031), (223, 113094), (234, 113154), (235, 113157), (241, 113184), (249, 113226), (Start: 267 @113289 has 9 MA's), (317, 113445), (321, 113463), (324, 113478), (337, 113595), (343, 113634), (359, 113754), (365, 113796), (374, 113841), (376, 113850), (387, 113901), (398, 113943), (414, 114009), (416, 114018), (417, 114021), (418, 114027), (419, 114030), (420, 114039), (421, 114045), (422, 114060), (446, 114147), (470, 114252), (484, 114306), (501, 114393), (507, 114423), (516, 114453), (523, 114486), (525, 114495), (536, 114567), (541, 114597), (569, 114714), (578, 114759), (587, 114801), (619, 114945), (635, 115005), (666, 115107), (696, 115194), (697, 115197), (705, 115215), (713, 115251), (714, 115254), (735, 115314), (739, 115332), (763, 115428), (772, 115458), (777, 115476), (785, 115506), (808, 115599), (812, 115614), (828, 115695), (829, 115701), (832, 115713),

Gene: Barnyard\_80 Start: 54919, Stop: 58254, Start Num: 67

Candidate Starts for Barnyard\_80:

(Start: 51 @54892 has 1 MA's), (Start: 67 @54919 has 71 MA's), (74, 54970), (75, 54976), (Start: 83 @55015 has 6 MA's), (86, 55048), (104, 55132), (118, 55183), (142, 55273), (177, 55393), (193, 55453), (242, 55711), (306, 55906), (324, 56008), (334, 56071), (337, 56086), (342, 56131), (343, 56134), (380, 56368), (407, 56476), (409, 56482), (443, 56638), (449, 56677), (451, 56686), (453, 56710), (457, 56725), (459, 56728), (464, 56746), (468, 56752), (480, 56803), (500, 56908), (505, 56938), (509, 56950), (513, 56959), (516, 56974), (530, 57043), (539, 57100), (548, 57142), (553, 57160), (611, 57391), (613, 57403), (659, 57604), (675, 57658), (715, 57715), (717, 57718), (746, 57808), (767, 57892), (782, 57952), (799, 58021), (821, 58120), (836, 58180), (854, 58240),

Gene: BarryBee\_57 Start: 42477, Stop: 38992, Start Num: 63

Candidate Starts for BarryBee\_57:

(Start: 35 @42546 has 1 MA's), (Start: 63 @42477 has 55 MA's), (Start: 76 @42414 has 1 MA's), (78, 42405), (85, 42363), (101, 42270), (120, 42201), (136, 42132), (152, 42078), (170, 42006), (180, 41970), (194, 41910), (236, 41685), (247, 41646), (252, 41619), (256, 41601), (Start: 262 @41580 has 3 MA's), (Start: 267 @41565 has 9 MA's), (296, 41523), (313, 41445), (316, 41433), (344, 41247), (345, 41241), (351, 41196), (364, 41112), (367, 41094), (382, 41037), (383, 41034), (385, 41022), (420, 40884), (421, 40878), (422, 40863), (424, 40857), (431, 40824), (451, 40746), (455, 40713), (498, 40596), (503, 40572), (524, 40491), (526, 40485), (537, 40416), (547, 40353), (553, 40332), (567, 40287), (590, 40191), (591, 40182), (593, 40176), (615, 40074), (617, 40065), (621, 40053), (623, 40032), (633, 40002), (638, 39975), (658, 39909), (661, 39900), (665, 39888), (685, 39801), (733, 39633), (744, 39585), (771, 39474), (803, 39336), (804, 39327), (810, 39300), (819, 39252), (826, 39219), (861, 39087), (862, 39075),

Gene: Basquiat\_206 Start: 111889, Stop: 115284, Start Num: 62

Candidate Starts for Basquiat\_206:

(Start: 24 @111796 has 44 MA's), (Start: 25 @111802 has 6 MA's), (Start: 31 @111814 has 8 MA's), (Start: 35 @111823 has 1 MA's), (Start: 62 @111889 has 110 MA's), (78, 111964), (97, 112078), (105, 112102), (121, 112162), (146, 112273), (154, 112312), (162, 112336), (170, 112378), (200, 112477), (210, 112519), (211, 112525), (215, 112537), (223, 112600), (234, 112660), (235, 112663), (241, 112690), (249, 112732), (Start: 267 @112795 has 9 MA's), (310, 112915), (317, 112951), (321, 112969), (324, 112984), (337, 113101), (343, 113140), (359, 113260), (365, 113302), (374, 113347), (376, 113356), (387, 113407), (398, 113449), (414, 113515), (416, 113524), (417, 113527), (418, 113533), (419, 113536), (420, 113545), (421, 113551), (422, 113566), (446, 113653), (470, 113758), (484, 113812), (501, 113899), (507, 113929), (516, 113959), (523, 113992), (525, 114001), (536, 114073), (541, 114103), (569, 114220), (578, 114265), (587, 114307), (619, 114451), (635, 114511), (666, 114613), (696, 114700), (697, 114703), (705, 114721), (713, 114757), (714, 114760), (735, 114820), (739, 114838), (763, 114934), (772, 114964), (777, 114982), (785, 115012), (808, 115105), (812, 115120), (828, 115201), (829, 115207), (832, 115219),

Gene: BeanWater\_201 Start: 112340, Stop: 115810, Start Num: 31

Candidate Starts for BeanWater\_201:

(Start: 18 @112292 has 5 MA's), (Start: 24 @112322 has 44 MA's), (Start: 25 @112328 has 6 MA's), (Start: 31 @112340 has 8 MA's), (Start: 35 @112349 has 1 MA's), (Start: 62 @112415 has 110 MA's), (78, 112490), (97, 112604), (105, 112628), (121, 112688), (146, 112799), (154, 112838), (162, 112862), (170, 112904), (200, 113003), (210, 113045), (211, 113051), (215, 113063), (223, 113126), (234, 113186), (235, 113189), (241, 113216), (249, 113258), (Start: 267 @113321 has 9 MA's), (310, 113441), (317, 113477), (321, 113495), (324, 113510), (337, 113627), (343, 113666), (359, 113786), (365, 113828), (374, 113873), (376, 113882), (387, 113933), (398, 113975), (414, 114041), (416, 114050), (417, 114053), (418, 114059), (419, 114062), (420, 114071), (421, 114077), (422, 114092), (446, 114179), (470, 114284), (484, 114338), (501, 114425), (507, 114455), (516, 114485), (523, 114518), (525, 114527), (536, 114599), (541, 114629), (569, 114746), (578, 114791), (587, 114833), (619, 114977), (635, 115037), (666, 115139), (696, 115226), (697, 115229), (705, 115247), (713, 115283), (714, 115286), (735, 115346), (739, 115364), (763, 115460), (772, 115490), (777, 115508),

(785, 115538), (808, 115631), (812, 115646), (828, 115727), (829, 115733), (832, 115745),

Gene: BeardedLady\_53 Start: 40610, Stop: 37131, Start Num: 63

Candidate Starts for BeardedLady\_53:

(6, 40820), (Start: 63 @40610 has 55 MA's), (78, 40538), (Start: 83 @40511 has 6 MA's), (85, 40496), (120, 40334), (126, 40307), (129, 40301), (152, 40211), (156, 40196), (169, 40142), (170, 40139), (194, 40043), (214, 39965), (222, 39905), (236, 39818), (247, 39779), (256, 39734), (Start: 262 @39713 has 3 MA's), (Start: 267 @39698 has 9 MA's), (296, 39656), (300, 39644), (313, 39578), (316, 39566), (330, 39503), (345, 39374), (346, 39365), (351, 39329), (364, 39245), (367, 39227), (382, 39170), (383, 39167), (385, 39155), (420, 39017), (421, 39011), (422, 38996), (424, 38990), (431, 38957), (451, 38879), (455, 38846), (503, 38705), (520, 38648), (524, 38624), (526, 38618), (537, 38549), (547, 38486), (567, 38420), (578, 38381), (590, 38324), (591, 38315), (615, 38207), (617, 38198), (621, 38186), (623, 38165), (633, 38135), (638, 38108), (658, 38042), (661, 38033), (665, 38021), (685, 37934), (695, 37910), (709, 37862), (744, 37718), (760, 37643), (803, 37469), (804, 37460), (810, 37433), (819, 37385), (826, 37352),

Gene: Beckerton\_76 Start: 56006, Stop: 59302, Start Num: 67

Candidate Starts for Beckerton\_76:

(Start: 48 @55979 has 1 MA's), (Start: 67 @56006 has 71 MA's), (79, 56078), (Start: 83 @56102 has 6 MA's), (84, 56111), (86, 56135), (118, 56270), (143, 56363), (148, 56381), (178, 56489), (219, 56681), (271, 56915), (294, 56972), (306, 57026), (312, 57071), (318, 57098), (324, 57128), (342, 57251), (345, 57290), (351, 57332), (363, 57410), (367, 57428), (371, 57446), (373, 57458), (390, 57533), (423, 57689), (443, 57773), (454, 57851), (462, 57872), (464, 57881), (468, 57887), (474, 57896), (494, 57968), (497, 57983), (505, 58022), (509, 58034), (530, 58127), (531, 58133), (539, 58181), (548, 58223), (588, 58373), (590, 58385), (611, 58469), (637, 58610), (675, 58715), (737, 58814), (739, 58823), (755, 58901), (768, 58940), (770, 58955), (783, 59003), (806, 59099), (811, 59117), (815, 59144), (826, 59192), (834, 59222), (835, 59225), (839, 59240), (849, 59270), (851, 59279), (853, 59285), (854, 59288),

Gene: Belieber\_202 Start: 111203, Stop: 114598, Start Num: 62

Candidate Starts for Belieber\_202:

(Start: 24 @111110 has 44 MA's), (Start: 25 @111116 has 6 MA's), (Start: 31 @111128 has 8 MA's), (Start: 35 @111137 has 1 MA's), (Start: 62 @111203 has 110 MA's), (78, 111278), (97, 111392), (105, 111416), (121, 111476), (146, 111587), (154, 111626), (162, 111650), (170, 111692), (200, 111791), (210, 111833), (211, 111839), (215, 111851), (223, 111914), (234, 111974), (235, 111977), (241, 112004), (249, 112046), (Start: 267 @112109 has 9 MA's), (310, 112229), (317, 112265), (321, 112283), (324, 112298), (337, 112415), (343, 112454), (359, 112574), (365, 112616), (374, 112661), (376, 112670), (387, 112721), (398, 112763), (414, 112829), (416, 112838), (417, 112841), (418, 112847), (419, 112850), (420, 112859), (421, 112865), (422, 112880), (446, 112967), (470, 113072), (484, 113126), (501, 113213), (507, 113243), (516, 113273), (523, 113306), (525, 113315), (536, 113387), (541, 113417), (569, 113534), (578, 113579), (587, 113621), (619, 113765), (635, 113825), (666, 113927), (696, 114014), (697, 114017), (705, 114035), (713, 114071), (714, 114074), (735, 114134), (739, 114152), (763, 114248), (772, 114278), (777, 114296), (785, 114326), (808, 114419), (812, 114434), (828, 114515), (829, 114521), (832, 114533),

Gene: Beted\_97 Start: 71922, Stop: 74735, Start Num: 53

Candidate Starts for Beted\_97:

(Start: 44 @71907 has 1 MA's), (Start: 50 @71919 has 1 MA's), (Start: 53 @71922 has 8 MA's), (78, 72015), (86, 72075), (122, 72225), (123, 72228), (124, 72234), (134, 72276), (147, 72333), (153, 72363), (154, 72366), (155, 72369), (170, 72429), (174, 72450), (175, 72453), (185, 72480), (205, 72570), (211, 72597), (214, 72606), (222, 72663), (224, 72672), (252, 72804), (313, 72969), (317, 72987), (320, 73002), (322, 73008), (324, 73020), (332, 73047), (333, 73050), (339, 73110), (340, 73119), (341, 73122), (343, 73134), (346, 73179), (358, 73248), (361, 73272), (392, 73428), (402,

73470), (405, 73488), (424, 73584), (432, 73626), (446, 73668), (447, 73677), (450, 73695), (451, 73701), (453, 73725), (454, 73731), (455, 73734), (462, 73752), (463, 73755), (499, 73848), (509, 73893), (511, 73899), (518, 73923), (519, 73926), (521, 73935), (522, 73941), (524, 73953), (545, 74070), (547, 74088), (548, 74091), (551, 74100), (579, 74214), (582, 74229), (615, 74376), (618, 74388), (620, 74394), (636, 74460), (640, 74478), (645, 74490), (647, 74499), (676, 74613), (682, 74625), (686, 74640), (712, 74715), (714, 74724),

Gene: Beyoncage\_66 Start: 47716, Stop: 50151, Start Num: 281

Candidate Starts for Beyoncage\_66:

(Start: 281 @47716 has 8 MA's), (284, 47734), (322, 47914), (340, 48028), (342, 48043), (393, 48334), (421, 48421), (448, 48550), (453, 48589), (458, 48595), (472, 48616), (475, 48625), (527, 48823), (529, 48838), (530, 48844), (536, 48886), (551, 48949), (557, 48973), (574, 49030), (580, 49054), (588, 49093), (605, 49159), (606, 49171), (611, 49189), (628, 49282), (631, 49297), (639, 49333), (670, 49435), (742, 49627), (743, 49630), (758, 49705), (761, 49711), (774, 49768), (780, 49795), (782, 49807), (803, 49891), (810, 49921), (822, 49990), (829, 50014), (833, 50029), (849, 50080), (852, 50092), (853, 50095), (859, 50110), (864, 50146),

Gene: BiPauneto\_61 Start: 47338, Stop: 44087, Start Num: 67

Candidate Starts for BiPauneto\_61:

(15, 47470), (22, 47440), (27, 47428), (Start: 67 @47338 has 71 MA's), (80, 47257), (Start: 83 @47242 has 6 MA's), (88, 47197), (116, 47089), (118, 47080), (197, 46792), (207, 46741), (214, 46714), (220, 46660), (226, 46630), (276, 46423), (309, 46315), (324, 46237), (330, 46210), (340, 46132), (342, 46117), (362, 45979), (413, 45781), (415, 45775), (420, 45748), (449, 45613), (453, 45580), (475, 45544), (488, 45499), (492, 45487), (506, 45424), (538, 45259), (539, 45256), (547, 45217), (548, 45214), (550, 45208), (552, 45199), (555, 45190), (582, 45094), (586, 45076), (592, 45040), (628, 44890), (640, 44836), (687, 44740), (714, 44656), (719, 44647), (732, 44596), (751, 44506), (779, 44410), (780, 44407), (791, 44356), (821, 44224), (856, 44101),

Gene: BigCity\_218 Start: 115911, Stop: 119381, Start Num: 31

Candidate Starts for BigCity\_218:

(10, 115818), (Start: 24 @115893 has 44 MA's), (Start: 25 @115899 has 6 MA's), (Start: 31 @115911 has 8 MA's), (Start: 35 @115920 has 1 MA's), (Start: 62 @115986 has 110 MA's), (78, 116061), (97, 116175), (105, 116199), (121, 116259), (146, 116370), (154, 116409), (162, 116433), (170, 116475), (200, 116574), (210, 116616), (211, 116622), (215, 116634), (223, 116697), (234, 116757), (235, 116760), (241, 116787), (249, 116829), (Start: 267 @116892 has 9 MA's), (317, 117048), (321, 117066), (324, 117081), (337, 117198), (343, 117237), (359, 117357), (365, 117399), (374, 117444), (376, 117453), (387, 117504), (398, 117546), (414, 117612), (416, 117621), (417, 117624), (418, 117630), (419, 117633), (420, 117642), (421, 117648), (422, 117663), (446, 117750), (470, 117855), (484, 117909), (501, 117996), (507, 118026), (516, 118056), (523, 118089), (525, 118098), (536, 118170), (541, 118200), (569, 118317), (578, 118362), (587, 118404), (619, 118548), (635, 118608), (666, 118710), (696, 118797), (697, 118800), (705, 118818), (713, 118854), (714, 118857), (735, 118917), (739, 118935), (763, 119031), (772, 119061), (777, 119079), (785, 119109), (808, 119202), (812, 119217), (828, 119298), (829, 119304), (832, 119316),

Gene: BigMama\_65 Start: 49772, Stop: 53074, Start Num: 26

Candidate Starts for BigMama\_65:

(Start: 26 @49772 has 20 MA's), (Start: 58 @49859 has 1 MA's), (61, 49865), (Start: 67 @49874 has 71 MA's), (Start: 83 @49970 has 6 MA's), (118, 50126), (141, 50213), (142, 50216), (154, 50267), (219, 50531), (226, 50570), (239, 50642), (242, 50651), (259, 50726), (Start: 281 @50792 has 8 MA's), (282, 50798), (298, 50852), (306, 50870), (313, 50921), (314, 50924), (320, 50954), (335, 51038), (336, 51047), (340, 51074), (342, 51089), (367, 51266), (368, 51275), (393, 51380), (420, 51461), (430, 51521), (449, 51596), (453, 51629), (458, 51635), (472, 51656), (475, 51665), (488, 51710), (505, 51779), (510, 51794), (527, 51863), (536, 51926), (545, 51959), (546, 51962), (557, 52013),

(579, 52088), (606, 52211), (611, 52229), (628, 52307), (629, 52310), (631, 52322), (643, 52367), (651, 52388), (654, 52400), (661, 52430), (668, 52451), (716, 52523), (740, 52580), (763, 52679), (781, 52745), (803, 52835), (810, 52865), (811, 52868), (816, 52898), (825, 52943), (836, 52985), (844, 53015), (849, 53027), (853, 53042), (856, 53051),

Gene: Bigswole\_214 Start: 115765, Stop: 119235, Start Num: 31

Candidate Starts for Bigswole\_214:

(10, 115672), (Start: 24 @115747 has 44 MA's), (Start: 25 @115753 has 6 MA's), (Start: 31 @115765 has 8 MA's), (Start: 35 @115774 has 1 MA's), (Start: 62 @115840 has 110 MA's), (78, 115915), (97, 116029), (105, 116053), (121, 116113), (146, 116224), (154, 116263), (162, 116287), (170, 116329), (200, 116428), (210, 116470), (211, 116476), (215, 116488), (223, 116551), (234, 116611), (235, 116614), (241, 116641), (249, 116683), (Start: 267 @116746 has 9 MA's), (317, 116902), (321, 116920), (324, 116935), (337, 117052), (343, 117091), (359, 117211), (365, 117253), (374, 117298), (376, 117307), (387, 117358), (398, 117400), (414, 117466), (416, 117475), (417, 117478), (418, 117484), (419, 117487), (420, 117496), (421, 117502), (422, 117517), (446, 117604), (470, 117709), (484, 117763), (501, 117850), (507, 117880), (516, 117910), (523, 117943), (525, 117952), (536, 118024), (541, 118054), (569, 118171), (578, 118216), (587, 118258), (619, 118402), (635, 118462), (666, 118564), (696, 118651), (697, 118654), (705, 118672), (713, 118708), (714, 118711), (735, 118771), (739, 118789), (763, 118885), (772, 118915), (777, 118933), (785, 118963), (808, 119056), (812, 119071), (828, 119152), (829, 119158), (832, 119170),

Gene: Bipolarisk\_207 Start: 113080, Stop: 116475, Start Num: 62

Candidate Starts for Bipolarisk\_207:

(Start: 24 @112987 has 44 MA's), (Start: 25 @112993 has 6 MA's), (Start: 31 @113005 has 8 MA's), (Start: 35 @113014 has 1 MA's), (Start: 62 @113080 has 110 MA's), (78, 113155), (97, 113269), (105, 113293), (121, 113353), (146, 113464), (154, 113503), (162, 113527), (170, 113569), (200, 113668), (210, 113710), (211, 113716), (215, 113728), (223, 113791), (234, 113851), (235, 113854), (241, 113881), (249, 113923), (Start: 267 @113986 has 9 MA's), (310, 114106), (317, 114142), (321, 114160), (324, 114175), (337, 114292), (343, 114331), (359, 114451), (365, 114493), (374, 114538), (376, 114547), (387, 114598), (398, 114640), (414, 114706), (416, 114715), (417, 114718), (418, 114724), (419, 114727), (420, 114736), (421, 114742), (422, 114757), (446, 114844), (470, 114949), (484, 115003), (501, 115090), (507, 115120), (516, 115150), (523, 115183), (525, 115192), (536, 115264), (541, 115294), (569, 115411), (578, 115456), (587, 115498), (619, 115642), (635, 115702), (666, 115804), (696, 115891), (697, 115894), (705, 115912), (713, 115948), (714, 115951), (735, 116011), (739, 116029), (763, 116125), (772, 116155), (777, 116173), (785, 116203), (808, 116296), (812, 116311), (828, 116392), (829, 116398), (832, 116410),

Gene: BirthdayBoy\_81 Start: 52357, Stop: 55698, Start Num: 64

Candidate Starts for BirthdayBoy\_81:

(Start: 39 @52309 has 2 MA's), (Start: 64 @52357 has 20 MA's), (Start: 76 @52417 has 1 MA's), (Start: 83 @52453 has 6 MA's), (88, 52498), (97, 52540), (163, 52801), (196, 52903), (202, 52936), (219, 53032), (278, 53302), (280, 53311), (306, 53419), (312, 53464), (321, 53506), (342, 53638), (343, 53641), (344, 53671), (359, 53761), (367, 53815), (388, 53914), (393, 53929), (410, 53971), (449, 54145), (453, 54178), (465, 54196), (475, 54214), (488, 54259), (489, 54262), (515, 54358), (524, 54400), (527, 54412), (532, 54448), (577, 54628), (586, 54670), (592, 54706), (606, 54760), (611, 54778), (629, 54874), (631, 54886), (714, 55081), (740, 55165), (765, 55270), (769, 55285), (778, 55321), (781, 55333), (782, 55339), (783, 55342), (789, 55369), (801, 55414), (822, 55522), (835, 55567), (841, 55591), (853, 55627),

Gene: BiteSize\_66 Start: 47802, Stop: 50237, Start Num: 281

Candidate Starts for BiteSize\_66:

(Start: 281 @47802 has 8 MA's), (284, 47820), (322, 48000), (340, 48114), (342, 48129), (393, 48420), (421, 48507), (448, 48636), (453, 48675), (458, 48681), (472, 48702), (475, 48711), (527, 48909),



(529, 48924), (530, 48930), (536, 48972), (551, 49035), (557, 49059), (574, 49116), (580, 49140), (588, 49179), (605, 49245), (606, 49257), (611, 49275), (628, 49368), (631, 49383), (639, 49419), (670, 49521), (742, 49713), (743, 49716), (758, 49791), (761, 49797), (774, 49854), (780, 49881), (782, 49893), (803, 49977), (810, 50007), (822, 50076), (829, 50100), (833, 50115), (849, 50166), (852, 50178), (853, 50181), (859, 50196), (864, 50232),

Gene: Blackbrain\_206 Start: 112974, Stop: 116369, Start Num: 62

Candidate Starts for Blackbrain\_206:

(Start: 24 @112881 has 44 MA's), (Start: 25 @112887 has 6 MA's), (Start: 31 @112899 has 8 MA's), (Start: 35 @112908 has 1 MA's), (Start: 62 @112974 has 110 MA's), (78, 113049), (97, 113163), (105, 113187), (121, 113247), (146, 113358), (154, 113397), (162, 113421), (170, 113463), (200, 113562), (210, 113604), (211, 113610), (215, 113622), (223, 113685), (234, 113745), (235, 113748), (241, 113775), (249, 113817), (Start: 267 @113880 has 9 MA's), (317, 114036), (321, 114054), (324, 114069), (337, 114186), (343, 114225), (359, 114345), (365, 114387), (374, 114432), (376, 114441), (387, 114492), (398, 114534), (414, 114600), (416, 114609), (417, 114612), (418, 114618), (419, 114621), (420, 114630), (421, 114636), (422, 114651), (446, 114738), (470, 114843), (484, 114897), (501, 114984), (507, 115014), (516, 115044), (523, 115077), (525, 115086), (536, 115158), (541, 115188), (569, 115305), (578, 115350), (587, 115392), (619, 115536), (635, 115596), (666, 115698), (696, 115785), (697, 115788), (705, 115806), (713, 115842), (714, 115845), (735, 115905), (739, 115923), (763, 116019), (772, 116049), (777, 116067), (785, 116097), (808, 116190), (812, 116205), (828, 116286), (829, 116292), (832, 116304),

Gene: Blackdragon\_204 Start: 112713, Stop: 116108, Start Num: 62

Candidate Starts for Blackdragon\_204:

(Start: 18 @112590 has 5 MA's), (Start: 24 @112620 has 44 MA's), (Start: 25 @112626 has 6 MA's), (Start: 31 @112638 has 8 MA's), (Start: 35 @112647 has 1 MA's), (Start: 62 @112713 has 110 MA's), (78, 112788), (97, 112902), (105, 112926), (121, 112986), (146, 113097), (154, 113136), (162, 113160), (170, 113202), (200, 113301), (210, 113343), (211, 113349), (215, 113361), (223, 113424), (234, 113484), (235, 113487), (241, 113514), (249, 113556), (Start: 267 @113619 has 9 MA's), (310, 113739), (317, 113775), (321, 113793), (324, 113808), (337, 113925), (343, 113964), (359, 114084), (365, 114126), (374, 114171), (376, 114180), (387, 114231), (398, 114273), (414, 114339), (416, 114348), (417, 114351), (418, 114357), (419, 114360), (420, 114369), (421, 114375), (422, 114390), (446, 114477), (470, 114582), (484, 114636), (501, 114723), (507, 114753), (516, 114783), (523, 114816), (525, 114825), (536, 114897), (541, 114927), (569, 115044), (578, 115089), (587, 115131), (619, 115275), (635, 115335), (666, 115437), (696, 115524), (697, 115527), (705, 115545), (713, 115581), (714, 115584), (735, 115644), (739, 115662), (763, 115758), (772, 115788), (777, 115806), (785, 115836), (808, 115929), (812, 115944), (828, 116025), (829, 116031), (832, 116043),

Gene: Blubba\_198 Start: 116099, Stop: 119494, Start Num: 62

Candidate Starts for Blubba\_198:

(Start: 24 @116006 has 44 MA's), (Start: 25 @116012 has 6 MA's), (Start: 31 @116024 has 8 MA's), (Start: 35 @116033 has 1 MA's), (Start: 62 @116099 has 110 MA's), (78, 116174), (97, 116288), (105, 116312), (121, 116372), (146, 116483), (154, 116522), (162, 116546), (170, 116588), (200, 116687), (210, 116729), (211, 116735), (215, 116747), (223, 116810), (234, 116870), (235, 116873), (241, 116900), (249, 116942), (Start: 267 @117005 has 9 MA's), (317, 117161), (321, 117179), (324, 117194), (337, 117311), (343, 117350), (359, 117470), (365, 117512), (374, 117557), (376, 117566), (387, 117617), (398, 117659), (414, 117725), (416, 117734), (417, 117737), (418, 117743), (419, 117746), (420, 117755), (421, 117761), (422, 117776), (446, 117863), (470, 117968), (484, 118022), (501, 118109), (507, 118139), (516, 118169), (523, 118202), (525, 118211), (536, 118283), (541, 118313), (569, 118430), (578, 118475), (587, 118517), (619, 118661), (635, 118721), (666, 118823), (696, 118910), (697, 118913), (705, 118931), (713, 118967), (714, 118970), (735, 119030), (739, 119048), (763, 119144), (772, 119174), (777, 119192), (785, 119222), (808, 119315), (812, 119330), (829, 119417), (832, 119429), (843, 119468),

Gene: Bonray\_211 Start: 114482, Stop: 117877, Start Num: 62

Candidate Starts for Bonray\_211:

(Start: 24 @114389 has 44 MA's), (Start: 25 @114395 has 6 MA's), (Start: 31 @114407 has 8 MA's), (Start: 35 @114416 has 1 MA's), (Start: 62 @114482 has 110 MA's), (78, 114557), (97, 114671), (105, 114695), (121, 114755), (146, 114866), (154, 114905), (162, 114929), (170, 114971), (200, 115070), (210, 115112), (211, 115118), (215, 115130), (223, 115193), (234, 115253), (235, 115256), (241, 115283), (249, 115325), (Start: 267 @115388 has 9 MA's), (310, 115508), (317, 115544), (321, 115562), (324, 115577), (337, 115694), (343, 115733), (359, 115853), (365, 115895), (374, 115940), (376, 115949), (387, 116000), (398, 116042), (414, 116108), (416, 116117), (417, 116120), (418, 116126), (419, 116129), (420, 116138), (421, 116144), (422, 116159), (446, 116246), (470, 116351), (484, 116405), (501, 116492), (507, 116522), (516, 116552), (523, 116585), (525, 116594), (536, 116666), (541, 116696), (569, 116813), (578, 116858), (587, 116900), (619, 117044), (635, 117104), (666, 117206), (696, 117293), (697, 117296), (705, 117314), (713, 117350), (714, 117353), (735, 117413), (739, 117431), (763, 117527), (772, 117557), (777, 117575), (785, 117605), (808, 117698), (812, 117713), (828, 117794), (829, 117800), (832, 117812),

Gene: Bonum\_63 Start: 48540, Stop: 45238, Start Num: 67

Candidate Starts for Bonum\_63:

(Start: 67 @48540 has 71 MA's), (68, 48531), (Start: 83 @48444 has 6 MA's), (116, 48291), (118, 48282), (150, 48159), (196, 48000), (197, 47994), (201, 47970), (220, 47862), (242, 47751), (276, 47625), (321, 47454), (330, 47412), (340, 47334), (342, 47319), (362, 47181), (387, 47049), (413, 46983), (423, 46926), (439, 46866), (449, 46815), (475, 46746), (488, 46701), (538, 46458), (547, 46416), (548, 46413), (550, 46407), (555, 46389), (582, 46293), (592, 46239), (629, 46086), (644, 46026), (651, 46011), (687, 45882), (714, 45804), (732, 45744), (736, 45723), (737, 45720), (742, 45702), (760, 45618), (779, 45558), (785, 45531), (786, 45528), (802, 45462), (846, 45279), (856, 45249),

Gene: Bovely\_53 Start: 40239, Stop: 36760, Start Num: 63

Candidate Starts for Bovely\_53:

(6, 40449), (Start: 63 @40239 has 55 MA's), (78, 40167), (Start: 83 @40140 has 6 MA's), (85, 40125), (120, 39963), (126, 39936), (129, 39930), (152, 39840), (156, 39825), (169, 39771), (170, 39768), (194, 39672), (214, 39594), (236, 39447), (247, 39408), (256, 39363), (Start: 262 @39342 has 3 MA's), (Start: 267 @39327 has 9 MA's), (296, 39285), (300, 39273), (313, 39207), (316, 39195), (330, 39132), (345, 39003), (346, 38994), (351, 38958), (364, 38874), (367, 38856), (382, 38799), (383, 38796), (385, 38784), (420, 38646), (421, 38640), (422, 38625), (424, 38619), (431, 38586), (451, 38508), (455, 38475), (503, 38334), (520, 38277), (524, 38253), (526, 38247), (537, 38178), (547, 38115), (567, 38049), (572, 38028), (578, 38010), (590, 37953), (591, 37944), (615, 37836), (617, 37827), (621, 37815), (623, 37794), (633, 37764), (638, 37737), (658, 37671), (661, 37662), (665, 37650), (685, 37563), (695, 37539), (709, 37491), (744, 37347), (760, 37272), (803, 37098), (810, 37062), (819, 37014), (826, 36981),

Gene: Brataylor\_57 Start: 42019, Stop: 38543, Start Num: 63

Candidate Starts for Brataylor\_57:

(Start: 35 @42088 has 1 MA's), (Start: 63 @42019 has 55 MA's), (Start: 76 @41959 has 1 MA's), (78, 41950), (85, 41908), (101, 41815), (120, 41746), (136, 41677), (152, 41623), (170, 41551), (194, 41455), (214, 41377), (236, 41230), (247, 41191), (252, 41164), (256, 41146), (Start: 262 @41125 has 3 MA's), (Start: 267 @41110 has 9 MA's), (313, 40990), (316, 40978), (344, 40792), (345, 40786), (364, 40657), (367, 40639), (382, 40582), (383, 40579), (385, 40567), (420, 40429), (421, 40423), (422, 40408), (424, 40402), (431, 40369), (451, 40291), (455, 40258), (503, 40117), (524, 40036), (526, 40030), (537, 39961), (544, 39919), (547, 39898), (553, 39877), (567, 39832), (578, 39793), (590, 39736), (591, 39727), (612, 39646), (615, 39619), (621, 39598), (623, 39577), (633, 39547), (638, 39520), (658, 39454), (661, 39445), (665, 39433), (685, 39346), (733, 39178), (744, 39130),

(763, 39046), (803, 38881), (804, 38872), (810, 38845), (819, 38797), (820, 38791), (824, 38770), (826, 38764), (855, 38659), (862, 38620), (866, 38557),

Gene: Braxoaddie\_59 Start: 45750, Stop: 42334, Start Num: 67

Candidate Starts for Braxoaddie\_59:

(Start: 67 @45750 has 71 MA's), (80, 45669), (Start: 83 @45654 has 6 MA's), (101, 45546), (103, 45540), (118, 45492), (138, 45411), (150, 45369), (206, 45159), (209, 45144), (211, 45135), (217, 45111), (219, 45081), (226, 45042), (242, 44961), (250, 44919), (290, 44784), (313, 44670), (324, 44619), (326, 44601), (330, 44592), (340, 44514), (342, 44499), (345, 44460), (352, 44421), (367, 44328), (377, 44277), (379, 44271), (387, 44232), (421, 44127), (422, 44112), (423, 44109), (449, 43995), (450, 43992), (453, 43962), (465, 43944), (467, 43941), (471, 43935), (473, 43932), (482, 43899), (488, 43878), (527, 43710), (539, 43632), (547, 43593), (548, 43590), (550, 43584), (555, 43566), (582, 43470), (586, 43452), (592, 43416), (611, 43344), (629, 43251), (631, 43239), (650, 43176), (665, 43119), (693, 42990), (704, 42960), (720, 42900), (721, 42897), (732, 42843), (751, 42753), (760, 42717), (776, 42672), (779, 42657), (788, 42615), (800, 42570), (813, 42516), (814, 42507), (816, 42495), (817, 42489), (821, 42471), (833, 42420), (834, 42417), (846, 42375),

Gene: Bread\_204 Start: 112387, Stop: 115875, Start Num: 24

Candidate Starts for Bread\_204:

(Start: 24 @112387 has 44 MA's), (Start: 25 @112393 has 6 MA's), (Start: 31 @112405 has 8 MA's), (Start: 35 @112414 has 1 MA's), (Start: 62 @112480 has 110 MA's), (78, 112555), (97, 112669), (105, 112693), (121, 112753), (146, 112864), (154, 112903), (162, 112927), (170, 112969), (200, 113068), (210, 113110), (211, 113116), (215, 113128), (223, 113191), (234, 113251), (235, 113254), (241, 113281), (249, 113323), (Start: 267 @113386 has 9 MA's), (317, 113542), (321, 113560), (324, 113575), (337, 113692), (343, 113731), (359, 113851), (365, 113893), (374, 113938), (376, 113947), (387, 113998), (398, 114040), (414, 114106), (416, 114115), (417, 114118), (418, 114124), (419, 114127), (420, 114136), (421, 114142), (422, 114157), (446, 114244), (470, 114349), (484, 114403), (501, 114490), (507, 114520), (516, 114550), (523, 114583), (525, 114592), (536, 114664), (541, 114694), (569, 114811), (578, 114856), (587, 114898), (619, 115042), (635, 115102), (666, 115204), (696, 115291), (697, 115294), (705, 115312), (713, 115348), (714, 115351), (735, 115411), (739, 115429), (763, 115525), (772, 115555), (777, 115573), (785, 115603), (808, 115696), (812, 115711), (828, 115792), (829, 115798), (832, 115810),

Gene: Breeniome\_208 Start: 111841, Stop: 115329, Start Num: 24

Candidate Starts for Breeniome\_208:

(Start: 24 @111841 has 44 MA's), (Start: 25 @111847 has 6 MA's), (Start: 31 @111859 has 8 MA's), (Start: 35 @111868 has 1 MA's), (Start: 62 @111934 has 110 MA's), (78, 112009), (97, 112123), (105, 112147), (121, 112207), (146, 112318), (154, 112357), (162, 112381), (170, 112423), (200, 112522), (210, 112564), (211, 112570), (215, 112582), (223, 112645), (234, 112705), (235, 112708), (241, 112735), (249, 112777), (Start: 267 @112840 has 9 MA's), (317, 112996), (321, 113014), (324, 113029), (337, 113146), (343, 113185), (359, 113305), (365, 113347), (374, 113392), (376, 113401), (387, 113452), (398, 113494), (414, 113560), (416, 113569), (417, 113572), (418, 113578), (419, 113581), (420, 113590), (421, 113596), (422, 113611), (446, 113698), (470, 113803), (484, 113857), (501, 113944), (507, 113974), (516, 114004), (523, 114037), (525, 114046), (536, 114118), (541, 114148), (569, 114265), (578, 114310), (587, 114352), (619, 114496), (635, 114556), (666, 114658), (696, 114745), (697, 114748), (705, 114766), (713, 114802), (714, 114805), (735, 114865), (739, 114883), (763, 114979), (772, 115009), (777, 115027), (785, 115057), (808, 115150), (812, 115165), (828, 115246), (829, 115252), (832, 115264),

Gene: BryanRecycles\_55 Start: 40726, Stop: 37247, Start Num: 63

Candidate Starts for BryanRecycles\_55:

(Start: 35 @40795 has 1 MA's), (Start: 63 @40726 has 55 MA's), (78, 40654), (Start: 83 @40627 has 6 MA's), (85, 40612), (120, 40450), (126, 40423), (129, 40417), (152, 40327), (156, 40312), (169,

40258), (170, 40255), (194, 40159), (214, 40081), (236, 39934), (247, 39895), (256, 39850), (Start: 262 @39829 has 3 MA's), (Start: 267 @39814 has 9 MA's), (296, 39772), (300, 39760), (313, 39694), (316, 39682), (330, 39619), (345, 39490), (346, 39481), (351, 39445), (364, 39361), (367, 39343), (382, 39286), (383, 39283), (385, 39271), (420, 39133), (421, 39127), (422, 39112), (424, 39106), (433, 39067), (451, 38995), (455, 38962), (498, 38845), (503, 38821), (520, 38764), (524, 38740), (526, 38734), (537, 38665), (547, 38602), (567, 38536), (572, 38515), (578, 38497), (590, 38440), (591, 38431), (615, 38323), (617, 38314), (621, 38302), (623, 38281), (633, 38251), (638, 38224), (658, 38158), (661, 38149), (665, 38137), (685, 38050), (695, 38026), (709, 37978), (744, 37834), (760, 37759), (803, 37585), (810, 37549), (819, 37501), (826, 37468),

Gene: Buggaboo\_61 Start: 49019, Stop: 45717, Start Num: 67

Candidate Starts for Buggaboo\_61:

(30, 49094), (Start: 67 @49019 has 71 MA's), (Start: 83 @48923 has 6 MA's), (116, 48770), (118, 48761), (150, 48638), (196, 48479), (197, 48473), (201, 48449), (220, 48341), (242, 48230), (276, 48104), (321, 47933), (330, 47891), (340, 47813), (342, 47798), (362, 47660), (387, 47528), (413, 47462), (423, 47405), (439, 47345), (449, 47294), (458, 47255), (475, 47225), (488, 47180), (538, 46937), (547, 46895), (548, 46892), (550, 46886), (555, 46868), (582, 46772), (592, 46718), (629, 46565), (644, 46505), (651, 46490), (687, 46361), (714, 46283), (732, 46223), (736, 46202), (737, 46199), (742, 46181), (760, 46097), (779, 46037), (785, 46010), (846, 45758), (856, 45728),

Gene: Burrough\_211 Start: 114157, Stop: 117645, Start Num: 24

Candidate Starts for Burrough\_211:

(Start: 24 @114157 has 44 MA's), (Start: 25 @114163 has 6 MA's), (Start: 31 @114175 has 8 MA's), (Start: 35 @114184 has 1 MA's), (Start: 62 @114250 has 110 MA's), (78, 114325), (97, 114439), (105, 114463), (121, 114523), (146, 114634), (154, 114673), (162, 114697), (170, 114739), (200, 114838), (210, 114880), (211, 114886), (215, 114898), (223, 114961), (234, 115021), (235, 115024), (241, 115051), (249, 115093), (Start: 267 @115156 has 9 MA's), (317, 115312), (321, 115330), (324, 115345), (337, 115462), (343, 115501), (359, 115621), (365, 115663), (374, 115708), (376, 115717), (387, 115768), (398, 115810), (414, 115876), (416, 115885), (417, 115888), (418, 115894), (419, 115897), (420, 115906), (421, 115912), (422, 115927), (446, 116014), (470, 116119), (484, 116173), (501, 116260), (507, 116290), (516, 116320), (523, 116353), (525, 116362), (536, 116434), (541, 116464), (569, 116581), (578, 116626), (587, 116668), (619, 116812), (635, 116872), (666, 116974), (696, 117061), (697, 117064), (705, 117082), (713, 117118), (714, 117121), (735, 117181), (739, 117199), (763, 117295), (772, 117325), (777, 117343), (785, 117373), (808, 117466), (812, 117481), (828, 117562), (829, 117568), (832, 117580),

Gene: Butterscotch\_65 Start: 49750, Stop: 53052, Start Num: 26

Candidate Starts for Butterscotch\_65:

(Start: 26 @49750 has 20 MA's), (Start: 58 @49837 has 1 MA's), (61, 49843), (Start: 67 @49852 has 71 MA's), (Start: 83 @49948 has 6 MA's), (118, 50104), (141, 50191), (142, 50194), (154, 50245), (219, 50509), (226, 50548), (239, 50620), (242, 50629), (259, 50704), (Start: 281 @50770 has 8 MA's), (282, 50776), (298, 50830), (306, 50848), (313, 50899), (314, 50902), (320, 50932), (335, 51016), (336, 51025), (340, 51052), (342, 51067), (367, 51244), (368, 51253), (393, 51358), (420, 51439), (430, 51499), (449, 51574), (453, 51607), (458, 51613), (472, 51634), (475, 51643), (488, 51688), (505, 51757), (510, 51772), (527, 51841), (536, 51904), (545, 51937), (546, 51940), (557, 51991), (579, 52066), (606, 52189), (611, 52207), (628, 52285), (629, 52288), (631, 52300), (643, 52345), (651, 52366), (654, 52378), (661, 52408), (668, 52429), (716, 52501), (740, 52558), (763, 52657), (781, 52723), (803, 52813), (810, 52843), (811, 52846), (825, 52921), (836, 52963), (844, 52993), (849, 53005), (853, 53020), (856, 53029),

Gene: Bxz1\_199 Start: 115449, Stop: 118844, Start Num: 62

Candidate Starts for Bxz1\_199:

(Start: 24 @115356 has 44 MA's), (Start: 25 @115362 has 6 MA's), (Start: 31 @115374 has 8 MA's), (Start: 35 @115383 has 1 MA's), (Start: 62 @115449 has 110 MA's), (78, 115524), (97, 115638), (105, 115662), (121, 115722), (146, 115833), (154, 115872), (162, 115896), (170, 115938), (200, 116037), (210, 116079), (211, 116085), (215, 116097), (223, 116160), (234, 116220), (235, 116223), (241, 116250), (249, 116292), (Start: 267 @116355 has 9 MA's), (317, 116511), (321, 116529), (324, 116544), (337, 116661), (343, 116700), (359, 116820), (365, 116862), (374, 116907), (376, 116916), (387, 116967), (398, 117009), (414, 117075), (416, 117084), (417, 117087), (418, 117093), (419, 117096), (420, 117105), (421, 117111), (422, 117126), (446, 117213), (470, 117318), (484, 117372), (501, 117459), (507, 117489), (516, 117519), (523, 117552), (525, 117561), (536, 117633), (541, 117663), (569, 117780), (578, 117825), (587, 117867), (619, 118011), (635, 118071), (666, 118173), (696, 118260), (697, 118263), (705, 118281), (713, 118317), (714, 118320), (735, 118380), (739, 118398), (763, 118494), (772, 118524), (777, 118542), (785, 118572), (808, 118665), (812, 118680), (828, 118761), (829, 118767), (832, 118779),

Gene: C3PO\_43 Start: 41952, Stop: 38659, Start Num: 67

Candidate Starts for C3PO\_43:

(Start: 67 @41952 has 71 MA's), (75, 41895), (80, 41871), (Start: 83 @41856 has 6 MA's), (84, 41847), (118, 41700), (182, 41418), (196, 41340), (209, 41274), (255, 41031), (292, 40926), (313, 40824), (323, 40776), (340, 40671), (342, 40656), (355, 40560), (400, 40341), (401, 40338), (410, 40323), (419, 40293), (422, 40263), (449, 40146), (453, 40113), (471, 40086), (478, 40062), (515, 39915), (516, 39909), (524, 39873), (527, 39861), (530, 39840), (546, 39765), (548, 39747), (592, 39570), (604, 39540), (607, 39513), (611, 39498), (641, 39369), (674, 39336), (707, 39249), (740, 39135), (742, 39129), (745, 39117), (783, 38967), (784, 38964), (785, 38958), (789, 38940), (791, 38931), (795, 38913), (818, 38811), (822, 38787), (831, 38751), (833, 38745),

Gene: Cactojaque\_204 Start: 111909, Stop: 115304, Start Num: 62

Candidate Starts for Cactojaque\_204:

(Start: 24 @111816 has 44 MA's), (Start: 25 @111822 has 6 MA's), (Start: 31 @111834 has 8 MA's), (Start: 35 @111843 has 1 MA's), (Start: 62 @111909 has 110 MA's), (78, 111984), (97, 112098), (105, 112122), (121, 112182), (146, 112293), (154, 112332), (162, 112356), (170, 112398), (200, 112497), (210, 112539), (211, 112545), (215, 112557), (223, 112620), (234, 112680), (235, 112683), (241, 112710), (249, 112752), (Start: 267 @112815 has 9 MA's), (310, 112935), (317, 112971), (321, 112989), (324, 113004), (337, 113121), (343, 113160), (359, 113280), (365, 113322), (374, 113367), (376, 113376), (387, 113427), (398, 113469), (414, 113535), (416, 113544), (417, 113547), (418, 113553), (419, 113556), (420, 113565), (421, 113571), (422, 113586), (446, 113673), (470, 113778), (484, 113832), (501, 113919), (507, 113949), (516, 113979), (523, 114012), (525, 114021), (536, 114093), (541, 114123), (569, 114240), (578, 114285), (587, 114327), (619, 114471), (635, 114531), (666, 114633), (696, 114720), (697, 114723), (705, 114741), (713, 114777), (714, 114780), (735, 114840), (739, 114858), (763, 114954), (772, 114984), (777, 115002), (785, 115032), (808, 115125), (812, 115140), (828, 115221), (829, 115227), (832, 115239),

Gene: Cali\_202 Start: 113769, Stop: 117251, Start Num: 25

Candidate Starts for Cali\_202:

(Start: 18 @113733 has 5 MA's), (Start: 24 @113763 has 44 MA's), (Start: 25 @113769 has 6 MA's), (Start: 31 @113781 has 8 MA's), (Start: 35 @113790 has 1 MA's), (Start: 62 @113856 has 110 MA's), (78, 113931), (97, 114045), (105, 114069), (121, 114129), (146, 114240), (154, 114279), (162, 114303), (170, 114345), (200, 114444), (210, 114486), (211, 114492), (215, 114504), (223, 114567), (234, 114627), (235, 114630), (241, 114657), (249, 114699), (Start: 267 @114762 has 9 MA's), (310, 114882), (317, 114918), (321, 114936), (324, 114951), (337, 115068), (343, 115107), (359, 115227), (365, 115269), (374, 115314), (376, 115323), (387, 115374), (398, 115416), (414, 115482), (416, 115491), (417, 115494), (418, 115500), (419, 115503), (420, 115512), (421, 115518), (422, 115533), (446, 115620), (470, 115725), (484, 115779), (501, 115866), (507, 115896), (516, 115926), (523, 115959), (525, 115968), (536, 116040), (541, 116070), (569, 116187), (578, 116232), (587, 116274),

(619, 116418), (635, 116478), (666, 116580), (696, 116667), (697, 116670), (705, 116688), (713, 116724), (714, 116727), (735, 116787), (739, 116805), (763, 116901), (772, 116931), (777, 116949), (785, 116979), (808, 117072), (812, 117087), (828, 117168), (829, 117174), (832, 117186),

Gene: Caliburn\_52 Start: 40340, Stop: 36861, Start Num: 63

Candidate Starts for Caliburn\_52:

(6, 40550), (Start: 63 @40340 has 55 MA's), (78, 40268), (Start: 83 @40241 has 6 MA's), (85, 40226), (120, 40064), (126, 40037), (129, 40031), (152, 39941), (156, 39926), (169, 39872), (170, 39869), (194, 39773), (214, 39695), (236, 39548), (247, 39509), (256, 39464), (Start: 262 @39443 has 3 MA's), (Start: 267 @39428 has 9 MA's), (296, 39386), (300, 39374), (313, 39308), (316, 39296), (330, 39233), (345, 39104), (346, 39095), (351, 39059), (364, 38975), (367, 38957), (382, 38900), (383, 38897), (385, 38885), (420, 38747), (421, 38741), (422, 38726), (424, 38720), (433, 38681), (439, 38663), (451, 38609), (455, 38576), (503, 38435), (524, 38354), (526, 38348), (537, 38279), (547, 38216), (567, 38150), (572, 38129), (578, 38111), (590, 38054), (591, 38045), (615, 37937), (617, 37928), (621, 37916), (623, 37895), (633, 37865), (638, 37838), (658, 37772), (661, 37763), (665, 37751), (685, 37664), (695, 37640), (709, 37592), (744, 37448), (760, 37373), (803, 37199), (810, 37163), (819, 37115), (826, 37082), (862, 36938),

Gene: Candle\_72 Start: 55921, Stop: 58233, Start Num: 267

Candidate Starts for Candle\_72:

(Start: 267 @55921 has 9 MA's), (304, 56017), (311, 56056), (321, 56107), (322, 56110), (323, 56119), (324, 56122), (333, 56152), (337, 56200), (342, 56236), (379, 56470), (386, 56503), (387, 56509), (410, 56569), (423, 56647), (426, 56665), (465, 56830), (475, 56848), (496, 56920), (497, 56923), (502, 56947), (505, 56962), (515, 56992), (580, 57265), (589, 57307), (590, 57313), (592, 57325), (605, 57367), (611, 57397), (613, 57409), (624, 57469), (630, 57493), (648, 57562), (658, 57598), (738, 57721), (739, 57724), (747, 57760), (773, 57859), (781, 57886), (782, 57892), (789, 57922), (817, 58051), (818, 58057), (831, 58114), (836, 58129), (839, 58141), (844, 58159),

Gene: Cane17\_200 Start: 116508, Stop: 119903, Start Num: 62

Candidate Starts for Cane17\_200:

(Start: 24 @116415 has 44 MA's), (Start: 25 @116421 has 6 MA's), (Start: 31 @116433 has 8 MA's), (Start: 35 @116442 has 1 MA's), (Start: 62 @116508 has 110 MA's), (78, 116583), (97, 116697), (105, 116721), (121, 116781), (146, 116892), (154, 116931), (162, 116955), (170, 116997), (200, 117096), (210, 117138), (211, 117144), (215, 117156), (223, 117219), (234, 117279), (235, 117282), (241, 117309), (249, 117351), (Start: 267 @117414 has 9 MA's), (317, 117570), (321, 117588), (324, 117603), (337, 117720), (343, 117759), (359, 117879), (365, 117921), (374, 117966), (376, 117975), (387, 118026), (398, 118068), (414, 118134), (416, 118143), (417, 118146), (418, 118152), (419, 118155), (420, 118164), (421, 118170), (422, 118185), (446, 118272), (470, 118377), (484, 118431), (501, 118518), (507, 118548), (516, 118578), (523, 118611), (525, 118620), (536, 118692), (541, 118722), (569, 118839), (578, 118884), (587, 118926), (619, 119070), (635, 119130), (666, 119232), (696, 119319), (697, 119322), (705, 119340), (713, 119376), (714, 119379), (735, 119439), (739, 119457), (763, 119553), (772, 119583), (777, 119601), (785, 119631), (808, 119724), (812, 119739), (829, 119826), (832, 119838), (843, 119877),

Gene: Cantare\_64 Start: 54042, Stop: 56888, Start Num: 49

Candidate Starts for Cantare\_64:

(43, 54024), (Start: 49 @54042 has 1 MA's), (60, 54060), (74, 54120), (78, 54138), (86, 54198), (96, 54243), (101, 54273), (107, 54288), (122, 54345), (134, 54396), (155, 54489), (165, 54528), (173, 54564), (174, 54570), (194, 54645), (197, 54648), (201, 54669), (204, 54678), (207, 54696), (208, 54702), (222, 54780), (224, 54789), (252, 54921), (266, 54972), (Start: 267 @54975 has 9 MA's), (270, 54984), (287, 54996), (301, 55050), (316, 55122), (317, 55128), (334, 55221), (335, 55224), (337, 55236), (340, 55260), (341, 55263), (347, 55326), (361, 55413), (370, 55473), (391, 55548), (405, 55611), (414, 55653), (416, 55662), (418, 55671), (421, 55689), (432, 55752), (446, 55794), (447,

55803), (451, 55827), (452, 55833), (455, 55860), (463, 55881), (499, 55974), (518, 56049), (522, 56067), (524, 56079), (540, 56175), (553, 56235), (554, 56241), (574, 56322), (581, 56352), (608, 56466), (614, 56502), (615, 56511), (629, 56562), (636, 56595), (647, 56634), (665, 56697), (667, 56703), (676, 56757), (686, 56784), (695, 56805), (716, 56871),

Gene: Capablanca\_214 Start: 115077, Stop: 118472, Start Num: 62

Candidate Starts for Capablanca\_214:

(Start: 24 @114984 has 44 MA's), (Start: 25 @114990 has 6 MA's), (Start: 31 @115002 has 8 MA's), (Start: 35 @115011 has 1 MA's), (Start: 62 @115077 has 110 MA's), (78, 115152), (97, 115266), (105, 115290), (121, 115350), (146, 115461), (154, 115500), (162, 115524), (170, 115566), (200, 115665), (210, 115707), (211, 115713), (215, 115725), (223, 115788), (234, 115848), (235, 115851), (241, 115878), (249, 115920), (Start: 267 @115983 has 9 MA's), (317, 116139), (321, 116157), (324, 116172), (337, 116289), (343, 116328), (359, 116448), (365, 116490), (374, 116535), (376, 116544), (387, 116595), (398, 116637), (414, 116703), (416, 116712), (417, 116715), (418, 116721), (419, 116724), (420, 116733), (421, 116739), (422, 116754), (446, 116841), (470, 116946), (484, 117000), (501, 117087), (507, 117117), (516, 117147), (523, 117180), (525, 117189), (536, 117261), (541, 117291), (569, 117408), (578, 117453), (587, 117495), (619, 117639), (635, 117699), (666, 117801), (696, 117888), (697, 117891), (705, 117909), (713, 117945), (714, 117948), (735, 118008), (739, 118026), (763, 118122), (772, 118152), (777, 118170), (785, 118200), (808, 118293), (812, 118308), (828, 118389), (829, 118395), (832, 118407),

Gene: Caravan\_200 Start: 113104, Stop: 116592, Start Num: 24

Candidate Starts for Caravan\_200:

(Start: 24 @113104 has 44 MA's), (Start: 25 @113110 has 6 MA's), (Start: 31 @113122 has 8 MA's), (Start: 35 @113131 has 1 MA's), (Start: 62 @113197 has 110 MA's), (78, 113272), (97, 113386), (105, 113410), (121, 113470), (146, 113581), (154, 113620), (162, 113644), (170, 113686), (200, 113785), (210, 113827), (211, 113833), (215, 113845), (223, 113908), (234, 113968), (235, 113971), (241, 113998), (249, 114040), (Start: 267 @114103 has 9 MA's), (317, 114259), (321, 114277), (324, 114292), (337, 114409), (343, 114448), (359, 114568), (365, 114610), (374, 114655), (376, 114664), (387, 114715), (398, 114757), (414, 114823), (416, 114832), (417, 114835), (418, 114841), (419, 114844), (420, 114853), (421, 114859), (422, 114874), (446, 114961), (470, 115066), (484, 115120), (501, 115207), (507, 115237), (516, 115267), (523, 115300), (525, 115309), (536, 115381), (541, 115411), (569, 115528), (578, 115573), (587, 115615), (619, 115759), (635, 115819), (666, 115921), (696, 116008), (697, 116011), (705, 116029), (713, 116065), (714, 116068), (735, 116128), (739, 116146), (763, 116242), (772, 116272), (777, 116290), (785, 116320), (808, 116413), (812, 116428), (828, 116509), (829, 116515), (832, 116527),

Gene: Catera\_201 Start: 111590, Stop: 114985, Start Num: 62

Candidate Starts for Catera\_201:

(Start: 24 @111497 has 44 MA's), (Start: 25 @111503 has 6 MA's), (Start: 31 @111515 has 8 MA's), (Start: 35 @111524 has 1 MA's), (Start: 62 @111590 has 110 MA's), (78, 111665), (97, 111779), (105, 111803), (121, 111863), (146, 111974), (154, 112013), (162, 112037), (170, 112079), (200, 112178), (210, 112220), (211, 112226), (215, 112238), (223, 112301), (234, 112361), (235, 112364), (241, 112391), (249, 112433), (Start: 267 @112496 has 9 MA's), (310, 112616), (317, 112652), (321, 112670), (324, 112685), (337, 112802), (343, 112841), (359, 112961), (365, 113003), (374, 113048), (376, 113057), (387, 113108), (398, 113150), (414, 113216), (416, 113225), (417, 113228), (418, 113234), (419, 113237), (420, 113246), (421, 113252), (422, 113267), (446, 113354), (470, 113459), (484, 113513), (501, 113600), (507, 113630), (516, 113660), (523, 113693), (525, 113702), (536, 113774), (541, 113804), (569, 113921), (578, 113966), (587, 114008), (619, 114152), (635, 114212), (666, 114314), (696, 114401), (697, 114404), (705, 114422), (713, 114458), (714, 114461), (735, 114521), (739, 114539), (763, 114635), (772, 114665), (777, 114683), (785, 114713), (808, 114806), (812, 114821), (828, 114902), (829, 114908), (832, 114920),



Gene: Cborch11\_78 Start: 55192, Stop: 58488, Start Num: 67

Candidate Starts for Cborch11\_78:

(Start: 48 @55162 has 1 MA's), (59, 55183), (Start: 67 @55192 has 71 MA's), (79, 55264), (Start: 83 @55288 has 6 MA's), (86, 55321), (118, 55456), (142, 55546), (143, 55549), (148, 55567), (178, 55675), (219, 55867), (271, 56101), (294, 56158), (312, 56257), (318, 56284), (323, 56311), (324, 56314), (342, 56437), (345, 56476), (351, 56518), (363, 56596), (367, 56614), (371, 56632), (373, 56644), (390, 56719), (423, 56875), (443, 56959), (454, 57037), (462, 57058), (464, 57067), (468, 57073), (474, 57082), (494, 57154), (497, 57169), (505, 57208), (509, 57220), (530, 57313), (531, 57319), (539, 57367), (548, 57409), (588, 57559), (590, 57571), (611, 57655), (637, 57796), (675, 57901), (737, 58000), (739, 58009), (755, 58087), (768, 58126), (770, 58141), (783, 58189), (806, 58285), (811, 58303), (815, 58330), (826, 58378), (834, 58408), (835, 58411), (839, 58426), (849, 58456), (851, 58465), (853, 58471), (854, 58474),

Gene: Celeste\_56 Start: 41488, Stop: 38009, Start Num: 63

Candidate Starts for Celeste\_56:

(Start: 35 @41557 has 1 MA's), (Start: 63 @41488 has 55 MA's), (Start: 76 @41425 has 1 MA's), (78, 41416), (85, 41374), (101, 41281), (120, 41212), (136, 41143), (152, 41089), (170, 41017), (180, 40981), (194, 40921), (214, 40843), (236, 40696), (247, 40657), (252, 40630), (256, 40612), (Start: 262 @40591 has 3 MA's), (Start: 267 @40576 has 9 MA's), (313, 40456), (316, 40444), (344, 40258), (345, 40252), (351, 40207), (364, 40123), (367, 40105), (382, 40048), (383, 40045), (385, 40033), (420, 39895), (421, 39889), (422, 39874), (424, 39868), (431, 39835), (451, 39757), (455, 39724), (503, 39583), (509, 39562), (524, 39502), (526, 39496), (537, 39427), (547, 39364), (553, 39343), (567, 39298), (578, 39259), (590, 39202), (591, 39193), (615, 39085), (621, 39064), (623, 39043), (633, 39013), (638, 38986), (658, 38920), (661, 38911), (665, 38899), (685, 38812), (695, 38788), (733, 38644), (744, 38596), (763, 38512), (771, 38485), (803, 38347), (804, 38338), (810, 38311), (819, 38263), (820, 38257), (824, 38236), (826, 38230), (855, 38125), (862, 38086), (866, 38023),

Gene: Celia\_53 Start: 38881, Stop: 35396, Start Num: 63

Candidate Starts for Celia\_53:

(33, 38950), (36, 38941), (46, 38914), (Start: 63 @38881 has 55 MA's), (68, 38866), (70, 38854), (78, 38806), (80, 38794), (85, 38764), (94, 38713), (101, 38671), (111, 38638), (126, 38575), (163, 38440), (169, 38410), (170, 38407), (183, 38365), (194, 38311), (223, 38167), (236, 38086), (249, 38029), (252, 38020), (256, 38002), (Start: 262 @37981 has 3 MA's), (265, 37975), (296, 37924), (300, 37912), (313, 37846), (316, 37834), (322, 37807), (334, 37732), (344, 37648), (345, 37642), (367, 37495), (382, 37438), (383, 37435), (403, 37366), (405, 37357), (411, 37327), (412, 37324), (420, 37285), (421, 37279), (424, 37258), (431, 37225), (433, 37219), (451, 37147), (455, 37114), (460, 37102), (493, 37021), (503, 36973), (505, 36964), (519, 36919), (520, 36916), (524, 36892), (542, 36787), (547, 36754), (567, 36688), (590, 36592), (591, 36583), (615, 36475), (623, 36433), (633, 36403), (658, 36310), (661, 36301), (665, 36289), (666, 36286), (678, 36223), (681, 36217), (709, 36130), (714, 36109), (724, 36082), (738, 36004), (744, 35983), (753, 35935), (760, 35908), (796, 35764), (805, 35719), (829, 35602), (830, 35599), (855, 35512), (862, 35473), (863, 35467), (866, 35410), (867, 35401),

Gene: Chargie21\_206 Start: 111889, Stop: 115284, Start Num: 62

Candidate Starts for Chargie21\_206:

(Start: 24 @111796 has 44 MA's), (Start: 25 @111802 has 6 MA's), (Start: 31 @111814 has 8 MA's), (Start: 35 @111823 has 1 MA's), (Start: 62 @111889 has 110 MA's), (78, 111964), (97, 112078), (105, 112102), (121, 112162), (146, 112273), (154, 112312), (162, 112336), (170, 112378), (200, 112477), (210, 112519), (211, 112525), (215, 112537), (223, 112600), (234, 112660), (235, 112663), (241, 112690), (249, 112732), (Start: 267 @112795 has 9 MA's), (310, 112915), (317, 112951), (321, 112969), (324, 112984), (337, 113101), (343, 113140), (359, 113260), (365, 113302), (374, 113347), (376, 113356), (387, 113407), (398, 113449), (414, 113515), (416, 113524), (417, 113527), (418, 113533), (419, 113536), (420, 113545), (421, 113551), (422, 113566), (446, 113653), (470, 113758),

(484, 113812), (501, 113899), (507, 113929), (516, 113959), (523, 113992), (525, 114001), (536, 114073), (541, 114103), (569, 114220), (578, 114265), (587, 114307), (619, 114451), (635, 114511), (666, 114613), (696, 114700), (697, 114703), (705, 114721), (713, 114757), (714, 114760), (735, 114820), (739, 114838), (763, 114934), (772, 114964), (777, 114982), (785, 115012), (808, 115105), (812, 115120), (828, 115201), (829, 115207), (832, 115219),

Gene: CharlieB\_203 Start: 112494, Stop: 116012, Start Num: 18

Candidate Starts for CharlieB\_203:

(Start: 18 @112494 has 5 MA's), (Start: 24 @112524 has 44 MA's), (Start: 25 @112530 has 6 MA's), (Start: 31 @112542 has 8 MA's), (Start: 35 @112551 has 1 MA's), (Start: 62 @112617 has 110 MA's), (78, 112692), (97, 112806), (105, 112830), (121, 112890), (146, 113001), (154, 113040), (162, 113064), (170, 113106), (200, 113205), (210, 113247), (211, 113253), (215, 113265), (223, 113328), (234, 113388), (235, 113391), (241, 113418), (249, 113460), (Start: 267 @113523 has 9 MA's), (310, 113643), (317, 113679), (321, 113697), (324, 113712), (337, 113829), (343, 113868), (359, 113988), (365, 114030), (374, 114075), (376, 114084), (387, 114135), (398, 114177), (414, 114243), (416, 114252), (417, 114255), (418, 114261), (419, 114264), (420, 114273), (421, 114279), (422, 114294), (446, 114381), (470, 114486), (484, 114540), (501, 114627), (507, 114657), (516, 114687), (523, 114720), (525, 114729), (536, 114801), (541, 114831), (569, 114948), (578, 114993), (587, 115035), (619, 115179), (635, 115239), (666, 115341), (696, 115428), (697, 115431), (705, 115449), (713, 115485), (714, 115488), (735, 115548), (739, 115566), (763, 115662), (772, 115692), (777, 115710), (785, 115740), (808, 115833), (812, 115848), (828, 115929), (829, 115935), (832, 115947),

Gene: ChaylaJr\_206 Start: 112317, Stop: 115712, Start Num: 62

Candidate Starts for ChaylaJr\_206:

(Start: 24 @112224 has 44 MA's), (Start: 25 @112230 has 6 MA's), (Start: 31 @112242 has 8 MA's), (Start: 35 @112251 has 1 MA's), (Start: 62 @112317 has 110 MA's), (78, 112392), (97, 112506), (105, 112530), (121, 112590), (146, 112701), (154, 112740), (162, 112764), (170, 112806), (200, 112905), (210, 112947), (211, 112953), (215, 112965), (223, 113028), (234, 113088), (235, 113091), (241, 113118), (249, 113160), (Start: 267 @113223 has 9 MA's), (310, 113343), (317, 113379), (321, 113397), (324, 113412), (337, 113529), (343, 113568), (359, 113688), (365, 113730), (374, 113775), (376, 113784), (387, 113835), (398, 113877), (414, 113943), (416, 113952), (417, 113955), (418, 113961), (419, 113964), (420, 113973), (421, 113979), (422, 113994), (446, 114081), (470, 114186), (484, 114240), (501, 114327), (507, 114357), (516, 114387), (523, 114420), (525, 114429), (536, 114501), (541, 114531), (569, 114648), (578, 114693), (587, 114735), (619, 114879), (635, 114939), (666, 115041), (696, 115128), (697, 115131), (705, 115149), (713, 115185), (714, 115188), (735, 115248), (739, 115266), (763, 115362), (772, 115392), (777, 115410), (785, 115440), (808, 115533), (812, 115548), (828, 115629), (829, 115635), (832, 115647),

Gene: CherryTomatoes\_154 Start: 105997, Stop: 109452, Start Num: 62

Candidate Starts for CherryTomatoes\_154:

(Start: 62 @105997 has 110 MA's), (78, 106072), (121, 106270), (130, 106306), (145, 106378), (151, 106399), (179, 106519), (188, 106543), (192, 106567), (196, 106588), (200, 106615), (210, 106657), (220, 106726), (223, 106738), (234, 106795), (235, 106798), (241, 106825), (Start: 267 @106927 has 9 MA's), (324, 107116), (325, 107119), (328, 107152), (371, 107470), (374, 107485), (375, 107488), (422, 107695), (423, 107698), (424, 107701), (425, 107710), (430, 107728), (446, 107791), (447, 107800), (456, 107863), (485, 107953), (507, 108064), (534, 108202), (536, 108205), (547, 108256), (548, 108259), (570, 108346), (606, 108517), (661, 108739), (726, 108940), (754, 109054), (755, 109063), (763, 109087), (771, 109114), (772, 109117), (777, 109135), (785, 109165), (789, 109183), (796, 109213), (797, 109216), (807, 109255), (808, 109258), (842, 109408),

Gene: ChewyVIII\_70 Start: 52283, Stop: 49815, Start Num: 277

Candidate Starts for ChewyVIII\_70:

(Start: 277 @52283 has 1 MA's), (311, 52151), (321, 52103), (340, 51977), (342, 51962), (348, 51902), (356, 51863), (367, 51785), (377, 51734), (416, 51611), (440, 51497), (453, 51419), (475, 51380), (479, 51365), (512, 51233), (527, 51152), (548, 51035), (553, 51017), (583, 50909), (584, 50903), (586, 50894), (592, 50858), (604, 50828), (605, 50816), (610, 50789), (611, 50786), (629, 50693), (631, 50681), (635, 50663), (660, 50576), (672, 50534), (690, 50477), (694, 50462), (710, 50408), (723, 50366), (727, 50354), (752, 50234), (753, 50231), (772, 50168), (851, 49844),

Gene: ChickenPhender\_205 Start: 112036, Stop: 115431, Start Num: 62

Candidate Starts for ChickenPhender\_205:

(Start: 24 @111943 has 44 MA's), (Start: 25 @111949 has 6 MA's), (Start: 31 @111961 has 8 MA's), (Start: 35 @111970 has 1 MA's), (Start: 62 @112036 has 110 MA's), (78, 112111), (97, 112225), (105, 112249), (121, 112309), (146, 112420), (154, 112459), (162, 112483), (170, 112525), (200, 112624), (210, 112666), (211, 112672), (215, 112684), (223, 112747), (234, 112807), (235, 112810), (241, 112837), (249, 112879), (Start: 267 @112942 has 9 MA's), (310, 113062), (317, 113098), (321, 113116), (324, 113131), (337, 113248), (343, 113287), (359, 113407), (365, 113449), (374, 113494), (376, 113503), (387, 113554), (398, 113596), (414, 113662), (416, 113671), (417, 113674), (418, 113680), (419, 113683), (420, 113692), (421, 113698), (422, 113713), (446, 113800), (470, 113905), (484, 113959), (501, 114046), (507, 114076), (516, 114106), (523, 114139), (525, 114148), (536, 114220), (541, 114250), (569, 114367), (578, 114412), (587, 114454), (619, 114598), (635, 114658), (666, 114760), (696, 114847), (697, 114850), (705, 114868), (713, 114904), (714, 114907), (735, 114967), (739, 114985), (763, 115081), (772, 115111), (777, 115129), (785, 115159), (808, 115252), (812, 115267), (828, 115348), (829, 115354), (832, 115366),

Gene: Chidiebere\_98 Start: 70671, Stop: 73499, Start Num: 44

Candidate Starts for Chidiebere\_98:

(Start: 44 @70671 has 1 MA's), (Start: 50 @70683 has 1 MA's), (Start: 53 @70686 has 8 MA's), (78, 70779), (86, 70839), (122, 70989), (123, 70992), (124, 70998), (147, 71097), (153, 71127), (154, 71130), (170, 71193), (174, 71214), (175, 71217), (185, 71244), (211, 71361), (214, 71370), (222, 71427), (224, 71436), (236, 71502), (252, 71568), (313, 71733), (317, 71751), (320, 71766), (322, 71772), (324, 71784), (332, 71811), (333, 71814), (339, 71874), (340, 71883), (341, 71886), (343, 71898), (346, 71943), (358, 72012), (361, 72036), (392, 72192), (396, 72210), (402, 72234), (405, 72252), (424, 72348), (432, 72390), (435, 72396), (446, 72432), (447, 72441), (450, 72459), (451, 72465), (453, 72489), (454, 72495), (455, 72498), (462, 72516), (463, 72519), (499, 72612), (509, 72657), (511, 72663), (518, 72687), (519, 72690), (521, 72699), (522, 72705), (524, 72717), (545, 72834), (547, 72852), (548, 72855), (551, 72864), (579, 72978), (582, 72993), (615, 73140), (617, 73149), (618, 73152), (620, 73158), (636, 73224), (640, 73242), (645, 73254), (647, 73263), (676, 73377), (682, 73389), (686, 73404), (712, 73479), (714, 73488),

Gene: Chill\_69 Start: 49783, Stop: 53085, Start Num: 26

Candidate Starts for Chill\_69:

(Start: 26 @49783 has 20 MA's), (Start: 58 @49870 has 1 MA's), (61, 49876), (Start: 67 @49885 has 71 MA's), (Start: 83 @49981 has 6 MA's), (118, 50137), (141, 50224), (142, 50227), (154, 50278), (219, 50542), (226, 50581), (239, 50653), (242, 50662), (259, 50737), (Start: 281 @50803 has 8 MA's), (282, 50809), (298, 50863), (306, 50881), (313, 50932), (314, 50935), (320, 50965), (335, 51049), (340, 51085), (342, 51100), (367, 51277), (393, 51391), (420, 51472), (449, 51607), (453, 51640), (458, 51646), (472, 51667), (475, 51676), (488, 51721), (505, 51790), (510, 51805), (516, 51826), (527, 51874), (536, 51937), (545, 51970), (546, 51973), (547, 51988), (557, 52024), (579, 52099), (606, 52222), (611, 52240), (628, 52318), (629, 52321), (631, 52333), (651, 52399), (654, 52411), (661, 52441), (668, 52462), (716, 52534), (740, 52591), (763, 52690), (781, 52756), (803, 52846), (810, 52876), (811, 52879), (816, 52909), (825, 52954), (836, 52996), (844, 53026), (849, 53038), (853, 53053), (856, 53062),

Gene: ChisanaKitsune\_95 Start: 69630, Stop: 72443, Start Num: 53

Candidate Starts for ChisanaKitsune\_95:

(Start: 44 @69615 has 1 MA's), (Start: 50 @69627 has 1 MA's), (Start: 53 @69630 has 8 MA's), (78, 69723), (86, 69783), (122, 69933), (123, 69936), (124, 69942), (147, 70041), (153, 70071), (154, 70074), (170, 70137), (174, 70158), (175, 70161), (185, 70188), (211, 70305), (214, 70314), (222, 70371), (224, 70380), (236, 70446), (252, 70512), (258, 70536), (313, 70677), (317, 70695), (320, 70710), (322, 70716), (324, 70728), (332, 70755), (333, 70758), (339, 70818), (340, 70827), (341, 70830), (343, 70842), (346, 70887), (358, 70956), (392, 71136), (396, 71154), (402, 71178), (405, 71196), (424, 71292), (432, 71334), (446, 71376), (447, 71385), (450, 71403), (451, 71409), (453, 71433), (454, 71439), (455, 71442), (462, 71460), (463, 71463), (499, 71556), (509, 71601), (511, 71607), (518, 71631), (519, 71634), (521, 71643), (522, 71649), (524, 71661), (545, 71778), (547, 71796), (548, 71799), (551, 71808), (582, 71937), (615, 72084), (617, 72093), (618, 72096), (620, 72102), (640, 72186), (645, 72198), (647, 72207), (677, 72324), (686, 72348),

Gene: Chivey\_58 Start: 40699, Stop: 43002, Start Num: 261

Candidate Starts for Chivey\_58:

(Start: 261 @40699 has 29 MA's), (Start: 263 @40705 has 6 MA's), (293, 40783), (310, 40855), (314, 40876), (321, 40909), (323, 40921), (324, 40924), (326, 40942), (329, 40948), (339, 41017), (342, 41041), (345, 41080), (352, 41125), (355, 41137), (367, 41218), (393, 41332), (397, 41344), (421, 41419), (423, 41437), (441, 41515), (443, 41521), (445, 41530), (450, 41563), (453, 41593), (458, 41599), (472, 41620), (475, 41629), (483, 41659), (503, 41734), (505, 41743), (509, 41755), (515, 41773), (519, 41788), (536, 41890), (553, 41962), (559, 41986), (583, 42070), (605, 42160), (606, 42172), (611, 42190), (625, 42268), (626, 42274), (629, 42283), (635, 42316), (656, 42388), (748, 42568), (754, 42598), (772, 42661), (788, 42733), (818, 42856), (825, 42889), (838, 42934), (851, 42979), (853, 42985),

Gene: Chomp\_209 Start: 113666, Stop: 117061, Start Num: 62

Candidate Starts for Chomp\_209:

(Start: 24 @113573 has 44 MA's), (Start: 25 @113579 has 6 MA's), (Start: 31 @113591 has 8 MA's), (Start: 35 @113600 has 1 MA's), (Start: 62 @113666 has 110 MA's), (78, 113741), (97, 113855), (105, 113879), (121, 113939), (146, 114050), (154, 114089), (162, 114113), (170, 114155), (200, 114254), (210, 114296), (211, 114302), (215, 114314), (223, 114377), (234, 114437), (235, 114440), (241, 114467), (249, 114509), (Start: 267 @114572 has 9 MA's), (310, 114692), (317, 114728), (321, 114746), (324, 114761), (337, 114878), (343, 114917), (359, 115037), (365, 115079), (374, 115124), (376, 115133), (387, 115184), (398, 115226), (414, 115292), (416, 115301), (417, 115304), (418, 115310), (419, 115313), (420, 115322), (421, 115328), (422, 115343), (446, 115430), (470, 115535), (484, 115589), (501, 115676), (507, 115706), (516, 115736), (523, 115769), (525, 115778), (536, 115850), (541, 115880), (569, 115997), (578, 116042), (587, 116084), (619, 116228), (635, 116288), (666, 116390), (696, 116477), (697, 116480), (705, 116498), (713, 116534), (714, 116537), (735, 116597), (739, 116615), (763, 116711), (772, 116741), (777, 116759), (785, 116789), (808, 116882), (812, 116897), (828, 116978), (829, 116984), (832, 116996),

Gene: Chucky\_54 Start: 42494, Stop: 39009, Start Num: 63

Candidate Starts for Chucky\_54:

(Start: 35 @42563 has 1 MA's), (Start: 63 @42494 has 55 MA's), (Start: 76 @42431 has 1 MA's), (78, 42422), (85, 42380), (101, 42287), (120, 42218), (136, 42149), (152, 42095), (170, 42023), (180, 41987), (194, 41927), (236, 41702), (247, 41663), (252, 41636), (256, 41618), (Start: 262 @41597 has 3 MA's), (Start: 267 @41582 has 9 MA's), (296, 41540), (313, 41462), (316, 41450), (344, 41264), (345, 41258), (351, 41213), (364, 41129), (367, 41111), (382, 41054), (383, 41051), (385, 41039), (420, 40901), (421, 40895), (422, 40880), (424, 40874), (431, 40841), (451, 40763), (455, 40730), (503, 40589), (524, 40508), (526, 40502), (537, 40433), (547, 40370), (553, 40349), (567, 40304), (590, 40208), (591, 40199), (593, 40193), (615, 40091), (617, 40082), (621, 40070), (623, 40049), (633, 40019), (638, 39992), (658, 39926), (661, 39917), (665, 39905), (685, 39818), (733, 39650), (744, 39602), (771, 39491), (773, 39485), (803, 39353), (804, 39344), (810, 39317), (826, 39236),

