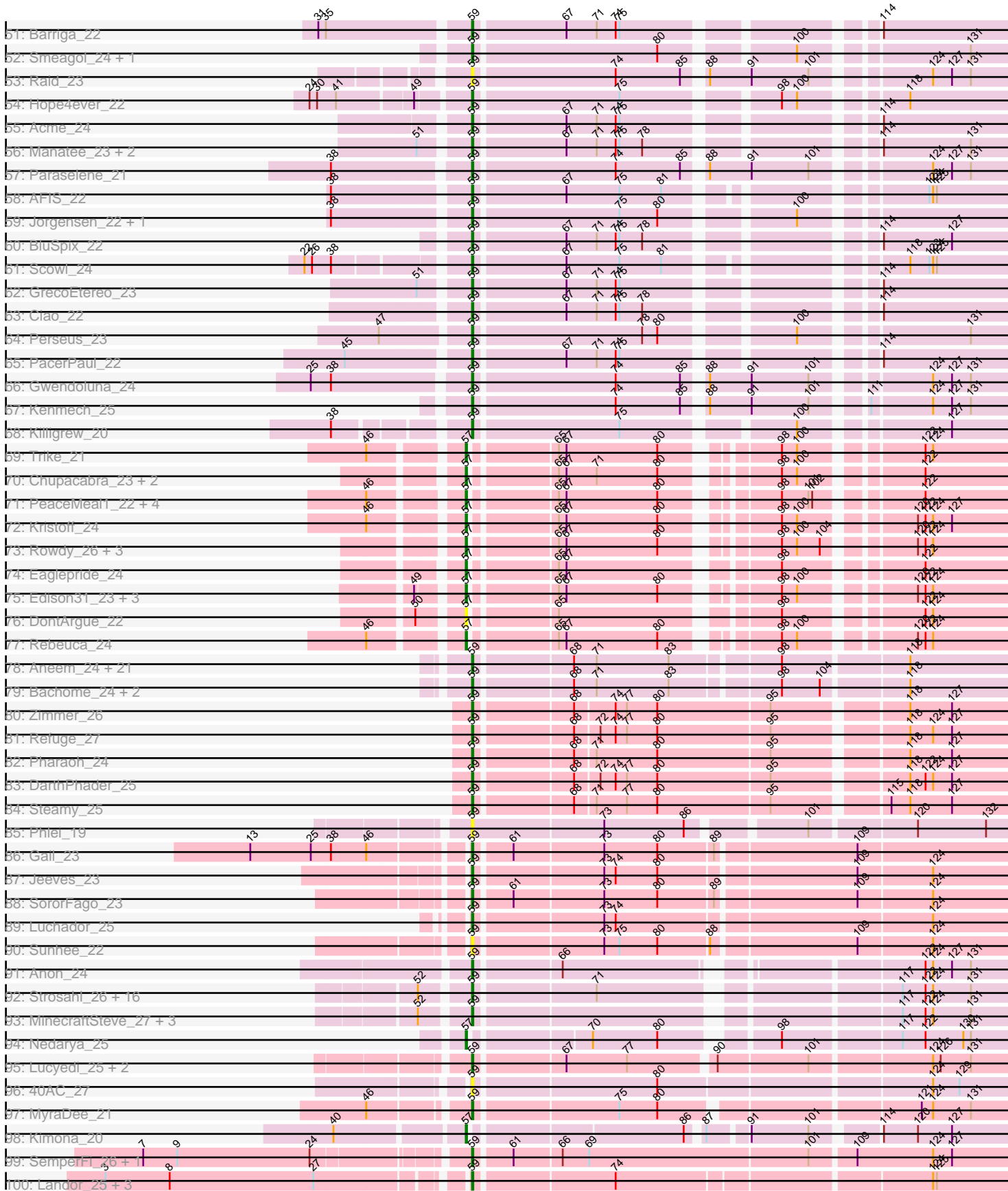
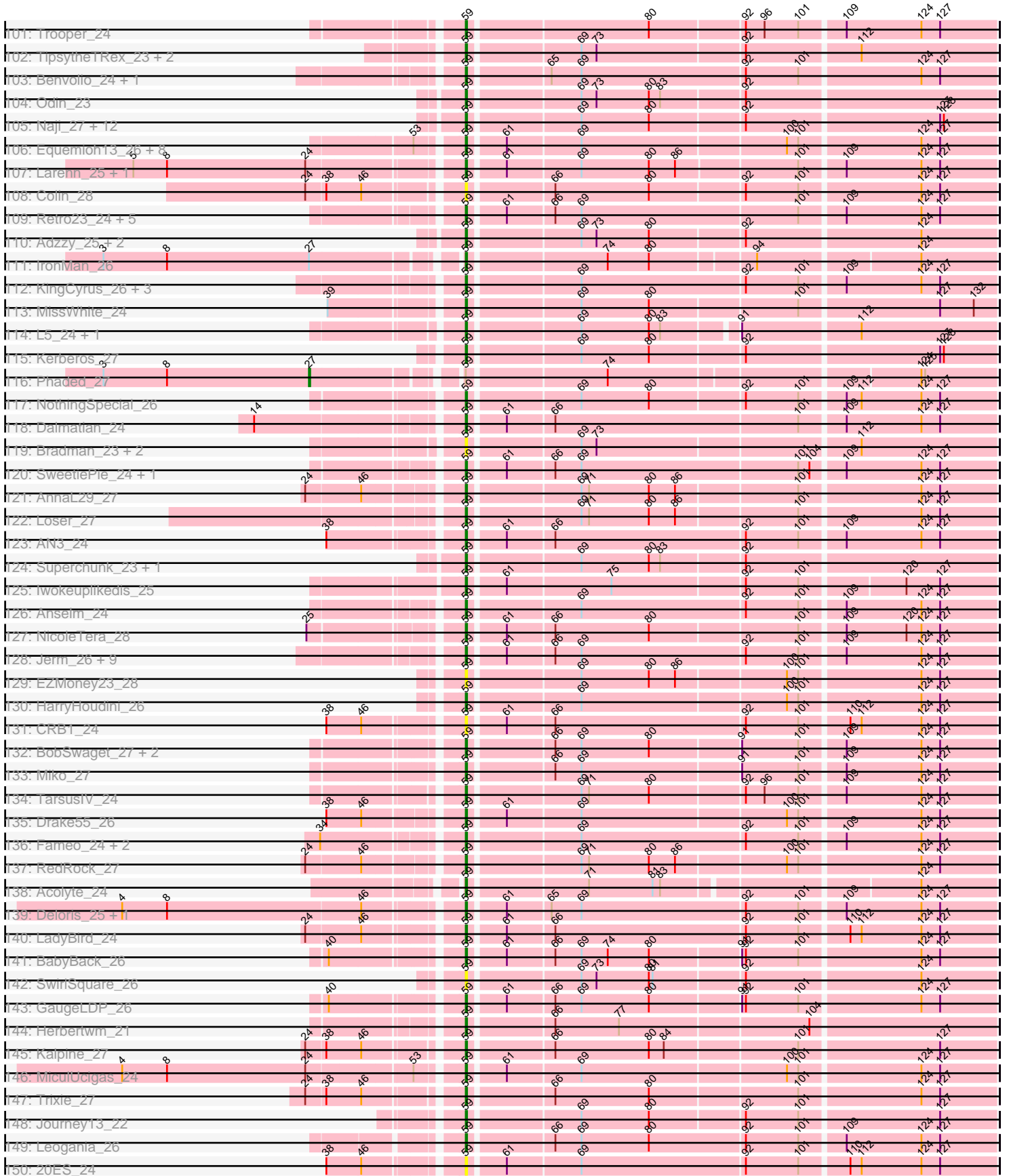




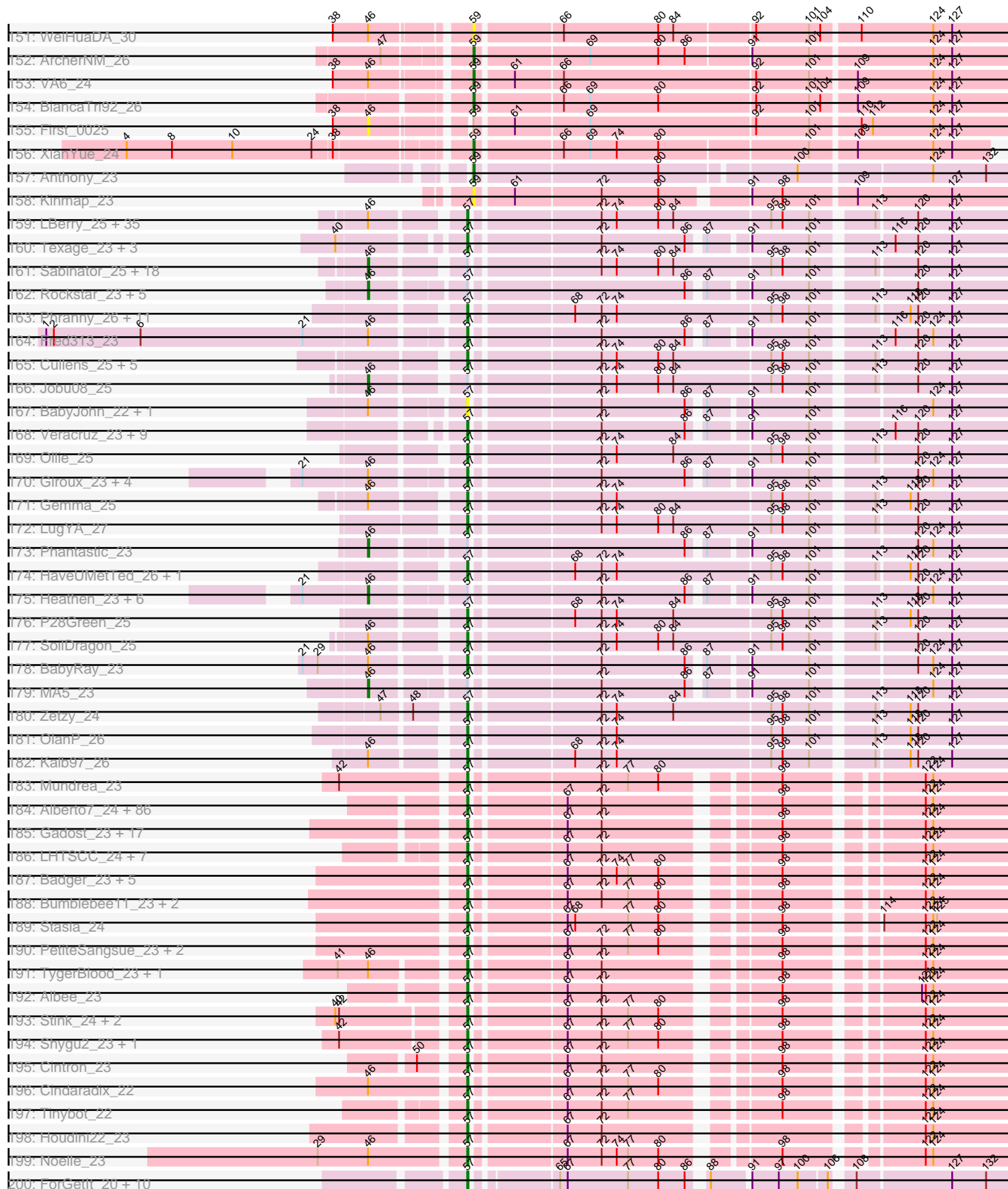
Pham 199855



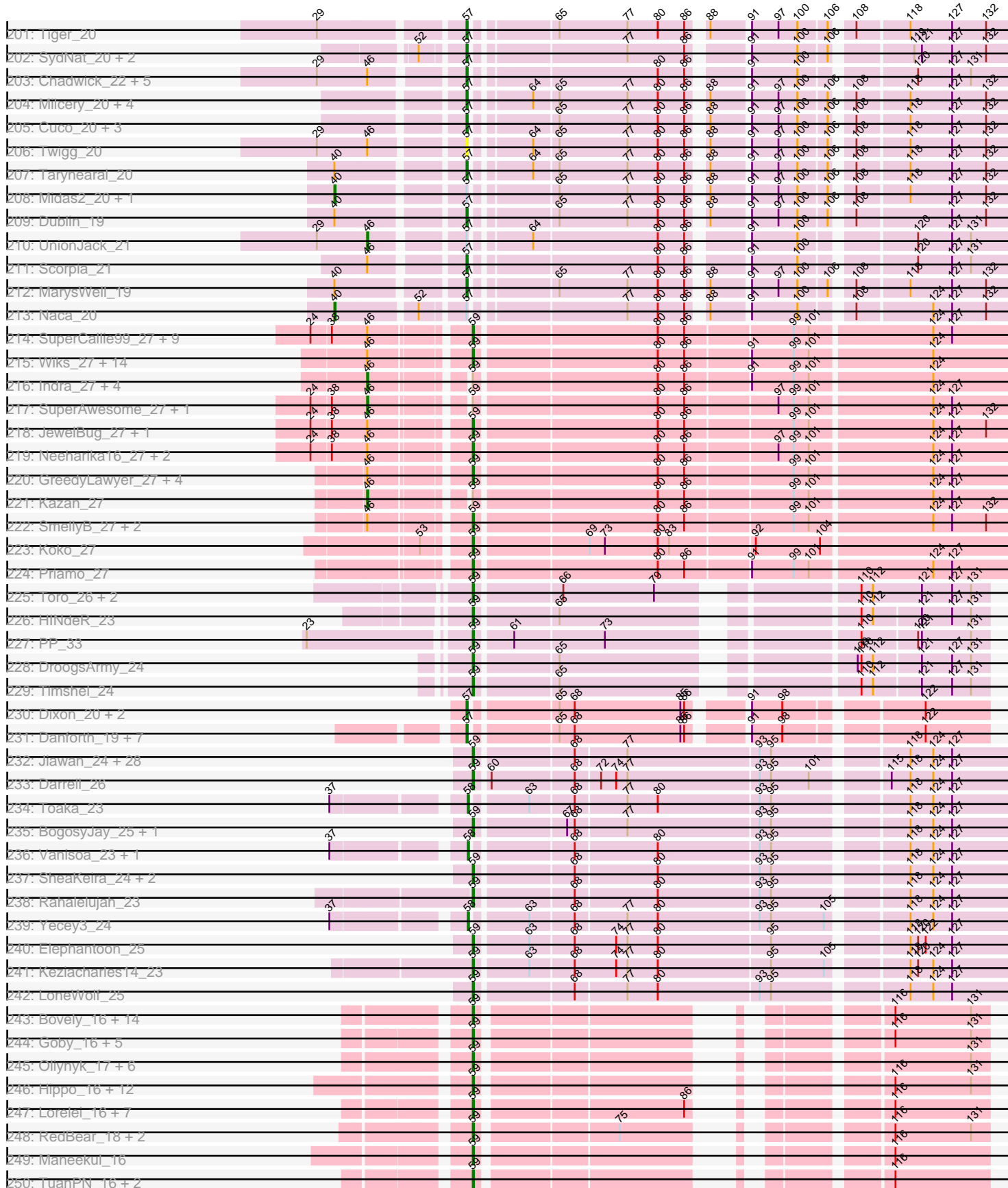
# Pham 199855



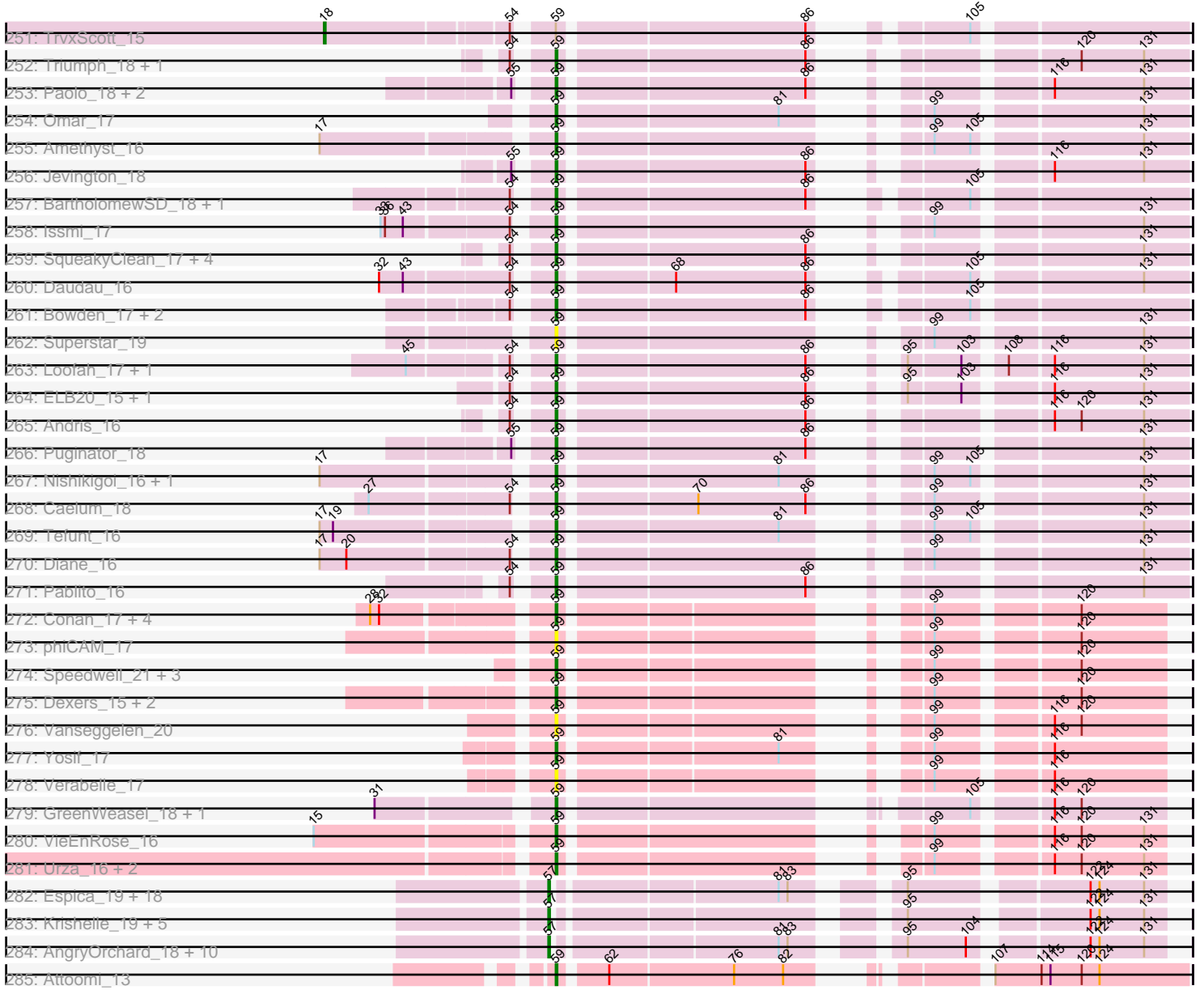
Pham 199855



Pham 199855



# Pham 199855



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 199855 Report

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

WARNING: Pham size does not match number of genes in report. Either unphamerated genes have been added (by you) or starterator has removed genes due to invalid start codon.

Pham number 199855 has 954 members, 75 are drafts.

Phages represented in each track:

- Track 1 : Chargerpower\_24
- Track 2 : Corvo\_22, Espresso\_22, MetalQZJ\_22, MaryBeth\_22
- Track 3 : StrongArm\_21, Bexan\_21, Solon\_22, Seanderson\_23, BillKnuckles\_23, Bxb1\_21, Ashballer\_21
- Track 4 : GMonster\_21, KSSJEB\_23, SarFire\_22, Gandalf20\_23, MrGordo\_22, Arcanine\_23, Big3\_22, Pinto\_24, Dreamboat\_23, Switzer\_24, DreamCatcher\_25, Seabiscuit\_24, PherrisBueller\_23, Niza\_24, Rajelicia\_22, Euphoria\_22, Michley\_22, U2\_22, Thor\_23
- Track 5 : Eyeball\_22, Fushigi\_23, Oogway\_21, Wheeler\_22, Adahisdi\_23, JackSparrow\_23, Cueyllyss\_22, RidgeCB\_22, Jasper\_23
- Track 6 : QTRlifeCrisis\_22, Naira\_23, Wilkins\_22, CactusRose\_21, Fenn\_23, Norz\_24, Squee\_23, Topgun\_22, Pelly\_23, Zeeculate\_21
- Track 7 : SwissCheese\_22
- Track 8 : KyMonks1A\_24, Bob3\_22, ConceptII\_23, MPlant7149\_22, Petp2012\_24, PinkPlastic\_21, Crispicous1\_21, Chanagan\_21, Papez\_24, Magnar\_22, Altman\_24, Kanely\_23, Rohr\_23, Arlo\_21
- Track 9 : Jerm2\_23, TwoPeat\_23
- Track 10 : BeesKnees\_23, Dynamix\_23
- Track 11 : Forsytheast\_22, Ohno789\_22, Moose\_21, BK1\_20, Gyzlar\_24, Buttons\_23, Hermia\_24, Monet\_24, A6\_20
- Track 12 : Snazzy\_20, Smairt\_23, BPBiebs31\_23, Violet\_21, Maroc7\_21, Hami1\_24, IgnatiusPatJac\_21, Greg\_24, Pippin\_24, Sorpresa\_22, Sandaddy\_21, Fajezeel\_24, Teodoridan\_20, Sanya\_21
- Track 13 : Atkinbua\_23
- Track 14 : Lamina13\_22
- Track 15 : Dulcie\_21, Petruchio\_22
- Track 16 : McGuire\_23
- Track 17 : Nhonho\_22
- Track 18 : Sumter\_21, Gompeii16\_22, Nerujay\_23, ILeeKay\_24, Agaliana\_22, Applejack\_22, Francis47\_22, Zeuska\_23, Sunshine924\_21, JC27\_25, Traft412\_24, Bircsak\_22
- Track 19 : Fascinus\_21, Bigfoot\_21
- Track 20 : SpikeBT\_24, Inyanga\_21, ShortQueendom\_21, Mkhuseli\_23

- Track 21 : BigMau\_24, NEHalo\_22, Mule\_22
- Track 22 : Briton15\_24
- Track 23 : Pita2\_24, PSullivan\_24, Tote\_24, JuliaChild\_24, Dexes\_23, Swole\_24
- Track 24 : Beatrix\_21, Homines\_22
- Track 25 : Mryolo\_22, Sibs6\_24
- Track 26 : Ruotula\_22
- Track 27 : Ringer\_22
- Track 28 : GageAP\_24, Tasp14\_23, Parliament\_21
- Track 29 : Pepe\_23
- Track 30 : Alsfro\_26
- Track 31 : PascalRango\_21, Ichabod\_23
- Track 32 : Bruns\_21, Burton\_23, BaconJack\_24, Lesedi\_22, Museum\_25, StewieG\_21
- Track 33 : TheloniousMonk\_24, Marsha\_22
- Track 34 : HanShotFirst\_22
- Track 35 : Payneful\_22, Marchy\_21
- Track 36 : Bones\_22
- Track 37 : Rutherferd\_24
- Track 38 : Doom\_23
- Track 39 : Abrogate\_230
- Track 40 : Abbysshoes\_23, Dussy\_23, Tripl3t\_23, Carlyle\_24
- Track 41 : Blue\_22, LilBib\_23, Paphu\_21
- Track 42 : Molly\_23
- Track 43 : Graduation\_24
- Track 44 : Ajay\_22
- Track 45 : Target\_24
- Track 46 : Watermelon\_24
- Track 47 : STLscum\_23
- Track 48 : Marge\_23
- Track 49 : ProMouse\_21
- Track 50 : Makemake\_22
- Track 51 : Barriga\_22
- Track 52 : Smeagol\_24, Rubeus\_23
- Track 53 : Raid\_23
- Track 54 : Hope4ever\_22
- Track 55 : Acme\_24
- Track 56 : Manatee\_23, Anglerfish\_23, Pari\_23
- Track 57 : Paraselene\_21
- Track 58 : AFIS\_22
- Track 59 : Jorgensen\_22, Kykar\_20
- Track 60 : BluSpix\_22
- Track 61 : Scowl\_24
- Track 62 : GrecoEtereo\_23
- Track 63 : Ciao\_22
- Track 64 : Perseus\_23
- Track 65 : PacerPaul\_22
- Track 66 : Gwendoluna\_24
- Track 67 : Kenmech\_25
- Track 68 : Killigrew\_20
- Track 69 : Trike\_21
- Track 70 : Chupacabra\_23, OKCentral2016\_23, Goose\_23
- Track 71 : PeaceMeal1\_22, Severus\_22, Drake94\_22, KittenMittens\_22, Poompha\_22



- Track 72 : Kristoff\_24
- Track 73 : Rowdy\_26, RhynO\_24, Shapes\_26, DustyMartin\_26
- Track 74 : Eaglepride\_24
- Track 75 : Edison31\_23, WalterMcMickey\_23, Twister\_23, Topanga\_23
- Track 76 : DontArgue\_22
- Track 77 : Rebeuca\_24
- Track 78 : Aneem\_24, Flaverint\_24, Salz\_24, Hutc2\_24, Fibonacci\_24, Orange\_24, Ebony\_24, Bud\_24, Sham4\_24, TinyTimmy\_24, Insomnia\_24, Joselito\_24, Jabith\_24, Et2Brutus\_23, Bowtie\_24, Mulciber\_24, Mabel\_24, Snape\_24, Munch\_24, Lucivia\_24, Timothy\_24, Petersenfast\_23
- Track 79 : Bachome\_24, Gilberta\_24, MaCh\_24
- Track 80 : Zimmer\_26
- Track 81 : Refuge\_27
- Track 82 : Pharaoh\_24
- Track 83 : DarthPhader\_25
- Track 84 : Steamy\_25
- Track 85 : Phlei\_19
- Track 86 : Gail\_23
- Track 87 : Jeeves\_23
- Track 88 : SororFago\_23
- Track 89 : Luchador\_25
- Track 90 : Sunhee\_22
- Track 91 : Anon\_24
- Track 92 : Strosahl\_26, Boohoo\_26, DekHockey33\_26, Oofda\_27, Looper\_27, Remus\_26, Battleship\_27, ShayRa\_27, ReMo\_26, Warrior24\_27, Waits\_26, KatherineG\_26, Nebulosus\_26, LastResort\_26, Epsocamisio\_26, Switzerland\_26, Anaysia\_26
- Track 93 : MinecraftSteve\_27, Rosalind\_26, JSwag\_26, Soups\_26
- Track 94 : Nedarya\_25
- Track 95 : Lucyedi\_25, EagleEye\_26, PainterBoy\_25
- Track 96 : 40AC\_27
- Track 97 : MyraDee\_21
- Track 98 : Kimona\_20
- Track 99 : SemperFi\_26, Georgie2\_25
- Track 100 : Landor\_25, Pukovnik\_26, Bactobuster\_25, Jaan\_27
- Track 101 : Trooper\_24
- Track 102 : TipsytheTRex\_23, Jsquared\_23, Serenity\_23
- Track 103 : Benvolio\_24, Echild\_24
- Track 104 : Odin\_23
- Track 105 : Naji\_27, D29\_24, D32\_27, StarStuff\_27, ANI8\_27, Tomathan\_27, DBQu4n\_27, VC3\_27, Duplo\_27, C3\_22, AN9\_27, Pomar16\_27, Travvers\_27
- Track 106 : Equemioh13\_26, NaSiaTalie\_24, Flare16\_24, Baehexic\_25, Sknot\_25, Updawn\_26, Piro94\_25, Centaur\_26, WideWale\_26
- Track 107 : Larenn\_25, Malec\_25
- Track 108 : Colin\_28
- Track 109 : Retro23\_24, QueenBeesly\_24, SnapTap\_24, DudeLittle\_24, FiringLine\_24, Power\_24
- Track 110 : Adzzy\_25, Ph8s\_25, Che12\_26
- Track 111 : IronMan\_26
- Track 112 : KingCyrus\_26, EvilGenius\_26, Turbido\_26, ChipMunk\_26
- Track 113 : MissWhite\_24
- Track 114 : L5\_24, Koduck\_24
- Track 115 : Kerberos\_27

- Track 116 : Phaded\_27
- Track 117 : NothingSpecial\_26
- Track 118 : Dalmatian\_24
- Track 119 : Bradman\_23, MajorMajor\_23, Quokka\_22
- Track 120 : SweetiePie\_24, Crucio\_24
- Track 121 : AnnaL29\_27
- Track 122 : Loser\_27
- Track 123 : AN3\_24
- Track 124 : Superchunk\_23, Caraxes\_23
- Track 125 : Iwokeuplikedis\_25
- Track 126 : Anselm\_24
- Track 127 : NicoleTera\_28
- Track 128 : Jerm\_26, Agape74\_26, JoshKayV\_26, Buggy\_26, Leviathan\_26, LilTurb\_26, Smeagan\_26, AbbyPaige\_26, Whabigail7\_26, Dignity\_26
- Track 129 : EZMoney23\_28
- Track 130 : HarryHoudini\_26
- Track 131 : CRB1\_24
- Track 132 : BobSwaget\_27, Rachaly\_27, Lokk\_27
- Track 133 : Miko\_27
- Track 134 : TarsusIV\_24
- Track 135 : Drake55\_26
- Track 136 : Fameo\_24, QueenB2\_24, Heffalump\_27
- Track 137 : RedRock\_27
- Track 138 : Acolyte\_24
- Track 139 : Deloris\_25, BengiVuitton\_25
- Track 140 : LadyBird\_24
- Track 141 : BabyBack\_26
- Track 142 : SwirlSquare\_26
- Track 143 : GaugeLDP\_26
- Track 144 : Herbertwm\_21
- Track 145 : Kalpine\_27
- Track 146 : MiculUcigas\_24
- Track 147 : Trixie\_27
- Track 148 : Journey13\_22
- Track 149 : Leogania\_26
- Track 150 : 20ES\_24
- Track 151 : WeiHuaDA\_30
- Track 152 : ArcherNM\_26
- Track 153 : VA6\_24
- Track 154 : BiancaTri92\_26
- Track 155 : First\_0025
- Track 156 : XianYue\_24
- Track 157 : Anthony\_23
- Track 158 : Kinmap\_23
- Track 159 : LBerry\_25, Hercules11\_25, TinyPebbles\_25, AugsMagnumOpus\_27, KADY\_27, Watson\_25, Stagni\_26, AgronaGT15\_25, Dieselweasel\_25, Vix\_25, Wooldri\_27, Phoebe\_25, Rummer\_25, Spike509\_26, SoYo\_25, Grub\_25, Methuselah\_24, Bxz2\_24, MadMarie\_25, Misomonster\_27, BreSam8\_25, GingkoMaracino\_25, Pembroke\_25, MuchMore\_27, BuzzBuzz\_24, Colbster\_25, LarryKay\_25, Phoxy\_26, Snickers\_25, Grum1\_25, JHC117\_25, GtownJaz\_25, Grif\_25, PGHhamlin\_27, Daishi\_24, HashRod\_26
- Track 160 : Texage\_23, Margo\_24, Noella\_24, Hookmount\_24

- Track 161 : Sabinator\_25, PotatoSplit\_26, Mainiac\_25, Sabia\_26, Lilith\_25, Malinsilva\_27, Anubis\_27, Beauxregard13\_25, Louie6\_25, Soshari\_27, StepMih\_25, Penny1\_26, EpicPhail\_26, Farber\_25, Aglet\_25, MarQuardt\_25, Microwolf\_25, Tiffany\_25, DaHudson\_25
- Track 162 : Rockstar\_23, JF2\_23, B1\_21, MK4\_23, Isca\_23, JF4\_23
- Track 163 : Phranny\_26, PurpleHaze\_25, ACFishhook\_25, JeppNRM\_26, Pawn\_25, Manu\_26, Groupthink\_26, Kalnok\_26, Calvinny\_26, Reba\_26, Marius\_26, Heliosoles\_25
- Track 164 : Fred313\_23
- Track 165 : Cullens\_25, Fernando\_25, Marie\_25, MoneyMay\_25, JenCasNa\_26, Taurus\_25
- Track 166 : Jobu08\_25
- Track 167 : BabyJohn\_22, Chiqui\_22
- Track 168 : Veracruz\_23, Lambert1\_24, Norbert\_23, Panamaxus\_23, Caviar\_24, Pocahontas\_24, QuinnKiro\_23, ResDef\_24, Todacoro\_24, Popcicle\_24
- Track 169 : Ollie\_25
- Track 170 : Giroux\_23, Bugatti\_23, Scout\_23, SaturnRing\_23, BlueBird\_24
- Track 171 : Gemma\_25
- Track 172 : LugYA\_27
- Track 173 : Phantastic\_23
- Track 174 : HaveUMetTed\_26, PhishRPhriends\_24
- Track 175 : Heathen\_23, Kachowdy\_23, Idleandcovert\_24, Marchesa\_23, Puppy\_24, Pistachio\_24, DropBear\_23
- Track 176 : P28Green\_25
- Track 177 : SoilDragon\_25
- Track 178 : BabyRay\_23
- Track 179 : MA5\_23
- Track 180 : Zetzy\_24
- Track 181 : OlanP\_26
- Track 182 : Kalb97\_26
- Track 183 : Mundrea\_23
- Track 184 : Alberto7\_24, JetBlade\_23, Connomayer\_23, Florean\_23, ICleared\_23, Dhanush\_24, Caelakin\_23, LittleB\_23, Druantia\_23, LittleGuy\_23, Holli\_24, Citius\_23, Lunsford\_24, Skipitt\_23, TinaFeyge\_24, Baby16\_23, Medusa\_23, Kamy\_23, Funston\_23, Romney\_23, MeeZee\_23, Palestino\_88, Happiness\_23, Burger\_22, Eros\_24, TroyPia\_23, LeoAvram\_23, YoSam321\_23, Taquarus\_23, Kyee\_23, Morrow\_23, Scamp\_23, Bartimeaus\_23, Wilbur\_23, Arturo\_23, Chaph\_23, Phontbonne\_23, Flux\_23, Eagle\_22, Maverick\_23, TiroTheta9\_23, Ohfah\_23, OKaNui\_24, Abdiel\_88, Millski\_88, SenorClean\_22, Sabertooth\_24, Broseidon\_23, Phelipe\_23, Polymorphads\_23, Lorenzo\_23, Wizard007\_23, Relief\_23, Nebs\_23, CentreCat\_23, LappelDuVide\_23, Lemur\_23, Maxo\_23, Blackmoor\_23, Eris\_88, Clarenza\_23, Ulysses\_22, Koreni\_22, Nyxis\_23, HamSlice\_22, BubbleTrouble\_23, Pumbaa\_23, Jaykayelowell\_23, Spino\_23, Roosevelt\_23, Bruiser\_88, NorthStar\_23, Mazhar510\_23, Ruin\_23, Melvin\_23, Pipcraft\_23, Bombshell\_23, Commander\_23, BellusTerra\_23, Kremtemulon\_23, Iceman\_24, Eurydice\_23, Koan\_22, Eapen\_23, Annyong\_23, Peaches\_23, Deano\_23
- Track 185 : Gadost\_23, KFPoly\_23, Phighter1804\_23, Nemo27\_23, Camperdownii\_22, Phacado\_24, Shaka\_23, JoongJeon\_24, NotAPhaseMom\_23, Thanksgivukkah\_23, Kratak\_23, Wander\_23, DirtyDunning\_23, Huxley\_23, Cocoaberry\_23, LochMonster\_23, PeterPeter\_23, Avle17\_23
- Track 186 : LHTSCC\_24, BangNhom\_23, Cerulean\_24, ChampagnePapi\_24, SheldonCooper\_24, Rosa24\_22, Obama12\_24, Iracema64\_24

- Track 187 : Badger\_23, Backyardigan\_23, Wile\_23, Achebe\_86, Xena\_23, Datway\_23
- Track 188 : Bumblebee11\_23, Morpher26\_23, Katalie136\_23
- Track 189 : Stasia\_24
- Track 190 : PetiteSangsue\_23, Cici\_23, Perplexer\_23
- Track 191 : TygerBlood\_23, Sparxx\_23
- Track 192 : Albee\_23
- Track 193 : Stink\_24, Miramae\_23, AvatarAhPeg\_24
- Track 194 : Shygu2\_23, AbbysRanger\_23
- Track 195 : Cintron\_23
- Track 196 : Cindaradix\_22
- Track 197 : Tinybot\_22
- Track 198 : Houdini22\_23
- Track 199 : Noelle\_23
- Track 200 : ForGetIt\_20, Aragog\_20, Jovo\_20, Phlorence\_20, PickleBack\_20, Lev2\_20, Archetta\_20, Bluefalcon\_19, Discoknowium\_20, AgentM\_20, Conspiracy\_20
- Track 201 : Tiger\_20
- Track 202 : SydNat\_20, Ghoulboy\_20, Zolita\_19
- Track 203 : Chadwick\_22, Benedict\_20, PetterN\_21, Jabiru\_20, Airmid\_20, EITiger69\_21
- Track 204 : Milcery\_20, HuhtaEnerson15\_20, Swirley\_20, LittleCherry\_20, George\_19
- Track 205 : Cuco\_20, Theia\_18, Bonamassa\_20, Micasa\_20
- Track 206 : Twigg\_20
- Track 207 : Tarynearal\_20
- Track 208 : Midas2\_20, Coog\_20
- Track 209 : Dublin\_19
- Track 210 : UnionJack\_21
- Track 211 : Scorpia\_21
- Track 212 : MarysWell\_19
- Track 213 : Naca\_20
- Track 214 : SuperCallie99\_27, Garak\_28, Helmet\_28, Isiphiwo\_27, Candra\_27, EricB\_27, BABullseye\_27, Dorothea\_27, Jordennis\_27, Temprado\_28
- Track 215 : Wiks\_27, Hexamo\_27, BlessJoy\_27, Gladiator\_27, Blue7\_27, Rifter\_27, Tucker\_27, Artemis2UCLA\_27, Zaka\_27, Lilbunny\_27, Yokurt\_27, Gruunaga\_27, Roksolana\_27, Zulu\_27, WunderPhul\_28
- Track 216 : Indra\_27, CloudWang3\_27, Jeffabunny\_27, Hammer\_28, ToneTone\_25
- Track 217 : SuperAwesome\_27, Pmask\_27
- Track 218 : JewelBug\_27, Blinn1\_27
- Track 219 : Neeharika16\_27, Cookiedough\_27, Newrala\_28
- Track 220 : GreedyLawyer\_27, VohminGhazi\_27, McFly\_27, Kipper29\_27, Hoot\_27
- Track 221 : Kazan\_27
- Track 222 : SmellyB\_27, Chartreuse\_27, DaVinci\_27
- Track 223 : Koko\_27
- Track 224 : Priamo\_27
- Track 225 : Toro\_26, FlyCatcher\_27, Sheen\_25
- Track 226 : HINdeR\_23
- Track 227 : PP\_33
- Track 228 : DroogsArmy\_24
- Track 229 : Timshel\_24
- Track 230 : Dixon\_20, Roary\_20, Saintus\_20