(861, 39104), (862, 39092),

Gene: CindyLou\_210 Start: 113926, Stop: 117321, Start Num: 62

Candidate Starts for CindyLou\_210:

(Start: 24 @113833 has 44 MA's), (Start: 25 @113839 has 6 MA's), (Start: 31 @113851 has 8 MA's), (Start: 35 @113860 has 1 MA's), (Start: 62 @113926 has 110 MA's), (78, 114001), (97, 114115), (105, 114139), (121, 114199), (146, 114310), (154, 114349), (162, 114373), (170, 114415), (200, 114514), (210, 114556), (211, 114562), (215, 114574), (223, 114637), (234, 114697), (235, 114700), (241, 114727), (249, 114769), (Start: 267 @114832 has 9 MA's), (317, 114988), (321, 115006), (324, 115021), (337, 115138), (343, 115177), (359, 115297), (365, 115339), (374, 115384), (376, 115393), (387, 115444), (398, 115486), (414, 115552), (416, 115561), (417, 115564), (418, 115570), (419, 115573), (420, 115582), (421, 115588), (422, 115603), (446, 115690), (470, 115795), (484, 115849), (501, 115936), (507, 115966), (516, 115996), (523, 116029), (525, 116038), (536, 116110), (541, 116140), (569, 116257), (578, 116302), (587, 116344), (619, 116488), (635, 116548), (666, 116650), (696, 116737), (697, 116740), (705, 116758), (713, 116794), (714, 116797), (735, 116857), (739, 116875), (763, 116971), (772, 117001), (777, 117019), (785, 117049), (808, 117142), (812, 117157), (828, 117238), (829, 117244), (832, 117256),

Gene: CoffeeBean\_59 Start: 45708, Stop: 42292, Start Num: 67

Candidate Starts for CoffeeBean\_59:

(Start: 67 @45708 has 71 MA's), (80, 45627), (Start: 83 @45612 has 6 MA's), (101, 45504), (103, 45498), (118, 45450), (138, 45369), (150, 45327), (206, 45117), (209, 45102), (211, 45093), (217, 45069), (219, 45039), (226, 45000), (242, 44919), (250, 44877), (290, 44742), (313, 44628), (324, 44577), (326, 44559), (330, 44550), (340, 44472), (342, 44457), (345, 44418), (352, 44379), (367, 44286), (377, 44235), (379, 44229), (387, 44190), (421, 44085), (422, 44070), (423, 44067), (449, 43953), (450, 43950), (453, 43920), (465, 43902), (467, 43899), (471, 43893), (473, 43890), (482, 43857), (488, 43836), (527, 43668), (539, 43590), (547, 43551), (548, 43548), (550, 43542), (555, 43524), (582, 43428), (586, 43410), (592, 43374), (611, 43302), (629, 43209), (631, 43197), (650, 43134), (665, 43077), (693, 42948), (704, 42918), (720, 42858), (721, 42855), (732, 42801), (751, 42711), (760, 42675), (776, 42630), (779, 42615), (788, 42573), (800, 42528), (813, 42474), (814, 42465), (816, 42453), (817, 42447), (821, 42429), (833, 42378), (834, 42375), (846, 42333),

Gene: Colt\_200 Start: 115739, Stop: 119134, Start Num: 62

Candidate Starts for Colt\_200:

(Start: 24 @115646 has 44 MA's), (Start: 25 @115652 has 6 MA's), (Start: 31 @115664 has 8 MA's), (Start: 35 @115673 has 1 MA's), (Start: 62 @115739 has 110 MA's), (78, 115814), (97, 115928), (105, 115952), (121, 116012), (146, 116123), (154, 116162), (162, 116186), (170, 116228), (200, 116327), (210, 116369), (211, 116375), (215, 116387), (223, 116450), (234, 116510), (235, 116513), (241, 116540), (249, 116582), (Start: 267 @116645 has 9 MA's), (317, 116801), (321, 116819), (324, 116834), (337, 116951), (343, 116990), (359, 117110), (365, 117152), (374, 117197), (376, 117206), (387, 117257), (398, 117299), (414, 117365), (416, 117374), (417, 117377), (418, 117383), (419, 117386), (420, 117395), (421, 117401), (422, 117416), (446, 117503), (470, 117608), (484, 117662), (501, 117749), (507, 117779), (516, 117809), (523, 117842), (525, 117851), (536, 117923), (541, 117953), (569, 118070), (578, 118115), (587, 118157), (619, 118301), (635, 118361), (666, 118463), (696, 118550), (697, 118553), (705, 118571), (713, 118607), (714, 118610), (735, 118670), (739, 118688), (763, 118784), (772, 118814), (777, 118832), (785, 118862), (808, 118955), (812, 118970), (829, 119057), (832, 119069), (843, 119108),

Gene: Commandaria\_61 Start: 49218, Stop: 45910, Start Num: 67

Candidate Starts for Commandaria\_61:

(Start: 67 @49218 has 71 MA's), (79, 49146), (80, 49137), (Start: 83 @49122 has 6 MA's), (88, 49077), (116, 48969), (118, 48960), (150, 48837), (196, 48678), (197, 48672), (201, 48648), (217, 48579), (220, 48540), (242, 48429), (276, 48303), (321, 48132), (326, 48099), (330, 48090), (340, 48012),

(342, 47997), (352, 47919), (362, 47859), (366, 47835), (367, 47826), (413, 47661), (449, 47493), (453, 47460), (458, 47454), (465, 47442), (475, 47424), (488, 47379), (538, 47139), (548, 47094), (550, 47088), (555, 47070), (582, 46974), (586, 46956), (592, 46920), (651, 46692), (654, 46680), (666, 46635), (687, 46560), (714, 46476), (742, 46374), (751, 46326), (779, 46230), (780, 46227), (785, 46203), (816, 46068), (818, 46056), (836, 45987), (846, 45951),

Gene: Concombres\_214 Start: 115529, Stop: 118924, Start Num: 62

Candidate Starts for Concombres\_214:

(Start: 24 @115436 has 44 MA's), (Start: 25 @115442 has 6 MA's), (Start: 31 @115454 has 8 MA's), (Start: 35 @115463 has 1 MA's), (Start: 62 @115529 has 110 MA's), (78, 115604), (97, 115718), (105, 115742), (121, 115802), (146, 115913), (154, 115952), (162, 115976), (170, 116018), (200, 116117), (210, 116159), (211, 116165), (215, 116177), (223, 116240), (234, 116300), (235, 116303), (241, 116330), (249, 116372), (Start: 267 @116435 has 9 MA's), (317, 116591), (321, 116609), (324, 116624), (337, 116741), (343, 116780), (359, 116900), (365, 116942), (374, 116987), (376, 116996), (387, 117047), (398, 117089), (414, 117155), (416, 117164), (417, 117167), (418, 117173), (419, 117176), (420, 117185), (421, 117191), (422, 117206), (446, 117293), (470, 117398), (484, 117452), (501, 117539), (507, 117569), (516, 117599), (523, 117632), (525, 117641), (536, 117713), (541, 117743), (569, 117860), (578, 117905), (587, 117947), (619, 118091), (635, 118151), (666, 118253), (696, 118340), (697, 118343), (705, 118361), (713, 118397), (714, 118400), (735, 118460), (739, 118478), (763, 118574), (772, 118604), (777, 118622), (785, 118652), (808, 118745), (812, 118760), (828, 118841), (829, 118847), (832, 118859),

Gene: CoolCookie\_56 Start: 41279, Stop: 43582, Start Num: 261

Candidate Starts for CoolCookie\_56:

(Start: 261 @41279 has 29 MA's), (Start: 263 @41285 has 6 MA's), (293, 41363), (310, 41435), (314, 41456), (321, 41489), (323, 41501), (324, 41504), (326, 41522), (339, 41597), (342, 41621), (345, 41660), (352, 41705), (355, 41717), (367, 41798), (393, 41912), (397, 41924), (421, 41999), (423, 42017), (441, 42095), (443, 42101), (445, 42110), (450, 42143), (453, 42173), (458, 42179), (472, 42200), (475, 42209), (483, 42239), (503, 42314), (505, 42323), (514, 42347), (515, 42353), (516, 42359), (519, 42368), (536, 42470), (553, 42542), (559, 42566), (583, 42650), (605, 42740), (606, 42752), (611, 42770), (625, 42848), (626, 42854), (629, 42863), (635, 42896), (656, 42968), (748, 43148), (754, 43178), (772, 43241), (788, 43313), (818, 43436), (825, 43469), (838, 43514), (851, 43559), (853, 43565),

Gene: Crestdrop\_57 Start: 40973, Stop: 43273, Start Num: 261

Candidate Starts for Crestdrop\_57:

(Start: 261 @40973 has 29 MA's), (Start: 263 @40979 has 6 MA's), (293, 41054), (310, 41126), (314, 41147), (321, 41180), (323, 41192), (326, 41213), (329, 41219), (339, 41288), (342, 41312), (345, 41351), (355, 41408), (367, 41489), (393, 41603), (397, 41615), (421, 41690), (423, 41708), (441, 41786), (443, 41792), (445, 41801), (450, 41834), (453, 41864), (458, 41870), (472, 41891), (475, 41900), (483, 41930), (503, 42005), (505, 42014), (514, 42038), (515, 42044), (519, 42059), (536, 42161), (553, 42233), (559, 42257), (583, 42341), (605, 42431), (606, 42443), (611, 42461), (625, 42539), (626, 42545), (629, 42554), (635, 42587), (656, 42659), (748, 42839), (754, 42869), (772, 42932), (788, 43004), (818, 43127), (825, 43160), (838, 43205), (851, 43250), (853, 43256),

Gene: Cruella\_43 Start: 41952, Stop: 38659, Start Num: 67

Candidate Starts for Cruella\_43:

(Start: 67 @41952 has 71 MA's), (75, 41895), (80, 41871), (Start: 83 @41856 has 6 MA's), (84, 41847), (118, 41700), (182, 41418), (196, 41340), (209, 41274), (255, 41031), (292, 40926), (313, 40824), (323, 40776), (340, 40671), (342, 40656), (355, 40560), (400, 40341), (401, 40338), (410, 40323), (419, 40293), (422, 40263), (449, 40146), (453, 40113), (471, 40086), (478, 40062), (515, 39915), (516, 39909), (524, 39873), (527, 39861), (530, 39840), (546, 39765), (548, 39747), (592, 39570), (604, 39540), (607, 39513), (611, 39498), (641, 39369), (674, 39336), (707, 39249), (740, 39135),

(742, 39129), (745, 39117), (783, 38967), (784, 38964), (785, 38958), (789, 38940), (791, 38931), (818, 38811), (822, 38787), (831, 38751), (833, 38745),

Gene: Cybele\_57 Start: 41252, Stop: 43555, Start Num: 261

Candidate Starts for Cybele\_57:

(Start: 261 @41252 has 29 MA's), (Start: 263 @41258 has 6 MA's), (293, 41336), (310, 41408), (314, 41429), (321, 41462), (323, 41474), (324, 41477), (326, 41495), (339, 41570), (342, 41594), (345, 41633), (352, 41678), (355, 41690), (367, 41771), (393, 41885), (397, 41897), (421, 41972), (423, 41990), (441, 42068), (443, 42074), (445, 42083), (450, 42116), (453, 42146), (458, 42152), (472, 42173), (475, 42182), (483, 42212), (503, 42287), (505, 42296), (514, 42320), (515, 42326), (516, 42332), (519, 42341), (536, 42443), (553, 42515), (559, 42539), (583, 42623), (605, 42713), (606, 42725), (611, 42743), (625, 42821), (626, 42827), (629, 42836), (635, 42869), (656, 42941), (748, 43121), (754, 43151), (772, 43214), (788, 43286), (818, 43409), (825, 43442), (838, 43487), (851, 43532), (853, 43538),

Gene: DTDevon\_211 Start: 114322, Stop: 117810, Start Num: 24

Candidate Starts for DTDevon\_211:

(Start: 24 @114322 has 44 MA's), (Start: 25 @114328 has 6 MA's), (Start: 31 @114340 has 8 MA's), (Start: 35 @114349 has 1 MA's), (Start: 62 @114415 has 110 MA's), (78, 114490), (97, 114604), (105, 114628), (121, 114688), (146, 114799), (154, 114838), (162, 114862), (170, 114904), (200, 115003), (210, 115045), (211, 115051), (215, 115063), (223, 115126), (234, 115186), (235, 115189), (241, 115216), (249, 115258), (Start: 267 @115321 has 9 MA's), (317, 115477), (321, 115495), (324, 115510), (337, 115627), (343, 115666), (359, 115786), (365, 115828), (374, 115873), (376, 115882), (387, 115933), (398, 115975), (414, 116041), (416, 116050), (417, 116053), (418, 116059), (419, 116062), (420, 116071), (421, 116077), (422, 116092), (446, 116179), (470, 116284), (484, 116338), (501, 116425), (507, 116455), (516, 116485), (523, 116518), (525, 116527), (536, 116599), (541, 116629), (569, 116746), (578, 116791), (587, 116833), (619, 116977), (635, 117037), (666, 117139), (696, 117226), (697, 117229), (705, 117247), (713, 117283), (714, 117286), (735, 117346), (739, 117364), (763, 117460), (772, 117490), (777, 117508), (785, 117538), (808, 117631), (812, 117646), (828, 117727), (829, 117733), (832, 117745),

Gene: Daffodil\_214 Start: 113287, Stop: 116775, Start Num: 24

Candidate Starts for Daffodil\_214:

(Start: 24 @113287 has 44 MA's), (Start: 25 @113293 has 6 MA's), (Start: 31 @113305 has 8 MA's), (Start: 35 @113314 has 1 MA's), (Start: 62 @113380 has 110 MA's), (78, 113455), (97, 113569), (105, 113593), (121, 113653), (146, 113764), (154, 113803), (162, 113827), (170, 113869), (200, 113968), (210, 114010), (211, 114016), (215, 114028), (223, 114091), (234, 114151), (235, 114154), (241, 114181), (249, 114223), (Start: 267 @114286 has 9 MA's), (310, 114406), (317, 114442), (321, 114460), (324, 114475), (337, 114592), (343, 114631), (359, 114751), (365, 114793), (374, 114838), (376, 114847), (387, 114898), (398, 114940), (414, 115006), (416, 115015), (417, 115018), (418, 115024), (419, 115027), (420, 115036), (421, 115042), (422, 115057), (446, 115144), (470, 115249), (484, 115303), (501, 115390), (507, 115420), (516, 115450), (523, 115483), (525, 115492), (536, 115564), (541, 115594), (569, 115711), (578, 115756), (587, 115798), (619, 115942), (635, 116002), (666, 116104), (696, 116191), (697, 116194), (705, 116212), (713, 116248), (714, 116251), (735, 116311), (739, 116329), (763, 116425), (772, 116455), (777, 116473), (785, 116503), (808, 116596), (812, 116611), (828, 116692), (829, 116698), (832, 116710),

Gene: DalanDe\_85 Start: 69803, Stop: 72664, Start Num: 50

Candidate Starts for DalanDe\_85:

(Start: 50 @69803 has 1 MA's), (78, 69899), (82, 69923), (86, 69962), (88, 69974), (90, 69980), (92, 69986), (101, 70037), (110, 70064), (147, 70223), (170, 70319), (173, 70334), (185, 70370), (188, 70376), (198, 70424), (203, 70442), (204, 70445), (213, 70487), (222, 70547), (224, 70556), (233, 70604), (244, 70646), (246, 70658), (265, 70733), (317, 70895), (323, 70925), (324, 70928), (337,



71003), (339, 71018), (347, 71093), (352, 71126), (360, 71177), (389, 71324), (395, 71348), (413, 71435), (418, 71456), (424, 71495), (432, 71537), (446, 71579), (447, 71588), (451, 71612), (453, 71636), (454, 71642), (455, 71645), (492, 71729), (509, 71804), (518, 71834), (522, 71852), (524, 71864), (543, 71972), (550, 72008), (554, 72026), (556, 72032), (582, 72140), (615, 72287), (617, 72296), (638, 72383), (645, 72401), (653, 72431), (654, 72434), (661, 72464), (669, 72491), (673, 72515), (686, 72551), (695, 72572), (718, 72641), (723, 72659),

Gene: Dalilpop\_64 Start: 50147, Stop: 46866, Start Num: 67

Candidate Starts for Dalilpop\_64:

(9, 50339), (Start: 63 @50153 has 55 MA's), (Start: 67 @50147 has 71 MA's), (80, 50066), (Start: 83 @50051 has 6 MA's), (88, 50006), (116, 49895), (118, 49886), (135, 49820), (150, 49763), (190, 49637), (197, 49598), (201, 49574), (207, 49547), (211, 49529), (214, 49520), (220, 49466), (Start: 267 @49253 has 9 MA's), (276, 49229), (340, 48935), (342, 48920), (400, 48602), (413, 48578), (423, 48521), (449, 48410), (450, 48407), (475, 48341), (479, 48326), (531, 48107), (538, 48059), (547, 48017), (548, 48014), (550, 48008), (555, 47990), (582, 47894), (586, 47876), (592, 47840), (629, 47675), (635, 47645), (644, 47615), (684, 47528), (687, 47522), (714, 47435), (732, 47375), (742, 47333), (779, 47189), (780, 47186), (785, 47162), (836, 46946), (846, 46910), (856, 46880),

Gene: Damien\_77 Start: 55598, Stop: 58798, Start Num: 83

Candidate Starts for Damien\_77:

(Start: 48 @55472 has 1 MA's), (59, 55493), (Start: 67 @55502 has 71 MA's), (79, 55574), (Start: 83 @55598 has 6 MA's), (86, 55631), (118, 55766), (142, 55856), (143, 55859), (148, 55877), (178, 55985), (219, 56177), (271, 56411), (294, 56468), (312, 56567), (318, 56594), (323, 56621), (324, 56624), (337, 56702), (342, 56747), (345, 56786), (351, 56828), (363, 56906), (367, 56924), (371, 56942), (373, 56954), (390, 57029), (423, 57185), (443, 57269), (454, 57347), (462, 57368), (464, 57377), (468, 57383), (474, 57392), (494, 57464), (497, 57479), (505, 57518), (509, 57530), (530, 57623), (531, 57629), (539, 57677), (548, 57719), (588, 57869), (590, 57881), (611, 57965), (637, 58106), (675, 58211), (737, 58310), (739, 58319), (755, 58397), (768, 58436), (770, 58451), (783, 58499), (806, 58595), (811, 58613), (815, 58640), (826, 58688), (834, 58718), (835, 58721), (839, 58736), (849, 58766), (851, 58775), (853, 58781), (854, 58784),

Gene: Dandelion\_217 Start: 116920, Stop: 120408, Start Num: 24

Candidate Starts for Dandelion\_217:

(Start: 24 @116920 has 44 MA's), (Start: 25 @116926 has 6 MA's), (Start: 31 @116938 has 8 MA's), (Start: 35 @116947 has 1 MA's), (Start: 62 @117013 has 110 MA's), (78, 117088), (97, 117202), (105, 117226), (121, 117286), (146, 117397), (154, 117436), (162, 117460), (170, 117502), (172, 117508), (200, 117601), (210, 117643), (211, 117649), (215, 117661), (223, 117724), (234, 117784), (235, 117787), (241, 117814), (249, 117856), (Start: 267 @117919 has 9 MA's), (317, 118075), (321, 118093), (324, 118108), (337, 118225), (343, 118264), (359, 118384), (365, 118426), (374, 118471), (376, 118480), (387, 118531), (398, 118573), (414, 118639), (416, 118648), (417, 118651), (418, 118657), (419, 118660), (420, 118669), (421, 118675), (422, 118690), (446, 118777), (470, 118882), (484, 118936), (501, 119023), (507, 119053), (516, 119083), (523, 119116), (525, 119125), (536, 119197), (541, 119227), (569, 119344), (578, 119389), (587, 119431), (619, 119575), (635, 119635), (666, 119737), (696, 119824), (697, 119827), (705, 119845), (713, 119881), (714, 119884), (735, 119944), (739, 119962), (763, 120058), (772, 120088), (777, 120106), (785, 120136), (808, 120229), (812, 120244), (828, 120325), (829, 120331), (832, 120343),

Gene: DannyDe\_58 Start: 40700, Stop: 43003, Start Num: 261

Candidate Starts for DannyDe\_58:

(Start: 261 @40700 has 29 MA's), (Start: 263 @40706 has 6 MA's), (293, 40784), (310, 40856), (314, 40877), (321, 40910), (323, 40922), (324, 40925), (326, 40943), (329, 40949), (339, 41018), (342, 41042), (345, 41081), (352, 41126), (355, 41138), (367, 41219), (393, 41333), (397, 41345), (421, 41420), (423, 41438), (441, 41516), (443, 41522), (445, 41531), (450, 41564), (453, 41594), (458,

41600), (472, 41621), (475, 41630), (483, 41660), (503, 41735), (505, 41744), (514, 41768), (515, 41774), (516, 41780), (519, 41789), (536, 41891), (553, 41963), (559, 41987), (583, 42071), (605, 42161), (606, 42173), (611, 42191), (625, 42269), (626, 42275), (629, 42284), (635, 42317), (656, 42389), (748, 42569), (754, 42599), (772, 42662), (788, 42734), (818, 42857), (825, 42890), (838, 42935), (851, 42980), (853, 42986),

Gene: Danzina\_56 Start: 41718, Stop: 38236, Start Num: 63

Candidate Starts for Danzina\_56:

(29, 41802), (56, 41733), (Start: 63 @41718 has 55 MA's), (78, 41643), (79, 41640), (Start: 83 @41616 has 6 MA's), (86, 41583), (98, 41526), (101, 41508), (120, 41439), (136, 41370), (152, 41316), (170, 41244), (180, 41208), (194, 41148), (214, 41070), (236, 40923), (247, 40884), (252, 40857), (256, 40839), (Start: 262 @40818 has 3 MA's), (Start: 267 @40803 has 9 MA's), (313, 40683), (316, 40671), (344, 40485), (345, 40479), (351, 40434), (364, 40350), (367, 40332), (382, 40275), (383, 40272), (385, 40260), (420, 40122), (421, 40116), (422, 40101), (424, 40095), (431, 40062), (451, 39984), (455, 39951), (503, 39810), (509, 39789), (524, 39729), (526, 39723), (537, 39654), (547, 39591), (553, 39570), (567, 39525), (578, 39486), (590, 39429), (591, 39420), (615, 39312), (621, 39291), (623, 39270), (633, 39240), (638, 39213), (658, 39147), (661, 39138), (665, 39126), (685, 39039), (733, 38871), (744, 38823), (763, 38739), (771, 38712), (803, 38574), (804, 38565), (810, 38538), (819, 38490), (820, 38484), (824, 38463), (826, 38457), (855, 38352), (862, 38313), (866, 38250),

Gene: Darko\_208 Start: 112614, Stop: 116009, Start Num: 62

Candidate Starts for Darko\_208:

(Start: 24 @112521 has 44 MA's), (Start: 25 @112527 has 6 MA's), (Start: 31 @112539 has 8 MA's), (Start: 35 @112548 has 1 MA's), (Start: 62 @112614 has 110 MA's), (78, 112689), (97, 112803), (105, 112827), (121, 112887), (146, 112998), (154, 113037), (162, 113061), (170, 113103), (200, 113202), (210, 113244), (211, 113250), (215, 113262), (223, 113325), (234, 113385), (235, 113388), (241, 113415), (249, 113457), (Start: 267 @113520 has 9 MA's), (317, 113676), (321, 113694), (324, 113709), (337, 113826), (343, 113865), (359, 113985), (365, 114027), (374, 114072), (376, 114081), (387, 114132), (398, 114174), (414, 114240), (416, 114249), (417, 114252), (418, 114258), (419, 114261), (420, 114270), (421, 114276), (422, 114291), (446, 114378), (470, 114483), (484, 114537), (501, 114624), (507, 114654), (516, 114684), (523, 114717), (525, 114726), (536, 114798), (541, 114828), (569, 114945), (578, 114990), (587, 115032), (619, 115176), (635, 115236), (666, 115338), (696, 115425), (697, 115428), (705, 115446), (713, 115482), (714, 115485), (735, 115545), (739, 115563), (763, 115659), (772, 115689), (777, 115707), (785, 115737), (808, 115830), (812, 115845), (828, 115926), (829, 115932), (832, 115944),

Gene: Darwin\_47 Start: 41830, Stop: 38537, Start Num: 67

Candidate Starts for Darwin\_47:

(Start: 67 @41830 has 71 MA's), (75, 41773), (80, 41749), (Start: 83 @41734 has 6 MA's), (84, 41725), (118, 41578), (148, 41458), (182, 41296), (196, 41218), (255, 40909), (292, 40804), (313, 40702), (323, 40654), (342, 40534), (355, 40438), (400, 40219), (401, 40216), (410, 40201), (419, 40171), (422, 40141), (449, 40024), (453, 39991), (471, 39964), (478, 39940), (506, 39835), (515, 39793), (527, 39739), (530, 39718), (546, 39643), (548, 39625), (584, 39493), (592, 39448), (604, 39418), (607, 39391), (611, 39376), (641, 39247), (674, 39214), (707, 39127), (716, 39100), (740, 39013), (742, 39007), (745, 38995), (783, 38845), (784, 38842), (785, 38836), (789, 38818), (791, 38809), (795, 38791), (818, 38689), (822, 38665), (831, 38629), (833, 38623), (846, 38578),

Gene: Dattran\_57 Start: 41879, Stop: 38400, Start Num: 63

Candidate Starts for Dattran\_57:

(Start: 35 @41948 has 1 MA's), (Start: 63 @41879 has 55 MA's), (Start: 76 @41816 has 1 MA's), (78, 41807), (85, 41765), (101, 41672), (120, 41603), (136, 41534), (152, 41480), (170, 41408), (180, 41372), (194, 41312), (214, 41234), (236, 41087), (247, 41048), (252, 41021), (256, 41003), (Start: 262 @40982 has 3 MA's), (Start: 267 @40967 has 9 MA's), (313, 40847), (316, 40835), (344, 40649), (345,

40643), (351, 40598), (364, 40514), (367, 40496), (382, 40439), (383, 40436), (385, 40424), (420, 40286), (421, 40280), (422, 40265), (424, 40259), (431, 40226), (451, 40148), (455, 40115), (503, 39974), (524, 39893), (526, 39887), (537, 39818), (547, 39755), (553, 39734), (567, 39689), (578, 39650), (590, 39593), (591, 39584), (615, 39476), (621, 39455), (623, 39434), (633, 39404), (638, 39377), (658, 39311), (661, 39302), (665, 39290), (685, 39203), (695, 39179), (733, 39035), (744, 38987), (763, 38903), (771, 38876), (803, 38738), (804, 38729), (810, 38702), (819, 38654), (820, 38648), (824, 38627), (826, 38621), (855, 38516), (861, 38489), (862, 38477), (866, 38414),

Gene: Dauntless\_56 Start: 40834, Stop: 43134, Start Num: 261

Candidate Starts for Dauntless\_56:

(Start: 261 @40834 has 29 MA's), (Start: 263 @40840 has 6 MA's), (293, 40915), (310, 40987), (314, 41008), (321, 41041), (323, 41053), (324, 41056), (326, 41074), (329, 41080), (339, 41149), (342, 41173), (345, 41212), (355, 41269), (367, 41350), (393, 41464), (397, 41476), (421, 41551), (423, 41569), (441, 41647), (443, 41653), (445, 41662), (450, 41695), (453, 41725), (458, 41731), (472, 41752), (475, 41761), (483, 41791), (503, 41866), (505, 41875), (514, 41899), (515, 41905), (519, 41920), (536, 42022), (553, 42094), (559, 42118), (583, 42202), (605, 42292), (606, 42304), (611, 42322), (625, 42400), (626, 42406), (629, 42415), (635, 42448), (656, 42520), (748, 42700), (754, 42730), (772, 42793), (788, 42865), (812, 42949), (818, 42988), (825, 43021), (838, 43066), (851, 43111), (853, 43117),

Gene: DaviePasture\_79 Start: 51941, Stop: 55282, Start Num: 64

Candidate Starts for DaviePasture\_79:

(Start: 39 @51893 has 2 MA's), (Start: 64 @51941 has 20 MA's), (Start: 76 @52001 has 1 MA's), (Start: 83 @52037 has 6 MA's), (88, 52082), (97, 52124), (163, 52385), (196, 52487), (202, 52520), (219, 52616), (278, 52886), (280, 52895), (306, 53003), (312, 53048), (321, 53090), (342, 53222), (343, 53225), (344, 53255), (359, 53345), (367, 53399), (388, 53498), (393, 53513), (410, 53555), (449, 53729), (453, 53762), (465, 53780), (467, 53783), (475, 53798), (488, 53843), (489, 53846), (515, 53942), (524, 53984), (527, 53996), (532, 54032), (577, 54212), (586, 54254), (592, 54290), (606, 54344), (611, 54362), (629, 54458), (631, 54470), (700, 54659), (740, 54749), (765, 54854), (769, 54869), (778, 54905), (781, 54917), (782, 54923), (783, 54926), (789, 54953), (801, 54998), (822, 55106), (835, 55151), (841, 55175), (853, 55211),

Gene: Delilah\_207 Start: 113498, Stop: 116893, Start Num: 62

Candidate Starts for Delilah\_207:

(Start: 24 @113405 has 44 MA's), (Start: 25 @113411 has 6 MA's), (Start: 31 @113423 has 8 MA's), (Start: 35 @113432 has 1 MA's), (Start: 62 @113498 has 110 MA's), (78, 113573), (97, 113687), (105, 113711), (121, 113771), (146, 113882), (154, 113921), (162, 113945), (170, 113987), (200, 114086), (210, 114128), (211, 114134), (215, 114146), (223, 114209), (234, 114269), (235, 114272), (241, 114299), (249, 114341), (Start: 267 @114404 has 9 MA's), (310, 114524), (317, 114560), (321, 114578), (324, 114593), (337, 114710), (343, 114749), (359, 114869), (365, 114911), (374, 114956), (376, 114965), (387, 115016), (398, 115058), (414, 115124), (416, 115133), (417, 115136), (418, 115142), (419, 115145), (420, 115154), (421, 115160), (422, 115175), (446, 115262), (470, 115367), (484, 115421), (501, 115508), (507, 115538), (516, 115568), (523, 115601), (525, 115610), (536, 115682), (541, 115712), (569, 115829), (578, 115874), (587, 115916), (619, 116060), (635, 116120), (666, 116222), (696, 116309), (697, 116312), (705, 116330), (713, 116366), (714, 116369), (735, 116429), (739, 116447), (763, 116543), (772, 116573), (777, 116591), (785, 116621), (808, 116714), (812, 116729), (828, 116810), (829, 116816), (832, 116828),

Gene: Delton\_67 Start: 50148, Stop: 53450, Start Num: 26

Candidate Starts for Delton\_67:

(Start: 26 @50148 has 20 MA's), (Start: 58 @50235 has 1 MA's), (61, 50241), (Start: 67 @50250 has 71 MA's), (Start: 83 @50346 has 6 MA's), (118, 50502), (141, 50589), (142, 50592), (154, 50643), (219, 50907), (226, 50946), (239, 51018), (242, 51027), (259, 51102), (Start: 281 @51168 has 8 MA's),

(282, 51174), (298, 51228), (306, 51246), (313, 51297), (314, 51300), (320, 51330), (335, 51414), (336, 51423), (340, 51450), (342, 51465), (367, 51642), (368, 51651), (393, 51756), (420, 51837), (430, 51897), (449, 51972), (453, 52005), (458, 52011), (472, 52032), (475, 52041), (488, 52086), (505, 52155), (510, 52170), (527, 52239), (536, 52302), (545, 52335), (546, 52338), (557, 52389), (579, 52464), (606, 52587), (611, 52605), (628, 52683), (629, 52686), (631, 52698), (643, 52743), (651, 52764), (654, 52776), (661, 52806), (668, 52827), (716, 52899), (740, 52956), (763, 53055), (781, 53121), (803, 53211), (810, 53241), (811, 53244), (816, 53274), (825, 53319), (836, 53361), (844, 53391), (849, 53403), (853, 53418), (856, 53427),

Gene: Delylah\_211 Start: 113694, Stop: 117182, Start Num: 24

Candidate Starts for Delylah\_211:

(Start: 24 @113694 has 44 MA's), (Start: 25 @113700 has 6 MA's), (Start: 31 @113712 has 8 MA's), (Start: 35 @113721 has 1 MA's), (Start: 62 @113787 has 110 MA's), (78, 113862), (97, 113976), (105, 114000), (121, 114060), (146, 114171), (154, 114210), (162, 114234), (170, 114276), (200, 114375), (210, 114417), (211, 114423), (215, 114435), (223, 114498), (234, 114558), (235, 114561), (241, 114588), (249, 114630), (Start: 267 @114693 has 9 MA's), (317, 114849), (321, 114867), (324, 114882), (337, 114999), (343, 115038), (359, 115158), (365, 115200), (374, 115245), (376, 115254), (387, 115305), (398, 115347), (414, 115413), (416, 115422), (417, 115425), (418, 115431), (419, 115434), (420, 115443), (421, 115449), (422, 115464), (446, 115551), (470, 115656), (484, 115710), (501, 115797), (507, 115827), (516, 115857), (523, 115890), (525, 115899), (536, 115971), (541, 116001), (569, 116118), (578, 116163), (587, 116205), (619, 116349), (635, 116409), (666, 116511), (696, 116598), (697, 116601), (705, 116619), (713, 116655), (714, 116658), (735, 116718), (739, 116736), (763, 116832), (772, 116862), (777, 116880), (785, 116910), (808, 117003), (812, 117018), (828, 117099), (829, 117105), (832, 117117),

Gene: Demodog\_215 Start: 115539, Stop: 118934, Start Num: 62

Candidate Starts for Demodog\_215:

(Start: 24 @115446 has 44 MA's), (Start: 25 @115452 has 6 MA's), (Start: 31 @115464 has 8 MA's), (Start: 35 @115473 has 1 MA's), (Start: 62 @115539 has 110 MA's), (78, 115614), (97, 115728), (105, 115752), (121, 115812), (146, 115923), (154, 115962), (162, 115986), (170, 116028), (200, 116127), (210, 116169), (211, 116175), (215, 116187), (223, 116250), (234, 116310), (235, 116313), (241, 116340), (249, 116382), (Start: 267 @116445 has 9 MA's), (317, 116601), (321, 116619), (324, 116634), (337, 116751), (343, 116790), (359, 116910), (365, 116952), (374, 116997), (376, 117006), (387, 117057), (398, 117099), (414, 117165), (416, 117174), (417, 117177), (418, 117183), (419, 117186), (420, 117195), (421, 117201), (422, 117216), (446, 117303), (470, 117408), (484, 117462), (501, 117549), (507, 117579), (516, 117609), (523, 117642), (525, 117651), (536, 117723), (541, 117753), (569, 117870), (578, 117915), (587, 117957), (619, 118101), (635, 118161), (666, 118263), (696, 118350), (697, 118353), (705, 118371), (713, 118407), (714, 118410), (735, 118470), (739, 118488), (763, 118584), (772, 118614), (777, 118632), (785, 118662), (808, 118755), (812, 118770), (828, 118851), (829, 118857), (832, 118869),

Gene: Derek\_206 Start: 112850, Stop: 116338, Start Num: 24

Candidate Starts for Derek\_206:

(Start: 24 @112850 has 44 MA's), (Start: 25 @112856 has 6 MA's), (Start: 31 @112868 has 8 MA's), (Start: 35 @112877 has 1 MA's), (Start: 62 @112943 has 110 MA's), (78, 113018), (97, 113132), (105, 113156), (121, 113216), (146, 113327), (154, 113366), (162, 113390), (170, 113432), (200, 113531), (210, 113573), (211, 113579), (215, 113591), (223, 113654), (234, 113714), (235, 113717), (241, 113744), (249, 113786), (Start: 267 @113849 has 9 MA's), (317, 114005), (321, 114023), (324, 114038), (337, 114155), (343, 114194), (359, 114314), (365, 114356), (374, 114401), (376, 114410), (387, 114461), (398, 114503), (414, 114569), (416, 114578), (417, 114581), (418, 114587), (419, 114590), (420, 114599), (421, 114605), (422, 114620), (446, 114707), (470, 114812), (484, 114866), (501, 114953), (507, 114983), (516, 115013), (523, 115046), (525, 115055), (536, 115127), (541, 115157), (569, 115274), (578, 115319), (587, 115361), (619, 115505), (635, 115565), (666, 115667),

(696, 115754), (697, 115757), (705, 115775), (713, 115811), (714, 115814), (735, 115874), (739, 115892), (763, 115988), (772, 116018), (777, 116036), (785, 116066), (808, 116159), (812, 116174), (828, 116255), (829, 116261), (832, 116273),

Gene: Dietrick\_198 Start: 111544, Stop: 115014, Start Num: 31

Candidate Starts for Dietrick\_198:

(Start: 24 @111526 has 44 MA's), (Start: 25 @111532 has 6 MA's), (Start: 31 @111544 has 8 MA's), (Start: 35 @111553 has 1 MA's), (Start: 62 @111619 has 110 MA's), (78, 111694), (97, 111808), (105, 111832), (121, 111892), (146, 112003), (154, 112042), (162, 112066), (170, 112108), (200, 112207), (210, 112249), (211, 112255), (215, 112267), (223, 112330), (234, 112390), (235, 112393), (241, 112420), (249, 112462), (Start: 267 @112525 has 9 MA's), (310, 112645), (317, 112681), (321, 112699), (324, 112714), (337, 112831), (343, 112870), (359, 112990), (365, 113032), (374, 113077), (376, 113086), (387, 113137), (398, 113179), (414, 113245), (416, 113254), (417, 113257), (418, 113263), (419, 113266), (420, 113275), (421, 113281), (422, 113296), (446, 113383), (470, 113488), (484, 113542), (501, 113629), (507, 113659), (516, 113689), (523, 113722), (525, 113731), (536, 113803), (541, 113833), (569, 113950), (578, 113995), (587, 114037), (619, 114181), (635, 114241), (666, 114343), (696, 114430), (697, 114433), (705, 114451), (713, 114487), (714, 114490), (735, 114550), (739, 114568), (763, 114664), (772, 114694), (777, 114712), (785, 114742), (808, 114835), (812, 114850), (828, 114931), (829, 114937), (832, 114949),

Gene: DirtMonster\_202 Start: 112859, Stop: 116254, Start Num: 62

Candidate Starts for DirtMonster\_202:

(Start: 24 @112766 has 44 MA's), (Start: 25 @112772 has 6 MA's), (Start: 31 @112784 has 8 MA's), (Start: 35 @112793 has 1 MA's), (Start: 62 @112859 has 110 MA's), (78, 112934), (97, 113048), (105, 113072), (121, 113132), (146, 113243), (154, 113282), (162, 113306), (170, 113348), (200, 113447), (210, 113489), (211, 113495), (215, 113507), (223, 113570), (234, 113630), (235, 113633), (241, 113660), (249, 113702), (Start: 267 @113765 has 9 MA's), (317, 113921), (321, 113939), (324, 113954), (337, 114071), (343, 114110), (359, 114230), (365, 114272), (374, 114317), (376, 114326), (387, 114377), (398, 114419), (414, 114485), (416, 114494), (417, 114497), (418, 114503), (419, 114506), (420, 114515), (421, 114521), (422, 114536), (446, 114623), (470, 114728), (484, 114782), (501, 114869), (507, 114899), (516, 114929), (523, 114962), (525, 114971), (536, 115043), (541, 115073), (569, 115190), (578, 115235), (587, 115277), (619, 115421), (635, 115481), (666, 115583), (696, 115670), (697, 115673), (705, 115691), (713, 115727), (714, 115730), (735, 115790), (739, 115808), (763, 115904), (772, 115934), (777, 115952), (785, 115982), (808, 116075), (812, 116090), (828, 116171), (829, 116177), (832, 116189),

Gene: Djokovic\_66 Start: 47715, Stop: 50150, Start Num: 281

Candidate Starts for Djokovic\_66:

(Start: 281 @47715 has 8 MA's), (284, 47733), (322, 47913), (340, 48027), (342, 48042), (393, 48333), (421, 48420), (448, 48549), (453, 48588), (458, 48594), (472, 48615), (475, 48624), (527, 48822), (529, 48837), (530, 48843), (536, 48885), (551, 48948), (557, 48972), (574, 49029), (580, 49053), (588, 49092), (605, 49158), (606, 49170), (611, 49188), (628, 49281), (631, 49296), (639, 49332), (670, 49434), (742, 49626), (743, 49629), (758, 49704), (761, 49710), (774, 49767), (780, 49794), (782, 49806), (803, 49890), (810, 49920), (822, 49989), (829, 50013), (833, 50028), (849, 50079), (852, 50091), (853, 50094), (859, 50109), (864, 50145),

Gene: Domi\_203 Start: 112970, Stop: 116365, Start Num: 62

Candidate Starts for Domi\_203:

(Start: 24 @112877 has 44 MA's), (Start: 25 @112883 has 6 MA's), (Start: 31 @112895 has 8 MA's), (Start: 35 @112904 has 1 MA's), (Start: 62 @112970 has 110 MA's), (78, 113045), (97, 113159), (105, 113183), (121, 113243), (146, 113354), (154, 113393), (162, 113417), (170, 113459), (200, 113558), (210, 113600), (211, 113606), (215, 113618), (223, 113681), (234, 113741), (235, 113744), (241, 113771), (249, 113813), (Start: 267 @113876 has 9 MA's), (317, 114032), (321, 114050), (324,

114065), (337, 114182), (343, 114221), (359, 114341), (365, 114383), (374, 114428), (376, 114437), (387, 114488), (398, 114530), (414, 114596), (416, 114605), (417, 114608), (418, 114614), (419, 114617), (420, 114626), (421, 114632), (422, 114647), (446, 114734), (470, 114839), (484, 114893), (501, 114980), (507, 115010), (516, 115040), (523, 115073), (525, 115082), (536, 115154), (541, 115184), (569, 115301), (578, 115346), (587, 115388), (619, 115532), (635, 115592), (666, 115694), (696, 115781), (697, 115784), (705, 115802), (713, 115838), (714, 115841), (735, 115901), (739, 115919), (763, 116015), (772, 116045), (777, 116063), (785, 116093), (808, 116186), (812, 116201), (828, 116282), (829, 116288), (832, 116300),

Gene: DoobyDoo\_78 Start: 50921, Stop: 54166, Start Num: 83

Candidate Starts for DoobyDoo\_78:

(Start: 76 @50885 has 1 MA's), (Start: 83 @50921 has 6 MA's), (88, 50966), (97, 51008), (163, 51269), (196, 51371), (202, 51404), (219, 51500), (278, 51770), (280, 51779), (306, 51887), (312, 51932), (321, 51974), (342, 52106), (343, 52109), (344, 52139), (347, 52160), (359, 52229), (367, 52283), (388, 52382), (393, 52397), (410, 52439), (449, 52613), (453, 52646), (465, 52664), (475, 52682), (488, 52727), (489, 52730), (515, 52826), (524, 52868), (527, 52880), (532, 52916), (577, 53096), (586, 53138), (592, 53174), (606, 53228), (611, 53246), (629, 53342), (631, 53354), (714, 53549), (740, 53633), (757, 53714), (765, 53738), (769, 53753), (778, 53789), (781, 53801), (782, 53807), (783, 53810), (789, 53837), (801, 53882), (822, 53990), (835, 54035), (841, 54059), (853, 54095),

Gene: DrLupo\_85 Start: 55971, Stop: 59333, Start Num: 51

Candidate Starts for DrLupo\_85:

(Start: 51 @55971 has 1 MA's), (Start: 67 @55998 has 71 MA's), (75, 56055), (Start: 83 @56094 has 6 MA's), (118, 56262), (125, 56298), (132, 56313), (150, 56379), (159, 56418), (160, 56421), (177, 56472), (190, 56505), (196, 56538), (203, 56574), (211, 56613), (220, 56676), (221, 56679), (235, 56760), (242, 56790), (272, 56913), (306, 56985), (310, 57018), (334, 57150), (342, 57210), (343, 57213), (359, 57333), (361, 57342), (380, 57447), (407, 57555), (409, 57561), (443, 57717), (448, 57750), (449, 57756), (451, 57765), (453, 57789), (457, 57804), (459, 57807), (464, 57825), (468, 57831), (480, 57882), (487, 57921), (490, 57951), (500, 57987), (505, 58017), (516, 58053), (539, 58179), (548, 58221), (553, 58239), (559, 58263), (568, 58296), (611, 58470), (652, 58650), (654, 58656), (658, 58677), (675, 58737), (715, 58794), (746, 58887), (782, 59031), (799, 59100), (806, 59130), (836, 59259), (854, 59319),

Gene: DrPhinkDaddy\_206 Start: 114158, Stop: 117553, Start Num: 62

Candidate Starts for DrPhinkDaddy\_206:

(Start: 24 @114065 has 44 MA's), (Start: 25 @114071 has 6 MA's), (Start: 31 @114083 has 8 MA's), (Start: 35 @114092 has 1 MA's), (Start: 62 @114158 has 110 MA's), (78, 114233), (97, 114347), (105, 114371), (121, 114431), (146, 114542), (154, 114581), (162, 114605), (170, 114647), (200, 114746), (210, 114788), (211, 114794), (215, 114806), (223, 114869), (234, 114929), (235, 114932), (241, 114959), (249, 115001), (Start: 267 @115064 has 9 MA's), (310, 115184), (317, 115220), (321, 115238), (324, 115253), (337, 115370), (343, 115409), (359, 115529), (365, 115571), (374, 115616), (376, 115625), (387, 115676), (398, 115718), (414, 115784), (416, 115793), (417, 115796), (418, 115802), (419, 115805), (420, 115814), (421, 115820), (422, 115835), (446, 115922), (470, 116027), (484, 116081), (501, 116168), (507, 116198), (516, 116228), (523, 116261), (525, 116270), (536, 116342), (541, 116372), (569, 116489), (578, 116534), (587, 116576), (619, 116720), (635, 116780), (666, 116882), (696, 116969), (697, 116972), (705, 116990), (713, 117026), (714, 117029), (735, 117089), (739, 117107), (763, 117203), (772, 117233), (777, 117251), (785, 117281), (808, 117374), (812, 117389), (828, 117470), (829, 117476), (832, 117488),

Gene: Drazdys\_207 Start: 112967, Stop: 116455, Start Num: 24

Candidate Starts for Drazdys\_207:

(Start: 24 @112967 has 44 MA's), (Start: 25 @112973 has 6 MA's), (Start: 31 @112985 has 8 MA's), (Start: 35 @112994 has 1 MA's), (Start: 62 @113060 has 110 MA's), (78, 113135), (97, 113249), (105,

113273), (121, 113333), (146, 113444), (154, 113483), (162, 113507), (170, 113549), (200, 113648), (210, 113690), (211, 113696), (215, 113708), (223, 113771), (234, 113831), (235, 113834), (241, 113861), (249, 113903), (Start: 267 @113966 has 9 MA's), (317, 114122), (321, 114140), (324, 114155), (337, 114272), (343, 114311), (359, 114431), (365, 114473), (374, 114518), (376, 114527), (387, 114578), (398, 114620), (414, 114686), (416, 114695), (417, 114698), (418, 114704), (419, 114707), (420, 114716), (421, 114722), (422, 114737), (446, 114824), (470, 114929), (484, 114983), (501, 115070), (507, 115100), (516, 115130), (523, 115163), (525, 115172), (536, 115244), (541, 115274), (569, 115391), (578, 115436), (587, 115478), (619, 115622), (635, 115682), (666, 115784), (696, 115871), (697, 115874), (705, 115892), (713, 115928), (714, 115931), (735, 115991), (739, 116009), (763, 116105), (772, 116135), (777, 116153), (785, 116183), (808, 116276), (812, 116291), (828, 116372), (829, 116378), (832, 116390),

Gene: Dryad\_56 Start: 40017, Stop: 36817, Start Num: 67

Candidate Starts for Dryad\_56:

(56, 40038), (Start: 67 @40017 has 71 MA's), (68, 40008), (73, 39975), (Start: 83 @39921 has 6 MA's), (91, 39867), (97, 39834), (107, 39798), (109, 39789), (113, 39780), (119, 39750), (127, 39717), (133, 39693), (144, 39639), (147, 39627), (161, 39573), (188, 39504), (203, 39423), (227, 39288), (236, 39225), (237, 39222), (Start: 263 @39117 has 6 MA's), (283, 39066), (286, 39051), (291, 39036), (315, 38940), (321, 38910), (333, 38865), (335, 38829), (340, 38793), (342, 38778), (343, 38775), (355, 38682), (368, 38592), (372, 38577), (399, 38466), (422, 38385), (424, 38379), (429, 38352), (443, 38301), (453, 38229), (458, 38223), (475, 38193), (483, 38163), (497, 38118), (504, 38082), (533, 37953), (558, 37842), (564, 37818), (604, 37674), (605, 37662), (606, 37650), (626, 37539), (673, 37359), (737, 37299), (740, 37287), (747, 37254), (763, 37188), (781, 37122), (810, 37011), (813, 36999), (816, 36978), (821, 36954), (836, 36894), (846, 36858), (851, 36843),

Gene: DumpTruck\_80 Start: 51478, Stop: 54825, Start Num: 64

Candidate Starts for DumpTruck\_80:

(Start: 64 @51478 has 20 MA's), (80, 51559), (Start: 83 @51574 has 6 MA's), (84, 51583), (85, 51589), (101, 51682), (155, 51892), (163, 51922), (181, 51970), (202, 52057), (219, 52153), (259, 52354), (278, 52423), (280, 52432), (306, 52543), (312, 52588), (321, 52630), (342, 52762), (343, 52765), (344, 52795), (368, 52948), (388, 53038), (393, 53053), (399, 53074), (449, 53269), (453, 53302), (465, 53320), (483, 53368), (488, 53383), (489, 53386), (515, 53482), (527, 53536), (532, 53572), (557, 53686), (577, 53752), (586, 53794), (592, 53830), (606, 53884), (611, 53902), (629, 53998), (631, 54010), (634, 54022), (662, 54106), (743, 54301), (765, 54397), (769, 54412), (781, 54460), (782, 54466), (783, 54469), (789, 54496), (801, 54541), (833, 54688), (835, 54694), (841, 54718), (853, 54754),

Gene: Dwayne\_54 Start: 42482, Stop: 38997, Start Num: 63

Candidate Starts for Dwayne\_54:

(Start: 35 @42551 has 1 MA's), (Start: 63 @42482 has 55 MA's), (Start: 76 @42419 has 1 MA's), (78, 42410), (85, 42368), (101, 42275), (120, 42206), (136, 42137), (152, 42083), (170, 42011), (180, 41975), (194, 41915), (236, 41690), (247, 41651), (252, 41624), (256, 41606), (Start: 262 @41585 has 3 MA's), (Start: 267 @41570 has 9 MA's), (296, 41528), (313, 41450), (316, 41438), (344, 41252), (345, 41246), (351, 41201), (364, 41117), (367, 41099), (382, 41042), (383, 41039), (385, 41027), (420, 40889), (421, 40883), (422, 40868), (424, 40862), (431, 40829), (451, 40751), (455, 40718), (503, 40577), (524, 40496), (526, 40490), (537, 40421), (547, 40358), (553, 40337), (567, 40292), (590, 40196), (591, 40187), (593, 40181), (615, 40079), (617, 40070), (621, 40058), (623, 40037), (633, 40007), (638, 39980), (658, 39914), (661, 39905), (665, 39893), (685, 39806), (733, 39638), (744, 39590), (771, 39479), (803, 39341), (804, 39332), (810, 39305), (819, 39257), (826, 39224), (832, 39197), (861, 39092), (862, 39080),

Gene: E3\_gp154 Start: 103974, Stop: 107150, Start Num: 62

Candidate Starts for E3\_gp154:

(Start: 62 @103974 has 110 MA's), (68, 103989), (89, 104124), (96, 104154), (99, 104172), (108, 104196), (135, 104310), (139, 104334), (158, 104406), (160, 104412), (168, 104454), (179, 104493), (200, 104559), (203, 104568), (206, 104583), (221, 104673), (223, 104682), (235, 104751), (241, 104778), (254, 104835), (293, 104919), (310, 105000), (311, 105006), (330, 105090), (337, 105144), (343, 105183), (376, 105399), (383, 105429), (398, 105477), (406, 105513), (416, 105552), (417, 105555), (418, 105561), (422, 105594), (431, 105633), (446, 105672), (533, 106023), (534, 106041), (536, 106044), (606, 106344), (612, 106368), (629, 106440), (636, 106473), (649, 106515), (697, 106662), (716, 106716), (777, 106857), (793, 106920), (808, 106977),

Gene: ET08\_197 Start: 112528, Stop: 116046, Start Num: 18

Candidate Starts for ET08\_197:

(Start: 18 @112528 has 5 MA's), (Start: 24 @112558 has 44 MA's), (Start: 25 @112564 has 6 MA's), (Start: 31 @112576 has 8 MA's), (Start: 35 @112585 has 1 MA's), (Start: 62 @112651 has 110 MA's), (78, 112726), (97, 112840), (105, 112864), (121, 112924), (146, 113035), (154, 113074), (162, 113098), (170, 113140), (200, 113239), (210, 113281), (211, 113287), (215, 113299), (223, 113362), (234, 113422), (235, 113425), (241, 113452), (249, 113494), (Start: 267 @113557 has 9 MA's), (310, 113677), (317, 113713), (321, 113731), (324, 113746), (337, 113863), (343, 113902), (359, 114022), (365, 114064), (374, 114109), (376, 114118), (387, 114169), (398, 114211), (414, 114277), (416, 114286), (417, 114289), (418, 114295), (419, 114298), (420, 114307), (421, 114313), (422, 114328), (446, 114415), (470, 114520), (484, 114574), (501, 114661), (507, 114691), (516, 114721), (523, 114754), (525, 114763), (536, 114835), (541, 114865), (569, 114982), (578, 115027), (587, 115069), (619, 115213), (635, 115273), (666, 115375), (696, 115462), (697, 115465), (705, 115483), (713, 115519), (714, 115522), (735, 115582), (739, 115600), (763, 115696), (772, 115726), (777, 115744), (785, 115774), (808, 115867), (812, 115882), (828, 115963), (829, 115969), (832, 115981),

Gene: EasyJones\_212 Start: 113039, Stop: 116527, Start Num: 24

Candidate Starts for EasyJones\_212:

(Start: 24 @113039 has 44 MA's), (Start: 25 @113045 has 6 MA's), (Start: 31 @113057 has 8 MA's), (Start: 35 @113066 has 1 MA's), (Start: 62 @113132 has 110 MA's), (78, 113207), (97, 113321), (105, 113345), (121, 113405), (146, 113516), (154, 113555), (162, 113579), (170, 113621), (200, 113720), (210, 113762), (211, 113768), (215, 113780), (223, 113843), (234, 113903), (235, 113906), (241, 113933), (249, 113975), (Start: 267 @114038 has 9 MA's), (317, 114194), (321, 114212), (324, 114227), (337, 114344), (343, 114383), (359, 114503), (365, 114545), (374, 114590), (376, 114599), (387, 114650), (398, 114692), (414, 114758), (416, 114767), (417, 114770), (418, 114776), (419, 114779), (420, 114788), (421, 114794), (422, 114809), (446, 114896), (470, 115001), (484, 115055), (501, 115142), (507, 115172), (516, 115202), (523, 115235), (525, 115244), (536, 115316), (541, 115346), (569, 115463), (578, 115508), (587, 115550), (619, 115694), (635, 115754), (666, 115856), (696, 115943), (697, 115946), (705, 115964), (713, 116000), (714, 116003), (735, 116063), (739, 116081), (763, 116177), (772, 116207), (777, 116225), (785, 116255), (808, 116348), (812, 116363), (828, 116444), (829, 116450), (832, 116462),

Gene: Eddasa\_55 Start: 40726, Stop: 37247, Start Num: 63

Candidate Starts for Eddasa\_55:

(Start: 63 @40726 has 55 MA's), (68, 40714), (78, 40654), (79, 40651), (Start: 83 @40627 has 6 MA's), (120, 40450), (126, 40423), (129, 40417), (152, 40327), (156, 40312), (169, 40258), (170, 40255), (194, 40159), (214, 40081), (236, 39934), (247, 39895), (256, 39850), (Start: 262 @39829 has 3 MA's), (Start: 267 @39814 has 9 MA's), (296, 39772), (300, 39760), (313, 39694), (316, 39682), (330, 39619), (345, 39490), (346, 39481), (351, 39445), (364, 39361), (367, 39343), (382, 39286), (383, 39283), (385, 39271), (420, 39133), (421, 39127), (422, 39112), (424, 39106), (433, 39067), (451, 38995), (455, 38962), (498, 38845), (503, 38821), (520, 38764), (524, 38740), (526, 38734), (537, 38665), (547, 38602), (567, 38536), (572, 38515), (578, 38497), (590, 38440), (591, 38431), (615, 38323), (617, 38314), (621, 38302), (623, 38281), (633, 38251), (638, 38224), (658, 38158), (661, 38149), (665, 38137), (685, 38050), (695, 38026), (709, 37978), (744, 37834), (760, 37759), (803, 37585),



(810, 37549), (819, 37501), (826, 37468),

Gene: EggyFarm\_218 Start: 115912, Stop: 119382, Start Num: 31

Candidate Starts for EggyFarm\_218:

(10, 115819), (Start: 24 @115894 has 44 MA's), (Start: 25 @115900 has 6 MA's), (Start: 31 @115912 has 8 MA's), (Start: 35 @115921 has 1 MA's), (Start: 62 @115987 has 110 MA's), (78, 116062), (97, 116176), (105, 116200), (121, 116260), (146, 116371), (154, 116410), (162, 116434), (170, 116476), (200, 116575), (210, 116617), (211, 116623), (215, 116635), (223, 116698), (234, 116758), (235, 116761), (241, 116788), (249, 116830), (Start: 267 @116893 has 9 MA's), (317, 117049), (321, 117067), (324, 117082), (337, 117199), (343, 117238), (359, 117358), (365, 117400), (374, 117445), (376, 117454), (387, 117505), (398, 117547), (414, 117613), (416, 117622), (417, 117625), (418, 117631), (419, 117634), (420, 117643), (421, 117649), (422, 117664), (446, 117751), (470, 117856), (484, 117910), (501, 117997), (507, 118027), (516, 118057), (523, 118090), (525, 118099), (536, 118171), (541, 118201), (569, 118318), (578, 118363), (587, 118405), (619, 118549), (635, 118609), (666, 118711), (696, 118798), (697, 118801), (705, 118819), (713, 118855), (714, 118858), (735, 118918), (739, 118936), (763, 119032), (772, 119062), (777, 119080), (785, 119110), (808, 119203), (812, 119218), (828, 119299), (829, 119305), (832, 119317),

Gene: Ejemplo\_52 Start: 42420, Stop: 38935, Start Num: 63

Candidate Starts for Ejemplo\_52:

(Start: 35 @42489 has 1 MA's), (Start: 63 @42420 has 55 MA's), (Start: 76 @42357 has 1 MA's), (78, 42348), (85, 42306), (101, 42213), (120, 42144), (136, 42075), (152, 42021), (170, 41949), (180, 41913), (194, 41853), (236, 41628), (247, 41589), (252, 41562), (256, 41544), (Start: 262 @41523 has 3 MA's), (Start: 267 @41508 has 9 MA's), (296, 41466), (313, 41388), (316, 41376), (344, 41190), (345, 41184), (351, 41139), (364, 41055), (367, 41037), (382, 40980), (383, 40977), (385, 40965), (420, 40827), (421, 40821), (422, 40806), (424, 40800), (431, 40767), (451, 40689), (455, 40656), (503, 40515), (524, 40434), (526, 40428), (537, 40359), (547, 40296), (553, 40275), (567, 40230), (590, 40134), (591, 40125), (593, 40119), (615, 40017), (617, 40008), (621, 39996), (623, 39975), (633, 39945), (638, 39918), (658, 39852), (661, 39843), (665, 39831), (685, 39744), (733, 39576), (744, 39528), (771, 39417), (803, 39279), (804, 39270), (810, 39243), (819, 39195), (826, 39162), (832, 39135), (861, 39030), (862, 39018),

Gene: EmToTheThree\_209 Start: 113531, Stop: 116926, Start Num: 62

Candidate Starts for EmToTheThree\_209:

(Start: 24 @113438 has 44 MA's), (Start: 25 @113444 has 6 MA's), (Start: 31 @113456 has 8 MA's), (Start: 35 @113465 has 1 MA's), (Start: 62 @113531 has 110 MA's), (78, 113606), (97, 113720), (105, 113744), (121, 113804), (146, 113915), (154, 113954), (162, 113978), (170, 114020), (200, 114119), (210, 114161), (211, 114167), (215, 114179), (223, 114242), (234, 114302), (235, 114305), (241, 114332), (249, 114374), (Start: 267 @114437 has 9 MA's), (310, 114557), (317, 114593), (321, 114611), (324, 114626), (337, 114743), (343, 114782), (359, 114902), (365, 114944), (374, 114989), (376, 114998), (387, 115049), (398, 115091), (414, 115157), (416, 115166), (417, 115169), (418, 115175), (419, 115178), (420, 115187), (421, 115193), (422, 115208), (446, 115295), (470, 115400), (484, 115454), (501, 115541), (507, 115571), (516, 115601), (523, 115634), (525, 115643), (536, 115715), (541, 115745), (569, 115862), (578, 115907), (587, 115949), (619, 116093), (635, 116153), (666, 116255), (696, 116342), (697, 116345), (705, 116363), (713, 116399), (714, 116402), (735, 116462), (739, 116480), (763, 116576), (772, 116606), (777, 116624), (785, 116654), (808, 116747), (812, 116762), (828, 116843), (829, 116849), (832, 116861),

Gene: Emaanora\_57 Start: 42405, Stop: 38920, Start Num: 63

Candidate Starts for Emaanora\_57:

(Start: 35 @42474 has 1 MA's), (Start: 63 @42405 has 55 MA's), (Start: 76 @42342 has 1 MA's), (78, 42333), (85, 42291), (101, 42198), (120, 42129), (136, 42060), (152, 42006), (170, 41934), (180, 41898), (194, 41838), (236, 41613), (247, 41574), (252, 41547), (256, 41529), (Start: 262 @41508 has

3 MA's), (Start: 267 @41493 has 9 MA's), (296, 41451), (313, 41373), (316, 41361), (344, 41175), (345, 41169), (351, 41124), (364, 41040), (367, 41022), (382, 40965), (383, 40962), (385, 40950), (420, 40812), (421, 40806), (422, 40791), (424, 40785), (431, 40752), (451, 40674), (455, 40641), (503, 40500), (524, 40419), (526, 40413), (537, 40344), (547, 40281), (553, 40260), (567, 40215), (590, 40119), (591, 40110), (593, 40104), (615, 40002), (617, 39993), (621, 39981), (623, 39960), (633, 39930), (638, 39903), (658, 39837), (661, 39828), (665, 39816), (685, 39729), (733, 39561), (744, 39513), (771, 39402), (773, 39396), (803, 39264), (804, 39255), (810, 39228), (826, 39147), (861, 39015), (862, 39003),

Gene: Emianna\_60 Start: 49104, Stop: 45793, Start Num: 67

Candidate Starts for Emianna\_60:

(5, 49347), (Start: 67 @49104 has 71 MA's), (79, 49032), (Start: 83 @49008 has 6 MA's), (116, 48855), (118, 48846), (150, 48723), (196, 48564), (197, 48558), (201, 48534), (220, 48426), (226, 48396), (238, 48327), (276, 48189), (288, 48171), (321, 48018), (330, 47976), (340, 47898), (342, 47883), (362, 47745), (413, 47547), (422, 47493), (423, 47490), (439, 47430), (449, 47379), (475, 47310), (488, 47265), (538, 47025), (547, 46983), (548, 46980), (550, 46974), (555, 46956), (582, 46860), (592, 46806), (626, 46662), (629, 46653), (651, 46578), (671, 46503), (687, 46449), (702, 46407), (714, 46359), (736, 46278), (742, 46257), (762, 46167), (772, 46137), (779, 46113), (780, 46110), (821, 45927), (836, 45870),

Gene: EmmaElysia\_212 Start: 113550, Stop: 116945, Start Num: 62

Candidate Starts for EmmaElysia\_212:

(Start: 24 @113457 has 44 MA's), (Start: 25 @113463 has 6 MA's), (Start: 31 @113475 has 8 MA's), (Start: 35 @113484 has 1 MA's), (Start: 62 @113550 has 110 MA's), (78, 113625), (97, 113739), (105, 113763), (121, 113823), (146, 113934), (154, 113973), (162, 113997), (170, 114039), (200, 114138), (210, 114180), (211, 114186), (215, 114198), (223, 114261), (234, 114321), (235, 114324), (241, 114351), (249, 114393), (Start: 267 @114456 has 9 MA's), (310, 114576), (317, 114612), (321, 114630), (324, 114645), (337, 114762), (343, 114801), (359, 114921), (365, 114963), (374, 115008), (376, 115017), (387, 115068), (398, 115110), (414, 115176), (416, 115185), (417, 115188), (418, 115194), (419, 115197), (420, 115206), (421, 115212), (422, 115227), (446, 115314), (470, 115419), (484, 115473), (501, 115560), (507, 115590), (516, 115620), (523, 115653), (525, 115662), (536, 115734), (541, 115764), (569, 115881), (578, 115926), (587, 115968), (619, 116112), (635, 116172), (666, 116274), (696, 116361), (697, 116364), (705, 116382), (713, 116418), (714, 116421), (735, 116481), (739, 116499), (763, 116595), (772, 116625), (777, 116643), (785, 116673), (808, 116766), (812, 116781), (828, 116862), (829, 116868), (832, 116880),

Gene: EmoNemo\_92 Start: 70036, Stop: 72849, Start Num: 53

Candidate Starts for EmoNemo\_92:

(Start: 44 @70021 has 1 MA's), (Start: 50 @70033 has 1 MA's), (Start: 53 @70036 has 8 MA's), (78, 70129), (86, 70189), (122, 70339), (123, 70342), (124, 70348), (147, 70447), (153, 70477), (154, 70480), (170, 70543), (174, 70564), (175, 70567), (185, 70594), (211, 70711), (214, 70720), (222, 70777), (224, 70786), (236, 70852), (252, 70918), (313, 71083), (317, 71101), (320, 71116), (322, 71122), (324, 71134), (332, 71161), (333, 71164), (339, 71224), (340, 71233), (341, 71236), (343, 71248), (346, 71293), (358, 71362), (361, 71386), (392, 71542), (396, 71560), (402, 71584), (405, 71602), (424, 71698), (432, 71740), (435, 71746), (446, 71782), (447, 71791), (450, 71809), (451, 71815), (453, 71839), (454, 71845), (455, 71848), (462, 71866), (463, 71869), (499, 71962), (509, 72007), (511, 72013), (518, 72037), (519, 72040), (521, 72049), (522, 72055), (524, 72067), (545, 72184), (547, 72202), (548, 72205), (551, 72214), (579, 72328), (582, 72343), (615, 72490), (618, 72502), (620, 72508), (629, 72541), (636, 72574), (640, 72592), (645, 72604), (647, 72613), (676, 72727), (682, 72739), (686, 72754), (712, 72829), (714, 72838),

Gene: Ennea\_66 Start: 49878, Stop: 46564, Start Num: 67

Candidate Starts for Ennea\_66:

(4, 50130), (12, 50043), (Start: 18 @50016 has 5 MA's), (Start: 67 @49878 has 71 MA's), (Start: 83 @49782 has 6 MA's), (116, 49629), (118, 49620), (150, 49497), (196, 49338), (197, 49332), (201, 49308), (214, 49254), (220, 49200), (226, 49170), (232, 49131), (242, 49089), (260, 49008), (276, 48963), (321, 48792), (330, 48750), (340, 48672), (342, 48657), (362, 48519), (413, 48321), (432, 48219), (449, 48153), (465, 48102), (475, 48084), (488, 48039), (538, 47796), (547, 47754), (548, 47751), (550, 47745), (555, 47727), (582, 47631), (586, 47613), (592, 47577), (626, 47433), (629, 47424), (634, 47400), (651, 47349), (687, 47220), (714, 47130), (719, 47121), (736, 47049), (742, 47028), (782, 46872), (786, 46857), (846, 46608),

Gene: EnochSoames\_57 Start: 40522, Stop: 37043, Start Num: 63

Candidate Starts for EnochSoames\_57:

(Start: 35 @40591 has 1 MA's), (Start: 63 @40522 has 55 MA's), (78, 40450), (Start: 83 @40423 has 6 MA's), (85, 40408), (120, 40246), (126, 40219), (129, 40213), (152, 40123), (156, 40108), (169, 40054), (170, 40051), (194, 39955), (214, 39877), (236, 39730), (247, 39691), (256, 39646), (Start: 262 @39625 has 3 MA's), (Start: 267 @39610 has 9 MA's), (296, 39568), (300, 39556), (313, 39490), (316, 39478), (330, 39415), (345, 39286), (346, 39277), (351, 39241), (364, 39157), (367, 39139), (382, 39082), (383, 39079), (385, 39067), (420, 38929), (421, 38923), (422, 38908), (424, 38902), (439, 38845), (451, 38791), (455, 38758), (503, 38617), (520, 38560), (524, 38536), (526, 38530), (537, 38461), (547, 38398), (567, 38332), (572, 38311), (578, 38293), (590, 38236), (591, 38227), (615, 38119), (617, 38110), (621, 38098), (623, 38077), (633, 38047), (638, 38020), (658, 37954), (661, 37945), (665, 37933), (685, 37846), (695, 37822), (709, 37774), (744, 37630), (760, 37555), (803, 37381), (810, 37345), (819, 37297), (826, 37264),

Gene: Erdmann\_210 Start: 113397, Stop: 116885, Start Num: 24

Candidate Starts for Erdmann\_210:

(Start: 24 @113397 has 44 MA's), (Start: 25 @113403 has 6 MA's), (Start: 31 @113415 has 8 MA's), (Start: 35 @113424 has 1 MA's), (Start: 62 @113490 has 110 MA's), (78, 113565), (97, 113679), (105, 113703), (121, 113763), (146, 113874), (154, 113913), (162, 113937), (170, 113979), (200, 114078), (210, 114120), (211, 114126), (215, 114138), (223, 114201), (234, 114261), (235, 114264), (241, 114291), (249, 114333), (Start: 267 @114396 has 9 MA's), (317, 114552), (321, 114570), (324, 114585), (337, 114702), (343, 114741), (359, 114861), (365, 114903), (374, 114948), (376, 114957), (387, 115008), (398, 115050), (414, 115116), (416, 115125), (417, 115128), (418, 115134), (419, 115137), (420, 115146), (421, 115152), (422, 115167), (446, 115254), (470, 115359), (484, 115413), (501, 115500), (507, 115530), (516, 115560), (523, 115593), (525, 115602), (536, 115674), (541, 115704), (569, 115821), (578, 115866), (587, 115908), (619, 116052), (635, 116112), (666, 116214), (696, 116301), (697, 116304), (705, 116322), (713, 116358), (714, 116361), (735, 116421), (739, 116439), (763, 116535), (772, 116565), (777, 116583), (785, 116613), (808, 116706), (812, 116721), (828, 116802), (829, 116808), (832, 116820),

Gene: Erk16\_66 Start: 49865, Stop: 53167, Start Num: 26

Candidate Starts for Erk16\_66:

(Start: 26 @49865 has 20 MA's), (Start: 58 @49952 has 1 MA's), (61, 49958), (Start: 67 @49967 has 71 MA's), (Start: 83 @50063 has 6 MA's), (118, 50219), (141, 50306), (142, 50309), (154, 50360), (219, 50624), (226, 50663), (239, 50735), (242, 50744), (259, 50819), (Start: 281 @50885 has 8 MA's), (282, 50891), (298, 50945), (306, 50963), (313, 51014), (314, 51017), (320, 51047), (335, 51131), (336, 51140), (340, 51167), (342, 51182), (367, 51359), (368, 51368), (393, 51473), (420, 51554), (430, 51614), (449, 51689), (453, 51722), (458, 51728), (472, 51749), (475, 51758), (488, 51803), (505, 51872), (510, 51887), (527, 51956), (536, 52019), (545, 52052), (546, 52055), (557, 52106), (579, 52181), (606, 52304), (611, 52322), (628, 52400), (629, 52403), (631, 52415), (643, 52460), (651, 52481), (654, 52493), (661, 52523), (668, 52544), (716, 52616), (740, 52673), (763, 52772), (781, 52838), (803, 52928), (810, 52958), (811, 52961), (816, 52991), (825, 53036), (836, 53078), (844, 53108), (849, 53120), (853, 53135), (856, 53144),

Gene: ErnieJ\_202 Start: 111218, Stop: 114706, Start Num: 24

Candidate Starts for ErnieJ\_202:

(Start: 24 @111218 has 44 MA's), (Start: 25 @111224 has 6 MA's), (Start: 31 @111236 has 8 MA's), (Start: 35 @111245 has 1 MA's), (Start: 62 @111311 has 110 MA's), (78, 111386), (97, 111500), (105, 111524), (121, 111584), (146, 111695), (154, 111734), (162, 111758), (170, 111800), (200, 111899), (210, 111941), (211, 111947), (215, 111959), (223, 112022), (234, 112082), (235, 112085), (241, 112112), (249, 112154), (Start: 267 @112217 has 9 MA's), (310, 112337), (317, 112373), (321, 112391), (324, 112406), (337, 112523), (343, 112562), (359, 112682), (365, 112724), (374, 112769), (376, 112778), (387, 112829), (398, 112871), (414, 112937), (416, 112946), (417, 112949), (418, 112955), (419, 112958), (420, 112967), (421, 112973), (422, 112988), (446, 113075), (470, 113180), (484, 113234), (501, 113321), (507, 113351), (516, 113381), (523, 113414), (525, 113423), (536, 113495), (541, 113525), (569, 113642), (578, 113687), (587, 113729), (619, 113873), (635, 113933), (666, 114035), (696, 114122), (697, 114125), (705, 114143), (713, 114179), (714, 114182), (735, 114242), (739, 114260), (763, 114356), (772, 114386), (777, 114404), (785, 114434), (808, 114527), (812, 114542), (828, 114623), (829, 114629), (832, 114641),

Gene: Erudite\_56 Start: 40834, Stop: 43134, Start Num: 261

Candidate Starts for Erudite\_56:

(Start: 261 @40834 has 29 MA's), (Start: 263 @40840 has 6 MA's), (293, 40915), (310, 40987), (314, 41008), (321, 41041), (323, 41053), (324, 41056), (326, 41074), (329, 41080), (339, 41149), (342, 41173), (345, 41212), (355, 41269), (367, 41350), (393, 41464), (397, 41476), (421, 41551), (423, 41569), (441, 41647), (443, 41653), (445, 41662), (450, 41695), (453, 41725), (458, 41731), (472, 41752), (475, 41761), (483, 41791), (503, 41866), (505, 41875), (514, 41899), (515, 41905), (519, 41920), (536, 42022), (553, 42094), (559, 42118), (583, 42202), (605, 42292), (606, 42304), (611, 42322), (625, 42400), (626, 42406), (629, 42415), (635, 42448), (656, 42520), (748, 42700), (754, 42730), (772, 42793), (788, 42865), (812, 42949), (818, 42988), (825, 43021), (838, 43066), (851, 43111), (853, 43117),

Gene: Erutan\_79 Start: 51975, Stop: 55283, Start Num: 71

Candidate Starts for Erutan\_79:

(Start: 71 @51975 has 4 MA's), (Start: 76 @52002 has 1 MA's), (79, 52014), (Start: 83 @52038 has 6 MA's), (88, 52083), (97, 52125), (163, 52386), (196, 52488), (202, 52521), (219, 52617), (278, 52887), (280, 52896), (306, 53004), (312, 53049), (321, 53091), (342, 53223), (343, 53226), (344, 53256), (347, 53277), (359, 53346), (367, 53400), (388, 53499), (393, 53514), (410, 53556), (449, 53730), (453, 53763), (465, 53781), (475, 53799), (488, 53844), (489, 53847), (515, 53943), (524, 53985), (527, 53997), (532, 54033), (577, 54213), (586, 54255), (592, 54291), (606, 54345), (611, 54363), (629, 54459), (631, 54471), (714, 54666), (740, 54750), (757, 54831), (765, 54855), (769, 54870), (778, 54906), (781, 54918), (782, 54924), (783, 54927), (789, 54954), (801, 54999), (822, 55107), (835, 55152), (841, 55176), (853, 55212),

Gene: Esperer\_53 Start: 40052, Stop: 36573, Start Num: 63

Candidate Starts for Esperer\_53:

(2, 40313), (Start: 63 @40052 has 55 MA's), (78, 39980), (Start: 83 @39953 has 6 MA's), (85, 39938), (120, 39776), (126, 39749), (129, 39743), (152, 39653), (156, 39638), (169, 39584), (170, 39581), (194, 39485), (214, 39407), (222, 39347), (236, 39260), (247, 39221), (256, 39176), (Start: 262 @39155 has 3 MA's), (Start: 267 @39140 has 9 MA's), (296, 39098), (300, 39086), (313, 39020), (316, 39008), (330, 38945), (345, 38816), (346, 38807), (351, 38771), (364, 38687), (367, 38669), (382, 38612), (383, 38609), (385, 38597), (420, 38459), (421, 38453), (422, 38438), (424, 38432), (431, 38399), (451, 38321), (455, 38288), (503, 38147), (520, 38090), (524, 38066), (526, 38060), (537, 37991), (547, 37928), (567, 37862), (572, 37841), (578, 37823), (590, 37766), (591, 37757), (615, 37649), (617, 37640), (621, 37628), (623, 37607), (633, 37577), (638, 37550), (658, 37484), (661, 37475), (665, 37463), (685, 37376), (695, 37352), (709, 37304), (744, 37160), (760, 37085), (803, 36911), (810, 36875), (819, 36827), (826, 36794),

Gene: Essence\_206 Start: 112272, Stop: 115667, Start Num: 62

Candidate Starts for Essence\_206:

(Start: 24 @112179 has 44 MA's), (Start: 25 @112185 has 6 MA's), (Start: 31 @112197 has 8 MA's), (Start: 35 @112206 has 1 MA's), (Start: 62 @112272 has 110 MA's), (78, 112347), (97, 112461), (105, 112485), (121, 112545), (146, 112656), (154, 112695), (162, 112719), (170, 112761), (200, 112860), (210, 112902), (211, 112908), (215, 112920), (223, 112983), (234, 113043), (235, 113046), (241, 113073), (249, 113115), (Start: 267 @113178 has 9 MA's), (317, 113334), (321, 113352), (324, 113367), (337, 113484), (343, 113523), (359, 113643), (365, 113685), (374, 113730), (376, 113739), (387, 113790), (398, 113832), (414, 113898), (416, 113907), (417, 113910), (418, 113916), (419, 113919), (420, 113928), (421, 113934), (422, 113949), (446, 114036), (470, 114141), (484, 114195), (501, 114282), (507, 114312), (516, 114342), (523, 114375), (525, 114384), (536, 114456), (541, 114486), (569, 114603), (578, 114648), (587, 114690), (619, 114834), (635, 114894), (666, 114996), (696, 115083), (697, 115086), (705, 115104), (713, 115140), (714, 115143), (735, 115203), (739, 115221), (763, 115317), (772, 115347), (777, 115365), (785, 115395), (808, 115488), (812, 115503), (828, 115584), (829, 115590), (832, 115602),

Gene: Ewok\_208 Start: 113408, Stop: 116803, Start Num: 62

Candidate Starts for Ewok\_208:

(Start: 24 @113315 has 44 MA's), (Start: 25 @113321 has 6 MA's), (Start: 31 @113333 has 8 MA's), (Start: 35 @113342 has 1 MA's), (Start: 62 @113408 has 110 MA's), (78, 113483), (97, 113597), (105, 113621), (121, 113681), (146, 113792), (154, 113831), (162, 113855), (170, 113897), (200, 113996), (210, 114038), (211, 114044), (215, 114056), (223, 114119), (234, 114179), (235, 114182), (241, 114209), (249, 114251), (Start: 267 @114314 has 9 MA's), (310, 114434), (317, 114470), (321, 114488), (324, 114503), (337, 114620), (343, 114659), (359, 114779), (365, 114821), (374, 114866), (376, 114875), (387, 114926), (398, 114968), (414, 115034), (416, 115043), (417, 115046), (418, 115052), (419, 115055), (420, 115064), (421, 115070), (422, 115085), (446, 115172), (470, 115277), (484, 115331), (501, 115418), (507, 115448), (516, 115478), (523, 115511), (525, 115520), (536, 115592), (541, 115622), (569, 115739), (578, 115784), (587, 115826), (619, 115970), (635, 116030), (666, 116132), (696, 116219), (697, 116222), (705, 116240), (713, 116276), (714, 116279), (735, 116339), (739, 116357), (763, 116453), (772, 116483), (777, 116501), (785, 116531), (808, 116624), (812, 116639), (828, 116720), (829, 116726), (832, 116738),

Gene: Finch\_77 Start: 65462, Stop: 68653, Start Num: 66

Candidate Starts for Finch\_77:

(Start: 66 @65462 has 1 MA's), (78, 65525), (99, 65648), (134, 65789), (135, 65798), (140, 65822), (151, 65858), (155, 65882), (168, 65939), (179, 65978), (188, 66002), (200, 66044), (215, 66104), (223, 66167), (235, 66224), (237, 66239), (241, 66251), (245, 66266), (255, 66311), (Start: 267 @66353 has 9 MA's), (296, 66407), (302, 66431), (303, 66434), (310, 66473), (319, 66521), (321, 66527), (327, 66563), (330, 66569), (339, 66638), (349, 66734), (359, 66782), (369, 66848), (371, 66854), (398, 66926), (399, 66929), (416, 67001), (417, 67004), (418, 67010), (427, 67067), (431, 67082), (434, 67091), (439, 67106), (446, 67127), (447, 67136), (460, 67205), (491, 67289), (493, 67295), (497, 67313), (503, 67343), (515, 67382), (534, 67496), (536, 67499), (547, 67550), (548, 67553), (550, 67559), (564, 67613), (565, 67616), (569, 67631), (573, 67658), (582, 67694), (592, 67748), (605, 67790), (623, 67892), (635, 67934), (636, 67937), (638, 67949), (658, 68012), (659, 68018), (676, 68090), (683, 68102), (696, 68132), (714, 68189), (756, 68270), (759, 68279), (783, 68360), (794, 68408), (797, 68420), (808, 68462), (810, 68471), (816, 68504), (827, 68552),

Gene: Flabslab\_204 Start: 111453, Stop: 114848, Start Num: 62

Candidate Starts for Flabslab\_204:

(Start: 24 @111360 has 44 MA's), (Start: 25 @111366 has 6 MA's), (Start: 31 @111378 has 8 MA's), (Start: 35 @111387 has 1 MA's), (Start: 62 @111453 has 110 MA's), (78, 111528), (97, 111642), (105, 111666), (121, 111726), (146, 111837), (154, 111876), (162, 111900), (170, 111942), (200, 112041),

(210, 112083), (211, 112089), (215, 112101), (223, 112164), (234, 112224), (235, 112227), (241, 112254), (249, 112296), (Start: 267 @112359 has 9 MA's), (310, 112479), (317, 112515), (321, 112533), (324, 112548), (337, 112665), (343, 112704), (359, 112824), (365, 112866), (374, 112911), (376, 112920), (387, 112971), (398, 113013), (414, 113079), (416, 113088), (417, 113091), (418, 113097), (419, 113100), (420, 113109), (421, 113115), (422, 113130), (446, 113217), (470, 113322), (484, 113376), (501, 113463), (507, 113493), (516, 113523), (523, 113556), (525, 113565), (536, 113637), (541, 113667), (569, 113784), (578, 113829), (587, 113871), (619, 114015), (635, 114075), (666, 114177), (696, 114264), (697, 114267), (705, 114285), (713, 114321), (714, 114324), (735, 114384), (739, 114402), (763, 114498), (772, 114528), (777, 114546), (785, 114576), (808, 114669), (812, 114684), (828, 114765), (829, 114771), (832, 114783),

Gene: Flapper\_64 Start: 49579, Stop: 46298, Start Num: 67

Candidate Starts for Flapper\_64:

(28, 49672), (Start: 65 @49582 has 4 MA's), (Start: 67 @49579 has 71 MA's), (68, 49570), (80, 49498), (Start: 83 @49483 has 6 MA's), (88, 49438), (116, 49327), (118, 49318), (135, 49252), (150, 49195), (190, 49069), (197, 49030), (201, 49006), (207, 48979), (211, 48961), (214, 48952), (220, 48898), (Start: 267 @48685 has 9 MA's), (276, 48661), (313, 48526), (340, 48367), (342, 48352), (400, 48034), (413, 48010), (423, 47953), (449, 47842), (475, 47773), (479, 47758), (488, 47728), (531, 47539), (538, 47491), (547, 47449), (548, 47446), (550, 47440), (555, 47422), (582, 47326), (586, 47308), (592, 47272), (629, 47107), (635, 47077), (644, 47047), (671, 47008), (687, 46954), (698, 46930), (714, 46867), (732, 46807), (742, 46765), (779, 46621), (780, 46618), (785, 46594), (836, 46378), (846, 46342), (856, 46312),

Gene: Float294\_60 Start: 49099, Stop: 45785, Start Num: 67

Candidate Starts for Float294\_60:

(3, 49324), (13, 49240), (Start: 67 @49099 has 71 MA's), (Start: 83 @49003 has 6 MA's), (116, 48850), (118, 48841), (150, 48718), (196, 48559), (197, 48553), (220, 48421), (226, 48391), (242, 48310), (260, 48229), (276, 48184), (321, 48013), (330, 47971), (340, 47893), (342, 47878), (362, 47740), (376, 47662), (413, 47542), (432, 47440), (449, 47374), (465, 47323), (475, 47305), (488, 47260), (538, 47017), (547, 46975), (548, 46972), (550, 46966), (555, 46948), (582, 46852), (586, 46834), (592, 46798), (626, 46654), (629, 46645), (634, 46621), (651, 46570), (687, 46441), (714, 46351), (719, 46342), (732, 46291), (736, 46270), (742, 46249), (782, 46093), (786, 46078), (846, 45829),

Gene: Fludd\_209 Start: 112844, Stop: 116239, Start Num: 62

Candidate Starts for Fludd\_209:

(Start: 24 @112751 has 44 MA's), (Start: 25 @112757 has 6 MA's), (Start: 31 @112769 has 8 MA's), (Start: 35 @112778 has 1 MA's), (Start: 62 @112844 has 110 MA's), (78, 112919), (97, 113033), (105, 113057), (121, 113117), (146, 113228), (154, 113267), (162, 113291), (170, 113333), (200, 113432), (210, 113474), (211, 113480), (215, 113492), (223, 113555), (234, 113615), (235, 113618), (241, 113645), (249, 113687), (Start: 267 @113750 has 9 MA's), (310, 113870), (317, 113906), (321, 113924), (324, 113939), (337, 114056), (343, 114095), (359, 114215), (365, 114257), (374, 114302), (376, 114311), (387, 114362), (398, 114404), (414, 114470), (416, 114479), (417, 114482), (418, 114488), (419, 114491), (420, 114500), (421, 114506), (422, 114521), (446, 114608), (470, 114713), (484, 114767), (501, 114854), (507, 114884), (516, 114914), (523, 114947), (525, 114956), (536, 115028), (541, 115058), (569, 115175), (578, 115220), (587, 115262), (619, 115406), (635, 115466), (666, 115568), (696, 115655), (697, 115658), (705, 115676), (713, 115712), (714, 115715), (735, 115775), (739, 115793), (763, 115889), (772, 115919), (777, 115937), (785, 115967), (808, 116060), (812, 116075), (828, 116156), (829, 116162), (832, 116174),

Gene: FlyingTortilla\_98 Start: 74166, Stop: 76973, Start Num: 53

Candidate Starts for FlyingTortilla\_98:

(17, 74061), (27, 74103), (Start: 44 @74151 has 1 MA's), (Start: 53 @74166 has 8 MA's), (78, 74256), (81, 74271), (86, 74316), (102, 74394), (122, 74466), (147, 74574), (153, 74604), (154, 74607), (155,

74610), (170, 74670), (174, 74691), (185, 74721), (211, 74838), (222, 74904), (224, 74913), (225, 74916), (252, 75045), (Start: 267 @75099 has 9 MA's), (313, 75210), (317, 75228), (320, 75243), (322, 75249), (324, 75261), (332, 75288), (333, 75291), (339, 75351), (340, 75360), (343, 75375), (358, 75489), (396, 75687), (402, 75711), (405, 75729), (412, 75762), (422, 75819), (423, 75822), (432, 75867), (433, 75870), (446, 75909), (447, 75918), (451, 75942), (452, 75948), (454, 75972), (455, 75975), (462, 75993), (469, 76005), (509, 76134), (511, 76140), (518, 76164), (522, 76182), (524, 76194), (545, 76311), (547, 76329), (548, 76332), (551, 76341), (577, 76446), (579, 76455), (585, 76482), (615, 76614), (618, 76626), (620, 76632), (636, 76698), (640, 76716), (645, 76728), (647, 76737), (655, 76773), (676, 76851), (686, 76878), (712, 76953), (714, 76962),

Gene: Foxboro\_61 Start: 49613, Stop: 46299, Start Num: 67

Candidate Starts for Foxboro\_61:

(5, 49856), (Start: 67 @49613 has 71 MA's), (79, 49541), (Start: 83 @49517 has 6 MA's), (88, 49472), (116, 49364), (118, 49355), (150, 49232), (196, 49073), (197, 49067), (201, 49043), (220, 48935), (226, 48905), (238, 48836), (276, 48698), (288, 48680), (321, 48527), (330, 48485), (334, 48446), (340, 48407), (342, 48392), (362, 48254), (413, 48056), (423, 47999), (439, 47939), (449, 47888), (475, 47819), (488, 47774), (547, 47489), (548, 47486), (550, 47480), (555, 47462), (582, 47366), (592, 47312), (610, 47243), (629, 47159), (640, 47108), (644, 47099), (671, 47009), (687, 46955), (702, 46913), (714, 46865), (736, 46784), (742, 46763), (762, 46673), (772, 46643), (779, 46619), (780, 46616), (821, 46433), (836, 46376),

Gene: FoxtrotP1\_207 Start: 114088, Stop: 117483, Start Num: 62

Candidate Starts for FoxtrotP1\_207:

(Start: 24 @113995 has 44 MA's), (Start: 25 @114001 has 6 MA's), (Start: 31 @114013 has 8 MA's), (Start: 35 @114022 has 1 MA's), (Start: 62 @114088 has 110 MA's), (78, 114163), (97, 114277), (105, 114301), (121, 114361), (146, 114472), (154, 114511), (162, 114535), (170, 114577), (200, 114676), (210, 114718), (211, 114724), (215, 114736), (223, 114799), (234, 114859), (235, 114862), (241, 114889), (249, 114931), (Start: 267 @114994 has 9 MA's), (317, 115150), (321, 115168), (324, 115183), (337, 115300), (343, 115339), (359, 115459), (365, 115501), (374, 115546), (376, 115555), (387, 115606), (398, 115648), (414, 115714), (416, 115723), (417, 115726), (418, 115732), (419, 115735), (420, 115744), (421, 115750), (422, 115765), (446, 115852), (470, 115957), (484, 116011), (501, 116098), (507, 116128), (516, 116158), (523, 116191), (525, 116200), (536, 116272), (541, 116302), (569, 116419), (578, 116464), (587, 116506), (619, 116650), (635, 116710), (666, 116812), (696, 116899), (697, 116902), (705, 116920), (713, 116956), (714, 116959), (735, 117019), (739, 117037), (763, 117133), (772, 117163), (777, 117181), (785, 117211), (808, 117304), (812, 117319), (828, 117400), (829, 117406), (832, 117418),

Gene: FrayBell\_212 Start: 112934, Stop: 116329, Start Num: 62

Candidate Starts for FrayBell\_212:

(Start: 24 @112841 has 44 MA's), (Start: 25 @112847 has 6 MA's), (Start: 31 @112859 has 8 MA's), (Start: 35 @112868 has 1 MA's), (Start: 62 @112934 has 110 MA's), (78, 113009), (97, 113123), (105, 113147), (121, 113207), (146, 113318), (154, 113357), (162, 113381), (170, 113423), (200, 113522), (210, 113564), (211, 113570), (215, 113582), (223, 113645), (234, 113705), (235, 113708), (241, 113735), (249, 113777), (Start: 267 @113840 has 9 MA's), (317, 113996), (321, 114014), (324, 114029), (337, 114146), (343, 114185), (359, 114305), (365, 114347), (374, 114392), (376, 114401), (387, 114452), (398, 114494), (414, 114560), (416, 114569), (417, 114572), (418, 114578), (419, 114581), (420, 114590), (421, 114596), (422, 114611), (446, 114698), (470, 114803), (484, 114857), (501, 114944), (507, 114974), (516, 115004), (523, 115037), (525, 115046), (536, 115118), (541, 115148), (569, 115265), (578, 115310), (587, 115352), (619, 115496), (635, 115556), (666, 115658), (696, 115745), (697, 115748), (705, 115766), (713, 115802), (714, 115805), (735, 115865), (739, 115883), (763, 115979), (772, 116009), (777, 116027), (785, 116057), (808, 116150), (812, 116165), (828, 116246), (829, 116252), (832, 116264),

Gene: FreddieHg\_58 Start: 40716, Stop: 43019, Start Num: 261

Candidate Starts for FreddieHg\_58:

(Start: 261 @40716 has 29 MA's), (Start: 263 @40722 has 6 MA's), (293, 40800), (310, 40872), (314, 40893), (321, 40926), (323, 40938), (324, 40941), (326, 40959), (329, 40965), (339, 41034), (342, 41058), (345, 41097), (352, 41142), (355, 41154), (367, 41235), (393, 41349), (397, 41361), (421, 41436), (423, 41454), (441, 41532), (443, 41538), (445, 41547), (450, 41580), (453, 41610), (458, 41616), (472, 41637), (475, 41646), (483, 41676), (503, 41751), (505, 41760), (514, 41784), (515, 41790), (516, 41796), (519, 41805), (536, 41907), (553, 41979), (559, 42003), (583, 42087), (605, 42177), (606, 42189), (611, 42207), (625, 42285), (626, 42291), (629, 42300), (635, 42333), (656, 42405), (748, 42585), (754, 42615), (772, 42678), (788, 42750), (818, 42873), (825, 42906), (838, 42951), (851, 42996), (853, 43002),

Gene: FudgeTart\_204 Start: 112462, Stop: 115950, Start Num: 24

Candidate Starts for FudgeTart\_204:

(Start: 24 @112462 has 44 MA's), (Start: 25 @112468 has 6 MA's), (Start: 31 @112480 has 8 MA's), (Start: 35 @112489 has 1 MA's), (Start: 62 @112555 has 110 MA's), (78, 112630), (97, 112744), (105, 112768), (121, 112828), (146, 112939), (154, 112978), (162, 113002), (170, 113044), (200, 113143), (210, 113185), (211, 113191), (215, 113203), (223, 113266), (234, 113326), (235, 113329), (241, 113356), (249, 113398), (Start: 267 @113461 has 9 MA's), (310, 113581), (317, 113617), (321, 113635), (324, 113650), (337, 113767), (343, 113806), (359, 113926), (365, 113968), (374, 114013), (376, 114022), (387, 114073), (398, 114115), (414, 114181), (416, 114190), (417, 114193), (418, 114199), (419, 114202), (420, 114211), (421, 114217), (422, 114232), (446, 114319), (470, 114424), (484, 114478), (501, 114565), (507, 114595), (516, 114625), (523, 114658), (525, 114667), (536, 114739), (541, 114769), (569, 114886), (578, 114931), (587, 114973), (619, 115117), (635, 115177), (666, 115279), (696, 115366), (697, 115369), (705, 115387), (713, 115423), (714, 115426), (735, 115486), (739, 115504), (763, 115600), (772, 115630), (777, 115648), (785, 115678), (808, 115771), (812, 115786), (828, 115867), (829, 115873), (832, 115885),

Gene: Fulcrum\_78 Start: 51710, Stop: 55051, Start Num: 64

Candidate Starts for Fulcrum\_78:

(Start: 39 @51662 has 2 MA's), (Start: 64 @51710 has 20 MA's), (Start: 76 @51770 has 1 MA's), (Start: 83 @51806 has 6 MA's), (88, 51851), (97, 51893), (163, 52154), (196, 52256), (202, 52289), (219, 52385), (278, 52655), (280, 52664), (306, 52772), (312, 52817), (321, 52859), (342, 52991), (343, 52994), (344, 53024), (359, 53114), (367, 53168), (388, 53267), (393, 53282), (410, 53324), (449, 53498), (453, 53531), (465, 53549), (475, 53567), (488, 53612), (489, 53615), (515, 53711), (524, 53753), (527, 53765), (532, 53801), (577, 53981), (586, 54023), (592, 54059), (606, 54113), (611, 54131), (629, 54227), (631, 54239), (714, 54434), (740, 54518), (765, 54623), (769, 54638), (778, 54674), (781, 54686), (782, 54692), (783, 54695), (789, 54722), (801, 54767), (822, 54875), (835, 54920), (841, 54944), (853, 54980),

Gene: Fury\_67 Start: 47998, Stop: 44609, Start Num: 37

Candidate Starts for Fury\_67:

(21, 48049), (Start: 37 @47998 has 2 MA's), (42, 47980), (52, 47953), (Start: 67 @47929 has 71 MA's), (80, 47848), (Start: 83 @47833 has 6 MA's), (90, 47782), (116, 47680), (118, 47671), (145, 47566), (150, 47548), (176, 47455), (196, 47389), (197, 47383), (199, 47371), (214, 47305), (220, 47251), (242, 47140), (247, 47119), (260, 47059), (269, 47032), (276, 47014), (310, 46897), (340, 46723), (342, 46708), (362, 46570), (379, 46477), (387, 46438), (413, 46372), (420, 46339), (423, 46315), (439, 46255), (449, 46204), (450, 46201), (451, 46195), (453, 46171), (465, 46153), (475, 46135), (488, 46090), (538, 45850), (546, 45823), (548, 45805), (550, 45799), (555, 45781), (582, 45685), (586, 45667), (590, 45643), (592, 45631), (622, 45499), (627, 45478), (629, 45472), (635, 45442), (687, 45265), (701, 45229), (714, 45178), (732, 45118), (736, 45097), (742, 45076), (786, 44902), (836, 44689), (856, 44623),



Gene: GMA6\_80 Start: 61160, Stop: 64054, Start Num: 26

Candidate Starts for GMA6\_80:

(16, 61112), (23, 61148), (Start: 26 @61160 has 20 MA's), (30, 61169), (32, 61172), (Start: 50 @61223 has 1 MA's), (69, 61265), (73, 61292), (78, 61319), (84, 61355), (86, 61379), (90, 61397), (99, 61442), (124, 61538), (128, 61556), (130, 61562), (131, 61565), (134, 61580), (154, 61670), (155, 61673), (164, 61709), (174, 61754), (179, 61766), (184, 61778), (185, 61784), (188, 61790), (198, 61847), (203, 61862), (204, 61865), (205, 61874), (211, 61901), (222, 61967), (224, 61976), (236, 62042), (258, 62132), (297, 62210), (307, 62234), (309, 62246), (310, 62255), (313, 62273), (317, 62291), (324, 62324), (332, 62351), (334, 62384), (358, 62552), (384, 62696), (403, 62783), (405, 62792), (412, 62825), (414, 62834), (416, 62843), (421, 62870), (422, 62885), (424, 62891), (432, 62933), (433, 62936), (443, 62960), (446, 62975), (447, 62984), (449, 62999), (451, 63008), (453, 63032), (454, 63038), (455, 63041), (466, 63068), (499, 63155), (509, 63200), (518, 63230), (522, 63248), (524, 63260), (545, 63377), (551, 63407), (560, 63443), (562, 63455), (563, 63458), (574, 63503), (577, 63512), (582, 63536), (591, 63575), (615, 63683), (617, 63692), (638, 63779), (640, 63785), (663, 63866), (686, 63947), (708, 64004), (716, 64034),

Gene: GOATification\_78 Start: 51710, Stop: 55051, Start Num: 64

Candidate Starts for GOATification\_78:

(Start: 39 @51662 has 2 MA's), (Start: 64 @51710 has 20 MA's), (Start: 76 @51770 has 1 MA's), (Start: 83 @51806 has 6 MA's), (88, 51851), (97, 51893), (163, 52154), (196, 52256), (202, 52289), (219, 52385), (278, 52655), (280, 52664), (306, 52772), (312, 52817), (321, 52859), (342, 52991), (343, 52994), (344, 53024), (359, 53114), (367, 53168), (388, 53267), (393, 53282), (410, 53324), (449, 53498), (453, 53531), (465, 53549), (475, 53567), (488, 53612), (489, 53615), (515, 53711), (524, 53753), (527, 53765), (532, 53801), (577, 53981), (586, 54023), (592, 54059), (606, 54113), (611, 54131), (629, 54227), (631, 54239), (714, 54434), (740, 54518), (765, 54623), (769, 54638), (778, 54674), (781, 54686), (782, 54692), (783, 54695), (789, 54722), (801, 54767), (822, 54875), (835, 54920), (841, 54944), (853, 54980),

Gene: GRU1\_49 Start: 41041, Stop: 37856, Start Num: 83

Candidate Starts for GRU1\_49:

(Start: 66 @41137 has 1 MA's), (80, 41056), (Start: 83 @41041 has 6 MA's), (88, 40996), (116, 40885), (118, 40876), (135, 40810), (150, 40753), (190, 40627), (197, 40588), (201, 40564), (207, 40537), (214, 40510), (220, 40456), (Start: 267 @40243 has 9 MA's), (276, 40219), (340, 39925), (342, 39910), (400, 39592), (413, 39568), (423, 39511), (439, 39451), (449, 39400), (475, 39331), (479, 39316), (531, 39097), (538, 39049), (547, 39007), (548, 39004), (550, 38998), (555, 38980), (582, 38884), (586, 38866), (592, 38830), (629, 38665), (635, 38635), (644, 38605), (684, 38518), (687, 38512), (714, 38425), (732, 38365), (742, 38323), (779, 38179), (785, 38152), (836, 37936), (846, 37900), (856, 37870), (858, 37861),

Gene: GTE5\_49 Start: 42214, Stop: 38933, Start Num: 67

Candidate Starts for GTE5\_49:

(Start: 63 @42220 has 55 MA's), (Start: 67 @42214 has 71 MA's), (68, 42205), (80, 42133), (Start: 83 @42118 has 6 MA's), (116, 41962), (118, 41953), (150, 41830), (197, 41665), (201, 41641), (213, 41590), (220, 41533), (242, 41422), (Start: 267 @41320 has 9 MA's), (276, 41296), (340, 41002), (342, 40987), (400, 40669), (413, 40645), (423, 40588), (449, 40477), (450, 40474), (475, 40408), (479, 40393), (531, 40174), (538, 40126), (547, 40084), (548, 40081), (550, 40075), (555, 40057), (582, 39961), (586, 39943), (592, 39907), (629, 39742), (635, 39712), (644, 39682), (684, 39595), (687, 39589), (714, 39502), (732, 39442), (742, 39400), (779, 39256), (780, 39253), (785, 39229), (836, 39013), (846, 38977), (856, 38947),

Gene: GTE8\_48 Start: 42138, Stop: 38830, Start Num: 67

Candidate Starts for GTE8\_48:

(1, 42387), (8, 42309), (11, 42282), (Start: 67 @42138 has 71 MA's), (80, 42057), (Start: 83 @42042 has 6 MA's), (116, 41889), (118, 41880), (150, 41757), (196, 41598), (197, 41592), (201, 41568), (220, 41460), (226, 41430), (276, 41223), (313, 41088), (330, 41010), (340, 40932), (342, 40917), (413, 40581), (423, 40524), (439, 40464), (449, 40413), (475, 40344), (495, 40278), (547, 40014), (548, 40011), (550, 40005), (555, 39987), (561, 39963), (582, 39891), (592, 39837), (626, 39693), (629, 39684), (651, 39609), (687, 39480), (714, 39396), (736, 39315), (742, 39294), (779, 39150), (780, 39147), (785, 39123), (786, 39120), (811, 39018), (856, 38841),

Gene: Gabriel\_212 Start: 112010, Stop: 115405, Start Num: 62

Candidate Starts for Gabriel\_212:

(Start: 24 @111917 has 44 MA's), (Start: 25 @111923 has 6 MA's), (Start: 31 @111935 has 8 MA's), (Start: 35 @111944 has 1 MA's), (Start: 62 @112010 has 110 MA's), (78, 112085), (97, 112199), (105, 112223), (121, 112283), (146, 112394), (154, 112433), (162, 112457), (170, 112499), (200, 112598), (210, 112640), (211, 112646), (215, 112658), (223, 112721), (234, 112781), (235, 112784), (241, 112811), (249, 112853), (Start: 267 @112916 has 9 MA's), (317, 113072), (321, 113090), (324, 113105), (337, 113222), (343, 113261), (359, 113381), (365, 113423), (374, 113468), (376, 113477), (387, 113528), (398, 113570), (414, 113636), (416, 113645), (417, 113648), (418, 113654), (419, 113657), (420, 113666), (421, 113672), (422, 113687), (446, 113774), (470, 113879), (484, 113933), (501, 114020), (507, 114050), (516, 114080), (523, 114113), (525, 114122), (536, 114194), (541, 114224), (569, 114341), (578, 114386), (587, 114428), (619, 114572), (635, 114632), (666, 114734), (696, 114821), (697, 114824), (705, 114842), (713, 114878), (714, 114881), (735, 114941), (739, 114959), (763, 115055), (772, 115085), (777, 115103), (785, 115133), (808, 115226), (812, 115241), (828, 115322), (829, 115328), (832, 115340),

Gene: Gamgam\_210 Start: 112367, Stop: 115762, Start Num: 62

Candidate Starts for Gamgam\_210:

(Start: 24 @112274 has 44 MA's), (Start: 25 @112280 has 6 MA's), (Start: 31 @112292 has 8 MA's), (Start: 35 @112301 has 1 MA's), (Start: 62 @112367 has 110 MA's), (78, 112442), (97, 112556), (105, 112580), (121, 112640), (146, 112751), (154, 112790), (162, 112814), (170, 112856), (200, 112955), (210, 112997), (211, 113003), (215, 113015), (223, 113078), (234, 113138), (235, 113141), (241, 113168), (249, 113210), (Start: 267 @113273 has 9 MA's), (310, 113393), (317, 113429), (321, 113447), (324, 113462), (337, 113579), (343, 113618), (359, 113738), (365, 113780), (374, 113825), (376, 113834), (387, 113885), (398, 113927), (414, 113993), (416, 114002), (417, 114005), (418, 114011), (419, 114014), (420, 114023), (421, 114029), (422, 114044), (446, 114131), (470, 114236), (484, 114290), (501, 114377), (507, 114407), (516, 114437), (523, 114470), (525, 114479), (536, 114551), (541, 114581), (569, 114698), (578, 114743), (587, 114785), (619, 114929), (635, 114989), (666, 115091), (696, 115178), (697, 115181), (705, 115199), (713, 115235), (714, 115238), (735, 115298), (739, 115316), (763, 115412), (772, 115442), (777, 115460), (785, 115490), (808, 115583), (812, 115598), (828, 115679), (829, 115685), (832, 115697),

Gene: Genamy16\_81 Start: 50797, Stop: 54042, Start Num: 83

Candidate Starts for Genamy16\_81:

(Start: 64 @50701 has 20 MA's), (Start: 76 @50761 has 1 MA's), (Start: 83 @50797 has 6 MA's), (88, 50842), (97, 50884), (163, 51145), (202, 51280), (219, 51376), (278, 51646), (280, 51655), (306, 51763), (312, 51808), (321, 51850), (334, 51928), (342, 51982), (343, 51985), (344, 52015), (359, 52105), (367, 52159), (388, 52258), (393, 52273), (410, 52315), (449, 52489), (453, 52522), (465, 52540), (475, 52558), (488, 52603), (489, 52606), (515, 52702), (524, 52744), (527, 52756), (532, 52792), (577, 52972), (586, 53014), (592, 53050), (605, 53092), (606, 53104), (611, 53122), (629, 53218), (631, 53230), (714, 53425), (740, 53509), (765, 53614), (769, 53629), (773, 53644), (778, 53665), (781, 53677), (782, 53683), (783, 53686), (789, 53713), (801, 53758), (822, 53866), (835, 53911), (841, 53935), (853, 53971),

Gene: Ghost\_209 Start: 112201, Stop: 115683, Start Num: 25

Candidate Starts for Ghost\_209:

(Start: 24 @112195 has 44 MA's), (Start: 25 @112201 has 6 MA's), (Start: 31 @112213 has 8 MA's), (Start: 35 @112222 has 1 MA's), (Start: 62 @112288 has 110 MA's), (78, 112363), (97, 112477), (105, 112501), (121, 112561), (146, 112672), (154, 112711), (162, 112735), (170, 112777), (200, 112876), (210, 112918), (211, 112924), (215, 112936), (223, 112999), (234, 113059), (235, 113062), (241, 113089), (249, 113131), (Start: 267 @113194 has 9 MA's), (310, 113314), (317, 113350), (321, 113368), (324, 113383), (337, 113500), (343, 113539), (359, 113659), (365, 113701), (374, 113746), (376, 113755), (387, 113806), (398, 113848), (414, 113914), (416, 113923), (417, 113926), (418, 113932), (419, 113935), (420, 113944), (421, 113950), (422, 113965), (446, 114052), (470, 114157), (484, 114211), (501, 114298), (507, 114328), (516, 114358), (523, 114391), (525, 114400), (536, 114472), (541, 114502), (569, 114619), (578, 114664), (587, 114706), (619, 114850), (635, 114910), (666, 115012), (696, 115099), (697, 115102), (705, 115120), (713, 115156), (714, 115159), (735, 115219), (739, 115237), (763, 115333), (772, 115363), (777, 115381), (785, 115411), (808, 115504), (812, 115519), (828, 115600), (829, 115606), (832, 115618),

Gene: Gibbin\_81 Start: 52515, Stop: 55856, Start Num: 64

Candidate Starts for Gibbin\_81:

(Start: 39 @52467 has 2 MA's), (Start: 64 @52515 has 20 MA's), (Start: 76 @52575 has 1 MA's), (Start: 83 @52611 has 6 MA's), (88, 52656), (97, 52698), (163, 52959), (196, 53061), (202, 53094), (219, 53190), (278, 53460), (280, 53469), (306, 53577), (312, 53622), (321, 53664), (342, 53796), (343, 53799), (344, 53829), (347, 53850), (359, 53919), (367, 53973), (388, 54072), (393, 54087), (410, 54129), (449, 54303), (453, 54336), (465, 54354), (475, 54372), (488, 54417), (489, 54420), (515, 54516), (524, 54558), (527, 54570), (532, 54606), (577, 54786), (586, 54828), (592, 54864), (606, 54918), (611, 54936), (629, 55032), (631, 55044), (714, 55239), (740, 55323), (757, 55404), (765, 55428), (769, 55443), (778, 55479), (781, 55491), (782, 55497), (783, 55500), (789, 55527), (801, 55572), (822, 55680), (835, 55725), (841, 55749), (853, 55785),

Gene: Gibson\_51 Start: 39054, Stop: 35857, Start Num: 67

Candidate Starts for Gibson\_51:

(56, 39075), (Start: 67 @39054 has 71 MA's), (73, 39012), (Start: 83 @38958 has 6 MA's), (91, 38904), (107, 38835), (109, 38826), (113, 38817), (119, 38787), (127, 38754), (135, 38718), (144, 38676), (147, 38664), (161, 38610), (188, 38541), (193, 38502), (203, 38460), (207, 38439), (219, 38367), (227, 38325), (236, 38262), (237, 38259), (259, 38169), (Start: 263 @38154 has 6 MA's), (268, 38145), (283, 38103), (286, 38088), (291, 38073), (315, 37977), (321, 37947), (335, 37866), (337, 37854), (340, 37830), (342, 37815), (343, 37812), (355, 37719), (366, 37647), (368, 37629), (377, 37587), (391, 37530), (399, 37503), (422, 37422), (424, 37416), (429, 37389), (443, 37338), (450, 37296), (453, 37266), (458, 37260), (475, 37230), (479, 37215), (483, 37200), (496, 37158), (497, 37155), (504, 37119), (509, 37104), (533, 36990), (604, 36711), (605, 36699), (606, 36687), (611, 36669), (626, 36576), (654, 36471), (732, 36360), (737, 36336), (765, 36219), (788, 36126), (810, 36048), (813, 36036), (816, 36015), (826, 35967), (836, 35931), (846, 35895), (851, 35880),

Gene: Gilda\_57 Start: 41255, Stop: 43558, Start Num: 261

Candidate Starts for Gilda\_57:

(Start: 261 @41255 has 29 MA's), (Start: 263 @41261 has 6 MA's), (293, 41339), (310, 41411), (314, 41432), (321, 41465), (323, 41477), (324, 41480), (326, 41498), (339, 41573), (342, 41597), (345, 41636), (352, 41681), (355, 41693), (367, 41774), (393, 41888), (397, 41900), (421, 41975), (423, 41993), (441, 42071), (443, 42077), (445, 42086), (450, 42119), (453, 42149), (458, 42155), (472, 42176), (475, 42185), (483, 42215), (503, 42290), (505, 42299), (514, 42323), (515, 42329), (519, 42344), (524, 42371), (536, 42446), (553, 42518), (559, 42542), (583, 42626), (605, 42716), (606, 42728), (611, 42746), (625, 42824), (626, 42830), (629, 42839), (635, 42872), (656, 42944), (748, 43124), (754, 43154), (772, 43217), (788, 43289), (818, 43412), (825, 43445), (838, 43490), (851, 43535), (853, 43541),

Gene: Giuseppe\_68 Start: 49677, Stop: 52979, Start Num: 26

Candidate Starts for Giuseppe\_68:

(Start: 26 @49677 has 20 MA's), (Start: 58 @49764 has 1 MA's), (61, 49770), (Start: 67 @49779 has 71 MA's), (Start: 83 @49875 has 6 MA's), (118, 50031), (141, 50118), (142, 50121), (154, 50172), (219, 50436), (226, 50475), (239, 50547), (242, 50556), (259, 50631), (Start: 281 @50697 has 8 MA's), (282, 50703), (298, 50757), (306, 50775), (313, 50826), (314, 50829), (320, 50859), (335, 50943), (336, 50952), (340, 50979), (342, 50994), (367, 51171), (368, 51180), (393, 51285), (420, 51366), (430, 51426), (449, 51501), (453, 51534), (458, 51540), (472, 51561), (475, 51570), (488, 51615), (505, 51684), (510, 51699), (527, 51768), (536, 51831), (545, 51864), (546, 51867), (557, 51918), (579, 51993), (606, 52116), (611, 52134), (628, 52212), (629, 52215), (631, 52227), (643, 52272), (651, 52293), (654, 52305), (661, 52335), (668, 52356), (716, 52428), (740, 52485), (763, 52584), (781, 52650), (803, 52740), (810, 52770), (811, 52773), (816, 52803), (825, 52848), (836, 52890), (844, 52920), (849, 52932), (853, 52947), (856, 52956),

Gene: Gizmo\_215 Start: 115313, Stop: 118801, Start Num: 24

Candidate Starts for Gizmo\_215:

(Start: 24 @115313 has 44 MA's), (Start: 25 @115319 has 6 MA's), (Start: 31 @115331 has 8 MA's), (Start: 35 @115340 has 1 MA's), (Start: 62 @115406 has 110 MA's), (78, 115481), (97, 115595), (105, 115619), (121, 115679), (146, 115790), (154, 115829), (162, 115853), (170, 115895), (200, 115994), (210, 116036), (211, 116042), (215, 116054), (223, 116117), (234, 116177), (235, 116180), (241, 116207), (249, 116249), (Start: 267 @116312 has 9 MA's), (317, 116468), (321, 116486), (324, 116501), (337, 116618), (343, 116657), (359, 116777), (365, 116819), (374, 116864), (376, 116873), (387, 116924), (398, 116966), (414, 117032), (416, 117041), (417, 117044), (418, 117050), (419, 117053), (420, 117062), (421, 117068), (422, 117083), (446, 117170), (470, 117275), (484, 117329), (501, 117416), (507, 117446), (516, 117476), (523, 117509), (525, 117518), (536, 117590), (541, 117620), (569, 117737), (578, 117782), (587, 117824), (619, 117968), (635, 118028), (666, 118130), (696, 118217), (697, 118220), (705, 118238), (713, 118274), (714, 118277), (735, 118337), (739, 118355), (763, 118451), (772, 118481), (777, 118499), (785, 118529), (808, 118622), (812, 118637), (828, 118718), (829, 118724), (832, 118736),

Gene: GlutenPhree\_209 Start: 112303, Stop: 115773, Start Num: 31

Candidate Starts for GlutenPhree\_209:

(Start: 24 @112285 has 44 MA's), (Start: 25 @112291 has 6 MA's), (Start: 31 @112303 has 8 MA's), (Start: 35 @112312 has 1 MA's), (Start: 62 @112378 has 110 MA's), (78, 112453), (97, 112567), (105, 112591), (121, 112651), (146, 112762), (154, 112801), (162, 112825), (170, 112867), (200, 112966), (210, 113008), (211, 113014), (215, 113026), (223, 113089), (234, 113149), (235, 113152), (241, 113179), (249, 113221), (Start: 267 @113284 has 9 MA's), (310, 113404), (317, 113440), (321, 113458), (324, 113473), (337, 113590), (343, 113629), (359, 113749), (365, 113791), (374, 113836), (376, 113845), (387, 113896), (398, 113938), (414, 114004), (416, 114013), (417, 114016), (418, 114022), (419, 114025), (420, 114034), (421, 114040), (422, 114055), (446, 114142), (470, 114247), (484, 114301), (501, 114388), (507, 114418), (516, 114448), (523, 114481), (525, 114490), (536, 114562), (541, 114592), (569, 114709), (578, 114754), (587, 114796), (619, 114940), (635, 115000), (666, 115102), (696, 115189), (697, 115192), (705, 115210), (713, 115246), (714, 115249), (735, 115309), (739, 115327), (763, 115423), (772, 115453), (777, 115471), (785, 115501), (808, 115594), (812, 115609), (828, 115690), (829, 115696), (832, 115708),

Gene: Goby\_55 Start: 41781, Stop: 38299, Start Num: 63

Candidate Starts for Goby\_55:

(Start: 63 @41781 has 55 MA's), (68, 41766), (69, 41760), (Start: 76 @41715 has 1 MA's), (78, 41706), (85, 41664), (101, 41571), (120, 41502), (136, 41433), (152, 41379), (170, 41307), (180, 41271), (194, 41211), (214, 41133), (236, 40986), (247, 40947), (252, 40920), (256, 40902), (Start: 262 @40881 has 3 MA's), (Start: 267 @40866 has 9 MA's), (313, 40746), (316, 40734), (344, 40548), (345, 40542), (351, 40497), (364, 40413), (367, 40395), (382, 40338), (383, 40335), (385, 40323), (420, 40185),

(421, 40179), (422, 40164), (424, 40158), (431, 40125), (451, 40047), (455, 40014), (503, 39873), (524, 39792), (526, 39786), (537, 39717), (547, 39654), (553, 39633), (567, 39588), (578, 39549), (590, 39492), (591, 39483), (615, 39375), (621, 39354), (623, 39333), (633, 39303), (638, 39276), (658, 39210), (661, 39201), (665, 39189), (685, 39102), (695, 39078), (733, 38934), (744, 38886), (763, 38802), (771, 38775), (803, 38637), (804, 38628), (810, 38601), (819, 38553), (820, 38547), (824, 38526), (826, 38520), (855, 38415), (861, 38388), (862, 38376), (866, 38313),

Gene: Godpower\_56 Start: 41758, Stop: 38279, Start Num: 63

Candidate Starts for Godpower\_56:

(Start: 35 @41827 has 1 MA's), (Start: 63 @41758 has 55 MA's), (Start: 76 @41695 has 1 MA's), (78, 41686), (85, 41644), (101, 41551), (120, 41482), (136, 41413), (152, 41359), (170, 41287), (180, 41251), (194, 41191), (214, 41113), (236, 40966), (247, 40927), (252, 40900), (256, 40882), (Start: 262 @40861 has 3 MA's), (Start: 267 @40846 has 9 MA's), (313, 40726), (316, 40714), (344, 40528), (345, 40522), (351, 40477), (364, 40393), (367, 40375), (382, 40318), (383, 40315), (385, 40303), (420, 40165), (421, 40159), (422, 40144), (424, 40138), (431, 40105), (451, 40027), (455, 39994), (503, 39853), (524, 39772), (526, 39766), (537, 39697), (547, 39634), (553, 39613), (567, 39568), (578, 39529), (590, 39472), (591, 39463), (615, 39355), (621, 39334), (623, 39313), (633, 39283), (638, 39256), (658, 39190), (661, 39181), (665, 39169), (685, 39082), (695, 39058), (744, 38866), (763, 38782), (771, 38755), (803, 38617), (804, 38608), (810, 38581), (819, 38533), (820, 38527), (824, 38506), (826, 38500), (855, 38395), (862, 38356), (863, 38350), (866, 38293),

Gene: Grasshills\_217 Start: 115911, Stop: 119381, Start Num: 31

Candidate Starts for Grasshills\_217:

(10, 115818), (Start: 24 @115893 has 44 MA's), (Start: 25 @115899 has 6 MA's), (Start: 31 @115911 has 8 MA's), (Start: 35 @115920 has 1 MA's), (Start: 62 @115986 has 110 MA's), (78, 116061), (97, 116175), (105, 116199), (121, 116259), (146, 116370), (154, 116409), (162, 116433), (170, 116475), (200, 116574), (210, 116616), (211, 116622), (215, 116634), (223, 116697), (234, 116757), (235, 116760), (241, 116787), (249, 116829), (Start: 267 @116892 has 9 MA's), (317, 117048), (321, 117066), (324, 117081), (337, 117198), (343, 117237), (359, 117357), (365, 117399), (374, 117444), (376, 117453), (387, 117504), (398, 117546), (414, 117612), (416, 117621), (417, 117624), (418, 117630), (419, 117633), (420, 117642), (421, 117648), (422, 117663), (446, 117750), (470, 117855), (484, 117909), (501, 117996), (507, 118026), (516, 118056), (523, 118089), (525, 118098), (536, 118170), (541, 118200), (569, 118317), (578, 118362), (587, 118404), (619, 118548), (635, 118608), (666, 118710), (696, 118797), (697, 118800), (705, 118818), (713, 118854), (714, 118857), (735, 118917), (739, 118935), (763, 119031), (772, 119061), (777, 119079), (785, 119109), (808, 119202), (812, 119217), (828, 119298), (829, 119304), (832, 119316),

Gene: Gray\_98 Start: 70297, Stop: 73110, Start Num: 53

Candidate Starts for Gray\_98:

(Start: 44 @70282 has 1 MA's), (Start: 50 @70294 has 1 MA's), (Start: 53 @70297 has 8 MA's), (78, 70390), (86, 70450), (122, 70600), (123, 70603), (124, 70609), (134, 70651), (147, 70708), (153, 70738), (154, 70741), (170, 70804), (174, 70825), (175, 70828), (185, 70855), (211, 70972), (214, 70981), (222, 71038), (224, 71047), (252, 71179), (313, 71344), (317, 71362), (320, 71377), (322, 71383), (324, 71395), (332, 71422), (333, 71425), (339, 71485), (340, 71494), (341, 71497), (343, 71509), (346, 71554), (358, 71623), (361, 71647), (392, 71803), (396, 71821), (402, 71845), (405, 71863), (424, 71959), (432, 72001), (435, 72007), (446, 72043), (447, 72052), (450, 72070), (451, 72076), (453, 72100), (454, 72106), (455, 72109), (462, 72127), (463, 72130), (499, 72223), (509, 72268), (511, 72274), (518, 72298), (519, 72301), (521, 72310), (522, 72316), (524, 72328), (545, 72445), (547, 72463), (548, 72466), (551, 72475), (579, 72589), (582, 72604), (615, 72751), (618, 72763), (620, 72769), (629, 72802), (636, 72835), (640, 72853), (645, 72865), (647, 72874), (676, 72988), (682, 73000), (686, 73015), (712, 73090), (714, 73099),

Gene: Greely\_198 Start: 110173, Stop: 113589, Start Num: 57

Candidate Starts for Greely\_198:

(Start: 57 @110173 has 3 MA's), (90, 110335), (106, 110398), (145, 110563), (170, 110671), (203, 110791), (210, 110824), (211, 110830), (221, 110896), (223, 110905), (234, 110962), (235, 110965), (238, 110983), (241, 110992), (254, 111049), (259, 111070), (Start: 267 @111094 has 9 MA's), (295, 111139), (321, 111268), (324, 111283), (355, 111532), (359, 111559), (376, 111655), (394, 111721), (406, 111778), (416, 111823), (417, 111826), (421, 111850), (424, 111871), (446, 111955), (447, 111964), (451, 111988), (486, 112123), (520, 112270), (523, 112291), (525, 112300), (529, 112324), (534, 112369), (541, 112396), (548, 112426), (570, 112513), (592, 112615), (605, 112657), (606, 112669), (609, 112678), (621, 112738), (627, 112780), (635, 112816), (643, 112843), (665, 112915), (697, 113008), (714, 113065), (728, 113098), (756, 113221), (772, 113272), (777, 113290), (787, 113326), (793, 113356), (798, 113374), (807, 113410), (812, 113425), (823, 113491), (824, 113494), (829, 113512), (832, 113524), (850, 113581),

Gene: Greenbelt\_76 Start: 35561, Stop: 32364, Start Num: 67

Candidate Starts for Greenbelt\_76:

(34, 35642), (56, 35579), (Start: 67 @35561 has 71 MA's), (73, 35519), (Start: 83 @35465 has 6 MA's), (91, 35411), (107, 35342), (109, 35333), (119, 35294), (127, 35261), (147, 35171), (161, 35117), (188, 35048), (227, 34832), (Start: 263 @34661 has 6 MA's), (283, 34610), (286, 34595), (303, 34544), (315, 34484), (321, 34454), (335, 34373), (340, 34337), (341, 34334), (342, 34322), (343, 34319), (355, 34226), (368, 34136), (391, 34037), (399, 34010), (422, 33929), (424, 33923), (429, 33896), (453, 33773), (458, 33767), (475, 33737), (483, 33707), (504, 33626), (505, 33623), (604, 33218), (605, 33206), (606, 33194), (626, 33083), (635, 33041), (737, 32843), (738, 32837), (740, 32831), (754, 32765), (780, 32672), (781, 32666), (810, 32555), (813, 32543), (816, 32522), (821, 32498), (834, 32444), (836, 32438), (846, 32402), (851, 32387),

Gene: Gretellyn\_79 Start: 52344, Stop: 55685, Start Num: 64

Candidate Starts for Gretellyn\_79:

(Start: 39 @52296 has 2 MA's), (Start: 64 @52344 has 20 MA's), (Start: 76 @52404 has 1 MA's), (Start: 83 @52440 has 6 MA's), (88, 52485), (97, 52527), (163, 52788), (196, 52890), (202, 52923), (219, 53019), (278, 53289), (280, 53298), (306, 53406), (312, 53451), (321, 53493), (342, 53625), (343, 53628), (344, 53658), (347, 53679), (359, 53748), (367, 53802), (388, 53901), (393, 53916), (410, 53958), (449, 54132), (453, 54165), (465, 54183), (475, 54201), (488, 54246), (489, 54249), (515, 54345), (524, 54387), (527, 54399), (532, 54435), (577, 54615), (586, 54657), (592, 54693), (606, 54747), (611, 54765), (629, 54861), (631, 54873), (714, 55068), (740, 55152), (757, 55233), (765, 55257), (769, 55272), (778, 55308), (781, 55320), (782, 55326), (783, 55329), (789, 55356), (801, 55401), (822, 55509), (835, 55554), (841, 55578), (853, 55614),

Gene: GrootJr\_62 Start: 48486, Stop: 45175, Start Num: 67

Candidate Starts for GrootJr\_62:

(5, 48729), (Start: 67 @48486 has 71 MA's), (79, 48414), (Start: 83 @48390 has 6 MA's), (88, 48345), (116, 48237), (118, 48228), (150, 48105), (196, 47946), (197, 47940), (201, 47916), (220, 47808), (226, 47778), (238, 47709), (276, 47571), (288, 47553), (321, 47400), (330, 47358), (340, 47280), (342, 47265), (362, 47127), (413, 46929), (422, 46875), (423, 46872), (439, 46812), (449, 46761), (475, 46692), (488, 46647), (538, 46407), (547, 46365), (548, 46362), (550, 46356), (555, 46338), (582, 46242), (592, 46188), (626, 46044), (629, 46035), (651, 45960), (671, 45885), (687, 45831), (702, 45789), (714, 45741), (736, 45660), (742, 45639), (762, 45549), (772, 45519), (779, 45495), (780, 45492), (821, 45309), (836, 45252),

Gene: Grungle\_193 Start: 110325, Stop: 113720, Start Num: 62

Candidate Starts for Grungle\_193:

(Start: 18 @110202 has 5 MA's), (Start: 24 @110232 has 44 MA's), (Start: 25 @110238 has 6 MA's), (Start: 31 @110250 has 8 MA's), (Start: 35 @110259 has 1 MA's), (Start: 62 @110325 has 110 MA's), (78, 110400), (97, 110514), (105, 110538), (121, 110598), (146, 110709), (154, 110748), (162,

110772), (170, 110814), (200, 110913), (210, 110955), (211, 110961), (215, 110973), (223, 111036), (234, 111096), (235, 111099), (241, 111126), (249, 111168), (Start: 267 @111231 has 9 MA's), (310, 111351), (317, 111387), (321, 111405), (324, 111420), (337, 111537), (343, 111576), (359, 111696), (365, 111738), (374, 111783), (376, 111792), (387, 111843), (398, 111885), (414, 111951), (416, 111960), (417, 111963), (418, 111969), (419, 111972), (420, 111981), (421, 111987), (422, 112002), (446, 112089), (470, 112194), (484, 112248), (501, 112335), (507, 112365), (516, 112395), (523, 112428), (525, 112437), (536, 112509), (541, 112539), (569, 112656), (571, 112674), (578, 112701), (587, 112743), (619, 112887), (635, 112947), (666, 113049), (696, 113136), (697, 113139), (705, 113157), (713, 113193), (714, 113196), (735, 113256), (739, 113274), (763, 113370), (772, 113400), (777, 113418), (785, 113448), (808, 113541), (812, 113556), (828, 113637), (829, 113643), (832, 113655),

Gene: Gumball\_66 Start: 50219, Stop: 53521, Start Num: 26

Candidate Starts for Gumball\_66:

(Start: 26 @50219 has 20 MA's), (Start: 58 @50306 has 1 MA's), (61, 50312), (Start: 67 @50321 has 71 MA's), (Start: 83 @50417 has 6 MA's), (118, 50573), (141, 50660), (142, 50663), (154, 50714), (219, 50978), (226, 51017), (239, 51089), (242, 51098), (259, 51173), (Start: 281 @51239 has 8 MA's), (282, 51245), (298, 51299), (306, 51317), (313, 51368), (314, 51371), (320, 51401), (335, 51485), (336, 51494), (340, 51521), (342, 51536), (367, 51713), (368, 51722), (393, 51827), (420, 51908), (430, 51968), (449, 52043), (453, 52076), (458, 52082), (472, 52103), (475, 52112), (488, 52157), (505, 52226), (510, 52241), (527, 52310), (545, 52406), (546, 52409), (557, 52460), (579, 52535), (606, 52658), (611, 52676), (628, 52754), (629, 52757), (631, 52769), (643, 52814), (651, 52835), (654, 52847), (661, 52877), (668, 52898), (716, 52970), (740, 53027), (763, 53126), (781, 53192), (803, 53282), (810, 53312), (811, 53315), (816, 53345), (825, 53390), (836, 53432), (844, 53462), (849, 53474), (853, 53489), (856, 53498),

Gene: Guwapp\_204 Start: 111029, Stop: 114517, Start Num: 24

Candidate Starts for Guwapp\_204:

(Start: 24 @111029 has 44 MA's), (Start: 25 @111035 has 6 MA's), (Start: 31 @111047 has 8 MA's), (Start: 35 @111056 has 1 MA's), (Start: 62 @111122 has 110 MA's), (78, 111197), (97, 111311), (105, 111335), (121, 111395), (146, 111506), (154, 111545), (162, 111569), (170, 111611), (200, 111710), (210, 111752), (211, 111758), (215, 111770), (223, 111833), (234, 111893), (235, 111896), (241, 111923), (249, 111965), (Start: 267 @112028 has 9 MA's), (317, 112184), (321, 112202), (324, 112217), (337, 112334), (343, 112373), (359, 112493), (365, 112535), (374, 112580), (376, 112589), (387, 112640), (398, 112682), (414, 112748), (416, 112757), (417, 112760), (418, 112766), (419, 112769), (420, 112778), (421, 112784), (422, 112799), (446, 112886), (470, 112991), (484, 113045), (501, 113132), (507, 113162), (516, 113192), (523, 113225), (525, 113234), (536, 113306), (541, 113336), (569, 113453), (578, 113498), (587, 113540), (619, 113684), (635, 113744), (666, 113846), (696, 113933), (697, 113936), (705, 113954), (713, 113990), (714, 113993), (735, 114053), (739, 114071), (763, 114167), (772, 114197), (777, 114215), (785, 114245), (808, 114338), (812, 114353), (828, 114434), (829, 114440), (832, 114452),

Gene: GuyFagieri\_58 Start: 45944, Stop: 42528, Start Num: 67

Candidate Starts for GuyFagieri\_58:

(Start: 67 @45944 has 71 MA's), (80, 45863), (Start: 83 @45848 has 6 MA's), (101, 45740), (103, 45734), (118, 45686), (150, 45563), (206, 45353), (209, 45338), (211, 45329), (217, 45305), (219, 45275), (226, 45236), (298, 44942), (324, 44810), (325, 44807), (326, 44792), (330, 44783), (340, 44705), (342, 44690), (345, 44651), (352, 44612), (367, 44519), (377, 44468), (379, 44462), (387, 44423), (421, 44318), (422, 44303), (423, 44300), (449, 44186), (450, 44183), (453, 44153), (465, 44135), (467, 44132), (471, 44126), (473, 44123), (482, 44090), (488, 44069), (527, 43901), (536, 43835), (539, 43823), (548, 43781), (550, 43775), (555, 43757), (582, 43661), (586, 43643), (592, 43607), (605, 43565), (611, 43535), (616, 43499), (629, 43442), (631, 43430), (650, 43367), (665, 43310), (680, 43241), (691, 43193), (693, 43184), (703, 43157), (704, 43154), (720, 43094), (751,

42947), (776, 42866), (779, 42851), (780, 42848), (788, 42809), (813, 42710), (814, 42701), (816, 42689), (817, 42683), (818, 42677), (821, 42665), (833, 42614), (834, 42611), (846, 42569),

Gene: Hager\_58 Start: 40653, Stop: 42950, Start Num: 263

Candidate Starts for Hager\_58:

(Start: 263 @40653 has 6 MA's), (293, 40731), (314, 40824), (321, 40857), (323, 40869), (326, 40890), (329, 40896), (339, 40965), (342, 40989), (345, 41028), (355, 41085), (367, 41166), (393, 41280), (397, 41292), (423, 41385), (438, 41451), (441, 41463), (443, 41469), (450, 41511), (453, 41541), (458, 41547), (472, 41568), (475, 41577), (483, 41607), (496, 41649), (503, 41682), (505, 41691), (515, 41721), (553, 41910), (559, 41934), (605, 42108), (606, 42120), (611, 42138), (626, 42222), (629, 42231), (635, 42264), (651, 42309), (669, 42378), (748, 42516), (754, 42546), (763, 42579), (772, 42609), (788, 42681), (818, 42804), (825, 42837), (838, 42882), (851, 42927), (853, 42933),

Gene: Halldule\_202 Start: 111507, Stop: 114902, Start Num: 62

Candidate Starts for Halldule\_202:

(Start: 18 @111384 has 5 MA's), (Start: 24 @111414 has 44 MA's), (Start: 25 @111420 has 6 MA's), (Start: 31 @111432 has 8 MA's), (Start: 35 @111441 has 1 MA's), (Start: 62 @111507 has 110 MA's), (78, 111582), (97, 111696), (105, 111720), (121, 111780), (146, 111891), (154, 111930), (162, 111954), (170, 111996), (200, 112095), (210, 112137), (211, 112143), (215, 112155), (223, 112218), (234, 112278), (235, 112281), (241, 112308), (249, 112350), (Start: 267 @112413 has 9 MA's), (310, 112533), (317, 112569), (321, 112587), (324, 112602), (337, 112719), (343, 112758), (359, 112878), (365, 112920), (374, 112965), (376, 112974), (387, 113025), (398, 113067), (414, 113133), (416, 113142), (417, 113145), (418, 113151), (419, 113154), (420, 113163), (421, 113169), (422, 113184), (446, 113271), (470, 113376), (484, 113430), (501, 113517), (507, 113547), (516, 113577), (523, 113610), (525, 113619), (536, 113691), (541, 113721), (569, 113838), (578, 113883), (587, 113925), (619, 114069), (635, 114129), (666, 114231), (696, 114318), (697, 114321), (705, 114339), (713, 114375), (714, 114378), (735, 114438), (739, 114456), (763, 114552), (772, 114582), (777, 114600), (785, 114630), (808, 114723), (812, 114738), (828, 114819), (829, 114825), (832, 114837),

Gene: Hanem\_97 Start: 70036, Stop: 72849, Start Num: 53

Candidate Starts for Hanem\_97:

(Start: 44 @70021 has 1 MA's), (Start: 50 @70033 has 1 MA's), (Start: 53 @70036 has 8 MA's), (78, 70129), (86, 70189), (122, 70339), (123, 70342), (124, 70348), (147, 70447), (153, 70477), (154, 70480), (170, 70543), (174, 70564), (175, 70567), (185, 70594), (211, 70711), (214, 70720), (222, 70777), (224, 70786), (236, 70852), (252, 70918), (313, 71083), (317, 71101), (320, 71116), (322, 71122), (324, 71134), (332, 71161), (333, 71164), (339, 71224), (340, 71233), (341, 71236), (343, 71248), (346, 71293), (358, 71362), (361, 71386), (392, 71542), (396, 71560), (402, 71584), (405, 71602), (424, 71698), (432, 71740), (435, 71746), (446, 71782), (447, 71791), (450, 71809), (451, 71815), (453, 71839), (454, 71845), (455, 71848), (462, 71866), (463, 71869), (499, 71962), (509, 72007), (511, 72013), (518, 72037), (519, 72040), (521, 72049), (522, 72055), (524, 72067), (545, 72184), (547, 72202), (548, 72205), (551, 72214), (579, 72328), (582, 72343), (615, 72490), (618, 72502), (620, 72508), (629, 72541), (636, 72574), (640, 72592), (645, 72604), (647, 72613), (676, 72727), (682, 72739), (686, 72754), (712, 72829), (714, 72838),

Gene: Haunter\_57 Start: 40472, Stop: 42772, Start Num: 261

Candidate Starts for Haunter\_57:

(Start: 261 @40472 has 29 MA's), (Start: 263 @40478 has 6 MA's), (293, 40553), (310, 40625), (314, 40646), (321, 40679), (323, 40691), (324, 40694), (326, 40712), (329, 40718), (339, 40787), (342, 40811), (343, 40814), (345, 40850), (352, 40895), (355, 40907), (367, 40988), (393, 41102), (397, 41114), (421, 41189), (423, 41207), (441, 41285), (443, 41291), (445, 41300), (450, 41333), (453, 41363), (458, 41369), (472, 41390), (475, 41399), (483, 41429), (503, 41504), (505, 41513), (514, 41537), (515, 41543), (516, 41549), (519, 41558), (536, 41660), (553, 41732), (559, 41756), (583, 41840), (605, 41930), (606, 41942), (611, 41960), (625, 42038), (626, 42044), (629, 42053), (635,



42086), (656, 42158), (748, 42338), (754, 42368), (772, 42431), (788, 42503), (812, 42587), (816, 42614), (818, 42626), (825, 42659), (838, 42704), (851, 42749), (853, 42755),

Gene: Hawkeye\_75 Start: 50526, Stop: 53972, Start Num: 26

Candidate Starts for Hawkeye\_75:

(Start: 26 @50526 has 20 MA's), (38, 50559), (47, 50589), (Start: 67 @50625 has 71 MA's), (68, 50634), (79, 50697), (Start: 83 @50721 has 6 MA's), (84, 50730), (100, 50823), (116, 50868), (118, 50877), (137, 50952), (142, 50967), (159, 51033), (219, 51282), (226, 51321), (270, 51513), (306, 51621), (313, 51672), (314, 51675), (321, 51708), (340, 51825), (342, 51840), (393, 52131), (420, 52212), (430, 52272), (449, 52347), (453, 52380), (458, 52386), (475, 52416), (510, 52545), (521, 52584), (527, 52614), (545, 52710), (546, 52713), (547, 52728), (557, 52764), (579, 52839), (606, 52962), (607, 52965), (611, 52980), (628, 53058), (629, 53061), (631, 53073), (688, 53280), (689, 53283), (709, 53364), (740, 53478), (753, 53541), (765, 53583), (781, 53643), (803, 53733), (811, 53766), (816, 53796), (825, 53841), (833, 53874), (834, 53877), (849, 53925), (860, 53967),

Gene: Helpful\_70 Start: 50059, Stop: 53361, Start Num: 26

Candidate Starts for Helpful\_70:

(Start: 26 @50059 has 20 MA's), (Start: 58 @50146 has 1 MA's), (61, 50152), (Start: 67 @50161 has 71 MA's), (Start: 83 @50257 has 6 MA's), (118, 50413), (141, 50500), (142, 50503), (154, 50554), (219, 50818), (226, 50857), (239, 50929), (242, 50938), (259, 51013), (Start: 281 @51079 has 8 MA's), (282, 51085), (298, 51139), (306, 51157), (313, 51208), (314, 51211), (320, 51241), (335, 51325), (336, 51334), (340, 51361), (342, 51376), (367, 51553), (368, 51562), (372, 51577), (393, 51667), (420, 51748), (430, 51808), (449, 51883), (453, 51916), (458, 51922), (472, 51943), (475, 51952), (488, 51997), (505, 52066), (510, 52081), (527, 52150), (536, 52213), (545, 52246), (546, 52249), (557, 52300), (579, 52375), (606, 52498), (611, 52516), (628, 52594), (629, 52597), (631, 52609), (643, 52654), (651, 52675), (654, 52687), (661, 52717), (668, 52738), (716, 52810), (740, 52867), (763, 52966), (781, 53032), (803, 53122), (810, 53152), (811, 53155), (816, 53185), (825, 53230), (836, 53272), (844, 53302), (849, 53314), (853, 53329), (856, 53338),

Gene: Hiddenleaf\_58 Start: 40699, Stop: 43002, Start Num: 261

Candidate Starts for Hiddenleaf\_58:

(Start: 261 @40699 has 29 MA's), (Start: 263 @40705 has 6 MA's), (293, 40783), (310, 40855), (314, 40876), (321, 40909), (323, 40921), (324, 40924), (326, 40942), (329, 40948), (339, 41017), (342, 41041), (345, 41080), (352, 41125), (355, 41137), (367, 41218), (393, 41332), (397, 41344), (421, 41419), (423, 41437), (441, 41515), (443, 41521), (445, 41530), (450, 41563), (453, 41593), (458, 41599), (472, 41620), (475, 41629), (483, 41659), (503, 41734), (505, 41743), (509, 41755), (515, 41773), (519, 41788), (536, 41890), (553, 41962), (559, 41986), (583, 42070), (605, 42160), (606, 42172), (611, 42190), (625, 42268), (626, 42274), (629, 42283), (635, 42316), (656, 42388), (748, 42568), (754, 42598), (772, 42661), (788, 42733), (818, 42856), (825, 42889), (838, 42934), (851, 42979), (853, 42985),

Gene: Hippo\_54 Start: 42468, Stop: 38983, Start Num: 63

Candidate Starts for Hippo\_54:

(Start: 35 @42537 has 1 MA's), (Start: 63 @42468 has 55 MA's), (Start: 76 @42405 has 1 MA's), (78, 42396), (85, 42354), (101, 42261), (120, 42192), (136, 42123), (152, 42069), (170, 41997), (180, 41961), (194, 41901), (236, 41676), (247, 41637), (252, 41610), (256, 41592), (Start: 262 @41571 has 3 MA's), (Start: 267 @41556 has 9 MA's), (296, 41514), (313, 41436), (316, 41424), (344, 41238), (345, 41232), (351, 41187), (364, 41103), (367, 41085), (382, 41028), (383, 41025), (385, 41013), (420, 40875), (421, 40869), (422, 40854), (424, 40848), (431, 40815), (451, 40737), (455, 40704), (469, 40668), (503, 40563), (524, 40482), (526, 40476), (537, 40407), (547, 40344), (553, 40323), (567, 40278), (590, 40182), (591, 40173), (593, 40167), (615, 40065), (617, 40056), (621, 40044), (623, 40023), (633, 39993), (638, 39966), (658, 39900), (661, 39891), (665, 39879), (685, 39792), (733, 39624), (744, 39576), (771, 39465), (803, 39327), (804, 39318), (810, 39291), (819, 39243),

(826, 39210), (832, 39183), (861, 39078), (862, 39066),

Gene: HubbaBubba\_55 Start: 44123, Stop: 40872, Start Num: 67

Candidate Starts for HubbaBubba\_55:

(6, 44351), (Start: 67 @44123 has 71 MA's), (80, 44042), (Start: 83 @44027 has 6 MA's), (88, 43982), (116, 43874), (118, 43865), (160, 43700), (197, 43577), (207, 43526), (214, 43499), (220, 43445), (221, 43442), (226, 43415), (Start: 267 @43232 has 9 MA's), (276, 43208), (309, 43100), (324, 43022), (330, 42995), (340, 42917), (342, 42902), (362, 42764), (413, 42566), (415, 42560), (420, 42533), (449, 42398), (453, 42365), (475, 42329), (488, 42284), (492, 42272), (506, 42209), (538, 42044), (539, 42041), (547, 42002), (548, 41999), (550, 41993), (552, 41984), (555, 41975), (582, 41879), (586, 41861), (592, 41825), (640, 41621), (687, 41525), (714, 41441), (719, 41432), (751, 41291), (779, 41195), (780, 41192), (821, 41009),

Gene: HyRo\_197 Start: 112631, Stop: 116026, Start Num: 62

Candidate Starts for HyRo\_197:

(Start: 24 @112538 has 44 MA's), (Start: 25 @112544 has 6 MA's), (Start: 31 @112556 has 8 MA's), (Start: 35 @112565 has 1 MA's), (Start: 62 @112631 has 110 MA's), (78, 112706), (97, 112820), (105, 112844), (121, 112904), (140, 112997), (146, 113015), (154, 113054), (162, 113078), (170, 113120), (200, 113219), (210, 113261), (211, 113267), (215, 113279), (223, 113342), (234, 113402), (235, 113405), (241, 113432), (249, 113474), (Start: 267 @113537 has 9 MA's), (317, 113693), (321, 113711), (324, 113726), (337, 113843), (343, 113882), (359, 114002), (365, 114044), (374, 114089), (376, 114098), (387, 114149), (398, 114191), (414, 114257), (416, 114266), (417, 114269), (418, 114275), (419, 114278), (420, 114287), (421, 114293), (422, 114308), (446, 114395), (470, 114500), (484, 114554), (501, 114641), (507, 114671), (516, 114701), (523, 114734), (525, 114743), (536, 114815), (541, 114845), (569, 114962), (578, 115007), (587, 115049), (619, 115193), (635, 115253), (666, 115355), (696, 115442), (697, 115445), (705, 115463), (713, 115499), (714, 115502), (735, 115562), (739, 115580), (763, 115676), (772, 115706), (777, 115724), (785, 115754), (808, 115847), (812, 115862), (828, 115943), (829, 115949), (832, 115961),

Gene: Hydra\_54 Start: 40888, Stop: 37409, Start Num: 63

Candidate Starts for Hydra\_54:

(Start: 35 @40957 has 1 MA's), (Start: 63 @40888 has 55 MA's), (78, 40816), (Start: 83 @40789 has 6 MA's), (85, 40774), (98, 40699), (120, 40612), (126, 40585), (129, 40579), (152, 40489), (156, 40474), (169, 40420), (170, 40417), (194, 40321), (214, 40243), (236, 40096), (247, 40057), (256, 40012), (Start: 262 @39991 has 3 MA's), (Start: 267 @39976 has 9 MA's), (296, 39934), (300, 39922), (313, 39856), (316, 39844), (330, 39781), (345, 39652), (346, 39643), (351, 39607), (364, 39523), (367, 39505), (382, 39448), (383, 39445), (385, 39433), (420, 39295), (421, 39289), (422, 39274), (424, 39268), (431, 39235), (451, 39157), (455, 39124), (503, 38983), (520, 38926), (524, 38902), (526, 38896), (537, 38827), (547, 38764), (567, 38698), (572, 38677), (578, 38659), (590, 38602), (591, 38593), (615, 38485), (617, 38476), (621, 38464), (623, 38443), (633, 38413), (638, 38386), (658, 38320), (661, 38311), (665, 38299), (685, 38212), (695, 38188), (709, 38140), (744, 37996), (760, 37921), (803, 37747), (810, 37711), (819, 37663), (826, 37630),

Gene: I3\_219 Start: 115274, Stop: 118762, Start Num: 24

Candidate Starts for I3\_219:

(Start: 24 @115274 has 44 MA's), (Start: 25 @115280 has 6 MA's), (Start: 31 @115292 has 8 MA's), (Start: 35 @115301 has 1 MA's), (Start: 62 @115367 has 110 MA's), (78, 115442), (97, 115556), (105, 115580), (121, 115640), (146, 115751), (154, 115790), (162, 115814), (170, 115856), (200, 115955), (207, 115985), (210, 115997), (211, 116003), (215, 116015), (223, 116078), (234, 116138), (235, 116141), (241, 116168), (249, 116210), (Start: 267 @116273 has 9 MA's), (317, 116429), (321, 116447), (324, 116462), (337, 116579), (343, 116618), (359, 116738), (365, 116780), (374, 116825), (376, 116834), (387, 116885), (398, 116927), (414, 116993), (416, 117002), (417, 117005), (418, 117011), (419, 117014), (420, 117023), (421, 117029), (422, 117044), (446, 117131), (470, 117236),

(484, 117290), (501, 117377), (507, 117407), (516, 117437), (523, 117470), (525, 117479), (536, 117551), (541, 117581), (569, 117698), (578, 117743), (587, 117785), (619, 117929), (635, 117989), (666, 118091), (696, 118178), (697, 118181), (705, 118199), (713, 118235), (714, 118238), (735, 118298), (739, 118316), (763, 118412), (772, 118442), (777, 118460), (785, 118490), (808, 118583), (812, 118598), (828, 118679), (829, 118685), (832, 118697),

Gene: IDyn\_59 Start: 45555, Stop: 42304, Start Num: 67

Candidate Starts for IDyn\_59:

(6, 45774), (Start: 67 @45555 has 71 MA's), (80, 45474), (Start: 83 @45459 has 6 MA's), (88, 45414), (116, 45306), (118, 45297), (197, 45009), (207, 44958), (214, 44931), (220, 44877), (226, 44847), (Start: 267 @44664 has 9 MA's), (276, 44640), (324, 44454), (330, 44427), (340, 44349), (342, 44334), (362, 44196), (379, 44103), (413, 43998), (415, 43992), (420, 43965), (449, 43830), (453, 43797), (475, 43761), (488, 43716), (492, 43704), (506, 43641), (538, 43476), (539, 43473), (547, 43434), (548, 43431), (550, 43425), (552, 43416), (555, 43407), (582, 43311), (586, 43293), (592, 43257), (628, 43107), (640, 43053), (687, 42957), (714, 42873), (719, 42864), (732, 42813), (751, 42723), (779, 42627), (780, 42624), (821, 42441), (856, 42318),

Gene: IkeLoa\_201 Start: 112032, Stop: 115427, Start Num: 62

Candidate Starts for IkeLoa\_201:

(10, 111864), (Start: 24 @111939 has 44 MA's), (Start: 25 @111945 has 6 MA's), (Start: 31 @111957 has 8 MA's), (Start: 35 @111966 has 1 MA's), (Start: 62 @112032 has 110 MA's), (78, 112107), (97, 112221), (105, 112245), (121, 112305), (146, 112416), (154, 112455), (162, 112479), (170, 112521), (200, 112620), (210, 112662), (211, 112668), (215, 112680), (223, 112743), (234, 112803), (235, 112806), (241, 112833), (249, 112875), (Start: 267 @112938 has 9 MA's), (317, 113094), (321, 113112), (324, 113127), (337, 113244), (343, 113283), (359, 113403), (365, 113445), (374, 113490), (376, 113499), (387, 113550), (398, 113592), (414, 113658), (416, 113667), (417, 113670), (418, 113676), (419, 113679), (420, 113688), (421, 113694), (422, 113709), (446, 113796), (470, 113901), (484, 113955), (501, 114042), (507, 114072), (516, 114102), (523, 114135), (525, 114144), (536, 114216), (541, 114246), (569, 114363), (578, 114408), (587, 114450), (619, 114594), (635, 114654), (666, 114756), (696, 114843), (697, 114846), (705, 114864), (713, 114900), (714, 114903), (735, 114963), (739, 114981), (763, 115077), (772, 115107), (777, 115125), (785, 115155), (808, 115248), (812, 115263), (828, 115344), (829, 115350), (832, 115362),

Gene: Indigo\_52 Start: 40232, Stop: 36753, Start Num: 63

Candidate Starts for Indigo\_52:

(6, 40442), (Start: 63 @40232 has 55 MA's), (78, 40160), (Start: 83 @40133 has 6 MA's), (85, 40118), (120, 39956), (126, 39929), (129, 39923), (152, 39833), (156, 39818), (169, 39764), (170, 39761), (194, 39665), (214, 39587), (236, 39440), (247, 39401), (256, 39356), (Start: 262 @39335 has 3 MA's), (Start: 267 @39320 has 9 MA's), (296, 39278), (300, 39266), (313, 39200), (316, 39188), (330, 39125), (345, 38996), (346, 38987), (351, 38951), (364, 38867), (367, 38849), (382, 38792), (383, 38789), (385, 38777), (420, 38639), (421, 38633), (422, 38618), (424, 38612), (431, 38579), (451, 38501), (455, 38468), (503, 38327), (520, 38270), (524, 38246), (526, 38240), (537, 38171), (547, 38108), (567, 38042), (572, 38021), (578, 38003), (590, 37946), (591, 37937), (615, 37829), (617, 37820), (621, 37808), (623, 37787), (633, 37757), (638, 37730), (658, 37664), (661, 37655), (665, 37643), (685, 37556), (695, 37532), (709, 37484), (744, 37340), (760, 37265), (803, 37091), (810, 37055), (819, 37007), (826, 36974),

Gene: Indlulamithi\_76 Start: 52921, Stop: 56100, Start Num: 58

Candidate Starts for Indlulamithi\_76:

(Start: 58 @52921 has 1 MA's), (Start: 67 @52936 has 71 MA's), (79, 53008), (Start: 83 @53032 has 6 MA's), (90, 53083), (96, 53110), (115, 53173), (118, 53188), (122, 53203), (142, 53278), (143, 53281), (159, 53344), (160, 53347), (166, 53377), (193, 53458), (242, 53713), (250, 53755), (298, 53905), (304, 53923), (310, 53956), (334, 54091), (335, 54094), (336, 54103), (340, 54130), (342, 54142),

(378, 54373), (379, 54376), (399, 54454), (410, 54475), (422, 54535), (428, 54565), (449, 54649), (453, 54682), (470, 54709), (475, 54718), (477, 54724), (479, 54733), (483, 54748), (497, 54793), (502, 54817), (509, 54844), (515, 54862), (519, 54877), (549, 55033), (553, 55048), (561, 55081), (568, 55105), (592, 55204), (655, 55477), (738, 55609), (743, 55624), (747, 55648), (750, 55666), (751, 55669), (763, 55714), (806, 55888), (811, 55906), (816, 55936), (833, 56011), (834, 56014),

Gene: InigoMontoya\_212 Start: 113041, Stop: 116436, Start Num: 62

Candidate Starts for InigoMontoya\_212:

(Start: 24 @112948 has 44 MA's), (Start: 25 @112954 has 6 MA's), (Start: 31 @112966 has 8 MA's), (Start: 35 @112975 has 1 MA's), (Start: 62 @113041 has 110 MA's), (78, 113116), (97, 113230), (105, 113254), (121, 113314), (146, 113425), (154, 113464), (162, 113488), (170, 113530), (200, 113629), (210, 113671), (211, 113677), (215, 113689), (223, 113752), (234, 113812), (235, 113815), (241, 113842), (249, 113884), (Start: 267 @113947 has 9 MA's), (310, 114067), (317, 114103), (321, 114121), (324, 114136), (337, 114253), (343, 114292), (359, 114412), (365, 114454), (374, 114499), (376, 114508), (387, 114559), (398, 114601), (414, 114667), (416, 114676), (417, 114679), (418, 114685), (419, 114688), (420, 114697), (421, 114703), (422, 114718), (446, 114805), (470, 114910), (484, 114964), (501, 115051), (507, 115081), (516, 115111), (523, 115144), (525, 115153), (536, 115225), (541, 115255), (569, 115372), (578, 115417), (587, 115459), (619, 115603), (635, 115663), (666, 115765), (696, 115852), (697, 115855), (705, 115873), (713, 115909), (714, 115912), (735, 115972), (739, 115990), (763, 116086), (772, 116116), (777, 116134), (785, 116164), (808, 116257), (812, 116272), (828, 116353), (829, 116359), (832, 116371),