- Track 231 : Danforth\_19, Phillis\_20, Expelliarmus\_19, Smeadley\_20, NearlyHeadless\_20, Groundhog\_19, Stephig9\_20, Astro\_20
- Track 232 : Jiawan\_24, Conquerage\_25, Lilleskat\_23, Spouty\_25, Beemo\_25, ExplosioNervosa\_25, RyeScarlet\_26, EmyBug\_25, Aliter\_25, Hanray\_24, Catalina\_25, Horex\_24, EdogawaKiddo\_23, Priya\_25, Qobbit\_25, Alma\_25, Scherzo\_25, Pioneer\_25, Ugenie5\_22, PackMan\_25, Phaeder\_25, Fayely\_25, Myxus\_25, Phonnegut\_25, Onglai\_24, Sachima\_23, HortumSL17\_25, Tubs\_25, Eidsmoe\_25
- Track 233 : Darrell\_26
- Track 234 : Toaka\_23
- Track 235 : BogosyJay\_25, Maminiaina\_25
- Track 236 : Vanisoa\_23, Arissanae\_23
- Track 237 : SheaKeira\_24, Charm\_24, DreamTeam1\_24
- Track 238 : Rahalelujah\_23
- Track 239 : Yecey3\_24
- Track 240 : Elephantoon\_25
- Track 241 : Keziacharles14\_23
- Track 242 : LoneWolf\_25
- Track 243 : Bovely\_16, Caliburn\_16, Nerdos\_16, Ozzie\_16, Aaronocolus\_16, Leviticus\_16, BeardedLady\_17, SunsetPointe\_16, Esperer\_16, Indigo\_16, Phettuccine\_16, Nanodon\_18, Hydra\_18, Unstoppable\_16, Legacy\_16
- Track 244 : Goby\_16, Sujidade\_17, Lannister\_17, Godpower\_17, Toma\_16, Lika\_16
- Track 245 : Oliynyk\_17, Rusticus\_17, BryanRecycles\_17, Jash\_17, Eddasa\_17, EnochSoames\_17, Izzy\_17
- Track 246 : Hippo\_16, Whatever\_16, SarahRose\_16, Triste\_16, Dwayne\_16, BarryBee\_18, Chucky\_16, Emaanora\_18, Asten\_16, Werner\_16, OzzyJ\_17, TagePghter\_17, Snorlax\_16
- Track 247 : Lorelei\_16, Rana\_16, Danzina\_17, Celeste\_16, Brataylor\_17, Zemlya\_17, Nabi\_16, Dattran\_17
- Track 248 : RedBear\_18, Katalie\_17, South40\_17
- Track 249 : Maneekul\_16
- Track 250 : TuanPN\_16, Yasdnil\_16, Ejemplo\_16
- Track 251 : TrvxScott\_15
- Track 252 : Triumph\_18, Axiom\_17
- Track 253 : Paolo\_18, Marav\_19, Zainub\_18
- Track 254 : Omar\_17
- Track 255 : Amethyst\_16
- Track 256 : Jevington\_18
- Track 257 : BartholomewSD\_18, Alvy\_18
- Track 258 : Issmi\_17
- Track 259 : SqueakyClean\_17, Hank144\_17, Janus\_17, GirlDinner\_16, Animus\_17
- Track 260 : Daudau\_16
- Track 261 : Bowden\_17, Thestral\_17, TinaBelcher\_16
- Track 262 : Superstar\_19
- Track 263 : Loofah\_17, Paedore\_16
- Track 264 : ELB20\_15, R4\_16
- Track 265 : Andris\_16
- Track 266 : Puginator\_18
- Track 267 : Nishikigoi\_16, Haizum\_16
- Track 268 : Caelum\_18
- Track 269 : Tefunt\_16
- Track 270 : Diane\_16
- Track 271 : Pablito\_16

- Track 272 : Conan\_17, ElGato\_17, Celery\_19, Provolone\_17, Pavo\_17
- Track 273 : phiCAM\_17
- Track 274 : Speedwell\_21, Amela\_16, Verse\_16, Saftant\_16
- Track 275 : Dexers\_15, Alsaber\_17, Kaine\_16
- Track 276 : Vanseggelen\_20
- Track 277 : Yosif\_17
- Track 278 : Verabelle\_17
- Track 279 : GreenWeasel\_18, BroPlease\_18
- Track 280 : VieEnRose\_16
- Track 281 : Urza\_16, Itza\_16, Celia\_16
- Track 282 : Espica\_19, UhSalsa\_19, Gollum\_19, Naiad\_19, Belenaria\_19, Natosaleda\_19, Phrankenstein\_19, CosmicSans\_19, Swann\_19, TWAMP\_19, Alatin\_19, StCroix\_19, Bradshaw\_19, Shuman\_19, Lillie\_19, Erik\_19, Nancinator\_19, Rhodalysa\_19, RexFury\_19
- Track 283 : Krishelle\_19, Hiro\_19, PhailMary\_18, AppleCloud\_17, Jester\_20, Rasputin\_19
- Track 284 : AngryOrchard\_18, Yoncess\_19, Harlequin\_19, Alpacados\_18, Dinger\_19, Takoda\_19, Bonanza\_20, Partridge\_19, Bryce\_19, BobbyDazzler\_19, Yogi\_19
- Track 285 : Attoomi\_13

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

The start number called the most often in the published annotations is 59, it was called in 514 of the 879 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 20ES\_24, 40AC\_27, A6\_20, AFIS\_22, AN3\_24, AN9\_27, ANI8\_27, Aaronocolus\_16, AbbyPaige\_26, Abbyshoes\_23, Abrogate\_230, Acme\_24, Acolyte\_24, Adahisdi\_23, Adzzy\_25, Agaliana\_22, Agape74\_26, Ajay\_22, Aliter\_25, Alma\_25, Alsaber\_17, Alsfro\_26, Altman\_24, Alvy\_18, Amela\_16, Amethyst\_16, Anaysia\_26, Andris\_16, Aneem\_24, Anglerfish\_23, Animus\_17, AnnaL29\_27, Anon\_24, Anselm\_24, Anthony\_23, Applejack\_22, Arcanine\_23, ArcherNM\_26, Arlo\_21, Artemis2UCLA\_27, Ashballer\_21, Asten\_16, Atkinbua\_23, Attoomi\_13, Axiom\_17, BABullseye\_27, BK1\_20, BPBiebs31\_23, BabyBack\_26, Bachome\_24, BaconJack\_24, Bactobuster\_25, Baehexic\_25, Barriga\_22, BarryBee\_18, BartholomewSD\_18, Battleship\_27, BeardedLady\_17, Beatrix\_21, Beemo\_25, BeesKnees\_23, BengiVuitton\_25, Benvolio\_24, Bexan\_21, BiancaTri92\_26, Big3\_22, BigMau\_24, Bigfoot\_21, BillKnuckles\_23, Bircsak\_22, BlessJoy\_27, Blinn1\_27, BluSpix\_22, Blue7\_27, Blue\_22, Bob3\_22, BobSwaget\_27, BogosyJay\_25, Bones\_22, Boohoo\_26, Bovely\_16, Bowden\_17, Bowtie\_24, Bradman\_23, Brataylor\_17, Briton15\_24, BroPlease\_18, Brunns\_21, BryanRecycles\_17, Bud\_24, Buggy\_26, Burton\_23, Buttons\_23, Bxb1\_21, C3\_22, CRB1\_24, CactusRose\_21, Caelum\_18, Caliburn\_16, Candra\_27, Caraxes\_23, Carlyle\_24, Catalina\_25, Celery\_19, Celeste\_16, Celia\_16, Centaur\_26, Chanagan\_21, Chargerpower\_24, Charm\_24, Chartreuse\_27, Che12\_26, ChipMunk\_26, Chucky\_16, Ciao\_22, Colin\_28, Conan\_17, ConceptII\_23, Conquerage\_25, Cookiedough\_27, Corvo\_22, Crispicous1\_21, Crucio\_24, Cueyllyss\_22, D29\_24, D32\_27, DBQu4n\_27, DaVinci\_27, Dalmatian\_24, Danzina\_17, Darrell\_26, DarthPhader\_25, Dattran\_17, Daudau\_16, DekHockey33\_26, Deloris\_25, Dexers\_15, Dexes\_23, Diane\_16,

Dignity\_26, Doom\_23, Dorothea\_27, Drake55\_26, DreamCatcher\_25, DreamTeam1\_24, Dreamboat\_23, DroogsArmy\_24, DudeLittle\_24, Dulcie\_21, Duplo\_27, Dussy\_23, Dwayne\_16, Dynamix\_23, ELB20\_15, EZMoney23\_28, EagleEye\_26, Ebony\_24, Echild\_24, Eddasa\_17, EdogawaKiddo\_23, Eidsmoe\_25, Ejemplo\_16, ElGato\_17, Elephantoon\_25, Emaanora\_18, EmyBug\_25, EnochSoames\_17, Epsocamisio\_26, Equemioh13\_26, EricB\_27, Esperer\_16, Espresso\_22, Et2Brutus\_23, Euphoria\_22, EvilGenius\_26, ExplosioNervosa\_25, Eyeball\_22, Fajezeel\_24, Fameo\_24, Fascinus\_21, Fayely\_25, Fenn\_23, Fibonacci\_24, FiringLine\_24, Flare16\_24, Flaverint\_24, FlyCatcher\_27, Forsytheast\_22, Francis47\_22, Fushigi\_23, GMonster\_21, GageAP\_24, Gail\_23, Gandalf20\_23, Garak\_28, GaugeLDP\_26, Georgie2\_25, Gilberta\_24, GirlDinner\_16, Gladiator\_27, Goby\_16, Godpower\_17, Gompeii16\_22, Graduation\_24, GrecoEtereo\_23, GreedyLawyer\_27, GreenWeasel\_18, Greg\_24, Gruunaga\_27, Gwendoluna\_24, Gyzlar\_24, HINdeR\_23, Haizum\_16, Hami1\_24, HanShotFirst\_22, Hank144\_17, Hanray\_24, HarryHoudini\_26, Heffalump\_27, Helmet\_28, Herbertwm\_21, Hermia\_24, Hexamo\_27, Hippo\_16, Holes\_24, Homines\_22, Hoot\_27, Hope4ever\_22, HortumSL17\_25, Hutc2\_24, Hydra\_18, ILeeKay\_24, Ichabod\_23, IgnatiusPatJac\_21, Indigo\_16, Insomnia\_24, Inyanga\_21, IronMan\_26, Isiphiwo\_27, Issmi\_17, Itza\_16, Iwokeuplikedis\_25, Izzy\_17, JC27\_25, JSwag\_26, Jaan\_27, Jabith\_24, JackSparrow\_23, Janus\_17, Jash\_17, Jasper\_23, Jeeves\_23, Jerm2\_23, Jerm\_26, Jevington\_18, JewelBug\_27, Jiawan\_24, Jordennis\_27, Jorgensen\_22, Joselito\_24, JoshKayV\_26, Journey13\_22, Jsquared\_23, JuliaChild\_24, KSSJEB\_23, Kaine\_16, Kalpine\_27, Kanely\_23, Katalie\_17, KatherineG\_26, Kenmech\_25, Kerberos\_27, Keziacharles14\_23, Killigrew\_20, KingCyrus\_26, Kinmap\_23, Kipper29\_27, Koduck\_24, Koko\_27, KyMonks1A\_24, Kykar\_20, L5\_24, LadyBird\_24, Lamina13\_22, Landor\_25, Lannister\_17, Larenn\_25, LastResort\_26, Legacy\_16, Leogania\_26, Lesedi\_22, Leviathan\_26, Leviticus\_16, Lika\_16, LilBib\_23, LilTurb\_26, Lilbunny\_27, Lilleskat\_23, Lökk\_27, LoneWolf\_25, Loofah\_17, Looper\_27, Lorelei\_16, Loser\_27, Luchador\_25, Lucivia\_24, Lucyedi\_25, MPlant7149\_22, MaCh\_24, Mabel\_24, Magnar\_22, MajorMajor\_23, Makemake\_22, Malec\_25, Maminiaina\_25, Manatee\_23, Maneekul\_16, Marav\_19, Marchy\_21, Marge\_23, Maroc7\_21, Marsha\_22, MaryBeth\_22, McFly\_27, McGuire\_23, MetalQZJ\_22, Michley\_22, MiculUcigas\_24, Miko\_27, MinecraftSteve\_27, MissWhite\_24, Mkhusei\_23, Molly\_23, Monet\_24, Moose\_21, MrGordo\_22, Mryolo\_22, Mulciber\_24, Mule\_22, Munch\_24, Museum\_25, MyraDee\_21, Myxus\_25, NEHalo\_22, NaSiaTalie\_24, Nabi\_16, Naira\_23, Naji\_27, Nanodon\_18, Nebulosus\_26, Neeharika16\_27, Nerdos\_16, Nerujay\_23, Newrala\_28, Nhonho\_22, NicoleTera\_28, Nishikigoi\_16, Niza\_24, Norz\_24, NothingSpecial\_26, Odin\_23, Ohno789\_22, Oliynyk\_17, Omar\_17, Onglai\_24, Oofda\_27, Oogway\_21, Orange\_24, Ozzie\_16, OzzyJ\_17, PP\_33, PSullivan\_24, Pablito\_16, PacerPaul\_22, PackMan\_25, Paedore\_16, PainterBoy\_25, Paolo\_18, Papez\_24, Paphu\_21, Paraselene\_21, Pari\_23, Parliament\_21, PascalRango\_21, Pavo\_17, Payneful\_22, Pelly\_23, Pepe\_23, Perseus\_23, Petersenfast\_23, Petp2012\_24, Petruchio\_22, Ph8s\_25, Phaeder\_25, Pharaoh\_24, PherrisBueller\_23, Phettuccine\_16, Phlei\_19, Phonnegut\_25, PinkPlastic\_21, Pinto\_24, Pioneer\_25, Pippin\_24, Piro94\_25, Pita2\_24, Pomar16\_27, Power\_24, Priamo\_27, Priya\_25, ProMouse\_21, Provolone\_17, Puginator\_18, Pukovnik\_26, QTRLifeCrisis\_22, Qobbit\_25, QueenB2\_24, QueenBeesly\_24, Quokka\_22, R4\_16, Rachaly\_27, Rahalelujah\_23, Raid\_23, Rajelicia\_22, Rana\_16, ReMo\_26, RedBear\_18, RedRock\_27, Refuge\_27, Remus\_26, Retro23\_24, RidgeCB\_22, Rifter\_27, Ringer\_22, Rohr\_23, Roksolana\_27, Rosalind\_26, Rubeus\_23, Ruotula\_22, Rusticus\_17, Rutherford\_24, RyeScarlet\_26, STLscum\_23, Sachima\_23, Saftant\_16, Salz\_24, Sandaddy\_21, Sanya\_21, SarFire\_22, SarahRose\_16, Scherzo\_25, Scowl\_24, Seabiscuit\_24,

Seanderson\_23, SemperFi\_26, Serenity\_23, Sham4\_24, ShayRa\_27, SheaKeira\_24, Sheen\_25, ShortQueendom\_21, Sibs6\_24, Sknot\_25, Smairt\_23, Smeagan\_26, Smeagol\_24, SmellyB\_27, SnapTap\_24, Snape\_24, Snazzy\_20, Snorlax\_16, Solon\_22, SororFago\_23, Sorpresa\_22, Soups\_26, South40\_17, Speedwell\_21, SpikeBT\_24, Spouty\_25, SqueakyClean\_17, Squee\_23, StarStuff\_27, Steamy\_25, StewieG\_21, StrongArm\_21, Strosahl\_26, Sujidade\_17, Sumter\_21, Sunhee\_22, SunsetPointe\_16, Sunshine924\_21, SuperCallie99\_27, Superchunk\_23, Superstar\_19, SweetiePie\_24, SwirlSquare\_26, SwissCheese\_22, Switzer\_24, Switzerland\_26, Swole\_24, TagePhighter\_17, Target\_24, TarsusIV\_24, Tasp14\_23, Tefunt\_16, Temprado\_28, Teodoridan\_20, TheloniousMonk\_24, Thestral\_17, Thor\_23, Timothy\_24, Timshel\_24, TinaBelcher\_16, TinyTimmy\_24, TipsytheTRex\_23, Toma\_16, Tomathan\_27, Topgun\_22, Toro\_26, Tote\_24, Traft412\_24, Travvers\_27, Tripl3t\_23, Triste\_16, Triumph\_18, Trixie\_27, Trooper\_24, TuanPN\_16, Tubs\_25, Tucker\_27, Turbido\_26, TwoPeat\_23, U2\_22, Ugenie5\_22, Unstoppable\_16, Updawg\_26, Urza\_16, VA6\_24, VC3\_27, Vanseggelen\_20, Verabelle\_17, Verse\_16, VieEnRose\_16, Violet\_21, VohminGhazi\_27, Waits\_26, Warrior24\_27, Watermelon\_24, WeiHuaDA\_30, Werner\_16, Whabigail7\_26, Whatever\_16, Wheeler\_22, WideWale\_26, Wiks\_27, Wilkins\_22, WunderPhul\_28, XianYue\_24, Yasdni16, Yokurt\_27, Yosif\_17, Zainub\_18, Zaka\_27, Zeeculate\_21, Zemlya\_17, Zeuska\_23, Zimmer\_26, Zulu\_27, phiCAM\_17,