Gene: InterFolia\_212 Start: 114739, Stop: 118134, Start Num: 62

Candidate Starts for InterFolia\_212:

(Start: 24 @114646 has 44 MA's), (Start: 25 @114652 has 6 MA's), (Start: 31 @114664 has 8 MA's), (Start: 35 @114673 has 1 MA's), (Start: 62 @114739 has 110 MA's), (78, 114814), (97, 114928), (105, 114952), (121, 115012), (146, 115123), (154, 115162), (162, 115186), (170, 115228), (200, 115327), (210, 115369), (211, 115375), (215, 115387), (223, 115450), (234, 115510), (235, 115513), (241, 115540), (249, 115582), (Start: 267 @115645 has 9 MA's), (310, 115765), (317, 115801), (321, 115819), (324, 115834), (337, 115951), (343, 115990), (359, 116110), (365, 116152), (374, 116197), (376, 116206), (387, 116257), (398, 116299), (414, 116365), (416, 116374), (417, 116377), (418, 116383), (419, 116386), (420, 116395), (421, 116401), (422, 116416), (446, 116503), (470, 116608), (484, 116662), (501, 116749), (507, 116779), (516, 116809), (523, 116842), (525, 116851), (536, 116923), (541, 116953), (569, 117070), (578, 117115), (587, 117157), (619, 117301), (635, 117361), (666, 117463), (696, 117550), (697, 117553), (705, 117571), (713, 117607), (714, 117610), (735, 117670), (739, 117688), (763, 117784), (772, 117814), (777, 117832), (785, 117862), (808, 117955), (812, 117970), (828, 118051), (829, 118057), (832, 118069),

Gene: Iota\_204 Start: 112726, Stop: 116121, Start Num: 62

Candidate Starts for Iota\_204:

(Start: 24 @112633 has 44 MA's), (Start: 25 @112639 has 6 MA's), (Start: 31 @112651 has 8 MA's), (Start: 35 @112660 has 1 MA's), (Start: 62 @112726 has 110 MA's), (78, 112801), (97, 112915), (105, 112939), (121, 112999), (146, 113110), (154, 113149), (162, 113173), (170, 113215), (200, 113314), (210, 113356), (211, 113362), (215, 113374), (223, 113437), (234, 113497), (235, 113500), (241, 113527), (249, 113569), (Start: 267 @113632 has 9 MA's), (317, 113788), (321, 113806), (324, 113821), (337, 113938), (343, 113977), (359, 114097), (365, 114139), (374, 114184), (376, 114193), (387, 114244), (398, 114286), (414, 114352), (416, 114361), (417, 114364), (418, 114370), (419, 114373), (420, 114382), (421, 114388), (422, 114403), (446, 114490), (470, 114595), (484, 114649), (501, 114736), (507, 114766), (516, 114796), (523, 114829), (525, 114838), (536, 114910), (541, 114940), (569, 115057), (578, 115102), (587, 115144), (619, 115288), (635, 115348), (666, 115450), (696, 115537), (697, 115540), (705, 115558), (713, 115594), (714, 115597), (735, 115657), (739, 115675), (763, 115771), (772, 115801), (777, 115819), (785, 115849), (808, 115942), (812, 115957), (828, 116038), (829, 116044), (832, 116056),

Gene: Issimir\_202 Start: 112556, Stop: 116074, Start Num: 18

Candidate Starts for Issimir\_202:

(Start: 18 @112556 has 5 MA's), (Start: 24 @112586 has 44 MA's), (Start: 25 @112592 has 6 MA's), (Start: 31 @112604 has 8 MA's), (Start: 35 @112613 has 1 MA's), (Start: 62 @112679 has 110 MA's), (78, 112754), (97, 112868), (105, 112892), (121, 112952), (146, 113063), (154, 113102), (162, 113126), (170, 113168), (200, 113267), (210, 113309), (211, 113315), (215, 113327), (223, 113390), (234, 113450), (235, 113453), (241, 113480), (249, 113522), (Start: 267 @113585 has 9 MA's), (317, 113741), (321, 113759), (324, 113774), (337, 113891), (343, 113930), (359, 114050), (365, 114092), (374, 114137), (376, 114146), (387, 114197), (398, 114239), (414, 114305), (416, 114314), (417, 114317), (418, 114323), (419, 114326), (420, 114335), (421, 114341), (422, 114356), (446, 114443), (470, 114548), (484, 114602), (501, 114689), (507, 114719), (516, 114749), (523, 114782), (525, 114791), (536, 114863), (541, 114893), (569, 115010), (578, 115055), (587, 115097), (619, 115241), (635, 115301), (666, 115403), (696, 115490), (697, 115493), (705, 115511), (713, 115547), (714, 115550), (735, 115610), (739, 115628), (763, 115724), (772, 115754), (777, 115772), (785, 115802), (808, 115895), (812, 115910), (828, 115991), (829, 115997), (832, 116009),

Gene: Itza\_54 Start: 38814, Stop: 35329, Start Num: 63

Candidate Starts for Itza\_54:

(33, 38883), (36, 38874), (46, 38847), (Start: 63 @38814 has 55 MA's), (68, 38799), (70, 38787), (78, 38739), (80, 38727), (85, 38697), (94, 38646), (101, 38604), (111, 38571), (126, 38508), (163, 38373), (169, 38343), (170, 38340), (183, 38298), (194, 38244), (223, 38100), (236, 38019), (249, 37962), (252, 37953), (256, 37935), (Start: 262 @37914 has 3 MA's), (265, 37908), (296, 37857), (300, 37845), (313, 37779), (316, 37767), (322, 37740), (334, 37665), (344, 37581), (345, 37575), (367, 37428), (382, 37371), (383, 37368), (403, 37299), (405, 37290), (411, 37260), (412, 37257), (420, 37218), (421, 37212), (424, 37191), (431, 37158), (433, 37152), (451, 37080), (455, 37047), (460, 37035), (493, 36954), (503, 36906), (505, 36897), (519, 36852), (520, 36849), (524, 36825), (542, 36720), (547, 36687), (567, 36621), (590, 36525), (591, 36516), (615, 36408), (623, 36366), (633, 36336), (658, 36243), (661, 36234), (665, 36222), (666, 36219), (678, 36156), (681, 36150), (709, 36063), (714, 36042), (724, 36015), (738, 35937), (744, 35916), (753, 35868), (760, 35841), (796, 35697), (805, 35652), (829, 35535), (830, 35532), (855, 35445), (862, 35406), (863, 35400), (866, 35343), (867, 35334),

Gene: Izajani\_207 Start: 113548, Stop: 116943, Start Num: 62

Candidate Starts for Izajani\_207:

(Start: 24 @113455 has 44 MA's), (Start: 25 @113461 has 6 MA's), (Start: 31 @113473 has 8 MA's), (Start: 35 @113482 has 1 MA's), (Start: 62 @113548 has 110 MA's), (78, 113623), (97, 113737), (105, 113761), (121, 113821), (146, 113932), (154, 113971), (162, 113995), (170, 114037), (200, 114136), (210, 114178), (211, 114184), (215, 114196), (223, 114259), (234, 114319), (235, 114322), (241, 114349), (249, 114391), (Start: 267 @114454 has 9 MA's), (310, 114574), (317, 114610), (321, 114628), (324, 114643), (337, 114760), (343, 114799), (359, 114919), (365, 114961), (374, 115006), (376, 115015), (387, 115066), (398, 115108), (414, 115174), (416, 115183), (417, 115186), (418, 115192), (419, 115195), (420, 115204), (421, 115210), (422, 115225), (446, 115312), (470, 115417), (484, 115471), (501, 115558), (507, 115588), (516, 115618), (523, 115651), (525, 115660), (536, 115732), (541, 115762), (569, 115879), (578, 115924), (587, 115966), (619, 116110), (635, 116170), (666, 116272), (696, 116359), (697, 116362), (705, 116380), (713, 116416), (714, 116419), (735, 116479), (739, 116497), (763, 116593), (772, 116623), (777, 116641), (785, 116671), (808, 116764), (812, 116779), (828, 116860), (829, 116866), (832, 116878),

Gene: Izzy\_55 Start: 40773, Stop: 37294, Start Num: 63

Candidate Starts for Izzy\_55:

(Start: 35 @40842 has 1 MA's), (Start: 63 @40773 has 55 MA's), (78, 40701), (Start: 83 @40674 has 6 MA's), (85, 40659), (120, 40497), (126, 40470), (129, 40464), (152, 40374), (156, 40359), (169,

40305), (170, 40302), (194, 40206), (214, 40128), (236, 39981), (247, 39942), (256, 39897), (Start: 262 @39876 has 3 MA's), (Start: 267 @39861 has 9 MA's), (296, 39819), (300, 39807), (313, 39741), (316, 39729), (330, 39666), (345, 39537), (346, 39528), (351, 39492), (364, 39408), (367, 39390), (382, 39333), (383, 39330), (385, 39318), (420, 39180), (421, 39174), (422, 39159), (424, 39153), (433, 39114), (451, 39042), (455, 39009), (498, 38892), (503, 38868), (520, 38811), (524, 38787), (526, 38781), (537, 38712), (547, 38649), (567, 38583), (572, 38562), (578, 38544), (590, 38487), (591, 38478), (615, 38370), (617, 38361), (621, 38349), (623, 38328), (633, 38298), (638, 38271), (658, 38205), (661, 38196), (665, 38184), (685, 38097), (695, 38073), (709, 38025), (744, 37881), (760, 37806), (803, 37632), (810, 37596), (819, 37548), (826, 37515),

Gene: JDawG\_56 Start: 40894, Stop: 43194, Start Num: 261

Candidate Starts for JDawG\_56:

(240, 40804), (Start: 261 @40894 has 29 MA's), (Start: 263 @40900 has 6 MA's), (293, 40975), (310, 41047), (314, 41068), (321, 41101), (322, 41104), (323, 41113), (326, 41134), (329, 41140), (339, 41209), (342, 41233), (345, 41272), (355, 41329), (367, 41410), (393, 41524), (397, 41536), (410, 41566), (421, 41611), (423, 41629), (441, 41707), (443, 41713), (445, 41722), (450, 41755), (453, 41785), (458, 41791), (472, 41812), (475, 41821), (483, 41851), (503, 41926), (505, 41935), (515, 41965), (519, 41980), (536, 42082), (553, 42154), (559, 42178), (583, 42262), (605, 42352), (606, 42364), (611, 42382), (626, 42466), (629, 42475), (635, 42508), (656, 42580), (748, 42760), (754, 42790), (772, 42853), (788, 42925), (818, 43048), (825, 43081), (838, 43126), (851, 43171), (853, 43177),

Gene: JPickles\_205 Start: 110933, Stop: 114421, Start Num: 24

Candidate Starts for JPickles\_205:

(Start: 24 @110933 has 44 MA's), (Start: 25 @110939 has 6 MA's), (Start: 31 @110951 has 8 MA's), (Start: 35 @110960 has 1 MA's), (Start: 62 @111026 has 110 MA's), (78, 111101), (97, 111215), (105, 111239), (121, 111299), (146, 111410), (154, 111449), (162, 111473), (170, 111515), (200, 111614), (210, 111656), (211, 111662), (215, 111674), (223, 111737), (234, 111797), (235, 111800), (241, 111827), (249, 111869), (Start: 267 @111932 has 9 MA's), (317, 112088), (321, 112106), (324, 112121), (337, 112238), (343, 112277), (359, 112397), (365, 112439), (374, 112484), (376, 112493), (387, 112544), (398, 112586), (414, 112652), (416, 112661), (417, 112664), (418, 112670), (419, 112673), (420, 112682), (421, 112688), (422, 112703), (446, 112790), (470, 112895), (484, 112949), (501, 113036), (507, 113066), (516, 113096), (523, 113129), (525, 113138), (536, 113210), (541, 113240), (569, 113357), (578, 113402), (587, 113444), (619, 113588), (635, 113648), (666, 113750), (696, 113837), (697, 113840), (705, 113858), (713, 113894), (714, 113897), (735, 113957), (739, 113975), (763, 114071), (772, 114101), (777, 114119), (785, 114149), (808, 114242), (812, 114257), (828, 114338), (829, 114344), (832, 114356),

Gene: Jalebi\_78 Start: 52937, Stop: 56278, Start Num: 64

Candidate Starts for Jalebi\_78:

(Start: 39 @52889 has 2 MA's), (Start: 64 @52937 has 20 MA's), (Start: 76 @52997 has 1 MA's), (Start: 83 @53033 has 6 MA's), (88, 53078), (97, 53120), (163, 53381), (196, 53483), (202, 53516), (219, 53612), (278, 53882), (280, 53891), (306, 53999), (312, 54044), (321, 54086), (342, 54218), (343, 54221), (344, 54251), (347, 54272), (359, 54341), (367, 54395), (388, 54494), (393, 54509), (449, 54725), (453, 54758), (465, 54776), (475, 54794), (488, 54839), (489, 54842), (515, 54938), (524, 54980), (527, 54992), (532, 55028), (553, 55127), (577, 55208), (586, 55250), (592, 55286), (606, 55340), (611, 55358), (629, 55454), (631, 55466), (714, 55661), (740, 55745), (757, 55826), (765, 55850), (769, 55865), (778, 55901), (781, 55913), (782, 55919), (783, 55922), (789, 55949), (801, 55994), (822, 56102), (835, 56147), (841, 56171), (853, 56207),

Gene: Jamemuya19\_79 Start: 50306, Stop: 53647, Start Num: 64

Candidate Starts for Jamemuya19\_79:

(Start: 64 @50306 has 20 MA's), (Start: 76 @50366 has 1 MA's), (Start: 83 @50402 has 6 MA's), (88, 50447), (97, 50489), (163, 50750), (202, 50885), (219, 50981), (278, 51251), (280, 51260), (306, 51368), (312, 51413), (321, 51455), (334, 51533), (342, 51587), (343, 51590), (344, 51620), (359, 51710), (367, 51764), (388, 51863), (393, 51878), (410, 51920), (449, 52094), (453, 52127), (465, 52145), (475, 52163), (488, 52208), (489, 52211), (515, 52307), (524, 52349), (527, 52361), (532, 52397), (577, 52577), (586, 52619), (592, 52655), (605, 52697), (606, 52709), (611, 52727), (629, 52823), (631, 52835), (714, 53030), (740, 53114), (765, 53219), (769, 53234), (773, 53249), (778, 53270), (781, 53282), (782, 53288), (783, 53291), (789, 53318), (801, 53363), (822, 53471), (835, 53516), (841, 53540), (853, 53576),

Gene: Janiyra\_212 Start: 113266, Stop: 116661, Start Num: 62

Candidate Starts for Janiyra\_212:

(Start: 24 @113173 has 44 MA's), (Start: 25 @113179 has 6 MA's), (Start: 31 @113191 has 8 MA's), (Start: 35 @113200 has 1 MA's), (Start: 62 @113266 has 110 MA's), (78, 113341), (97, 113455), (105, 113479), (121, 113539), (146, 113650), (154, 113689), (162, 113713), (170, 113755), (200, 113854), (210, 113896), (211, 113902), (215, 113914), (223, 113977), (234, 114037), (235, 114040), (241, 114067), (249, 114109), (Start: 267 @114172 has 9 MA's), (310, 114292), (317, 114328), (321, 114346), (324, 114361), (337, 114478), (343, 114517), (359, 114637), (365, 114679), (374, 114724), (376, 114733), (387, 114784), (398, 114826), (414, 114892), (416, 114901), (417, 114904), (418, 114910), (419, 114913), (420, 114922), (421, 114928), (422, 114943), (446, 115030), (470, 115135), (484, 115189), (501, 115276), (507, 115306), (516, 115336), (523, 115369), (525, 115378), (536, 115450), (541, 115480), (569, 115597), (578, 115642), (587, 115684), (619, 115828), (635, 115888), (666, 115990), (696, 116077), (697, 116080), (705, 116098), (713, 116134), (714, 116137), (735, 116197), (739, 116215), (763, 116311), (772, 116341), (777, 116359), (785, 116389), (808, 116482), (812, 116497), (828, 116578), (829, 116584), (832, 116596),

Gene: Jash\_55 Start: 40726, Stop: 37247, Start Num: 63

Candidate Starts for Jash\_55:

(Start: 35 @40795 has 1 MA's), (Start: 63 @40726 has 55 MA's), (78, 40654), (Start: 83 @40627 has 6 MA's), (85, 40612), (120, 40450), (126, 40423), (129, 40417), (152, 40327), (156, 40312), (169, 40258), (170, 40255), (194, 40159), (214, 40081), (236, 39934), (247, 39895), (256, 39850), (Start: 262 @39829 has 3 MA's), (Start: 267 @39814 has 9 MA's), (296, 39772), (300, 39760), (313, 39694), (316, 39682), (330, 39619), (345, 39490), (346, 39481), (351, 39445), (364, 39361), (367, 39343), (382, 39286), (383, 39283), (385, 39271), (420, 39133), (421, 39127), (422, 39112), (424, 39106), (433, 39067), (451, 38995), (455, 38962), (498, 38845), (503, 38821), (520, 38764), (524, 38740), (526, 38734), (537, 38665), (547, 38602), (567, 38536), (572, 38515), (578, 38497), (590, 38440), (591, 38431), (615, 38323), (617, 38314), (621, 38302), (623, 38281), (633, 38251), (638, 38224), (658, 38158), (661, 38149), (665, 38137), (685, 38050), (695, 38026), (709, 37978), (744, 37834), (760, 37759), (803, 37585), (810, 37549), (819, 37501), (826, 37468),

Gene: JayJay\_207 Start: 113963, Stop: 117358, Start Num: 62

Candidate Starts for JayJay\_207:

(Start: 24 @113870 has 44 MA's), (Start: 25 @113876 has 6 MA's), (Start: 31 @113888 has 8 MA's), (Start: 35 @113897 has 1 MA's), (Start: 62 @113963 has 110 MA's), (78, 114038), (97, 114152), (105, 114176), (121, 114236), (146, 114347), (154, 114386), (162, 114410), (170, 114452), (200, 114551), (210, 114593), (211, 114599), (215, 114611), (223, 114674), (234, 114734), (235, 114737), (241, 114764), (249, 114806), (Start: 267 @114869 has 9 MA's), (310, 114989), (317, 115025), (321, 115043), (324, 115058), (337, 115175), (343, 115214), (359, 115334), (365, 115376), (374, 115421), (376, 115430), (387, 115481), (398, 115523), (414, 115589), (416, 115598), (417, 115601), (418, 115607), (419, 115610), (420, 115619), (421, 115625), (422, 115640), (446, 115727), (470, 115832), (484, 115886), (501, 115973), (507, 116003), (516, 116033), (523, 116066), (525, 116075), (536, 116147), (541, 116177), (569, 116294), (578, 116339), (587, 116381), (635, 116585), (666, 116687), (696, 116774), (697, 116777), (705, 116795), (713, 116831), (714, 116834), (735, 116894), (739,

116912), (763, 117008), (772, 117038), (777, 117056), (785, 117086), (808, 117179), (812, 117194), (828, 117275), (829, 117281), (832, 117293),

Gene: Jaygup\_205 Start: 112012, Stop: 115482, Start Num: 31

Candidate Starts for Jaygup\_205:

(Start: 24 @111994 has 44 MA's), (Start: 25 @112000 has 6 MA's), (Start: 31 @112012 has 8 MA's), (Start: 35 @112021 has 1 MA's), (Start: 62 @112087 has 110 MA's), (78, 112162), (97, 112276), (105, 112300), (121, 112360), (146, 112471), (154, 112510), (162, 112534), (170, 112576), (200, 112675), (210, 112717), (211, 112723), (215, 112735), (223, 112798), (234, 112858), (235, 112861), (241, 112888), (249, 112930), (Start: 267 @112993 has 9 MA's), (317, 113149), (321, 113167), (324, 113182), (337, 113299), (343, 113338), (359, 113458), (365, 113500), (374, 113545), (376, 113554), (387, 113605), (398, 113647), (414, 113713), (416, 113722), (417, 113725), (418, 113731), (419, 113734), (420, 113743), (421, 113749), (422, 113764), (446, 113851), (470, 113956), (484, 114010), (501, 114097), (507, 114127), (516, 114157), (523, 114190), (525, 114199), (536, 114271), (541, 114301), (569, 114418), (578, 114463), (587, 114505), (619, 114649), (635, 114709), (666, 114811), (696, 114898), (697, 114901), (705, 114919), (713, 114955), (714, 114958), (735, 115018), (739, 115036), (763, 115132), (772, 115162), (777, 115180), (785, 115210), (808, 115303), (812, 115318), (828, 115399), (829, 115405), (832, 115417),

Gene: JeanGrey\_95 Start: 74979, Stop: 78152, Start Num: 52

Candidate Starts for JeanGrey\_95:

(52, 74979), (73, 75033), (85, 75102), (116, 75231), (127, 75279), (139, 75339), (158, 75411), (168, 75459), (172, 75471), (179, 75498), (200, 75564), (202, 75570), (203, 75573), (207, 75594), (223, 75687), (234, 75741), (235, 75744), (241, 75771), (Start: 267 @75873 has 9 MA's), (310, 75993), (322, 76050), (330, 76089), (332, 76092), (333, 76095), (336, 76140), (337, 76143), (346, 76227), (352, 76263), (355, 76275), (369, 76368), (376, 76398), (399, 76467), (404, 76488), (414, 76530), (416, 76539), (418, 76548), (492, 76824), (503, 76875), (529, 76983), (534, 77028), (536, 77031), (565, 77148), (566, 77157), (570, 77172), (607, 77343), (618, 77403), (619, 77406), (722, 77733), (772, 77832), (777, 77850), (808, 77973), (831, 78084), (847, 78132),

Gene: Jedediah\_209 Start: 113047, Stop: 116535, Start Num: 24

Candidate Starts for Jedediah\_209:

(Start: 24 @113047 has 44 MA's), (Start: 25 @113053 has 6 MA's), (Start: 31 @113065 has 8 MA's), (Start: 35 @113074 has 1 MA's), (Start: 62 @113140 has 110 MA's), (78, 113215), (97, 113329), (105, 113353), (121, 113413), (146, 113524), (154, 113563), (162, 113587), (170, 113629), (200, 113728), (210, 113770), (211, 113776), (215, 113788), (223, 113851), (234, 113911), (235, 113914), (241, 113941), (249, 113983), (Start: 267 @114046 has 9 MA's), (317, 114202), (321, 114220), (324, 114235), (337, 114352), (343, 114391), (359, 114511), (365, 114553), (374, 114598), (376, 114607), (387, 114658), (398, 114700), (414, 114766), (416, 114775), (417, 114778), (418, 114784), (419, 114787), (420, 114796), (421, 114802), (422, 114817), (446, 114904), (470, 115009), (484, 115063), (501, 115150), (507, 115180), (516, 115210), (523, 115243), (525, 115252), (536, 115324), (541, 115354), (569, 115471), (578, 115516), (587, 115558), (619, 115702), (635, 115762), (666, 115864), (696, 115951), (697, 115954), (705, 115972), (713, 116008), (714, 116011), (735, 116071), (739, 116089), (763, 116185), (772, 116215), (777, 116233), (785, 116263), (808, 116356), (812, 116371), (828, 116452), (829, 116458), (832, 116470),

Gene: Jemmno\_208 Start: 111894, Stop: 115364, Start Num: 31

Candidate Starts for Jemmno\_208:

(Start: 24 @111876 has 44 MA's), (Start: 25 @111882 has 6 MA's), (Start: 31 @111894 has 8 MA's), (Start: 35 @111903 has 1 MA's), (Start: 62 @111969 has 110 MA's), (78, 112044), (97, 112158), (105, 112182), (121, 112242), (146, 112353), (154, 112392), (162, 112416), (170, 112458), (200, 112557), (210, 112599), (211, 112605), (215, 112617), (223, 112680), (234, 112740), (235, 112743), (241, 112770), (249, 112812), (Start: 267 @112875 has 9 MA's), (310, 112995), (317, 113031), (321,



113049), (324, 113064), (337, 113181), (343, 113220), (359, 113340), (365, 113382), (374, 113427), (376, 113436), (387, 113487), (398, 113529), (414, 113595), (416, 113604), (417, 113607), (418, 113613), (419, 113616), (420, 113625), (421, 113631), (422, 113646), (446, 113733), (470, 113838), (484, 113892), (501, 113979), (507, 114009), (516, 114039), (523, 114072), (525, 114081), (536, 114153), (541, 114183), (569, 114300), (578, 114345), (587, 114387), (619, 114531), (635, 114591), (666, 114693), (696, 114780), (697, 114783), (705, 114801), (713, 114837), (714, 114840), (735, 114900), (739, 114918), (763, 115014), (772, 115044), (777, 115062), (785, 115092), (808, 115185), (812, 115200), (828, 115281), (829, 115287), (832, 115299),

Gene: Jessibeth14\_209 Start: 114157, Stop: 117552, Start Num: 62

Candidate Starts for Jessibeth14\_209:

(Start: 24 @114064 has 44 MA's), (Start: 25 @114070 has 6 MA's), (Start: 31 @114082 has 8 MA's), (Start: 35 @114091 has 1 MA's), (Start: 62 @114157 has 110 MA's), (78, 114232), (97, 114346), (105, 114370), (121, 114430), (146, 114541), (154, 114580), (162, 114604), (170, 114646), (200, 114745), (210, 114787), (211, 114793), (215, 114805), (223, 114868), (234, 114928), (235, 114931), (241, 114958), (249, 115000), (Start: 267 @115063 has 9 MA's), (310, 115183), (317, 115219), (321, 115237), (324, 115252), (337, 115369), (343, 115408), (359, 115528), (365, 115570), (374, 115615), (376, 115624), (387, 115675), (398, 115717), (414, 115783), (416, 115792), (417, 115795), (418, 115801), (419, 115804), (420, 115813), (421, 115819), (422, 115834), (446, 115921), (470, 116026), (484, 116080), (501, 116167), (507, 116197), (516, 116227), (523, 116260), (525, 116269), (536, 116341), (541, 116371), (569, 116488), (578, 116533), (587, 116575), (619, 116719), (635, 116779), (666, 116881), (696, 116968), (697, 116971), (705, 116989), (713, 117025), (714, 117028), (735, 117088), (739, 117106), (763, 117202), (772, 117232), (777, 117250), (785, 117280), (808, 117373), (812, 117388), (828, 117469), (829, 117475), (832, 117487),

Gene: Jezreel\_206 Start: 113227, Stop: 116622, Start Num: 62

Candidate Starts for Jezreel\_206:

(Start: 24 @113134 has 44 MA's), (Start: 25 @113140 has 6 MA's), (Start: 31 @113152 has 8 MA's), (Start: 35 @113161 has 1 MA's), (Start: 62 @113227 has 110 MA's), (78, 113302), (97, 113416), (105, 113440), (121, 113500), (146, 113611), (154, 113650), (162, 113674), (170, 113716), (200, 113815), (210, 113857), (211, 113863), (215, 113875), (223, 113938), (234, 113998), (235, 114001), (241, 114028), (249, 114070), (Start: 267 @114133 has 9 MA's), (317, 114289), (321, 114307), (324, 114322), (337, 114439), (343, 114478), (359, 114598), (365, 114640), (374, 114685), (376, 114694), (387, 114745), (398, 114787), (414, 114853), (416, 114862), (417, 114865), (418, 114871), (419, 114874), (420, 114883), (421, 114889), (422, 114904), (446, 114991), (470, 115096), (484, 115150), (501, 115237), (507, 115267), (516, 115297), (523, 115330), (525, 115339), (536, 115411), (541, 115441), (569, 115558), (578, 115603), (587, 115645), (619, 115789), (635, 115849), (666, 115951), (696, 116038), (697, 116041), (705, 116059), (713, 116095), (714, 116098), (735, 116158), (739, 116176), (763, 116272), (772, 116302), (777, 116320), (785, 116350), (808, 116443), (812, 116458), (828, 116539), (829, 116545), (832, 116557),

Gene: Jifall16\_59 Start: 48758, Stop: 45447, Start Num: 67

Candidate Starts for Jifall16\_59:

(5, 49001), (Start: 67 @48758 has 71 MA's), (79, 48686), (Start: 83 @48662 has 6 MA's), (116, 48509), (118, 48500), (150, 48377), (196, 48218), (197, 48212), (201, 48188), (220, 48080), (226, 48050), (238, 47981), (276, 47843), (288, 47825), (321, 47672), (330, 47630), (340, 47552), (342, 47537), (362, 47399), (413, 47201), (422, 47147), (423, 47144), (439, 47084), (449, 47033), (475, 46964), (488, 46919), (538, 46679), (547, 46637), (548, 46634), (550, 46628), (555, 46610), (582, 46514), (592, 46460), (626, 46316), (629, 46307), (651, 46232), (671, 46157), (687, 46103), (702, 46061), (714, 46013), (736, 45932), (742, 45911), (762, 45821), (772, 45791), (779, 45767), (780, 45764), (821, 45581), (836, 45524),

Gene: JigglyPuff\_216 Start: 115537, Stop: 118932, Start Num: 62

Candidate Starts for JigglyPuff\_216:

(Start: 24 @115444 has 44 MA's), (Start: 25 @115450 has 6 MA's), (Start: 31 @115462 has 8 MA's), (Start: 35 @115471 has 1 MA's), (Start: 62 @115537 has 110 MA's), (78, 115612), (97, 115726), (105, 115750), (121, 115810), (146, 115921), (154, 115960), (162, 115984), (170, 116026), (200, 116125), (210, 116167), (211, 116173), (215, 116185), (223, 116248), (234, 116308), (235, 116311), (241, 116338), (249, 116380), (Start: 267 @116443 has 9 MA's), (317, 116599), (321, 116617), (324, 116632), (337, 116749), (343, 116788), (359, 116908), (365, 116950), (374, 116995), (376, 117004), (387, 117055), (398, 117097), (414, 117163), (416, 117172), (417, 117175), (418, 117181), (419, 117184), (420, 117193), (421, 117199), (422, 117214), (446, 117301), (470, 117406), (484, 117460), (501, 117547), (507, 117577), (516, 117607), (523, 117640), (525, 117649), (536, 117721), (541, 117751), (569, 117868), (578, 117913), (587, 117955), (619, 118099), (635, 118159), (666, 118261), (696, 118348), (697, 118351), (705, 118369), (713, 118405), (714, 118408), (735, 118468), (739, 118486), (763, 118582), (772, 118612), (777, 118630), (785, 118660), (808, 118753), (812, 118768), (828, 118849), (829, 118855), (832, 118867),

Gene: JingleBells\_57 Start: 40808, Stop: 43108, Start Num: 261

Candidate Starts for JingleBells\_57:

(Start: 261 @40808 has 29 MA's), (Start: 263 @40814 has 6 MA's), (293, 40889), (310, 40961), (314, 40982), (321, 41015), (323, 41027), (324, 41030), (326, 41048), (329, 41054), (339, 41123), (342, 41147), (345, 41186), (355, 41243), (367, 41324), (393, 41438), (397, 41450), (421, 41525), (423, 41543), (441, 41621), (443, 41627), (450, 41669), (453, 41699), (458, 41705), (472, 41726), (475, 41735), (483, 41765), (503, 41840), (505, 41849), (514, 41873), (515, 41879), (516, 41885), (519, 41894), (536, 41996), (553, 42068), (559, 42092), (583, 42176), (605, 42266), (606, 42278), (611, 42296), (625, 42374), (626, 42380), (629, 42389), (635, 42422), (656, 42494), (748, 42674), (754, 42704), (772, 42767), (788, 42839), (818, 42962), (825, 42995), (838, 43040), (851, 43085), (853, 43091),

Gene: JulietS\_202 Start: 110183, Stop: 113653, Start Num: 31

Candidate Starts for JulietS\_202:

(Start: 18 @110135 has 5 MA's), (Start: 24 @110165 has 44 MA's), (Start: 25 @110171 has 6 MA's), (Start: 31 @110183 has 8 MA's), (Start: 35 @110192 has 1 MA's), (Start: 62 @110258 has 110 MA's), (78, 110333), (97, 110447), (105, 110471), (121, 110531), (146, 110642), (154, 110681), (162, 110705), (170, 110747), (200, 110846), (210, 110888), (211, 110894), (215, 110906), (223, 110969), (234, 111029), (235, 111032), (241, 111059), (249, 111101), (Start: 267 @111164 has 9 MA's), (310, 111284), (317, 111320), (321, 111338), (324, 111353), (337, 111470), (343, 111509), (359, 111629), (365, 111671), (374, 111716), (376, 111725), (387, 111776), (398, 111818), (414, 111884), (416, 111893), (417, 111896), (418, 111902), (419, 111905), (420, 111914), (421, 111920), (422, 111935), (446, 112022), (470, 112127), (484, 112181), (501, 112268), (507, 112298), (516, 112328), (523, 112361), (525, 112370), (536, 112442), (541, 112472), (569, 112589), (578, 112634), (587, 112676), (619, 112820), (635, 112880), (666, 112982), (696, 113069), (697, 113072), (705, 113090), (713, 113126), (714, 113129), (735, 113189), (739, 113207), (763, 113303), (772, 113333), (777, 113351), (785, 113381), (808, 113474), (812, 113489), (828, 113570), (829, 113576), (832, 113588),

Gene: JustHall\_203 Start: 112173, Stop: 115568, Start Num: 62

Candidate Starts for JustHall\_203:

(Start: 24 @112080 has 44 MA's), (Start: 25 @112086 has 6 MA's), (Start: 31 @112098 has 8 MA's), (Start: 35 @112107 has 1 MA's), (Start: 62 @112173 has 110 MA's), (78, 112248), (97, 112362), (105, 112386), (121, 112446), (146, 112557), (154, 112596), (162, 112620), (170, 112662), (200, 112761), (210, 112803), (211, 112809), (215, 112821), (223, 112884), (234, 112944), (235, 112947), (241, 112974), (249, 113016), (Start: 267 @113079 has 9 MA's), (310, 113199), (317, 113235), (321, 113253), (324, 113268), (337, 113385), (343, 113424), (359, 113544), (365, 113586), (374, 113631), (376, 113640), (387, 113691), (398, 113733), (414, 113799), (416, 113808), (417, 113811), (418, 113817), (419, 113820), (420, 113829), (421, 113835), (422, 113850), (446, 113937), (470, 114042),

(484, 114096), (501, 114183), (507, 114213), (516, 114243), (523, 114276), (525, 114285), (536, 114357), (541, 114387), (569, 114504), (578, 114549), (587, 114591), (619, 114735), (635, 114795), (666, 114897), (696, 114984), (697, 114987), (705, 115005), (713, 115041), (714, 115044), (735, 115104), (739, 115122), (763, 115218), (772, 115248), (777, 115266), (785, 115296), (808, 115389), (812, 115404), (828, 115485), (829, 115491), (832, 115503),

Gene: Kabluna\_63 Start: 47955, Stop: 44653, Start Num: 67

Candidate Starts for Kabluna\_63:

(Start: 67 @47955 has 71 MA's), (Start: 83 @47859 has 6 MA's), (116, 47706), (118, 47697), (150, 47574), (196, 47415), (197, 47409), (201, 47385), (220, 47277), (242, 47166), (276, 47040), (321, 46869), (330, 46827), (340, 46749), (342, 46734), (362, 46596), (387, 46464), (413, 46398), (423, 46341), (439, 46281), (449, 46230), (475, 46161), (488, 46116), (538, 45873), (547, 45831), (548, 45828), (550, 45822), (555, 45804), (582, 45708), (592, 45654), (629, 45501), (644, 45441), (651, 45426), (687, 45297), (714, 45219), (732, 45159), (736, 45138), (737, 45135), (742, 45117), (760, 45033), (779, 44973), (785, 44946), (786, 44943), (802, 44877), (846, 44694), (856, 44664),

Gene: Kabocha\_99 Start: 71499, Stop: 74312, Start Num: 53

Candidate Starts for Kabocha\_99:

(Start: 44 @71484 has 1 MA's), (Start: 50 @71496 has 1 MA's), (Start: 53 @71499 has 8 MA's), (78, 71592), (86, 71652), (122, 71802), (123, 71805), (124, 71811), (147, 71910), (153, 71940), (154, 71943), (170, 72006), (174, 72027), (175, 72030), (185, 72057), (211, 72174), (214, 72183), (222, 72240), (224, 72249), (236, 72315), (252, 72381), (313, 72546), (317, 72564), (320, 72579), (322, 72585), (324, 72597), (332, 72624), (333, 72627), (339, 72687), (340, 72696), (341, 72699), (343, 72711), (346, 72756), (358, 72825), (361, 72849), (392, 73005), (396, 73023), (402, 73047), (405, 73065), (424, 73161), (432, 73203), (435, 73209), (446, 73245), (447, 73254), (450, 73272), (451, 73278), (453, 73302), (454, 73308), (455, 73311), (462, 73329), (463, 73332), (499, 73425), (509, 73470), (511, 73476), (518, 73500), (519, 73503), (521, 73512), (522, 73518), (524, 73530), (545, 73647), (547, 73665), (548, 73668), (551, 73677), (579, 73791), (582, 73806), (615, 73953), (618, 73965), (620, 73971), (629, 74004), (636, 74037), (640, 74055), (645, 74067), (647, 74076), (676, 74190), (682, 74202), (686, 74217), (712, 74292), (714, 74301),

Gene: Kamryn\_208 Start: 113803, Stop: 117198, Start Num: 62

Candidate Starts for Kamryn\_208:

(Start: 24 @113710 has 44 MA's), (Start: 25 @113716 has 6 MA's), (Start: 31 @113728 has 8 MA's), (Start: 35 @113737 has 1 MA's), (Start: 62 @113803 has 110 MA's), (78, 113878), (97, 113992), (105, 114016), (121, 114076), (146, 114187), (154, 114226), (162, 114250), (170, 114292), (200, 114391), (210, 114433), (211, 114439), (215, 114451), (223, 114514), (234, 114574), (235, 114577), (241, 114604), (249, 114646), (Start: 267 @114709 has 9 MA's), (317, 114865), (321, 114883), (324, 114898), (337, 115015), (343, 115054), (359, 115174), (365, 115216), (374, 115261), (376, 115270), (387, 115321), (398, 115363), (414, 115429), (416, 115438), (417, 115441), (418, 115447), (419, 115450), (420, 115459), (421, 115465), (422, 115480), (446, 115567), (470, 115672), (484, 115726), (501, 115813), (507, 115843), (516, 115873), (523, 115906), (525, 115915), (536, 115987), (541, 116017), (569, 116134), (578, 116179), (587, 116221), (619, 116365), (635, 116425), (666, 116527), (696, 116614), (697, 116617), (705, 116635), (713, 116671), (714, 116674), (735, 116734), (739, 116752), (763, 116848), (772, 116878), (777, 116896), (785, 116926), (808, 117019), (812, 117034), (828, 117115), (829, 117121), (832, 117133),

Gene: KandZ\_65 Start: 49894, Stop: 53196, Start Num: 26

Candidate Starts for KandZ\_65:

(Start: 26 @49894 has 20 MA's), (Start: 58 @49981 has 1 MA's), (61, 49987), (Start: 67 @49996 has 71 MA's), (Start: 83 @50092 has 6 MA's), (118, 50248), (141, 50335), (142, 50338), (154, 50389), (219, 50653), (226, 50692), (239, 50764), (242, 50773), (259, 50848), (Start: 281 @50914 has 8 MA's), (282, 50920), (298, 50974), (306, 50992), (313, 51043), (314, 51046), (320, 51076), (335, 51160),

(336, 51169), (340, 51196), (342, 51211), (367, 51388), (368, 51397), (393, 51502), (420, 51583), (430, 51643), (449, 51718), (453, 51751), (458, 51757), (472, 51778), (475, 51787), (488, 51832), (505, 51901), (510, 51916), (527, 51985), (536, 52048), (545, 52081), (546, 52084), (557, 52135), (579, 52210), (606, 52333), (611, 52351), (628, 52429), (629, 52432), (631, 52444), (643, 52489), (651, 52510), (654, 52522), (661, 52552), (668, 52573), (716, 52645), (740, 52702), (763, 52801), (781, 52867), (803, 52957), (810, 52987), (811, 52990), (816, 53020), (825, 53065), (836, 53107), (844, 53137), (849, 53149), (853, 53164), (856, 53173),

Gene: Karate\_56 Start: 41072, Stop: 43375, Start Num: 261

Candidate Starts for Karate\_56:

(Start: 261 @41072 has 29 MA's), (Start: 263 @41078 has 6 MA's), (293, 41156), (310, 41228), (314, 41249), (321, 41282), (323, 41294), (324, 41297), (326, 41315), (339, 41390), (342, 41414), (345, 41453), (355, 41510), (367, 41591), (393, 41705), (397, 41717), (421, 41792), (423, 41810), (441, 41888), (443, 41894), (445, 41903), (450, 41936), (453, 41966), (458, 41972), (472, 41993), (475, 42002), (483, 42032), (503, 42107), (514, 42140), (515, 42146), (519, 42161), (536, 42263), (553, 42335), (559, 42359), (583, 42443), (605, 42533), (606, 42545), (611, 42563), (625, 42641), (626, 42647), (629, 42656), (635, 42689), (656, 42761), (748, 42941), (754, 42971), (772, 43034), (788, 43106), (818, 43229), (825, 43262), (838, 43307), (851, 43352), (853, 43358),

Gene: Katalie\_54 Start: 42740, Stop: 39261, Start Num: 63

Candidate Starts for Katalie\_54:

(Start: 35 @42806 has 1 MA's), (Start: 63 @42740 has 55 MA's), (Start: 76 @42677 has 1 MA's), (78, 42668), (80, 42656), (85, 42626), (101, 42533), (111, 42500), (120, 42464), (136, 42395), (152, 42341), (170, 42269), (194, 42173), (214, 42095), (236, 41948), (247, 41909), (256, 41864), (Start: 262 @41843 has 3 MA's), (Start: 267 @41828 has 9 MA's), (289, 41807), (313, 41708), (316, 41696), (330, 41633), (344, 41510), (345, 41504), (351, 41459), (364, 41375), (367, 41357), (382, 41300), (383, 41297), (385, 41285), (420, 41147), (422, 41126), (424, 41120), (426, 41105), (439, 41063), (450, 41015), (451, 41009), (455, 40976), (503, 40835), (520, 40778), (524, 40754), (526, 40748), (537, 40679), (546, 40631), (547, 40616), (553, 40595), (567, 40550), (590, 40454), (591, 40445), (615, 40337), (617, 40328), (621, 40316), (623, 40295), (633, 40265), (638, 40238), (661, 40163), (665, 40151), (685, 40064), (695, 40040), (744, 39848), (771, 39737), (803, 39599), (810, 39563), (819, 39515), (820, 39509), (826, 39482), (861, 39350), (862, 39338), (863, 39332), (866, 39275),

Gene: Kate\_57 Start: 41173, Stop: 43476, Start Num: 261

Candidate Starts for Kate\_57:

(Start: 261 @41173 has 29 MA's), (Start: 263 @41179 has 6 MA's), (293, 41257), (310, 41329), (314, 41350), (321, 41383), (323, 41395), (324, 41398), (326, 41416), (339, 41491), (342, 41515), (345, 41554), (352, 41599), (355, 41611), (367, 41692), (393, 41806), (397, 41818), (421, 41893), (423, 41911), (441, 41989), (443, 41995), (445, 42004), (450, 42037), (453, 42067), (458, 42073), (472, 42094), (475, 42103), (483, 42133), (503, 42208), (505, 42217), (514, 42241), (515, 42247), (519, 42262), (524, 42289), (536, 42364), (553, 42436), (559, 42460), (583, 42544), (605, 42634), (606, 42646), (611, 42664), (625, 42742), (626, 42748), (629, 42757), (635, 42790), (656, 42862), (748, 43042), (754, 43072), (772, 43135), (788, 43207), (818, 43330), (825, 43363), (838, 43408), (851, 43453), (853, 43459),

Gene: Kboogie\_213 Start: 112831, Stop: 116226, Start Num: 62

Candidate Starts for Kboogie\_213:

(Start: 24 @112738 has 44 MA's), (Start: 25 @112744 has 6 MA's), (Start: 31 @112756 has 8 MA's), (Start: 35 @112765 has 1 MA's), (Start: 62 @112831 has 110 MA's), (78, 112906), (97, 113020), (105, 113044), (121, 113104), (146, 113215), (154, 113254), (162, 113278), (170, 113320), (200, 113419), (210, 113461), (211, 113467), (215, 113479), (223, 113542), (234, 113602), (235, 113605), (241, 113632), (249, 113674), (Start: 267 @113737 has 9 MA's), (310, 113857), (317, 113893), (321, 113911), (324, 113926), (337, 114043), (343, 114082), (359, 114202), (365, 114244), (374, 114289),

(376, 114298), (387, 114349), (398, 114391), (414, 114457), (416, 114466), (417, 114469), (418, 114475), (419, 114478), (420, 114487), (421, 114493), (422, 114508), (446, 114595), (470, 114700), (484, 114754), (501, 114841), (507, 114871), (516, 114901), (523, 114934), (525, 114943), (536, 115015), (541, 115045), (569, 115162), (578, 115207), (587, 115249), (619, 115393), (635, 115453), (666, 115555), (696, 115642), (697, 115645), (705, 115663), (713, 115699), (714, 115702), (735, 115762), (739, 115780), (763, 115876), (772, 115906), (777, 115924), (785, 115954), (808, 116047), (812, 116062), (828, 116143), (829, 116149), (832, 116161),

Gene: Khaleesi\_208 Start: 113624, Stop: 117019, Start Num: 62

Candidate Starts for Khaleesi\_208:

(Start: 24 @113531 has 44 MA's), (Start: 25 @113537 has 6 MA's), (Start: 31 @113549 has 8 MA's), (Start: 35 @113558 has 1 MA's), (Start: 62 @113624 has 110 MA's), (78, 113699), (97, 113813), (105, 113837), (121, 113897), (146, 114008), (154, 114047), (162, 114071), (170, 114113), (200, 114212), (210, 114254), (211, 114260), (215, 114272), (223, 114335), (234, 114395), (235, 114398), (241, 114425), (249, 114467), (Start: 267 @114530 has 9 MA's), (310, 114650), (317, 114686), (321, 114704), (324, 114719), (337, 114836), (343, 114875), (359, 114995), (365, 115037), (374, 115082), (376, 115091), (387, 115142), (398, 115184), (414, 115250), (416, 115259), (417, 115262), (418, 115268), (419, 115271), (420, 115280), (421, 115286), (422, 115301), (446, 115388), (470, 115493), (484, 115547), (501, 115634), (507, 115664), (516, 115694), (523, 115727), (525, 115736), (536, 115808), (541, 115838), (569, 115955), (578, 116000), (587, 116042), (619, 116186), (635, 116246), (666, 116348), (696, 116435), (697, 116438), (705, 116456), (713, 116492), (714, 116495), (735, 116555), (739, 116573), (763, 116669), (772, 116699), (777, 116717), (785, 116747), (808, 116840), (812, 116855), (828, 116936), (829, 116942), (832, 116954),

Gene: KidneyBean\_60 Start: 48882, Stop: 45571, Start Num: 67

Candidate Starts for KidneyBean\_60:

(5, 49125), (Start: 67 @48882 has 71 MA's), (79, 48810), (Start: 83 @48786 has 6 MA's), (116, 48633), (118, 48624), (150, 48501), (196, 48342), (197, 48336), (201, 48312), (220, 48204), (226, 48174), (238, 48105), (276, 47967), (288, 47949), (321, 47796), (330, 47754), (340, 47676), (342, 47661), (362, 47523), (413, 47325), (422, 47271), (423, 47268), (439, 47208), (449, 47157), (475, 47088), (488, 47043), (538, 46803), (547, 46761), (548, 46758), (550, 46752), (555, 46734), (582, 46638), (592, 46584), (626, 46440), (629, 46431), (651, 46356), (671, 46281), (687, 46227), (702, 46185), (714, 46137), (736, 46056), (742, 46035), (762, 45945), (772, 45915), (779, 45891), (780, 45888), (821, 45705), (836, 45648),

Gene: Kimchi1738\_43 Start: 41039, Stop: 37746, Start Num: 67

Candidate Starts for Kimchi1738\_43:

(Start: 67 @41039 has 71 MA's), (75, 40982), (80, 40958), (Start: 83 @40943 has 6 MA's), (84, 40934), (118, 40787), (182, 40505), (196, 40427), (255, 40118), (292, 40013), (313, 39911), (338, 39776), (340, 39758), (342, 39743), (355, 39647), (400, 39428), (401, 39425), (410, 39410), (419, 39380), (422, 39350), (449, 39233), (453, 39200), (471, 39173), (478, 39149), (515, 39002), (527, 38948), (530, 38927), (546, 38852), (548, 38834), (592, 38657), (604, 38627), (607, 38600), (611, 38585), (641, 38456), (674, 38423), (707, 38336), (740, 38222), (742, 38216), (745, 38204), (783, 38054), (784, 38051), (785, 38045), (789, 38027), (791, 38018), (795, 38000), (822, 37874), (831, 37838), (833, 37832),

Gene: Koguma\_208 Start: 112391, Stop: 115879, Start Num: 24

Candidate Starts for Koguma\_208:

(Start: 18 @112361 has 5 MA's), (Start: 24 @112391 has 44 MA's), (Start: 25 @112397 has 6 MA's), (Start: 31 @112409 has 8 MA's), (Start: 35 @112418 has 1 MA's), (Start: 62 @112484 has 110 MA's), (78, 112559), (97, 112673), (105, 112697), (121, 112757), (146, 112868), (154, 112907), (162, 112931), (170, 112973), (200, 113072), (210, 113114), (211, 113120), (215, 113132), (223, 113195), (234, 113255), (235, 113258), (241, 113285), (249, 113327), (Start: 267 @113390 has 9 MA's), (310,

113510), (317, 113546), (321, 113564), (324, 113579), (337, 113696), (343, 113735), (359, 113855), (365, 113897), (374, 113942), (376, 113951), (387, 114002), (398, 114044), (414, 114110), (416, 114119), (417, 114122), (418, 114128), (419, 114131), (420, 114140), (421, 114146), (422, 114161), (446, 114248), (470, 114353), (484, 114407), (501, 114494), (507, 114524), (516, 114554), (523, 114587), (525, 114596), (536, 114668), (541, 114698), (569, 114815), (578, 114860), (587, 114902), (619, 115046), (635, 115106), (666, 115208), (696, 115295), (697, 115298), (705, 115316), (713, 115352), (714, 115355), (735, 115415), (739, 115433), (763, 115529), (772, 115559), (777, 115577), (785, 115607), (808, 115700), (812, 115715), (828, 115796), (829, 115802), (832, 115814),

Gene: Konstantine\_80 Start: 55996, Stop: 59292, Start Num: 67

Candidate Starts for Konstantine\_80:

(Start: 48 @55969 has 1 MA's), (Start: 67 @55996 has 71 MA's), (79, 56068), (Start: 83 @56092 has 6 MA's), (86, 56125), (118, 56260), (143, 56353), (148, 56371), (160, 56419), (178, 56479), (219, 56671), (271, 56905), (294, 56962), (306, 57016), (312, 57061), (318, 57088), (323, 57115), (324, 57118), (337, 57196), (342, 57241), (345, 57280), (351, 57322), (363, 57400), (367, 57418), (371, 57436), (373, 57448), (390, 57523), (423, 57679), (443, 57763), (454, 57841), (462, 57862), (464, 57871), (468, 57877), (474, 57886), (494, 57958), (497, 57973), (505, 58012), (509, 58024), (530, 58117), (531, 58123), (539, 58171), (548, 58213), (588, 58363), (590, 58375), (611, 58459), (637, 58600), (675, 58705), (737, 58804), (739, 58813), (755, 58891), (768, 58930), (770, 58945), (783, 58993), (806, 59089), (811, 59107), (815, 59134), (826, 59182), (834, 59212), (835, 59215), (839, 59230), (849, 59260), (851, 59269), (853, 59275), (854, 59278),

Gene: Kors\_64 Start: 42629, Stop: 44884, Start Num: 263

Candidate Starts for Kors\_64:

(260, 42620), (Start: 263 @42629 has 6 MA's), (314, 42764), (321, 42797), (324, 42812), (340, 42914), (342, 42929), (355, 43025), (367, 43106), (368, 43115), (391, 43214), (393, 43220), (421, 43307), (423, 43325), (429, 43355), (434, 43376), (437, 43388), (441, 43403), (445, 43418), (450, 43451), (453, 43481), (458, 43487), (472, 43508), (475, 43517), (483, 43547), (504, 43628), (509, 43643), (515, 43661), (519, 43676), (534, 43775), (592, 44006), (593, 44009), (606, 44060), (611, 44078), (613, 44090), (621, 44132), (626, 44162), (629, 44171), (654, 44261), (716, 44363), (739, 44414), (749, 44459), (766, 44522), (772, 44546), (780, 44576), (781, 44582), (825, 44771), (838, 44816), (851, 44861), (853, 44867),

Gene: Krampus\_57 Start: 41269, Stop: 43572, Start Num: 261

Candidate Starts for Krampus\_57:

(Start: 261 @41269 has 29 MA's), (Start: 263 @41275 has 6 MA's), (293, 41353), (310, 41425), (314, 41446), (321, 41479), (323, 41491), (324, 41494), (326, 41512), (339, 41587), (342, 41611), (345, 41650), (352, 41695), (355, 41707), (367, 41788), (393, 41902), (397, 41914), (421, 41989), (423, 42007), (441, 42085), (443, 42091), (445, 42100), (450, 42133), (453, 42163), (458, 42169), (472, 42190), (475, 42199), (483, 42229), (503, 42304), (505, 42313), (514, 42337), (515, 42343), (519, 42358), (524, 42385), (536, 42460), (553, 42532), (559, 42556), (583, 42640), (605, 42730), (606, 42742), (611, 42760), (625, 42838), (626, 42844), (629, 42853), (635, 42886), (656, 42958), (748, 43138), (754, 43168), (772, 43231), (788, 43303), (818, 43426), (825, 43459), (838, 43504), (851, 43549), (853, 43555),

Gene: Kurt\_60 Start: 49119, Stop: 45808, Start Num: 67

Candidate Starts for Kurt\_60:

(5, 49362), (Start: 67 @49119 has 71 MA's), (79, 49047), (Start: 83 @49023 has 6 MA's), (116, 48870), (118, 48861), (150, 48738), (196, 48579), (197, 48573), (201, 48549), (220, 48441), (226, 48411), (238, 48342), (276, 48204), (288, 48186), (321, 48033), (330, 47991), (340, 47913), (342, 47898), (362, 47760), (413, 47562), (422, 47508), (423, 47505), (439, 47445), (449, 47394), (475, 47325), (488, 47280), (538, 47040), (547, 46998), (548, 46995), (550, 46989), (555, 46971), (582, 46875), (592, 46821), (626, 46677), (629, 46668), (651, 46593), (671, 46518), (687, 46464), (702, 46422),

(714, 46374), (736, 46293), (742, 46272), (762, 46182), (772, 46152), (779, 46128), (780, 46125), (821, 45942), (836, 45885),

Gene: LRRHood\_202 Start: 112706, Stop: 116224, Start Num: 18

Candidate Starts for LRRHood\_202:

(Start: 18 @112706 has 5 MA's), (Start: 24 @112736 has 44 MA's), (Start: 25 @112742 has 6 MA's), (Start: 31 @112754 has 8 MA's), (Start: 35 @112763 has 1 MA's), (Start: 62 @112829 has 110 MA's), (78, 112904), (97, 113018), (105, 113042), (121, 113102), (146, 113213), (154, 113252), (162, 113276), (170, 113318), (200, 113417), (210, 113459), (211, 113465), (215, 113477), (223, 113540), (234, 113600), (235, 113603), (241, 113630), (249, 113672), (Start: 267 @113735 has 9 MA's), (310, 113855), (317, 113891), (321, 113909), (324, 113924), (337, 114041), (343, 114080), (359, 114200), (365, 114242), (374, 114287), (376, 114296), (387, 114347), (398, 114389), (414, 114455), (416, 114464), (417, 114467), (418, 114473), (419, 114476), (420, 114485), (421, 114491), (422, 114506), (446, 114593), (470, 114698), (484, 114752), (501, 114839), (507, 114869), (516, 114899), (523, 114932), (525, 114941), (536, 115013), (541, 115043), (569, 115160), (578, 115205), (587, 115247), (619, 115391), (635, 115451), (666, 115553), (696, 115640), (697, 115643), (705, 115661), (713, 115697), (714, 115700), (735, 115760), (739, 115778), (763, 115874), (772, 115904), (777, 115922), (785, 115952), (808, 116045), (812, 116060), (828, 116141), (829, 116147), (832, 116159),

Gene: Labelle\_90 Start: 57766, Stop: 60999, Start Num: 67

Candidate Starts for Labelle\_90:

(Start: 51 @57739 has 1 MA's), (Start: 67 @57766 has 71 MA's), (Start: 83 @57862 has 6 MA's), (118, 58027), (149, 58141), (160, 58186), (171, 58225), (190, 58276), (219, 58441), (337, 58939), (342, 58984), (345, 59023), (381, 59227), (400, 59308), (420, 59368), (428, 59419), (449, 59515), (451, 59524), (453, 59548), (454, 59554), (464, 59584), (468, 59590), (474, 59599), (505, 59722), (506, 59725), (509, 59734), (521, 59776), (524, 59794), (548, 59926), (611, 60172), (642, 60322), (664, 60379), (675, 60421), (688, 60445), (740, 60514), (781, 60682), (803, 60772), (815, 60844), (833, 60919),

Gene: Lambo\_77 Start: 51507, Stop: 54848, Start Num: 64

Candidate Starts for Lambo\_77:

(Start: 39 @51459 has 2 MA's), (Start: 64 @51507 has 20 MA's), (Start: 76 @51567 has 1 MA's), (Start: 83 @51603 has 6 MA's), (88, 51648), (97, 51690), (163, 51951), (196, 52053), (202, 52086), (219, 52182), (278, 52452), (280, 52461), (306, 52569), (312, 52614), (321, 52656), (342, 52788), (343, 52791), (344, 52821), (347, 52842), (359, 52911), (368, 52974), (388, 53064), (393, 53079), (410, 53121), (449, 53295), (453, 53328), (465, 53346), (475, 53364), (488, 53409), (489, 53412), (515, 53508), (524, 53550), (527, 53562), (532, 53598), (577, 53778), (586, 53820), (592, 53856), (606, 53910), (611, 53928), (629, 54024), (631, 54036), (714, 54231), (740, 54315), (757, 54396), (765, 54420), (769, 54435), (778, 54471), (781, 54483), (782, 54489), (783, 54492), (789, 54519), (801, 54564), (822, 54672), (835, 54717), (841, 54741), (853, 54777),

Gene: Lannister\_54 Start: 41433, Stop: 37954, Start Num: 63

Candidate Starts for Lannister\_54:

(Start: 63 @41433 has 55 MA's), (Start: 76 @41370 has 1 MA's), (78, 41361), (101, 41226), (111, 41193), (120, 41157), (136, 41088), (152, 41034), (170, 40962), (189, 40899), (194, 40866), (214, 40788), (236, 40641), (247, 40602), (256, 40557), (Start: 262 @40536 has 3 MA's), (Start: 267 @40521 has 9 MA's), (289, 40500), (313, 40401), (316, 40389), (330, 40326), (344, 40203), (345, 40197), (364, 40068), (367, 40050), (382, 39993), (383, 39990), (385, 39978), (411, 39882), (420, 39840), (421, 39834), (422, 39819), (424, 39813), (431, 39780), (448, 39717), (451, 39702), (455, 39669), (498, 39552), (503, 39528), (524, 39447), (537, 39372), (547, 39309), (567, 39243), (578, 39204), (590, 39147), (591, 39138), (615, 39030), (617, 39021), (621, 39009), (623, 38988), (633, 38958), (638, 38931), (658, 38865), (661, 38856), (665, 38844), (677, 38781), (685, 38757), (695, 38733), (731, 38595), (733, 38589), (744, 38541), (771, 38430), (803, 38292), (804, 38283), (810,

38256), (819, 38208), (820, 38202), (826, 38175), (862, 38031), (865, 38010),

Gene: Latch\_209 Start: 112377, Stop: 115772, Start Num: 62

Candidate Starts for Latch\_209:

(Start: 24 @112284 has 44 MA's), (Start: 25 @112290 has 6 MA's), (Start: 31 @112302 has 8 MA's), (Start: 35 @112311 has 1 MA's), (Start: 62 @112377 has 110 MA's), (78, 112452), (97, 112566), (105, 112590), (121, 112650), (146, 112761), (154, 112800), (162, 112824), (170, 112866), (200, 112965), (210, 113007), (211, 113013), (215, 113025), (223, 113088), (234, 113148), (235, 113151), (241, 113178), (249, 113220), (Start: 267 @113283 has 9 MA's), (310, 113403), (317, 113439), (321, 113457), (324, 113472), (337, 113589), (343, 113628), (359, 113748), (365, 113790), (374, 113835), (376, 113844), (387, 113895), (398, 113937), (414, 114003), (416, 114012), (417, 114015), (418, 114021), (419, 114024), (420, 114033), (421, 114039), (422, 114054), (446, 114141), (470, 114246), (484, 114300), (501, 114387), (507, 114417), (516, 114447), (523, 114480), (525, 114489), (536, 114561), (541, 114591), (569, 114708), (578, 114753), (587, 114795), (619, 114939), (635, 114999), (666, 115101), (696, 115188), (697, 115191), (705, 115209), (713, 115245), (714, 115248), (735, 115308), (739, 115326), (763, 115422), (772, 115452), (777, 115470), (785, 115500), (808, 115593), (812, 115608), (828, 115689), (829, 115695), (832, 115707),

Gene: Lee7\_209 Start: 115004, Stop: 118399, Start Num: 62

Candidate Starts for Lee7\_209:

(Start: 24 @114911 has 44 MA's), (Start: 25 @114917 has 6 MA's), (Start: 31 @114929 has 8 MA's), (Start: 35 @114938 has 1 MA's), (Start: 62 @115004 has 110 MA's), (78, 115079), (97, 115193), (105, 115217), (121, 115277), (146, 115388), (154, 115427), (162, 115451), (170, 115493), (200, 115592), (210, 115634), (211, 115640), (215, 115652), (223, 115715), (234, 115775), (235, 115778), (241, 115805), (249, 115847), (Start: 267 @115910 has 9 MA's), (310, 116030), (317, 116066), (321, 116084), (324, 116099), (337, 116216), (343, 116255), (359, 116375), (365, 116417), (374, 116462), (376, 116471), (387, 116522), (398, 116564), (414, 116630), (416, 116639), (417, 116642), (418, 116648), (419, 116651), (420, 116660), (421, 116666), (422, 116681), (446, 116768), (470, 116873), (484, 116927), (501, 117014), (507, 117044), (516, 117074), (523, 117107), (525, 117116), (536, 117188), (541, 117218), (569, 117335), (578, 117380), (587, 117422), (619, 117566), (635, 117626), (666, 117728), (696, 117815), (697, 117818), (705, 117836), (713, 117872), (714, 117875), (735, 117935), (739, 117953), (763, 118049), (772, 118079), (777, 118097), (785, 118127), (808, 118220), (812, 118235), (828, 118316), (829, 118322), (832, 118334),

Gene: Legacy\_52 Start: 40331, Stop: 36852, Start Num: 63

Candidate Starts for Legacy\_52:

(Start: 63 @40331 has 55 MA's), (78, 40259), (Start: 83 @40232 has 6 MA's), (85, 40217), (120, 40055), (126, 40028), (129, 40022), (152, 39932), (156, 39917), (169, 39863), (170, 39860), (194, 39764), (214, 39686), (236, 39539), (247, 39500), (256, 39455), (Start: 262 @39434 has 3 MA's), (Start: 267 @39419 has 9 MA's), (296, 39377), (300, 39365), (313, 39299), (316, 39287), (330, 39224), (345, 39095), (346, 39086), (351, 39050), (364, 38966), (367, 38948), (382, 38891), (383, 38888), (385, 38876), (420, 38738), (421, 38732), (422, 38717), (424, 38711), (431, 38678), (451, 38600), (455, 38567), (503, 38426), (520, 38369), (524, 38345), (526, 38339), (537, 38270), (547, 38207), (567, 38141), (572, 38120), (578, 38102), (590, 38045), (591, 38036), (615, 37928), (617, 37919), (621, 37907), (623, 37886), (633, 37856), (638, 37829), (658, 37763), (661, 37754), (665, 37742), (685, 37655), (695, 37631), (709, 37583), (744, 37439), (760, 37364), (803, 37190), (810, 37154), (819, 37106), (826, 37073), (862, 36929),

Gene: Lenoshki\_97 Start: 71922, Stop: 74735, Start Num: 53

Candidate Starts for Lenoshki\_97:

(Start: 44 @71907 has 1 MA's), (Start: 50 @71919 has 1 MA's), (Start: 53 @71922 has 8 MA's), (78, 72015), (86, 72075), (122, 72225), (123, 72228), (124, 72234), (134, 72276), (147, 72333), (153, 72363), (154, 72366), (155, 72369), (170, 72429), (174, 72450), (175, 72453), (185, 72480), (205,



72570), (211, 72597), (214, 72606), (222, 72663), (224, 72672), (252, 72804), (313, 72969), (317, 72987), (320, 73002), (322, 73008), (324, 73020), (332, 73047), (333, 73050), (339, 73110), (340, 73119), (341, 73122), (343, 73134), (346, 73179), (358, 73248), (361, 73272), (392, 73428), (402, 73470), (405, 73488), (424, 73584), (432, 73626), (446, 73668), (447, 73677), (450, 73695), (451, 73701), (453, 73725), (454, 73731), (455, 73734), (462, 73752), (463, 73755), (499, 73848), (509, 73893), (511, 73899), (518, 73923), (519, 73926), (521, 73935), (522, 73941), (524, 73953), (545, 74070), (547, 74088), (548, 74091), (551, 74100), (579, 74214), (582, 74229), (615, 74376), (618, 74388), (620, 74394), (636, 74460), (640, 74478), (645, 74490), (647, 74499), (676, 74613), (682, 74625), (686, 74640), (712, 74715), (714, 74724),

Gene: Leopard\_84 Start: 58148, Stop: 60436, Start Num: 262

Candidate Starts for Leopard\_84:

(231, 58025), (Start: 262 @58148 has 3 MA's), (278, 58181), (279, 58187), (306, 58277), (310, 58310), (315, 58334), (320, 58361), (335, 58445), (336, 58454), (337, 58457), (342, 58496), (343, 58499), (347, 58550), (361, 58628), (362, 58640), (420, 58868), (422, 58889), (439, 58952), (443, 58964), (453, 59036), (458, 59042), (474, 59066), (475, 59072), (479, 59087), (483, 59102), (489, 59120), (496, 59144), (505, 59186), (517, 59225), (524, 59258), (557, 59420), (559, 59429), (592, 59564), (603, 59591), (611, 59636), (635, 59750), (654, 59810), (753, 60026), (778, 60113), (780, 60116), (789, 60158), (826, 60323), (833, 60353), (848, 60401), (851, 60413), (856, 60428),

Gene: Lethe\_211 Start: 114267, Stop: 117662, Start Num: 62

Candidate Starts for Lethe\_211:

(Start: 24 @114174 has 44 MA's), (Start: 25 @114180 has 6 MA's), (Start: 31 @114192 has 8 MA's), (Start: 35 @114201 has 1 MA's), (Start: 62 @114267 has 110 MA's), (78, 114342), (97, 114456), (105, 114480), (121, 114540), (146, 114651), (154, 114690), (162, 114714), (170, 114756), (200, 114855), (210, 114897), (211, 114903), (215, 114915), (223, 114978), (234, 115038), (235, 115041), (241, 115068), (249, 115110), (Start: 267 @115173 has 9 MA's), (310, 115293), (317, 115329), (321, 115347), (324, 115362), (337, 115479), (343, 115518), (359, 115638), (365, 115680), (374, 115725), (376, 115734), (387, 115785), (398, 115827), (414, 115893), (416, 115902), (417, 115905), (418, 115911), (419, 115914), (420, 115923), (421, 115929), (422, 115944), (446, 116031), (470, 116136), (484, 116190), (501, 116277), (507, 116307), (516, 116337), (523, 116370), (525, 116379), (536, 116451), (541, 116481), (569, 116598), (578, 116643), (587, 116685), (619, 116829), (635, 116889), (666, 116991), (696, 117078), (697, 117081), (705, 117099), (713, 117135), (714, 117138), (735, 117198), (739, 117216), (763, 117312), (772, 117342), (777, 117360), (785, 117390), (808, 117483), (812, 117498), (828, 117579), (829, 117585), (832, 117597),

Gene: Leviticus\_53 Start: 40239, Stop: 36760, Start Num: 63

Candidate Starts for Leviticus\_53:

(2, 40500), (Start: 63 @40239 has 55 MA's), (78, 40167), (Start: 83 @40140 has 6 MA's), (85, 40125), (120, 39963), (126, 39936), (129, 39930), (152, 39840), (156, 39825), (169, 39771), (170, 39768), (194, 39672), (214, 39594), (236, 39447), (247, 39408), (256, 39363), (Start: 262 @39342 has 3 MA's), (Start: 267 @39327 has 9 MA's), (296, 39285), (300, 39273), (313, 39207), (316, 39195), (330, 39132), (345, 39003), (346, 38994), (351, 38958), (364, 38874), (367, 38856), (382, 38799), (383, 38796), (385, 38784), (420, 38646), (421, 38640), (422, 38625), (424, 38619), (431, 38586), (451, 38508), (455, 38475), (503, 38334), (520, 38277), (524, 38253), (526, 38247), (537, 38178), (547, 38115), (567, 38049), (572, 38028), (578, 38010), (590, 37953), (591, 37944), (615, 37836), (617, 37827), (621, 37815), (623, 37794), (633, 37764), (638, 37737), (658, 37671), (661, 37662), (665, 37650), (685, 37563), (695, 37539), (709, 37491), (744, 37347), (760, 37272), (803, 37098), (810, 37062), (819, 37014), (826, 36981),

Gene: LifeSavor\_208 Start: 112809, Stop: 116297, Start Num: 24

Candidate Starts for LifeSavor\_208:

(Start: 24 @112809 has 44 MA's), (Start: 25 @112815 has 6 MA's), (Start: 31 @112827 has 8 MA's), (Start: 35 @112836 has 1 MA's), (Start: 62 @112902 has 110 MA's), (78, 112977), (97, 113091), (105, 113115), (121, 113175), (146, 113286), (154, 113325), (162, 113349), (170, 113391), (200, 113490), (210, 113532), (211, 113538), (215, 113550), (223, 113613), (234, 113673), (235, 113676), (241, 113703), (249, 113745), (Start: 267 @113808 has 9 MA's), (317, 113964), (321, 113982), (324, 113997), (337, 114114), (343, 114153), (359, 114273), (365, 114315), (374, 114360), (376, 114369), (387, 114420), (398, 114462), (414, 114528), (416, 114537), (417, 114540), (418, 114546), (419, 114549), (420, 114558), (421, 114564), (422, 114579), (446, 114666), (470, 114771), (484, 114825), (501, 114912), (507, 114942), (516, 114972), (523, 115005), (525, 115014), (536, 115086), (541, 115116), (569, 115233), (578, 115278), (587, 115320), (619, 115464), (635, 115524), (666, 115626), (696, 115713), (697, 115716), (705, 115734), (713, 115770), (714, 115773), (735, 115833), (739, 115851), (763, 115947), (772, 115977), (777, 115995), (785, 116025), (808, 116118), (812, 116133), (828, 116214), (829, 116220), (832, 116232),

Gene: Lika\_54 Start: 41758, Stop: 38282, Start Num: 67

Candidate Starts for Lika\_54:

(Start: 67 @41758 has 71 MA's), (78, 41689), (Start: 83 @41662 has 6 MA's), (85, 41647), (86, 41629), (98, 41572), (99, 41566), (120, 41485), (126, 41458), (129, 41452), (136, 41416), (149, 41380), (170, 41290), (194, 41194), (214, 41116), (236, 40969), (247, 40930), (252, 40903), (256, 40885), (Start: 262 @40864 has 3 MA's), (Start: 267 @40849 has 9 MA's), (313, 40729), (316, 40717), (344, 40531), (345, 40525), (351, 40480), (364, 40396), (367, 40378), (382, 40321), (383, 40318), (385, 40306), (420, 40168), (421, 40162), (422, 40147), (424, 40141), (431, 40108), (433, 40102), (451, 40030), (455, 39997), (503, 39856), (524, 39775), (526, 39769), (537, 39700), (547, 39637), (553, 39616), (567, 39571), (578, 39532), (590, 39475), (591, 39466), (615, 39358), (621, 39337), (623, 39316), (633, 39286), (638, 39259), (658, 39193), (661, 39184), (665, 39172), (685, 39085), (695, 39061), (744, 38869), (763, 38785), (771, 38758), (803, 38620), (804, 38611), (810, 38584), (819, 38536), (820, 38530), (824, 38509), (826, 38503), (855, 38398), (862, 38359), (863, 38353), (866, 38296),

Gene: Lila22\_79 Start: 52415, Stop: 55756, Start Num: 64

Candidate Starts for Lila22\_79:

(Start: 39 @52367 has 2 MA's), (Start: 64 @52415 has 20 MA's), (Start: 76 @52475 has 1 MA's), (Start: 83 @52511 has 6 MA's), (88, 52556), (97, 52598), (163, 52859), (196, 52961), (202, 52994), (219, 53090), (278, 53360), (280, 53369), (306, 53477), (312, 53522), (321, 53564), (342, 53696), (343, 53699), (344, 53729), (347, 53750), (359, 53819), (367, 53873), (388, 53972), (393, 53987), (410, 54029), (449, 54203), (453, 54236), (465, 54254), (475, 54272), (488, 54317), (489, 54320), (515, 54416), (524, 54458), (527, 54470), (532, 54506), (577, 54686), (586, 54728), (592, 54764), (606, 54818), (611, 54836), (629, 54932), (631, 54944), (714, 55139), (740, 55223), (765, 55328), (769, 55343), (778, 55379), (781, 55391), (782, 55397), (783, 55400), (789, 55427), (801, 55472), (822, 55580), (835, 55625), (841, 55649), (853, 55685),

Gene: LilyPad\_66 Start: 48330, Stop: 50759, Start Num: 281

Candidate Starts for LilyPad\_66:

(Start: 281 @48330 has 8 MA's), (284, 48348), (293, 48381), (340, 48642), (342, 48657), (359, 48780), (393, 48948), (453, 49203), (458, 49209), (472, 49230), (475, 49239), (497, 49314), (499, 49320), (527, 49437), (529, 49452), (530, 49458), (534, 49497), (547, 49551), (574, 49644), (606, 49785), (611, 49803), (624, 49878), (628, 49896), (630, 49902), (631, 49911), (636, 49932), (638, 49944), (732, 50199), (740, 50235), (742, 50241), (743, 50244), (758, 50319), (761, 50325), (774, 50382), (782, 50421), (789, 50451), (803, 50505), (806, 50520), (816, 50568), (829, 50628), (837, 50655), (852, 50706), (859, 50724),

Gene: LinStu\_208 Start: 113041, Stop: 116511, Start Num: 31

Candidate Starts for LinStu\_208:

(Start: 24 @113023 has 44 MA's), (Start: 25 @113029 has 6 MA's), (Start: 31 @113041 has 8 MA's), (Start: 35 @113050 has 1 MA's), (Start: 62 @113116 has 110 MA's), (78, 113191), (97, 113305), (105, 113329), (121, 113389), (146, 113500), (154, 113539), (162, 113563), (170, 113605), (200, 113704), (210, 113746), (211, 113752), (215, 113764), (223, 113827), (234, 113887), (235, 113890), (241, 113917), (249, 113959), (Start: 267 @114022 has 9 MA's), (310, 114142), (317, 114178), (321, 114196), (324, 114211), (337, 114328), (343, 114367), (359, 114487), (365, 114529), (374, 114574), (376, 114583), (387, 114634), (398, 114676), (414, 114742), (416, 114751), (417, 114754), (418, 114760), (419, 114763), (420, 114772), (421, 114778), (422, 114793), (446, 114880), (470, 114985), (484, 115039), (501, 115126), (507, 115156), (516, 115186), (523, 115219), (525, 115228), (536, 115300), (541, 115330), (569, 115447), (578, 115492), (587, 115534), (619, 115678), (635, 115738), (666, 115840), (696, 115927), (697, 115930), (705, 115948), (713, 115984), (714, 115987), (735, 116047), (739, 116065), (763, 116161), (772, 116191), (777, 116209), (785, 116239), (808, 116332), (812, 116347), (828, 116428), (829, 116434), (832, 116446),

Gene: LittleFella\_70 Start: 49071, Stop: 51476, Start Num: 275

Candidate Starts for LittleFella\_70:

(257, 48999), (272, 49056), (Start: 275 @49071 has 1 MA's), (296, 49152), (321, 49299), (340, 49416), (342, 49431), (393, 49722), (402, 49752), (416, 49782), (423, 49827), (441, 49899), (453, 49977), (458, 49983), (472, 50004), (475, 50013), (527, 50211), (572, 50412), (574, 50418), (606, 50559), (607, 50562), (611, 50577), (624, 50652), (628, 50670), (630, 50676), (635, 50703), (636, 50706), (638, 50718), (679, 50859), (734, 50979), (740, 51006), (782, 51165), (785, 51177), (789, 51195), (803, 51249), (810, 51279), (811, 51282), (833, 51387), (853, 51453), (854, 51456), (857, 51462),

Gene: Littleton\_212 Start: 113521, Stop: 117009, Start Num: 24

Candidate Starts for Littleton\_212:

(Start: 24 @113521 has 44 MA's), (Start: 25 @113527 has 6 MA's), (Start: 31 @113539 has 8 MA's), (Start: 35 @113548 has 1 MA's), (Start: 62 @113614 has 110 MA's), (78, 113689), (97, 113803), (105, 113827), (121, 113887), (146, 113998), (154, 114037), (162, 114061), (170, 114103), (200, 114202), (210, 114244), (211, 114250), (215, 114262), (223, 114325), (234, 114385), (235, 114388), (241, 114415), (249, 114457), (Start: 267 @114520 has 9 MA's), (310, 114640), (317, 114676), (321, 114694), (324, 114709), (337, 114826), (343, 114865), (359, 114985), (365, 115027), (374, 115072), (376, 115081), (387, 115132), (398, 115174), (414, 115240), (416, 115249), (417, 115252), (418, 115258), (419, 115261), (420, 115270), (421, 115276), (422, 115291), (446, 115378), (470, 115483), (484, 115537), (501, 115624), (507, 115654), (516, 115684), (523, 115717), (525, 115726), (536, 115798), (541, 115828), (569, 115945), (578, 115990), (587, 116032), (619, 116176), (635, 116236), (666, 116338), (696, 116425), (697, 116428), (705, 116446), (713, 116482), (714, 116485), (735, 116545), (739, 116563), (763, 116659), (772, 116689), (777, 116707), (785, 116737), (808, 116830), (812, 116845), (828, 116926), (829, 116932), (832, 116944),

Gene: Lizz\_51 Start: 38864, Stop: 35667, Start Num: 67

Candidate Starts for Lizz\_51:

(34, 38945), (56, 38885), (Start: 67 @38864 has 71 MA's), (68, 38855), (73, 38822), (Start: 83 @38768 has 6 MA's), (91, 38714), (96, 38690), (107, 38645), (109, 38636), (113, 38627), (119, 38597), (127, 38564), (144, 38486), (147, 38474), (161, 38420), (162, 38417), (191, 38333), (219, 38177), (227, 38135), (236, 38072), (237, 38069), (Start: 263 @37964 has 6 MA's), (268, 37955), (283, 37913), (286, 37898), (291, 37883), (321, 37757), (335, 37676), (340, 37640), (342, 37625), (343, 37622), (355, 37529), (368, 37439), (422, 37232), (429, 37199), (443, 37148), (453, 37076), (458, 37070), (475, 37040), (483, 37010), (504, 36929), (509, 36914), (533, 36800), (564, 36665), (604, 36521), (605, 36509), (606, 36497), (611, 36479), (626, 36386), (654, 36281), (732, 36170), (737, 36146), (765, 36029), (810, 35858), (813, 35846), (816, 35825), (834, 35747), (836, 35741), (846, 35705), (851, 35690),

Gene: Loanshark\_206 Start: 112939, Stop: 116334, Start Num: 62

Candidate Starts for Loanshark\_206:

(Start: 24 @112846 has 44 MA's), (Start: 25 @112852 has 6 MA's), (Start: 31 @112864 has 8 MA's), (Start: 35 @112873 has 1 MA's), (Start: 62 @112939 has 110 MA's), (78, 113014), (97, 113128), (105, 113152), (121, 113212), (146, 113323), (154, 113362), (162, 113386), (170, 113428), (200, 113527), (210, 113569), (211, 113575), (215, 113587), (223, 113650), (234, 113710), (235, 113713), (241, 113740), (249, 113782), (Start: 267 @113845 has 9 MA's), (310, 113965), (317, 114001), (321, 114019), (324, 114034), (337, 114151), (343, 114190), (359, 114310), (365, 114352), (374, 114397), (376, 114406), (387, 114457), (398, 114499), (414, 114565), (416, 114574), (417, 114577), (418, 114583), (419, 114586), (420, 114595), (421, 114601), (422, 114616), (446, 114703), (470, 114808), (484, 114862), (501, 114949), (507, 114979), (516, 115009), (523, 115042), (525, 115051), (536, 115123), (541, 115153), (569, 115270), (578, 115315), (587, 115357), (619, 115501), (635, 115561), (666, 115663), (696, 115750), (697, 115753), (705, 115771), (713, 115807), (714, 115810), (735, 115870), (739, 115888), (763, 115984), (772, 116014), (777, 116032), (785, 116062), (808, 116155), (812, 116170), (828, 116251), (829, 116257), (832, 116269),

Gene: LolaVinca\_207 Start: 114169, Stop: 117564, Start Num: 62

Candidate Starts for LolaVinca\_207:

(Start: 24 @114076 has 44 MA's), (Start: 25 @114082 has 6 MA's), (Start: 31 @114094 has 8 MA's), (Start: 35 @114103 has 1 MA's), (Start: 62 @114169 has 110 MA's), (78, 114244), (97, 114358), (105, 114382), (121, 114442), (146, 114553), (154, 114592), (162, 114616), (170, 114658), (200, 114757), (210, 114799), (211, 114805), (215, 114817), (223, 114880), (234, 114940), (235, 114943), (241, 114970), (249, 115012), (Start: 267 @115075 has 9 MA's), (317, 115231), (321, 115249), (324, 115264), (337, 115381), (343, 115420), (359, 115540), (365, 115582), (374, 115627), (376, 115636), (387, 115687), (398, 115729), (414, 115795), (416, 115804), (417, 115807), (418, 115813), (419, 115816), (420, 115825), (421, 115831), (422, 115846), (446, 115933), (470, 116038), (484, 116092), (501, 116179), (507, 116209), (516, 116239), (523, 116272), (525, 116281), (536, 116353), (541, 116383), (569, 116500), (578, 116545), (587, 116587), (619, 116731), (635, 116791), (666, 116893), (696, 116980), (697, 116983), (705, 117001), (713, 117037), (714, 117040), (735, 117100), (739, 117118), (763, 117214), (772, 117244), (777, 117262), (785, 117292), (808, 117385), (812, 117400), (828, 117481), (829, 117487), (832, 117499),

Gene: Lollipop1437\_64 Start: 49866, Stop: 46552, Start Num: 67

Candidate Starts for Lollipop1437\_64:

(Start: 67 @49866 has 71 MA's), (Start: 83 @49770 has 6 MA's), (116, 49617), (118, 49608), (150, 49485), (196, 49326), (197, 49320), (220, 49188), (242, 49077), (260, 48996), (276, 48951), (321, 48780), (330, 48738), (340, 48660), (342, 48645), (362, 48507), (413, 48309), (432, 48207), (449, 48141), (465, 48090), (475, 48072), (488, 48027), (538, 47784), (547, 47742), (548, 47739), (550, 47733), (555, 47715), (582, 47619), (586, 47601), (592, 47565), (626, 47421), (629, 47412), (634, 47388), (640, 47361), (651, 47337), (687, 47208), (714, 47118), (719, 47109), (732, 47058), (736, 47037), (742, 47016), (782, 46860), (786, 46845), (826, 46665), (846, 46596),

Gene: LordBart\_63 Start: 42526, Stop: 44781, Start Num: 263

Candidate Starts for LordBart\_63:

(260, 42517), (Start: 263 @42526 has 6 MA's), (314, 42661), (321, 42694), (324, 42709), (332, 42736), (340, 42811), (342, 42826), (355, 42922), (367, 43003), (368, 43012), (391, 43111), (393, 43117), (421, 43204), (423, 43222), (429, 43252), (434, 43273), (437, 43285), (441, 43300), (445, 43315), (450, 43348), (453, 43378), (458, 43384), (472, 43405), (475, 43414), (483, 43444), (504, 43525), (509, 43540), (515, 43558), (519, 43573), (534, 43672), (592, 43903), (606, 43957), (611, 43975), (613, 43987), (626, 44059), (629, 44068), (714, 44257), (716, 44260), (732, 44278), (739, 44311), (749, 44356), (766, 44419), (772, 44443), (780, 44473), (803, 44563), (818, 44635), (825, 44668), (838, 44713), (849, 44749), (851, 44758), (853, 44764),

Gene: LordLeafolot\_211 Start: 113782, Stop: 117177, Start Num: 62

Candidate Starts for LordLeafolot\_211:

(Start: 24 @113689 has 44 MA's), (Start: 25 @113695 has 6 MA's), (Start: 31 @113707 has 8 MA's), (Start: 35 @113716 has 1 MA's), (Start: 62 @113782 has 110 MA's), (78, 113857), (97, 113971), (105, 113995), (121, 114055), (146, 114166), (154, 114205), (162, 114229), (170, 114271), (200, 114370), (210, 114412), (211, 114418), (215, 114430), (223, 114493), (234, 114553), (235, 114556), (241, 114583), (249, 114625), (Start: 267 @114688 has 9 MA's), (317, 114844), (321, 114862), (324, 114877), (337, 114994), (343, 115033), (359, 115153), (365, 115195), (374, 115240), (376, 115249), (387, 115300), (398, 115342), (414, 115408), (416, 115417), (417, 115420), (418, 115426), (419, 115429), (420, 115438), (421, 115444), (422, 115459), (446, 115546), (470, 115651), (484, 115705), (501, 115792), (507, 115822), (516, 115852), (523, 115885), (525, 115894), (536, 115966), (541, 115996), (569, 116113), (578, 116158), (587, 116200), (619, 116344), (635, 116404), (666, 116506), (696, 116593), (697, 116596), (705, 116614), (713, 116650), (714, 116653), (735, 116713), (739, 116731), (763, 116827), (772, 116857), (777, 116875), (785, 116905), (808, 116998), (812, 117013), (828, 117094), (829, 117100), (832, 117112),

Gene: Lorelei\_55 Start: 41564, Stop: 38013, Start Num: 35

Candidate Starts for Lorelei\_55:

(Start: 35 @41564 has 1 MA's), (Start: 63 @41495 has 55 MA's), (Start: 76 @41432 has 1 MA's), (78, 41423), (85, 41381), (101, 41288), (120, 41219), (136, 41150), (152, 41096), (170, 41024), (180, 40988), (194, 40928), (214, 40850), (236, 40703), (247, 40664), (252, 40637), (256, 40619), (Start: 262 @40598 has 3 MA's), (Start: 267 @40583 has 9 MA's), (313, 40463), (316, 40451), (344, 40265), (345, 40259), (351, 40214), (364, 40130), (367, 40112), (382, 40055), (383, 40052), (385, 40040), (420, 39902), (421, 39896), (422, 39881), (424, 39875), (431, 39842), (451, 39764), (455, 39731), (498, 39614), (503, 39590), (524, 39509), (526, 39503), (537, 39434), (547, 39371), (553, 39350), (567, 39305), (578, 39266), (590, 39209), (591, 39200), (615, 39092), (621, 39071), (623, 39050), (633, 39020), (638, 38993), (658, 38927), (661, 38918), (665, 38906), (685, 38819), (695, 38795), (724, 38699), (744, 38603), (763, 38519), (771, 38492), (803, 38354), (804, 38345), (810, 38318), (819, 38270), (820, 38264), (824, 38243), (826, 38237), (855, 38132), (861, 38105), (862, 38093),

Gene: LuckyLeo\_75 Start: 51198, Stop: 54536, Start Num: 64

Candidate Starts for LuckyLeo\_75:

(Start: 64 @51198 has 20 MA's), (Start: 76 @51258 has 1 MA's), (79, 51270), (Start: 83 @51294 has 6 MA's), (97, 51381), (202, 51777), (219, 51873), (241, 51996), (278, 52143), (280, 52152), (Start: 285 @52185 has 1 MA's), (296, 52221), (306, 52263), (312, 52308), (321, 52350), (342, 52482), (343, 52485), (344, 52515), (352, 52566), (357, 52587), (359, 52605), (368, 52668), (388, 52758), (393, 52773), (399, 52794), (449, 52989), (453, 53022), (465, 53040), (488, 53103), (489, 53106), (504, 53169), (515, 53202), (524, 53244), (527, 53256), (532, 53292), (557, 53406), (577, 53472), (583, 53499), (586, 53514), (592, 53550), (606, 53604), (611, 53622), (629, 53718), (634, 53742), (657, 53814), (743, 54018), (769, 54129), (773, 54144), (778, 54165), (781, 54177), (782, 54183), (783, 54186), (789, 54213), (801, 54258), (822, 54366), (833, 54405), (835, 54411), (841, 54435), (846, 54450), (849, 54456), (853, 54471),

Gene: Lukilu\_200 Start: 113716, Stop: 117234, Start Num: 18

Candidate Starts for Lukilu\_200:

(Start: 18 @113716 has 5 MA's), (Start: 24 @113746 has 44 MA's), (Start: 25 @113752 has 6 MA's), (Start: 31 @113764 has 8 MA's), (Start: 35 @113773 has 1 MA's), (Start: 62 @113839 has 110 MA's), (78, 113914), (97, 114028), (105, 114052), (121, 114112), (146, 114223), (154, 114262), (162, 114286), (170, 114328), (200, 114427), (210, 114469), (211, 114475), (215, 114487), (223, 114550), (234, 114610), (235, 114613), (241, 114640), (249, 114682), (Start: 267 @114745 has 9 MA's), (310, 114865), (317, 114901), (321, 114919), (324, 114934), (337, 115051), (343, 115090), (359, 115210), (365, 115252), (374, 115297), (376, 115306), (387, 115357), (398, 115399), (414, 115465), (416, 115474), (417, 115477), (418, 115483), (419, 115486), (420, 115495), (421, 115501), (422, 115516), (446, 115603), (470, 115708), (484, 115762), (501, 115849), (507, 115879), (516, 115909), (523,

115942), (525, 115951), (536, 116023), (541, 116053), (569, 116170), (578, 116215), (587, 116257), (619, 116401), (635, 116461), (666, 116563), (696, 116650), (697, 116653), (705, 116671), (713, 116707), (714, 116710), (735, 116770), (739, 116788), (763, 116884), (772, 116914), (777, 116932), (785, 116962), (808, 117055), (812, 117070), (828, 117151), (829, 117157), (832, 117169),

Gene: Maby2021\_209 Start: 114068, Stop: 117463, Start Num: 62

Candidate Starts for Maby2021\_209:

(Start: 24 @113975 has 44 MA's), (Start: 25 @113981 has 6 MA's), (Start: 31 @113993 has 8 MA's), (Start: 35 @114002 has 1 MA's), (Start: 62 @114068 has 110 MA's), (78, 114143), (97, 114257), (105, 114281), (121, 114341), (146, 114452), (154, 114491), (162, 114515), (170, 114557), (200, 114656), (210, 114698), (211, 114704), (215, 114716), (223, 114779), (234, 114839), (235, 114842), (241, 114869), (249, 114911), (Start: 267 @114974 has 9 MA's), (317, 115130), (321, 115148), (324, 115163), (337, 115280), (343, 115319), (359, 115439), (365, 115481), (374, 115526), (376, 115535), (387, 115586), (398, 115628), (414, 115694), (416, 115703), (417, 115706), (418, 115712), (419, 115715), (420, 115724), (421, 115730), (422, 115745), (446, 115832), (470, 115937), (484, 115991), (501, 116078), (507, 116108), (516, 116138), (523, 116171), (525, 116180), (536, 116252), (541, 116282), (569, 116399), (578, 116444), (587, 116486), (619, 116630), (635, 116690), (666, 116792), (696, 116879), (697, 116882), (705, 116900), (713, 116936), (714, 116939), (735, 116999), (739, 117017), (763, 117113), (772, 117143), (777, 117161), (785, 117191), (808, 117284), (812, 117299), (828, 117380), (829, 117386), (832, 117398),

Gene: MacGully\_67 Start: 47987, Stop: 45444, Start Num: 274

Candidate Starts for MacGully\_67:

(87, 48773), (157, 48497), (195, 48371), (212, 48290), (Start: 274 @47987 has 1 MA's), (305, 47864), (307, 47858), (340, 47660), (342, 47645), (366, 47483), (367, 47474), (379, 47417), (422, 47258), (453, 47108), (465, 47090), (471, 47081), (482, 47045), (488, 47024), (494, 47009), (527, 46808), (536, 46742), (547, 46691), (548, 46688), (550, 46682), (555, 46664), (582, 46568), (586, 46550), (592, 46514), (606, 46460), (611, 46442), (612, 46436), (614, 46418), (629, 46349), (631, 46337), (635, 46319), (661, 46229), (692, 46097), (703, 46064), (721, 46001), (732, 45947), (779, 45761), (788, 45719), (813, 45620), (816, 45599), (817, 45593), (833, 45524), (856, 45449),

Gene: Madi\_65 Start: 47552, Stop: 49987, Start Num: 281

Candidate Starts for Madi\_65:

(276, 47537), (Start: 281 @47552 has 8 MA's), (284, 47570), (310, 47693), (322, 47750), (340, 47864), (342, 47879), (393, 48170), (421, 48257), (448, 48386), (453, 48425), (458, 48431), (472, 48452), (475, 48461), (527, 48659), (529, 48674), (530, 48680), (536, 48722), (551, 48785), (557, 48809), (574, 48866), (580, 48890), (588, 48929), (605, 48995), (606, 49007), (611, 49025), (628, 49118), (631, 49133), (639, 49169), (670, 49271), (742, 49463), (743, 49466), (758, 49541), (761, 49547), (774, 49604), (780, 49631), (782, 49643), (803, 49727), (810, 49757), (822, 49826), (829, 49850), (833, 49865), (849, 49916), (852, 49928), (853, 49931), (859, 49946), (864, 49982),

Gene: Madruga\_89 Start: 57366, Stop: 60599, Start Num: 67

Candidate Starts for Madruga\_89:

(Start: 51 @57339 has 1 MA's), (Start: 67 @57366 has 71 MA's), (Start: 83 @57462 has 6 MA's), (118, 57627), (149, 57741), (160, 57786), (171, 57825), (190, 57876), (219, 58041), (337, 58539), (342, 58584), (345, 58623), (381, 58827), (400, 58908), (420, 58968), (428, 59019), (449, 59115), (451, 59124), (453, 59148), (454, 59154), (464, 59184), (468, 59190), (505, 59322), (506, 59325), (509, 59334), (521, 59376), (524, 59394), (548, 59526), (611, 59772), (642, 59922), (664, 59979), (675, 60021), (688, 60045), (740, 60114), (781, 60282), (803, 60372), (815, 60444), (833, 60519),

Gene: Maneekul\_54 Start: 42498, Stop: 39013, Start Num: 63

Candidate Starts for Maneekul\_54:

(Start: 63 @42498 has 55 MA's), (Start: 76 @42435 has 1 MA's), (78, 42426), (85, 42384), (101, 42291), (120, 42222), (136, 42153), (152, 42099), (170, 42027), (180, 41991), (194, 41931), (236, 41706), (247, 41667), (252, 41640), (256, 41622), (Start: 262 @41601 has 3 MA's), (Start: 267 @41586 has 9 MA's), (296, 41544), (313, 41466), (316, 41454), (344, 41268), (345, 41262), (351, 41217), (364, 41133), (367, 41115), (382, 41058), (383, 41055), (385, 41043), (406, 40971), (420, 40905), (421, 40899), (422, 40884), (424, 40878), (431, 40845), (451, 40767), (455, 40734), (503, 40593), (524, 40512), (526, 40506), (537, 40437), (547, 40374), (553, 40353), (567, 40308), (590, 40212), (591, 40203), (593, 40197), (615, 40095), (617, 40086), (621, 40074), (623, 40053), (633, 40023), (638, 39996), (658, 39930), (661, 39921), (665, 39909), (685, 39822), (733, 39654), (744, 39606), (771, 39495), (803, 39357), (804, 39348), (810, 39321), (819, 39273), (826, 39240), (832, 39213), (861, 39108), (862, 39096),

Gene: Mangeria\_210 Start: 114077, Stop: 117565, Start Num: 24

Candidate Starts for Mangeria\_210:

(Start: 24 @114077 has 44 MA's), (Start: 25 @114083 has 6 MA's), (Start: 31 @114095 has 8 MA's), (Start: 35 @114104 has 1 MA's), (Start: 62 @114170 has 110 MA's), (78, 114245), (97, 114359), (105, 114383), (121, 114443), (146, 114554), (154, 114593), (162, 114617), (170, 114659), (200, 114758), (210, 114800), (211, 114806), (215, 114818), (223, 114881), (234, 114941), (235, 114944), (241, 114971), (249, 115013), (Start: 267 @115076 has 9 MA's), (317, 115232), (321, 115250), (324, 115265), (337, 115382), (343, 115421), (359, 115541), (365, 115583), (374, 115628), (376, 115637), (387, 115688), (398, 115730), (414, 115796), (416, 115805), (417, 115808), (418, 115814), (419, 115817), (420, 115826), (421, 115832), (422, 115847), (446, 115934), (470, 116039), (484, 116093), (501, 116180), (507, 116210), (516, 116240), (523, 116273), (525, 116282), (536, 116354), (541, 116384), (569, 116501), (578, 116546), (587, 116588), (619, 116732), (635, 116792), (666, 116894), (696, 116981), (697, 116984), (705, 117002), (713, 117038), (714, 117041), (735, 117101), (739, 117119), (763, 117215), (772, 117245), (777, 117263), (785, 117293), (808, 117386), (812, 117401), (828, 117482), (829, 117488), (832, 117500),

Gene: Marietta\_61 Start: 45676, Stop: 42425, Start Num: 67

Candidate Starts for Marietta\_61:

(6, 45904), (Start: 67 @45676 has 71 MA's), (80, 45595), (Start: 83 @45580 has 6 MA's), (88, 45535), (116, 45427), (118, 45418), (160, 45253), (197, 45130), (207, 45079), (214, 45052), (220, 44998), (226, 44968), (Start: 267 @44785 has 9 MA's), (276, 44761), (309, 44653), (324, 44575), (330, 44548), (340, 44470), (342, 44455), (362, 44317), (413, 44119), (415, 44113), (420, 44086), (430, 44026), (449, 43951), (453, 43918), (475, 43882), (492, 43825), (506, 43762), (538, 43597), (539, 43594), (547, 43555), (548, 43552), (550, 43546), (552, 43537), (555, 43528), (582, 43432), (586, 43414), (592, 43378), (628, 43228), (640, 43174), (687, 43078), (714, 42994), (719, 42985), (732, 42934), (751, 42844), (779, 42748), (780, 42745), (821, 42562), (856, 42439),

Gene: Maselop\_59 Start: 45784, Stop: 42368, Start Num: 67

Candidate Starts for Maselop\_59:

(Start: 67 @45784 has 71 MA's), (80, 45703), (Start: 83 @45688 has 6 MA's), (101, 45580), (103, 45574), (118, 45526), (138, 45445), (150, 45403), (206, 45193), (209, 45178), (211, 45169), (217, 45145), (219, 45115), (226, 45076), (242, 44995), (250, 44953), (290, 44818), (313, 44704), (324, 44653), (326, 44635), (330, 44626), (340, 44548), (342, 44533), (345, 44494), (352, 44455), (367, 44362), (377, 44311), (379, 44305), (387, 44266), (421, 44161), (422, 44146), (423, 44143), (449, 44029), (450, 44026), (453, 43996), (465, 43978), (467, 43975), (471, 43969), (473, 43966), (482, 43933), (488, 43912), (527, 43744), (539, 43666), (547, 43627), (548, 43624), (550, 43618), (555, 43600), (582, 43504), (586, 43486), (592, 43450), (611, 43378), (629, 43285), (631, 43273), (650, 43210), (665, 43153), (693, 43024), (704, 42994), (720, 42934), (721, 42931), (732, 42877), (751, 42787), (760, 42751), (776, 42706), (779, 42691), (788, 42649), (800, 42604), (813, 42550), (814, 42541), (816, 42529), (817, 42523), (821, 42505), (833, 42454), (834, 42451), (846, 42409),

Gene: Matsumoto\_208 Start: 112819, Stop: 116214, Start Num: 62

Candidate Starts for Matsumoto\_208:

(Start: 24 @112726 has 44 MA's), (Start: 25 @112732 has 6 MA's), (Start: 31 @112744 has 8 MA's), (Start: 35 @112753 has 1 MA's), (Start: 62 @112819 has 110 MA's), (78, 112894), (97, 113008), (105, 113032), (121, 113092), (146, 113203), (154, 113242), (162, 113266), (170, 113308), (200, 113407), (210, 113449), (211, 113455), (215, 113467), (223, 113530), (234, 113590), (235, 113593), (241, 113620), (249, 113662), (Start: 267 @113725 has 9 MA's), (310, 113845), (317, 113881), (321, 113899), (324, 113914), (337, 114031), (343, 114070), (359, 114190), (365, 114232), (374, 114277), (376, 114286), (387, 114337), (398, 114379), (414, 114445), (416, 114454), (417, 114457), (418, 114463), (419, 114466), (420, 114475), (421, 114481), (422, 114496), (446, 114583), (470, 114688), (484, 114742), (501, 114829), (507, 114859), (516, 114889), (523, 114922), (525, 114931), (536, 115003), (541, 115033), (569, 115150), (578, 115195), (587, 115237), (619, 115381), (635, 115441), (666, 115543), (696, 115630), (697, 115633), (705, 115651), (713, 115687), (714, 115690), (735, 115750), (739, 115768), (763, 115864), (772, 115894), (777, 115912), (785, 115942), (808, 116035), (812, 116050), (828, 116131), (829, 116137), (832, 116149),

Gene: McGee\_208 Start: 111920, Stop: 115408, Start Num: 24

Candidate Starts for McGee\_208:

(Start: 24 @111920 has 44 MA's), (Start: 25 @111926 has 6 MA's), (Start: 31 @111938 has 8 MA's), (Start: 35 @111947 has 1 MA's), (Start: 62 @112013 has 110 MA's), (78, 112088), (97, 112202), (105, 112226), (121, 112286), (146, 112397), (154, 112436), (162, 112460), (170, 112502), (200, 112601), (210, 112643), (211, 112649), (215, 112661), (223, 112724), (234, 112784), (235, 112787), (241, 112814), (249, 112856), (Start: 267 @112919 has 9 MA's), (310, 113039), (317, 113075), (321, 113093), (324, 113108), (337, 113225), (343, 113264), (359, 113384), (365, 113426), (374, 113471), (376, 113480), (387, 113531), (398, 113573), (414, 113639), (416, 113648), (417, 113651), (418, 113657), (419, 113660), (420, 113669), (421, 113675), (422, 113690), (446, 113777), (470, 113882), (484, 113936), (501, 114023), (507, 114053), (516, 114083), (523, 114116), (525, 114125), (536, 114197), (541, 114227), (569, 114344), (578, 114389), (587, 114431), (619, 114575), (635, 114635), (666, 114737), (696, 114824), (697, 114827), (705, 114845), (713, 114881), (714, 114884), (735, 114944), (739, 114962), (763, 115058), (772, 115088), (777, 115106), (785, 115136), (808, 115229), (812, 115244), (828, 115325), (829, 115331), (832, 115343),

Gene: McWolfish\_206 Start: 112835, Stop: 116230, Start Num: 62

Candidate Starts for McWolfish\_206:

(Start: 24 @112742 has 44 MA's), (Start: 25 @112748 has 6 MA's), (Start: 31 @112760 has 8 MA's), (Start: 35 @112769 has 1 MA's), (Start: 62 @112835 has 110 MA's), (78, 112910), (97, 113024), (105, 113048), (121, 113108), (146, 113219), (154, 113258), (162, 113282), (170, 113324), (200, 113423), (210, 113465), (211, 113471), (215, 113483), (223, 113546), (234, 113606), (235, 113609), (241, 113636), (249, 113678), (Start: 267 @113741 has 9 MA's), (310, 113861), (317, 113897), (321, 113915), (324, 113930), (337, 114047), (343, 114086), (359, 114206), (365, 114248), (374, 114293), (376, 114302), (387, 114353), (398, 114395), (414, 114461), (416, 114470), (417, 114473), (418, 114479), (419, 114482), (420, 114491), (421, 114497), (422, 114512), (446, 114599), (470, 114704), (484, 114758), (501, 114845), (507, 114875), (516, 114905), (523, 114938), (525, 114947), (536, 115019), (541, 115049), (569, 115166), (578, 115211), (587, 115253), (619, 115397), (635, 115457), (666, 115559), (696, 115646), (697, 115649), (705, 115667), (713, 115703), (714, 115706), (735, 115766), (739, 115784), (763, 115880), (772, 115910), (777, 115928), (785, 115958), (808, 116051), (812, 116066), (828, 116147), (829, 116153), (832, 116165),

Gene: Megamind\_206 Start: 113033, Stop: 116521, Start Num: 24

Candidate Starts for Megamind\_206:

(Start: 24 @113033 has 44 MA's), (Start: 25 @113039 has 6 MA's), (Start: 31 @113051 has 8 MA's), (Start: 35 @113060 has 1 MA's), (Start: 62 @113126 has 110 MA's), (78, 113201), (97, 113315), (105, 113339), (121, 113399), (146, 113510), (154, 113549), (162, 113573), (170, 113615), (200, 113714),



(210, 113756), (211, 113762), (215, 113774), (223, 113837), (234, 113897), (235, 113900), (241, 113927), (249, 113969), (Start: 267 @114032 has 9 MA's), (310, 114152), (317, 114188), (321, 114206), (324, 114221), (337, 114338), (343, 114377), (359, 114497), (365, 114539), (374, 114584), (376, 114593), (387, 114644), (398, 114686), (414, 114752), (416, 114761), (417, 114764), (418, 114770), (419, 114773), (420, 114782), (421, 114788), (422, 114803), (446, 114890), (470, 114995), (484, 115049), (501, 115136), (507, 115166), (516, 115196), (523, 115229), (525, 115238), (536, 115310), (541, 115340), (569, 115457), (578, 115502), (587, 115544), (619, 115688), (635, 115748), (666, 115850), (696, 115937), (697, 115940), (705, 115958), (713, 115994), (714, 115997), (735, 116057), (739, 116075), (763, 116171), (772, 116201), (777, 116219), (785, 116249), (808, 116342), (812, 116357), (828, 116438), (829, 116444), (832, 116456),

Gene: Megatron06\_78 Start: 56087, Stop: 59383, Start Num: 67

Candidate Starts for Megatron06\_78:

(Start: 48 @56060 has 1 MA's), (Start: 67 @56087 has 71 MA's), (79, 56159), (Start: 83 @56183 has 6 MA's), (86, 56216), (118, 56351), (143, 56444), (148, 56462), (160, 56510), (178, 56570), (219, 56762), (271, 56996), (294, 57053), (312, 57152), (318, 57179), (324, 57209), (337, 57287), (342, 57332), (345, 57371), (351, 57413), (363, 57491), (367, 57509), (371, 57527), (373, 57539), (390, 57614), (423, 57770), (443, 57854), (454, 57932), (462, 57953), (464, 57962), (468, 57968), (474, 57977), (494, 58049), (497, 58064), (505, 58103), (509, 58115), (530, 58208), (531, 58214), (539, 58262), (548, 58304), (588, 58454), (590, 58466), (611, 58550), (637, 58691), (675, 58796), (737, 58895), (739, 58904), (755, 58982), (768, 59021), (770, 59036), (783, 59084), (806, 59180), (811, 59198), (815, 59225), (826, 59273), (834, 59303), (835, 59306), (839, 59321), (849, 59351), (851, 59360), (853, 59366), (854, 59369),

Gene: Melpomini\_204 Start: 111911, Stop: 115306, Start Num: 62

Candidate Starts for Melpomini\_204:

(Start: 24 @111818 has 44 MA's), (Start: 25 @111824 has 6 MA's), (Start: 31 @111836 has 8 MA's), (Start: 35 @111845 has 1 MA's), (Start: 62 @111911 has 110 MA's), (78, 111986), (97, 112100), (105, 112124), (121, 112184), (146, 112295), (154, 112334), (162, 112358), (170, 112400), (200, 112499), (210, 112541), (211, 112547), (215, 112559), (223, 112622), (234, 112682), (235, 112685), (241, 112712), (249, 112754), (Start: 267 @112817 has 9 MA's), (317, 112973), (321, 112991), (324, 113006), (337, 113123), (343, 113162), (359, 113282), (365, 113324), (374, 113369), (376, 113378), (387, 113429), (398, 113471), (414, 113537), (416, 113546), (417, 113549), (418, 113555), (419, 113558), (420, 113567), (421, 113573), (422, 113588), (446, 113675), (470, 113780), (484, 113834), (501, 113921), (507, 113951), (516, 113981), (523, 114014), (525, 114023), (536, 114095), (541, 114125), (569, 114242), (578, 114287), (587, 114329), (619, 114473), (635, 114533), (666, 114635), (696, 114722), (697, 114725), (705, 114743), (713, 114779), (714, 114782), (735, 114842), (739, 114860), (763, 114956), (772, 114986), (777, 115004), (785, 115034), (808, 115127), (812, 115142), (828, 115223), (829, 115229), (832, 115241),

Gene: MerCougar\_61 Start: 49170, Stop: 45856, Start Num: 67

Candidate Starts for MerCougar\_61:

(Start: 67 @49170 has 71 MA's), (Start: 83 @49074 has 6 MA's), (116, 48921), (118, 48912), (145, 48807), (150, 48789), (196, 48630), (197, 48624), (201, 48600), (220, 48492), (242, 48381), (276, 48255), (321, 48084), (330, 48042), (334, 48003), (340, 47964), (342, 47949), (362, 47811), (387, 47679), (413, 47613), (423, 47556), (439, 47496), (449, 47445), (475, 47376), (488, 47331), (521, 47196), (547, 47046), (548, 47043), (550, 47037), (555, 47019), (582, 46923), (592, 46869), (629, 46716), (640, 46665), (644, 46656), (687, 46512), (714, 46422), (732, 46362), (736, 46341), (742, 46320), (751, 46272), (777, 46188), (779, 46176), (780, 46173), (802, 46080), (846, 45897), (856, 45867),

Gene: MikeLiesIn\_211 Start: 114262, Stop: 117657, Start Num: 62

Candidate Starts for MikeLiesIn\_211:

(Start: 24 @114169 has 44 MA's), (Start: 25 @114175 has 6 MA's), (Start: 31 @114187 has 8 MA's), (Start: 35 @114196 has 1 MA's), (Start: 62 @114262 has 110 MA's), (78, 114337), (97, 114451), (105, 114475), (121, 114535), (146, 114646), (154, 114685), (162, 114709), (170, 114751), (200, 114850), (210, 114892), (211, 114898), (215, 114910), (223, 114973), (234, 115033), (235, 115036), (241, 115063), (249, 115105), (Start: 267 @115168 has 9 MA's), (310, 115288), (317, 115324), (321, 115342), (324, 115357), (337, 115474), (343, 115513), (359, 115633), (365, 115675), (374, 115720), (376, 115729), (387, 115780), (398, 115822), (414, 115888), (416, 115897), (417, 115900), (418, 115906), (419, 115909), (420, 115918), (421, 115924), (422, 115939), (446, 116026), (470, 116131), (484, 116185), (501, 116272), (507, 116302), (516, 116332), (523, 116365), (525, 116374), (536, 116446), (541, 116476), (569, 116593), (578, 116638), (587, 116680), (619, 116824), (635, 116884), (666, 116986), (696, 117073), (697, 117076), (705, 117094), (713, 117130), (714, 117133), (735, 117193), (739, 117211), (763, 117307), (772, 117337), (777, 117355), (785, 117385), (808, 117478), (812, 117493), (828, 117574), (829, 117580), (832, 117592),

Gene: Mikro\_205 Start: 114811, Stop: 118206, Start Num: 62

Candidate Starts for Mikro\_205:

(Start: 24 @114718 has 44 MA's), (Start: 25 @114724 has 6 MA's), (Start: 31 @114736 has 8 MA's), (Start: 35 @114745 has 1 MA's), (Start: 62 @114811 has 110 MA's), (78, 114886), (97, 115000), (105, 115024), (121, 115084), (146, 115195), (154, 115234), (162, 115258), (170, 115300), (200, 115399), (210, 115441), (211, 115447), (215, 115459), (223, 115522), (234, 115582), (235, 115585), (241, 115612), (249, 115654), (Start: 267 @115717 has 9 MA's), (317, 115873), (321, 115891), (324, 115906), (337, 116023), (343, 116062), (359, 116182), (365, 116224), (374, 116269), (376, 116278), (387, 116329), (398, 116371), (414, 116437), (416, 116446), (417, 116449), (418, 116455), (419, 116458), (420, 116467), (421, 116473), (422, 116488), (446, 116575), (470, 116680), (484, 116734), (501, 116821), (507, 116851), (516, 116881), (523, 116914), (525, 116923), (536, 116995), (541, 117025), (569, 117142), (578, 117187), (587, 117229), (619, 117373), (635, 117433), (666, 117535), (696, 117622), (697, 117625), (705, 117643), (713, 117679), (714, 117682), (735, 117742), (739, 117760), (763, 117856), (772, 117886), (777, 117904), (785, 117934), (808, 118027), (812, 118042), (828, 118123), (829, 118129), (832, 118141),

Gene: Mima20\_79 Start: 51983, Stop: 55228, Start Num: 83

Candidate Starts for Mima20\_79:

(Start: 39 @51839 has 2 MA's), (Start: 64 @51887 has 20 MA's), (Start: 76 @51947 has 1 MA's), (Start: 83 @51983 has 6 MA's), (88, 52028), (97, 52070), (163, 52331), (196, 52433), (202, 52466), (219, 52562), (278, 52832), (280, 52841), (306, 52949), (312, 52994), (321, 53036), (342, 53168), (343, 53171), (344, 53201), (347, 53222), (359, 53291), (367, 53345), (388, 53444), (393, 53459), (410, 53501), (449, 53675), (453, 53708), (465, 53726), (475, 53744), (488, 53789), (489, 53792), (515, 53888), (524, 53930), (527, 53942), (532, 53978), (577, 54158), (586, 54200), (592, 54236), (606, 54290), (611, 54308), (629, 54404), (631, 54416), (714, 54611), (740, 54695), (757, 54776), (765, 54800), (769, 54815), (778, 54851), (781, 54863), (782, 54869), (783, 54872), (789, 54899), (801, 54944), (822, 55052), (835, 55097), (841, 55121), (853, 55157),

Gene: MintFritos\_93 Start: 69920, Stop: 72733, Start Num: 53

Candidate Starts for MintFritos\_93:

(Start: 44 @69905 has 1 MA's), (Start: 50 @69917 has 1 MA's), (Start: 53 @69920 has 8 MA's), (78, 70013), (86, 70073), (122, 70223), (123, 70226), (124, 70232), (134, 70274), (147, 70331), (153, 70361), (154, 70364), (170, 70427), (174, 70448), (175, 70451), (185, 70478), (211, 70595), (214, 70604), (222, 70661), (224, 70670), (252, 70802), (313, 70967), (317, 70985), (320, 71000), (322, 71006), (324, 71018), (332, 71045), (333, 71048), (339, 71108), (340, 71117), (341, 71120), (343, 71132), (346, 71177), (358, 71246), (361, 71270), (392, 71426), (396, 71444), (402, 71468), (405, 71486), (424, 71582), (432, 71624), (435, 71630), (446, 71666), (447, 71675), (450, 71693), (451, 71699), (453, 71723), (454, 71729), (455, 71732), (462, 71750), (463, 71753), (499, 71846), (509, 71891), (511, 71897), (518, 71921), (519, 71924), (521, 71933), (522, 71939), (524, 71951), (545,

72068), (547, 72086), (548, 72089), (551, 72098), (579, 72212), (582, 72227), (615, 72374), (618, 72386), (620, 72392), (629, 72425), (636, 72458), (640, 72476), (645, 72488), (647, 72497), (677, 72614), (686, 72638),

Gene: MoMoMixon\_207 Start: 113214, Stop: 116696, Start Num: 25

Candidate Starts for MoMoMixon\_207:

(Start: 24 @113208 has 44 MA's), (Start: 25 @113214 has 6 MA's), (Start: 31 @113226 has 8 MA's), (Start: 35 @113235 has 1 MA's), (Start: 62 @113301 has 110 MA's), (78, 113376), (97, 113490), (105, 113514), (121, 113574), (146, 113685), (154, 113724), (162, 113748), (170, 113790), (200, 113889), (210, 113931), (211, 113937), (215, 113949), (223, 114012), (234, 114072), (235, 114075), (241, 114102), (249, 114144), (Start: 267 @114207 has 9 MA's), (317, 114363), (321, 114381), (324, 114396), (337, 114513), (343, 114552), (359, 114672), (365, 114714), (374, 114759), (376, 114768), (387, 114819), (398, 114861), (414, 114927), (416, 114936), (417, 114939), (418, 114945), (419, 114948), (420, 114957), (421, 114963), (422, 114978), (446, 115065), (470, 115170), (484, 115224), (501, 115311), (507, 115341), (516, 115371), (523, 115404), (525, 115413), (536, 115485), (541, 115515), (569, 115632), (578, 115677), (587, 115719), (619, 115863), (635, 115923), (666, 116025), (696, 116112), (697, 116115), (705, 116133), (713, 116169), (714, 116172), (735, 116232), (739, 116250), (763, 116346), (772, 116376), (777, 116394), (785, 116424), (808, 116517), (812, 116532), (828, 116613), (829, 116619), (832, 116631),

Gene: MoiGyank\_82 Start: 52491, Stop: 55832, Start Num: 64

Candidate Starts for MoiGyank\_82:

(Start: 39 @52443 has 2 MA's), (Start: 64 @52491 has 20 MA's), (Start: 76 @52551 has 1 MA's), (Start: 83 @52587 has 6 MA's), (88, 52632), (97, 52674), (163, 52935), (196, 53037), (202, 53070), (219, 53166), (278, 53436), (280, 53445), (306, 53553), (312, 53598), (321, 53640), (342, 53772), (343, 53775), (344, 53805), (347, 53826), (359, 53895), (367, 53949), (388, 54048), (393, 54063), (410, 54105), (449, 54279), (453, 54312), (465, 54330), (475, 54348), (488, 54393), (489, 54396), (515, 54492), (524, 54534), (527, 54546), (532, 54582), (577, 54762), (586, 54804), (592, 54840), (606, 54894), (611, 54912), (629, 55008), (631, 55020), (714, 55215), (740, 55299), (757, 55380), (765, 55404), (769, 55419), (778, 55455), (781, 55467), (782, 55473), (783, 55476), (789, 55503), (801, 55548), (822, 55656), (835, 55701), (841, 55725), (853, 55761),

Gene: Momo\_210 Start: 112377, Stop: 115772, Start Num: 62

Candidate Starts for Momo\_210:

(Start: 24 @112284 has 44 MA's), (Start: 25 @112290 has 6 MA's), (Start: 31 @112302 has 8 MA's), (Start: 35 @112311 has 1 MA's), (Start: 62 @112377 has 110 MA's), (78, 112452), (97, 112566), (105, 112590), (121, 112650), (146, 112761), (154, 112800), (162, 112824), (170, 112866), (200, 112965), (210, 113007), (211, 113013), (215, 113025), (223, 113088), (234, 113148), (235, 113151), (241, 113178), (249, 113220), (Start: 267 @113283 has 9 MA's), (310, 113403), (317, 113439), (321, 113457), (324, 113472), (337, 113589), (343, 113628), (359, 113748), (365, 113790), (374, 113835), (376, 113844), (387, 113895), (398, 113937), (414, 114003), (416, 114012), (417, 114015), (418, 114021), (419, 114024), (420, 114033), (421, 114039), (422, 114054), (446, 114141), (470, 114246), (484, 114300), (501, 114387), (507, 114417), (516, 114447), (523, 114480), (525, 114489), (536, 114561), (541, 114591), (569, 114708), (578, 114753), (587, 114795), (619, 114939), (635, 114999), (666, 115101), (696, 115188), (697, 115191), (705, 115209), (713, 115245), (714, 115248), (735, 115308), (739, 115326), (763, 115422), (772, 115452), (777, 115470), (785, 115500), (808, 115593), (812, 115608), (828, 115689), (829, 115695), (832, 115707),

Gene: MontyDev\_76 Start: 55561, Stop: 57873, Start Num: 267

Candidate Starts for MontyDev\_76:

(Start: 267 @55561 has 9 MA's), (304, 55657), (311, 55696), (321, 55747), (322, 55750), (323, 55759), (324, 55762), (333, 55792), (337, 55840), (342, 55876), (379, 56110), (386, 56143), (410, 56209), (423, 56287), (426, 56305), (465, 56470), (475, 56488), (496, 56560), (497, 56563), (502, 56587),

(505, 56602), (515, 56632), (580, 56905), (589, 56947), (590, 56953), (592, 56965), (605, 57007), (611, 57037), (613, 57049), (624, 57109), (628, 57127), (630, 57133), (638, 57175), (648, 57202), (658, 57238), (738, 57361), (739, 57364), (747, 57400), (773, 57499), (781, 57526), (782, 57532), (789, 57562), (817, 57691), (818, 57697), (831, 57754), (836, 57769), (839, 57781), (844, 57799),

Gene: Mopey\_68 Start: 49703, Stop: 53005, Start Num: 26

Candidate Starts for Mopey\_68:

(Start: 26 @49703 has 20 MA's), (Start: 58 @49790 has 1 MA's), (61, 49796), (Start: 67 @49805 has 71 MA's), (Start: 83 @49901 has 6 MA's), (118, 50057), (141, 50144), (142, 50147), (154, 50198), (219, 50462), (226, 50501), (239, 50573), (242, 50582), (259, 50657), (Start: 281 @50723 has 8 MA's), (282, 50729), (298, 50783), (306, 50801), (313, 50852), (314, 50855), (320, 50885), (335, 50969), (336, 50978), (340, 51005), (342, 51020), (367, 51197), (368, 51206), (372, 51221), (393, 51311), (420, 51392), (430, 51452), (449, 51527), (453, 51560), (458, 51566), (472, 51587), (475, 51596), (488, 51641), (505, 51710), (510, 51725), (527, 51794), (536, 51857), (545, 51890), (546, 51893), (557, 51944), (579, 52019), (606, 52142), (611, 52160), (628, 52238), (629, 52241), (631, 52253), (643, 52298), (651, 52319), (654, 52331), (661, 52361), (668, 52382), (716, 52454), (740, 52511), (763, 52610), (781, 52676), (803, 52766), (810, 52796), (811, 52799), (816, 52829), (825, 52874), (836, 52916), (844, 52946), (849, 52958), (853, 52973), (856, 52982),

Gene: Morizzled23\_206 Start: 111744, Stop: 115139, Start Num: 62

Candidate Starts for Morizzled23\_206:

(Start: 24 @111651 has 44 MA's), (Start: 25 @111657 has 6 MA's), (Start: 31 @111669 has 8 MA's), (Start: 35 @111678 has 1 MA's), (Start: 62 @111744 has 110 MA's), (78, 111819), (97, 111933), (105, 111957), (121, 112017), (146, 112128), (154, 112167), (162, 112191), (170, 112233), (200, 112332), (210, 112374), (211, 112380), (215, 112392), (223, 112455), (234, 112515), (235, 112518), (241, 112545), (249, 112587), (Start: 267 @112650 has 9 MA's), (310, 112770), (317, 112806), (321, 112824), (324, 112839), (337, 112956), (343, 112995), (359, 113115), (365, 113157), (374, 113202), (376, 113211), (387, 113262), (398, 113304), (414, 113370), (416, 113379), (417, 113382), (418, 113388), (419, 113391), (420, 113400), (421, 113406), (422, 113421), (446, 113508), (470, 113613), (484, 113667), (501, 113754), (507, 113784), (516, 113814), (523, 113847), (525, 113856), (536, 113928), (541, 113958), (569, 114075), (578, 114120), (587, 114162), (619, 114306), (635, 114366), (666, 114468), (696, 114555), (697, 114558), (705, 114576), (713, 114612), (714, 114615), (735, 114675), (739, 114693), (763, 114789), (772, 114819), (777, 114837), (785, 114867), (808, 114960), (812, 114975), (828, 115056), (829, 115062), (832, 115074),

Gene: MortySmith\_55 Start: 40308, Stop: 42608, Start Num: 261

Candidate Starts for MortySmith\_55:

(Start: 261 @40308 has 29 MA's), (Start: 263 @40314 has 6 MA's), (293, 40389), (310, 40461), (314, 40482), (321, 40515), (323, 40527), (324, 40530), (326, 40548), (329, 40554), (339, 40623), (342, 40647), (345, 40686), (355, 40743), (367, 40824), (393, 40938), (397, 40950), (421, 41025), (423, 41043), (441, 41121), (443, 41127), (445, 41136), (450, 41169), (453, 41199), (458, 41205), (472, 41226), (475, 41235), (483, 41265), (503, 41340), (505, 41349), (514, 41373), (515, 41379), (519, 41394), (536, 41496), (553, 41568), (559, 41592), (583, 41676), (605, 41766), (606, 41778), (611, 41796), (625, 41874), (626, 41880), (629, 41889), (635, 41922), (656, 41994), (748, 42174), (754, 42204), (772, 42267), (788, 42339), (818, 42462), (838, 42540), (851, 42585), (853, 42591),

Gene: Myrna\_192 Start: 109812, Stop: 113228, Start Num: 57

Candidate Starts for Myrna\_192:

(Start: 57 @109812 has 3 MA's), (79, 109899), (90, 109974), (106, 110037), (145, 110202), (203, 110430), (210, 110463), (211, 110469), (214, 110478), (216, 110484), (221, 110535), (223, 110544), (234, 110601), (235, 110604), (241, 110631), (254, 110688), (259, 110709), (Start: 267 @110733 has 9 MA's), (321, 110907), (324, 110922), (335, 111027), (355, 111171), (359, 111198), (376, 111294), (394, 111360), (406, 111417), (416, 111462), (417, 111465), (421, 111489), (424, 111510), (442,

111576), (446, 111594), (447, 111603), (451, 111627), (486, 111762), (520, 111909), (523, 111930), (525, 111939), (529, 111963), (538, 112020), (541, 112035), (548, 112065), (570, 112152), (578, 112188), (592, 112254), (605, 112296), (606, 112308), (609, 112317), (627, 112419), (635, 112455), (665, 112554), (714, 112704), (728, 112737), (756, 112860), (772, 112911), (777, 112929), (787, 112965), (793, 112995), (798, 113013), (807, 113049), (823, 113130), (829, 113151), (832, 113163), (845, 113205), (850, 113220),

Gene: Nabi\_55 Start: 41492, Stop: 38013, Start Num: 63

Candidate Starts for Nabi\_55:

(Start: 35 @41561 has 1 MA's), (Start: 63 @41492 has 55 MA's), (Start: 76 @41432 has 1 MA's), (78, 41423), (85, 41381), (101, 41288), (120, 41219), (136, 41150), (152, 41096), (170, 41024), (194, 40928), (214, 40850), (236, 40703), (247, 40664), (252, 40637), (256, 40619), (Start: 262 @40598 has 3 MA's), (Start: 267 @40583 has 9 MA's), (313, 40463), (316, 40451), (344, 40265), (345, 40259), (364, 40130), (367, 40112), (382, 40055), (383, 40052), (385, 40040), (420, 39902), (421, 39896), (422, 39881), (424, 39875), (431, 39842), (451, 39764), (455, 39731), (492, 39641), (503, 39590), (524, 39509), (526, 39503), (537, 39434), (544, 39392), (547, 39371), (553, 39350), (567, 39305), (578, 39266), (590, 39209), (591, 39200), (612, 39119), (615, 39092), (621, 39071), (623, 39050), (633, 39020), (638, 38993), (658, 38927), (661, 38918), (665, 38906), (685, 38819), (695, 38795), (724, 38699), (744, 38603), (763, 38519), (771, 38492), (803, 38354), (804, 38345), (810, 38318), (819, 38270), (820, 38264), (824, 38243), (826, 38237), (855, 38132), (861, 38105), (862, 38093),

Gene: NadineRae\_59 Start: 44917, Stop: 41666, Start Num: 67

Candidate Starts for NadineRae\_59:

(22, 45019), (27, 45007), (54, 44938), (Start: 67 @44917 has 71 MA's), (80, 44836), (Start: 83 @44821 has 6 MA's), (88, 44776), (116, 44668), (118, 44659), (197, 44371), (207, 44320), (214, 44293), (220, 44239), (226, 44209), (Start: 267 @44026 has 9 MA's), (276, 44002), (309, 43894), (324, 43816), (330, 43789), (340, 43711), (342, 43696), (362, 43558), (379, 43465), (413, 43360), (415, 43354), (420, 43327), (430, 43267), (449, 43192), (453, 43159), (475, 43123), (488, 43078), (492, 43066), (506, 43003), (538, 42838), (539, 42835), (547, 42796), (548, 42793), (550, 42787), (552, 42778), (555, 42769), (582, 42673), (586, 42655), (592, 42619), (640, 42415), (687, 42319), (690, 42316), (714, 42235), (719, 42226), (732, 42175), (751, 42085), (779, 41989), (780, 41986), (821, 41803),

Gene: Naija\_210 Start: 113080, Stop: 116475, Start Num: 62

Candidate Starts for Naija\_210:

(Start: 24 @112987 has 44 MA's), (Start: 25 @112993 has 6 MA's), (Start: 31 @113005 has 8 MA's), (Start: 35 @113014 has 1 MA's), (Start: 62 @113080 has 110 MA's), (78, 113155), (97, 113269), (105, 113293), (121, 113353), (146, 113464), (154, 113503), (162, 113527), (170, 113569), (200, 113668), (210, 113710), (211, 113716), (215, 113728), (223, 113791), (234, 113851), (235, 113854), (241, 113881), (249, 113923), (Start: 267 @113986 has 9 MA's), (310, 114106), (317, 114142), (321, 114160), (324, 114175), (337, 114292), (343, 114331), (359, 114451), (365, 114493), (374, 114538), (376, 114547), (387, 114598), (398, 114640), (414, 114706), (416, 114715), (417, 114718), (418, 114724), (419, 114727), (420, 114736), (421, 114742), (422, 114757), (446, 114844), (470, 114949), (484, 115003), (501, 115090), (507, 115120), (516, 115150), (523, 115183), (525, 115192), (536, 115264), (541, 115294), (569, 115411), (578, 115456), (587, 115498), (619, 115642), (635, 115702), (666, 115804), (696, 115891), (697, 115894), (705, 115912), (713, 115948), (714, 115951), (735, 116011), (739, 116029), (763, 116125), (772, 116155), (777, 116173), (785, 116203), (808, 116296), (812, 116311), (828, 116392), (829, 116398), (832, 116410),

Gene: Nanodon\_56 Start: 41425, Stop: 37946, Start Num: 63

Candidate Starts for Nanodon\_56:

(7, 41629), (Start: 35 @41494 has 1 MA's), (Start: 63 @41425 has 55 MA's), (Start: 76 @41362 has 1 MA's), (78, 41353), (101, 41218), (120, 41149), (136, 41080), (152, 41026), (170, 40954), (194, 40858), (214, 40780), (236, 40633), (247, 40594), (256, 40549), (Start: 262 @40528 has 3 MA's),

(Start: 267 @40513 has 9 MA's), (313, 40393), (330, 40318), (344, 40195), (345, 40189), (351, 40144), (364, 40060), (367, 40042), (382, 39985), (383, 39982), (385, 39970), (420, 39832), (422, 39811), (424, 39805), (426, 39790), (431, 39772), (439, 39748), (443, 39742), (450, 39700), (451, 39694), (455, 39661), (503, 39520), (524, 39439), (526, 39433), (537, 39364), (547, 39301), (567, 39235), (578, 39196), (590, 39139), (591, 39130), (615, 39022), (617, 39013), (621, 39001), (623, 38980), (633, 38950), (638, 38923), (658, 38857), (661, 38848), (665, 38836), (685, 38749), (695, 38725), (744, 38533), (763, 38449), (771, 38422), (773, 38416), (803, 38284), (804, 38275), (810, 38248), (819, 38200), (820, 38194), (826, 38167), (862, 38023),

Gene: Napoleon13\_206 Start: 112108, Stop: 115503, Start Num: 62

Candidate Starts for Napoleon13\_206:

(Start: 24 @112015 has 44 MA's), (Start: 25 @112021 has 6 MA's), (Start: 31 @112033 has 8 MA's), (Start: 35 @112042 has 1 MA's), (Start: 62 @112108 has 110 MA's), (78, 112183), (97, 112297), (105, 112321), (121, 112381), (146, 112492), (154, 112531), (162, 112555), (170, 112597), (200, 112696), (210, 112738), (211, 112744), (215, 112756), (223, 112819), (234, 112879), (235, 112882), (241, 112909), (249, 112951), (Start: 267 @113014 has 9 MA's), (310, 113134), (317, 113170), (321, 113188), (324, 113203), (337, 113320), (343, 113359), (359, 113479), (365, 113521), (374, 113566), (376, 113575), (387, 113626), (398, 113668), (414, 113734), (416, 113743), (417, 113746), (418, 113752), (419, 113755), (420, 113764), (421, 113770), (422, 113785), (446, 113872), (470, 113977), (484, 114031), (501, 114118), (507, 114148), (516, 114178), (523, 114211), (525, 114220), (536, 114292), (541, 114322), (569, 114439), (578, 114484), (587, 114526), (619, 114670), (635, 114730), (666, 114832), (696, 114919), (697, 114922), (705, 114940), (713, 114976), (714, 114979), (735, 115039), (739, 115057), (763, 115153), (772, 115183), (777, 115201), (785, 115231), (808, 115324), (812, 115339), (828, 115420), (829, 115426), (832, 115438),

Gene: Nappy\_210 Start: 114681, Stop: 118169, Start Num: 24

Candidate Starts for Nappy\_210:

(Start: 24 @114681 has 44 MA's), (Start: 25 @114687 has 6 MA's), (Start: 31 @114699 has 8 MA's), (Start: 35 @114708 has 1 MA's), (Start: 62 @114774 has 110 MA's), (78, 114849), (97, 114963), (105, 114987), (121, 115047), (146, 115158), (154, 115197), (162, 115221), (170, 115263), (172, 115269), (200, 115362), (210, 115404), (211, 115410), (215, 115422), (223, 115485), (234, 115545), (235, 115548), (241, 115575), (249, 115617), (Start: 267 @115680 has 9 MA's), (317, 115836), (321, 115854), (324, 115869), (337, 115986), (343, 116025), (359, 116145), (365, 116187), (374, 116232), (376, 116241), (387, 116292), (398, 116334), (414, 116400), (416, 116409), (417, 116412), (418, 116418), (419, 116421), (420, 116430), (421, 116436), (422, 116451), (446, 116538), (470, 116643), (484, 116697), (501, 116784), (507, 116814), (516, 116844), (523, 116877), (525, 116886), (536, 116958), (541, 116988), (569, 117105), (578, 117150), (587, 117192), (619, 117336), (635, 117396), (666, 117498), (696, 117585), (697, 117588), (705, 117606), (713, 117642), (714, 117645), (735, 117705), (739, 117723), (763, 117819), (772, 117849), (777, 117867), (785, 117897), (808, 117990), (812, 118005), (828, 118086), (829, 118092), (832, 118104),

Gene: NarutoRun\_57 Start: 41234, Stop: 43537, Start Num: 261

Candidate Starts for NarutoRun\_57:

(Start: 261 @41234 has 29 MA's), (Start: 263 @41240 has 6 MA's), (293, 41318), (310, 41390), (314, 41411), (321, 41444), (323, 41456), (324, 41459), (326, 41477), (339, 41552), (342, 41576), (345, 41615), (352, 41660), (355, 41672), (367, 41753), (393, 41867), (397, 41879), (421, 41954), (423, 41972), (441, 42050), (443, 42056), (445, 42065), (450, 42098), (453, 42128), (458, 42134), (472, 42155), (475, 42164), (483, 42194), (503, 42269), (505, 42278), (514, 42302), (515, 42308), (519, 42323), (524, 42350), (536, 42425), (553, 42497), (559, 42521), (583, 42605), (605, 42695), (606, 42707), (611, 42725), (625, 42803), (626, 42809), (629, 42818), (635, 42851), (656, 42923), (748, 43103), (754, 43133), (772, 43196), (788, 43268), (818, 43391), (825, 43424), (838, 43469), (851, 43514), (853, 43520),

Gene: NatB6\_60 Start: 48176, Stop: 44865, Start Num: 67

Candidate Starts for NatB6\_60:

(5, 48419), (Start: 67 @48176 has 71 MA's), (79, 48104), (Start: 83 @48080 has 6 MA's), (88, 48035), (116, 47927), (118, 47918), (150, 47795), (196, 47636), (197, 47630), (201, 47606), (220, 47498), (226, 47468), (242, 47387), (276, 47261), (288, 47243), (321, 47090), (330, 47048), (340, 46970), (342, 46955), (362, 46817), (413, 46619), (422, 46565), (423, 46562), (439, 46502), (449, 46451), (465, 46400), (475, 46382), (488, 46337), (538, 46097), (547, 46055), (548, 46052), (550, 46046), (555, 46028), (582, 45932), (592, 45878), (626, 45734), (629, 45725), (638, 45680), (651, 45650), (671, 45575), (687, 45521), (702, 45479), (714, 45431), (736, 45350), (742, 45329), (762, 45239), (772, 45209), (779, 45185), (780, 45182), (821, 44999), (836, 44942),

Gene: Naval22\_214 Start: 114857, Stop: 118252, Start Num: 62

Candidate Starts for Naval22\_214:

(Start: 24 @114764 has 44 MA's), (Start: 25 @114770 has 6 MA's), (Start: 31 @114782 has 8 MA's), (Start: 35 @114791 has 1 MA's), (Start: 62 @114857 has 110 MA's), (78, 114932), (97, 115046), (105, 115070), (121, 115130), (146, 115241), (154, 115280), (162, 115304), (170, 115346), (200, 115445), (210, 115487), (211, 115493), (215, 115505), (223, 115568), (234, 115628), (235, 115631), (241, 115658), (249, 115700), (Start: 267 @115763 has 9 MA's), (310, 115883), (317, 115919), (321, 115937), (324, 115952), (337, 116069), (343, 116108), (359, 116228), (365, 116270), (374, 116315), (376, 116324), (387, 116375), (398, 116417), (414, 116483), (416, 116492), (417, 116495), (418, 116501), (419, 116504), (420, 116513), (421, 116519), (422, 116534), (446, 116621), (470, 116726), (484, 116780), (501, 116867), (507, 116897), (516, 116927), (523, 116960), (525, 116969), (536, 117041), (541, 117071), (569, 117188), (578, 117233), (587, 117275), (619, 117419), (635, 117479), (666, 117581), (696, 117668), (697, 117671), (705, 117689), (713, 117725), (714, 117728), (735, 117788), (739, 117806), (763, 117902), (772, 117932), (777, 117950), (785, 117980), (808, 118073), (812, 118088), (828, 118169), (829, 118175), (832, 118187),

Gene: NedWong\_208 Start: 113513, Stop: 116908, Start Num: 62

Candidate Starts for NedWong\_208:

(Start: 24 @113420 has 44 MA's), (Start: 25 @113426 has 6 MA's), (Start: 31 @113438 has 8 MA's), (Start: 35 @113447 has 1 MA's), (Start: 62 @113513 has 110 MA's), (78, 113588), (97, 113702), (105, 113726), (121, 113786), (146, 113897), (154, 113936), (162, 113960), (170, 114002), (200, 114101), (210, 114143), (211, 114149), (215, 114161), (223, 114224), (234, 114284), (235, 114287), (241, 114314), (249, 114356), (Start: 267 @114419 has 9 MA's), (310, 114539), (317, 114575), (321, 114593), (324, 114608), (337, 114725), (343, 114764), (359, 114884), (365, 114926), (374, 114971), (376, 114980), (387, 115031), (398, 115073), (414, 115139), (416, 115148), (417, 115151), (418, 115157), (419, 115160), (420, 115169), (421, 115175), (422, 115190), (446, 115277), (470, 115382), (484, 115436), (501, 115523), (507, 115553), (516, 115583), (523, 115616), (525, 115625), (536, 115697), (541, 115727), (569, 115844), (578, 115889), (587, 115931), (619, 116075), (635, 116135), (666, 116237), (696, 116324), (697, 116327), (705, 116345), (713, 116381), (714, 116384), (735, 116444), (739, 116462), (763, 116558), (772, 116588), (777, 116606), (785, 116636), (808, 116729), (812, 116744), (828, 116825), (829, 116831), (832, 116843),

Gene: Neptune\_57 Start: 41252, Stop: 43555, Start Num: 261

Candidate Starts for Neptune\_57:

(Start: 261 @41252 has 29 MA's), (Start: 263 @41258 has 6 MA's), (293, 41336), (310, 41408), (314, 41429), (321, 41462), (323, 41474), (324, 41477), (326, 41495), (339, 41570), (342, 41594), (345, 41633), (352, 41678), (355, 41690), (367, 41771), (393, 41885), (397, 41897), (421, 41972), (423, 41990), (441, 42068), (443, 42074), (445, 42083), (450, 42116), (453, 42146), (458, 42152), (472, 42173), (475, 42182), (483, 42212), (503, 42287), (505, 42296), (514, 42320), (515, 42326), (516, 42332), (519, 42341), (536, 42443), (553, 42515), (559, 42539), (583, 42623), (605, 42713), (606, 42725), (611, 42743), (625, 42821), (626, 42827), (629, 42836), (635, 42869), (656, 42941), (748, 43121), (754, 43151), (772, 43214), (788, 43286), (818, 43409), (825, 43442), (838, 43487), (851,

43532), (853, 43538),

Gene: Nerdos\_52 Start: 40231, Stop: 36752, Start Num: 63

Candidate Starts for Nerdos\_52:

(6, 40441), (Start: 63 @40231 has 55 MA's), (78, 40159), (Start: 83 @40132 has 6 MA's), (85, 40117), (120, 39955), (126, 39928), (129, 39922), (152, 39832), (156, 39817), (169, 39763), (170, 39760), (194, 39664), (214, 39586), (236, 39439), (247, 39400), (256, 39355), (Start: 262 @39334 has 3 MA's), (Start: 267 @39319 has 9 MA's), (296, 39277), (300, 39265), (313, 39199), (316, 39187), (330, 39124), (345, 38995), (346, 38986), (351, 38950), (364, 38866), (367, 38848), (382, 38791), (383, 38788), (385, 38776), (420, 38638), (421, 38632), (422, 38617), (424, 38611), (431, 38578), (451, 38500), (455, 38467), (503, 38326), (520, 38269), (524, 38245), (526, 38239), (537, 38170), (547, 38107), (567, 38041), (572, 38020), (578, 38002), (590, 37945), (591, 37936), (615, 37828), (617, 37819), (621, 37807), (623, 37786), (633, 37756), (638, 37729), (658, 37663), (661, 37654), (665, 37642), (685, 37555), (695, 37531), (709, 37483), (744, 37339), (760, 37264), (803, 37090), (810, 37054), (819, 37006), (826, 36973),

Gene: Ngannou\_206 Start: 111359, Stop: 114754, Start Num: 62

Candidate Starts for Ngannou\_206:

(Start: 24 @111266 has 44 MA's), (Start: 25 @111272 has 6 MA's), (Start: 31 @111284 has 8 MA's), (Start: 35 @111293 has 1 MA's), (Start: 62 @111359 has 110 MA's), (78, 111434), (97, 111548), (105, 111572), (121, 111632), (146, 111743), (154, 111782), (162, 111806), (170, 111848), (200, 111947), (210, 111989), (211, 111995), (215, 112007), (223, 112070), (234, 112130), (235, 112133), (241, 112160), (249, 112202), (Start: 267 @112265 has 9 MA's), (310, 112385), (317, 112421), (321, 112439), (324, 112454), (337, 112571), (343, 112610), (359, 112730), (365, 112772), (374, 112817), (376, 112826), (387, 112877), (398, 112919), (414, 112985), (416, 112994), (417, 112997), (418, 113003), (419, 113006), (420, 113015), (421, 113021), (422, 113036), (446, 113123), (470, 113228), (484, 113282), (501, 113369), (507, 113399), (516, 113429), (523, 113462), (525, 113471), (536, 113543), (541, 113573), (569, 113690), (578, 113735), (587, 113777), (619, 113921), (635, 113981), (666, 114083), (696, 114170), (697, 114173), (705, 114191), (713, 114227), (714, 114230), (735, 114290), (739, 114308), (763, 114404), (772, 114434), (777, 114452), (785, 114482), (808, 114575), (812, 114590), (828, 114671), (829, 114677), (832, 114689),

Gene: Nidhogg\_210 Start: 113906, Stop: 117301, Start Num: 62

Candidate Starts for Nidhogg\_210:

(Start: 24 @113813 has 44 MA's), (Start: 25 @113819 has 6 MA's), (Start: 31 @113831 has 8 MA's), (Start: 35 @113840 has 1 MA's), (Start: 62 @113906 has 110 MA's), (78, 113981), (97, 114095), (105, 114119), (121, 114179), (146, 114290), (154, 114329), (162, 114353), (170, 114395), (200, 114494), (210, 114536), (211, 114542), (215, 114554), (223, 114617), (234, 114677), (235, 114680), (241, 114707), (249, 114749), (Start: 267 @114812 has 9 MA's), (310, 114932), (317, 114968), (321, 114986), (324, 115001), (337, 115118), (343, 115157), (359, 115277), (365, 115319), (374, 115364), (376, 115373), (387, 115424), (398, 115466), (414, 115532), (416, 115541), (417, 115544), (418, 115550), (419, 115553), (420, 115562), (421, 115568), (422, 115583), (446, 115670), (470, 115775), (484, 115829), (501, 115916), (507, 115946), (516, 115976), (523, 116009), (525, 116018), (536, 116090), (541, 116120), (569, 116237), (578, 116282), (587, 116324), (619, 116468), (635, 116528), (666, 116630), (696, 116717), (697, 116720), (705, 116738), (713, 116774), (714, 116777), (735, 116837), (739, 116855), (763, 116951), (772, 116981), (777, 116999), (785, 117029), (808, 117122), (812, 117137), (828, 117218), (829, 117224), (832, 117236),

Gene: Nilo\_76 Start: 55918, Stop: 58230, Start Num: 267

Candidate Starts for Nilo\_76:

(Start: 267 @55918 has 9 MA's), (304, 56014), (311, 56053), (321, 56104), (322, 56107), (324, 56119), (333, 56149), (337, 56197), (342, 56233), (379, 56467), (386, 56500), (410, 56566), (423, 56644), (426, 56662), (461, 56809), (465, 56827), (475, 56845), (496, 56917), (497, 56920), (502, 56944),



(505, 56959), (515, 56989), (580, 57262), (589, 57304), (590, 57310), (592, 57322), (605, 57364), (611, 57394), (613, 57406), (624, 57466), (628, 57484), (630, 57490), (638, 57532), (648, 57559), (658, 57595), (738, 57718), (739, 57721), (747, 57757), (773, 57856), (781, 57883), (782, 57889), (789, 57919), (811, 58012), (817, 58048), (818, 58054), (831, 58111), (836, 58126), (839, 58138), (844, 58156),

Gene: NoodleTree\_215 Start: 113813, Stop: 117208, Start Num: 62

Candidate Starts for NoodleTree\_215:

(Start: 24 @113720 has 44 MA's), (Start: 25 @113726 has 6 MA's), (Start: 31 @113738 has 8 MA's), (Start: 35 @113747 has 1 MA's), (Start: 62 @113813 has 110 MA's), (78, 113888), (97, 114002), (105, 114026), (121, 114086), (146, 114197), (154, 114236), (162, 114260), (170, 114302), (200, 114401), (210, 114443), (211, 114449), (215, 114461), (223, 114524), (234, 114584), (235, 114587), (241, 114614), (249, 114656), (Start: 267 @114719 has 9 MA's), (317, 114875), (321, 114893), (324, 114908), (337, 115025), (343, 115064), (359, 115184), (365, 115226), (374, 115271), (376, 115280), (387, 115331), (398, 115373), (414, 115439), (416, 115448), (417, 115451), (418, 115457), (419, 115460), (420, 115469), (421, 115475), (422, 115490), (446, 115577), (470, 115682), (484, 115736), (501, 115823), (507, 115853), (516, 115883), (523, 115916), (525, 115925), (536, 115997), (541, 116027), (569, 116144), (578, 116189), (587, 116231), (619, 116375), (635, 116435), (666, 116537), (696, 116624), (697, 116627), (705, 116645), (713, 116681), (714, 116684), (735, 116744), (739, 116762), (763, 116858), (772, 116888), (777, 116906), (785, 116936), (808, 117029), (812, 117044), (828, 117125), (829, 117131), (832, 117143),

Gene: NorManre\_84 Start: 53277, Stop: 56585, Start Num: 71

Candidate Starts for NorManre\_84:

(Start: 71 @53277 has 4 MA's), (Start: 76 @53304 has 1 MA's), (Start: 83 @53340 has 6 MA's), (88, 53385), (97, 53427), (163, 53688), (196, 53790), (202, 53823), (219, 53919), (278, 54189), (280, 54198), (306, 54306), (312, 54351), (321, 54393), (342, 54525), (343, 54528), (344, 54558), (347, 54579), (359, 54648), (367, 54702), (388, 54801), (393, 54816), (410, 54858), (449, 55032), (453, 55065), (465, 55083), (475, 55101), (488, 55146), (489, 55149), (515, 55245), (524, 55287), (527, 55299), (532, 55335), (577, 55515), (586, 55557), (592, 55593), (606, 55647), (611, 55665), (629, 55761), (631, 55773), (714, 55968), (740, 56052), (765, 56157), (769, 56172), (778, 56208), (781, 56220), (782, 56226), (783, 56229), (789, 56256), (801, 56301), (822, 56409), (835, 56454), (841, 56478), (853, 56514),

Gene: Norm\_209 Start: 113815, Stop: 117210, Start Num: 62

Candidate Starts for Norm\_209:

(Start: 18 @113692 has 5 MA's), (Start: 24 @113722 has 44 MA's), (Start: 25 @113728 has 6 MA's), (Start: 31 @113740 has 8 MA's), (Start: 35 @113749 has 1 MA's), (Start: 62 @113815 has 110 MA's), (78, 113890), (97, 114004), (105, 114028), (121, 114088), (146, 114199), (154, 114238), (162, 114262), (170, 114304), (200, 114403), (210, 114445), (211, 114451), (215, 114463), (223, 114526), (234, 114586), (235, 114589), (241, 114616), (249, 114658), (Start: 267 @114721 has 9 MA's), (310, 114841), (317, 114877), (321, 114895), (324, 114910), (337, 115027), (343, 115066), (359, 115186), (365, 115228), (374, 115273), (376, 115282), (387, 115333), (398, 115375), (414, 115441), (416, 115450), (417, 115453), (418, 115459), (419, 115462), (420, 115471), (421, 115477), (422, 115492), (446, 115579), (470, 115684), (484, 115738), (501, 115825), (507, 115855), (516, 115885), (523, 115918), (525, 115927), (536, 115999), (541, 116029), (569, 116146), (578, 116191), (587, 116233), (619, 116377), (635, 116437), (666, 116539), (696, 116626), (697, 116629), (705, 116647), (713, 116683), (714, 116686), (735, 116746), (739, 116764), (763, 116860), (772, 116890), (777, 116908), (785, 116938), (808, 117031), (812, 117046), (828, 117127), (829, 117133), (832, 117145),

Gene: NosilaM\_62 Start: 48632, Stop: 45330, Start Num: 67

Candidate Starts for NosilaM\_62:

(Start: 67 @48632 has 71 MA's), (Start: 83 @48536 has 6 MA's), (116, 48383), (118, 48374), (150, 48251), (196, 48092), (197, 48086), (201, 48062), (220, 47954), (242, 47843), (276, 47717), (321, 47546), (330, 47504), (336, 47453), (340, 47426), (342, 47411), (362, 47273), (371, 47222), (387, 47141), (413, 47075), (423, 47018), (439, 46958), (449, 46907), (475, 46838), (488, 46793), (531, 46601), (536, 46559), (538, 46550), (547, 46508), (548, 46505), (550, 46499), (555, 46481), (582, 46385), (592, 46331), (629, 46178), (644, 46118), (651, 46103), (687, 45974), (714, 45896), (732, 45836), (736, 45815), (737, 45812), (742, 45794), (760, 45710), (779, 45650), (780, 45647), (785, 45623), (802, 45554), (856, 45341),

Gene: Nova\_66 Start: 50242, Stop: 53544, Start Num: 26

Candidate Starts for Nova\_66:

(Start: 26 @50242 has 20 MA's), (Start: 58 @50329 has 1 MA's), (61, 50335), (Start: 67 @50344 has 71 MA's), (Start: 83 @50440 has 6 MA's), (118, 50596), (141, 50683), (142, 50686), (154, 50737), (219, 51001), (226, 51040), (239, 51112), (242, 51121), (259, 51196), (Start: 281 @51262 has 8 MA's), (282, 51268), (298, 51322), (306, 51340), (313, 51391), (314, 51394), (320, 51424), (335, 51508), (336, 51517), (340, 51544), (342, 51559), (367, 51736), (368, 51745), (393, 51850), (420, 51931), (430, 51991), (449, 52066), (453, 52099), (458, 52105), (472, 52126), (475, 52135), (488, 52180), (505, 52249), (510, 52264), (527, 52333), (536, 52396), (545, 52429), (546, 52432), (557, 52483), (579, 52558), (606, 52681), (611, 52699), (628, 52777), (629, 52780), (631, 52792), (643, 52837), (651, 52858), (654, 52870), (661, 52900), (668, 52921), (716, 52993), (740, 53050), (763, 53149), (781, 53215), (803, 53305), (810, 53335), (811, 53338), (816, 53368), (825, 53413), (836, 53455), (844, 53485), (849, 53497), (853, 53512), (856, 53521),

Gene: NovaSharks\_80 Start: 50500, Stop: 53745, Start Num: 83

Candidate Starts for NovaSharks\_80:

(Start: 83 @50500 has 6 MA's), (88, 50545), (97, 50587), (163, 50848), (202, 50983), (219, 51079), (278, 51349), (280, 51358), (306, 51466), (312, 51511), (321, 51553), (334, 51631), (342, 51685), (343, 51688), (344, 51718), (359, 51808), (367, 51862), (388, 51961), (393, 51976), (410, 52018), (449, 52192), (453, 52225), (465, 52243), (475, 52261), (488, 52306), (489, 52309), (515, 52405), (524, 52447), (527, 52459), (532, 52495), (577, 52675), (586, 52717), (592, 52753), (605, 52795), (606, 52807), (611, 52825), (629, 52921), (631, 52933), (714, 53128), (740, 53212), (765, 53317), (769, 53332), (773, 53347), (778, 53368), (781, 53380), (782, 53386), (783, 53389), (789, 53416), (801, 53461), (822, 53569), (835, 53614), (841, 53638), (853, 53674),

Gene: NovumRegina\_60 Start: 48485, Stop: 45174, Start Num: 67

Candidate Starts for NovumRegina\_60:

(5, 48728), (Start: 67 @48485 has 71 MA's), (79, 48413), (Start: 83 @48389 has 6 MA's), (88, 48344), (116, 48236), (118, 48227), (150, 48104), (196, 47945), (197, 47939), (201, 47915), (220, 47807), (226, 47777), (238, 47708), (276, 47570), (288, 47552), (321, 47399), (330, 47357), (340, 47279), (342, 47264), (362, 47126), (413, 46928), (422, 46874), (423, 46871), (439, 46811), (449, 46760), (475, 46691), (488, 46646), (538, 46406), (547, 46364), (548, 46361), (550, 46355), (555, 46337), (582, 46241), (592, 46187), (626, 46043), (629, 46034), (651, 45959), (671, 45884), (687, 45830), (702, 45788), (714, 45740), (736, 45659), (742, 45638), (762, 45548), (772, 45518), (779, 45494), (780, 45491), (821, 45308), (836, 45251),

Gene: NuevoMundo\_212 Start: 115367, Stop: 118762, Start Num: 62

Candidate Starts for NuevoMundo\_212:

(Start: 24 @115274 has 44 MA's), (Start: 25 @115280 has 6 MA's), (Start: 31 @115292 has 8 MA's), (Start: 35 @115301 has 1 MA's), (Start: 62 @115367 has 110 MA's), (78, 115442), (97, 115556), (105, 115580), (121, 115640), (146, 115751), (154, 115790), (162, 115814), (170, 115856), (200, 115955), (210, 115997), (211, 116003), (215, 116015), (223, 116078), (234, 116138), (235, 116141), (241, 116168), (249, 116210), (Start: 267 @116273 has 9 MA's), (317, 116429), (321, 116447), (324, 116462), (337, 116579), (343, 116618), (359, 116738), (365, 116780), (374, 116825), (376, 116834),

(387, 116885), (398, 116927), (414, 116993), (416, 117002), (417, 117005), (418, 117011), (419, 117014), (420, 117023), (421, 117029), (422, 117044), (446, 117131), (470, 117236), (484, 117290), (501, 117377), (507, 117407), (516, 117437), (523, 117470), (525, 117479), (536, 117551), (541, 117581), (569, 117698), (578, 117743), (587, 117785), (619, 117929), (635, 117989), (666, 118091), (696, 118178), (697, 118181), (705, 118199), (713, 118235), (714, 118238), (735, 118298), (739, 118316), (763, 118412), (772, 118442), (777, 118460), (785, 118490), (808, 118583), (812, 118598), (828, 118679), (829, 118685), (832, 118697),

Gene: Oaker\_77 Start: 56089, Stop: 59412, Start Num: 48

Candidate Starts for Oaker\_77:

(Start: 48 @56089 has 1 MA's), (Start: 67 @56116 has 71 MA's), (79, 56188), (Start: 83 @56212 has 6 MA's), (86, 56245), (118, 56380), (143, 56473), (148, 56491), (160, 56539), (178, 56599), (219, 56791), (271, 57025), (294, 57082), (306, 57136), (312, 57181), (318, 57208), (324, 57238), (342, 57361), (345, 57400), (351, 57442), (363, 57520), (367, 57538), (371, 57556), (390, 57643), (423, 57799), (443, 57883), (454, 57961), (462, 57982), (464, 57991), (468, 57997), (474, 58006), (494, 58078), (497, 58093), (505, 58132), (509, 58144), (530, 58237), (531, 58243), (539, 58291), (548, 58333), (588, 58483), (590, 58495), (611, 58579), (637, 58720), (675, 58825), (737, 58924), (739, 58933), (755, 59011), (768, 59050), (770, 59065), (783, 59113), (806, 59209), (811, 59227), (815, 59254), (826, 59302), (834, 59332), (835, 59335), (839, 59350), (849, 59380), (851, 59389), (853, 59395), (854, 59398),

Gene: Oliynyk\_55 Start: 40726, Stop: 37247, Start Num: 63

Candidate Starts for Oliynyk\_55:

(Start: 35 @40795 has 1 MA's), (Start: 63 @40726 has 55 MA's), (78, 40654), (Start: 83 @40627 has 6 MA's), (85, 40612), (120, 40450), (126, 40423), (129, 40417), (152, 40327), (156, 40312), (169, 40258), (170, 40255), (194, 40159), (214, 40081), (236, 39934), (247, 39895), (256, 39850), (Start: 262 @39829 has 3 MA's), (Start: 267 @39814 has 9 MA's), (296, 39772), (300, 39760), (313, 39694), (316, 39682), (330, 39619), (345, 39490), (346, 39481), (351, 39445), (364, 39361), (367, 39343), (382, 39286), (383, 39283), (385, 39271), (420, 39133), (421, 39127), (422, 39112), (424, 39106), (433, 39067), (451, 38995), (455, 38962), (498, 38845), (503, 38821), (520, 38764), (524, 38740), (526, 38734), (537, 38665), (547, 38602), (567, 38536), (572, 38515), (578, 38497), (590, 38440), (591, 38431), (615, 38323), (617, 38314), (621, 38302), (623, 38281), (633, 38251), (638, 38224), (658, 38158), (661, 38149), (665, 38137), (685, 38050), (695, 38026), (709, 37978), (744, 37834), (760, 37759), (803, 37585), (810, 37549), (819, 37501), (826, 37468),

Gene: Onyinye\_84 Start: 57643, Stop: 59931, Start Num: 262

Candidate Starts for Onyinye\_84:

(231, 57520), (Start: 262 @57643 has 3 MA's), (278, 57676), (279, 57682), (306, 57772), (310, 57805), (315, 57829), (320, 57856), (335, 57940), (336, 57949), (337, 57952), (342, 57991), (343, 57994), (347, 58045), (361, 58123), (362, 58135), (420, 58363), (422, 58384), (439, 58447), (443, 58459), (453, 58531), (458, 58537), (474, 58561), (475, 58567), (479, 58582), (483, 58597), (489, 58615), (496, 58639), (505, 58681), (517, 58720), (524, 58753), (557, 58915), (559, 58924), (592, 59059), (603, 59086), (611, 59131), (635, 59245), (654, 59305), (753, 59521), (778, 59608), (780, 59611), (789, 59653), (826, 59818), (833, 59848), (848, 59896), (851, 59908), (856, 59923),

Gene: Oogie\_96 Start: 71972, Stop: 74785, Start Num: 53

Candidate Starts for Oogie\_96:

(Start: 44 @71957 has 1 MA's), (Start: 50 @71969 has 1 MA's), (Start: 53 @71972 has 8 MA's), (78, 72065), (86, 72125), (122, 72275), (123, 72278), (124, 72284), (134, 72326), (147, 72383), (153, 72413), (154, 72416), (170, 72479), (174, 72500), (175, 72503), (185, 72530), (205, 72620), (214, 72656), (222, 72713), (224, 72722), (252, 72854), (313, 73019), (317, 73037), (320, 73052), (322, 73058), (324, 73070), (332, 73097), (333, 73100), (339, 73160), (340, 73169), (341, 73172), (343, 73184), (346, 73229), (358, 73298), (361, 73322), (392, 73478), (396, 73496), (402, 73520), (405,

73538), (424, 73634), (432, 73676), (446, 73718), (447, 73727), (450, 73745), (451, 73751), (453, 73775), (454, 73781), (455, 73784), (462, 73802), (463, 73805), (499, 73898), (509, 73943), (511, 73949), (518, 73973), (519, 73976), (521, 73985), (522, 73991), (524, 74003), (545, 74120), (547, 74138), (548, 74141), (551, 74150), (579, 74264), (582, 74279), (615, 74426), (618, 74438), (620, 74444), (636, 74510), (640, 74528), (645, 74540), (647, 74549), (676, 74663), (682, 74675), (686, 74690), (712, 74765), (714, 74774),

Gene: OtterstedtS21\_79 Start: 52012, Stop: 55257, Start Num: 83

Candidate Starts for OtterstedtS21\_79:

(Start: 76 @51976 has 1 MA's), (Start: 83 @52012 has 6 MA's), (88, 52057), (97, 52099), (163, 52360), (196, 52462), (202, 52495), (219, 52591), (278, 52861), (280, 52870), (306, 52978), (312, 53023), (321, 53065), (342, 53197), (343, 53200), (344, 53230), (359, 53320), (367, 53374), (388, 53473), (393, 53488), (410, 53530), (449, 53704), (453, 53737), (465, 53755), (467, 53758), (475, 53773), (488, 53818), (489, 53821), (515, 53917), (524, 53959), (527, 53971), (532, 54007), (577, 54187), (586, 54229), (592, 54265), (606, 54319), (611, 54337), (629, 54433), (631, 54445), (714, 54640), (740, 54724), (765, 54829), (769, 54844), (778, 54880), (781, 54892), (782, 54898), (783, 54901), (789, 54928), (801, 54973), (822, 55081), (835, 55126), (841, 55150), (853, 55186),

Gene: Outis\_61 Start: 48867, Stop: 45550, Start Num: 67

Candidate Starts for Outis\_61:

(Start: 67 @48867 has 71 MA's), (75, 48810), (Start: 83 @48771 has 6 MA's), (116, 48618), (118, 48609), (150, 48486), (196, 48327), (197, 48321), (201, 48297), (220, 48189), (242, 48078), (276, 47952), (321, 47781), (330, 47739), (334, 47700), (340, 47661), (342, 47646), (362, 47508), (387, 47376), (413, 47310), (423, 47253), (439, 47193), (449, 47142), (475, 47073), (488, 47028), (538, 46785), (547, 46743), (548, 46740), (550, 46734), (555, 46716), (582, 46620), (592, 46566), (629, 46413), (640, 46362), (644, 46353), (687, 46209), (711, 46131), (714, 46116), (732, 46056), (736, 46035), (742, 46014), (751, 45966), (777, 45882), (779, 45870), (780, 45867), (802, 45774), (846, 45591), (856, 45561),

Gene: OverHedge\_56 Start: 41131, Stop: 43434, Start Num: 261

Candidate Starts for OverHedge\_56:

(Start: 261 @41131 has 29 MA's), (Start: 263 @41137 has 6 MA's), (293, 41215), (310, 41287), (314, 41308), (321, 41341), (324, 41356), (326, 41374), (339, 41449), (342, 41473), (345, 41512), (352, 41557), (355, 41569), (367, 41650), (393, 41764), (397, 41776), (421, 41851), (423, 41869), (441, 41947), (443, 41953), (445, 41962), (450, 41995), (453, 42025), (458, 42031), (472, 42052), (475, 42061), (483, 42091), (503, 42166), (505, 42175), (514, 42199), (515, 42205), (516, 42211), (519, 42220), (536, 42322), (553, 42394), (559, 42418), (583, 42502), (605, 42592), (606, 42604), (611, 42622), (625, 42700), (626, 42706), (629, 42715), (635, 42748), (656, 42820), (748, 43000), (754, 43030), (772, 43093), (788, 43165), (818, 43288), (825, 43321), (838, 43366), (851, 43411), (853, 43417),

Gene: Ozzie\_52 Start: 40340, Stop: 36861, Start Num: 63

Candidate Starts for Ozzie\_52:

(Start: 63 @40340 has 55 MA's), (78, 40268), (Start: 83 @40241 has 6 MA's), (85, 40226), (120, 40064), (126, 40037), (129, 40031), (152, 39941), (156, 39926), (169, 39872), (170, 39869), (194, 39773), (214, 39695), (236, 39548), (247, 39509), (256, 39464), (Start: 262 @39443 has 3 MA's), (Start: 267 @39428 has 9 MA's), (296, 39386), (300, 39374), (313, 39308), (316, 39296), (330, 39233), (345, 39104), (346, 39095), (351, 39059), (364, 38975), (367, 38957), (382, 38900), (383, 38897), (385, 38885), (420, 38747), (421, 38741), (422, 38726), (424, 38720), (431, 38687), (451, 38609), (455, 38576), (503, 38435), (520, 38378), (524, 38354), (526, 38348), (537, 38279), (547, 38216), (567, 38150), (572, 38129), (578, 38111), (590, 38054), (591, 38045), (615, 37937), (617, 37928), (621, 37916), (623, 37895), (633, 37865), (638, 37838), (658, 37772), (661, 37763), (665, 37751), (685, 37664), (695, 37640), (709, 37592), (744, 37448), (760, 37373), (803, 37199), (810, 37163),

(819, 37115), (826, 37082),

Gene: OzzyJ\_56 Start: 42394, Stop: 38909, Start Num: 63

Candidate Starts for OzzyJ\_56:

(Start: 35 @42463 has 1 MA's), (Start: 63 @42394 has 55 MA's), (Start: 76 @42331 has 1 MA's), (78, 42322), (84, 42286), (101, 42187), (111, 42154), (120, 42118), (136, 42049), (152, 41995), (170, 41923), (180, 41887), (194, 41827), (236, 41602), (247, 41563), (252, 41536), (256, 41518), (Start: 262 @41497 has 3 MA's), (Start: 267 @41482 has 9 MA's), (296, 41440), (313, 41362), (316, 41350), (344, 41164), (345, 41158), (351, 41113), (364, 41029), (367, 41011), (382, 40954), (383, 40951), (385, 40939), (420, 40801), (421, 40795), (422, 40780), (424, 40774), (431, 40741), (451, 40663), (455, 40630), (503, 40489), (524, 40408), (526, 40402), (537, 40333), (544, 40291), (547, 40270), (553, 40249), (567, 40204), (590, 40108), (591, 40099), (593, 40093), (615, 39991), (617, 39982), (621, 39970), (623, 39949), (633, 39919), (638, 39892), (658, 39826), (661, 39817), (665, 39805), (685, 39718), (733, 39550), (744, 39502), (771, 39391), (777, 39370), (803, 39253), (804, 39244), (810, 39217), (819, 39169), (826, 39136), (861, 39004), (862, 38992),

Gene: PBI1\_63 Start: 49783, Stop: 52983, Start Num: 67

Candidate Starts for PBI1\_63:

(Start: 26 @49681 has 20 MA's), (Start: 58 @49768 has 1 MA's), (61, 49774), (Start: 67 @49783 has 71 MA's), (Start: 83 @49879 has 6 MA's), (118, 50035), (141, 50122), (142, 50125), (154, 50176), (219, 50440), (226, 50479), (239, 50551), (242, 50560), (259, 50635), (Start: 281 @50701 has 8 MA's), (282, 50707), (298, 50761), (306, 50779), (313, 50830), (314, 50833), (320, 50863), (335, 50947), (336, 50956), (340, 50983), (342, 50998), (367, 51175), (368, 51184), (393, 51289), (420, 51370), (430, 51430), (449, 51505), (453, 51538), (458, 51544), (472, 51565), (475, 51574), (488, 51619), (505, 51688), (510, 51703), (527, 51772), (536, 51835), (545, 51868), (546, 51871), (557, 51922), (579, 51997), (606, 52120), (611, 52138), (628, 52216), (629, 52219), (631, 52231), (643, 52276), (651, 52297), (654, 52309), (661, 52339), (668, 52360), (716, 52432), (740, 52489), (763, 52588), (781, 52654), (803, 52744), (810, 52774), (811, 52777), (816, 52807), (825, 52852), (836, 52894), (844, 52924), (849, 52936), (853, 52951), (856, 52960),

Gene: PHTowN\_51 Start: 38862, Stop: 35665, Start Num: 67

Candidate Starts for PHTowN\_51:

(56, 38883), (Start: 67 @38862 has 71 MA's), (73, 38820), (Start: 83 @38766 has 6 MA's), (91, 38712), (107, 38643), (109, 38634), (113, 38625), (119, 38595), (127, 38562), (135, 38526), (144, 38484), (147, 38472), (161, 38418), (188, 38349), (193, 38310), (203, 38268), (207, 38247), (219, 38175), (227, 38133), (236, 38070), (237, 38067), (Start: 263 @37962 has 6 MA's), (268, 37953), (283, 37911), (286, 37896), (291, 37881), (321, 37755), (335, 37674), (340, 37638), (342, 37623), (343, 37620), (355, 37527), (368, 37437), (422, 37230), (429, 37197), (443, 37146), (453, 37074), (458, 37068), (475, 37038), (483, 37008), (504, 36927), (509, 36912), (533, 36798), (564, 36663), (604, 36519), (605, 36507), (606, 36495), (611, 36477), (626, 36384), (654, 36279), (669, 36222), (732, 36168), (737, 36144), (765, 36027), (810, 35856), (813, 35844), (816, 35823), (834, 35745), (836, 35739), (846, 35703), (851, 35688),

Gene: PLOT\_66 Start: 49805, Stop: 53005, Start Num: 67

Candidate Starts for PLOT\_66:

(Start: 26 @49703 has 20 MA's), (Start: 58 @49790 has 1 MA's), (Start: 67 @49805 has 71 MA's), (Start: 83 @49901 has 6 MA's), (118, 50057), (141, 50144), (142, 50147), (154, 50198), (219, 50462), (226, 50501), (239, 50573), (242, 50582), (259, 50657), (Start: 281 @50723 has 8 MA's), (282, 50729), (298, 50783), (306, 50801), (313, 50852), (314, 50855), (320, 50885), (335, 50969), (336, 50978), (340, 51005), (342, 51020), (367, 51197), (368, 51206), (393, 51311), (420, 51392), (449, 51527), (453, 51560), (458, 51566), (472, 51587), (475, 51596), (488, 51641), (505, 51710), (510, 51725), (516, 51746), (527, 51794), (536, 51857), (545, 51890), (546, 51893), (547, 51908), (557, 51944), (579, 52019), (606, 52142), (611, 52160), (628, 52238), (629, 52241), (631, 52253), (643, 52298),

(651, 52319), (654, 52331), (661, 52361), (668, 52382), (716, 52454), (740, 52511), (763, 52610), (781, 52676), (803, 52766), (810, 52796), (811, 52799), (816, 52829), (825, 52874), (826, 52877), (836, 52916), (844, 52946), (849, 52958), (853, 52973), (856, 52982),

Gene: Pakusa\_93 Start: 69747, Stop: 72575, Start Num: 44

Candidate Starts for Pakusa\_93:

(Start: 44 @69747 has 1 MA's), (Start: 50 @69759 has 1 MA's), (Start: 53 @69762 has 8 MA's), (78, 69855), (86, 69915), (122, 70065), (123, 70068), (124, 70074), (147, 70173), (153, 70203), (154, 70206), (170, 70269), (174, 70290), (175, 70293), (185, 70320), (211, 70437), (214, 70446), (222, 70503), (224, 70512), (236, 70578), (252, 70644), (313, 70809), (317, 70827), (320, 70842), (322, 70848), (324, 70860), (332, 70887), (333, 70890), (339, 70950), (340, 70959), (341, 70962), (343, 70974), (346, 71019), (358, 71088), (361, 71112), (392, 71268), (396, 71286), (402, 71310), (405, 71328), (424, 71424), (432, 71466), (435, 71472), (446, 71508), (447, 71517), (450, 71535), (451, 71541), (453, 71565), (454, 71571), (455, 71574), (462, 71592), (463, 71595), (499, 71688), (509, 71733), (511, 71739), (518, 71763), (519, 71766), (521, 71775), (522, 71781), (524, 71793), (545, 71910), (547, 71928), (548, 71931), (551, 71940), (579, 72054), (582, 72069), (615, 72216), (618, 72228), (620, 72234), (629, 72267), (636, 72300), (640, 72318), (645, 72330), (647, 72339), (676, 72453), (682, 72465), (686, 72480), (712, 72555), (714, 72564),

Gene: Papyrus\_74 Start: 55529, Stop: 57841, Start Num: 267

Candidate Starts for Papyrus\_74:

(Start: 267 @55529 has 9 MA's), (304, 55625), (311, 55664), (321, 55715), (322, 55718), (324, 55730), (333, 55760), (337, 55808), (342, 55844), (379, 56078), (386, 56111), (410, 56177), (423, 56255), (426, 56273), (461, 56420), (465, 56438), (475, 56456), (496, 56528), (497, 56531), (502, 56555), (505, 56570), (515, 56600), (521, 56624), (580, 56873), (589, 56915), (590, 56921), (592, 56933), (605, 56975), (611, 57005), (613, 57017), (624, 57077), (630, 57101), (638, 57143), (648, 57170), (658, 57206), (738, 57329), (739, 57332), (747, 57368), (773, 57467), (781, 57494), (782, 57500), (789, 57530), (817, 57659), (818, 57665), (831, 57722), (836, 57737), (839, 57749), (844, 57767), (851, 57788),

Gene: ParkTD\_208 Start: 113377, Stop: 116772, Start Num: 62

Candidate Starts for ParkTD\_208:

(Start: 24 @113284 has 44 MA's), (Start: 25 @113290 has 6 MA's), (Start: 31 @113302 has 8 MA's), (Start: 35 @113311 has 1 MA's), (Start: 62 @113377 has 110 MA's), (78, 113452), (97, 113566), (105, 113590), (121, 113650), (146, 113761), (154, 113800), (162, 113824), (170, 113866), (200, 113965), (210, 114007), (211, 114013), (215, 114025), (223, 114088), (234, 114148), (235, 114151), (241, 114178), (249, 114220), (Start: 267 @114283 has 9 MA's), (310, 114403), (317, 114439), (321, 114457), (324, 114472), (337, 114589), (343, 114628), (359, 114748), (365, 114790), (374, 114835), (376, 114844), (387, 114895), (398, 114937), (414, 115003), (416, 115012), (417, 115015), (418, 115021), (419, 115024), (420, 115033), (421, 115039), (422, 115054), (446, 115141), (470, 115246), (484, 115300), (501, 115387), (507, 115417), (516, 115447), (523, 115480), (525, 115489), (536, 115561), (541, 115591), (569, 115708), (578, 115753), (587, 115795), (619, 115939), (635, 115999), (666, 116101), (696, 116188), (697, 116191), (705, 116209), (713, 116245), (714, 116248), (735, 116308), (739, 116326), (763, 116422), (772, 116452), (777, 116470), (785, 116500), (808, 116593), (812, 116608), (828, 116689), (829, 116695), (832, 116707),

Gene: ParvusTarda\_77 Start: 51186, Stop: 54527, Start Num: 64

Candidate Starts for ParvusTarda\_77:

(Start: 39 @51138 has 2 MA's), (Start: 64 @51186 has 20 MA's), (Start: 76 @51246 has 1 MA's), (Start: 83 @51282 has 6 MA's), (88, 51327), (97, 51369), (163, 51630), (196, 51732), (202, 51765), (219, 51861), (278, 52131), (280, 52140), (306, 52248), (312, 52293), (321, 52335), (342, 52467), (343, 52470), (344, 52500), (347, 52521), (359, 52590), (367, 52644), (388, 52743), (393, 52758), (449, 52974), (453, 53007), (465, 53025), (475, 53043), (488, 53088), (489, 53091), (515, 53187),

(524, 53229), (527, 53241), (532, 53277), (577, 53457), (586, 53499), (592, 53535), (606, 53589), (611, 53607), (629, 53703), (631, 53715), (714, 53910), (740, 53994), (765, 54099), (769, 54114), (778, 54150), (781, 54162), (782, 54168), (783, 54171), (789, 54198), (801, 54243), (822, 54351), (835, 54396), (841, 54420), (853, 54456),

Gene: Patience\_91 Start: 58279, Stop: 61512, Start Num: 67

Candidate Starts for Patience\_91:

(Start: 51 @58252 has 1 MA's), (Start: 67 @58279 has 71 MA's), (Start: 83 @58375 has 6 MA's), (118, 58540), (149, 58654), (171, 58738), (190, 58789), (219, 58954), (337, 59452), (342, 59497), (345, 59536), (381, 59740), (400, 59821), (420, 59881), (428, 59932), (449, 60028), (451, 60037), (453, 60061), (454, 60067), (464, 60097), (468, 60103), (505, 60235), (506, 60238), (509, 60247), (521, 60289), (524, 60307), (548, 60439), (611, 60685), (642, 60835), (664, 60892), (675, 60934), (688, 60958), (740, 61027), (781, 61195), (803, 61285), (815, 61357), (833, 61432),

Gene: Patio\_62 Start: 48881, Stop: 45567, Start Num: 67

Candidate Starts for Patio\_62:

(4, 49133), (12, 49046), (Start: 18 @49019 has 5 MA's), (Start: 67 @48881 has 71 MA's), (Start: 83 @48785 has 6 MA's), (116, 48632), (118, 48623), (150, 48500), (196, 48341), (197, 48335), (220, 48203), (226, 48173), (232, 48134), (242, 48092), (260, 48011), (276, 47966), (321, 47795), (330, 47753), (340, 47675), (342, 47660), (362, 47522), (413, 47324), (423, 47267), (432, 47222), (449, 47156), (465, 47105), (475, 47087), (488, 47042), (538, 46799), (547, 46757), (548, 46754), (550, 46748), (555, 46730), (582, 46634), (586, 46616), (592, 46580), (626, 46436), (629, 46427), (634, 46403), (651, 46352), (687, 46223), (702, 46181), (714, 46133), (719, 46124), (732, 46073), (736, 46052), (742, 46031), (782, 45875), (786, 45860), (846, 45611),

Gene: Patos\_84 Start: 53276, Stop: 56584, Start Num: 71

Candidate Starts for Patos\_84:

(Start: 71 @53276 has 4 MA's), (Start: 76 @53303 has 1 MA's), (Start: 83 @53339 has 6 MA's), (88, 53384), (97, 53426), (163, 53687), (196, 53789), (202, 53822), (219, 53918), (278, 54188), (280, 54197), (306, 54305), (312, 54350), (321, 54392), (342, 54524), (343, 54527), (344, 54557), (347, 54578), (359, 54647), (367, 54701), (388, 54800), (393, 54815), (410, 54857), (449, 55031), (453, 55064), (465, 55082), (475, 55100), (488, 55145), (489, 55148), (515, 55244), (524, 55286), (527, 55298), (532, 55334), (577, 55514), (586, 55556), (592, 55592), (606, 55646), (611, 55664), (629, 55760), (631, 55772), (714, 55967), (740, 56051), (765, 56156), (769, 56171), (778, 56207), (781, 56219), (782, 56225), (783, 56228), (789, 56255), (801, 56300), (822, 56408), (835, 56453), (841, 56477), (853, 56513),

Gene: Patter\_210 Start: 112391, Stop: 115786, Start Num: 62

Candidate Starts for Patter\_210:

(Start: 24 @112298 has 44 MA's), (Start: 25 @112304 has 6 MA's), (Start: 31 @112316 has 8 MA's), (Start: 35 @112325 has 1 MA's), (Start: 62 @112391 has 110 MA's), (78, 112466), (97, 112580), (105, 112604), (121, 112664), (146, 112775), (154, 112814), (162, 112838), (170, 112880), (200, 112979), (210, 113021), (211, 113027), (215, 113039), (223, 113102), (234, 113162), (235, 113165), (241, 113192), (249, 113234), (Start: 267 @113297 has 9 MA's), (310, 113417), (317, 113453), (321, 113471), (324, 113486), (337, 113603), (343, 113642), (359, 113762), (365, 113804), (374, 113849), (376, 113858), (387, 113909), (398, 113951), (414, 114017), (416, 114026), (417, 114029), (418, 114035), (419, 114038), (420, 114047), (421, 114053), (422, 114068), (446, 114155), (470, 114260), (484, 114314), (501, 114401), (507, 114431), (516, 114461), (523, 114494), (525, 114503), (536, 114575), (541, 114605), (569, 114722), (578, 114767), (587, 114809), (619, 114953), (635, 115013), (666, 115115), (696, 115202), (697, 115205), (705, 115223), (713, 115259), (714, 115262), (735, 115322), (739, 115340), (763, 115436), (772, 115466), (777, 115484), (785, 115514), (808, 115607), (812, 115622), (828, 115703), (829, 115709), (832, 115721),

Gene: Penelope2018\_67 Start: 49737, Stop: 53039, Start Num: 26

Candidate Starts for Penelope2018\_67:

(Start: 26 @49737 has 20 MA's), (Start: 58 @49824 has 1 MA's), (61, 49830), (Start: 67 @49839 has 71 MA's), (Start: 83 @49935 has 6 MA's), (118, 50091), (141, 50178), (142, 50181), (154, 50232), (219, 50496), (226, 50535), (239, 50607), (242, 50616), (259, 50691), (Start: 281 @50757 has 8 MA's), (282, 50763), (298, 50817), (306, 50835), (313, 50886), (314, 50889), (320, 50919), (335, 51003), (336, 51012), (340, 51039), (342, 51054), (367, 51231), (368, 51240), (393, 51345), (420, 51426), (430, 51486), (449, 51561), (453, 51594), (458, 51600), (472, 51621), (475, 51630), (488, 51675), (505, 51744), (510, 51759), (527, 51828), (536, 51891), (545, 51924), (546, 51927), (557, 51978), (579, 52053), (606, 52176), (611, 52194), (628, 52272), (629, 52275), (631, 52287), (643, 52332), (651, 52353), (654, 52365), (661, 52395), (668, 52416), (716, 52488), (740, 52545), (763, 52644), (781, 52710), (803, 52800), (810, 52830), (811, 52833), (816, 52863), (825, 52908), (836, 52950), (844, 52980), (849, 52992), (853, 53007), (856, 53016),

Gene: PeteyPab\_45 Start: 42797, Stop: 39504, Start Num: 67

Candidate Starts for PeteyPab\_45:

(Start: 67 @42797 has 71 MA's), (75, 42740), (80, 42716), (Start: 83 @42701 has 6 MA's), (84, 42692), (118, 42545), (167, 42338), (182, 42263), (186, 42239), (196, 42185), (292, 41771), (313, 41669), (338, 41534), (340, 41516), (342, 41501), (355, 41405), (400, 41186), (401, 41183), (410, 41168), (419, 41138), (422, 41108), (449, 40991), (453, 40958), (471, 40931), (478, 40907), (515, 40760), (527, 40706), (530, 40685), (546, 40610), (548, 40592), (592, 40415), (604, 40385), (607, 40358), (611, 40343), (641, 40214), (674, 40181), (707, 40094), (740, 39980), (742, 39974), (745, 39962), (783, 39812), (784, 39809), (785, 39803), (789, 39785), (791, 39776), (795, 39758), (818, 39656), (822, 39632), (831, 39596), (833, 39590),

Gene: Phabba\_203 Start: 109747, Stop: 113163, Start Num: 57

Candidate Starts for Phabba\_203:

(Start: 57 @109747 has 3 MA's), (90, 109909), (106, 109972), (145, 110137), (170, 110245), (203, 110365), (210, 110398), (211, 110404), (221, 110470), (223, 110479), (234, 110536), (235, 110539), (241, 110566), (254, 110623), (259, 110644), (Start: 267 @110668 has 9 MA's), (321, 110842), (324, 110857), (325, 110860), (335, 110962), (355, 111106), (359, 111133), (376, 111229), (394, 111295), (406, 111352), (416, 111397), (417, 111400), (421, 111424), (424, 111445), (446, 111529), (447, 111538), (451, 111562), (486, 111697), (520, 111844), (521, 111850), (523, 111865), (525, 111874), (529, 111898), (534, 111943), (541, 111970), (548, 112000), (570, 112087), (578, 112123), (592, 112189), (605, 112231), (606, 112243), (609, 112252), (621, 112312), (627, 112354), (635, 112390), (665, 112489), (714, 112639), (728, 112672), (755, 112792), (756, 112795), (772, 112846), (777, 112864), (787, 112900), (793, 112930), (798, 112948), (807, 112984), (812, 112999), (823, 113065), (824, 113068), (829, 113086), (832, 113098), (843, 113137), (850, 113155),

Gene: Pharpay\_56 Start: 41279, Stop: 43582, Start Num: 261

Candidate Starts for Pharpay\_56:

(Start: 261 @41279 has 29 MA's), (Start: 263 @41285 has 6 MA's), (293, 41363), (310, 41435), (314, 41456), (321, 41489), (323, 41501), (324, 41504), (326, 41522), (339, 41597), (342, 41621), (345, 41660), (352, 41705), (355, 41717), (367, 41798), (393, 41912), (397, 41924), (421, 41999), (423, 42017), (441, 42095), (443, 42101), (445, 42110), (450, 42143), (453, 42173), (458, 42179), (472, 42200), (475, 42209), (483, 42239), (503, 42314), (505, 42323), (514, 42347), (515, 42353), (519, 42368), (524, 42395), (536, 42470), (553, 42542), (559, 42566), (583, 42650), (605, 42740), (606, 42752), (611, 42770), (625, 42848), (626, 42854), (629, 42863), (635, 42896), (656, 42968), (748, 43148), (754, 43178), (772, 43241), (788, 43313), (818, 43436), (825, 43469), (838, 43514), (851, 43559), (853, 43565),

Gene: Phettuccine\_53 Start: 40232, Stop: 36753, Start Num: 63

Candidate Starts for Phettuccine\_53:



(6, 40442), (Start: 63 @40232 has 55 MA's), (78, 40160), (Start: 83 @40133 has 6 MA's), (85, 40118), (120, 39956), (126, 39929), (129, 39923), (152, 39833), (156, 39818), (169, 39764), (170, 39761), (194, 39665), (214, 39587), (236, 39440), (247, 39401), (256, 39356), (Start: 262 @39335 has 3 MA's), (Start: 267 @39320 has 9 MA's), (296, 39278), (300, 39266), (313, 39200), (316, 39188), (330, 39125), (345, 38996), (346, 38987), (351, 38951), (364, 38867), (367, 38849), (382, 38792), (383, 38789), (385, 38777), (420, 38639), (421, 38633), (422, 38618), (424, 38612), (431, 38579), (451, 38501), (455, 38468), (503, 38327), (520, 38270), (524, 38246), (526, 38240), (537, 38171), (547, 38108), (567, 38042), (572, 38021), (578, 38003), (590, 37946), (591, 37937), (615, 37829), (617, 37820), (621, 37808), (623, 37787), (633, 37757), (638, 37730), (658, 37664), (661, 37655), (665, 37643), (685, 37556), (695, 37532), (709, 37484), (744, 37340), (760, 37265), (803, 37091), (810, 37055), (819, 37007), (826, 36974),

Gene: Phlegm\_213 Start: 113080, Stop: 116475, Start Num: 62

Candidate Starts for Phlegm\_213:

(Start: 24 @112987 has 44 MA's), (Start: 25 @112993 has 6 MA's), (Start: 31 @113005 has 8 MA's), (Start: 35 @113014 has 1 MA's), (Start: 62 @113080 has 110 MA's), (78, 113155), (97, 113269), (105, 113293), (121, 113353), (146, 113464), (154, 113503), (162, 113527), (170, 113569), (200, 113668), (210, 113710), (211, 113716), (215, 113728), (223, 113791), (234, 113851), (235, 113854), (241, 113881), (249, 113923), (Start: 267 @113986 has 9 MA's), (317, 114142), (321, 114160), (324, 114175), (337, 114292), (343, 114331), (359, 114451), (365, 114493), (374, 114538), (376, 114547), (387, 114598), (398, 114640), (414, 114706), (416, 114715), (417, 114718), (418, 114724), (419, 114727), (420, 114736), (421, 114742), (422, 114757), (446, 114844), (470, 114949), (484, 115003), (501, 115090), (507, 115120), (516, 115150), (523, 115183), (525, 115192), (536, 115264), (541, 115294), (569, 115411), (578, 115456), (587, 115498), (619, 115642), (635, 115702), (666, 115804), (696, 115891), (697, 115894), (705, 115912), (713, 115948), (714, 115951), (735, 116011), (739, 116029), (763, 116125), (772, 116155), (777, 116173), (785, 116203), (808, 116296), (812, 116311), (828, 116392), (829, 116398), (832, 116410),

Gene: Phomeo\_59 Start: 48754, Stop: 45443, Start Num: 67

Candidate Starts for Phomeo\_59:

(5, 48997), (Start: 67 @48754 has 71 MA's), (79, 48682), (Start: 83 @48658 has 6 MA's), (116, 48505), (118, 48496), (150, 48373), (196, 48214), (197, 48208), (201, 48184), (220, 48076), (226, 48046), (238, 47977), (276, 47839), (288, 47821), (321, 47668), (330, 47626), (340, 47548), (342, 47533), (362, 47395), (413, 47197), (422, 47143), (423, 47140), (439, 47080), (449, 47029), (475, 46960), (488, 46915), (538, 46675), (547, 46633), (548, 46630), (550, 46624), (555, 46606), (582, 46510), (592, 46456), (626, 46312), (629, 46303), (651, 46228), (671, 46153), (687, 46099), (702, 46057), (714, 46009), (736, 45928), (742, 45907), (762, 45817), (772, 45787), (779, 45763), (780, 45760), (821, 45577), (836, 45520),

Gene: Phox\_210 Start: 113942, Stop: 117430, Start Num: 24

Candidate Starts for Phox\_210:

(Start: 18 @113912 has 5 MA's), (Start: 24 @113942 has 44 MA's), (Start: 25 @113948 has 6 MA's), (Start: 31 @113960 has 8 MA's), (Start: 35 @113969 has 1 MA's), (Start: 62 @114035 has 110 MA's), (78, 114110), (97, 114224), (105, 114248), (121, 114308), (146, 114419), (154, 114458), (162, 114482), (170, 114524), (200, 114623), (210, 114665), (211, 114671), (215, 114683), (223, 114746), (234, 114806), (235, 114809), (241, 114836), (249, 114878), (Start: 267 @114941 has 9 MA's), (310, 115061), (317, 115097), (321, 115115), (324, 115130), (337, 115247), (343, 115286), (359, 115406), (365, 115448), (374, 115493), (376, 115502), (387, 115553), (398, 115595), (414, 115661), (416, 115670), (417, 115673), (418, 115679), (419, 115682), (420, 115691), (421, 115697), (422, 115712), (446, 115799), (470, 115904), (484, 115958), (501, 116045), (507, 116075), (516, 116105), (523, 116138), (525, 116147), (536, 116219), (541, 116249), (569, 116366), (578, 116411), (587, 116453), (619, 116597), (635, 116657), (666, 116759), (696, 116846), (697, 116849), (705, 116867), (713, 116903), (714, 116906), (735, 116966), (739, 116984), (763, 117080), (772, 117110), (777, 117128),

(785, 117158), (808, 117251), (812, 117266), (828, 117347), (829, 117353), (832, 117365),

Gene: Phrappuccino\_119 Start: 86091, Stop: 89597, Start Num: 39

Candidate Starts for Phrappuccino\_119:

(Start: 39 @86091 has 2 MA's), (Start: 62 @86145 has 110 MA's), (78, 86217), (99, 86340), (112, 86376), (154, 86565), (155, 86568), (188, 86688), (196, 86733), (200, 86760), (210, 86802), (211, 86808), (218, 86841), (220, 86871), (235, 86937), (241, 86964), (248, 86991), (264, 87057), (Start: 267 @87066 has 9 MA's), (291, 87099), (302, 87144), (310, 87186), (322, 87243), (324, 87255), (328, 87291), (331, 87318), (335, 87360), (337, 87372), (339, 87387), (352, 87492), (365, 87573), (369, 87597), (376, 87627), (398, 87732), (416, 87807), (422, 87849), (446, 87942), (448, 87960), (450, 87969), (481, 88080), (507, 88170), (520, 88212), (533, 88290), (536, 88311), (547, 88362), (582, 88506), (605, 88611), (618, 88686), (629, 88719), (658, 88827), (724, 89046), (725, 89052), (768, 89241), (772, 89256), (792, 89334), (808, 89409), (817, 89457), (828, 89505), (829, 89511), (843, 89559),

Gene: Phreeze\_76 Start: 55086, Stop: 58382, Start Num: 67

Candidate Starts for Phreeze\_76:

(Start: 48 @55059 has 1 MA's), (Start: 67 @55086 has 71 MA's), (79, 55158), (Start: 83 @55182 has 6 MA's), (84, 55191), (86, 55215), (118, 55350), (143, 55443), (148, 55461), (160, 55509), (178, 55569), (219, 55761), (271, 55995), (294, 56052), (306, 56106), (312, 56151), (318, 56178), (324, 56208), (342, 56331), (345, 56370), (351, 56412), (363, 56490), (367, 56508), (371, 56526), (373, 56538), (390, 56613), (423, 56769), (443, 56853), (454, 56931), (462, 56952), (464, 56961), (468, 56967), (474, 56976), (494, 57048), (497, 57063), (505, 57102), (509, 57114), (530, 57207), (531, 57213), (539, 57261), (548, 57303), (588, 57453), (590, 57465), (611, 57549), (637, 57690), (675, 57795), (737, 57894), (739, 57903), (755, 57981), (768, 58020), (770, 58035), (783, 58083), (806, 58179), (811, 58197), (815, 58224), (826, 58272), (834, 58302), (835, 58305), (839, 58320), (849, 58350), (851, 58359), (853, 58365), (854, 58368),

Gene: PhunaPhoke\_57 Start: 41249, Stop: 43552, Start Num: 261

Candidate Starts for PhunaPhoke\_57:

(Start: 261 @41249 has 29 MA's), (Start: 263 @41255 has 6 MA's), (293, 41333), (310, 41405), (314, 41426), (321, 41459), (323, 41471), (324, 41474), (326, 41492), (339, 41567), (342, 41591), (345, 41630), (352, 41675), (355, 41687), (367, 41768), (393, 41882), (397, 41894), (421, 41969), (423, 41987), (441, 42065), (443, 42071), (445, 42080), (450, 42113), (453, 42143), (458, 42149), (472, 42170), (475, 42179), (483, 42209), (503, 42284), (505, 42293), (514, 42317), (515, 42323), (516, 42329), (536, 42440), (553, 42512), (559, 42536), (583, 42620), (605, 42710), (606, 42722), (611, 42740), (625, 42818), (626, 42824), (629, 42833), (635, 42866), (656, 42938), (748, 43118), (754, 43148), (772, 43211), (788, 43283), (818, 43406), (825, 43439), (838, 43484), (851, 43529), (853, 43535),

Gene: Phusco\_207 Start: 111912, Stop: 115307, Start Num: 62

Candidate Starts for Phusco\_207:

(Start: 24 @111819 has 44 MA's), (Start: 25 @111825 has 6 MA's), (Start: 31 @111837 has 8 MA's), (Start: 35 @111846 has 1 MA's), (Start: 62 @111912 has 110 MA's), (78, 111987), (97, 112101), (105, 112125), (121, 112185), (146, 112296), (154, 112335), (162, 112359), (170, 112401), (200, 112500), (210, 112542), (211, 112548), (215, 112560), (223, 112623), (234, 112683), (235, 112686), (241, 112713), (249, 112755), (Start: 267 @112818 has 9 MA's), (317, 112974), (321, 112992), (324, 113007), (337, 113124), (343, 113163), (359, 113283), (365, 113325), (374, 113370), (376, 113379), (387, 113430), (398, 113472), (414, 113538), (416, 113547), (417, 113550), (418, 113556), (419, 113559), (420, 113568), (421, 113574), (422, 113589), (446, 113676), (470, 113781), (484, 113835), (501, 113922), (507, 113952), (516, 113982), (523, 114015), (525, 114024), (536, 114096), (541, 114126), (569, 114243), (578, 114288), (587, 114330), (619, 114474), (635, 114534), (666, 114636), (696, 114723), (697, 114726), (705, 114744), (713, 114780), (714, 114783), (735, 114843), (739,

114861), (763, 114957), (772, 114987), (777, 115005), (785, 115035), (808, 115128), (812, 115143), (828, 115224), (829, 115230), (832, 115242),

Gene: Pier\_210 Start: 114837, Stop: 118307, Start Num: 31

Candidate Starts for Pier\_210:

(10, 114744), (Start: 24 @114819 has 44 MA's), (Start: 25 @114825 has 6 MA's), (Start: 31 @114837 has 8 MA's), (Start: 35 @114846 has 1 MA's), (Start: 62 @114912 has 110 MA's), (78, 114987), (97, 115101), (105, 115125), (121, 115185), (146, 115296), (154, 115335), (162, 115359), (170, 115401), (200, 115500), (210, 115542), (211, 115548), (215, 115560), (223, 115623), (234, 115683), (235, 115686), (241, 115713), (249, 115755), (Start: 267 @115818 has 9 MA's), (317, 115974), (321, 115992), (324, 116007), (337, 116124), (343, 116163), (359, 116283), (365, 116325), (374, 116370), (376, 116379), (387, 116430), (398, 116472), (414, 116538), (416, 116547), (417, 116550), (418, 116556), (419, 116559), (420, 116568), (421, 116574), (422, 116589), (446, 116676), (470, 116781), (484, 116835), (501, 116922), (507, 116952), (516, 116982), (523, 117015), (525, 117024), (536, 117096), (541, 117126), (569, 117243), (578, 117288), (587, 117330), (619, 117474), (635, 117534), (666, 117636), (696, 117723), (697, 117726), (705, 117744), (713, 117780), (714, 117783), (735, 117843), (739, 117861), (763, 117957), (772, 117987), (777, 118005), (785, 118035), (808, 118128), (812, 118143), (828, 118224), (829, 118230), (832, 118242),

Gene: Pinkcreek\_193 Start: 112195, Stop: 115683, Start Num: 24

Candidate Starts for Pinkcreek\_193:

(Start: 24 @112195 has 44 MA's), (Start: 25 @112201 has 6 MA's), (Start: 31 @112213 has 8 MA's), (Start: 35 @112222 has 1 MA's), (Start: 62 @112288 has 110 MA's), (78, 112363), (97, 112477), (105, 112501), (121, 112561), (146, 112672), (154, 112711), (162, 112735), (170, 112777), (200, 112876), (210, 112918), (211, 112924), (215, 112936), (223, 112999), (234, 113059), (235, 113062), (241, 113089), (249, 113131), (Start: 267 @113194 has 9 MA's), (310, 113314), (317, 113350), (321, 113368), (324, 113383), (337, 113500), (343, 113539), (359, 113659), (365, 113701), (374, 113746), (376, 113755), (387, 113806), (398, 113848), (414, 113914), (416, 113923), (417, 113926), (418, 113932), (419, 113935), (420, 113944), (421, 113950), (422, 113965), (446, 114052), (470, 114157), (484, 114211), (501, 114298), (507, 114328), (516, 114358), (523, 114391), (525, 114400), (536, 114472), (541, 114502), (569, 114619), (578, 114664), (587, 114706), (619, 114850), (635, 114910), (666, 115012), (696, 115099), (697, 115102), (705, 115120), (713, 115156), (714, 115159), (735, 115219), (739, 115237), (763, 115333), (772, 115363), (777, 115381), (785, 115411), (808, 115504), (812, 115519), (828, 115600), (829, 115606), (832, 115618),

Gene: Pio\_217 Start: 116011, Stop: 119499, Start Num: 24

Candidate Starts for Pio\_217:

(Start: 24 @116011 has 44 MA's), (Start: 25 @116017 has 6 MA's), (Start: 31 @116029 has 8 MA's), (Start: 35 @116038 has 1 MA's), (Start: 62 @116104 has 110 MA's), (78, 116179), (97, 116293), (105, 116317), (121, 116377), (146, 116488), (154, 116527), (162, 116551), (170, 116593), (200, 116692), (210, 116734), (211, 116740), (215, 116752), (223, 116815), (234, 116875), (235, 116878), (241, 116905), (249, 116947), (Start: 267 @117010 has 9 MA's), (317, 117166), (321, 117184), (324, 117199), (337, 117316), (343, 117355), (359, 117475), (365, 117517), (374, 117562), (376, 117571), (387, 117622), (398, 117664), (414, 117730), (416, 117739), (417, 117742), (418, 117748), (419, 117751), (420, 117760), (421, 117766), (422, 117781), (446, 117868), (470, 117973), (484, 118027), (501, 118114), (507, 118144), (516, 118174), (523, 118207), (525, 118216), (536, 118288), (541, 118318), (569, 118435), (578, 118480), (587, 118522), (619, 118666), (635, 118726), (666, 118828), (696, 118915), (697, 118918), (705, 118936), (713, 118972), (714, 118975), (735, 119035), (739, 119053), (763, 119149), (772, 119179), (777, 119197), (785, 119227), (808, 119320), (812, 119335), (828, 119416), (829, 119422), (832, 119434),

Gene: Pivoine\_210 Start: 113080, Stop: 116475, Start Num: 62

Candidate Starts for Pivoine\_210:

(Start: 24 @112987 has 44 MA's), (Start: 25 @112993 has 6 MA's), (Start: 31 @113005 has 8 MA's), (Start: 35 @113014 has 1 MA's), (Start: 62 @113080 has 110 MA's), (78, 113155), (97, 113269), (105, 113293), (121, 113353), (146, 113464), (154, 113503), (162, 113527), (170, 113569), (200, 113668), (210, 113710), (211, 113716), (215, 113728), (223, 113791), (234, 113851), (235, 113854), (241, 113881), (249, 113923), (Start: 267 @113986 has 9 MA's), (310, 114106), (317, 114142), (321, 114160), (324, 114175), (337, 114292), (343, 114331), (359, 114451), (365, 114493), (374, 114538), (376, 114547), (387, 114598), (398, 114640), (414, 114706), (416, 114715), (417, 114718), (418, 114724), (419, 114727), (420, 114736), (421, 114742), (422, 114757), (446, 114844), (470, 114949), (484, 115003), (501, 115090), (507, 115120), (516, 115150), (523, 115183), (525, 115192), (536, 115264), (541, 115294), (569, 115411), (578, 115456), (587, 115498), (619, 115642), (635, 115702), (666, 115804), (696, 115891), (697, 115894), (705, 115912), (713, 115948), (714, 115951), (735, 116011), (739, 116029), (763, 116125), (772, 116155), (777, 116173), (785, 116203), (808, 116296), (812, 116311), (828, 116392), (829, 116398), (832, 116410),

Gene: Pleakley\_67 Start: 47999, Stop: 44610, Start Num: 37

Candidate Starts for Pleakley\_67:

(21, 48050), (Start: 37 @47999 has 2 MA's), (42, 47981), (52, 47954), (Start: 67 @47930 has 71 MA's), (80, 47849), (Start: 83 @47834 has 6 MA's), (90, 47783), (116, 47681), (118, 47672), (145, 47567), (150, 47549), (176, 47456), (196, 47390), (197, 47384), (199, 47372), (214, 47306), (220, 47252), (242, 47141), (247, 47120), (260, 47060), (269, 47033), (276, 47015), (310, 46898), (340, 46724), (342, 46709), (362, 46571), (379, 46478), (387, 46439), (413, 46373), (420, 46340), (423, 46316), (439, 46256), (449, 46205), (450, 46202), (451, 46196), (453, 46172), (465, 46154), (475, 46136), (488, 46091), (538, 45851), (546, 45824), (548, 45806), (550, 45800), (555, 45782), (582, 45686), (586, 45668), (590, 45644), (592, 45632), (622, 45500), (627, 45479), (629, 45473), (635, 45443), (687, 45266), (701, 45230), (714, 45179), (732, 45119), (736, 45098), (742, 45077), (786, 44903), (836, 44690), (856, 44624),

Gene: Pleione\_213 Start: 113768, Stop: 117250, Start Num: 25

Candidate Starts for Pleione\_213:

(Start: 24 @113762 has 44 MA's), (Start: 25 @113768 has 6 MA's), (Start: 31 @113780 has 8 MA's), (Start: 35 @113789 has 1 MA's), (Start: 62 @113855 has 110 MA's), (78, 113930), (97, 114044), (105, 114068), (121, 114128), (146, 114239), (154, 114278), (162, 114302), (170, 114344), (200, 114443), (210, 114485), (211, 114491), (215, 114503), (223, 114566), (234, 114626), (235, 114629), (241, 114656), (249, 114698), (Start: 267 @114761 has 9 MA's), (310, 114881), (317, 114917), (321, 114935), (324, 114950), (337, 115067), (343, 115106), (359, 115226), (365, 115268), (374, 115313), (376, 115322), (387, 115373), (398, 115415), (414, 115481), (416, 115490), (417, 115493), (418, 115499), (419, 115502), (420, 115511), (421, 115517), (422, 115532), (446, 115619), (470, 115724), (484, 115778), (501, 115865), (507, 115895), (516, 115925), (523, 115958), (525, 115967), (536, 116039), (541, 116069), (569, 116186), (578, 116231), (587, 116273), (619, 116417), (635, 116477), (666, 116579), (696, 116666), (697, 116669), (705, 116687), (713, 116723), (714, 116726), (735, 116786), (739, 116804), (763, 116900), (772, 116930), (777, 116948), (785, 116978), (808, 117071), (812, 117086), (828, 117167), (829, 117173), (832, 117185),

Gene: Polyuyki\_59 Start: 45773, Stop: 42357, Start Num: 67

Candidate Starts for Polyuyki\_59:

(Start: 67 @45773 has 71 MA's), (80, 45692), (Start: 83 @45677 has 6 MA's), (101, 45569), (103, 45563), (118, 45515), (138, 45434), (150, 45392), (206, 45182), (209, 45167), (211, 45158), (217, 45134), (219, 45104), (226, 45065), (242, 44984), (250, 44942), (290, 44807), (313, 44693), (324, 44642), (326, 44624), (330, 44615), (340, 44537), (342, 44522), (345, 44483), (352, 44444), (367, 44351), (377, 44300), (379, 44294), (387, 44255), (421, 44150), (422, 44135), (423, 44132), (449, 44018), (450, 44015), (453, 43985), (465, 43967), (467, 43964), (471, 43958), (473, 43955), (482, 43922), (488, 43901), (527, 43733), (539, 43655), (547, 43616), (548, 43613), (550, 43607), (555, 43589), (582, 43493), (586, 43475), (592, 43439), (611, 43367), (629, 43274), (631, 43262), (650,

43199), (665, 43142), (693, 43013), (704, 42983), (720, 42923), (721, 42920), (732, 42866), (751, 42776), (760, 42740), (776, 42695), (779, 42680), (788, 42638), (800, 42593), (813, 42539), (814, 42530), (816, 42518), (817, 42512), (821, 42494), (833, 42443), (834, 42440), (846, 42398),

Gene: PotatoChip\_46 Start: 42799, Stop: 39506, Start Num: 67

Candidate Starts for PotatoChip\_46:

(Start: 67 @42799 has 71 MA's), (75, 42742), (80, 42718), (Start: 83 @42703 has 6 MA's), (84, 42694), (118, 42547), (167, 42340), (182, 42265), (186, 42241), (196, 42187), (292, 41773), (313, 41671), (338, 41536), (340, 41518), (342, 41503), (355, 41407), (400, 41188), (401, 41185), (410, 41170), (419, 41140), (422, 41110), (449, 40993), (453, 40960), (471, 40933), (478, 40909), (515, 40762), (527, 40708), (530, 40687), (546, 40612), (548, 40594), (592, 40417), (604, 40387), (607, 40360), (611, 40345), (641, 40216), (674, 40183), (707, 40096), (740, 39982), (742, 39976), (745, 39964), (783, 39814), (784, 39811), (785, 39805), (789, 39787), (791, 39778), (795, 39760), (818, 39658), (822, 39634), (831, 39598), (833, 39592),

Gene: Potty\_56 Start: 41179, Stop: 43482, Start Num: 261

Candidate Starts for Potty\_56:

(Start: 261 @41179 has 29 MA's), (Start: 263 @41185 has 6 MA's), (293, 41263), (310, 41335), (314, 41356), (321, 41389), (323, 41401), (324, 41404), (326, 41422), (339, 41497), (342, 41521), (345, 41560), (352, 41605), (355, 41617), (367, 41698), (393, 41812), (397, 41824), (421, 41899), (423, 41917), (441, 41995), (443, 42001), (445, 42010), (450, 42043), (453, 42073), (458, 42079), (472, 42100), (475, 42109), (483, 42139), (503, 42214), (505, 42223), (514, 42247), (515, 42253), (516, 42259), (519, 42268), (536, 42370), (553, 42442), (559, 42466), (583, 42550), (605, 42640), (606, 42652), (611, 42670), (625, 42748), (626, 42754), (629, 42763), (635, 42796), (656, 42868), (748, 43048), (754, 43078), (772, 43141), (788, 43213), (818, 43336), (825, 43369), (838, 43414), (851, 43459), (853, 43465),

Gene: Poultruss\_56 Start: 41476, Stop: 43779, Start Num: 261

Candidate Starts for Poultruss\_56:

(Start: 261 @41476 has 29 MA's), (Start: 263 @41482 has 6 MA's), (293, 41560), (310, 41632), (314, 41653), (321, 41686), (323, 41698), (324, 41701), (326, 41719), (329, 41725), (339, 41794), (342, 41818), (345, 41857), (352, 41902), (355, 41914), (367, 41995), (393, 42109), (397, 42121), (421, 42196), (423, 42214), (441, 42292), (443, 42298), (445, 42307), (450, 42340), (453, 42370), (458, 42376), (472, 42397), (475, 42406), (483, 42436), (503, 42511), (505, 42520), (514, 42544), (515, 42550), (516, 42556), (519, 42565), (536, 42667), (553, 42739), (559, 42763), (583, 42847), (605, 42937), (606, 42949), (611, 42967), (625, 43045), (626, 43051), (629, 43060), (635, 43093), (656, 43165), (748, 43345), (754, 43375), (772, 43438), (788, 43510), (818, 43633), (825, 43666), (838, 43711), (851, 43756), (853, 43762),

Gene: Prager\_67 Start: 49797, Stop: 53099, Start Num: 26

Candidate Starts for Prager\_67:

(Start: 26 @49797 has 20 MA's), (Start: 58 @49884 has 1 MA's), (61, 49890), (Start: 67 @49899 has 71 MA's), (Start: 83 @49995 has 6 MA's), (118, 50151), (141, 50238), (142, 50241), (154, 50292), (219, 50556), (226, 50595), (239, 50667), (242, 50676), (259, 50751), (Start: 281 @50817 has 8 MA's), (282, 50823), (298, 50877), (306, 50895), (313, 50946), (314, 50949), (320, 50979), (335, 51063), (336, 51072), (340, 51099), (342, 51114), (367, 51291), (368, 51300), (393, 51405), (420, 51486), (430, 51546), (449, 51621), (453, 51654), (458, 51660), (472, 51681), (475, 51690), (488, 51735), (505, 51804), (510, 51819), (527, 51888), (536, 51951), (545, 51984), (546, 51987), (557, 52038), (579, 52113), (606, 52236), (611, 52254), (628, 52332), (629, 52335), (631, 52347), (643, 52392), (651, 52413), (654, 52425), (661, 52455), (668, 52476), (716, 52548), (740, 52605), (763, 52704), (781, 52770), (803, 52860), (810, 52890), (811, 52893), (816, 52923), (825, 52968), (836, 53010), (844, 53040), (849, 53052), (853, 53067), (856, 53076),

Gene: Predator\_76 Start: 54791, Stop: 58105, Start Num: 67

Candidate Starts for Predator\_76:

(Start: 48 @54761 has 1 MA's), (Start: 67 @54791 has 71 MA's), (79, 54863), (80, 54872), (Start: 83 @54887 has 6 MA's), (84, 54896), (85, 54902), (86, 54920), (118, 55055), (125, 55091), (142, 55145), (160, 55214), (188, 55292), (219, 55466), (228, 55514), (273, 55718), (294, 55790), (295, 55793), (312, 55889), (313, 55895), (318, 55916), (320, 55928), (321, 55931), (324, 55946), (337, 56024), (342, 56069), (345, 56108), (353, 56156), (356, 56168), (362, 56213), (366, 56237), (367, 56246), (371, 56264), (390, 56351), (397, 56381), (412, 56414), (423, 56477), (443, 56561), (449, 56600), (454, 56639), (462, 56660), (464, 56669), (468, 56675), (474, 56684), (476, 56693), (510, 56825), (546, 56993), (548, 57011), (551, 57020), (559, 57053), (590, 57173), (611, 57257), (654, 57437), (699, 57566), (739, 57626), (740, 57629), (741, 57632), (755, 57704), (770, 57758), (783, 57806), (811, 57920), (815, 57947), (826, 57995), (833, 58022), (839, 58043), (846, 58067),

Gene: Puissant\_78 Start: 55929, Stop: 58568, Start Num: 219

Candidate Starts for Puissant\_78:

(Start: 48 @55227 has 1 MA's), (Start: 67 @55254 has 71 MA's), (79, 55326), (Start: 83 @55350 has 6 MA's), (86, 55383), (118, 55518), (143, 55611), (160, 55677), (178, 55737), (193, 55794), (219, 55929), (260, 56130), (271, 56163), (294, 56220), (312, 56319), (318, 56346), (324, 56376), (333, 56406), (342, 56499), (345, 56538), (351, 56580), (367, 56676), (371, 56694), (388, 56775), (421, 56937), (423, 56955), (443, 57039), (448, 57072), (449, 57078), (455, 57120), (464, 57147), (468, 57153), (474, 57162), (479, 57192), (494, 57234), (497, 57249), (505, 57288), (509, 57300), (530, 57393), (531, 57399), (539, 57447), (548, 57489), (588, 57639), (590, 57651), (611, 57735), (628, 57828), (637, 57876), (644, 57897), (739, 58089), (755, 58167), (770, 58221), (775, 58233), (809, 58377), (811, 58383), (815, 58410), (823, 58449), (834, 58488), (835, 58491), (839, 58506), (853, 58551),

Gene: Pupper\_153 Start: 106237, Stop: 109692, Start Num: 62

Candidate Starts for Pupper\_153:

(Start: 62 @106237 has 110 MA's), (78, 106312), (121, 106510), (130, 106546), (145, 106618), (151, 106639), (179, 106759), (188, 106783), (192, 106807), (196, 106828), (200, 106855), (210, 106897), (220, 106966), (223, 106978), (234, 107035), (235, 107038), (241, 107065), (Start: 267 @107167 has 9 MA's), (324, 107356), (325, 107359), (328, 107392), (371, 107710), (374, 107725), (375, 107728), (422, 107935), (423, 107938), (424, 107941), (425, 107950), (430, 107968), (446, 108031), (447, 108040), (456, 108103), (485, 108193), (507, 108304), (534, 108442), (536, 108445), (547, 108496), (548, 108499), (570, 108586), (606, 108757), (661, 108979), (726, 109180), (754, 109294), (755, 109303), (763, 109327), (771, 109354), (772, 109357), (777, 109375), (785, 109405), (789, 109423), (796, 109453), (797, 109456), (807, 109495), (808, 109498), (842, 109648),

Gene: PurduePete\_209 Start: 114083, Stop: 117478, Start Num: 62

Candidate Starts for PurduePete\_209:

(Start: 24 @113990 has 44 MA's), (Start: 25 @113996 has 6 MA's), (Start: 31 @114008 has 8 MA's), (Start: 35 @114017 has 1 MA's), (Start: 62 @114083 has 110 MA's), (78, 114158), (97, 114272), (105, 114296), (121, 114356), (146, 114467), (154, 114506), (162, 114530), (170, 114572), (200, 114671), (210, 114713), (211, 114719), (215, 114731), (223, 114794), (234, 114854), (235, 114857), (241, 114884), (249, 114926), (Start: 267 @114989 has 9 MA's), (310, 115109), (317, 115145), (321, 115163), (324, 115178), (337, 115295), (343, 115334), (359, 115454), (365, 115496), (374, 115541), (376, 115550), (387, 115601), (398, 115643), (414, 115709), (416, 115718), (417, 115721), (418, 115727), (419, 115730), (420, 115739), (421, 115745), (422, 115760), (446, 115847), (470, 115952), (484, 116006), (501, 116093), (507, 116123), (516, 116153), (523, 116186), (525, 116195), (536, 116267), (541, 116297), (569, 116414), (578, 116459), (587, 116501), (619, 116645), (635, 116705), (666, 116807), (696, 116894), (697, 116897), (705, 116915), (713, 116951), (714, 116954), (735, 117014), (739, 117032), (763, 117128), (772, 117158), (777, 117176), (785, 117206), (808, 117299), (812, 117314), (828, 117395), (829, 117401), (832, 117413),

Gene: QBert\_201 Start: 112436, Stop: 115831, Start Num: 62

Candidate Starts for QBert\_201:

(Start: 18 @112313 has 5 MA's), (Start: 24 @112343 has 44 MA's), (Start: 25 @112349 has 6 MA's), (Start: 31 @112361 has 8 MA's), (Start: 35 @112370 has 1 MA's), (Start: 62 @112436 has 110 MA's), (78, 112511), (97, 112625), (105, 112649), (121, 112709), (146, 112820), (154, 112859), (162, 112883), (170, 112925), (200, 113024), (210, 113066), (211, 113072), (215, 113084), (223, 113147), (234, 113207), (235, 113210), (241, 113237), (249, 113279), (Start: 267 @113342 has 9 MA's), (310, 113462), (317, 113498), (321, 113516), (324, 113531), (337, 113648), (343, 113687), (359, 113807), (365, 113849), (374, 113894), (376, 113903), (387, 113954), (398, 113996), (414, 114062), (416, 114071), (417, 114074), (418, 114080), (419, 114083), (420, 114092), (421, 114098), (422, 114113), (446, 114200), (470, 114305), (484, 114359), (501, 114446), (507, 114476), (516, 114506), (523, 114539), (525, 114548), (536, 114620), (541, 114650), (569, 114767), (578, 114812), (587, 114854), (619, 114998), (635, 115058), (666, 115160), (696, 115247), (697, 115250), (705, 115268), (713, 115304), (714, 115307), (735, 115367), (739, 115385), (763, 115481), (772, 115511), (777, 115529), (785, 115559), (808, 115652), (812, 115667), (828, 115748), (829, 115754), (832, 115766),

Gene: Quasimodo\_211 Start: 113706, Stop: 117101, Start Num: 62

Candidate Starts for Quasimodo\_211:

(Start: 24 @113613 has 44 MA's), (Start: 25 @113619 has 6 MA's), (Start: 31 @113631 has 8 MA's), (Start: 35 @113640 has 1 MA's), (Start: 62 @113706 has 110 MA's), (78, 113781), (97, 113895), (105, 113919), (121, 113979), (146, 114090), (154, 114129), (162, 114153), (170, 114195), (200, 114294), (210, 114336), (211, 114342), (215, 114354), (223, 114417), (234, 114477), (235, 114480), (241, 114507), (249, 114549), (Start: 267 @114612 has 9 MA's), (310, 114732), (317, 114768), (321, 114786), (324, 114801), (337, 114918), (343, 114957), (359, 115077), (365, 115119), (374, 115164), (376, 115173), (387, 115224), (398, 115266), (414, 115332), (416, 115341), (417, 115344), (418, 115350), (419, 115353), (420, 115362), (421, 115368), (422, 115383), (446, 115470), (470, 115575), (484, 115629), (501, 115716), (507, 115746), (516, 115776), (523, 115809), (525, 115818), (536, 115890), (541, 115920), (569, 116037), (578, 116082), (587, 116124), (619, 116268), (635, 116328), (666, 116430), (696, 116517), (697, 116520), (705, 116538), (713, 116574), (714, 116577), (735, 116637), (739, 116655), (763, 116751), (772, 116781), (777, 116799), (785, 116829), (808, 116922), (812, 116937), (828, 117018), (829, 117024), (832, 117036),

Gene: Rabinovish\_202 Start: 113888, Stop: 117376, Start Num: 24

Candidate Starts for Rabinovish\_202:

(Start: 24 @113888 has 44 MA's), (Start: 25 @113894 has 6 MA's), (Start: 31 @113906 has 8 MA's), (Start: 35 @113915 has 1 MA's), (Start: 62 @113981 has 110 MA's), (78, 114056), (97, 114170), (105, 114194), (121, 114254), (146, 114365), (154, 114404), (162, 114428), (170, 114470), (200, 114569), (210, 114611), (211, 114617), (215, 114629), (223, 114692), (234, 114752), (235, 114755), (241, 114782), (249, 114824), (Start: 267 @114887 has 9 MA's), (310, 115007), (317, 115043), (321, 115061), (324, 115076), (337, 115193), (343, 115232), (359, 115352), (365, 115394), (374, 115439), (376, 115448), (387, 115499), (398, 115541), (414, 115607), (416, 115616), (417, 115619), (418, 115625), (419, 115628), (420, 115637), (421, 115643), (422, 115658), (446, 115745), (470, 115850), (484, 115904), (501, 115991), (507, 116021), (516, 116051), (523, 116084), (525, 116093), (536, 116165), (541, 116195), (569, 116312), (578, 116357), (587, 116399), (619, 116543), (635, 116603), (666, 116705), (696, 116792), (697, 116795), (705, 116813), (713, 116849), (714, 116852), (735, 116912), (739, 116930), (763, 117026), (772, 117056), (777, 117074), (785, 117104), (808, 117197), (812, 117212), (828, 117293), (829, 117299), (832, 117311),

Gene: Rachella\_57 Start: 41260, Stop: 43563, Start Num: 261

Candidate Starts for Rachella\_57:

(Start: 261 @41260 has 29 MA's), (Start: 263 @41266 has 6 MA's), (293, 41344), (310, 41416), (314, 41437), (321, 41470), (323, 41482), (324, 41485), (326, 41503), (339, 41578), (342, 41602), (345,

41641), (352, 41686), (355, 41698), (367, 41779), (393, 41893), (397, 41905), (421, 41980), (423, 41998), (441, 42076), (443, 42082), (445, 42091), (450, 42124), (453, 42154), (458, 42160), (472, 42181), (475, 42190), (483, 42220), (503, 42295), (505, 42304), (514, 42328), (515, 42334), (519, 42349), (524, 42376), (536, 42451), (553, 42523), (559, 42547), (583, 42631), (605, 42721), (606, 42733), (611, 42751), (625, 42829), (626, 42835), (629, 42844), (635, 42877), (656, 42949), (748, 43129), (754, 43159), (772, 43222), (788, 43294), (818, 43417), (825, 43450), (838, 43495), (851, 43540), (853, 43546),

Gene: Rahel\_210 Start: 112815, Stop: 116210, Start Num: 62

Candidate Starts for Rahel\_210:

(Start: 24 @112722 has 44 MA's), (Start: 25 @112728 has 6 MA's), (Start: 31 @112740 has 8 MA's), (Start: 35 @112749 has 1 MA's), (Start: 62 @112815 has 110 MA's), (78, 112890), (97, 113004), (105, 113028), (121, 113088), (146, 113199), (154, 113238), (162, 113262), (170, 113304), (200, 113403), (210, 113445), (211, 113451), (215, 113463), (223, 113526), (234, 113586), (235, 113589), (241, 113616), (249, 113658), (Start: 267 @113721 has 9 MA's), (317, 113877), (321, 113895), (324, 113910), (337, 114027), (343, 114066), (359, 114186), (365, 114228), (374, 114273), (376, 114282), (387, 114333), (398, 114375), (414, 114441), (416, 114450), (417, 114453), (418, 114459), (419, 114462), (420, 114471), (421, 114477), (422, 114492), (446, 114579), (470, 114684), (484, 114738), (501, 114825), (507, 114855), (516, 114885), (523, 114918), (525, 114927), (536, 114999), (541, 115029), (569, 115146), (578, 115191), (587, 115233), (619, 115377), (635, 115437), (666, 115539), (696, 115626), (697, 115629), (705, 115647), (713, 115683), (714, 115686), (735, 115746), (739, 115764), (763, 115860), (772, 115890), (777, 115908), (785, 115938), (808, 116031), (812, 116046), (828, 116127), (829, 116133), (832, 116145),

Gene: Rana\_55 Start: 41495, Stop: 38013, Start Num: 65

Candidate Starts for Rana\_55:

(41, 41543), (46, 41534), (Start: 65 @41495 has 4 MA's), (Start: 76 @41432 has 1 MA's), (78, 41423), (85, 41381), (98, 41306), (101, 41288), (120, 41219), (136, 41150), (152, 41096), (170, 41024), (180, 40988), (194, 40928), (214, 40850), (236, 40703), (247, 40664), (252, 40637), (256, 40619), (Start: 262 @40598 has 3 MA's), (Start: 267 @40583 has 9 MA's), (313, 40463), (316, 40451), (344, 40265), (345, 40259), (351, 40214), (364, 40130), (367, 40112), (382, 40055), (383, 40052), (385, 40040), (420, 39902), (421, 39896), (422, 39881), (424, 39875), (431, 39842), (451, 39764), (455, 39731), (498, 39614), (503, 39590), (524, 39509), (526, 39503), (537, 39434), (547, 39371), (553, 39350), (567, 39305), (578, 39266), (590, 39209), (591, 39200), (615, 39092), (621, 39071), (623, 39050), (633, 39020), (638, 38993), (658, 38927), (661, 38918), (665, 38906), (685, 38819), (695, 38795), (724, 38699), (744, 38603), (763, 38519), (771, 38492), (803, 38354), (804, 38345), (810, 38318), (819, 38270), (820, 38264), (824, 38243), (826, 38237), (855, 38132), (861, 38105), (862, 38093),

Gene: Ranch\_80 Start: 51036, Stop: 54344, Start Num: 71

Candidate Starts for Ranch\_80:

(Start: 71 @51036 has 4 MA's), (Start: 76 @51063 has 1 MA's), (Start: 83 @51099 has 6 MA's), (88, 51144), (97, 51186), (163, 51447), (196, 51549), (202, 51582), (219, 51678), (278, 51948), (280, 51957), (306, 52065), (312, 52110), (321, 52152), (342, 52284), (343, 52287), (344, 52317), (347, 52338), (359, 52407), (367, 52461), (388, 52560), (393, 52575), (410, 52617), (449, 52791), (453, 52824), (465, 52842), (475, 52860), (488, 52905), (489, 52908), (515, 53004), (524, 53046), (527, 53058), (532, 53094), (577, 53274), (586, 53316), (592, 53352), (606, 53406), (611, 53424), (629, 53520), (631, 53532), (714, 53727), (740, 53811), (765, 53916), (769, 53931), (773, 53946), (778, 53967), (781, 53979), (782, 53985), (783, 53988), (789, 54015), (801, 54060), (822, 54168), (835, 54213), (841, 54237), (853, 54273),

Gene: RazorC\_79 Start: 50446, Stop: 53787, Start Num: 64

Candidate Starts for RazorC\_79:



(Start: 64 @50446 has 20 MA's), (Start: 83 @50542 has 6 MA's), (88, 50587), (97, 50629), (163, 50890), (202, 51025), (219, 51121), (278, 51391), (280, 51400), (306, 51508), (312, 51553), (321, 51595), (334, 51673), (342, 51727), (343, 51730), (344, 51760), (359, 51850), (367, 51904), (388, 52003), (393, 52018), (410, 52060), (449, 52234), (453, 52267), (465, 52285), (475, 52303), (488, 52348), (489, 52351), (515, 52447), (524, 52489), (527, 52501), (532, 52537), (577, 52717), (586, 52759), (592, 52795), (605, 52837), (606, 52849), (611, 52867), (629, 52963), (631, 52975), (714, 53170), (740, 53254), (765, 53359), (769, 53374), (773, 53389), (778, 53410), (781, 53422), (782, 53428), (783, 53431), (789, 53458), (801, 53503), (822, 53611), (835, 53656), (841, 53680), (853, 53716),

Gene: RedBear\_55 Start: 42740, Stop: 39261, Start Num: 63

Candidate Starts for RedBear\_55:

(Start: 35 @42806 has 1 MA's), (Start: 63 @42740 has 55 MA's), (Start: 76 @42677 has 1 MA's), (78, 42668), (80, 42656), (85, 42626), (101, 42533), (111, 42500), (120, 42464), (136, 42395), (152, 42341), (170, 42269), (194, 42173), (214, 42095), (236, 41948), (247, 41909), (256, 41864), (Start: 262 @41843 has 3 MA's), (Start: 267 @41828 has 9 MA's), (289, 41807), (313, 41708), (316, 41696), (330, 41633), (344, 41510), (345, 41504), (351, 41459), (364, 41375), (367, 41357), (382, 41300), (383, 41297), (385, 41285), (420, 41147), (422, 41126), (424, 41120), (426, 41105), (439, 41063), (450, 41015), (451, 41009), (455, 40976), (503, 40835), (520, 40778), (524, 40754), (526, 40748), (537, 40679), (546, 40631), (547, 40616), (553, 40595), (567, 40550), (590, 40454), (591, 40445), (615, 40337), (617, 40328), (621, 40316), (623, 40295), (633, 40265), (638, 40238), (661, 40163), (665, 40151), (685, 40064), (695, 40040), (744, 39848), (771, 39737), (803, 39599), (810, 39563), (819, 39515), (820, 39509), (826, 39482), (861, 39350), (862, 39338), (863, 39332), (866, 39275),

Gene: RedRaider\_67 Start: 51121, Stop: 47807, Start Num: 67

Candidate Starts for RedRaider\_67:

(Start: 67 @51121 has 71 MA's), (72, 51088), (Start: 83 @51025 has 6 MA's), (116, 50872), (118, 50863), (150, 50740), (196, 50581), (197, 50575), (201, 50551), (202, 50548), (214, 50497), (220, 50443), (226, 50413), (276, 50206), (321, 50035), (330, 49993), (340, 49915), (342, 49900), (362, 49762), (371, 49711), (413, 49564), (423, 49507), (432, 49462), (449, 49396), (465, 49345), (475, 49327), (488, 49282), (538, 49039), (547, 48997), (548, 48994), (550, 48988), (555, 48970), (576, 48901), (582, 48874), (586, 48856), (592, 48820), (626, 48676), (629, 48667), (634, 48643), (651, 48592), (687, 48463), (702, 48421), (714, 48373), (719, 48364), (732, 48313), (736, 48292), (742, 48271), (786, 48100), (846, 47851),

Gene: RedWattleHog\_79 Start: 71408, Stop: 74602, Start Num: 65

Candidate Starts for RedWattleHog\_79:

(55, 71396), (Start: 65 @71408 has 4 MA's), (78, 71480), (88, 71552), (93, 71570), (99, 71603), (122, 71681), (140, 71768), (145, 71783), (158, 71837), (168, 71885), (179, 71924), (202, 71996), (203, 71999), (206, 72014), (214, 72047), (221, 72104), (223, 72113), (234, 72167), (235, 72170), (241, 72197), (254, 72254), (Start: 267 @72299 has 9 MA's), (291, 72332), (299, 72365), (310, 72419), (315, 72443), (321, 72473), (324, 72488), (330, 72515), (337, 72569), (348, 72665), (369, 72794), (371, 72800), (398, 72890), (406, 72926), (411, 72944), (416, 72965), (418, 72974), (503, 73301), (527, 73394), (534, 73454), (548, 73511), (550, 73517), (552, 73526), (564, 73571), (565, 73574), (575, 73622), (605, 73748), (618, 73823), (623, 73844), (632, 73871), (634, 73880), (635, 73886), (636, 73889), (646, 73925), (655, 73955), (676, 74033), (677, 74036), (695, 74072), (696, 74075), (709, 74111), (756, 74213), (764, 74237), (777, 74282), (782, 74300), (792, 74342), (808, 74405), (817, 74453), (822, 74483), (847, 74567),

Gene: Rie18\_57 Start: 41055, Stop: 43352, Start Num: 263

Candidate Starts for Rie18\_57:

(Start: 263 @41055 has 6 MA's), (293, 41133), (314, 41226), (321, 41259), (323, 41271), (324, 41274), (326, 41292), (339, 41367), (342, 41391), (345, 41430), (355, 41487), (367, 41568), (393, 41682),

(397, 41694), (423, 41787), (438, 41853), (443, 41871), (450, 41913), (453, 41943), (458, 41949), (472, 41970), (475, 41979), (483, 42009), (496, 42051), (503, 42084), (515, 42123), (553, 42312), (559, 42336), (605, 42510), (606, 42522), (611, 42540), (618, 42585), (626, 42624), (629, 42633), (651, 42711), (656, 42738), (669, 42780), (748, 42918), (754, 42948), (763, 42981), (772, 43011), (788, 43083), (797, 43119), (817, 43200), (818, 43206), (825, 43239), (838, 43284), (851, 43329), (853, 43335),

Gene: RikSengupta\_63 Start: 42657, Stop: 44912, Start Num: 263

Candidate Starts for RikSengupta\_63:

(260, 42648), (Start: 263 @42657 has 6 MA's), (314, 42792), (321, 42825), (324, 42840), (340, 42942), (342, 42957), (355, 43053), (367, 43134), (368, 43143), (391, 43242), (393, 43248), (421, 43335), (423, 43353), (429, 43383), (434, 43404), (437, 43416), (441, 43431), (445, 43446), (450, 43479), (453, 43509), (458, 43515), (472, 43536), (475, 43545), (483, 43575), (504, 43656), (509, 43671), (515, 43689), (519, 43704), (534, 43803), (592, 44034), (593, 44037), (606, 44088), (611, 44106), (613, 44118), (621, 44160), (626, 44190), (629, 44199), (654, 44289), (716, 44391), (739, 44442), (749, 44487), (766, 44550), (772, 44574), (780, 44604), (781, 44610), (825, 44799), (838, 44844), (851, 44889), (853, 44895),

Gene: Riparian\_76 Start: 55365, Stop: 57677, Start Num: 267

Candidate Starts for Riparian\_76:

(Start: 267 @55365 has 9 MA's), (304, 55461), (311, 55500), (321, 55551), (322, 55554), (324, 55566), (333, 55596), (337, 55644), (342, 55680), (379, 55914), (386, 55947), (410, 56013), (423, 56091), (426, 56109), (461, 56256), (465, 56274), (475, 56292), (496, 56364), (497, 56367), (502, 56391), (505, 56406), (515, 56436), (580, 56709), (589, 56751), (590, 56757), (592, 56769), (605, 56811), (611, 56841), (613, 56853), (624, 56913), (628, 56931), (630, 56937), (638, 56979), (648, 57006), (658, 57042), (738, 57165), (739, 57168), (747, 57204), (773, 57303), (781, 57330), (782, 57336), (789, 57366), (811, 57459), (817, 57495), (818, 57501), (831, 57558), (836, 57573), (839, 57585), (844, 57603),

Gene: Rizal\_201 Start: 111240, Stop: 114728, Start Num: 24

Candidate Starts for Rizal\_201:

(Start: 24 @111240 has 44 MA's), (Start: 25 @111246 has 6 MA's), (Start: 31 @111258 has 8 MA's), (Start: 35 @111267 has 1 MA's), (Start: 62 @111333 has 110 MA's), (78, 111408), (97, 111522), (105, 111546), (121, 111606), (146, 111717), (154, 111756), (162, 111780), (170, 111822), (200, 111921), (210, 111963), (211, 111969), (215, 111981), (223, 112044), (234, 112104), (235, 112107), (241, 112134), (249, 112176), (Start: 267 @112239 has 9 MA's), (310, 112359), (317, 112395), (321, 112413), (324, 112428), (337, 112545), (343, 112584), (359, 112704), (365, 112746), (374, 112791), (376, 112800), (387, 112851), (398, 112893), (414, 112959), (416, 112968), (417, 112971), (418, 112977), (419, 112980), (420, 112989), (421, 112995), (422, 113010), (446, 113097), (470, 113202), (484, 113256), (501, 113343), (507, 113373), (516, 113403), (523, 113436), (525, 113445), (536, 113517), (541, 113547), (569, 113664), (578, 113709), (587, 113751), (619, 113895), (635, 113955), (666, 114057), (696, 114144), (697, 114147), (705, 114165), (713, 114201), (714, 114204), (735, 114264), (739, 114282), (763, 114378), (772, 114408), (777, 114426), (785, 114456), (808, 114549), (812, 114564), (828, 114645), (829, 114651), (832, 114663),

Gene: RoMag\_204 Start: 113126, Stop: 116521, Start Num: 62

Candidate Starts for RoMag\_204:

(Start: 24 @113033 has 44 MA's), (Start: 25 @113039 has 6 MA's), (Start: 31 @113051 has 8 MA's), (Start: 35 @113060 has 1 MA's), (Start: 62 @113126 has 110 MA's), (78, 113201), (97, 113315), (105, 113339), (121, 113399), (146, 113510), (154, 113549), (162, 113573), (170, 113615), (200, 113714), (210, 113756), (211, 113762), (215, 113774), (223, 113837), (234, 113897), (235, 113900), (241, 113927), (249, 113969), (Start: 267 @114032 has 9 MA's), (317, 114188), (321, 114206), (324, 114221), (337, 114338), (343, 114377), (359, 114497), (365, 114539), (374, 114584), (376, 114593),

(387, 114644), (398, 114686), (414, 114752), (416, 114761), (417, 114764), (418, 114770), (419, 114773), (420, 114782), (421, 114788), (422, 114803), (446, 114890), (470, 114995), (484, 115049), (501, 115136), (507, 115166), (516, 115196), (523, 115229), (525, 115238), (536, 115310), (541, 115340), (569, 115457), (578, 115502), (587, 115544), (619, 115688), (635, 115748), (666, 115850), (696, 115937), (697, 115940), (705, 115958), (713, 115994), (714, 115997), (735, 116057), (739, 116075), (763, 116171), (772, 116201), (777, 116219), (785, 116249), (808, 116342), (812, 116357), (828, 116438), (829, 116444), (832, 116456),

Gene: Ronan\_205 Start: 111518, Stop: 114913, Start Num: 62

Candidate Starts for Ronan\_205:

(Start: 18 @111395 has 5 MA's), (Start: 24 @111425 has 44 MA's), (Start: 25 @111431 has 6 MA's), (Start: 31 @111443 has 8 MA's), (Start: 35 @111452 has 1 MA's), (Start: 62 @111518 has 110 MA's), (78, 111593), (97, 111707), (105, 111731), (121, 111791), (146, 111902), (154, 111941), (162, 111965), (170, 112007), (200, 112106), (210, 112148), (211, 112154), (215, 112166), (223, 112229), (234, 112289), (235, 112292), (241, 112319), (249, 112361), (Start: 267 @112424 has 9 MA's), (310, 112544), (317, 112580), (321, 112598), (324, 112613), (337, 112730), (343, 112769), (359, 112889), (365, 112931), (374, 112976), (376, 112985), (387, 113036), (398, 113078), (414, 113144), (416, 113153), (417, 113156), (418, 113162), (419, 113165), (420, 113174), (421, 113180), (422, 113195), (446, 113282), (470, 113387), (484, 113441), (501, 113528), (507, 113558), (516, 113588), (523, 113621), (525, 113630), (536, 113702), (541, 113732), (569, 113849), (578, 113894), (587, 113936), (619, 114080), (635, 114140), (666, 114242), (696, 114329), (697, 114332), (705, 114350), (713, 114386), (714, 114389), (735, 114449), (739, 114467), (763, 114563), (772, 114593), (777, 114611), (785, 114641), (808, 114734), (812, 114749), (828, 114830), (829, 114836), (832, 114848),

Gene: Rooney\_51 Start: 39051, Stop: 35854, Start Num: 67

Candidate Starts for Rooney\_51:

(56, 39072), (Start: 67 @39051 has 71 MA's), (73, 39009), (Start: 83 @38955 has 6 MA's), (91, 38901), (107, 38832), (109, 38823), (113, 38814), (119, 38784), (127, 38751), (135, 38715), (144, 38673), (147, 38661), (161, 38607), (188, 38538), (193, 38499), (203, 38457), (207, 38436), (219, 38364), (227, 38322), (236, 38259), (237, 38256), (259, 38166), (Start: 263 @38151 has 6 MA's), (268, 38142), (283, 38100), (286, 38085), (291, 38070), (321, 37944), (335, 37863), (337, 37851), (340, 37827), (342, 37812), (343, 37809), (355, 37716), (366, 37644), (368, 37626), (377, 37584), (391, 37527), (399, 37500), (422, 37419), (424, 37413), (429, 37386), (443, 37335), (450, 37293), (453, 37263), (458, 37257), (475, 37227), (479, 37212), (483, 37197), (496, 37155), (497, 37152), (504, 37116), (509, 37101), (533, 36987), (604, 36708), (605, 36696), (606, 36684), (611, 36666), (626, 36573), (654, 36468), (732, 36357), (737, 36333), (760, 36231), (765, 36216), (788, 36123), (810, 36045), (813, 36033), (816, 36012), (826, 35964), (836, 35928), (846, 35892), (851, 35877),

Gene: Roots515\_211 Start: 114541, Stop: 118029, Start Num: 24

Candidate Starts for Roots515\_211:

(Start: 24 @114541 has 44 MA's), (Start: 25 @114547 has 6 MA's), (Start: 31 @114559 has 8 MA's), (Start: 35 @114568 has 1 MA's), (Start: 62 @114634 has 110 MA's), (78, 114709), (97, 114823), (105, 114847), (121, 114907), (146, 115018), (154, 115057), (162, 115081), (170, 115123), (200, 115222), (210, 115264), (211, 115270), (215, 115282), (223, 115345), (234, 115405), (235, 115408), (241, 115435), (249, 115477), (Start: 267 @115540 has 9 MA's), (310, 115660), (317, 115696), (321, 115714), (324, 115729), (337, 115846), (343, 115885), (359, 116005), (365, 116047), (374, 116092), (376, 116101), (387, 116152), (398, 116194), (414, 116260), (416, 116269), (417, 116272), (418, 116278), (419, 116281), (420, 116290), (421, 116296), (422, 116311), (446, 116398), (470, 116503), (484, 116557), (501, 116644), (507, 116674), (516, 116704), (523, 116737), (525, 116746), (536, 116818), (541, 116848), (569, 116965), (578, 117010), (587, 117052), (619, 117196), (635, 117256), (666, 117358), (696, 117445), (697, 117448), (705, 117466), (713, 117502), (714, 117505), (735, 117565), (739, 117583), (763, 117679), (772, 117709), (777, 117727), (785, 117757), (808, 117850), (812, 117865), (828, 117946), (829, 117952), (832, 117964),

Gene: Rope\_74 Start: 55521, Stop: 57833, Start Num: 267

Candidate Starts for Rope\_74:

(Start: 267 @55521 has 9 MA's), (304, 55617), (311, 55656), (321, 55707), (322, 55710), (324, 55722), (333, 55752), (337, 55800), (342, 55836), (379, 56070), (386, 56103), (410, 56169), (423, 56247), (426, 56265), (465, 56430), (475, 56448), (496, 56520), (497, 56523), (502, 56547), (505, 56562), (515, 56592), (521, 56616), (580, 56865), (589, 56907), (590, 56913), (592, 56925), (605, 56967), (611, 56997), (613, 57009), (630, 57093), (648, 57162), (658, 57198), (738, 57321), (739, 57324), (747, 57360), (773, 57459), (781, 57486), (782, 57492), (789, 57522), (817, 57651), (818, 57657), (831, 57714), (836, 57729), (839, 57741), (844, 57759), (851, 57780),

Gene: Rumi\_79 Start: 49989, Stop: 53330, Start Num: 64

Candidate Starts for Rumi\_79:

(Start: 64 @49989 has 20 MA's), (Start: 76 @50049 has 1 MA's), (Start: 83 @50085 has 6 MA's), (88, 50130), (97, 50172), (163, 50433), (202, 50568), (219, 50664), (278, 50934), (280, 50943), (306, 51051), (312, 51096), (321, 51138), (334, 51216), (342, 51270), (343, 51273), (344, 51303), (359, 51393), (367, 51447), (388, 51546), (393, 51561), (410, 51603), (449, 51777), (453, 51810), (465, 51828), (475, 51846), (488, 51891), (489, 51894), (515, 51990), (524, 52032), (527, 52044), (532, 52080), (577, 52260), (586, 52302), (592, 52338), (605, 52380), (606, 52392), (611, 52410), (629, 52506), (631, 52518), (714, 52713), (740, 52797), (765, 52902), (769, 52917), (773, 52932), (778, 52953), (781, 52965), (782, 52971), (783, 52974), (789, 53001), (801, 53046), (822, 53154), (835, 53199), (841, 53223), (853, 53259),

Gene: Rusticus\_55 Start: 40726, Stop: 37247, Start Num: 63

Candidate Starts for Rusticus\_55:

(Start: 35 @40795 has 1 MA's), (Start: 63 @40726 has 55 MA's), (78, 40654), (Start: 83 @40627 has 6 MA's), (85, 40612), (120, 40450), (126, 40423), (129, 40417), (152, 40327), (156, 40312), (169, 40258), (170, 40255), (194, 40159), (214, 40081), (236, 39934), (247, 39895), (256, 39850), (Start: 262 @39829 has 3 MA's), (Start: 267 @39814 has 9 MA's), (296, 39772), (300, 39760), (313, 39694), (316, 39682), (330, 39619), (345, 39490), (346, 39481), (351, 39445), (364, 39361), (367, 39343), (382, 39286), (383, 39283), (385, 39271), (420, 39133), (421, 39127), (422, 39112), (424, 39106), (433, 39067), (451, 38995), (455, 38962), (498, 38845), (503, 38821), (520, 38764), (524, 38740), (526, 38734), (537, 38665), (547, 38602), (567, 38536), (572, 38515), (578, 38497), (590, 38440), (591, 38431), (615, 38323), (617, 38314), (621, 38302), (623, 38281), (633, 38251), (638, 38224), (658, 38158), (661, 38149), (665, 38137), (685, 38050), (695, 38026), (709, 37978), (744, 37834), (760, 37759), (803, 37585), (810, 37549), (819, 37501), (826, 37468),

Gene: SCentae\_152 Start: 106391, Stop: 109846, Start Num: 62

Candidate Starts for SCentae\_152:

(Start: 62 @106391 has 110 MA's), (78, 106466), (121, 106664), (130, 106700), (145, 106772), (162, 106838), (179, 106913), (188, 106937), (192, 106961), (196, 106982), (200, 107009), (210, 107051), (220, 107120), (223, 107132), (234, 107189), (235, 107192), (241, 107219), (Start: 267 @107321 has 9 MA's), (324, 107510), (325, 107513), (328, 107546), (371, 107864), (374, 107879), (375, 107882), (422, 108089), (423, 108092), (424, 108095), (425, 108104), (430, 108122), (446, 108185), (447, 108194), (456, 108257), (485, 108347), (507, 108458), (534, 108596), (536, 108599), (547, 108650), (548, 108653), (570, 108740), (606, 108911), (661, 109133), (726, 109334), (754, 109448), (755, 109457), (763, 109481), (771, 109508), (772, 109511), (777, 109529), (785, 109559), (789, 109577), (796, 109607), (797, 109610), (807, 109649), (808, 109652), (842, 109802),

Gene: SVoro\_206 Start: 113428, Stop: 116823, Start Num: 62

Candidate Starts for SVoro\_206:

(Start: 24 @113335 has 44 MA's), (Start: 25 @113341 has 6 MA's), (Start: 31 @113353 has 8 MA's), (Start: 35 @113362 has 1 MA's), (Start: 62 @113428 has 110 MA's), (78, 113503), (97, 113617), (105,

113641), (121, 113701), (146, 113812), (154, 113851), (162, 113875), (170, 113917), (200, 114016), (210, 114058), (211, 114064), (215, 114076), (223, 114139), (234, 114199), (235, 114202), (241, 114229), (249, 114271), (Start: 267 @114334 has 9 MA's), (317, 114490), (321, 114508), (324, 114523), (337, 114640), (343, 114679), (359, 114799), (365, 114841), (374, 114886), (376, 114895), (387, 114946), (398, 114988), (414, 115054), (416, 115063), (417, 115066), (418, 115072), (419, 115075), (420, 115084), (421, 115090), (422, 115105), (446, 115192), (470, 115297), (484, 115351), (501, 115438), (507, 115468), (516, 115498), (523, 115531), (525, 115540), (536, 115612), (541, 115642), (569, 115759), (578, 115804), (587, 115846), (619, 115990), (635, 116050), (666, 116152), (696, 116239), (697, 116242), (705, 116260), (713, 116296), (714, 116299), (735, 116359), (739, 116377), (763, 116473), (772, 116503), (777, 116521), (785, 116551), (808, 116644), (812, 116659), (828, 116740), (829, 116746), (832, 116758),

Gene: Sadboi\_79 Start: 52345, Stop: 55686, Start Num: 64

Candidate Starts for Sadboi\_79:

(Start: 39 @52297 has 2 MA's), (Start: 64 @52345 has 20 MA's), (Start: 76 @52405 has 1 MA's), (Start: 83 @52441 has 6 MA's), (88, 52486), (97, 52528), (163, 52789), (196, 52891), (202, 52924), (219, 53020), (278, 53290), (280, 53299), (306, 53407), (312, 53452), (321, 53494), (342, 53626), (343, 53629), (344, 53659), (347, 53680), (359, 53749), (367, 53803), (388, 53902), (393, 53917), (410, 53959), (449, 54133), (453, 54166), (465, 54184), (475, 54202), (488, 54247), (489, 54250), (515, 54346), (524, 54388), (527, 54400), (532, 54436), (577, 54616), (586, 54658), (592, 54694), (606, 54748), (611, 54766), (629, 54862), (631, 54874), (714, 55069), (740, 55153), (757, 55234), (765, 55258), (769, 55273), (778, 55309), (781, 55321), (782, 55327), (783, 55330), (789, 55357), (801, 55402), (822, 55510), (835, 55555), (841, 55579), (853, 55615),

Gene: Salacia\_209 Start: 113125, Stop: 116613, Start Num: 24

Candidate Starts for Salacia\_209:

(Start: 24 @113125 has 44 MA's), (Start: 25 @113131 has 6 MA's), (Start: 31 @113143 has 8 MA's), (Start: 35 @113152 has 1 MA's), (Start: 62 @113218 has 110 MA's), (78, 113293), (97, 113407), (105, 113431), (121, 113491), (146, 113602), (154, 113641), (162, 113665), (170, 113707), (200, 113806), (210, 113848), (211, 113854), (215, 113866), (223, 113929), (234, 113989), (235, 113992), (241, 114019), (249, 114061), (Start: 267 @114124 has 9 MA's), (317, 114280), (321, 114298), (324, 114313), (337, 114430), (343, 114469), (359, 114589), (365, 114631), (374, 114676), (376, 114685), (387, 114736), (398, 114778), (414, 114844), (416, 114853), (417, 114856), (418, 114862), (419, 114865), (420, 114874), (421, 114880), (422, 114895), (446, 114982), (470, 115087), (484, 115141), (501, 115228), (507, 115258), (516, 115288), (523, 115321), (525, 115330), (536, 115402), (541, 115432), (569, 115549), (578, 115594), (587, 115636), (619, 115780), (635, 115840), (666, 115942), (696, 116029), (697, 116032), (705, 116050), (713, 116086), (714, 116089), (735, 116149), (739, 116167), (763, 116263), (772, 116293), (777, 116311), (785, 116341), (808, 116434), (812, 116449), (828, 116530), (829, 116536), (832, 116548),

Gene: Sampudon\_80 Start: 52937, Stop: 56278, Start Num: 64

Candidate Starts for Sampudon\_80:

(Start: 39 @52889 has 2 MA's), (Start: 64 @52937 has 20 MA's), (Start: 76 @52997 has 1 MA's), (Start: 83 @53033 has 6 MA's), (88, 53078), (97, 53120), (163, 53381), (196, 53483), (202, 53516), (219, 53612), (278, 53882), (280, 53891), (306, 53999), (312, 54044), (321, 54086), (342, 54218), (343, 54221), (344, 54251), (347, 54272), (359, 54341), (367, 54395), (388, 54494), (393, 54509), (449, 54725), (453, 54758), (465, 54776), (475, 54794), (488, 54839), (489, 54842), (515, 54938), (524, 54980), (527, 54992), (532, 55028), (553, 55127), (577, 55208), (586, 55250), (592, 55286), (606, 55340), (611, 55358), (629, 55454), (631, 55466), (714, 55661), (740, 55745), (757, 55826), (765, 55850), (769, 55865), (778, 55901), (781, 55913), (782, 55919), (783, 55922), (789, 55949), (801, 55994), (822, 56102), (835, 56147), (841, 56171), (853, 56207),

Gene: SarahRose\_54 Start: 42467, Stop: 38982, Start Num: 63

Candidate Starts for SarahRose\_54:

(Start: 35 @42536 has 1 MA's), (Start: 63 @42467 has 55 MA's), (Start: 76 @42404 has 1 MA's), (78, 42395), (85, 42353), (101, 42260), (120, 42191), (136, 42122), (152, 42068), (170, 41996), (180, 41960), (194, 41900), (236, 41675), (247, 41636), (252, 41609), (256, 41591), (Start: 262 @41570 has 3 MA's), (Start: 267 @41555 has 9 MA's), (296, 41513), (313, 41435), (316, 41423), (344, 41237), (345, 41231), (351, 41186), (364, 41102), (367, 41084), (382, 41027), (383, 41024), (385, 41012), (420, 40874), (421, 40868), (422, 40853), (424, 40847), (431, 40814), (451, 40736), (455, 40703), (503, 40562), (524, 40481), (526, 40475), (537, 40406), (544, 40364), (547, 40343), (553, 40322), (567, 40277), (590, 40181), (591, 40172), (593, 40166), (615, 40064), (617, 40055), (621, 40043), (623, 40022), (633, 39992), (638, 39965), (658, 39899), (661, 39890), (665, 39878), (685, 39791), (733, 39623), (744, 39575), (771, 39464), (803, 39326), (804, 39317), (810, 39290), (819, 39242), (826, 39209), (832, 39182), (861, 39077), (862, 39065),

Gene: Sauce\_205 Start: 112032, Stop: 115427, Start Num: 62

Candidate Starts for Sauce\_205:

(Start: 18 @111909 has 5 MA's), (Start: 24 @111939 has 44 MA's), (Start: 25 @111945 has 6 MA's), (Start: 31 @111957 has 8 MA's), (Start: 35 @111966 has 1 MA's), (Start: 62 @112032 has 110 MA's), (78, 112107), (97, 112221), (105, 112245), (121, 112305), (146, 112416), (154, 112455), (162, 112479), (170, 112521), (200, 112620), (210, 112662), (211, 112668), (215, 112680), (223, 112743), (234, 112803), (235, 112806), (241, 112833), (249, 112875), (Start: 267 @112938 has 9 MA's), (310, 113058), (317, 113094), (321, 113112), (324, 113127), (337, 113244), (343, 113283), (359, 113403), (365, 113445), (374, 113490), (376, 113499), (387, 113550), (398, 113592), (414, 113658), (416, 113667), (417, 113670), (418, 113676), (419, 113679), (420, 113688), (421, 113694), (422, 113709), (446, 113796), (470, 113901), (484, 113955), (501, 114042), (507, 114072), (516, 114102), (523, 114135), (525, 114144), (536, 114216), (541, 114246), (569, 114363), (578, 114408), (587, 114450), (619, 114594), (635, 114654), (666, 114756), (696, 114843), (697, 114846), (705, 114864), (713, 114900), (714, 114903), (735, 114963), (739, 114981), (763, 115077), (772, 115107), (777, 115125), (785, 115155), (808, 115248), (812, 115263), (828, 115344), (829, 115350), (832, 115362),

Gene: ScarletRaider\_99 Start: 73508, Stop: 76315, Start Num: 53

Candidate Starts for ScarletRaider\_99:

(Start: 53 @73508 has 8 MA's), (78, 73598), (81, 73613), (86, 73658), (102, 73736), (122, 73808), (147, 73916), (153, 73946), (154, 73949), (155, 73952), (170, 74012), (174, 74033), (185, 74063), (211, 74180), (222, 74246), (224, 74255), (225, 74258), (252, 74387), (265, 74432), (Start: 267 @74441 has 9 MA's), (313, 74552), (317, 74570), (320, 74585), (322, 74591), (324, 74603), (332, 74630), (333, 74633), (339, 74693), (340, 74702), (343, 74717), (351, 74798), (358, 74831), (396, 75029), (402, 75053), (405, 75071), (422, 75161), (423, 75164), (432, 75209), (433, 75212), (446, 75251), (447, 75260), (451, 75284), (452, 75290), (454, 75314), (455, 75317), (462, 75335), (469, 75347), (509, 75476), (511, 75482), (518, 75506), (519, 75509), (522, 75524), (524, 75536), (545, 75653), (547, 75671), (548, 75674), (551, 75683), (577, 75788), (579, 75797), (585, 75824), (615, 75956), (618, 75968), (620, 75974), (636, 76040), (640, 76058), (645, 76070), (647, 76079), (655, 76115), (676, 76193), (686, 76220), (712, 76295), (714, 76304),

Gene: Schomber\_96 Start: 69887, Stop: 72700, Start Num: 53

Candidate Starts for Schomber\_96:

(Start: 44 @69872 has 1 MA's), (Start: 50 @69884 has 1 MA's), (Start: 53 @69887 has 8 MA's), (78, 69980), (86, 70040), (122, 70190), (123, 70193), (124, 70199), (147, 70298), (153, 70328), (154, 70331), (170, 70394), (174, 70415), (175, 70418), (185, 70445), (211, 70562), (214, 70571), (222, 70628), (224, 70637), (236, 70703), (252, 70769), (313, 70934), (317, 70952), (320, 70967), (322, 70973), (324, 70985), (332, 71012), (333, 71015), (339, 71075), (340, 71084), (341, 71087), (343, 71099), (346, 71144), (358, 71213), (361, 71237), (392, 71393), (396, 71411), (402, 71435), (405, 71453), (424, 71549), (432, 71591), (435, 71597), (446, 71633), (447, 71642), (450, 71660), (451, 71666), (453, 71690), (454, 71696), (455, 71699), (462, 71717), (463, 71720), (499, 71813), (509,

71858), (511, 71864), (518, 71888), (519, 71891), (521, 71900), (522, 71906), (524, 71918), (545, 72035), (547, 72053), (548, 72056), (551, 72065), (579, 72179), (582, 72194), (615, 72341), (618, 72353), (620, 72359), (629, 72392), (636, 72425), (640, 72443), (645, 72455), (647, 72464), (676, 72578), (682, 72590), (686, 72605), (712, 72680), (714, 72689),

Gene: ScoobyDoobyDoo\_190 Start: 106890, Stop: 110309, Start Num: 57

Candidate Starts for ScoobyDoobyDoo\_190:

(Start: 57 @106890 has 3 MA's), (90, 107052), (106, 107115), (114, 107139), (145, 107280), (170, 107388), (203, 107508), (210, 107541), (215, 107559), (223, 107622), (234, 107679), (235, 107682), (241, 107709), (254, 107766), (Start: 267 @107811 has 9 MA's), (324, 108000), (355, 108249), (376, 108372), (406, 108495), (414, 108531), (416, 108540), (421, 108567), (446, 108672), (451, 108705), (456, 108744), (479, 108810), (486, 108840), (516, 108975), (523, 109008), (525, 109017), (536, 109089), (541, 109113), (546, 109125), (548, 109143), (552, 109158), (569, 109221), (606, 109386), (627, 109497), (635, 109533), (644, 109563), (696, 109722), (714, 109782), (728, 109815), (755, 109935), (772, 109989), (777, 110007), (785, 110037), (787, 110043), (793, 110073), (808, 110130), (810, 110139), (812, 110145), (823, 110211), (827, 110220), (829, 110232), (833, 110247), (847, 110292), (850, 110301),

Gene: ScottMcG\_202 Start: 111839, Stop: 115234, Start Num: 62

Candidate Starts for ScottMcG\_202:

(Start: 24 @111746 has 44 MA's), (Start: 25 @111752 has 6 MA's), (Start: 31 @111764 has 8 MA's), (Start: 35 @111773 has 1 MA's), (Start: 62 @111839 has 110 MA's), (78, 111914), (97, 112028), (105, 112052), (121, 112112), (146, 112223), (154, 112262), (162, 112286), (170, 112328), (200, 112427), (210, 112469), (211, 112475), (215, 112487), (223, 112550), (234, 112610), (235, 112613), (241, 112640), (249, 112682), (Start: 267 @112745 has 9 MA's), (310, 112865), (317, 112901), (321, 112919), (324, 112934), (337, 113051), (343, 113090), (359, 113210), (365, 113252), (374, 113297), (376, 113306), (387, 113357), (398, 113399), (414, 113465), (416, 113474), (417, 113477), (418, 113483), (419, 113486), (420, 113495), (421, 113501), (422, 113516), (446, 113603), (470, 113708), (484, 113762), (501, 113849), (507, 113879), (516, 113909), (523, 113942), (525, 113951), (536, 114023), (541, 114053), (569, 114170), (578, 114215), (587, 114257), (619, 114401), (635, 114461), (666, 114563), (696, 114650), (697, 114653), (705, 114671), (713, 114707), (714, 114710), (735, 114770), (739, 114788), (763, 114884), (772, 114914), (777, 114932), (785, 114962), (808, 115055), (812, 115070), (828, 115151), (829, 115157), (832, 115169),

Gene: Scuba\_68 Start: 48073, Stop: 44684, Start Num: 37

Candidate Starts for Scuba\_68:

(21, 48124), (Start: 37 @48073 has 2 MA's), (42, 48055), (52, 48028), (Start: 67 @48004 has 71 MA's), (80, 47923), (Start: 83 @47908 has 6 MA's), (90, 47857), (116, 47755), (118, 47746), (145, 47641), (150, 47623), (176, 47530), (196, 47464), (197, 47458), (199, 47446), (214, 47380), (220, 47326), (260, 47134), (269, 47107), (276, 47089), (310, 46972), (340, 46798), (342, 46783), (362, 46645), (413, 46447), (420, 46414), (423, 46390), (439, 46330), (449, 46279), (450, 46276), (451, 46270), (453, 46246), (465, 46228), (475, 46210), (488, 46165), (538, 45925), (548, 45880), (550, 45874), (555, 45856), (582, 45760), (586, 45742), (590, 45718), (592, 45706), (622, 45574), (627, 45553), (629, 45547), (635, 45517), (638, 45502), (687, 45340), (701, 45304), (714, 45253), (736, 45172), (742, 45151), (786, 44977), (836, 44764), (856, 44698),

Gene: Sebata\_210 Start: 114454, Stop: 117936, Start Num: 25

Candidate Starts for Sebata\_210:

(Start: 24 @114448 has 44 MA's), (Start: 25 @114454 has 6 MA's), (Start: 31 @114466 has 8 MA's), (Start: 35 @114475 has 1 MA's), (Start: 62 @114541 has 110 MA's), (78, 114616), (97, 114730), (105, 114754), (121, 114814), (146, 114925), (154, 114964), (162, 114988), (170, 115030), (200, 115129), (210, 115171), (211, 115177), (215, 115189), (223, 115252), (234, 115312), (235, 115315), (241, 115342), (249, 115384), (Start: 267 @115447 has 9 MA's), (317, 115603), (321, 115621), (324,

115636), (337, 115753), (343, 115792), (359, 115912), (365, 115954), (374, 115999), (376, 116008), (387, 116059), (398, 116101), (414, 116167), (416, 116176), (417, 116179), (418, 116185), (419, 116188), (420, 116197), (421, 116203), (422, 116218), (446, 116305), (470, 116410), (484, 116464), (501, 116551), (507, 116581), (516, 116611), (523, 116644), (525, 116653), (536, 116725), (541, 116755), (569, 116872), (578, 116917), (587, 116959), (619, 117103), (635, 117163), (666, 117265), (696, 117352), (697, 117355), (705, 117373), (713, 117409), (714, 117412), (735, 117472), (739, 117490), (763, 117586), (772, 117616), (777, 117634), (785, 117664), (808, 117757), (812, 117772), (828, 117853), (829, 117859), (832, 117871),

Gene: Send513\_74 Start: 55899, Stop: 58211, Start Num: 267

Candidate Starts for Send513\_74:

(Start: 267 @55899 has 9 MA's), (304, 55995), (311, 56034), (321, 56085), (322, 56088), (323, 56097), (324, 56100), (333, 56130), (337, 56178), (342, 56214), (379, 56448), (386, 56481), (410, 56547), (423, 56625), (426, 56643), (465, 56808), (475, 56826), (497, 56901), (502, 56925), (505, 56940), (515, 56970), (580, 57243), (589, 57285), (590, 57291), (592, 57303), (605, 57345), (611, 57375), (613, 57387), (624, 57447), (628, 57465), (630, 57471), (648, 57540), (658, 57576), (738, 57699), (739, 57702), (747, 57738), (773, 57837), (781, 57864), (782, 57870), (789, 57900), (817, 58029), (818, 58035), (831, 58092), (836, 58107), (839, 58119), (844, 58137),

Gene: Settecandela\_119 Start: 86091, Stop: 89597, Start Num: 39

Candidate Starts for Settecandela\_119:

(Start: 39 @86091 has 2 MA's), (Start: 62 @86145 has 110 MA's), (78, 86217), (99, 86340), (112, 86376), (154, 86565), (155, 86568), (188, 86688), (196, 86733), (200, 86760), (210, 86802), (211, 86808), (218, 86841), (220, 86871), (235, 86937), (241, 86964), (248, 86991), (264, 87057), (Start: 267 @87066 has 9 MA's), (291, 87099), (302, 87144), (310, 87186), (322, 87243), (324, 87255), (328, 87291), (331, 87318), (335, 87360), (337, 87372), (339, 87387), (352, 87492), (365, 87573), (369, 87597), (376, 87627), (398, 87732), (416, 87807), (422, 87849), (446, 87942), (448, 87960), (450, 87969), (481, 88080), (507, 88170), (520, 88212), (533, 88290), (536, 88311), (547, 88362), (582, 88506), (605, 88611), (618, 88686), (629, 88719), (658, 88827), (724, 89046), (725, 89052), (768, 89241), (772, 89256), (792, 89334), (808, 89409), (817, 89457), (828, 89505), (829, 89511), (843, 89559),

Gene: ShakeNBake\_51 Start: 38880, Stop: 35683, Start Num: 67

Candidate Starts for ShakeNBake\_51:

(34, 38961), (56, 38901), (Start: 67 @38880 has 71 MA's), (68, 38871), (73, 38838), (Start: 83 @38784 has 6 MA's), (88, 38739), (91, 38730), (96, 38706), (107, 38661), (109, 38652), (113, 38643), (119, 38613), (127, 38580), (144, 38502), (147, 38490), (161, 38436), (162, 38433), (191, 38349), (219, 38193), (227, 38151), (236, 38088), (237, 38085), (Start: 263 @37980 has 6 MA's), (268, 37971), (283, 37929), (286, 37914), (291, 37899), (321, 37773), (335, 37692), (340, 37656), (342, 37641), (343, 37638), (355, 37545), (368, 37455), (399, 37329), (422, 37248), (429, 37215), (443, 37164), (453, 37092), (458, 37086), (475, 37056), (483, 37026), (504, 36945), (509, 36930), (533, 36816), (564, 36681), (604, 36537), (605, 36525), (606, 36513), (611, 36495), (626, 36402), (654, 36297), (732, 36186), (737, 36162), (765, 36045), (810, 35874), (813, 35862), (816, 35841), (834, 35763), (836, 35757), (846, 35721), (851, 35706),

Gene: Shaqnato\_200 Start: 112249, Stop: 115644, Start Num: 62

Candidate Starts for Shaqnato\_200:

(Start: 18 @112126 has 5 MA's), (Start: 24 @112156 has 44 MA's), (Start: 25 @112162 has 6 MA's), (Start: 31 @112174 has 8 MA's), (Start: 35 @112183 has 1 MA's), (Start: 62 @112249 has 110 MA's), (78, 112324), (97, 112438), (105, 112462), (121, 112522), (146, 112633), (154, 112672), (162, 112696), (170, 112738), (200, 112837), (210, 112879), (211, 112885), (215, 112897), (223, 112960), (234, 113020), (235, 113023), (241, 113050), (249, 113092), (Start: 267 @113155 has 9 MA's), (310, 113275), (317, 113311), (321, 113329), (324, 113344), (337, 113461), (343, 113500), (359, 113620),



(365, 113662), (374, 113707), (376, 113716), (387, 113767), (398, 113809), (414, 113875), (416, 113884), (417, 113887), (418, 113893), (419, 113896), (420, 113905), (421, 113911), (422, 113926), (446, 114013), (470, 114118), (484, 114172), (501, 114259), (507, 114289), (516, 114319), (523, 114352), (525, 114361), (536, 114433), (541, 114463), (569, 114580), (578, 114625), (587, 114667), (619, 114811), (635, 114871), (666, 114973), (696, 115060), (697, 115063), (705, 115081), (713, 115117), (714, 115120), (735, 115180), (739, 115198), (763, 115294), (772, 115324), (777, 115342), (785, 115372), (808, 115465), (812, 115480), (828, 115561), (829, 115567), (832, 115579),

Gene: Shelob\_210 Start: 114989, Stop: 118384, Start Num: 62

Candidate Starts for Shelob\_210:

(Start: 24 @114896 has 44 MA's), (Start: 25 @114902 has 6 MA's), (Start: 31 @114914 has 8 MA's), (Start: 35 @114923 has 1 MA's), (Start: 62 @114989 has 110 MA's), (78, 115064), (97, 115178), (105, 115202), (121, 115262), (146, 115373), (154, 115412), (162, 115436), (170, 115478), (200, 115577), (210, 115619), (211, 115625), (215, 115637), (223, 115700), (234, 115760), (235, 115763), (241, 115790), (249, 115832), (Start: 267 @115895 has 9 MA's), (310, 116015), (317, 116051), (321, 116069), (324, 116084), (337, 116201), (343, 116240), (359, 116360), (365, 116402), (374, 116447), (376, 116456), (387, 116507), (398, 116549), (414, 116615), (416, 116624), (417, 116627), (418, 116633), (419, 116636), (420, 116645), (421, 116651), (422, 116666), (446, 116753), (470, 116858), (484, 116912), (501, 116999), (507, 117029), (516, 117059), (523, 117092), (525, 117101), (536, 117173), (541, 117203), (569, 117320), (578, 117365), (587, 117407), (619, 117551), (635, 117611), (666, 117713), (696, 117800), (697, 117803), (705, 117821), (713, 117857), (714, 117860), (735, 117920), (739, 117938), (763, 118034), (772, 118064), (777, 118082), (785, 118112), (808, 118205), (812, 118220), (828, 118301), (829, 118307), (832, 118319),

Gene: ShiaLabeouf\_206 Start: 112023, Stop: 115418, Start Num: 62

Candidate Starts for ShiaLabeouf\_206:

(Start: 24 @111930 has 44 MA's), (Start: 25 @111936 has 6 MA's), (Start: 31 @111948 has 8 MA's), (Start: 35 @111957 has 1 MA's), (Start: 62 @112023 has 110 MA's), (78, 112098), (97, 112212), (105, 112236), (121, 112296), (146, 112407), (154, 112446), (162, 112470), (170, 112512), (200, 112611), (210, 112653), (211, 112659), (215, 112671), (223, 112734), (234, 112794), (235, 112797), (241, 112824), (249, 112866), (Start: 267 @112929 has 9 MA's), (317, 113085), (321, 113103), (324, 113118), (337, 113235), (343, 113274), (359, 113394), (365, 113436), (374, 113481), (376, 113490), (387, 113541), (398, 113583), (414, 113649), (416, 113658), (417, 113661), (418, 113667), (419, 113670), (420, 113679), (421, 113685), (422, 113700), (446, 113787), (470, 113892), (484, 113946), (501, 114033), (507, 114063), (516, 114093), (523, 114126), (525, 114135), (536, 114207), (541, 114237), (569, 114354), (578, 114399), (587, 114441), (619, 114585), (635, 114645), (666, 114747), (696, 114834), (697, 114837), (705, 114855), (713, 114891), (714, 114894), (735, 114954), (739, 114972), (763, 115068), (772, 115098), (777, 115116), (785, 115146), (808, 115239), (812, 115254), (828, 115335), (829, 115341), (832, 115353),

Gene: Shifa\_186 Start: 112600, Stop: 115995, Start Num: 62

Candidate Starts for Shifa\_186:

(Start: 24 @112507 has 44 MA's), (Start: 25 @112513 has 6 MA's), (Start: 31 @112525 has 8 MA's), (Start: 35 @112534 has 1 MA's), (Start: 62 @112600 has 110 MA's), (78, 112675), (97, 112789), (105, 112813), (121, 112873), (140, 112966), (146, 112984), (154, 113023), (162, 113047), (170, 113089), (200, 113188), (210, 113230), (211, 113236), (215, 113248), (223, 113311), (234, 113371), (235, 113374), (241, 113401), (249, 113443), (Start: 267 @113506 has 9 MA's), (317, 113662), (321, 113680), (324, 113695), (337, 113812), (343, 113851), (359, 113971), (365, 114013), (374, 114058), (376, 114067), (387, 114118), (398, 114160), (414, 114226), (416, 114235), (417, 114238), (418, 114244), (419, 114247), (420, 114256), (421, 114262), (422, 114277), (446, 114364), (470, 114469), (484, 114523), (501, 114610), (507, 114640), (516, 114670), (523, 114703), (525, 114712), (536, 114784), (541, 114814), (569, 114931), (578, 114976), (587, 115018), (619, 115162), (635, 115222), (666, 115324), (696, 115411), (697, 115414), (705, 115432), (713, 115468), (714, 115471), (735,

115531), (739, 115549), (763, 115645), (772, 115675), (777, 115693), (785, 115723), (808, 115816), (812, 115831), (828, 115912), (829, 115918), (832, 115930),

Gene: Shnickers\_207 Start: 112087, Stop: 115482, Start Num: 62

Candidate Starts for Shnickers\_207:

(Start: 24 @111994 has 44 MA's), (Start: 25 @112000 has 6 MA's), (Start: 31 @112012 has 8 MA's), (Start: 35 @112021 has 1 MA's), (Start: 62 @112087 has 110 MA's), (78, 112162), (97, 112276), (105, 112300), (121, 112360), (146, 112471), (154, 112510), (162, 112534), (170, 112576), (200, 112675), (210, 112717), (211, 112723), (215, 112735), (223, 112798), (234, 112858), (235, 112861), (241, 112888), (249, 112930), (Start: 267 @112993 has 9 MA's), (317, 113149), (321, 113167), (324, 113182), (337, 113299), (343, 113338), (359, 113458), (365, 113500), (374, 113545), (376, 113554), (387, 113605), (398, 113647), (414, 113713), (416, 113722), (417, 113725), (418, 113731), (419, 113734), (420, 113743), (421, 113749), (422, 113764), (446, 113851), (470, 113956), (484, 114010), (501, 114097), (507, 114127), (516, 114157), (523, 114190), (525, 114199), (536, 114271), (541, 114301), (569, 114418), (578, 114463), (587, 114505), (619, 114649), (635, 114709), (666, 114811), (696, 114898), (697, 114901), (705, 114919), (713, 114955), (714, 114958), (735, 115018), (739, 115036), (763, 115132), (772, 115162), (777, 115180), (785, 115210), (808, 115303), (812, 115318), (828, 115399), (829, 115405), (832, 115417),

Gene: Shrimp\_211 Start: 114051, Stop: 117539, Start Num: 24

Candidate Starts for Shrimp\_211:

(Start: 24 @114051 has 44 MA's), (Start: 25 @114057 has 6 MA's), (Start: 31 @114069 has 8 MA's), (Start: 35 @114078 has 1 MA's), (Start: 62 @114144 has 110 MA's), (78, 114219), (97, 114333), (105, 114357), (121, 114417), (146, 114528), (154, 114567), (162, 114591), (170, 114633), (200, 114732), (210, 114774), (211, 114780), (215, 114792), (223, 114855), (234, 114915), (235, 114918), (241, 114945), (249, 114987), (Start: 267 @115050 has 9 MA's), (317, 115206), (321, 115224), (324, 115239), (337, 115356), (343, 115395), (359, 115515), (365, 115557), (374, 115602), (376, 115611), (387, 115662), (398, 115704), (414, 115770), (416, 115779), (417, 115782), (418, 115788), (419, 115791), (420, 115800), (421, 115806), (422, 115821), (446, 115908), (470, 116013), (484, 116067), (501, 116154), (507, 116184), (516, 116214), (523, 116247), (525, 116256), (536, 116328), (541, 116358), (569, 116475), (578, 116520), (587, 116562), (619, 116706), (635, 116766), (666, 116868), (696, 116955), (697, 116958), (705, 116976), (713, 117012), (714, 117015), (735, 117075), (739, 117093), (763, 117189), (772, 117219), (777, 117237), (785, 117267), (808, 117360), (812, 117375), (828, 117456), (829, 117462), (832, 117474),

Gene: Sienna\_66 Start: 47793, Stop: 50228, Start Num: 281

Candidate Starts for Sienna\_66:

(Start: 281 @47793 has 8 MA's), (284, 47811), (322, 47991), (340, 48105), (342, 48120), (393, 48411), (421, 48498), (448, 48627), (453, 48666), (458, 48672), (472, 48693), (475, 48702), (527, 48900), (529, 48915), (530, 48921), (536, 48963), (551, 49026), (557, 49050), (574, 49107), (580, 49131), (588, 49170), (605, 49236), (606, 49248), (611, 49266), (628, 49359), (631, 49374), (639, 49410), (670, 49512), (742, 49704), (743, 49707), (758, 49782), (761, 49788), (774, 49845), (780, 49872), (782, 49884), (803, 49968), (810, 49998), (822, 50067), (829, 50091), (833, 50106), (849, 50157), (852, 50169), (853, 50172), (859, 50187), (864, 50223),

Gene: SilentWarrior\_58 Start: 40669, Stop: 42969, Start Num: 261

Candidate Starts for SilentWarrior\_58:

(Start: 261 @40669 has 29 MA's), (Start: 263 @40675 has 6 MA's), (293, 40750), (310, 40822), (314, 40843), (321, 40876), (323, 40888), (326, 40909), (329, 40915), (339, 40984), (342, 41008), (345, 41047), (355, 41104), (367, 41185), (393, 41299), (397, 41311), (421, 41386), (423, 41404), (441, 41482), (443, 41488), (445, 41497), (450, 41530), (453, 41560), (458, 41566), (472, 41587), (475, 41596), (483, 41626), (503, 41701), (505, 41710), (514, 41734), (515, 41740), (516, 41746), (519, 41755), (536, 41857), (553, 41929), (559, 41953), (583, 42037), (605, 42127), (606, 42139), (611,

42157), (625, 42235), (626, 42241), (629, 42250), (635, 42283), (656, 42355), (748, 42535), (754, 42565), (772, 42628), (788, 42700), (818, 42823), (825, 42856), (838, 42901), (851, 42946), (853, 42952),

Gene: SilverDipper\_213 Start: 113543, Stop: 117031, Start Num: 24

Candidate Starts for SilverDipper\_213:

(Start: 24 @113543 has 44 MA's), (Start: 25 @113549 has 6 MA's), (Start: 31 @113561 has 8 MA's), (Start: 35 @113570 has 1 MA's), (Start: 62 @113636 has 110 MA's), (78, 113711), (97, 113825), (105, 113849), (121, 113909), (146, 114020), (154, 114059), (162, 114083), (170, 114125), (200, 114224), (210, 114266), (211, 114272), (215, 114284), (223, 114347), (234, 114407), (235, 114410), (241, 114437), (249, 114479), (Start: 267 @114542 has 9 MA's), (310, 114662), (317, 114698), (321, 114716), (324, 114731), (337, 114848), (343, 114887), (359, 115007), (365, 115049), (374, 115094), (376, 115103), (387, 115154), (398, 115196), (414, 115262), (416, 115271), (417, 115274), (418, 115280), (419, 115283), (420, 115292), (421, 115298), (422, 115313), (446, 115400), (470, 115505), (484, 115559), (501, 115646), (507, 115676), (516, 115706), (523, 115739), (525, 115748), (536, 115820), (541, 115850), (569, 115967), (578, 116012), (587, 116054), (619, 116198), (635, 116258), (666, 116360), (696, 116447), (697, 116450), (705, 116468), (713, 116504), (714, 116507), (735, 116567), (739, 116585), (763, 116681), (772, 116711), (777, 116729), (785, 116759), (808, 116852), (812, 116867), (828, 116948), (829, 116954), (832, 116966),

Gene: SirHarley\_69 Start: 50202, Stop: 53504, Start Num: 26

Candidate Starts for SirHarley\_69:

(Start: 26 @50202 has 20 MA's), (Start: 58 @50289 has 1 MA's), (61, 50295), (Start: 67 @50304 has 71 MA's), (Start: 83 @50400 has 6 MA's), (118, 50556), (141, 50643), (142, 50646), (154, 50697), (219, 50961), (226, 51000), (239, 51072), (242, 51081), (259, 51156), (Start: 281 @51222 has 8 MA's), (282, 51228), (298, 51282), (306, 51300), (313, 51351), (314, 51354), (320, 51384), (335, 51468), (336, 51477), (340, 51504), (342, 51519), (367, 51696), (368, 51705), (393, 51810), (420, 51891), (430, 51951), (449, 52026), (453, 52059), (458, 52065), (472, 52086), (475, 52095), (488, 52140), (505, 52209), (510, 52224), (527, 52293), (545, 52389), (546, 52392), (557, 52443), (579, 52518), (606, 52641), (611, 52659), (628, 52737), (629, 52740), (631, 52752), (643, 52797), (651, 52818), (654, 52830), (661, 52860), (668, 52881), (716, 52953), (740, 53010), (763, 53109), (781, 53175), (803, 53265), (810, 53295), (811, 53298), (816, 53328), (825, 53373), (836, 53415), (844, 53445), (849, 53457), (853, 53472), (856, 53481),

Gene: Skog\_212 Start: 135640, Stop: 139095, Start Num: 62

Candidate Starts for Skog\_212:

(14, 135490), (19, 135517), (20, 135523), (45, 135607), (Start: 62 @135640 has 110 MA's), (78, 135715), (121, 135913), (130, 135949), (145, 136021), (151, 136042), (179, 136162), (188, 136186), (192, 136210), (196, 136231), (200, 136258), (210, 136300), (220, 136369), (223, 136381), (234, 136438), (235, 136441), (241, 136468), (248, 136495), (Start: 267 @136570 has 9 MA's), (324, 136759), (325, 136762), (328, 136795), (371, 137113), (374, 137128), (375, 137131), (411, 137275), (422, 137338), (423, 137341), (424, 137344), (425, 137353), (430, 137371), (446, 137434), (447, 137443), (456, 137506), (485, 137596), (507, 137707), (520, 137749), (534, 137845), (536, 137848), (547, 137899), (548, 137902), (570, 137989), (606, 138160), (661, 138382), (726, 138583), (755, 138706), (771, 138757), (772, 138760), (777, 138778), (785, 138808), (789, 138826), (796, 138856), (797, 138859), (807, 138898), (808, 138901),

Gene: Skysand\_61 Start: 49139, Stop: 45828, Start Num: 67

Candidate Starts for Skysand\_61:

(4, 49391), (12, 49304), (Start: 18 @49277 has 5 MA's), (Start: 67 @49139 has 71 MA's), (79, 49067), (Start: 83 @49043 has 6 MA's), (116, 48890), (118, 48881), (150, 48758), (196, 48599), (197, 48593), (201, 48569), (220, 48461), (226, 48431), (276, 48224), (321, 48053), (330, 48011), (340, 47933), (342, 47918), (362, 47780), (413, 47582), (423, 47525), (432, 47480), (449, 47414), (465, 47363),

(475, 47345), (488, 47300), (538, 47057), (547, 47015), (548, 47012), (550, 47006), (555, 46988), (582, 46892), (586, 46874), (592, 46838), (626, 46694), (629, 46685), (634, 46661), (640, 46634), (651, 46610), (687, 46481), (714, 46394), (719, 46385), (736, 46313), (742, 46292), (786, 46121), (846, 45872), (856, 45842),

Gene: SmallFry\_209 Start: 112181, Stop: 115576, Start Num: 62

Candidate Starts for SmallFry\_209:

(Start: 24 @112088 has 44 MA's), (Start: 25 @112094 has 6 MA's), (Start: 31 @112106 has 8 MA's), (Start: 35 @112115 has 1 MA's), (Start: 62 @112181 has 110 MA's), (78, 112256), (97, 112370), (105, 112394), (121, 112454), (146, 112565), (154, 112604), (162, 112628), (170, 112670), (200, 112769), (210, 112811), (211, 112817), (215, 112829), (223, 112892), (234, 112952), (235, 112955), (241, 112982), (249, 113024), (Start: 267 @113087 has 9 MA's), (317, 113243), (321, 113261), (324, 113276), (337, 113393), (343, 113432), (359, 113552), (365, 113594), (374, 113639), (376, 113648), (387, 113699), (398, 113741), (414, 113807), (416, 113816), (417, 113819), (418, 113825), (419, 113828), (420, 113837), (421, 113843), (422, 113858), (446, 113945), (470, 114050), (484, 114104), (501, 114191), (507, 114221), (516, 114251), (523, 114284), (525, 114293), (536, 114365), (541, 114395), (569, 114512), (578, 114557), (587, 114599), (619, 114743), (635, 114803), (666, 114905), (696, 114992), (697, 114995), (705, 115013), (713, 115049), (714, 115052), (735, 115112), (739, 115130), (763, 115226), (772, 115256), (777, 115274), (785, 115304), (808, 115397), (812, 115412), (828, 115493), (829, 115499), (832, 115511),

Gene: Snakehole\_58 Start: 40677, Stop: 42980, Start Num: 261

Candidate Starts for Snakehole\_58:

(Start: 261 @40677 has 29 MA's), (Start: 263 @40683 has 6 MA's), (293, 40761), (310, 40833), (314, 40854), (321, 40887), (323, 40899), (324, 40902), (326, 40920), (329, 40926), (339, 40995), (342, 41019), (345, 41058), (352, 41103), (355, 41115), (367, 41196), (393, 41310), (397, 41322), (421, 41397), (423, 41415), (441, 41493), (443, 41499), (445, 41508), (450, 41541), (453, 41571), (458, 41577), (472, 41598), (475, 41607), (483, 41637), (503, 41712), (505, 41721), (509, 41733), (515, 41751), (519, 41766), (536, 41868), (553, 41940), (559, 41964), (583, 42048), (605, 42138), (606, 42150), (611, 42168), (625, 42246), (626, 42252), (629, 42261), (635, 42294), (656, 42366), (748, 42546), (754, 42576), (772, 42639), (788, 42711), (818, 42834), (825, 42867), (838, 42912), (851, 42957), (853, 42963),

Gene: Snorlax\_54 Start: 42492, Stop: 39007, Start Num: 63

Candidate Starts for Snorlax\_54:

(Start: 35 @42561 has 1 MA's), (Start: 63 @42492 has 55 MA's), (Start: 76 @42429 has 1 MA's), (78, 42420), (85, 42378), (101, 42285), (120, 42216), (136, 42147), (152, 42093), (170, 42021), (180, 41985), (194, 41925), (236, 41700), (247, 41661), (252, 41634), (256, 41616), (Start: 262 @41595 has 3 MA's), (Start: 267 @41580 has 9 MA's), (296, 41538), (313, 41460), (316, 41448), (344, 41262), (345, 41256), (351, 41211), (364, 41127), (367, 41109), (382, 41052), (383, 41049), (385, 41037), (420, 40899), (421, 40893), (422, 40878), (424, 40872), (431, 40839), (451, 40761), (455, 40728), (503, 40587), (524, 40506), (526, 40500), (537, 40431), (547, 40368), (553, 40347), (567, 40302), (590, 40206), (591, 40197), (593, 40191), (615, 40089), (617, 40080), (621, 40068), (623, 40047), (633, 40017), (638, 39990), (658, 39924), (661, 39915), (665, 39903), (685, 39816), (733, 39648), (744, 39600), (771, 39489), (803, 39351), (804, 39342), (810, 39315), (819, 39267), (826, 39234), (832, 39207), (861, 39102), (862, 39090),

Gene: South40\_54 Start: 42740, Stop: 39261, Start Num: 63

Candidate Starts for South40\_54:

(Start: 35 @42806 has 1 MA's), (Start: 63 @42740 has 55 MA's), (Start: 76 @42677 has 1 MA's), (78, 42668), (80, 42656), (85, 42626), (101, 42533), (111, 42500), (120, 42464), (136, 42395), (152, 42341), (170, 42269), (194, 42173), (214, 42095), (236, 41948), (247, 41909), (256, 41864), (Start: 262 @41843 has 3 MA's), (Start: 267 @41828 has 9 MA's), (289, 41807), (313, 41708), (316, 41696), (330,

41633), (344, 41510), (345, 41504), (351, 41459), (364, 41375), (367, 41357), (382, 41300), (383, 41297), (385, 41285), (420, 41147), (422, 41126), (424, 41120), (426, 41105), (439, 41063), (450, 41015), (451, 41009), (455, 40976), (503, 40835), (520, 40778), (524, 40754), (526, 40748), (537, 40679), (546, 40631), (547, 40616), (553, 40595), (567, 40550), (590, 40454), (591, 40445), (615, 40337), (617, 40328), (621, 40316), (623, 40295), (633, 40265), (638, 40238), (661, 40163), (665, 40151), (685, 40064), (695, 40040), (744, 39848), (771, 39737), (803, 39599), (810, 39563), (819, 39515), (820, 39509), (826, 39482), (861, 39350), (862, 39338), (863, 39332), (866, 39275),

Gene: Sparcetus\_63 Start: 42534, Stop: 44789, Start Num: 263

Candidate Starts for Sparcetus\_63:

(260, 42525), (Start: 263 @42534 has 6 MA's), (314, 42669), (321, 42702), (324, 42717), (340, 42819), (342, 42834), (355, 42930), (367, 43011), (368, 43020), (391, 43119), (393, 43125), (421, 43212), (423, 43230), (429, 43260), (434, 43281), (437, 43293), (441, 43308), (445, 43323), (450, 43356), (453, 43386), (458, 43392), (472, 43413), (475, 43422), (483, 43452), (504, 43533), (509, 43548), (515, 43566), (519, 43581), (534, 43680), (592, 43911), (593, 43914), (606, 43965), (611, 43983), (613, 43995), (621, 44037), (626, 44067), (629, 44076), (654, 44166), (716, 44268), (739, 44319), (749, 44364), (766, 44427), (772, 44451), (780, 44481), (781, 44487), (825, 44676), (838, 44721), (851, 44766), (853, 44772),

Gene: Spec\_204 Start: 112372, Stop: 115767, Start Num: 62

Candidate Starts for Spec\_204:

(Start: 24 @112279 has 44 MA's), (Start: 25 @112285 has 6 MA's), (Start: 31 @112297 has 8 MA's), (Start: 35 @112306 has 1 MA's), (Start: 62 @112372 has 110 MA's), (78, 112447), (97, 112561), (105, 112585), (121, 112645), (146, 112756), (154, 112795), (162, 112819), (170, 112861), (200, 112960), (210, 113002), (211, 113008), (215, 113020), (223, 113083), (234, 113143), (235, 113146), (241, 113173), (249, 113215), (Start: 267 @113278 has 9 MA's), (317, 113434), (321, 113452), (324, 113467), (337, 113584), (343, 113623), (359, 113743), (365, 113785), (374, 113830), (376, 113839), (387, 113890), (398, 113932), (414, 113998), (416, 114007), (417, 114010), (418, 114016), (419, 114019), (420, 114028), (421, 114034), (422, 114049), (446, 114136), (470, 114241), (484, 114295), (501, 114382), (507, 114412), (516, 114442), (523, 114475), (525, 114484), (536, 114556), (541, 114586), (569, 114703), (578, 114748), (587, 114790), (619, 114934), (635, 114994), (666, 115096), (696, 115183), (697, 115186), (705, 115204), (713, 115240), (714, 115243), (735, 115303), (739, 115321), (763, 115417), (772, 115447), (777, 115465), (785, 115495), (808, 115588), (812, 115603), (828, 115684), (829, 115690), (832, 115702),

Gene: Specks\_213 Start: 114490, Stop: 117885, Start Num: 62

Candidate Starts for Specks\_213:

(Start: 24 @114397 has 44 MA's), (Start: 25 @114403 has 6 MA's), (Start: 31 @114415 has 8 MA's), (Start: 35 @114424 has 1 MA's), (Start: 62 @114490 has 110 MA's), (78, 114565), (97, 114679), (105, 114703), (121, 114763), (146, 114874), (154, 114913), (162, 114937), (170, 114979), (200, 115078), (210, 115120), (211, 115126), (215, 115138), (223, 115201), (234, 115261), (235, 115264), (241, 115291), (249, 115333), (Start: 267 @115396 has 9 MA's), (317, 115552), (321, 115570), (324, 115585), (337, 115702), (343, 115741), (359, 115861), (365, 115903), (374, 115948), (376, 115957), (387, 116008), (398, 116050), (414, 116116), (416, 116125), (417, 116128), (418, 116134), (419, 116137), (420, 116146), (421, 116152), (422, 116167), (446, 116254), (470, 116359), (484, 116413), (501, 116500), (507, 116530), (516, 116560), (523, 116593), (525, 116602), (536, 116674), (541, 116704), (569, 116821), (578, 116866), (587, 116908), (619, 117052), (635, 117112), (666, 117214), (696, 117301), (697, 117304), (705, 117322), (713, 117358), (714, 117361), (735, 117421), (739, 117439), (763, 117535), (772, 117565), (777, 117583), (785, 117613), (808, 117706), (812, 117721), (828, 117802), (829, 117808), (832, 117820),

Gene: Sprinklers\_207 Start: 112739, Stop: 116134, Start Num: 62

Candidate Starts for Sprinklers\_207:

(Start: 18 @112616 has 5 MA's), (Start: 24 @112646 has 44 MA's), (Start: 25 @112652 has 6 MA's), (Start: 31 @112664 has 8 MA's), (Start: 35 @112673 has 1 MA's), (Start: 62 @112739 has 110 MA's), (78, 112814), (97, 112928), (105, 112952), (121, 113012), (146, 113123), (154, 113162), (162, 113186), (170, 113228), (200, 113327), (210, 113369), (211, 113375), (215, 113387), (223, 113450), (234, 113510), (235, 113513), (241, 113540), (249, 113582), (Start: 267 @113645 has 9 MA's), (310, 113765), (317, 113801), (321, 113819), (324, 113834), (337, 113951), (343, 113990), (359, 114110), (365, 114152), (374, 114197), (376, 114206), (387, 114257), (398, 114299), (414, 114365), (416, 114374), (417, 114377), (418, 114383), (419, 114386), (420, 114395), (421, 114401), (422, 114416), (446, 114503), (470, 114608), (484, 114662), (501, 114749), (507, 114779), (516, 114809), (523, 114842), (525, 114851), (536, 114923), (541, 114953), (569, 115070), (578, 115115), (587, 115157), (619, 115301), (635, 115361), (666, 115463), (696, 115550), (697, 115553), (705, 115571), (713, 115607), (714, 115610), (735, 115670), (739, 115688), (763, 115784), (772, 115814), (777, 115832), (785, 115862), (808, 115955), (812, 115970), (828, 116051), (829, 116057), (832, 116069),

Gene: Spud\_203 Start: 112451, Stop: 115846, Start Num: 62

Candidate Starts for Spud\_203:

(Start: 24 @112358 has 44 MA's), (Start: 25 @112364 has 6 MA's), (Start: 31 @112376 has 8 MA's), (Start: 35 @112385 has 1 MA's), (Start: 62 @112451 has 110 MA's), (78, 112526), (97, 112640), (105, 112664), (121, 112724), (146, 112835), (154, 112874), (162, 112898), (170, 112940), (200, 113039), (210, 113081), (211, 113087), (215, 113099), (223, 113162), (234, 113222), (235, 113225), (241, 113252), (249, 113294), (Start: 267 @113357 has 9 MA's), (310, 113477), (317, 113513), (321, 113531), (324, 113546), (337, 113663), (343, 113702), (359, 113822), (365, 113864), (374, 113909), (376, 113918), (387, 113969), (398, 114011), (414, 114077), (416, 114086), (417, 114089), (418, 114095), (419, 114098), (420, 114107), (421, 114113), (422, 114128), (446, 114215), (470, 114320), (484, 114374), (501, 114461), (507, 114491), (516, 114521), (523, 114554), (525, 114563), (536, 114635), (541, 114665), (569, 114782), (578, 114827), (587, 114869), (619, 115013), (635, 115073), (666, 115175), (696, 115262), (697, 115265), (705, 115283), (713, 115319), (714, 115322), (735, 115382), (739, 115400), (763, 115496), (772, 115526), (777, 115544), (785, 115574), (808, 115667), (812, 115682), (828, 115763), (829, 115769), (832, 115781),

Gene: SrishMeg2525\_206 Start: 113615, Stop: 117010, Start Num: 62

Candidate Starts for SrishMeg2525\_206:

(Start: 24 @113522 has 44 MA's), (Start: 25 @113528 has 6 MA's), (Start: 31 @113540 has 8 MA's), (Start: 35 @113549 has 1 MA's), (Start: 62 @113615 has 110 MA's), (78, 113690), (97, 113804), (105, 113828), (121, 113888), (146, 113999), (154, 114038), (162, 114062), (170, 114104), (200, 114203), (210, 114245), (211, 114251), (215, 114263), (223, 114326), (234, 114386), (235, 114389), (241, 114416), (249, 114458), (Start: 267 @114521 has 9 MA's), (317, 114677), (321, 114695), (324, 114710), (337, 114827), (343, 114866), (359, 114986), (365, 115028), (374, 115073), (376, 115082), (387, 115133), (398, 115175), (414, 115241), (416, 115250), (417, 115253), (418, 115259), (419, 115262), (420, 115271), (421, 115277), (422, 115292), (446, 115379), (470, 115484), (484, 115538), (501, 115625), (507, 115655), (516, 115685), (523, 115718), (525, 115727), (536, 115799), (541, 115829), (569, 115946), (578, 115991), (587, 116033), (619, 116177), (635, 116237), (666, 116339), (696, 116426), (697, 116429), (705, 116447), (713, 116483), (714, 116486), (735, 116546), (739, 116564), (763, 116660), (772, 116690), (777, 116708), (785, 116738), (808, 116831), (812, 116846), (828, 116927), (829, 116933), (832, 116945),

Gene: StarStruck\_61 Start: 48867, Stop: 45550, Start Num: 67

Candidate Starts for StarStruck\_61:

(Start: 67 @48867 has 71 MA's), (75, 48810), (Start: 83 @48771 has 6 MA's), (116, 48618), (118, 48609), (150, 48486), (196, 48327), (197, 48321), (201, 48297), (220, 48189), (242, 48078), (276, 47952), (321, 47781), (330, 47739), (334, 47700), (340, 47661), (342, 47646), (362, 47508), (387, 47376), (413, 47310), (423, 47253), (439, 47193), (449, 47142), (475, 47073), (488, 47028), (538, 46785), (547, 46743), (548, 46740), (550, 46734), (555, 46716), (582, 46620), (592, 46566), (629,

46413), (640, 46362), (644, 46353), (687, 46209), (711, 46131), (714, 46116), (732, 46056), (736, 46035), (742, 46014), (751, 45966), (777, 45882), (779, 45870), (780, 45867), (802, 45774), (846, 45591), (856, 45561),

Gene: StephanieG\_205 Start: 113649, Stop: 117044, Start Num: 62

Candidate Starts for StephanieG\_205:

(10, 113481), (Start: 24 @113556 has 44 MA's), (Start: 25 @113562 has 6 MA's), (Start: 31 @113574 has 8 MA's), (Start: 35 @113583 has 1 MA's), (Start: 62 @113649 has 110 MA's), (78, 113724), (97, 113838), (105, 113862), (121, 113922), (146, 114033), (154, 114072), (162, 114096), (170, 114138), (200, 114237), (210, 114279), (211, 114285), (215, 114297), (223, 114360), (234, 114420), (235, 114423), (241, 114450), (249, 114492), (Start: 267 @114555 has 9 MA's), (317, 114711), (321, 114729), (324, 114744), (337, 114861), (343, 114900), (359, 115020), (365, 115062), (374, 115107), (376, 115116), (387, 115167), (398, 115209), (414, 115275), (416, 115284), (417, 115287), (418, 115293), (419, 115296), (420, 115305), (421, 115311), (422, 115326), (446, 115413), (470, 115518), (484, 115572), (501, 115659), (507, 115689), (516, 115719), (523, 115752), (525, 115761), (536, 115833), (541, 115863), (569, 115980), (578, 116025), (587, 116067), (619, 116211), (635, 116271), (666, 116373), (696, 116460), (697, 116463), (705, 116481), (713, 116517), (714, 116520), (735, 116580), (739, 116598), (763, 116694), (772, 116724), (777, 116742), (785, 116772), (808, 116865), (812, 116880), (828, 116961), (829, 116967), (832, 116979),

Gene: Stickynote\_45 Start: 42219, Stop: 38926, Start Num: 67

Candidate Starts for Stickynote\_45:

(Start: 67 @42219 has 71 MA's), (75, 42162), (80, 42138), (Start: 83 @42123 has 6 MA's), (84, 42114), (118, 41967), (182, 41685), (186, 41661), (196, 41607), (292, 41193), (313, 41091), (340, 40938), (342, 40923), (355, 40827), (400, 40608), (401, 40605), (410, 40590), (419, 40560), (422, 40530), (449, 40413), (453, 40380), (471, 40353), (478, 40329), (515, 40182), (527, 40128), (530, 40107), (546, 40032), (548, 40014), (592, 39837), (604, 39807), (607, 39780), (611, 39765), (641, 39636), (674, 39603), (707, 39516), (740, 39402), (742, 39396), (745, 39384), (783, 39234), (784, 39231), (785, 39225), (789, 39207), (791, 39198), (795, 39180), (818, 39078), (822, 39054), (831, 39018), (833, 39012),

Gene: Stormageddon\_76 Start: 71389, Stop: 74583, Start Num: 65

Candidate Starts for Stormageddon\_76:

(55, 71377), (Start: 65 @71389 has 4 MA's), (78, 71461), (88, 71533), (93, 71551), (99, 71584), (122, 71662), (140, 71749), (145, 71764), (158, 71818), (168, 71866), (179, 71905), (202, 71977), (203, 71980), (206, 71995), (214, 72028), (221, 72085), (223, 72094), (234, 72148), (235, 72151), (241, 72178), (254, 72235), (Start: 267 @72280 has 9 MA's), (291, 72313), (299, 72346), (310, 72400), (315, 72424), (321, 72454), (324, 72469), (330, 72496), (337, 72550), (348, 72646), (369, 72775), (371, 72781), (398, 72871), (406, 72907), (411, 72925), (416, 72946), (418, 72955), (503, 73282), (527, 73375), (534, 73435), (548, 73492), (550, 73498), (552, 73507), (564, 73552), (565, 73555), (575, 73603), (605, 73729), (618, 73804), (623, 73825), (632, 73852), (634, 73861), (635, 73867), (636, 73870), (646, 73906), (655, 73936), (676, 74014), (677, 74017), (695, 74053), (696, 74056), (709, 74092), (756, 74194), (764, 74218), (777, 74263), (782, 74281), (792, 74323), (808, 74386), (817, 74434), (822, 74464), (847, 74548),

Gene: Stubby\_193 Start: 112491, Stop: 115886, Start Num: 62

Candidate Starts for Stubby\_193:

(Start: 24 @112398 has 44 MA's), (Start: 25 @112404 has 6 MA's), (Start: 31 @112416 has 8 MA's), (Start: 35 @112425 has 1 MA's), (Start: 62 @112491 has 110 MA's), (78, 112566), (97, 112680), (105, 112704), (121, 112764), (146, 112875), (154, 112914), (162, 112938), (170, 112980), (200, 113079), (210, 113121), (211, 113127), (215, 113139), (223, 113202), (234, 113262), (235, 113265), (241, 113292), (249, 113334), (Start: 267 @113397 has 9 MA's), (310, 113517), (317, 113553), (321, 113571), (324, 113586), (337, 113703), (343, 113742), (359, 113862), (365, 113904), (374, 113949),

(376, 113958), (387, 114009), (398, 114051), (414, 114117), (416, 114126), (417, 114129), (418, 114135), (419, 114138), (420, 114147), (421, 114153), (422, 114168), (446, 114255), (470, 114360), (484, 114414), (501, 114501), (507, 114531), (516, 114561), (523, 114594), (525, 114603), (536, 114675), (541, 114705), (569, 114822), (578, 114867), (587, 114909), (619, 115053), (635, 115113), (666, 115215), (696, 115302), (697, 115305), (705, 115323), (713, 115359), (714, 115362), (735, 115422), (739, 115440), (763, 115536), (772, 115566), (777, 115584), (785, 115614), (808, 115707), (812, 115722), (828, 115803), (829, 115809), (832, 115821),

Gene: StubbySaigey\_214 Start: 113170, Stop: 116565, Start Num: 62

Candidate Starts for StubbySaigey\_214:

(Start: 24 @113077 has 44 MA's), (Start: 25 @113083 has 6 MA's), (Start: 31 @113095 has 8 MA's), (Start: 35 @113104 has 1 MA's), (Start: 62 @113170 has 110 MA's), (78, 113245), (97, 113359), (105, 113383), (121, 113443), (146, 113554), (154, 113593), (162, 113617), (170, 113659), (200, 113758), (210, 113800), (211, 113806), (215, 113818), (223, 113881), (234, 113941), (235, 113944), (241, 113971), (249, 114013), (Start: 267 @114076 has 9 MA's), (310, 114196), (317, 114232), (321, 114250), (324, 114265), (337, 114382), (343, 114421), (359, 114541), (365, 114583), (374, 114628), (376, 114637), (387, 114688), (398, 114730), (414, 114796), (416, 114805), (417, 114808), (418, 114814), (419, 114817), (420, 114826), (421, 114832), (422, 114847), (446, 114934), (470, 115039), (484, 115093), (501, 115180), (507, 115210), (516, 115240), (523, 115273), (525, 115282), (536, 115354), (541, 115384), (569, 115501), (578, 115546), (587, 115588), (619, 115732), (635, 115792), (666, 115894), (696, 115981), (697, 115984), (705, 116002), (713, 116038), (714, 116041), (735, 116101), (739, 116119), (763, 116215), (772, 116245), (777, 116263), (785, 116293), (808, 116386), (812, 116401), (828, 116482), (829, 116488), (832, 116500),

Gene: Sujidade\_55 Start: 42046, Stop: 38570, Start Num: 63

Candidate Starts for Sujidade\_55:

(Start: 35 @42115 has 1 MA's), (Start: 63 @42046 has 55 MA's), (Start: 76 @41986 has 1 MA's), (78, 41977), (85, 41935), (101, 41842), (120, 41773), (136, 41704), (152, 41650), (170, 41578), (180, 41542), (194, 41482), (214, 41404), (236, 41257), (247, 41218), (252, 41191), (256, 41173), (Start: 262 @41152 has 3 MA's), (Start: 267 @41137 has 9 MA's), (313, 41017), (316, 41005), (344, 40819), (345, 40813), (351, 40768), (364, 40684), (367, 40666), (382, 40609), (383, 40606), (385, 40594), (420, 40456), (421, 40450), (422, 40435), (424, 40429), (431, 40396), (451, 40318), (455, 40285), (503, 40144), (524, 40063), (526, 40057), (537, 39988), (547, 39925), (553, 39904), (567, 39859), (578, 39820), (590, 39763), (591, 39754), (615, 39646), (621, 39625), (623, 39604), (633, 39574), (638, 39547), (658, 39481), (661, 39472), (665, 39460), (685, 39373), (695, 39349), (744, 39157), (763, 39073), (771, 39046), (803, 38908), (804, 38899), (810, 38872), (819, 38824), (820, 38818), (824, 38797), (826, 38791), (855, 38686), (862, 38647), (863, 38641), (866, 38584),

Gene: Sukkupi\_60 Start: 47229, Stop: 43978, Start Num: 67

Candidate Starts for Sukkupi\_60:

(15, 47361), (22, 47331), (27, 47319), (Start: 67 @47229 has 71 MA's), (80, 47148), (Start: 83 @47133 has 6 MA's), (88, 47088), (116, 46980), (118, 46971), (160, 46806), (197, 46683), (207, 46632), (214, 46605), (220, 46551), (226, 46521), (276, 46314), (309, 46206), (324, 46128), (330, 46101), (340, 46023), (342, 46008), (362, 45870), (413, 45672), (415, 45666), (420, 45639), (449, 45504), (453, 45471), (475, 45435), (488, 45390), (492, 45378), (506, 45315), (538, 45150), (539, 45147), (547, 45108), (548, 45105), (550, 45099), (552, 45090), (555, 45081), (582, 44985), (586, 44967), (592, 44931), (628, 44781), (640, 44727), (687, 44631), (714, 44547), (719, 44538), (732, 44487), (751, 44397), (779, 44301), (780, 44298), (791, 44247), (821, 44115), (856, 43992),

Gene: SunsetPointe\_52 Start: 40347, Stop: 36868, Start Num: 63

Candidate Starts for SunsetPointe\_52:

(Start: 63 @40347 has 55 MA's), (78, 40275), (Start: 83 @40248 has 6 MA's), (85, 40233), (120, 40071), (126, 40044), (129, 40038), (152, 39948), (156, 39933), (169, 39879), (170, 39876), (194,



39780), (214, 39702), (236, 39555), (247, 39516), (256, 39471), (Start: 262 @39450 has 3 MA's), (Start: 267 @39435 has 9 MA's), (296, 39393), (300, 39381), (313, 39315), (316, 39303), (330, 39240), (345, 39111), (346, 39102), (351, 39066), (364, 38982), (367, 38964), (382, 38907), (383, 38904), (385, 38892), (420, 38754), (421, 38748), (422, 38733), (424, 38727), (431, 38694), (451, 38616), (455, 38583), (503, 38442), (520, 38385), (524, 38361), (526, 38355), (537, 38286), (547, 38223), (567, 38157), (572, 38136), (578, 38118), (590, 38061), (591, 38052), (615, 37944), (617, 37935), (621, 37923), (623, 37902), (633, 37872), (638, 37845), (658, 37779), (661, 37770), (665, 37758), (685, 37671), (695, 37647), (709, 37599), (744, 37455), (760, 37380), (803, 37206), (810, 37170), (819, 37122), (826, 37089),

Gene: SuperSulley\_61 Start: 49019, Stop: 45717, Start Num: 67

Candidate Starts for SuperSulley\_61:

(30, 49094), (Start: 67 @49019 has 71 MA's), (Start: 83 @48923 has 6 MA's), (116, 48770), (118, 48761), (150, 48638), (196, 48479), (197, 48473), (201, 48449), (220, 48341), (242, 48230), (276, 48104), (321, 47933), (330, 47891), (340, 47813), (342, 47798), (362, 47660), (387, 47528), (413, 47462), (423, 47405), (439, 47345), (449, 47294), (458, 47255), (475, 47225), (488, 47180), (538, 46937), (547, 46895), (548, 46892), (550, 46886), (555, 46868), (582, 46772), (592, 46718), (629, 46565), (644, 46505), (651, 46490), (687, 46361), (714, 46283), (732, 46223), (736, 46202), (737, 46199), (742, 46181), (760, 46097), (779, 46037), (785, 46010), (846, 45758), (856, 45728),

Gene: Suzy\_65 Start: 48746, Stop: 51181, Start Num: 281

Candidate Starts for Suzy\_65:

(Start: 281 @48746 has 8 MA's), (284, 48764), (322, 48944), (340, 49058), (342, 49073), (393, 49364), (408, 49403), (420, 49445), (421, 49451), (453, 49619), (458, 49625), (472, 49646), (475, 49655), (521, 49823), (527, 49853), (529, 49868), (536, 49916), (546, 49952), (551, 49979), (557, 50003), (574, 50060), (580, 50084), (588, 50123), (605, 50189), (606, 50201), (611, 50219), (628, 50312), (631, 50327), (639, 50363), (658, 50423), (670, 50465), (742, 50657), (743, 50660), (758, 50735), (761, 50741), (774, 50798), (780, 50825), (782, 50837), (803, 50921), (822, 51020), (829, 51044), (833, 51059), (849, 51110), (852, 51122), (853, 51125), (859, 51140), (864, 51176),