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

- CloudWang3\_27, First\_0025, Hammer\_28, Indra\_27, Jeffabunny\_27, Kazan\_27, Phaded\_27, Pmask\_27, SuperAwesome\_27, ToneTone\_25, TrvxScott\_15,

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

- ACFishhook\_25, AbbysRanger\_23, Abdiel\_88, Achebe\_86, AgentM\_20, Aglet\_25, AgronaGT15\_25, Airmid\_20, Alatin\_19, Albee\_23, Alberto7\_24, Alpacados\_18, AngryOrchard\_18, Annyong\_23, Anubis\_27, AppleCloud\_17, Aragog\_20, Archetta\_20, Arissanee\_23, Arturo\_23, Astro\_20, AugsMagnumOpus\_27, AvatarAhPeg\_24, Avle17\_23, B1\_21, Baby16\_23, BabyJohn\_22, BabyRay\_23, Backyardigan\_23, Badger\_23, BangNhom\_23, Bartimeaus\_23, Beauxregard13\_25, Belenaria\_19, BellusTerra\_23, Benedict\_20, Blackmoor\_23, BlueBird\_24, Bluefalcon\_19, BobbyDazzler\_19, Bombshell\_23, Bonamassa\_20, Bonanza\_20, Bradshaw\_19, BreSam8\_25, Broseidon\_23, Bruiser\_88, Bryce\_19, BubbleTrouble\_23, Bugatti\_23, Bumblebee11\_23, Burger\_22, BuzzBuzz\_24, Bxz2\_24, Caelakin\_23, Calvinny\_26, Camperdownii\_22, Caviar\_24, CentreCat\_23, Cerulean\_24, Chadwick\_22, ChampagnePapi\_24, Chaph\_23, Chiqui\_22, Chupacabra\_23, Cici\_23, Cindaradix\_22, Cintron\_23, Citius\_23, Clarenza\_23, Cocoaberry\_23, Colbster\_25, Commander\_23, Connomayer\_23, Conspiracy\_20, Coog\_20, CosmicSans\_19, Cuco\_20, Cullens\_25, DaHudson\_25, Daishi\_24, Danforth\_19, Datway\_23, Deano\_23, Dhanush\_24, Dieselweasel\_25, Dinger\_19, DirtyDunning\_23, Discoknowium\_20, Dixon\_20, DontArgue\_22, Drake94\_22, DropBear\_23, Druantia\_23, Dublin\_19, DustyMartin\_26, Eagle\_22, Eaglepride\_24, Eapen\_23, Edison31\_23, EITiger69\_21, EpicPhail\_26, Erik\_19, Eris\_88, Eros\_24, Espica\_19, Eurydice\_23, Expelliarmus\_19, Farber\_25, Fernando\_25, Florean\_23, Flux\_23, ForGetIt\_20, Fred313\_23, Funston\_23, Gadost\_23, Gemma\_25, George\_19, Ghoulyboy\_20, GingkoMaracino\_25, Giroux\_23, Gollum\_19, Goose\_23, Grif\_25, Groundhog\_19, Groupthink\_26, Grub\_25, Grum1\_25, GtownJaz\_25, HamSlice\_22, Happiness\_23, Harlequin\_19, HashRod\_26, HaveUMetTed\_26, Heathen\_23, Heliosoles\_25, Hercules11\_25, Hiro\_19, Holli\_24, Hookmount\_24, Houdini22\_23, HuhtaEnerson15\_20, Huxley\_23, ICleared\_23, Iceman\_24, Idleandcovert\_24, Iracema64\_24, Isca\_23, JF2\_23, JF4\_23, JHC117\_25, Jabiru\_20,



Jaykayelowell\_23, JenCasNa\_26, JeppNRM\_26, Jester\_20, JetBlade\_23, Jobu08\_25, JoongJeon\_24, Jovo\_20, KADY\_27, KFPoly\_23, Kachowdy\_23, Kalb97\_26, Kalnoky\_26, Kamy\_23, Katalie136\_23, Kimona\_20, KittenMittens\_22, Koan\_22, Koreni\_22, Kratak\_23, Kremtemulon\_23, Krishelle\_19, Kristoff\_24, Kyee\_23, LBerry\_25, LHTSCC\_24, Lambert1\_24, LappelDuVide\_23, LarryKay\_25, Lemur\_23, LeoAvram\_23, Lev2\_20, Lilith\_25, Lillie\_19, LittleB\_23, LittleCherry\_20, LittleGuy\_23, LochMonster\_23, Lorenzo\_23, Louie6\_25, LugYA\_27, Lunsford\_24, MA5\_23, MK4\_23, MadMarie\_25, Mainiac\_25, Malinsilva\_27, Manu\_26, MarQuardt\_25, Marchesa\_23, Margo\_24, Marie\_25, Marius\_26, MarysWell\_19, Maverick\_23, Maxo\_23, Mazhar510\_23, Medusa\_23, MeeZee\_23, Melvin\_23, Methuselah\_24, Micasa\_20, Microwolf\_25, Midas2\_20, Milcery\_20, Millski\_88, Miramae\_23, Misomonster\_27, MoneyMay\_25, Morpher26\_23, Morrow\_23, MuchMore\_27, Mundrea\_23, Naca\_20, Naiad\_19, Nancinator\_19, Natosaleda\_19, NearlyHeadless\_20, Nebs\_23, Nedarya\_25, Nemo27\_23, Noella\_24, Noelle\_23, Norbert\_23, NorthStar\_23, NotAPhaseMom\_23, Nyxis\_23, OKCentral2016\_23, OKaNui\_24, Obama12\_24, Ohfah\_23, OlanP\_26, Ollie\_25, P28Green\_25, PGHhamlin\_27, Palestino\_88, Panamaxus\_23, Partridge\_19, Pawn\_25, PeaceMeal1\_22, Peaches\_23, Pembroke\_25, Penny1\_26, Perplexer\_23, PeterPeter\_23, PetiteSangsue\_23, PetterN\_21, Phacado\_24, PhailMary\_18, Phantastic\_23, Phelipe\_23, Phighter1804\_23, Phillis\_20, PhishRPhriends\_24, Phlorence\_20, Phoebe\_25, Phontbonne\_23, Phoxy\_26, Phrankenstein\_19, Phranny\_26, PickleBack\_20, Pipcraft\_23, Pistachio\_24, Pocahontas\_24, Polymorphads\_23, Poompha\_22, Popcicle\_24, PotatoSplit\_26, Pumbaa\_23, Puppy\_24, PurpleHaze\_25, QuinnKiro\_23, Rasputin\_19, Reba\_26, Rebeuca\_24, Relief\_23, ResDef\_24, RexFury\_19, Rhodalysa\_19, RhynO\_24, Roary\_20, Rockstar\_23, Romney\_23, Roosevelt\_23, Rosa24\_22, Rowdy\_26, Ruin\_23, Rummer\_25, Sabertooth\_24, Sabia\_26, Sabinator\_25, Saintus\_20, SaturnRing\_23, Scamp\_23, Scorpia\_21, Scout\_23, SenorClean\_22, Severus\_22, Shaka\_23, Shapes\_26, SheldonCooper\_24, Shuman\_19, Shygu2\_23, Skipitt\_23, Smeadley\_20, Snickers\_25, SoYo\_25, SoilDragon\_25, Soshari\_27, Sparxx\_23, Spike509\_26, Spino\_23, StCroix\_19, Stagni\_26, Stasia\_24, StepMih\_25, Stephig9\_20, Stink\_24, Swann\_19, Swirley\_20, SydNat\_20, TWAMP\_19, Takoda\_19, Taquarus\_23, Tarynearal\_20, Taurus\_25, Texage\_23, Thanksgivukkah\_23, Theia\_18, Tiffany\_25, Tiger\_20, TinaFeyge\_24, TinyPebbles\_25, Tinybot\_22, TiroTheta9\_23, Toaka\_23, Todacoro\_24, Topanga\_23, Trike\_21, TroyPia\_23, Twigg\_20, Twister\_23, TygerBlood\_23, UhSalsa\_19, Ulysses\_22, UnionJack\_21, Vanisoa\_23, Veracruz\_23, Vix\_25, WalterMcMickey\_23, Wander\_23, Watson\_25, Wilbur\_23, Wile\_23, Wizard007\_23, Wooldri\_27, Xena\_23, Yecey3\_24, YoSam321\_23, Yogi\_19, Yoncess\_19, Zetzy\_24, Zolita\_19,

### Summary by start number:

#### Start 18:

- Found in 1 of 954 ( 0.1% ) of genes in pham
- Manual Annotations of this start: 1 of 879
- Called 100.0% of time when present
- Phage (with cluster) where this start called: TrvxScott\_15 (BD2),

#### Start 27:

- Found in 12 of 954 ( 1.3% ) of genes in pham
- Manual Annotations of this start: 1 of 879
- Called 8.3% of time when present
- Phage (with cluster) where this start called: Phaded\_27 (A2),

Start 40:

- Found in 16 of 954 ( 1.7% ) of genes in pham
- Manual Annotations of this start: 3 of 879
- Called 18.8% of time when present
- Phage (with cluster) where this start called: Coog\_20 (A5), Midas2\_20 (A5), Naca\_20 (A5),

Start 46:

- Found in 170 of 954 ( 17.8% ) of genes in pham
- Manual Annotations of this start: 41 of 879
- Called 26.5% of time when present
- Phage (with cluster) where this start called: Aglet\_25 (A3), Anubis\_27 (A3), B1\_21 (A3), Beauxregard13\_25 (A3), CloudWang3\_27 (A6), DaHudson\_25 (A3), DropBear\_23 (A3), EpicPhail\_26 (A3), Farber\_25 (A3), First\_0025 (A2), Hammer\_28 (A6), Heathen\_23 (A3), Idleandcovert\_24 (A3), Indra\_27 (A6), Isca\_23 (A3), JF2\_23 (A3), JF4\_23 (A3), Jeffabunny\_27 (A6), Jobu08\_25 (A3), Kachowdy\_23 (A3), Kazan\_27 (A6), Liliith\_25 (A3), Louie6\_25 (A3), MA5\_23 (A3), MK4\_23 (A3), Mainiac\_25 (A3), Malinsilva\_27 (A3), MarQuardt\_25 (A3), Marchesa\_23 (A3), Microwolf\_25 (A3), Penny1\_26 (A3), Phantastic\_23 (A3), Pistachio\_24 (A3), Pmask\_27 (A6), PotatoSplit\_26 (A3), Puppy\_24 (A3), Rockstar\_23 (A3), Sabia\_26 (A3), Sabinator\_25 (A3), Soshari\_27 (A3), StepMih\_25 (A3), SuperAwesome\_27 (A6), Tiffany\_25 (A3), ToneTone\_25 (A6), UnionJack\_21 (A5),

Start 57:

- Found in 371 of 954 ( 38.9% ) of genes in pham
- Manual Annotations of this start: 315 of 879
- Called 89.5% of time when present
- Phage (with cluster) where this start called: ACFishhook\_25 (A3), AbbysRanger\_23 (A4), Abdiel\_88 (A4), Achebe\_86 (A4), AgentM\_20 (A5), AgronaGT15\_25 (A3), Airmid\_20 (A5), Alatin\_19 (CA), Albee\_23 (A4), Alberto7\_24 (A4), Alpacados\_18 (CA), AngryOrchard\_18 (CA), Annyong\_23 (A4), AppleCloud\_17 (CA), Aragog\_20 (A5), Archetta\_20 (A5), Arturo\_23 (A4), Astro\_20 (A8), AugsMagnumOpus\_27 (A3), AvatarAhPeg\_24 (A4), Avle17\_23 (A4), Baby16\_23 (A4), BabyJohn\_22 (A3), BabyRay\_23 (A3), Backyardigan\_23 (A4), Badger\_23 (A4), BangNhom\_23 (A4), Bartimeaus\_23 (A4), Belenaria\_19 (CA), BellusTerra\_23 (A4), Benedict\_20 (A5), Blackmoor\_23 (A4), BlueBird\_24 (A3), Bluefalcon\_19 (A5), BobbyDazzler\_19 (CA), Bombshell\_23 (A4), Bonamassa\_20 (A5), Bonanza\_20 (CA), Bradshaw\_19 (CA), BreSam8\_25 (A3), Broseidon\_23 (A4), Bruiser\_88 (A4), Bryce\_19 (CA), BubbleTrouble\_23 (A4), Bugatti\_23 (A3), Bumblebee11\_23 (A4), Burger\_22 (A4), BuzzBuzz\_24 (A3), Bxz2\_24 (A3), Caelakin\_23 (A4), Calvinny\_26 (A3), Camperdownii\_22 (A4), Caviar\_24 (A3), CentreCat\_23 (A4), Cerulean\_24 (A4), Chadwick\_22 (A5), ChampagnePapi\_24 (A4), Chaph\_23 (A4), Chiqui\_22 (A3), Chupacabra\_23 (A10), Cici\_23 (A4), Cindaradix\_22 (A4), Cintron\_23 (A4), Citius\_23 (A4), Clarenza\_23 (A4), Cocoaberry\_23 (A4), Colbster\_25 (A3), Commander\_23 (A4), Connomayer\_23 (A4), Conspiracy\_20 (A5), CosmicSans\_19 (CA), Cuco\_20 (A5), Cullens\_25 (A3), Daishi\_24 (A3), Danforth\_19 (A8), Datway\_23 (A4), Deano\_23 (A4), Dhanush\_24 (A4), Dieselweasel\_25 (A3), Dinger\_19 (CA), DirtyDunning\_23 (A4), Discoknowium\_20 (A5), Dixon\_20 (A8), DontArgue\_22 (A10), Drake94\_22 (A10), Druantia\_23 (A4), Dublin\_19 (A5), DustyMartin\_26 (A10), Eagle\_22 (A4), Eaglepride\_24 (A10), Eapen\_23 (A4), Edison31\_23 (A10), EITiger69\_21 (A5), Erik\_19 (CA), Eris\_88 (A4), Eros\_24 (A4), Espica\_19 (CA), Eurydice\_23 (A4), Expelliarmus\_19 (A8), Fernando\_25 (A3), Florean\_23 (A4), Flux\_23 (A4),

ForGetIt\_20 (A5), Fred313\_23 (A3), Funston\_23 (A4), Gadost\_23 (A4), Gemma\_25 (A3), George\_19 (A5), Ghoulyboy\_20 (A5), GingkoMaracino\_25 (A3), Giroux\_23 (A3), Gollum\_19 (CA), Goose\_23 (A10), Grif\_25 (A3), Groundhog\_19 (A8), Groupthink\_26 (A3), Grub\_25 (A3), Grum1\_25 (A3), GtownJaz\_25 (A3), HamSlice\_22 (A4), Happiness\_23 (A4), Harlequin\_19 (CA), HashRod\_26 (A3), HaveUMetTed\_26 (A3), Heliosoles\_25 (A3), Hercules11\_25 (A3), Hiro\_19 (CA), Holli\_24 (A4), Hookmount\_24 (A3), Houdini22\_23 (A4), HuhtaErnerson15\_20 (A5), Huxley\_23 (A4), ICleared\_23 (A4), Iceman\_24 (A4), Iracema64\_24 (A4), JHC117\_25 (A3), Jabiru\_20 (A5), Jaykayelowell\_23 (A4), JenCasNa\_26 (A3), JeppNRM\_26 (A3), Jester\_20 (CA), JetBlade\_23 (A4), JoongJeon\_24 (A4), Jovo\_20 (A5), KADY\_27 (A3), KFPoly\_23 (A4), Kalb97\_26 (A3), Kalnoky\_26 (A3), Kamy\_23 (A4), Katalie136\_23 (A4), Kimona\_20 (A19), KittenMittens\_22 (A10), Koan\_22 (A4), Koreni\_22 (A4), Kratark\_23 (A4), Kremtemulon\_23 (A4), Krishelle\_19 (CA), Kristoff\_24 (A10), Kyee\_23 (A4), LBerry\_25 (A3), LHTSCC\_24 (A4), Lambert1\_24 (A3), LappelDuVide\_23 (A4), LarryKay\_25 (A3), Lemur\_23 (A4), LeoAvram\_23 (A4), Lev2\_20 (A5), Lillie\_19 (CA), LittleB\_23 (A4), LittleCherry\_20 (A5), LittleGuy\_23 (A4), LochMonster\_23 (A4), Lorenzo\_23 (A4), LugYA\_27 (A3), Lunsford\_24 (A4), MadMarie\_25 (A3), Manu\_26 (A3), Margo\_24 (A3), Marie\_25 (A3), Marius\_26 (A3), MarysWell\_19 (A5), Maverick\_23 (A4), Maxo\_23 (A4), Mazhar510\_23 (A4), Medusa\_23 (A4), MeeZee\_23 (A4), Melvin\_23 (A4), Methuselah\_24 (A3), Micasa\_20 (A5), Milcery\_20 (A5), Millski\_88 (A4), Miramae\_23 (A4), Misomonster\_27 (A3), MoneyMay\_25 (A3), Morpher26\_23 (A4), Morrow\_23 (A4), MuchMore\_27 (A3), Mundrea\_23 (A4), Naiad\_19 (CA), Nancinator\_19 (CA), Natosaleda\_19 (CA), NearlyHeadless\_20 (A8), Nebs\_23 (A4), Nedarya\_25 (A15), Nemo27\_23 (A4), Noella\_24 (A3), Noelle\_23 (A4), Norbert\_23 (A3), NorthStar\_23 (A4), NotAPhaseMom\_23 (A4), Nyxis\_23 (A4), OKCentral2016\_23 (A10), OKaNui\_24 (A4), Obama12\_24 (A4), Ohfah\_23 (A4), OlanP\_26 (A3), Ollie\_25 (A3), P28Green\_25 (A3), PGHhamlin\_27 (A3), Palestino\_88 (A4), Panamaxus\_23 (A3), Partridge\_19 (CA), Pawn\_25 (A3), PeaceMeal1\_22 (A10), Peaches\_23 (A4), Pembroke\_25 (A3), Perplexer\_23 (A4), PeterPeter\_23 (A4), PetiteSangsue\_23 (A4), PetterN\_21 (A5), Phacado\_24 (A4), PhailMary\_18 (CA), Felipe\_23 (A4), Phighter1804\_23 (A4), Phillis\_20 (A8), PhishRPhriends\_24 (A3), Phlorence\_20 (A5), Phoebe\_25 (A3), Phontbonne\_23 (A4), Phoxy\_26 (A3), Phrankenstien\_19 (CA), Phranny\_26 (A3), PickleBack\_20 (A5), Pipcraft\_23 (A4), Pocahontas\_24 (A3), Polymorphads\_23 (A4), Poompha\_22 (A10), Popcicle\_24 (A3), Pumbaa\_23 (A4), PurpleHaze\_25 (A3), QuinnKiro\_23 (A3), Rasputin\_19 (CA), Reba\_26 (A3), Rebeuca\_24 (A10), Relief\_23 (A4), ResDef\_24 (A3), RexFury\_19 (CA), Rhodalysa\_19 (CA), RhynO\_24 (A10), Roary\_20 (A8), Romney\_23 (A4), Roosevelt\_23 (A4), Rosa24\_22 (A4), Rowdy\_26 (A10), Ruin\_23 (A4), Rummer\_25 (A3), Sabertooth\_24 (A4), Saintus\_20 (A8), SaturnRing\_23 (A3), Scamp\_23 (A4), Scorpia\_21 (A5), Scout\_23 (A3), SenorClean\_22 (A4), Severus\_22 (A10), Shaka\_23 (A4), Shapes\_26 (A10), SheldonCooper\_24 (A4), Shuman\_19 (CA), Shygu2\_23 (A4), Skipitt\_23 (A4), Smeadley\_20 (A8), Snickers\_25 (A3), SoYo\_25 (A3), SoilDragon\_25 (A3), Sparxx\_23 (A4), Spike509\_26 (A3), Spino\_23 (A4), StCroix\_19 (CA), Stagni\_26 (A3), Stasia\_24 (A4), Stephig9\_20 (A8), Stink\_24 (A4), Swann\_19 (CA), Swirley\_20 (A5), SydNat\_20 (A5), TWAMP\_19 (CA), Takoda\_19 (CA), Taquarus\_23 (A4), Tarynearal\_20 (A5), Taurus\_25 (A3), Texage\_23 (A3), Thanksgivukkah\_23 (A4), Theia\_18 (A5), Tiger\_20 (A5), TinaFeyge\_24 (A4), TinyPebbles\_25 (A3), Tinybot\_22 (A4), TiroTheta9\_23 (A4), Todacoro\_24 (A3), Topanga\_23 (A10), Trike\_21 (A10), TroyPia\_23 (A4), Twigg\_20 (A5), Twister\_23 (A10), TygerBlood\_23 (A4), UhSalsa\_19 (CA), Ulysses\_22 (A4), Veracruz\_23 (A3), Vix\_25 (A3), WalterMcMickey\_23 (A10), Wander\_23 (A4), Watson\_25 (A3), Wilbur\_23 (A4), Wile\_23 (A4), Wizard007\_23 (A4), Wooldri\_27 (A3), Xena\_23 (A4), YoSam321\_23 (A4), Yogi\_19 (CA), Yoncess\_19 (CA), Zetsy\_24 (A3), Zolita\_19 (A5),

Start 58:

- Found in 4 of 954 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 4 of 879
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Arissanae\_23 (A9), Toaka\_23 (A9), Vanisoa\_23 (A9), Yecey3\_24 (A9),

Start 59:

- Found in 579 of 954 ( 60.7% ) of genes in pham
- Manual Annotations of this start: 514 of 879
- Called 98.1% of time when present
- Phage (with cluster) where this start called: 20ES\_24 (A2), 40AC\_27 (A17), A6\_20 (A1), AFIS\_22 (A1), AN3\_24 (A2), AN9\_27 (A2), ANI8\_27 (A2), Aaronocolus\_16 (BD1), AbbyPaige\_26 (A2), Abbyshoes\_23 (A1), Abrogate\_230 (A1), Acme\_24 (A1), Acolyte\_24 (A2), Adahisdi\_23 (A1), Adzzy\_25 (A2), Agaliana\_22 (A1), Agape74\_26 (A2), Ajay\_22 (A1), Aliter\_25 (A9), Alma\_25 (A9), Alsaber\_17 (BD3), Alsfro\_26 (A1), Altman\_24 (A1), Alvy\_18 (BD2), Amela\_16 (BD3), Amethyst\_16 (BD2), Anaysia\_26 (A15), Andris\_16 (BD2), Aneem\_24 (A11), Anglerfish\_23 (A1), Animus\_17 (BD2), AnnaL29\_27 (A2), Anon\_24 (A15), Anselm\_24 (A2), Anthony\_23 (A20), Applejack\_22 (A1), Arcanine\_23 (A1), ArcherNM\_26 (A2), Arlo\_21 (A1), Artemis2UCLA\_27 (A6), Ashballer\_21 (A1), Asten\_16 (BD1), Atkinbua\_23 (A1), Attoomi\_13 (singleton), Axiom\_17 (BD2), BABullseye\_27 (A6), BK1\_20 (A1), BPBiebs31\_23 (A1), BabyBack\_26 (A2), Bachome\_24 (A11), BaconJack\_24 (A1), Bactobuster\_25 (A2), Baehexic\_25 (A2), Barriga\_22 (A1), BarryBee\_18 (BD1), BartholomewSD\_18 (BD2), Battleship\_27 (A15), BeardedLady\_17 (BD1), Beatrix\_21 (A1), Beemo\_25 (A9), BeesKnees\_23 (A1), BengiVuitton\_25 (A2), Benvolio\_24 (A2), Bexan\_21 (A1), BiancaTri92\_26 (A2), Big3\_22 (A1), BigMau\_24 (A1), Bigfoot\_21 (A1), BillKnuckles\_23 (A1), Bircsak\_22 (A1), BlessJoy\_27 (A6), Blinn1\_27 (A6), BluSpix\_22 (A1), Blue7\_27 (A6), Blue\_22 (A1), Bob3\_22 (A1), BobSwaget\_27 (A2), BogosyJay\_25 (A9), Bones\_22 (A1), Boohoo\_26 (A15), Bovely\_16 (BD1), Bowden\_17 (BD2), Bowtie\_24 (A11), Bradman\_23 (A2), Brataylor\_17 (BD1), Briton15\_24 (A1), BroPlease\_18 (BD4), Bruns\_21 (A1), BryanRecycles\_17 (BD1), Bud\_24 (A11), Buggy\_26 (A2), Burton\_23 (A1), Buttons\_23 (A1), Bxb1\_21 (A1), C3\_22 (A2), CRB1\_24 (A2), CactusRose\_21 (A1), Caelum\_18 (BD2), Caliburn\_16 (BD1), Candra\_27 (A6), Caraxes\_23 (A2), Carlyle\_24 (A1), Catalina\_25 (A9), Celery\_19 (BD3), Celeste\_16 (BD1), Celia\_16 (BD6), Centaur\_26 (A2), Chanagan\_21 (A1), Chargerpower\_24 (A), Charm\_24 (A9), Chartreuse\_27 (A6), Che12\_26 (A2), ChipMunk\_26 (A2), Chucky\_16 (BD1), Ciao\_22 (A1), Colin\_28 (A2), Conan\_17 (BD3), ConceptII\_23 (A1), Conquerage\_25 (A9), Cookiedough\_27 (A6), Corvo\_22 (A1), Crispicous1\_21 (A1), Crucio\_24 (A2), Cueyliss\_22 (A1), D29\_24 (A2), D32\_27 (A2), DBQu4n\_27 (A2), DaVinci\_27 (A6), Dalmatian\_24 (A2), Danzina\_17 (BD1), Darrell\_26 (A9), DarthPhader\_25 (A12), Dattran\_17 (BD1), Daudau\_16 (BD2), DekHockey33\_26 (A15), Deloris\_25 (A2), Dexers\_15 (BD3), Dexes\_23 (A1), Diane\_16 (BD2), Dignity\_26 (A2), Doom\_23 (A1), Dorothea\_27 (A6), Drake55\_26 (A2), DreamCatcher\_25 (A1), DreamTeam1\_24 (A9), Dreamboat\_23 (A1), DroogsArmy\_24 (A7), DudeLittle\_24 (A2), Dulcie\_21 (A1), Duplo\_27 (A2), Dussy\_23 (A1), Dwayne\_16 (BD1), Dynamix\_23 (A1), ELB20\_15 (BD2), EZMoney23\_28 (A2), EagleEye\_26 (A16), Ebony\_24 (A11), Echild\_24 (A2), Eddasa\_17 (BD1), EdogawaKiddo\_23 (A9), Eidsmoe\_25 (A9), Ejemplo\_16 (BD1), ElGato\_17 (BD3), Elephantoon\_25 (A9), Emaanora\_18 (BD1), EmyBug\_25 (A9), EnochSoames\_17 (BD1), Epsocamisio\_26 (A15), Equemioh13\_26 (A2), EricB\_27 (A6), Esperer\_16 (BD1), Espresso\_22 (A1), Et2Brutus\_23 (A11), Euphoria\_22 (A1),

EvilGenius\_26 (A2), ExplosioNervosa\_25 (A9), Eyeball\_22 (A1), Fajezeel\_24 (A1), Fameo\_24 (A2), Fascinus\_21 (A1), Fayely\_25 (A9), Fenn\_23 (A1), Fibonacci\_24 (A11), FiringLine\_24 (A2), Flare16\_24 (A2), Flaverint\_24 (A11), FlyCatcher\_27 (A7), Forsytheast\_22 (A1), Francis47\_22 (A1), Fushigi\_23 (A1), GMonster\_21 (A1), GageAP\_24 (A1), Gail\_23 (A14), Gandalf20\_23 (A1), Garak\_28 (A6), GaugeLDP\_26 (A2), Georgie2\_25 (A2), Gilberta\_24 (A11), GirlDinner\_16 (BD2), Gladiator\_27 (A6), Goby\_16 (BD1), Godpower\_17 (BD1), Gompeii16\_22 (A1), Graduation\_24 (A1), GrecoEtereo\_23 (A1), GreedyLawyer\_27 (A6), GreenWeasel\_18 (BD4), Greg\_24 (A1), Gruunaga\_27 (A6), Gwendoluna\_24 (A1), Gyzlar\_24 (A1), HINdeR\_23 (A7), Haizum\_16 (BD2), Hami1\_24 (A1), HanShotFirst\_22 (A1), Hank144\_17 (BD2), Hanray\_24 (A9), HarryHoudini\_26 (A2), Heffalump\_27 (A2), Helmet\_28 (A6), Herbertwm\_21 (A2), Hermia\_24 (A1), Hexamo\_27 (A6), Hippo\_16 (BD1), Horex\_24 (A9), Homines\_22 (A1), Hoot\_27 (A6), Hope4ever\_22 (A1), HortumSL17\_25 (A9), Hutc2\_24 (A11), Hydra\_18 (BD1), ILeeKay\_24 (A1), Ichabod\_23 (A1), IgnatiusPatJac\_21 (A1), Indigo\_16 (BD1), Insomnia\_24 (A11), Inyanga\_21 (A1), IronMan\_26 (A2), Isiphiwo\_27 (A6), Issmi\_17 (BD2), Itza\_16 (BD6), Iwokeuplikedis\_25 (A2), Izzy\_17 (BD1), JC27\_25 (A1), JSwag\_26 (A15), Jaan\_27 (A2), Jabith\_24 (A11), JackSparrow\_23 (A1), Janus\_17 (BD2), Jash\_17 (BD1), Jasper\_23 (A1), Jeeves\_23 (A14), Jerm2\_23 (A1), Jerm\_26 (A2), Jevington\_18 (BD2), JewelBug\_27 (A6), Jiawan\_24 (A9), Jordennis\_27 (A6), Jorgensen\_22 (A1), Joselito\_24 (A11), JoshKayV\_26 (A2), Journey13\_22 (A2), Jsquared\_23 (A2), JuliaChild\_24 (A1), KSSJEB\_23 (A1), Kaine\_16 (BD3), Kalpine\_27 (A2), Kanely\_23 (A1), Katalie\_17 (BD1), KatherineG\_26 (A15), Kenmech\_25 (A1), Kerberos\_27 (A2), Keziacharles14\_23 (A9), Killigrew\_20 (A1), KingCyrus\_26 (A2), Kinmap\_23 (A21), Kipper29\_27 (A6), Koduck\_24 (A2), Koko\_27 (A6), KyMonks1A\_24 (A1), Kykar\_20 (A1), L5\_24 (A2), LadyBird\_24 (A2), Lamina13\_22 (A1), Landor\_25 (A2), Lannister\_17 (BD1), Larenn\_25 (A2), LastResort\_26 (A15), Legacy\_16 (BD1), Leogania\_26 (A2), Lesedi\_22 (A1), Leviathan\_26 (A2), Leviticus\_16 (BD1), Lika\_16 (BD1), LilBib\_23 (A1), LilTurb\_26 (A2), Lilbunny\_27 (A6), Lilleskat\_23 (A9), Lokk\_27 (A2), LoneWolf\_25 (A9), Loofah\_17 (BD2), Looper\_27 (A15), Lorelei\_16 (BD1), Loser\_27 (A2), Luchador\_25 (A14), Lucivia\_24 (A11), Lucyedi\_25 (A16), MPlant7149\_22 (A1), MaCh\_24 (A11), Mabel\_24 (A11), Magnar\_22 (A1), MajorMajor\_23 (A2), Makemake\_22 (A1), Malec\_25 (A2), Maminaiaina\_25 (A9), Manatee\_23 (A1), Maneekul\_16 (BD1), Marav\_19 (BD2), Marchy\_21 (A1), Marge\_23 (A1), Maroc7\_21 (A1), Marsha\_22 (A1), MaryBeth\_22 (A1), McFly\_27 (A6), McGuire\_23 (A1), MetalQZJ\_22 (A1), Michley\_22 (A1), MiculUcigas\_24 (A2), Miko\_27 (A2), MinecraftSteve\_27 (A15), MissWhite\_24 (A2), Mkhusei\_23 (A1), Molly\_23 (A1), Monet\_24 (A1), Moose\_21 (A1), MrGordo\_22 (A1), Mryolo\_22 (A1), Mulciber\_24 (A11), Mule\_22 (A1), Munch\_24 (A11), Museum\_25 (A1), MyraDee\_21 (A18), Myxus\_25 (A9), NEHalo\_22 (A1), NaSiaTalie\_24 (A2), Nabi\_16 (BD1), Naira\_23 (A1), Naji\_27 (A2), Nanodon\_18 (BD1), Nebulosus\_26 (A15), Neeharika16\_27 (A6), Nerdos\_16 (BD1), Nerujay\_23 (A1), Newrala\_28 (A6), Nhonho\_22 (A1), NicoleTera\_28 (A2), Nishikigoi\_16 (BD2), Niza\_24 (A1), Norz\_24 (A1), NothingSpecial\_26 (A2), Odin\_23 (A2), Ohno789\_22 (A1), Oliynyk\_17 (BD1), Omar\_17 (BD2), Onglai\_24 (A9), Oofda\_27 (A15), Oogway\_21 (A1), Orange\_24 (A11), Ozzie\_16 (BD1), OzzyJ\_17 (BD1), PP\_33 (A7), PSullivan\_24 (A1), Pablito\_16 (BD2), PacerPaul\_22 (A1), PackMan\_25 (A9), Paedore\_16 (BD2), PainterBoy\_25 (A16), Paolo\_18 (BD2), Papez\_24 (A1), Paphu\_21 (A1), Paraselene\_21 (A1), Pari\_23 (A1), Parliament\_21 (A1), PascalRango\_21 (A1), Pavo\_17 (BD3), Payneful\_22 (A1), Pelly\_23 (A1), Pepe\_23 (A1), Perseus\_23 (A1), Petersenfast\_23 (A11), Petp2012\_24 (A1), Petruccio\_22 (A1), Ph8s\_25 (A2), Phaeder\_25 (A9), Pharaoh\_24 (A12), PherrisBueller\_23 (A1), Phettuccine\_16 (BD1), Phlei\_19 (A13), Phonnegut\_25 (A9), PinkPlastic\_21 (A1), Pinto\_24 (A1), Pioneer\_25 (A9), Pippin\_24 (A1), Piro94\_25 (A2),

Pita2\_24 (A1), Pomar16\_27 (A2), Power\_24 (A2), Priamo\_27 (A6), Priya\_25 (A9), ProMouse\_21 (A1), Provolone\_17 (BD3), Puginator\_18 (BD2), Pukovnik\_26 (A2), QTRLifeCrisis\_22 (A1), Qobbit\_25 (A9), QueenB2\_24 (A2), QueenBeesly\_24 (A2), Quokka\_22 (A2), R4\_16 (BD2), Rachaly\_27 (A2), Rahalelujah\_23 (A9), Raid\_23 (A1), Rajelicia\_22 (A1), Rana\_16 (BD1), ReMo\_26 (A15), RedBear\_18 (BD1), RedRock\_27 (A2), Refuge\_27 (A12), Remus\_26 (A15), Retro23\_24 (A2), RidgeCB\_22 (A1), Rifter\_27 (A6), Ringer\_22 (A1), Rohr\_23 (A1), Roksolana\_27 (A6), Rosalind\_26 (A15), Rubeus\_23 (A1), Ruotula\_22 (A1), Rusticus\_17 (BD1), Rutherford\_24 (A1), RyeScarlet\_26 (A9), STLscum\_23 (A1), Sachima\_23 (A9), Saftant\_16 (BD3), Salz\_24 (A11), Sandaddy\_21 (A1), Sanya\_21 (A1), SarFire\_22 (A1), SarahRose\_16 (BD1), Scherzo\_25 (A9), Scowl\_24 (A1), Seabiscuit\_24 (A1), Seanderson\_23 (A1), SemperFi\_26 (A2), Serenity\_23 (A2), Sham4\_24 (A11), ShayRa\_27 (A15), SheaKeira\_24 (A9), Sheen\_25 (A7), ShortQueendom\_21 (A1), Sibs6\_24 (A1), Sknot\_25 (A2), Smairt\_23 (A1), Smeagan\_26 (A2), Smeagol\_24 (A1), SmellyB\_27 (A6), SnapTap\_24 (A2), Snape\_24 (A11), Snazzy\_20 (A1), Snorlax\_16 (BD1), Solon\_22 (A1), SororFago\_23 (A14), Sorpresa\_22 (A1), Soups\_26 (A15), South40\_17 (BD1), Speedwell\_21 (BD3), SpikeBT\_24 (A1), Spouty\_25 (A9), SqueakyClean\_17 (BD2), Squee\_23 (A1), StarStuff\_27 (A2), Steamy\_25 (A12), StewieG\_21 (A1), StrongArm\_21 (A1), Strosahl\_26 (A15), Sujidade\_17 (BD1), Sumter\_21 (A1), Sunhee\_22 (A14), SunsetPointe\_16 (BD1), Sunshine924\_21 (A1), SuperCallie99\_27 (A6), Superchunk\_23 (A2), Superstar\_19 (BD2), SweetiePie\_24 (A2), SwirlSquare\_26 (A2), SwissCheese\_22 (A1), Switzer\_24 (A1), Switzerland\_26 (A15), Swole\_24 (A1), TagePhighter\_17 (BD1), Target\_24 (A1), TarsusIV\_24 (A2), Tasp14\_23 (A1), Tefunt\_16 (BD2), Temprado\_28 (A6), Teodoridan\_20 (A1), TheloniousMonk\_24 (A1), Thestral\_17 (BD2), Thor\_23 (A1), Timothy\_24 (A11), Timshel\_24 (A7), TinaBelcher\_16 (BD2), TinyTimmy\_24 (A11), TipsytheTRex\_23 (A2), Toma\_16 (BD1), Tomathan\_27 (A2), Topgun\_22 (A1), Toro\_26 (A7), Tote\_24 (A1), Traft412\_24 (A1), Travvers\_27 (A2), Tripl3t\_23 (A1), Triste\_16 (BD1), Triumph\_18 (BD2), Trixie\_27 (A2), Trooper\_24 (A2), TuanPN\_16 (BD1), Tubs\_25 (A9), Tucker\_27 (A6), Turbido\_26 (A2), TwoPeat\_23 (A1), U2\_22 (A1), Ugenie5\_22 (A9), Unstoppable\_16 (BD1), Updawg\_26 (A2), Urza\_16 (BD6), VA6\_24 (A2), VC3\_27 (A2), Vanseggelen\_20 (BD3), Verabelle\_17 (BD3), Verse\_16 (BD3), VieEnRose\_16 (BD6), Violet\_21 (A1), VohminGhazi\_27 (A6), Waits\_26 (A15), Warrior24\_27 (A15), Watermelon\_24 (A1), WeiHuaDA\_30 (A2), Werner\_16 (BD1), Whabigail7\_26 (A2), Whatever\_16 (BD1), Wheeler\_22 (A1), WideWale\_26 (A2), Wiks\_27 (A6), Wilkins\_22 (A1), WunderPhul\_28 (A6), XianYue\_24 (A2), Yasdnii\_16 (BD1), Yokurt\_27 (A6), Yosif\_17 (BD3), Zainub\_18 (BD2), Zaka\_27 (A6), Zeeculate\_21 (A1), Zemlya\_17 (BD1), Zeuska\_23 (A1), Zimmer\_26 (A12), Zulu\_27 (A6), phiCAM\_17 (BD3),

### Summary by clusters:

There are 29 clusters represented in this pham: singleton, A15, A14, A17, A16, A11, A10, A13, A12, A19, A18, A1, BD4, A3, BD6, BD1, A4, BD3, A6, A9, A8, A2, A, A7, CA, BD2, A5, A20, A21,

Info for manual annotations of cluster A:

- Start number 59 was manually annotated 1 time for cluster A.