Gene: TagePighter\_56 Start: 42468, Stop: 38983, Start Num: 63

Candidate Starts for TagePighter\_56:

(Start: 35 @42537 has 1 MA's), (Start: 63 @42468 has 55 MA's), (Start: 76 @42405 has 1 MA's), (78, 42396), (85, 42354), (101, 42261), (120, 42192), (136, 42123), (152, 42069), (170, 41997), (180, 41961), (194, 41901), (236, 41676), (247, 41637), (252, 41610), (256, 41592), (Start: 262 @41571 has 3 MA's), (Start: 267 @41556 has 9 MA's), (296, 41514), (313, 41436), (316, 41424), (344, 41238), (345, 41232), (351, 41187), (364, 41103), (367, 41085), (382, 41028), (383, 41025), (385, 41013), (420, 40875), (421, 40869), (422, 40854), (424, 40848), (431, 40815), (451, 40737), (455, 40704), (503, 40563), (524, 40482), (526, 40476), (537, 40407), (547, 40344), (553, 40323), (567, 40278), (590, 40182), (591, 40173), (593, 40167), (615, 40065), (617, 40056), (621, 40044), (623, 40023), (633, 39993), (638, 39966), (658, 39900), (661, 39891), (665, 39879), (685, 39792), (733, 39624), (744, 39576), (771, 39465), (773, 39459), (803, 39327), (804, 39318), (810, 39291), (826, 39210), (861, 39078), (862, 39066),

Gene: Tainan\_210 Start: 113509, Stop: 116904, Start Num: 62

Candidate Starts for Tainan\_210:

(Start: 24 @113416 has 44 MA's), (Start: 25 @113422 has 6 MA's), (Start: 31 @113434 has 8 MA's), (Start: 35 @113443 has 1 MA's), (Start: 62 @113509 has 110 MA's), (78, 113584), (97, 113698), (105, 113722), (121, 113782), (146, 113893), (154, 113932), (162, 113956), (170, 113998), (200, 114097), (210, 114139), (211, 114145), (215, 114157), (223, 114220), (234, 114280), (235, 114283), (241, 114310), (249, 114352), (Start: 267 @114415 has 9 MA's), (317, 114571), (321, 114589), (324, 114604), (337, 114721), (343, 114760), (359, 114880), (365, 114922), (374, 114967), (376, 114976), (387, 115027), (398, 115069), (414, 115135), (416, 115144), (417, 115147), (418, 115153), (419,

115156), (420, 115165), (421, 115171), (422, 115186), (446, 115273), (470, 115378), (484, 115432), (501, 115519), (507, 115549), (516, 115579), (523, 115612), (525, 115621), (536, 115693), (541, 115723), (569, 115840), (578, 115885), (587, 115927), (619, 116071), (635, 116131), (666, 116233), (696, 116320), (697, 116323), (705, 116341), (713, 116377), (714, 116380), (735, 116440), (739, 116458), (763, 116554), (772, 116584), (777, 116602), (785, 116632), (808, 116725), (812, 116740), (828, 116821), (829, 116827), (832, 116839),

Gene: Teardrop\_206 Start: 111683, Stop: 115078, Start Num: 62

Candidate Starts for Teardrop\_206:

(Start: 24 @111590 has 44 MA's), (Start: 25 @111596 has 6 MA's), (Start: 31 @111608 has 8 MA's), (Start: 35 @111617 has 1 MA's), (Start: 62 @111683 has 110 MA's), (78, 111758), (97, 111872), (105, 111896), (121, 111956), (146, 112067), (154, 112106), (162, 112130), (170, 112172), (200, 112271), (210, 112313), (211, 112319), (215, 112331), (223, 112394), (234, 112454), (235, 112457), (241, 112484), (249, 112526), (Start: 267 @112589 has 9 MA's), (317, 112745), (321, 112763), (324, 112778), (337, 112895), (343, 112934), (359, 113054), (365, 113096), (374, 113141), (376, 113150), (387, 113201), (398, 113243), (414, 113309), (416, 113318), (417, 113321), (418, 113327), (419, 113330), (420, 113339), (421, 113345), (422, 113360), (446, 113447), (470, 113552), (484, 113606), (501, 113693), (507, 113723), (516, 113753), (523, 113786), (525, 113795), (536, 113867), (541, 113897), (569, 114014), (578, 114059), (587, 114101), (619, 114245), (635, 114305), (666, 114407), (696, 114494), (697, 114497), (705, 114515), (713, 114551), (714, 114554), (735, 114614), (739, 114632), (763, 114728), (772, 114758), (777, 114776), (785, 114806), (808, 114899), (812, 114914), (828, 114995), (829, 115001), (832, 115013),

Gene: Tedro\_57 Start: 40690, Stop: 42990, Start Num: 261

Candidate Starts for Tedro\_57:

(Start: 261 @40690 has 29 MA's), (Start: 263 @40696 has 6 MA's), (293, 40771), (310, 40843), (314, 40864), (321, 40897), (323, 40909), (324, 40912), (326, 40930), (329, 40936), (339, 41005), (342, 41029), (345, 41068), (352, 41113), (355, 41125), (367, 41206), (393, 41320), (397, 41332), (421, 41407), (423, 41425), (441, 41503), (443, 41509), (445, 41518), (450, 41551), (453, 41581), (458, 41587), (472, 41608), (475, 41617), (483, 41647), (503, 41722), (505, 41731), (515, 41761), (516, 41767), (519, 41776), (536, 41878), (553, 41950), (559, 41974), (605, 42148), (606, 42160), (611, 42178), (625, 42256), (626, 42262), (629, 42271), (635, 42304), (656, 42376), (748, 42556), (754, 42586), (772, 42649), (788, 42721), (812, 42805), (818, 42844), (825, 42877), (838, 42922), (851, 42967), (853, 42973),

Gene: Terapin\_67 Start: 47717, Stop: 50152, Start Num: 281

Candidate Starts for Terapin\_67:

(Start: 281 @47717 has 8 MA's), (284, 47735), (322, 47915), (340, 48029), (342, 48044), (393, 48335), (421, 48422), (448, 48551), (453, 48590), (458, 48596), (472, 48617), (475, 48626), (527, 48824), (529, 48839), (530, 48845), (536, 48887), (551, 48950), (557, 48974), (574, 49031), (580, 49055), (588, 49094), (605, 49160), (606, 49172), (611, 49190), (628, 49283), (631, 49298), (639, 49334), (670, 49436), (742, 49628), (743, 49631), (758, 49706), (761, 49712), (774, 49769), (780, 49796), (782, 49808), (803, 49892), (810, 49922), (822, 49991), (829, 50015), (833, 50030), (849, 50081), (852, 50093), (853, 50096), (859, 50111), (864, 50147),

Gene: Thoth\_67 Start: 49791, Stop: 53093, Start Num: 26

Candidate Starts for Thoth\_67:

(Start: 26 @49791 has 20 MA's), (Start: 58 @49878 has 1 MA's), (61, 49884), (Start: 67 @49893 has 71 MA's), (Start: 83 @49989 has 6 MA's), (118, 50145), (141, 50232), (142, 50235), (154, 50286), (219, 50550), (226, 50589), (239, 50661), (242, 50670), (259, 50745), (Start: 281 @50811 has 8 MA's), (282, 50817), (298, 50871), (306, 50889), (313, 50940), (314, 50943), (320, 50973), (335, 51057), (336, 51066), (340, 51093), (342, 51108), (367, 51285), (368, 51294), (393, 51399), (420, 51480), (430, 51540), (449, 51615), (453, 51648), (458, 51654), (472, 51675), (475, 51684), (488, 51729),

(505, 51798), (510, 51813), (527, 51882), (536, 51945), (545, 51978), (546, 51981), (557, 52032), (579, 52107), (606, 52230), (611, 52248), (628, 52326), (629, 52329), (631, 52341), (643, 52386), (651, 52407), (654, 52419), (661, 52449), (668, 52470), (716, 52542), (740, 52599), (763, 52698), (781, 52764), (803, 52854), (810, 52884), (811, 52887), (816, 52917), (825, 52962), (836, 53004), (844, 53034), (849, 53046), (853, 53061), (856, 53070),

Gene: Thumb\_78 Start: 55518, Stop: 58814, Start Num: 67

Candidate Starts for Thumb\_78:

(Start: 48 @55491 has 1 MA's), (Start: 67 @55518 has 71 MA's), (79, 55590), (Start: 83 @55614 has 6 MA's), (86, 55647), (118, 55782), (143, 55875), (148, 55893), (160, 55941), (178, 56001), (219, 56193), (271, 56427), (294, 56484), (306, 56538), (312, 56583), (318, 56610), (324, 56640), (342, 56763), (345, 56802), (351, 56844), (363, 56922), (367, 56940), (371, 56958), (373, 56970), (390, 57045), (423, 57201), (443, 57285), (454, 57363), (462, 57384), (464, 57393), (468, 57399), (474, 57408), (494, 57480), (497, 57495), (505, 57534), (509, 57546), (530, 57639), (531, 57645), (539, 57693), (548, 57735), (588, 57885), (590, 57897), (611, 57981), (637, 58122), (675, 58227), (737, 58326), (739, 58335), (755, 58413), (768, 58452), (770, 58467), (783, 58515), (806, 58611), (811, 58629), (815, 58656), (826, 58704), (834, 58734), (835, 58737), (839, 58752), (849, 58782), (851, 58791), (853, 58797), (854, 58800),

Gene: Tillicus\_73 Start: 51219, Stop: 54485, Start Num: 79

Candidate Starts for Tillicus\_73:

(Start: 64 @51147 has 20 MA's), (Start: 76 @51207 has 1 MA's), (79, 51219), (Start: 83 @51243 has 6 MA's), (88, 51288), (97, 51330), (191, 51666), (214, 51777), (219, 51822), (241, 51945), (278, 52092), (280, 52101), (Start: 285 @52134 has 1 MA's), (296, 52170), (306, 52212), (312, 52257), (321, 52299), (342, 52431), (343, 52434), (344, 52464), (352, 52515), (357, 52536), (359, 52554), (368, 52617), (388, 52707), (393, 52722), (399, 52743), (444, 52902), (449, 52938), (453, 52971), (465, 52989), (488, 53052), (489, 53055), (504, 53118), (515, 53151), (524, 53193), (527, 53205), (532, 53241), (577, 53421), (583, 53448), (586, 53463), (592, 53499), (606, 53553), (611, 53571), (629, 53667), (631, 53679), (634, 53691), (743, 53967), (769, 54078), (778, 54114), (781, 54126), (782, 54132), (783, 54135), (789, 54162), (801, 54207), (822, 54315), (833, 54354), (835, 54360), (841, 54384), (853, 54420),

Gene: TinyMiny\_63 Start: 42556, Stop: 44817, Start Num: 263

Candidate Starts for TinyMiny\_63:

(229, 42403), (230, 42406), (243, 42469), (251, 42511), (253, 42520), (260, 42547), (Start: 263 @42556 has 6 MA's), (314, 42697), (321, 42730), (324, 42745), (340, 42847), (342, 42862), (355, 42958), (367, 43039), (368, 43048), (379, 43096), (393, 43153), (421, 43240), (423, 43258), (434, 43309), (437, 43321), (441, 43336), (445, 43351), (450, 43384), (453, 43414), (458, 43420), (472, 43441), (475, 43450), (483, 43480), (504, 43561), (509, 43576), (515, 43594), (534, 43708), (592, 43939), (606, 43993), (611, 44011), (613, 44023), (626, 44095), (629, 44104), (714, 44293), (716, 44296), (732, 44314), (739, 44347), (749, 44392), (766, 44455), (772, 44479), (780, 44509), (803, 44599), (818, 44671), (825, 44704), (838, 44749), (849, 44785), (851, 44794), (853, 44800),

Gene: TinyTim\_207 Start: 112464, Stop: 115859, Start Num: 62

Candidate Starts for TinyTim\_207:

(Start: 24 @112371 has 44 MA's), (Start: 25 @112377 has 6 MA's), (Start: 31 @112389 has 8 MA's), (Start: 35 @112398 has 1 MA's), (Start: 62 @112464 has 110 MA's), (78, 112539), (97, 112653), (105, 112677), (121, 112737), (146, 112848), (154, 112887), (162, 112911), (170, 112953), (200, 113052), (210, 113094), (211, 113100), (215, 113112), (223, 113175), (234, 113235), (235, 113238), (241, 113265), (249, 113307), (Start: 267 @113370 has 9 MA's), (317, 113526), (321, 113544), (324, 113559), (337, 113676), (343, 113715), (359, 113835), (365, 113877), (374, 113922), (376, 113931), (387, 113982), (398, 114024), (414, 114090), (416, 114099), (417, 114102), (418, 114108), (419, 114111), (420, 114120), (421, 114126), (422, 114141), (446, 114228), (470, 114333), (484, 114387),

(501, 114474), (507, 114504), (516, 114534), (523, 114567), (525, 114576), (536, 114648), (541, 114678), (569, 114795), (578, 114840), (587, 114882), (619, 115026), (635, 115086), (666, 115188), (696, 115275), (697, 115278), (705, 115296), (713, 115332), (714, 115335), (735, 115395), (739, 115413), (763, 115509), (772, 115539), (777, 115557), (785, 115587), (808, 115680), (812, 115695), (828, 115776), (829, 115782), (832, 115794),

Gene: Toma\_55 Start: 41781, Stop: 38299, Start Num: 63

Candidate Starts for Toma\_55:

(Start: 63 @41781 has 55 MA's), (68, 41766), (69, 41760), (Start: 76 @41715 has 1 MA's), (78, 41706), (85, 41664), (101, 41571), (120, 41502), (136, 41433), (152, 41379), (170, 41307), (180, 41271), (194, 41211), (214, 41133), (236, 40986), (247, 40947), (252, 40920), (256, 40902), (Start: 262 @40881 has 3 MA's), (Start: 267 @40866 has 9 MA's), (313, 40746), (316, 40734), (344, 40548), (345, 40542), (351, 40497), (364, 40413), (367, 40395), (382, 40338), (383, 40335), (385, 40323), (420, 40185), (421, 40179), (422, 40164), (424, 40158), (431, 40125), (451, 40047), (455, 40014), (503, 39873), (524, 39792), (526, 39786), (537, 39717), (547, 39654), (553, 39633), (567, 39588), (578, 39549), (590, 39492), (591, 39483), (615, 39375), (621, 39354), (623, 39333), (633, 39303), (638, 39276), (658, 39210), (661, 39201), (665, 39189), (685, 39102), (695, 39078), (733, 38934), (744, 38886), (763, 38802), (771, 38775), (803, 38637), (804, 38628), (810, 38601), (819, 38553), (820, 38547), (824, 38526), (826, 38520), (855, 38415), (861, 38388), (862, 38376), (866, 38313),

Gene: Tonenili\_231 Start: 119300, Stop: 122701, Start Num: 63

Candidate Starts for Tonenili\_231:

(38, 119243), (Start: 63 @119300 has 55 MA's), (78, 119375), (105, 119513), (121, 119573), (154, 119723), (162, 119747), (181, 119828), (200, 119888), (210, 119930), (211, 119936), (214, 119945), (215, 119948), (223, 120011), (234, 120071), (235, 120074), (241, 120101), (245, 120116), (248, 120128), (249, 120143), (Start: 267 @120206 has 9 MA's), (317, 120362), (321, 120380), (322, 120383), (324, 120395), (337, 120512), (343, 120551), (359, 120671), (365, 120713), (374, 120758), (376, 120767), (387, 120818), (398, 120860), (414, 120926), (416, 120935), (417, 120938), (418, 120944), (419, 120947), (421, 120962), (446, 121064), (501, 121316), (507, 121346), (516, 121376), (525, 121418), (536, 121490), (541, 121520), (545, 121538), (569, 121637), (578, 121682), (587, 121724), (619, 121868), (621, 121871), (629, 121898), (635, 121928), (666, 122030), (696, 122117), (705, 122138), (713, 122174), (714, 122177), (730, 122222), (735, 122237), (739, 122255), (763, 122351), (772, 122381), (777, 122399), (779, 122411), (785, 122429), (808, 122522), (812, 122537), (829, 122624), (832, 122636), (843, 122675),

Gene: Toneprano\_95 Start: 70005, Stop: 72818, Start Num: 53

Candidate Starts for Toneprano\_95:

(Start: 44 @69990 has 1 MA's), (Start: 50 @70002 has 1 MA's), (Start: 53 @70005 has 8 MA's), (78, 70098), (86, 70158), (122, 70308), (123, 70311), (124, 70317), (134, 70359), (147, 70416), (153, 70446), (154, 70449), (170, 70512), (174, 70533), (175, 70536), (185, 70563), (211, 70680), (214, 70689), (222, 70746), (224, 70755), (252, 70887), (313, 71052), (317, 71070), (320, 71085), (322, 71091), (324, 71103), (332, 71130), (333, 71133), (339, 71193), (340, 71202), (341, 71205), (343, 71217), (346, 71262), (358, 71331), (361, 71355), (392, 71511), (396, 71529), (402, 71553), (405, 71571), (424, 71667), (432, 71709), (435, 71715), (446, 71751), (447, 71760), (450, 71778), (451, 71784), (453, 71808), (454, 71814), (455, 71817), (462, 71835), (463, 71838), (499, 71931), (509, 71976), (511, 71982), (518, 72006), (519, 72009), (521, 72018), (522, 72024), (524, 72036), (545, 72153), (547, 72171), (548, 72174), (551, 72183), (579, 72297), (582, 72312), (615, 72459), (618, 72471), (620, 72477), (629, 72510), (636, 72543), (640, 72561), (645, 72573), (647, 72582), (676, 72696), (682, 72708), (686, 72723), (712, 72798), (714, 72807),

Gene: Tortoise16\_207 Start: 112926, Stop: 116321, Start Num: 62

Candidate Starts for Tortoise16\_207:

(Start: 24 @112833 has 44 MA's), (Start: 25 @112839 has 6 MA's), (Start: 31 @112851 has 8 MA's), (Start: 35 @112860 has 1 MA's), (Start: 62 @112926 has 110 MA's), (78, 113001), (97, 113115), (105, 113139), (121, 113199), (146, 113310), (154, 113349), (162, 113373), (170, 113415), (200, 113514), (210, 113556), (211, 113562), (215, 113574), (223, 113637), (234, 113697), (235, 113700), (241, 113727), (249, 113769), (Start: 267 @113832 has 9 MA's), (317, 113988), (321, 114006), (324, 114021), (337, 114138), (343, 114177), (359, 114297), (365, 114339), (374, 114384), (376, 114393), (387, 114444), (398, 114486), (414, 114552), (416, 114561), (417, 114564), (418, 114570), (419, 114573), (420, 114582), (421, 114588), (422, 114603), (446, 114690), (470, 114795), (484, 114849), (501, 114936), (507, 114966), (516, 114996), (523, 115029), (525, 115038), (536, 115110), (541, 115140), (569, 115257), (578, 115302), (587, 115344), (619, 115488), (635, 115548), (666, 115650), (696, 115737), (697, 115740), (705, 115758), (713, 115794), (714, 115797), (735, 115857), (739, 115875), (763, 115971), (772, 116001), (777, 116019), (785, 116049), (808, 116142), (812, 116157), (828, 116238), (829, 116244), (832, 116256),

Gene: Tracker\_60 Start: 47900, Stop: 44589, Start Num: 67

Candidate Starts for Tracker\_60:

(Start: 67 @47900 has 71 MA's), (79, 47828), (Start: 83 @47804 has 6 MA's), (116, 47651), (118, 47642), (196, 47360), (197, 47354), (201, 47330), (220, 47222), (226, 47192), (276, 46985), (321, 46814), (330, 46772), (333, 46766), (340, 46694), (342, 46679), (362, 46541), (413, 46343), (423, 46286), (439, 46226), (449, 46175), (475, 46106), (488, 46061), (538, 45821), (548, 45776), (550, 45770), (555, 45752), (582, 45656), (592, 45602), (626, 45458), (629, 45449), (651, 45374), (671, 45299), (687, 45245), (714, 45155), (736, 45074), (742, 45053), (779, 44909), (780, 44906), (800, 44822), (821, 44723), (836, 44666), (856, 44600),

Gene: Trinitium\_205 Start: 112211, Stop: 115606, Start Num: 62

Candidate Starts for Trinitium\_205:

(Start: 24 @112118 has 44 MA's), (Start: 25 @112124 has 6 MA's), (Start: 31 @112136 has 8 MA's), (Start: 35 @112145 has 1 MA's), (Start: 62 @112211 has 110 MA's), (78, 112286), (97, 112400), (105, 112424), (121, 112484), (146, 112595), (154, 112634), (162, 112658), (170, 112700), (200, 112799), (210, 112841), (211, 112847), (215, 112859), (223, 112922), (234, 112982), (235, 112985), (241, 113012), (249, 113054), (Start: 267 @113117 has 9 MA's), (310, 113237), (317, 113273), (321, 113291), (324, 113306), (337, 113423), (343, 113462), (359, 113582), (365, 113624), (374, 113669), (376, 113678), (387, 113729), (398, 113771), (414, 113837), (416, 113846), (417, 113849), (418, 113855), (419, 113858), (420, 113867), (421, 113873), (422, 113888), (446, 113975), (470, 114080), (484, 114134), (501, 114221), (507, 114251), (516, 114281), (523, 114314), (525, 114323), (536, 114395), (541, 114425), (569, 114542), (578, 114587), (587, 114629), (619, 114773), (635, 114833), (666, 114935), (696, 115022), (697, 115025), (705, 115043), (713, 115079), (714, 115082), (735, 115142), (739, 115160), (763, 115256), (772, 115286), (777, 115304), (785, 115334), (808, 115427), (812, 115442), (828, 115523), (829, 115529), (832, 115541),

Gene: Triste\_55 Start: 42467, Stop: 38982, Start Num: 63

Candidate Starts for Triste\_55:

(Start: 35 @42536 has 1 MA's), (Start: 63 @42467 has 55 MA's), (Start: 76 @42404 has 1 MA's), (78, 42395), (85, 42353), (101, 42260), (120, 42191), (136, 42122), (152, 42068), (170, 41996), (180, 41960), (194, 41900), (236, 41675), (247, 41636), (252, 41609), (256, 41591), (Start: 262 @41570 has 3 MA's), (Start: 267 @41555 has 9 MA's), (296, 41513), (313, 41435), (316, 41423), (344, 41237), (345, 41231), (351, 41186), (364, 41102), (367, 41084), (382, 41027), (383, 41024), (385, 41012), (420, 40874), (421, 40868), (422, 40853), (424, 40847), (431, 40814), (451, 40736), (455, 40703), (503, 40562), (524, 40481), (526, 40475), (537, 40406), (547, 40343), (553, 40322), (567, 40277), (590, 40181), (591, 40172), (593, 40166), (615, 40064), (617, 40055), (621, 40043), (623, 40022), (633, 39992), (638, 39965), (658, 39899), (661, 39890), (665, 39878), (685, 39791), (733, 39623), (744, 39575), (771, 39464), (773, 39458), (803, 39326), (804, 39317), (810, 39290), (826, 39209), (861, 39077), (862, 39065),

Gene: Troll4\_66 Start: 49859, Stop: 53161, Start Num: 26

Candidate Starts for Troll4\_66:

(Start: 26 @49859 has 20 MA's), (Start: 58 @49946 has 1 MA's), (61, 49952), (Start: 67 @49961 has 71 MA's), (Start: 83 @50057 has 6 MA's), (118, 50213), (141, 50300), (142, 50303), (154, 50354), (219, 50618), (226, 50657), (239, 50729), (242, 50738), (259, 50813), (Start: 281 @50879 has 8 MA's), (282, 50885), (298, 50939), (306, 50957), (313, 51008), (314, 51011), (320, 51041), (335, 51125), (336, 51134), (340, 51161), (342, 51176), (367, 51353), (368, 51362), (393, 51467), (420, 51548), (430, 51608), (449, 51683), (453, 51716), (458, 51722), (472, 51743), (475, 51752), (488, 51797), (505, 51866), (510, 51881), (527, 51950), (536, 52013), (545, 52046), (546, 52049), (557, 52100), (579, 52175), (606, 52298), (611, 52316), (628, 52394), (629, 52397), (631, 52409), (643, 52454), (651, 52475), (654, 52487), (661, 52517), (668, 52538), (716, 52610), (740, 52667), (763, 52766), (781, 52832), (803, 52922), (810, 52952), (811, 52955), (816, 52985), (825, 53030), (836, 53072), (844, 53102), (849, 53114), (853, 53129), (856, 53138),

Gene: TuanPN\_52 Start: 42420, Stop: 38935, Start Num: 63

Candidate Starts for TuanPN\_52:

(Start: 35 @42489 has 1 MA's), (Start: 63 @42420 has 55 MA's), (Start: 76 @42357 has 1 MA's), (78, 42348), (85, 42306), (101, 42213), (120, 42144), (136, 42075), (152, 42021), (170, 41949), (180, 41913), (194, 41853), (236, 41628), (247, 41589), (252, 41562), (256, 41544), (Start: 262 @41523 has 3 MA's), (Start: 267 @41508 has 9 MA's), (296, 41466), (313, 41388), (316, 41376), (344, 41190), (345, 41184), (351, 41139), (364, 41055), (367, 41037), (382, 40980), (383, 40977), (385, 40965), (420, 40827), (421, 40821), (422, 40806), (424, 40800), (431, 40767), (451, 40689), (455, 40656), (503, 40515), (524, 40434), (526, 40428), (537, 40359), (547, 40296), (553, 40275), (567, 40230), (590, 40134), (591, 40125), (593, 40119), (615, 40017), (617, 40008), (621, 39996), (623, 39975), (633, 39945), (638, 39918), (658, 39852), (661, 39843), (665, 39831), (685, 39744), (733, 39576), (744, 39528), (771, 39417), (803, 39279), (804, 39270), (810, 39243), (819, 39195), (826, 39162), (832, 39135), (861, 39030), (862, 39018),

Gene: Turret\_202 Start: 111793, Stop: 115188, Start Num: 62

Candidate Starts for Turret\_202:

(Start: 24 @111700 has 44 MA's), (Start: 25 @111706 has 6 MA's), (Start: 31 @111718 has 8 MA's), (Start: 35 @111727 has 1 MA's), (Start: 62 @111793 has 110 MA's), (78, 111868), (97, 111982), (105, 112006), (121, 112066), (146, 112177), (154, 112216), (162, 112240), (170, 112282), (200, 112381), (210, 112423), (211, 112429), (215, 112441), (223, 112504), (234, 112564), (235, 112567), (241, 112594), (249, 112636), (Start: 267 @112699 has 9 MA's), (310, 112819), (317, 112855), (321, 112873), (324, 112888), (337, 113005), (343, 113044), (359, 113164), (365, 113206), (374, 113251), (376, 113260), (387, 113311), (398, 113353), (414, 113419), (416, 113428), (417, 113431), (418, 113437), (419, 113440), (420, 113449), (421, 113455), (422, 113470), (446, 113557), (470, 113662), (484, 113716), (501, 113803), (507, 113833), (516, 113863), (523, 113896), (525, 113905), (536, 113977), (541, 114007), (569, 114124), (578, 114169), (587, 114211), (619, 114355), (635, 114415), (666, 114517), (696, 114604), (697, 114607), (705, 114625), (713, 114661), (714, 114664), (735, 114724), (739, 114742), (763, 114838), (772, 114868), (777, 114886), (785, 114916), (808, 115009), (812, 115024), (828, 115105), (829, 115111), (832, 115123),

Gene: Turuncu\_63 Start: 49020, Stop: 45739, Start Num: 67

Candidate Starts for Turuncu\_63:

(33, 49104), (Start: 67 @49020 has 71 MA's), (80, 48939), (Start: 83 @48924 has 6 MA's), (88, 48879), (116, 48768), (118, 48759), (135, 48693), (150, 48636), (190, 48510), (197, 48471), (201, 48447), (207, 48420), (214, 48393), (220, 48339), (Start: 267 @48126 has 9 MA's), (276, 48102), (340, 47808), (342, 47793), (400, 47475), (413, 47451), (422, 47397), (423, 47394), (449, 47283), (475, 47214), (479, 47199), (488, 47169), (531, 46980), (538, 46932), (547, 46890), (548, 46887), (550, 46881), (555, 46863), (582, 46767), (586, 46749), (592, 46713), (629, 46548), (635, 46518), (644, 46488),

(671, 46449), (687, 46395), (698, 46371), (714, 46308), (732, 46248), (742, 46206), (771, 46089), (779, 46062), (780, 46059), (785, 46035), (836, 45819), (846, 45783), (856, 45753),

Gene: Twin\_92 Start: 70020, Stop: 72848, Start Num: 44

Candidate Starts for Twin\_92:

(Start: 44 @70020 has 1 MA's), (Start: 50 @70032 has 1 MA's), (Start: 53 @70035 has 8 MA's), (78, 70128), (86, 70188), (122, 70338), (123, 70341), (124, 70347), (147, 70446), (153, 70476), (154, 70479), (170, 70542), (174, 70563), (175, 70566), (185, 70593), (211, 70710), (214, 70719), (222, 70776), (224, 70785), (236, 70851), (252, 70917), (313, 71082), (317, 71100), (320, 71115), (322, 71121), (324, 71133), (332, 71160), (333, 71163), (339, 71223), (340, 71232), (341, 71235), (343, 71247), (346, 71292), (358, 71361), (361, 71385), (392, 71541), (396, 71559), (402, 71583), (405, 71601), (424, 71697), (432, 71739), (435, 71745), (446, 71781), (447, 71790), (450, 71808), (451, 71814), (453, 71838), (454, 71844), (455, 71847), (462, 71865), (463, 71868), (499, 71961), (509, 72006), (511, 72012), (518, 72036), (519, 72039), (521, 72048), (522, 72054), (524, 72066), (545, 72183), (547, 72201), (548, 72204), (551, 72213), (579, 72327), (582, 72342), (615, 72489), (618, 72501), (620, 72507), (629, 72540), (636, 72573), (640, 72591), (645, 72603), (647, 72612), (676, 72726), (682, 72738), (686, 72753), (712, 72828), (714, 72837),

Gene: Tyke\_207 Start: 114200, Stop: 117688, Start Num: 24

Candidate Starts for Tyke\_207:

(Start: 24 @114200 has 44 MA's), (Start: 25 @114206 has 6 MA's), (Start: 31 @114218 has 8 MA's), (Start: 35 @114227 has 1 MA's), (Start: 62 @114293 has 110 MA's), (78, 114368), (97, 114482), (105, 114506), (121, 114566), (146, 114677), (154, 114716), (162, 114740), (170, 114782), (200, 114881), (210, 114923), (211, 114929), (215, 114941), (223, 115004), (234, 115064), (235, 115067), (241, 115094), (249, 115136), (Start: 267 @115199 has 9 MA's), (317, 115355), (321, 115373), (324, 115388), (337, 115505), (343, 115544), (359, 115664), (365, 115706), (374, 115751), (376, 115760), (387, 115811), (398, 115853), (414, 115919), (416, 115928), (417, 115931), (418, 115937), (419, 115940), (420, 115949), (421, 115955), (422, 115970), (446, 116057), (470, 116162), (484, 116216), (501, 116303), (507, 116333), (516, 116363), (523, 116396), (525, 116405), (536, 116477), (541, 116507), (569, 116624), (578, 116669), (587, 116711), (619, 116855), (635, 116915), (666, 117017), (696, 117104), (697, 117107), (705, 117125), (713, 117161), (714, 117164), (735, 117224), (739, 117242), (763, 117338), (772, 117368), (777, 117386), (785, 117416), (808, 117509), (812, 117524), (828, 117605), (829, 117611), (832, 117623),

Gene: UBSmoodge\_101 Start: 73949, Stop: 76774, Start Num: 53

Candidate Starts for UBSmoodge\_101:

(Start: 53 @73949 has 8 MA's), (78, 74039), (81, 74054), (86, 74099), (102, 74177), (122, 74249), (147, 74357), (153, 74387), (154, 74390), (155, 74393), (170, 74453), (174, 74474), (185, 74504), (211, 74621), (222, 74687), (224, 74696), (225, 74699), (252, 74828), (265, 74873), (Start: 267 @74882 has 9 MA's), (304, 74945), (313, 74993), (317, 75011), (320, 75026), (322, 75032), (324, 75044), (332, 75071), (333, 75074), (339, 75134), (340, 75143), (343, 75158), (350, 75236), (351, 75239), (358, 75272), (396, 75470), (402, 75494), (422, 75602), (423, 75605), (432, 75650), (446, 75692), (447, 75701), (451, 75725), (452, 75731), (454, 75755), (455, 75758), (462, 75776), (509, 75917), (511, 75923), (518, 75947), (519, 75950), (522, 75965), (524, 75977), (528, 75998), (535, 76067), (545, 76112), (547, 76130), (548, 76133), (551, 76142), (577, 76247), (579, 76256), (585, 76283), (615, 76415), (618, 76427), (620, 76433), (636, 76499), (640, 76517), (645, 76529), (647, 76538), (655, 76574), (676, 76652), (686, 76679), (706, 76733), (708, 76736), (712, 76754), (714, 76763),

Gene: Unstoppable\_53 Start: 40230, Stop: 36751, Start Num: 63

Candidate Starts for Unstoppable\_53:

(6, 40440), (Start: 63 @40230 has 55 MA's), (78, 40158), (Start: 83 @40131 has 6 MA's), (85, 40116), (120, 39954), (126, 39927), (129, 39921), (152, 39831), (156, 39816), (169, 39762), (170, 39759),

(194, 39663), (214, 39585), (222, 39525), (236, 39438), (247, 39399), (256, 39354), (Start: 262 @39333 has 3 MA's), (Start: 267 @39318 has 9 MA's), (296, 39276), (300, 39264), (313, 39198), (316, 39186), (330, 39123), (345, 38994), (346, 38985), (351, 38949), (364, 38865), (367, 38847), (382, 38790), (383, 38787), (385, 38775), (420, 38637), (421, 38631), (422, 38616), (424, 38610), (431, 38577), (451, 38499), (455, 38466), (503, 38325), (520, 38268), (524, 38244), (526, 38238), (537, 38169), (547, 38106), (567, 38040), (572, 38019), (578, 38001), (590, 37944), (591, 37935), (615, 37827), (617, 37818), (621, 37806), (623, 37785), (633, 37755), (638, 37728), (658, 37662), (661, 37653), (665, 37641), (685, 37554), (695, 37530), (709, 37482), (744, 37338), (760, 37263), (803, 37089), (810, 37053), (819, 37005), (826, 36972),

Gene: Urza\_53 Start: 38835, Stop: 35350, Start Num: 63

Candidate Starts for Urza\_53:

(33, 38904), (36, 38895), (46, 38868), (Start: 63 @38835 has 55 MA's), (68, 38820), (70, 38808), (78, 38760), (80, 38748), (85, 38718), (94, 38667), (101, 38625), (111, 38592), (126, 38529), (163, 38394), (169, 38364), (170, 38361), (183, 38319), (194, 38265), (223, 38121), (236, 38040), (249, 37983), (252, 37974), (256, 37956), (Start: 262 @37935 has 3 MA's), (265, 37929), (296, 37878), (300, 37866), (313, 37800), (316, 37788), (322, 37761), (334, 37686), (344, 37602), (345, 37596), (367, 37449), (382, 37392), (383, 37389), (403, 37320), (405, 37311), (411, 37281), (412, 37278), (420, 37239), (421, 37233), (424, 37212), (431, 37179), (433, 37173), (451, 37101), (455, 37068), (460, 37056), (493, 36975), (503, 36927), (505, 36918), (519, 36873), (520, 36870), (524, 36846), (542, 36741), (547, 36708), (567, 36642), (590, 36546), (591, 36537), (615, 36429), (623, 36387), (633, 36357), (658, 36264), (661, 36255), (665, 36243), (666, 36240), (678, 36177), (681, 36171), (709, 36084), (714, 36063), (724, 36036), (738, 35958), (744, 35937), (753, 35889), (760, 35862), (796, 35718), (805, 35673), (829, 35556), (830, 35553), (855, 35466), (862, 35427), (863, 35421), (866, 35364), (867, 35355),

Gene: ValleyTerrace\_210 Start: 112377, Stop: 115772, Start Num: 62

Candidate Starts for ValleyTerrace\_210:

(Start: 24 @112284 has 44 MA's), (Start: 25 @112290 has 6 MA's), (Start: 31 @112302 has 8 MA's), (Start: 35 @112311 has 1 MA's), (Start: 62 @112377 has 110 MA's), (78, 112452), (97, 112566), (105, 112590), (121, 112650), (146, 112761), (154, 112800), (162, 112824), (170, 112866), (200, 112965), (210, 113007), (211, 113013), (215, 113025), (223, 113088), (234, 113148), (235, 113151), (241, 113178), (249, 113220), (Start: 267 @113283 has 9 MA's), (310, 113403), (317, 113439), (321, 113457), (324, 113472), (337, 113589), (343, 113628), (359, 113748), (365, 113790), (374, 113835), (376, 113844), (387, 113895), (398, 113937), (414, 114003), (416, 114012), (417, 114015), (418, 114021), (419, 114024), (420, 114033), (421, 114039), (422, 114054), (446, 114141), (470, 114246), (484, 114300), (501, 114387), (507, 114417), (516, 114447), (523, 114480), (525, 114489), (536, 114561), (541, 114591), (569, 114708), (578, 114753), (587, 114795), (619, 114939), (635, 114999), (666, 115101), (696, 115188), (697, 115191), (705, 115209), (713, 115245), (714, 115248), (735, 115308), (739, 115326), (763, 115422), (772, 115452), (777, 115470), (785, 115500), (808, 115593), (812, 115608), (828, 115689), (829, 115695), (832, 115707),

Gene: VieEnRose\_54 Start: 38895, Stop: 35410, Start Num: 63

Candidate Starts for VieEnRose\_54:

(33, 38964), (36, 38955), (46, 38928), (Start: 63 @38895 has 55 MA's), (68, 38880), (70, 38868), (78, 38820), (80, 38808), (85, 38778), (94, 38727), (101, 38685), (111, 38652), (126, 38589), (163, 38454), (169, 38424), (170, 38421), (183, 38379), (194, 38325), (223, 38181), (236, 38100), (249, 38043), (252, 38034), (256, 38016), (Start: 262 @37995 has 3 MA's), (296, 37938), (300, 37926), (313, 37860), (316, 37848), (322, 37821), (344, 37662), (345, 37656), (367, 37509), (382, 37452), (383, 37449), (403, 37380), (405, 37371), (411, 37341), (412, 37338), (420, 37299), (421, 37293), (424, 37272), (431, 37239), (433, 37233), (451, 37161), (455, 37128), (460, 37116), (493, 37035), (503, 36987), (505, 36978), (519, 36933), (520, 36930), (524, 36906), (542, 36801), (547, 36768), (567, 36702), (590, 36606), (591, 36597), (615, 36489), (623, 36447), (633, 36417), (658, 36324), (661, 36315),



(665, 36303), (666, 36300), (678, 36237), (681, 36231), (709, 36144), (714, 36123), (724, 36096), (738, 36018), (744, 35997), (753, 35949), (760, 35922), (790, 35805), (796, 35778), (805, 35733), (820, 35658), (829, 35616), (830, 35613), (855, 35526), (862, 35487), (863, 35481), (866, 35424), (867, 35415),

Gene: Visconti\_68 Start: 49767, Stop: 53069, Start Num: 26

Candidate Starts for Visconti\_68:

(Start: 26 @49767 has 20 MA's), (Start: 58 @49854 has 1 MA's), (61, 49860), (Start: 67 @49869 has 71 MA's), (Start: 83 @49965 has 6 MA's), (118, 50121), (141, 50208), (142, 50211), (154, 50262), (219, 50526), (226, 50565), (239, 50637), (242, 50646), (259, 50721), (Start: 281 @50787 has 8 MA's), (282, 50793), (298, 50847), (306, 50865), (313, 50916), (314, 50919), (320, 50949), (335, 51033), (336, 51042), (340, 51069), (342, 51084), (367, 51261), (368, 51270), (393, 51375), (420, 51456), (430, 51516), (449, 51591), (453, 51624), (458, 51630), (472, 51651), (475, 51660), (488, 51705), (505, 51774), (510, 51789), (527, 51858), (536, 51921), (545, 51954), (546, 51957), (557, 52008), (579, 52083), (606, 52206), (611, 52224), (628, 52302), (629, 52305), (631, 52317), (643, 52362), (651, 52383), (654, 52395), (661, 52425), (668, 52446), (716, 52518), (740, 52575), (763, 52674), (781, 52740), (803, 52830), (810, 52860), (811, 52863), (816, 52893), (825, 52938), (836, 52980), (844, 53010), (849, 53022), (853, 53037), (856, 53046),

Gene: WaldoWhy\_69 Start: 49783, Stop: 53085, Start Num: 26

Candidate Starts for WaldoWhy\_69:

(Start: 26 @49783 has 20 MA's), (Start: 58 @49870 has 1 MA's), (61, 49876), (Start: 67 @49885 has 71 MA's), (Start: 83 @49981 has 6 MA's), (118, 50137), (141, 50224), (142, 50227), (154, 50278), (219, 50542), (226, 50581), (239, 50653), (242, 50662), (259, 50737), (Start: 281 @50803 has 8 MA's), (282, 50809), (298, 50863), (306, 50881), (313, 50932), (314, 50935), (320, 50965), (335, 51049), (340, 51085), (342, 51100), (367, 51277), (393, 51391), (420, 51472), (449, 51607), (453, 51640), (458, 51646), (472, 51667), (475, 51676), (488, 51721), (505, 51790), (510, 51805), (516, 51826), (527, 51874), (536, 51937), (545, 51970), (546, 51973), (547, 51988), (557, 52024), (579, 52099), (606, 52222), (611, 52240), (628, 52318), (629, 52321), (631, 52333), (651, 52399), (654, 52411), (661, 52441), (668, 52462), (716, 52534), (740, 52591), (763, 52690), (781, 52756), (803, 52846), (810, 52876), (811, 52879), (816, 52909), (825, 52954), (836, 52996), (844, 53026), (849, 53038), (853, 53053), (856, 53062),

Gene: Wally\_207 Start: 112268, Stop: 115756, Start Num: 24

Candidate Starts for Wally\_207:

(Start: 24 @112268 has 44 MA's), (Start: 25 @112274 has 6 MA's), (Start: 31 @112286 has 8 MA's), (Start: 35 @112295 has 1 MA's), (Start: 62 @112361 has 110 MA's), (78, 112436), (97, 112550), (105, 112574), (121, 112634), (146, 112745), (154, 112784), (162, 112808), (170, 112850), (200, 112949), (210, 112991), (211, 112997), (215, 113009), (223, 113072), (234, 113132), (235, 113135), (241, 113162), (249, 113204), (Start: 267 @113267 has 9 MA's), (310, 113387), (317, 113423), (321, 113441), (324, 113456), (337, 113573), (343, 113612), (359, 113732), (365, 113774), (374, 113819), (376, 113828), (387, 113879), (398, 113921), (414, 113987), (416, 113996), (417, 113999), (418, 114005), (419, 114008), (420, 114017), (421, 114023), (422, 114038), (446, 114125), (470, 114230), (484, 114284), (501, 114371), (507, 114401), (516, 114431), (523, 114464), (525, 114473), (536, 114545), (541, 114575), (569, 114692), (578, 114737), (587, 114779), (619, 114923), (635, 114983), (666, 115085), (696, 115172), (697, 115175), (705, 115193), (713, 115229), (714, 115232), (735, 115292), (739, 115310), (763, 115406), (772, 115436), (777, 115454), (785, 115484), (808, 115577), (812, 115592), (828, 115673), (829, 115679), (832, 115691),

Gene: Weiss13\_74 Start: 55602, Stop: 57914, Start Num: 267

Candidate Starts for Weiss13\_74:

(Start: 267 @55602 has 9 MA's), (304, 55698), (311, 55737), (321, 55788), (322, 55791), (324, 55803), (333, 55833), (337, 55881), (342, 55917), (379, 56151), (386, 56184), (410, 56250), (423, 56328),

(426, 56346), (461, 56493), (465, 56511), (475, 56529), (496, 56601), (497, 56604), (502, 56628), (505, 56643), (515, 56673), (580, 56946), (589, 56988), (590, 56994), (592, 57006), (605, 57048), (611, 57078), (613, 57090), (624, 57150), (628, 57168), (630, 57174), (638, 57216), (648, 57243), (658, 57279), (738, 57402), (739, 57405), (747, 57441), (773, 57540), (781, 57567), (782, 57573), (789, 57603), (811, 57696), (817, 57732), (818, 57738), (831, 57795), (836, 57810), (839, 57822), (844, 57840),

Gene: Wentworth\_52 Start: 39280, Stop: 36083, Start Num: 67

Candidate Starts for Wentworth\_52:

(56, 39301), (Start: 67 @39280 has 71 MA's), (68, 39271), (73, 39238), (Start: 83 @39184 has 6 MA's), (91, 39130), (107, 39061), (109, 39052), (117, 39025), (119, 39013), (127, 38980), (135, 38944), (144, 38902), (147, 38890), (161, 38836), (187, 38770), (188, 38767), (227, 38551), (260, 38389), (Start: 263 @38380 has 6 MA's), (283, 38329), (286, 38314), (291, 38299), (321, 38173), (335, 38092), (340, 38056), (342, 38041), (343, 38038), (355, 37945), (368, 37855), (372, 37840), (422, 37648), (424, 37642), (429, 37615), (441, 37570), (443, 37564), (445, 37555), (453, 37492), (458, 37486), (475, 37456), (483, 37426), (497, 37381), (504, 37345), (533, 37216), (593, 36964), (604, 36937), (605, 36925), (606, 36913), (621, 36841), (626, 36802), (654, 36697), (673, 36622), (737, 36562), (740, 36550), (763, 36451), (781, 36385), (810, 36274), (813, 36262), (816, 36241), (821, 36217), (834, 36163), (836, 36157), (838, 36151), (851, 36106),

Gene: Werner\_54 Start: 42465, Stop: 38980, Start Num: 63

Candidate Starts for Werner\_54:

(Start: 35 @42534 has 1 MA's), (Start: 63 @42465 has 55 MA's), (Start: 76 @42402 has 1 MA's), (78, 42393), (85, 42351), (101, 42258), (120, 42189), (136, 42120), (152, 42066), (170, 41994), (180, 41958), (194, 41898), (236, 41673), (247, 41634), (252, 41607), (256, 41589), (Start: 262 @41568 has 3 MA's), (Start: 267 @41553 has 9 MA's), (296, 41511), (313, 41433), (316, 41421), (344, 41235), (345, 41229), (351, 41184), (364, 41100), (367, 41082), (382, 41025), (383, 41022), (385, 41010), (420, 40872), (421, 40866), (422, 40851), (424, 40845), (451, 40734), (455, 40701), (503, 40560), (524, 40479), (526, 40473), (537, 40404), (547, 40341), (553, 40320), (567, 40275), (590, 40179), (591, 40170), (593, 40164), (615, 40062), (617, 40053), (621, 40041), (623, 40020), (633, 39990), (638, 39963), (658, 39897), (661, 39888), (665, 39876), (685, 39789), (733, 39621), (744, 39573), (771, 39462), (773, 39456), (803, 39324), (804, 39315), (810, 39288), (826, 39207), (861, 39075), (862, 39063),

Gene: Whatever\_54 Start: 42491, Stop: 39006, Start Num: 63

Candidate Starts for Whatever\_54:

(Start: 35 @42560 has 1 MA's), (Start: 63 @42491 has 55 MA's), (Start: 76 @42428 has 1 MA's), (78, 42419), (85, 42377), (101, 42284), (120, 42215), (136, 42146), (152, 42092), (170, 42020), (180, 41984), (194, 41924), (236, 41699), (247, 41660), (252, 41633), (256, 41615), (Start: 262 @41594 has 3 MA's), (Start: 267 @41579 has 9 MA's), (296, 41537), (313, 41459), (316, 41447), (344, 41261), (345, 41255), (351, 41210), (364, 41126), (367, 41108), (382, 41051), (383, 41048), (385, 41036), (420, 40898), (421, 40892), (422, 40877), (424, 40871), (431, 40838), (451, 40760), (455, 40727), (503, 40586), (524, 40505), (526, 40499), (537, 40430), (547, 40367), (553, 40346), (567, 40301), (590, 40205), (591, 40196), (593, 40190), (615, 40088), (617, 40079), (621, 40067), (623, 40046), (633, 40016), (638, 39989), (658, 39923), (661, 39914), (665, 39902), (685, 39815), (733, 39647), (744, 39599), (771, 39488), (773, 39482), (803, 39350), (804, 39341), (810, 39314), (826, 39233), (861, 39101), (862, 39089),

Gene: Wheezy\_60 Start: 48108, Stop: 44797, Start Num: 67

Candidate Starts for Wheezy\_60:

(Start: 67 @48108 has 71 MA's), (79, 48036), (Start: 83 @48012 has 6 MA's), (88, 47967), (116, 47859), (118, 47850), (196, 47568), (197, 47562), (201, 47538), (220, 47430), (226, 47400), (276, 47193), (321, 47022), (330, 46980), (333, 46974), (340, 46902), (342, 46887), (362, 46749), (413,

46551), (422, 46497), (423, 46494), (439, 46434), (449, 46383), (475, 46314), (488, 46269), (538, 46029), (547, 45987), (548, 45984), (550, 45978), (555, 45960), (582, 45864), (592, 45810), (626, 45666), (629, 45657), (651, 45582), (671, 45507), (687, 45453), (702, 45411), (714, 45363), (736, 45282), (742, 45261), (762, 45171), (772, 45141), (779, 45117), (780, 45114), (821, 44931), (836, 44874), (856, 44808),

Gene: WhoseManz\_60 Start: 45289, Stop: 42038, Start Num: 67

Candidate Starts for WhoseManz\_60:

(6, 45517), (Start: 67 @45289 has 71 MA's), (80, 45208), (Start: 83 @45193 has 6 MA's), (88, 45148), (116, 45040), (118, 45031), (160, 44866), (197, 44743), (207, 44692), (214, 44665), (220, 44611), (226, 44581), (Start: 267 @44398 has 9 MA's), (276, 44374), (309, 44266), (324, 44188), (330, 44161), (340, 44083), (342, 44068), (362, 43930), (413, 43732), (415, 43726), (420, 43699), (430, 43639), (449, 43564), (453, 43531), (475, 43495), (492, 43438), (506, 43375), (538, 43210), (539, 43207), (547, 43168), (548, 43165), (550, 43159), (552, 43150), (555, 43141), (582, 43045), (586, 43027), (592, 42991), (628, 42841), (640, 42787), (687, 42691), (714, 42607), (719, 42598), (732, 42547), (751, 42457), (779, 42361), (780, 42358), (821, 42175), (856, 42052),

Gene: Wilkos\_53 Start: 39157, Stop: 35936, Start Num: 56

Candidate Starts for Wilkos\_53:

(56, 39157), (Start: 67 @39136 has 71 MA's), (73, 39094), (77, 39073), (Start: 83 @39040 has 6 MA's), (91, 38986), (97, 38953), (107, 38917), (109, 38908), (119, 38869), (127, 38836), (135, 38800), (144, 38758), (147, 38746), (161, 38692), (188, 38623), (207, 38521), (227, 38407), (259, 38251), (260, 38245), (Start: 263 @38236 has 6 MA's), (283, 38185), (286, 38170), (291, 38155), (321, 38029), (333, 37984), (335, 37948), (337, 37936), (340, 37912), (342, 37897), (343, 37894), (346, 37849), (355, 37801), (368, 37711), (372, 37696), (399, 37585), (429, 37471), (436, 37447), (443, 37420), (445, 37411), (453, 37348), (458, 37342), (475, 37312), (483, 37282), (497, 37237), (504, 37201), (533, 37072), (564, 36937), (593, 36820), (604, 36793), (605, 36781), (606, 36769), (607, 36766), (621, 36697), (626, 36658), (654, 36553), (669, 36496), (673, 36478), (732, 36442), (737, 36418), (740, 36406), (752, 36346), (763, 36307), (803, 36157), (810, 36130), (813, 36118), (816, 36097), (821, 36073), (834, 36019), (836, 36013), (838, 36007), (851, 35962),

Gene: Willis\_210 Start: 113275, Stop: 116670, Start Num: 62

Candidate Starts for Willis\_210:

(Start: 24 @113182 has 44 MA's), (Start: 25 @113188 has 6 MA's), (Start: 31 @113200 has 8 MA's), (Start: 35 @113209 has 1 MA's), (Start: 62 @113275 has 110 MA's), (78, 113350), (97, 113464), (105, 113488), (121, 113548), (146, 113659), (154, 113698), (162, 113722), (170, 113764), (200, 113863), (210, 113905), (211, 113911), (215, 113923), (223, 113986), (234, 114046), (235, 114049), (241, 114076), (249, 114118), (Start: 267 @114181 has 9 MA's), (310, 114301), (317, 114337), (321, 114355), (324, 114370), (337, 114487), (343, 114526), (359, 114646), (365, 114688), (374, 114733), (376, 114742), (387, 114793), (398, 114835), (414, 114901), (416, 114910), (417, 114913), (418, 114919), (419, 114922), (420, 114931), (421, 114937), (422, 114952), (446, 115039), (470, 115144), (484, 115198), (501, 115285), (507, 115315), (516, 115345), (523, 115378), (525, 115387), (536, 115459), (541, 115489), (569, 115606), (578, 115651), (587, 115693), (619, 115837), (635, 115897), (666, 115999), (696, 116086), (697, 116089), (705, 116107), (713, 116143), (714, 116146), (735, 116206), (739, 116224), (763, 116320), (772, 116350), (777, 116368), (785, 116398), (808, 116491), (812, 116506), (828, 116587), (829, 116593), (832, 116605),

Gene: Wojtek\_72 Start: 51325, Stop: 55365, Start Num: 83

Candidate Starts for Wojtek\_72:

(Start: 76 @51289 has 1 MA's), (Start: 83 @51325 has 6 MA's), (88, 51370), (97, 51412), (163, 51673), (191, 51748), (214, 51859), (219, 51904), (241, 52027), (278, 52174), (280, 52183), (Start: 285 @52216 has 1 MA's), (296, 52252), (306, 52294), (312, 52339), (321, 52381), (342, 52513), (343, 52516), (344, 52546), (359, 52636), (368, 52699), (388, 52789), (393, 52804), (399, 52825), (413,

52852), (449, 53020), (453, 53053), (465, 53071), (488, 53134), (489, 53137), (504, 53200), (515, 53233), (527, 53287), (532, 53323), (577, 53503), (583, 53530), (586, 53545), (592, 53581), (594, 53722), (595, 53764), (596, 53890), (597, 53917), (598, 53980), (599, 54151), (600, 54208), (601, 54214), (602, 54355), (606, 54433), (611, 54451), (629, 54547), (631, 54559), (634, 54571), (743, 54847), (769, 54958), (778, 54994), (781, 55006), (782, 55012), (783, 55015), (789, 55042), (801, 55087), (822, 55195), (833, 55234), (835, 55240), (841, 55264), (853, 55300),

Gene: Wollypog\_59 Start: 44236, Stop: 46455, Start Num: 285

Candidate Starts for Wollypog\_59:

(250, 44131), (260, 44170), (Start: 285 @44236 has 1 MA's), (303, 44287), (312, 44335), (321, 44377), (338, 44476), (340, 44494), (342, 44509), (344, 44542), (346, 44557), (347, 44563), (354, 44599), (367, 44686), (379, 44743), (393, 44800), (415, 44854), (449, 45022), (458, 45061), (475, 45091), (483, 45121), (496, 45163), (503, 45196), (504, 45202), (505, 45205), (515, 45235), (532, 45325), (561, 45457), (577, 45505), (586, 45547), (592, 45583), (606, 45637), (611, 45655), (613, 45667), (629, 45748), (635, 45781), (673, 45913), (731, 45946), (737, 45973), (765, 46090), (797, 46219), (810, 46261), (816, 46294), (828, 46351), (830, 46357), (835, 46375), (836, 46378), (840, 46399),

Gene: Xenia2\_78 Start: 51941, Stop: 55192, Start Num: 83

Candidate Starts for Xenia2\_78:

(Start: 71 @51878 has 4 MA's), (80, 51926), (Start: 83 @51941 has 6 MA's), (84, 51950), (85, 51956), (101, 52049), (155, 52259), (163, 52289), (181, 52337), (202, 52424), (219, 52520), (249, 52685), (259, 52721), (278, 52790), (280, 52799), (306, 52910), (312, 52955), (321, 52997), (342, 53129), (343, 53132), (344, 53162), (368, 53315), (388, 53405), (393, 53420), (399, 53441), (449, 53636), (453, 53669), (465, 53687), (488, 53750), (489, 53753), (515, 53849), (527, 53903), (532, 53939), (557, 54053), (577, 54119), (586, 54161), (592, 54197), (606, 54251), (611, 54269), (629, 54365), (631, 54377), (634, 54389), (662, 54473), (743, 54668), (765, 54764), (769, 54779), (781, 54827), (782, 54833), (783, 54836), (789, 54863), (801, 54908), (833, 55055), (835, 55061), (841, 55085), (853, 55121),

Gene: Yara\_46 Start: 37592, Stop: 34395, Start Num: 67

Candidate Starts for Yara\_46:

(Start: 67 @37592 has 71 MA's), (73, 37550), (Start: 83 @37496 has 6 MA's), (88, 37451), (91, 37442), (95, 37424), (107, 37373), (109, 37364), (119, 37325), (127, 37292), (135, 37256), (161, 37148), (187, 37082), (188, 37079), (207, 36977), (219, 36905), (227, 36863), (236, 36800), (237, 36797), (Start: 263 @36692 has 6 MA's), (276, 36665), (283, 36641), (286, 36626), (291, 36611), (308, 36557), (315, 36515), (318, 36500), (321, 36485), (324, 36470), (340, 36368), (342, 36353), (343, 36350), (355, 36257), (358, 36239), (368, 36167), (388, 36077), (399, 36041), (422, 35960), (424, 35954), (429, 35927), (443, 35876), (453, 35804), (458, 35798), (472, 35777), (475, 35768), (479, 35753), (483, 35738), (496, 35696), (497, 35693), (504, 35657), (533, 35528), (564, 35393), (604, 35249), (605, 35237), (606, 35225), (626, 35114), (635, 35072), (654, 35009), (673, 34934), (737, 34874), (738, 34868), (740, 34862), (763, 34763), (780, 34703), (781, 34697), (810, 34586), (813, 34574), (816, 34553), (821, 34529), (836, 34469), (846, 34433), (851, 34418), (853, 34412),

Gene: Yasdniil\_54 Start: 42454, Stop: 39032, Start Num: 76

Candidate Starts for Yasdniil\_54:

(Start: 35 @42586 has 1 MA's), (Start: 63 @42517 has 55 MA's), (Start: 76 @42454 has 1 MA's), (78, 42445), (85, 42403), (101, 42310), (120, 42241), (136, 42172), (152, 42118), (170, 42046), (180, 42010), (194, 41950), (236, 41725), (247, 41686), (252, 41659), (256, 41641), (Start: 262 @41620 has 3 MA's), (Start: 267 @41605 has 9 MA's), (296, 41563), (313, 41485), (316, 41473), (344, 41287), (345, 41281), (351, 41236), (364, 41152), (367, 41134), (382, 41077), (383, 41074), (385, 41062), (406, 40990), (420, 40924), (421, 40918), (422, 40903), (424, 40897), (431, 40864), (451, 40786), (455, 40753), (503, 40612), (524, 40531), (526, 40525), (537, 40456), (547, 40393), (553, 40372), (567, 40327), (590, 40231), (591, 40222), (593, 40216), (615, 40114), (617, 40105), (621, 40093),

(623, 40072), (633, 40042), (638, 40015), (658, 39949), (661, 39940), (665, 39928), (685, 39841), (733, 39673), (744, 39625), (771, 39514), (803, 39376), (804, 39367), (810, 39340), (819, 39292), (826, 39259), (832, 39232), (861, 39127), (862, 39115),

Gene: Yassified\_206 Start: 112716, Stop: 116111, Start Num: 62

Candidate Starts for Yassified\_206:

(Start: 18 @112593 has 5 MA's), (Start: 24 @112623 has 44 MA's), (Start: 25 @112629 has 6 MA's), (Start: 31 @112641 has 8 MA's), (Start: 35 @112650 has 1 MA's), (Start: 62 @112716 has 110 MA's), (78, 112791), (97, 112905), (105, 112929), (121, 112989), (146, 113100), (154, 113139), (162, 113163), (170, 113205), (200, 113304), (210, 113346), (211, 113352), (215, 113364), (223, 113427), (234, 113487), (235, 113490), (241, 113517), (249, 113559), (Start: 267 @113622 has 9 MA's), (310, 113742), (317, 113778), (321, 113796), (324, 113811), (337, 113928), (343, 113967), (359, 114087), (365, 114129), (374, 114174), (376, 114183), (387, 114234), (398, 114276), (414, 114342), (416, 114351), (417, 114354), (418, 114360), (419, 114363), (420, 114372), (421, 114378), (422, 114393), (446, 114480), (470, 114585), (484, 114639), (501, 114726), (507, 114756), (516, 114786), (523, 114819), (525, 114828), (536, 114900), (541, 114930), (569, 115047), (578, 115092), (587, 115134), (619, 115278), (635, 115338), (666, 115440), (696, 115527), (697, 115530), (705, 115548), (713, 115584), (714, 115587), (735, 115647), (739, 115665), (763, 115761), (772, 115791), (777, 115809), (785, 115839), (808, 115932), (812, 115947), (828, 116028), (829, 116034), (832, 116046),

Gene: Yelo\_73 Start: 55981, Stop: 58293, Start Num: 267

Candidate Starts for Yelo\_73:

(Start: 267 @55981 has 9 MA's), (304, 56077), (311, 56116), (321, 56167), (322, 56170), (323, 56179), (324, 56182), (333, 56212), (337, 56260), (342, 56296), (379, 56530), (386, 56563), (410, 56629), (423, 56707), (426, 56725), (465, 56890), (475, 56908), (496, 56980), (497, 56983), (502, 57007), (505, 57022), (515, 57052), (580, 57325), (589, 57367), (590, 57373), (592, 57385), (605, 57427), (611, 57457), (613, 57469), (624, 57529), (630, 57553), (648, 57622), (658, 57658), (738, 57781), (739, 57784), (747, 57820), (773, 57919), (781, 57946), (782, 57952), (789, 57982), (817, 58111), (818, 58117), (831, 58174), (836, 58189), (839, 58201), (844, 58219),

Gene: YemiJoy2021\_210 Start: 114031, Stop: 117426, Start Num: 62

Candidate Starts for YemiJoy2021\_210:

(Start: 24 @113938 has 44 MA's), (Start: 25 @113944 has 6 MA's), (Start: 31 @113956 has 8 MA's), (Start: 35 @113965 has 1 MA's), (Start: 62 @114031 has 110 MA's), (78, 114106), (97, 114220), (105, 114244), (121, 114304), (146, 114415), (154, 114454), (162, 114478), (170, 114520), (200, 114619), (210, 114661), (211, 114667), (215, 114679), (223, 114742), (234, 114802), (235, 114805), (241, 114832), (249, 114874), (Start: 267 @114937 has 9 MA's), (310, 115057), (317, 115093), (321, 115111), (324, 115126), (337, 115243), (343, 115282), (359, 115402), (365, 115444), (374, 115489), (376, 115498), (387, 115549), (398, 115591), (414, 115657), (416, 115666), (417, 115669), (418, 115675), (419, 115678), (420, 115687), (421, 115693), (422, 115708), (446, 115795), (470, 115900), (484, 115954), (501, 116041), (507, 116071), (516, 116101), (523, 116134), (525, 116143), (536, 116215), (541, 116245), (569, 116362), (578, 116407), (587, 116449), (619, 116593), (635, 116653), (666, 116755), (696, 116842), (697, 116845), (705, 116863), (713, 116899), (714, 116902), (735, 116962), (739, 116980), (763, 117076), (772, 117106), (777, 117124), (785, 117154), (808, 117247), (812, 117262), (828, 117343), (829, 117349), (832, 117361),

Gene: Yikes\_80 Start: 52791, Stop: 56132, Start Num: 64

Candidate Starts for Yikes\_80:

(Start: 39 @52743 has 2 MA's), (Start: 64 @52791 has 20 MA's), (Start: 76 @52851 has 1 MA's), (Start: 83 @52887 has 6 MA's), (88, 52932), (97, 52974), (163, 53235), (196, 53337), (202, 53370), (219, 53466), (278, 53736), (280, 53745), (306, 53853), (312, 53898), (321, 53940), (342, 54072), (343, 54075), (344, 54105), (347, 54126), (359, 54195), (367, 54249), (388, 54348), (393, 54363), (410, 54405), (449, 54579), (453, 54612), (465, 54630), (475, 54648), (488, 54693), (489, 54696),

(515, 54792), (524, 54834), (527, 54846), (532, 54882), (577, 55062), (586, 55104), (592, 55140), (606, 55194), (611, 55212), (629, 55308), (631, 55320), (714, 55515), (740, 55599), (757, 55680), (765, 55704), (769, 55719), (778, 55755), (781, 55767), (782, 55773), (783, 55776), (789, 55803), (801, 55848), (822, 55956), (835, 56001), (841, 56025), (853, 56061),

Gene: Yndexa\_60 Start: 47229, Stop: 43978, Start Num: 67

Candidate Starts for Yndexa\_60:

(15, 47361), (22, 47331), (27, 47319), (Start: 67 @47229 has 71 MA's), (80, 47148), (Start: 83 @47133 has 6 MA's), (88, 47088), (116, 46980), (118, 46971), (160, 46806), (197, 46683), (207, 46632), (214, 46605), (220, 46551), (226, 46521), (276, 46314), (309, 46206), (324, 46128), (330, 46101), (340, 46023), (342, 46008), (362, 45870), (413, 45672), (415, 45666), (420, 45639), (449, 45504), (453, 45471), (475, 45435), (488, 45390), (492, 45378), (506, 45315), (538, 45150), (539, 45147), (547, 45108), (548, 45105), (550, 45099), (552, 45090), (555, 45081), (582, 44985), (586, 44967), (592, 44931), (628, 44781), (640, 44727), (687, 44631), (714, 44547), (719, 44538), (732, 44487), (751, 44397), (779, 44301), (780, 44298), (791, 44247), (821, 44115), (856, 43992),

Gene: YoungMoneyMata\_207 Start: 112573, Stop: 115968, Start Num: 62

Candidate Starts for YoungMoneyMata\_207:

(Start: 24 @112480 has 44 MA's), (Start: 25 @112486 has 6 MA's), (Start: 31 @112498 has 8 MA's), (Start: 35 @112507 has 1 MA's), (Start: 62 @112573 has 110 MA's), (78, 112648), (97, 112762), (105, 112786), (121, 112846), (146, 112957), (154, 112996), (162, 113020), (170, 113062), (200, 113161), (210, 113203), (211, 113209), (215, 113221), (223, 113284), (234, 113344), (235, 113347), (241, 113374), (249, 113416), (Start: 267 @113479 has 9 MA's), (310, 113599), (317, 113635), (321, 113653), (324, 113668), (337, 113785), (343, 113824), (359, 113944), (365, 113986), (374, 114031), (376, 114040), (387, 114091), (398, 114133), (414, 114199), (416, 114208), (417, 114211), (418, 114217), (419, 114220), (420, 114229), (421, 114235), (422, 114250), (446, 114337), (470, 114442), (484, 114496), (501, 114583), (507, 114613), (516, 114643), (523, 114676), (525, 114685), (536, 114757), (541, 114787), (569, 114904), (578, 114949), (587, 114991), (619, 115135), (635, 115195), (666, 115297), (696, 115384), (697, 115387), (705, 115405), (713, 115441), (714, 115444), (735, 115504), (739, 115522), (763, 115618), (772, 115648), (777, 115666), (785, 115696), (808, 115789), (812, 115804), (828, 115885), (829, 115891), (832, 115903),

Gene: Yucca\_209 Start: 113930, Stop: 117418, Start Num: 24

Candidate Starts for Yucca\_209:

(Start: 24 @113930 has 44 MA's), (Start: 25 @113936 has 6 MA's), (Start: 31 @113948 has 8 MA's), (Start: 35 @113957 has 1 MA's), (Start: 62 @114023 has 110 MA's), (78, 114098), (97, 114212), (105, 114236), (121, 114296), (146, 114407), (154, 114446), (162, 114470), (170, 114512), (200, 114611), (210, 114653), (211, 114659), (215, 114671), (223, 114734), (234, 114794), (235, 114797), (241, 114824), (249, 114866), (Start: 267 @114929 has 9 MA's), (310, 115049), (317, 115085), (321, 115103), (324, 115118), (337, 115235), (343, 115274), (359, 115394), (365, 115436), (374, 115481), (376, 115490), (387, 115541), (398, 115583), (414, 115649), (416, 115658), (417, 115661), (418, 115667), (419, 115670), (420, 115679), (421, 115685), (422, 115700), (446, 115787), (470, 115892), (484, 115946), (501, 116033), (507, 116063), (516, 116093), (523, 116126), (525, 116135), (536, 116207), (541, 116237), (569, 116354), (578, 116399), (587, 116441), (619, 116585), (635, 116645), (666, 116747), (696, 116834), (697, 116837), (705, 116855), (713, 116891), (714, 116894), (735, 116954), (739, 116972), (763, 117068), (772, 117098), (777, 117116), (785, 117146), (808, 117239), (812, 117254), (828, 117335), (829, 117341), (832, 117353),

Gene: Zalkecks\_208 Start: 113011, Stop: 116499, Start Num: 24

Candidate Starts for Zalkecks\_208:

(Start: 24 @113011 has 44 MA's), (Start: 25 @113017 has 6 MA's), (Start: 31 @113029 has 8 MA's), (Start: 35 @113038 has 1 MA's), (Start: 62 @113104 has 110 MA's), (78, 113179), (97, 113293), (105, 113317), (121, 113377), (146, 113488), (154, 113527), (162, 113551), (170, 113593), (200, 113692),

(210, 113734), (211, 113740), (215, 113752), (223, 113815), (234, 113875), (235, 113878), (241, 113905), (249, 113947), (Start: 267 @114010 has 9 MA's), (310, 114130), (317, 114166), (321, 114184), (324, 114199), (337, 114316), (343, 114355), (359, 114475), (365, 114517), (374, 114562), (376, 114571), (387, 114622), (398, 114664), (414, 114730), (416, 114739), (417, 114742), (418, 114748), (419, 114751), (420, 114760), (421, 114766), (422, 114781), (446, 114868), (470, 114973), (484, 115027), (501, 115114), (507, 115144), (516, 115174), (523, 115207), (525, 115216), (536, 115288), (541, 115318), (569, 115435), (578, 115480), (587, 115522), (619, 115666), (635, 115726), (666, 115828), (696, 115915), (697, 115918), (705, 115936), (713, 115972), (714, 115975), (735, 116035), (739, 116053), (763, 116149), (772, 116179), (777, 116197), (785, 116227), (808, 116320), (812, 116335), (828, 116416), (829, 116422), (832, 116434),

Gene: Zany\_76 Start: 52244, Stop: 55585, Start Num: 64

Candidate Starts for Zany\_76:

(40, 52202), (Start: 64 @52244 has 20 MA's), (Start: 76 @52304 has 1 MA's), (Start: 83 @52340 has 6 MA's), (88, 52385), (97, 52427), (163, 52688), (196, 52790), (202, 52823), (219, 52919), (278, 53189), (280, 53198), (306, 53306), (312, 53351), (321, 53393), (342, 53525), (343, 53528), (344, 53558), (347, 53579), (359, 53648), (367, 53702), (388, 53801), (393, 53816), (410, 53858), (449, 54032), (453, 54065), (465, 54083), (475, 54101), (488, 54146), (489, 54149), (515, 54245), (524, 54287), (527, 54299), (532, 54335), (577, 54515), (586, 54557), (592, 54593), (606, 54647), (611, 54665), (629, 54761), (631, 54773), (700, 54962), (740, 55052), (765, 55157), (769, 55172), (778, 55208), (781, 55220), (782, 55226), (783, 55229), (789, 55256), (801, 55301), (822, 55409), (835, 55454), (841, 55478), (853, 55514),

Gene: Zeenon\_211 Start: 113675, Stop: 117070, Start Num: 62

Candidate Starts for Zeenon\_211:

(Start: 24 @113582 has 44 MA's), (Start: 25 @113588 has 6 MA's), (Start: 31 @113600 has 8 MA's), (Start: 35 @113609 has 1 MA's), (Start: 62 @113675 has 110 MA's), (78, 113750), (97, 113864), (105, 113888), (121, 113948), (146, 114059), (154, 114098), (162, 114122), (170, 114164), (200, 114263), (210, 114305), (211, 114311), (215, 114323), (223, 114386), (234, 114446), (235, 114449), (241, 114476), (249, 114518), (Start: 267 @114581 has 9 MA's), (310, 114701), (317, 114737), (321, 114755), (324, 114770), (337, 114887), (343, 114926), (359, 115046), (365, 115088), (374, 115133), (376, 115142), (387, 115193), (398, 115235), (414, 115301), (416, 115310), (417, 115313), (418, 115319), (419, 115322), (420, 115331), (421, 115337), (422, 115352), (446, 115439), (470, 115544), (484, 115598), (501, 115685), (507, 115715), (516, 115745), (523, 115778), (525, 115787), (536, 115859), (541, 115889), (569, 116006), (578, 116051), (587, 116093), (619, 116237), (635, 116297), (666, 116399), (696, 116486), (697, 116489), (705, 116507), (713, 116543), (714, 116546), (735, 116606), (739, 116624), (763, 116720), (772, 116750), (777, 116768), (785, 116798), (808, 116891), (812, 116906), (828, 116987), (829, 116993), (832, 117005),

Gene: Zemlya\_55 Start: 41509, Stop: 38030, Start Num: 65

Candidate Starts for Zemlya\_55:

(Start: 65 @41509 has 4 MA's), (78, 41437), (79, 41434), (Start: 83 @41410 has 6 MA's), (86, 41377), (97, 41323), (101, 41302), (120, 41233), (136, 41164), (152, 41110), (170, 41038), (180, 41002), (194, 40942), (214, 40864), (236, 40717), (247, 40678), (252, 40651), (256, 40633), (Start: 262 @40612 has 3 MA's), (Start: 267 @40597 has 9 MA's), (313, 40477), (316, 40465), (344, 40279), (345, 40273), (364, 40144), (367, 40126), (382, 40069), (383, 40066), (385, 40054), (420, 39916), (421, 39910), (422, 39895), (424, 39889), (431, 39856), (451, 39778), (455, 39745), (503, 39604), (524, 39523), (526, 39517), (537, 39448), (544, 39406), (547, 39385), (553, 39364), (567, 39319), (578, 39280), (590, 39223), (591, 39214), (612, 39133), (615, 39106), (621, 39085), (623, 39064), (633, 39034), (638, 39007), (658, 38941), (661, 38932), (665, 38920), (685, 38833), (733, 38665), (744, 38617), (763, 38533), (771, 38506), (803, 38368), (804, 38359), (810, 38332), (819, 38284), (820, 38278), (824, 38257), (826, 38251), (855, 38146), (862, 38107), (866, 38044),

Gene: Zenon\_76 Start: 55925, Stop: 58237, Start Num: 267

Candidate Starts for Zenon\_76:

(Start: 267 @55925 has 9 MA's), (304, 56021), (311, 56060), (321, 56111), (322, 56114), (323, 56123), (324, 56126), (333, 56156), (337, 56204), (342, 56240), (379, 56474), (386, 56507), (410, 56573), (423, 56651), (426, 56669), (465, 56834), (475, 56852), (496, 56924), (497, 56927), (502, 56951), (505, 56966), (515, 56996), (580, 57269), (589, 57311), (590, 57317), (592, 57329), (605, 57371), (611, 57401), (613, 57413), (624, 57473), (628, 57491), (630, 57497), (648, 57566), (658, 57602), (738, 57725), (739, 57728), (747, 57764), (773, 57863), (781, 57890), (782, 57896), (789, 57926), (817, 58055), (818, 58061), (831, 58118), (836, 58133), (839, 58145), (844, 58163), (851, 58184),

Gene: Zion\_46 Start: 42797, Stop: 39504, Start Num: 67

Candidate Starts for Zion\_46:

(Start: 67 @42797 has 71 MA's), (75, 42740), (80, 42716), (Start: 83 @42701 has 6 MA's), (84, 42692), (118, 42545), (167, 42338), (182, 42263), (186, 42239), (196, 42185), (292, 41771), (313, 41669), (338, 41534), (340, 41516), (342, 41501), (355, 41405), (400, 41186), (401, 41183), (410, 41168), (419, 41138), (422, 41108), (449, 40991), (453, 40958), (471, 40931), (478, 40907), (515, 40760), (527, 40706), (530, 40685), (546, 40610), (548, 40592), (592, 40415), (604, 40385), (607, 40358), (611, 40343), (641, 40214), (674, 40181), (707, 40094), (740, 39980), (742, 39974), (745, 39962), (783, 39812), (784, 39809), (785, 39803), (789, 39785), (791, 39776), (795, 39758), (818, 39656), (822, 39632), (831, 39596), (833, 39590),

Gene: ZygoTaiga\_206 Start: 114202, Stop: 117690, Start Num: 24

Candidate Starts for ZygoTaiga\_206:

(Start: 24 @114202 has 44 MA's), (Start: 25 @114208 has 6 MA's), (Start: 31 @114220 has 8 MA's), (Start: 35 @114229 has 1 MA's), (Start: 62 @114295 has 110 MA's), (78, 114370), (97, 114484), (105, 114508), (121, 114568), (146, 114679), (154, 114718), (162, 114742), (170, 114784), (200, 114883), (210, 114925), (211, 114931), (215, 114943), (223, 115006), (234, 115066), (235, 115069), (241, 115096), (249, 115138), (Start: 267 @115201 has 9 MA's), (310, 115321), (317, 115357), (321, 115375), (324, 115390), (337, 115507), (343, 115546), (359, 115666), (365, 115708), (374, 115753), (376, 115762), (387, 115813), (398, 115855), (414, 115921), (416, 115930), (417, 115933), (418, 115939), (419, 115942), (420, 115951), (421, 115957), (422, 115972), (446, 116059), (470, 116164), (484, 116218), (501, 116305), (507, 116335), (516, 116365), (523, 116398), (525, 116407), (536, 116479), (541, 116509), (569, 116626), (578, 116671), (587, 116713), (619, 116857), (635, 116917), (666, 117019), (696, 117106), (697, 117109), (705, 117127), (713, 117163), (714, 117166), (735, 117226), (739, 117244), (763, 117340), (772, 117370), (777, 117388), (785, 117418), (808, 117511), (812, 117526), (828, 117607), (829, 117613), (832, 117625),