Info for manual annotations of cluster A1:

- Start number 59 was manually annotated 180 times for cluster A1.

Info for manual annotations of cluster A10:

- Start number 57 was manually annotated 17 times for cluster A10.

Info for manual annotations of cluster A11:

- Start number 59 was manually annotated 24 times for cluster A11.

Info for manual annotations of cluster A12:

- Start number 59 was manually annotated 5 times for cluster A12.

Info for manual annotations of cluster A14:

- Start number 59 was manually annotated 4 times for cluster A14.

Info for manual annotations of cluster A15:

- Start number 57 was manually annotated 1 time for cluster A15.
- Start number 59 was manually annotated 20 times for cluster A15.

Info for manual annotations of cluster A16:

- Start number 59 was manually annotated 3 times for cluster A16.

Info for manual annotations of cluster A18:

- Start number 59 was manually annotated 1 time for cluster A18.

Info for manual annotations of cluster A19:

- Start number 57 was manually annotated 1 time for cluster A19.

Info for manual annotations of cluster A2:

- Start number 27 was manually annotated 1 time for cluster A2.
- Start number 59 was manually annotated 100 times for cluster A2.

Info for manual annotations of cluster A20:

- Start number 59 was manually annotated 1 time for cluster A20.

Info for manual annotations of cluster A3:

- Start number 46 was manually annotated 32 times for cluster A3.
- Start number 57 was manually annotated 79 times for cluster A3.

Info for manual annotations of cluster A4:

- Start number 57 was manually annotated 136 times for cluster A4.

Info for manual annotations of cluster A5:

- Start number 40 was manually annotated 3 times for cluster A5.
- Start number 46 was manually annotated 1 time for cluster A5.
- Start number 57 was manually annotated 34 times for cluster A5.

Info for manual annotations of cluster A6:

- Start number 46 was manually annotated 8 times for cluster A6.
- Start number 59 was manually annotated 34 times for cluster A6.

Info for manual annotations of cluster A7:

- Start number 59 was manually annotated 5 times for cluster A7.

Info for manual annotations of cluster A8:

- Start number 57 was manually annotated 11 times for cluster A8.

Info for manual annotations of cluster A9:

- Start number 58 was manually annotated 4 times for cluster A9.
- Start number 59 was manually annotated 31 times for cluster A9.

Info for manual annotations of cluster BD1:

- Start number 59 was manually annotated 55 times for cluster BD1.

Info for manual annotations of cluster BD2:

- Start number 18 was manually annotated 1 time for cluster BD2.
- Start number 59 was manually annotated 31 times for cluster BD2.

Info for manual annotations of cluster BD3:

- Start number 59 was manually annotated 12 times for cluster BD3.

Info for manual annotations of cluster BD4:

- Start number 59 was manually annotated 2 times for cluster BD4.

Info for manual annotations of cluster BD6:

- Start number 59 was manually annotated 4 times for cluster BD6.

Info for manual annotations of cluster CA:

- Start number 57 was manually annotated 36 times for cluster CA.

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

Gene: 20ES\_24 Start: 15823, Stop: 16230, Start Num: 59

Candidate Starts for 20ES\_24:

(38, 15733), (Start: 46 @15760 has 41 MA's), (Start: 59 @15823 has 514 MA's), (61, 15850), (69, 15907), (92, 16036), (101, 16078), (110, 16114), (112, 16123), (124, 16171), (127, 16186),

Gene: 40AC\_27 Start: 17840, Stop: 18241, Start Num: 59

Candidate Starts for 40AC\_27:

(Start: 59 @17840 has 514 MA's), (80, 17978), (124, 18182), (129, 18203),

Gene: A6\_20 Start: 15119, Stop: 15496, Start Num: 59

Candidate Starts for A6\_20:

(38, 15020), (Start: 59 @15119 has 514 MA's), (67, 15188), (71, 15212), (74, 15227), (75, 15230), (114, 15398),

Gene: ACFishhook\_25 Start: 15342, Stop: 15740, Start Num: 57

Candidate Starts for ACFishhook\_25:

(Start: 57 @15342 has 315 MA's), (68, 15414), (72, 15435), (74, 15447), (95, 15567), (98, 15576), (101, 15597), (113, 15639), (118, 15663), (120, 15669), (127, 15696),

Gene: AFIS\_22 Start: 15457, Stop: 15828, Start Num: 59

Candidate Starts for AFIS\_22:

(38, 15358), (Start: 59 @15457 has 514 MA's), (67, 15526), (75, 15568), (81, 15601), (123, 15766), (124, 15769), (125, 15772),



Gene: AN3\_24 Start: 15807, Stop: 16214, Start Num: 59

Candidate Starts for AN3\_24:

(38, 15717), (Start: 59 @15807 has 514 MA's), (61, 15834), (66, 15870), (92, 16020), (101, 16062), (109, 16095), (124, 16155), (127, 16170),

Gene: AN9\_27 Start: 15838, Stop: 16242, Start Num: 59

Candidate Starts for AN9\_27:

(Start: 59 @15838 has 514 MA's), (69, 15922), (80, 15976), (92, 16048), (127, 16198), (128, 16201),

Gene: ANI8\_27 Start: 15838, Stop: 16242, Start Num: 59

Candidate Starts for ANI8\_27:

(Start: 59 @15838 has 514 MA's), (69, 15922), (80, 15976), (92, 16048), (127, 16198), (128, 16201),

Gene: Aaronocolus\_16 Start: 10950, Stop: 11273, Start Num: 59

Candidate Starts for Aaronocolus\_16:

(Start: 59 @10950 has 514 MA's), (116, 11199), (131, 11259),

Gene: AbbyPaige\_26 Start: 16298, Stop: 16705, Start Num: 59

Candidate Starts for AbbyPaige\_26:

(Start: 59 @16298 has 514 MA's), (61, 16325), (66, 16361), (69, 16382), (92, 16511), (101, 16553), (109, 16586), (124, 16646), (127, 16661),

Gene: AbbysRanger\_23 Start: 15112, Stop: 15483, Start Num: 57

Candidate Starts for AbbysRanger\_23:

(42, 15025), (Start: 57 @15112 has 315 MA's), (67, 15178), (72, 15205), (77, 15226), (80, 15250), (98, 15325), (122, 15418), (124, 15424),

Gene: Abbysshoes\_23 Start: 15843, Stop: 16229, Start Num: 59

Candidate Starts for Abbysshoes\_23:

(38, 15744), (Start: 59 @15843 has 514 MA's), (74, 15951), (85, 16002), (88, 16014), (91, 16047), (101, 16092), (111, 16125), (124, 16170), (127, 16185), (131, 16200),

Gene: Abdiel\_88 Start: 15095, Stop: 15466, Start Num: 57

Candidate Starts for Abdiel\_88:

(Start: 57 @15095 has 315 MA's), (67, 15161), (72, 15188), (98, 15308), (122, 15401), (124, 15407),

Gene: Abrogate\_230 Start: 16207, Stop: 16584, Start Num: 59

Candidate Starts for Abrogate\_230:

(Start: 59 @16207 has 514 MA's), (75, 16318), (80, 16348), (100, 16438),

Gene: Achebe\_86 Start: 15092, Stop: 15463, Start Num: 57

Candidate Starts for Achebe\_86:

(Start: 57 @15092 has 315 MA's), (67, 15158), (72, 15185), (74, 15197), (77, 15206), (80, 15230), (98, 15305), (122, 15398), (124, 15404),

Gene: Acme\_24 Start: 15878, Stop: 16255, Start Num: 59

Candidate Starts for Acme\_24:

(Start: 59 @15878 has 514 MA's), (67, 15947), (71, 15971), (74, 15986), (75, 15989), (114, 16157),

Gene: Acolyte\_24 Start: 15948, Stop: 16343, Start Num: 59

Candidate Starts for Acolyte\_24:

(Start: 59 @15948 has 514 MA's), (71, 16038), (81, 16089), (83, 16095), (124, 16284),

Gene: Adahisdi\_23 Start: 15776, Stop: 16153, Start Num: 59

Candidate Starts for Adahisdi\_23:

(Start: 59 @15776 has 514 MA's), (78, 15905), (80, 15917), (100, 16007), (131, 16124),

Gene: Adzzy\_25 Start: 14539, Stop: 14943, Start Num: 59

Candidate Starts for Adzzy\_25:

(Start: 59 @14539 has 514 MA's), (69, 14623), (73, 14635), (80, 14677), (92, 14749), (124, 14884),

Gene: Agaliana\_22 Start: 15827, Stop: 16204, Start Num: 59

Candidate Starts for Agaliana\_22:

(Start: 59 @15827 has 514 MA's), (75, 15938), (98, 16046), (100, 16058), (118, 16127),

Gene: Agape74\_26 Start: 16274, Stop: 16681, Start Num: 59

Candidate Starts for Agape74\_26:

(Start: 59 @16274 has 514 MA's), (61, 16301), (66, 16337), (69, 16358), (92, 16487), (101, 16529), (109, 16562), (124, 16622), (127, 16637),

Gene: AgentM\_20 Start: 14521, Stop: 14901, Start Num: 57

Candidate Starts for AgentM\_20:

(Start: 57 @14521 has 315 MA's), (65, 14578), (67, 14584), (77, 14632), (80, 14656), (86, 14677), (88, 14686), (91, 14713), (97, 14734), (100, 14749), (106, 14770), (108, 14782), (127, 14854), (132, 14881),

Gene: Aglet\_25 Start: 15121, Stop: 15582, Start Num: 46

Candidate Starts for Aglet\_25:

(Start: 46 @15121 has 41 MA's), (Start: 57 @15184 has 315 MA's), (72, 15277), (74, 15289), (80, 15322), (84, 15334), (95, 15409), (98, 15418), (101, 15439), (113, 15481), (120, 15511), (127, 15538),

Gene: AgronaGT15\_25 Start: 15091, Stop: 15489, Start Num: 57

Candidate Starts for AgronaGT15\_25:

(Start: 46 @15028 has 41 MA's), (Start: 57 @15091 has 315 MA's), (72, 15184), (74, 15196), (80, 15229), (84, 15241), (95, 15316), (98, 15325), (101, 15346), (113, 15388), (120, 15418), (127, 15445),

Gene: Airmid\_20 Start: 14287, Stop: 14667, Start Num: 57

Candidate Starts for Airmid\_20:

(29, 14185), (Start: 46 @14224 has 41 MA's), (Start: 57 @14287 has 315 MA's), (80, 14422), (86, 14443), (91, 14479), (100, 14515), (120, 14593), (127, 14620), (131, 14635),

Gene: Ajay\_22 Start: 15593, Stop: 15970, Start Num: 59

Candidate Starts for Ajay\_22:

(35, 15491), (Start: 59 @15593 has 514 MA's), (67, 15662), (71, 15686), (74, 15701), (75, 15704), (114, 15872),

Gene: Alatin\_19 Start: 11349, Stop: 11699, Start Num: 57

Candidate Starts for Alatin\_19:

(Start: 57 @11349 has 315 MA's), (81, 11487), (83, 11493), (95, 11544), (122, 11649), (124, 11655), (131, 11685),

Gene: Albee\_23 Start: 15098, Stop: 15469, Start Num: 57

Candidate Starts for Albee\_23:

(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (98, 15311), (121, 15401), (122, 15404), (124, 15410),

Gene: Alberto7\_24 Start: 15400, Stop: 15771, Start Num: 57  
Candidate Starts for Alberto7\_24:  
(Start: 57 @15400 has 315 MA's), (67, 15466), (72, 15493), (98, 15613), (122, 15706), (124, 15712),

Gene: Aliter\_25 Start: 16542, Stop: 16937, Start Num: 59  
Candidate Starts for Aliter\_25:  
(Start: 59 @16542 has 514 MA's), (68, 16614), (77, 16653), (93, 16755), (95, 16764), (118, 16860),  
(124, 16878), (127, 16893),

Gene: Alma\_25 Start: 16621, Stop: 17016, Start Num: 59  
Candidate Starts for Alma\_25:  
(Start: 59 @16621 has 514 MA's), (68, 16693), (77, 16732), (93, 16834), (95, 16843), (118, 16939),  
(124, 16957), (127, 16972),

Gene: Alpacados\_18 Start: 11285, Stop: 11635, Start Num: 57  
Candidate Starts for Alpacados\_18:  
(Start: 57 @11285 has 315 MA's), (81, 11423), (83, 11429), (95, 11480), (104, 11519), (122, 11585),  
(124, 11591), (131, 11621),

Gene: Alsaber\_17 Start: 10852, Stop: 11175, Start Num: 59  
Candidate Starts for Alsaber\_17:  
(Start: 59 @10852 has 514 MA's), (99, 11035), (120, 11119),

Gene: Alsfro\_26 Start: 16319, Stop: 16696, Start Num: 59  
Candidate Starts for Alsfro\_26:  
(Start: 59 @16319 has 514 MA's), (75, 16430), (98, 16538), (100, 16550), (118, 16619),

Gene: Altman\_24 Start: 16372, Stop: 16749, Start Num: 59  
Candidate Starts for Altman\_24:  
(38, 16273), (Start: 59 @16372 has 514 MA's), (78, 16501), (80, 16513), (100, 16603), (131, 16720),

Gene: Alvy\_18 Start: 10955, Stop: 11302, Start Num: 59  
Candidate Starts for Alvy\_18:  
(54, 10937), (Start: 59 @10955 has 514 MA's), (86, 11111), (105, 11171),

Gene: Amela\_16 Start: 11141, Stop: 11464, Start Num: 59  
Candidate Starts for Amela\_16:  
(Start: 59 @11141 has 514 MA's), (99, 11324), (120, 11408),

Gene: Amethyst\_16 Start: 10807, Stop: 11148, Start Num: 59  
Candidate Starts for Amethyst\_16:  
(17, 10669), (Start: 59 @10807 has 514 MA's), (99, 10993), (105, 11017), (131, 11119),

Gene: Anaysia\_26 Start: 14948, Stop: 15331, Start Num: 59  
Candidate Starts for Anaysia\_26:  
(52, 14918), (Start: 59 @14948 has 514 MA's), (71, 15038), (117, 15248), (122, 15266), (124, 15272),  
(131, 15302),

Gene: Andris\_16 Start: 10783, Stop: 11124, Start Num: 59  
Candidate Starts for Andris\_16:  
(54, 10765), (Start: 59 @10783 has 514 MA's), (86, 10939), (116, 11035), (120, 11053), (131, 11095),

Gene: Aneem\_24 Start: 16362, Stop: 16757, Start Num: 59  
Candidate Starts for Aneem\_24:  
(Start: 59 @16362 has 514 MA's), (68, 16434), (71, 16452), (83, 16509), (98, 16587), (118, 16680),

Gene: Anglerfish\_23 Start: 16743, Stop: 17120, Start Num: 59  
Candidate Starts for Anglerfish\_23:  
(51, 16710), (Start: 59 @16743 has 514 MA's), (67, 16812), (71, 16836), (74, 16851), (75, 16854), (78, 16872), (114, 17022), (131, 17091),

Gene: AngryOrchard\_18 Start: 11268, Stop: 11618, Start Num: 57  
Candidate Starts for AngryOrchard\_18:  
(Start: 57 @11268 has 315 MA's), (81, 11406), (83, 11412), (95, 11463), (104, 11502), (122, 11568), (124, 11574), (131, 11604),

Gene: Animus\_17 Start: 11107, Stop: 11448, Start Num: 59  
Candidate Starts for Animus\_17:  
(54, 11089), (Start: 59 @11107 has 514 MA's), (86, 11263), (131, 11419),

Gene: AnnaL29\_27 Start: 17660, Stop: 18064, Start Num: 59  
Candidate Starts for AnnaL29\_27:  
(24, 17555), (Start: 46 @17597 has 41 MA's), (Start: 59 @17660 has 514 MA's), (69, 17744), (71, 17750), (80, 17798), (86, 17819), (101, 17912), (124, 18005), (127, 18020),

Gene: Annyong\_23 Start: 15099, Stop: 15470, Start Num: 57  
Candidate Starts for Annyong\_23:  
(Start: 57 @15099 has 315 MA's), (67, 15165), (72, 15192), (98, 15312), (122, 15405), (124, 15411),

Gene: Anon\_24 Start: 15249, Stop: 15626, Start Num: 59  
Candidate Starts for Anon\_24:  
(Start: 59 @15249 has 514 MA's), (66, 15312), (122, 15561), (124, 15567), (127, 15582), (131, 15597),

Gene: Anselm\_24 Start: 15900, Stop: 16307, Start Num: 59  
Candidate Starts for Anselm\_24:  
(Start: 59 @15900 has 514 MA's), (69, 15984), (92, 16113), (101, 16155), (109, 16188), (124, 16248), (127, 16263),

Gene: Anthony\_23 Start: 13935, Stop: 14330, Start Num: 59  
Candidate Starts for Anthony\_23:  
(Start: 59 @13935 has 514 MA's), (80, 14073), (100, 14172), (124, 14271), (132, 14313),

Gene: Anubis\_27 Start: 15006, Stop: 15467, Start Num: 46  
Candidate Starts for Anubis\_27:  
(Start: 46 @15006 has 41 MA's), (Start: 57 @15069 has 315 MA's), (72, 15162), (74, 15174), (80, 15207), (84, 15219), (95, 15294), (98, 15303), (101, 15324), (113, 15366), (120, 15396), (127, 15423),

Gene: AppleCloud\_17 Start: 11002, Stop: 11352, Start Num: 57  
Candidate Starts for AppleCloud\_17:  
(Start: 57 @11002 has 315 MA's), (95, 11197), (122, 11302), (124, 11308), (131, 11338),

Gene: Applejack\_22 Start: 15524, Stop: 15901, Start Num: 59  
Candidate Starts for Applejack\_22:  
(Start: 59 @15524 has 514 MA's), (75, 15635), (98, 15743), (100, 15755), (118, 15824),

Gene: Aragog\_20 Start: 14551, Stop: 14931, Start Num: 57

Candidate Starts for Aragog\_20:

(Start: 57 @14551 has 315 MA's), (65, 14608), (67, 14614), (77, 14662), (80, 14686), (86, 14707), (88, 14716), (91, 14743), (97, 14764), (100, 14779), (106, 14800), (108, 14812), (127, 14884), (132, 14911),

Gene: Arcanine\_23 Start: 15759, Stop: 16136, Start Num: 59

Candidate Starts for Arcanine\_23:

(Start: 59 @15759 has 514 MA's), (67, 15828), (71, 15852), (74, 15867), (75, 15870), (114, 16038),

Gene: ArcherNM\_26 Start: 17602, Stop: 18006, Start Num: 59

Candidate Starts for ArcherNM\_26:

(47, 17548), (Start: 59 @17602 has 514 MA's), (69, 17686), (80, 17740), (86, 17761), (91, 17809), (101, 17854), (124, 17947), (127, 17962),

Gene: Archetta\_20 Start: 14264, Stop: 14644, Start Num: 57

Candidate Starts for Archetta\_20:

(Start: 57 @14264 has 315 MA's), (65, 14321), (67, 14327), (77, 14375), (80, 14399), (86, 14420), (88, 14429), (91, 14456), (97, 14477), (100, 14492), (106, 14513), (108, 14525), (127, 14597), (132, 14624),

Gene: Arissanae\_23 Start: 14704, Stop: 15099, Start Num: 58

Candidate Starts for Arissanae\_23:

(37, 14614), (Start: 58 @14704 has 4 MA's), (68, 14776), (80, 14839), (93, 14917), (95, 14926), (118, 15022), (124, 15040), (127, 15055),

Gene: Arlo\_21 Start: 15153, Stop: 15530, Start Num: 59

Candidate Starts for Arlo\_21:

(38, 15054), (Start: 59 @15153 has 514 MA's), (78, 15282), (80, 15294), (100, 15384), (131, 15501),

Gene: Artemis2UCLA\_27 Start: 15807, Stop: 16211, Start Num: 59

Candidate Starts for Artemis2UCLA\_27:

(Start: 46 @15744 has 41 MA's), (Start: 59 @15807 has 514 MA's), (80, 15945), (86, 15966), (91, 16014), (99, 16047), (101, 16059), (124, 16152),

Gene: Arturo\_23 Start: 15209, Stop: 15580, Start Num: 57

Candidate Starts for Arturo\_23:

(Start: 57 @15209 has 315 MA's), (67, 15275), (72, 15302), (98, 15422), (122, 15515), (124, 15521),

Gene: Ashballer\_21 Start: 15536, Stop: 15913, Start Num: 59

Candidate Starts for Ashballer\_21:

(38, 15437), (Start: 59 @15536 has 514 MA's), (67, 15605), (71, 15629), (74, 15644), (75, 15647), (78, 15665), (114, 15815), (131, 15884),

Gene: Asten\_16 Start: 10920, Stop: 11243, Start Num: 59

Candidate Starts for Asten\_16:

(Start: 59 @10920 has 514 MA's), (116, 11169), (131, 11229),

Gene: Astro\_20 Start: 13754, Stop: 14119, Start Num: 57

Candidate Starts for Astro\_20:

(Start: 57 @13754 has 315 MA's), (65, 13814), (68, 13826), (85, 13910), (86, 13913), (91, 13949), (98, 13973), (122, 14069),

Gene: Atkinbua\_23 Start: 15491, Stop: 15868, Start Num: 59  
Candidate Starts for Atkinbua\_23:  
(Start: 59 @15491 has 514 MA's), (67, 15560), (71, 15584), (74, 15599), (75, 15602), (114, 15770),

Gene: Attoomi\_13 Start: 8688, Stop: 9035, Start Num: 59  
Candidate Starts for Attoomi\_13:  
(Start: 59 @8688 has 514 MA's), (62, 8715), (76, 8796), (82, 8829), (107, 8907), (114, 8937), (115, 8943), (120, 8964), (124, 8976),

Gene: AugsMagnumOpus\_27 Start: 15175, Stop: 15573, Start Num: 57  
Candidate Starts for AugsMagnumOpus\_27:  
(Start: 46 @15112 has 41 MA's), (Start: 57 @15175 has 315 MA's), (72, 15268), (74, 15280), (80, 15313), (84, 15325), (95, 15400), (98, 15409), (101, 15430), (113, 15472), (120, 15502), (127, 15529),

Gene: AvatarAhPeg\_24 Start: 15377, Stop: 15748, Start Num: 57  
Candidate Starts for AvatarAhPeg\_24:  
(Start: 40 @15287 has 3 MA's), (42, 15290), (Start: 57 @15377 has 315 MA's), (67, 15443), (72, 15470), (77, 15491), (80, 15515), (98, 15590), (122, 15683), (124, 15689),

Gene: Avle17\_23 Start: 15098, Stop: 15469, Start Num: 57  
Candidate Starts for Avle17\_23:  
(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (98, 15311), (122, 15404), (124, 15410),

Gene: Axiom\_17 Start: 10821, Stop: 11162, Start Num: 59  
Candidate Starts for Axiom\_17:  
(54, 10803), (Start: 59 @10821 has 514 MA's), (86, 10977), (120, 11091), (131, 11133),

Gene: B1\_21 Start: 14311, Stop: 14760, Start Num: 46  
Candidate Starts for B1\_21:  
(Start: 46 @14311 has 41 MA's), (Start: 57 @14377 has 315 MA's), (86, 14536), (87, 14545), (91, 14572), (101, 14617), (120, 14689), (127, 14716),

Gene: BABullseye\_27 Start: 15915, Stop: 16319, Start Num: 59  
Candidate Starts for BABullseye\_27:  
(24, 15810), (38, 15825), (Start: 46 @15852 has 41 MA's), (Start: 59 @15915 has 514 MA's), (80, 16053), (86, 16074), (99, 16155), (101, 16167), (124, 16260), (127, 16275),

Gene: BK1\_20 Start: 15119, Stop: 15496, Start Num: 59  
Candidate Starts for BK1\_20:  
(38, 15020), (Start: 59 @15119 has 514 MA's), (67, 15188), (71, 15212), (74, 15227), (75, 15230), (114, 15398),

Gene: BPBiubs31\_23 Start: 15800, Stop: 16177, Start Num: 59  
Candidate Starts for BPBiubs31\_23:  
(Start: 59 @15800 has 514 MA's), (67, 15869), (71, 15893), (74, 15908), (75, 15911), (78, 15929), (114, 16079),

Gene: Baby16\_23 Start: 15107, Stop: 15478, Start Num: 57  
Candidate Starts for Baby16\_23:  
(Start: 57 @15107 has 315 MA's), (67, 15173), (72, 15200), (98, 15320), (122, 15413), (124, 15419),

Gene: BabyBack\_26 Start: 17417, Stop: 17821, Start Num: 59  
Candidate Starts for BabyBack\_26:

(Start: 40 @17330 has 3 MA's), (Start: 59 @17417 has 514 MA's), (61, 17444), (66, 17480), (69, 17501), (74, 17522), (80, 17555), (91, 17624), (92, 17627), (101, 17669), (124, 17762), (127, 17777),

Gene: BabyJohn\_22 Start: 14967, Stop: 15350, Start Num: 57

Candidate Starts for BabyJohn\_22:

(Start: 46 @14901 has 41 MA's), (Start: 57 @14967 has 315 MA's), (72, 15060), (86, 15126), (87, 15135), (91, 15162), (101, 15207), (124, 15291), (127, 15306),

Gene: BabyRay\_23 Start: 14943, Stop: 15326, Start Num: 57

Candidate Starts for BabyRay\_23:

(21, 14829), (29, 14841), (Start: 46 @14877 has 41 MA's), (Start: 57 @14943 has 315 MA's), (72, 15036), (86, 15102), (87, 15111), (91, 15138), (101, 15183), (120, 15255), (124, 15267), (127, 15282),

Gene: Bachome\_24 Start: 16353, Stop: 16748, Start Num: 59

Candidate Starts for Bachome\_24:

(Start: 59 @16353 has 514 MA's), (68, 16425), (71, 16443), (83, 16500), (98, 16578), (104, 16608), (118, 16671),

Gene: Backyardigan\_23 Start: 15104, Stop: 15475, Start Num: 57

Candidate Starts for Backyardigan\_23:

(Start: 57 @15104 has 315 MA's), (67, 15170), (72, 15197), (74, 15209), (77, 15218), (80, 15242), (98, 15317), (122, 15410), (124, 15416),

Gene: BaconJack\_24 Start: 15874, Stop: 16251, Start Num: 59

Candidate Starts for BaconJack\_24:

(38, 15775), (Start: 59 @15874 has 514 MA's), (67, 15943), (71, 15967), (74, 15982), (75, 15985), (78, 16003), (114, 16153),

Gene: Bactobuster\_25 Start: 17547, Stop: 17945, Start Num: 59

Candidate Starts for Bactobuster\_25:

(3, 17280), (8, 17331), (Start: 27 @17445 has 1 MA's), (Start: 59 @17547 has 514 MA's), (74, 17652), (124, 17886), (125, 17889),

Gene: Badger\_23 Start: 15093, Stop: 15464, Start Num: 57

Candidate Starts for Badger\_23:

(Start: 57 @15093 has 315 MA's), (67, 15159), (72, 15186), (74, 15198), (77, 15207), (80, 15231), (98, 15306), (122, 15399), (124, 15405),

Gene: Baehexic\_25 Start: 16315, Stop: 16719, Start Num: 59

Candidate Starts for Baehexic\_25:

(53, 16288), (Start: 59 @16315 has 514 MA's), (61, 16342), (69, 16399), (100, 16558), (101, 16567), (124, 16660), (127, 16675),

Gene: BangNhom\_23 Start: 15409, Stop: 15780, Start Num: 57

Candidate Starts for BangNhom\_23:

(Start: 57 @15409 has 315 MA's), (67, 15475), (72, 15502), (98, 15622), (122, 15715), (124, 15721),

Gene: Barriga\_22 Start: 15388, Stop: 15765, Start Num: 59

Candidate Starts for Barriga\_22:

(31, 15280), (35, 15286), (Start: 59 @15388 has 514 MA's), (67, 15457), (71, 15481), (74, 15496), (75, 15499), (114, 15667),

Gene: BarryBee\_18 Start: 10930, Stop: 11253, Start Num: 59

Candidate Starts for BarryBee\_18:

(Start: 59 @10930 has 514 MA's), (116, 11179), (131, 11239),

Gene: BartholomewSD\_18 Start: 10955, Stop: 11302, Start Num: 59

Candidate Starts for BartholomewSD\_18:

(54, 10937), (Start: 59 @10955 has 514 MA's), (86, 11111), (105, 11171),

Gene: Bartimeaus\_23 Start: 15098, Stop: 15469, Start Num: 57

Candidate Starts for Bartimeaus\_23:

(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (98, 15311), (122, 15404), (124, 15410),

Gene: Battleship\_27 Start: 15063, Stop: 15446, Start Num: 59

Candidate Starts for Battleship\_27:

(52, 15033), (Start: 59 @15063 has 514 MA's), (71, 15153), (117, 15363), (122, 15381), (124, 15387), (131, 15417),

Gene: BeardedLady\_17 Start: 11197, Stop: 11520, Start Num: 59

Candidate Starts for BeardedLady\_17:

(Start: 59 @11197 has 514 MA's), (116, 11446), (131, 11506),

Gene: Beatrix\_21 Start: 16312, Stop: 16683, Start Num: 59

Candidate Starts for Beatrix\_21:

(12, 16138), (38, 16213), (Start: 59 @16312 has 514 MA's), (67, 16381), (75, 16423), (81, 16456), (118, 16606), (123, 16621), (124, 16624), (125, 16627),

Gene: Beauxregard13\_25 Start: 15120, Stop: 15581, Start Num: 46

Candidate Starts for Beauxregard13\_25:

(Start: 46 @15120 has 41 MA's), (Start: 57 @15183 has 315 MA's), (72, 15276), (74, 15288), (80, 15321), (84, 15333), (95, 15408), (98, 15417), (101, 15438), (113, 15480), (120, 15510), (127, 15537),

Gene: Beemo\_25 Start: 16648, Stop: 17043, Start Num: 59

Candidate Starts for Beemo\_25:

(Start: 59 @16648 has 514 MA's), (68, 16720), (77, 16759), (93, 16861), (95, 16870), (118, 16966), (124, 16984), (127, 16999),

Gene: BeesKnees\_23 Start: 15580, Stop: 15957, Start Num: 59

Candidate Starts for BeesKnees\_23:

(51, 15547), (Start: 59 @15580 has 514 MA's), (80, 15721),

Gene: Belenaria\_19 Start: 11349, Stop: 11699, Start Num: 57

Candidate Starts for Belenaria\_19:

(Start: 57 @11349 has 315 MA's), (81, 11487), (83, 11493), (95, 11544), (122, 11649), (124, 11655), (131, 11685),

Gene: BellusTerra\_23 Start: 15095, Stop: 15466, Start Num: 57

Candidate Starts for BellusTerra\_23:

(Start: 57 @15095 has 315 MA's), (67, 15161), (72, 15188), (98, 15308), (122, 15401), (124, 15407),

Gene: Benedict\_20 Start: 14290, Stop: 14670, Start Num: 57

Candidate Starts for Benedict\_20:

(29, 14188), (Start: 46 @14227 has 41 MA's), (Start: 57 @14290 has 315 MA's), (80, 14425), (86, 14446), (91, 14482), (100, 14518), (120, 14596), (127, 14623), (131, 14638),



Gene: BengiVuitton\_25 Start: 16220, Stop: 16627, Start Num: 59  
Candidate Starts for BengiVuitton\_25:  
(4, 15968), (8, 16004), (Start: 46 @16157 has 41 MA's), (Start: 59 @16220 has 514 MA's), (61, 16247),  
(65, 16280), (69, 16304), (92, 16433), (101, 16475), (109, 16508), (124, 16568), (127, 16583),

Gene: Benvolio\_24 Start: 15899, Stop: 16306, Start Num: 59  
Candidate Starts for Benvolio\_24:  
(Start: 59 @15899 has 514 MA's), (65, 15959), (69, 15983), (92, 16112), (101, 16154), (124, 16247),  
(127, 16262),

Gene: Bexan\_21 Start: 16537, Stop: 16914, Start Num: 59  
Candidate Starts for Bexan\_21:  
(38, 16438), (Start: 59 @16537 has 514 MA's), (67, 16606), (71, 16630), (74, 16645), (75, 16648), (78,  
16666), (114, 16816), (131, 16885),

Gene: BiancaTri92\_26 Start: 17586, Stop: 17993, Start Num: 59  
Candidate Starts for BiancaTri92\_26:  
(Start: 59 @17586 has 514 MA's), (66, 17649), (69, 17670), (80, 17724), (92, 17799), (101, 17841),  
(104, 17850), (109, 17874), (124, 17934), (127, 17949),

Gene: Big3\_22 Start: 16168, Stop: 16545, Start Num: 59  
Candidate Starts for Big3\_22:  
(Start: 59 @16168 has 514 MA's), (67, 16237), (71, 16261), (74, 16276), (75, 16279), (114, 16447),

Gene: BigMau\_24 Start: 15760, Stop: 16137, Start Num: 59  
Candidate Starts for BigMau\_24:  
(38, 15661), (Start: 59 @15760 has 514 MA's), (78, 15889), (80, 15901), (131, 16108),

Gene: Bigfoot\_21 Start: 15289, Stop: 15666, Start Num: 59  
Candidate Starts for Bigfoot\_21:  
(Start: 59 @15289 has 514 MA's), (75, 15400), (80, 15430), (100, 15520),

Gene: BillKnuckles\_23 Start: 16253, Stop: 16630, Start Num: 59  
Candidate Starts for BillKnuckles\_23:  
(38, 16154), (Start: 59 @16253 has 514 MA's), (67, 16322), (71, 16346), (74, 16361), (75, 16364), (78,  
16382), (114, 16532), (131, 16601),

Gene: Bircsak\_22 Start: 16038, Stop: 16415, Start Num: 59  
Candidate Starts for Bircsak\_22:  
(Start: 59 @16038 has 514 MA's), (75, 16149), (98, 16257), (100, 16269), (118, 16338),

Gene: Blackmoor\_23 Start: 15098, Stop: 15469, Start Num: 57  
Candidate Starts for Blackmoor\_23:  
(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (98, 15311), (122, 15404), (124, 15410),

Gene: BlessJoy\_27 Start: 15905, Stop: 16309, Start Num: 59  
Candidate Starts for BlessJoy\_27:  
(Start: 46 @15842 has 41 MA's), (Start: 59 @15905 has 514 MA's), (80, 16043), (86, 16064), (91,  
16112), (99, 16145), (101, 16157), (124, 16250),

Gene: Blinn1\_27 Start: 15964, Stop: 16368, Start Num: 59  
Candidate Starts for Blinn1\_27:

(24, 15859), (38, 15874), (Start: 46 @15901 has 41 MA's), (Start: 59 @15964 has 514 MA's), (80, 16102), (86, 16123), (99, 16204), (101, 16216), (124, 16309), (127, 16324), (132, 16351),

Gene: BluSpix\_22 Start: 15549, Stop: 15926, Start Num: 59

Candidate Starts for BluSpix\_22:

(Start: 59 @15549 has 514 MA's), (67, 15618), (71, 15642), (74, 15657), (75, 15660), (78, 15678), (114, 15828), (127, 15882),

Gene: Blue\_22 Start: 15654, Stop: 16040, Start Num: 59

Candidate Starts for Blue\_22:

(38, 15552), (Start: 59 @15654 has 514 MA's), (74, 15762), (85, 15813), (88, 15825), (91, 15858), (101, 15903), (124, 15981), (127, 15996), (131, 16011),

Gene: Blue7\_27 Start: 15897, Stop: 16301, Start Num: 59

Candidate Starts for Blue7\_27:

(Start: 46 @15834 has 41 MA's), (Start: 59 @15897 has 514 MA's), (80, 16035), (86, 16056), (91, 16104), (99, 16137), (101, 16149), (124, 16242),

Gene: BlueBird\_24 Start: 14698, Stop: 15081, Start Num: 57

Candidate Starts for BlueBird\_24:

(21, 14584), (Start: 46 @14632 has 41 MA's), (Start: 57 @14698 has 315 MA's), (72, 14791), (86, 14857), (87, 14866), (91, 14893), (101, 14938), (120, 15010), (124, 15022), (127, 15037),

Gene: Bluefalcon\_19 Start: 14521, Stop: 14901, Start Num: 57

Candidate Starts for Bluefalcon\_19:

(Start: 57 @14521 has 315 MA's), (65, 14578), (67, 14584), (77, 14632), (80, 14656), (86, 14677), (88, 14686), (91, 14713), (97, 14734), (100, 14749), (106, 14770), (108, 14782), (127, 14854), (132, 14881),

Gene: Bob3\_22 Start: 15100, Stop: 15477, Start Num: 59

Candidate Starts for Bob3\_22:

(38, 15001), (Start: 59 @15100 has 514 MA's), (78, 15229), (80, 15241), (100, 15331), (131, 15448),

Gene: BobSwaget\_27 Start: 17430, Stop: 17834, Start Num: 59

Candidate Starts for BobSwaget\_27:

(Start: 59 @17430 has 514 MA's), (66, 17493), (69, 17514), (80, 17568), (91, 17637), (101, 17682), (109, 17715), (124, 17775), (127, 17790),

Gene: BobbyDazzler\_19 Start: 11394, Stop: 11744, Start Num: 57

Candidate Starts for BobbyDazzler\_19:

(Start: 57 @11394 has 315 MA's), (81, 11532), (83, 11538), (95, 11589), (104, 11628), (122, 11694), (124, 11700), (131, 11730),

Gene: BogosyJay\_25 Start: 16363, Stop: 16758, Start Num: 59

Candidate Starts for BogosyJay\_25:

(Start: 59 @16363 has 514 MA's), (67, 16429), (68, 16435), (77, 16474), (93, 16576), (95, 16585), (118, 16681), (124, 16699), (127, 16714),

Gene: Bombshell\_23 Start: 15098, Stop: 15469, Start Num: 57

Candidate Starts for Bombshell\_23:

(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (98, 15311), (122, 15404), (124, 15410),

Gene: Bonamassa\_20 Start: 14446, Stop: 14826, Start Num: 57

Candidate Starts for Bonamassa\_20:

(Start: 57 @14446 has 315 MA's), (65, 14503), (77, 14557), (80, 14581), (86, 14602), (88, 14611), (91, 14638), (97, 14659), (100, 14674), (106, 14695), (108, 14707), (118, 14746), (127, 14779), (132, 14806),

Gene: Bonanza\_20 Start: 11323, Stop: 11673, Start Num: 57

Candidate Starts for Bonanza\_20:

(Start: 57 @11323 has 315 MA's), (81, 11461), (83, 11467), (95, 11518), (104, 11557), (122, 11623), (124, 11629), (131, 11659),

Gene: Bones\_22 Start: 15292, Stop: 15663, Start Num: 59

Candidate Starts for Bones\_22:

(38, 15190), (Start: 59 @15292 has 514 MA's), (67, 15361), (75, 15403), (81, 15436), (118, 15586), (123, 15601), (124, 15604), (125, 15607),

Gene: Boohoo\_26 Start: 14948, Stop: 15331, Start Num: 59

Candidate Starts for Boohoo\_26:

(52, 14918), (Start: 59 @14948 has 514 MA's), (71, 15038), (117, 15248), (122, 15266), (124, 15272), (131, 15302),

Gene: Bovely\_16 Start: 10956, Stop: 11279, Start Num: 59

Candidate Starts for Bovely\_16:

(Start: 59 @10956 has 514 MA's), (116, 11205), (131, 11265),

Gene: Bowden\_17 Start: 10887, Stop: 11234, Start Num: 59

Candidate Starts for Bowden\_17:

(54, 10869), (Start: 59 @10887 has 514 MA's), (86, 11043), (105, 11103),

Gene: Bowtie\_24 Start: 16362, Stop: 16757, Start Num: 59

Candidate Starts for Bowtie\_24:

(Start: 59 @16362 has 514 MA's), (68, 16434), (71, 16452), (83, 16509), (98, 16587), (118, 16680),

Gene: Bradman\_23 Start: 14715, Stop: 15119, Start Num: 59

Candidate Starts for Bradman\_23:

(Start: 59 @14715 has 514 MA's), (69, 14799), (73, 14811), (112, 15012),

Gene: Bradshaw\_19 Start: 11349, Stop: 11699, Start Num: 57

Candidate Starts for Bradshaw\_19:

(Start: 57 @11349 has 315 MA's), (81, 11487), (83, 11493), (95, 11544), (122, 11649), (124, 11655), (131, 11685),

Gene: Brataylor\_17 Start: 10942, Stop: 11265, Start Num: 59

Candidate Starts for Brataylor\_17:

(Start: 59 @10942 has 514 MA's), (86, 11095), (116, 11191),

Gene: BreSam8\_25 Start: 15176, Stop: 15574, Start Num: 57

Candidate Starts for BreSam8\_25:

(Start: 46 @15113 has 41 MA's), (Start: 57 @15176 has 315 MA's), (72, 15269), (74, 15281), (80, 15314), (84, 15326), (95, 15401), (98, 15410), (101, 15431), (113, 15473), (120, 15503), (127, 15530),

Gene: Briton15\_24 Start: 15837, Stop: 16214, Start Num: 59

Candidate Starts for Briton15\_24:

(51, 15804), (Start: 59 @15837 has 514 MA's), (80, 15978), (100, 16068),

Gene: BroPlease\_18 Start: 11131, Stop: 11460, Start Num: 59

Candidate Starts for BroPlease\_18:

(31, 11029), (Start: 59 @11131 has 514 MA's), (105, 11344), (116, 11386), (120, 11404),

Gene: Broseidon\_23 Start: 15098, Stop: 15469, Start Num: 57

Candidate Starts for Broseidon\_23:

(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (98, 15311), (122, 15404), (124, 15410),

Gene: Bruiser\_88 Start: 15098, Stop: 15469, Start Num: 57

Candidate Starts for Bruiser\_88:

(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (98, 15311), (122, 15404), (124, 15410),

Gene: Bruns\_21 Start: 15472, Stop: 15849, Start Num: 59

Candidate Starts for Bruns\_21:

(38, 15373), (Start: 59 @15472 has 514 MA's), (67, 15541), (71, 15565), (74, 15580), (75, 15583), (78, 15601), (114, 15751),

Gene: BryanRecycles\_17 Start: 11113, Stop: 11436, Start Num: 59

Candidate Starts for BryanRecycles\_17:

(Start: 59 @11113 has 514 MA's), (131, 11422),

Gene: Bryce\_19 Start: 11323, Stop: 11673, Start Num: 57

Candidate Starts for Bryce\_19:

(Start: 57 @11323 has 315 MA's), (81, 11461), (83, 11467), (95, 11518), (104, 11557), (122, 11623), (124, 11629), (131, 11659),

Gene: BubbleTrouble\_23 Start: 15098, Stop: 15469, Start Num: 57

Candidate Starts for BubbleTrouble\_23:

(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (98, 15311), (122, 15404), (124, 15410),

Gene: Bud\_24 Start: 16368, Stop: 16763, Start Num: 59

Candidate Starts for Bud\_24:

(Start: 59 @16368 has 514 MA's), (68, 16440), (71, 16458), (83, 16515), (98, 16593), (118, 16686),

Gene: Bugatti\_23 Start: 14698, Stop: 15081, Start Num: 57

Candidate Starts for Bugatti\_23:

(21, 14584), (Start: 46 @14632 has 41 MA's), (Start: 57 @14698 has 315 MA's), (72, 14791), (86, 14857), (87, 14866), (91, 14893), (101, 14938), (120, 15010), (124, 15022), (127, 15037),

Gene: Buggy\_26 Start: 16297, Stop: 16704, Start Num: 59

Candidate Starts for Buggy\_26:

(Start: 59 @16297 has 514 MA's), (61, 16324), (66, 16360), (69, 16381), (92, 16510), (101, 16552), (109, 16585), (124, 16645), (127, 16660),

Gene: Bumblebee11\_23 Start: 15098, Stop: 15469, Start Num: 57

Candidate Starts for Bumblebee11\_23:

(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (77, 15212), (80, 15236), (98, 15311), (122, 15404), (124, 15410),

Gene: Burger\_22 Start: 15098, Stop: 15469, Start Num: 57

Candidate Starts for Burger\_22:

(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (98, 15311), (122, 15404), (124, 15410),

Gene: Burton\_23 Start: 15670, Stop: 16047, Start Num: 59

Candidate Starts for Burton\_23:

(38, 15571), (Start: 59 @15670 has 514 MA's), (67, 15739), (71, 15763), (74, 15778), (75, 15781), (78, 15799), (114, 15949),

Gene: Buttons\_23 Start: 16034, Stop: 16411, Start Num: 59

Candidate Starts for Buttons\_23:

(38, 15935), (Start: 59 @16034 has 514 MA's), (67, 16103), (71, 16127), (74, 16142), (75, 16145), (114, 16313),

Gene: BuzzBuzz\_24 Start: 15267, Stop: 15665, Start Num: 57

Candidate Starts for BuzzBuzz\_24:

(Start: 46 @15204 has 41 MA's), (Start: 57 @15267 has 315 MA's), (72, 15360), (74, 15372), (80, 15405), (84, 15417), (95, 15492), (98, 15501), (101, 15522), (113, 15564), (120, 15594), (127, 15621),

Gene: Bxb1\_21 Start: 15621, Stop: 15998, Start Num: 59

Candidate Starts for Bxb1\_21:

(38, 15522), (Start: 59 @15621 has 514 MA's), (67, 15690), (71, 15714), (74, 15729), (75, 15732), (78, 15750), (114, 15900), (131, 15969),

Gene: Bxz2\_24 Start: 15277, Stop: 15675, Start Num: 57

Candidate Starts for Bxz2\_24:

(Start: 46 @15214 has 41 MA's), (Start: 57 @15277 has 315 MA's), (72, 15370), (74, 15382), (80, 15415), (84, 15427), (95, 15502), (98, 15511), (101, 15532), (113, 15574), (120, 15604), (127, 15631),

Gene: C3\_22 Start: 15838, Stop: 16242, Start Num: 59

Candidate Starts for C3\_22:

(Start: 59 @15838 has 514 MA's), (69, 15922), (80, 15976), (92, 16048), (127, 16198), (128, 16201),

Gene: CRB1\_24 Start: 15786, Stop: 16193, Start Num: 59

Candidate Starts for CRB1\_24:

(38, 15696), (Start: 46 @15723 has 41 MA's), (Start: 59 @15786 has 514 MA's), (61, 15813), (66, 15849), (92, 15999), (101, 16041), (110, 16077), (112, 16086), (124, 16134), (127, 16149),

Gene: CactusRose\_21 Start: 15287, Stop: 15658, Start Num: 59

Candidate Starts for CactusRose\_21:

(38, 15188), (Start: 59 @15287 has 514 MA's), (67, 15356), (75, 15398), (81, 15431), (118, 15581), (123, 15596), (124, 15599), (125, 15602),

Gene: Caelakin\_23 Start: 15098, Stop: 15469, Start Num: 57

Candidate Starts for Caelakin\_23:

(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (98, 15311), (122, 15404), (124, 15410),

Gene: Caelum\_18 Start: 10754, Stop: 11095, Start Num: 59

Candidate Starts for Caelum\_18:

(Start: 27 @10649 has 1 MA's), (54, 10736), (Start: 59 @10754 has 514 MA's), (70, 10838), (86, 10910), (99, 10940), (131, 11066),

Gene: Caliburn\_16 Start: 10930, Stop: 11253, Start Num: 59

Candidate Starts for Caliburn\_16:

(Start: 59 @10930 has 514 MA's), (116, 11179), (131, 11239),

Gene: Calvinny\_26 Start: 15261, Stop: 15659, Start Num: 57

Candidate Starts for Calvinny\_26:

(Start: 57 @15261 has 315 MA's), (68, 15333), (72, 15354), (74, 15366), (95, 15486), (98, 15495), (101, 15516), (113, 15558), (118, 15582), (120, 15588), (127, 15615),

Gene: Camperdownii\_22 Start: 14717, Stop: 15088, Start Num: 57

Candidate Starts for Camperdownii\_22:

(Start: 57 @14717 has 315 MA's), (67, 14783), (72, 14810), (98, 14930), (122, 15023), (124, 15029),

Gene: Candra\_27 Start: 15958, Stop: 16362, Start Num: 59

Candidate Starts for Candra\_27:

(24, 15853), (38, 15868), (Start: 46 @15895 has 41 MA's), (Start: 59 @15958 has 514 MA's), (80, 16096), (86, 16117), (99, 16198), (101, 16210), (124, 16303), (127, 16318),

Gene: Caraxes\_23 Start: 14448, Stop: 14852, Start Num: 59

Candidate Starts for Caraxes\_23:

(Start: 59 @14448 has 514 MA's), (69, 14532), (80, 14586), (83, 14595), (92, 14658),

Gene: Carlyle\_24 Start: 16416, Stop: 16802, Start Num: 59

Candidate Starts for Carlyle\_24:

(38, 16317), (Start: 59 @16416 has 514 MA's), (74, 16524), (85, 16575), (88, 16587), (91, 16620), (101, 16665), (111, 16698), (124, 16743), (127, 16758), (131, 16773),

Gene: Catalina\_25 Start: 16615, Stop: 17010, Start Num: 59

Candidate Starts for Catalina\_25:

(Start: 59 @16615 has 514 MA's), (68, 16687), (77, 16726), (93, 16828), (95, 16837), (118, 16933), (124, 16951), (127, 16966),

Gene: Caviar\_24 Start: 15247, Stop: 15630, Start Num: 57

Candidate Starts for Caviar\_24:

(Start: 57 @15247 has 315 MA's), (72, 15340), (86, 15406), (87, 15415), (91, 15442), (101, 15487), (116, 15541), (120, 15559), (127, 15586),

Gene: Celery\_19 Start: 10801, Stop: 11124, Start Num: 59

Candidate Starts for Celery\_19:

(28, 10696), (32, 10702), (Start: 59 @10801 has 514 MA's), (99, 10984), (120, 11068),

Gene: Celeste\_16 Start: 10934, Stop: 11257, Start Num: 59

Candidate Starts for Celeste\_16:

(Start: 59 @10934 has 514 MA's), (86, 11087), (116, 11183),

Gene: Celia\_16 Start: 11291, Stop: 11617, Start Num: 59

Candidate Starts for Celia\_16:

(Start: 59 @11291 has 514 MA's), (99, 11477), (116, 11543), (120, 11561), (131, 11603),

Gene: Centaur\_26 Start: 16293, Stop: 16697, Start Num: 59

Candidate Starts for Centaur\_26:

(53, 16266), (Start: 59 @16293 has 514 MA's), (61, 16320), (69, 16377), (100, 16536), (101, 16545), (124, 16638), (127, 16653),

Gene: CentreCat\_23 Start: 15099, Stop: 15470, Start Num: 57

Candidate Starts for CentreCat\_23:

(Start: 57 @15099 has 315 MA's), (67, 15165), (72, 15192), (98, 15312), (122, 15405), (124, 15411),

Gene: Cerulean\_24 Start: 15410, Stop: 15781, Start Num: 57

Candidate Starts for Cerulean\_24:

(Start: 57 @15410 has 315 MA's), (67, 15476), (72, 15503), (98, 15623), (122, 15716), (124, 15722),

Gene: Chadwick\_22 Start: 14258, Stop: 14638, Start Num: 57

Candidate Starts for Chadwick\_22:

(29, 14156), (Start: 46 @14195 has 41 MA's), (Start: 57 @14258 has 315 MA's), (80, 14393), (86, 14414), (91, 14450), (100, 14486), (120, 14564), (127, 14591), (131, 14606),

Gene: ChampagnePapi\_24 Start: 15409, Stop: 15780, Start Num: 57

Candidate Starts for ChampagnePapi\_24:

(Start: 57 @15409 has 315 MA's), (67, 15475), (72, 15502), (98, 15622), (122, 15715), (124, 15721),

Gene: Chanagan\_21 Start: 15126, Stop: 15503, Start Num: 59

Candidate Starts for Chanagan\_21:

(38, 15027), (Start: 59 @15126 has 514 MA's), (78, 15255), (80, 15267), (100, 15357), (131, 15474),

Gene: Chaph\_23 Start: 15107, Stop: 15478, Start Num: 57

Candidate Starts for Chaph\_23:

(Start: 57 @15107 has 315 MA's), (67, 15173), (72, 15200), (98, 15320), (122, 15413), (124, 15419),

Gene: Chargerpower\_24 Start: 15030, Stop: 15434, Start Num: 59

Candidate Starts for Chargerpower\_24:

(Start: 59 @15030 has 514 MA's), (74, 15135), (80, 15168), (94, 15246), (122, 15369), (124, 15375),

Gene: Charm\_24 Start: 14746, Stop: 15141, Start Num: 59

Candidate Starts for Charm\_24:

(Start: 59 @14746 has 514 MA's), (68, 14818), (80, 14881), (93, 14959), (95, 14968), (118, 15064), (124, 15082), (127, 15097),

Gene: Chartreuse\_27 Start: 15869, Stop: 16273, Start Num: 59

Candidate Starts for Chartreuse\_27:

(Start: 46 @15806 has 41 MA's), (Start: 59 @15869 has 514 MA's), (80, 16007), (86, 16028), (99, 16109), (101, 16121), (124, 16214), (127, 16229), (132, 16256),

Gene: Che12\_26 Start: 14708, Stop: 15112, Start Num: 59

Candidate Starts for Che12\_26:

(Start: 59 @14708 has 514 MA's), (69, 14792), (73, 14804), (80, 14846), (92, 14918), (124, 15053),

Gene: ChipMunk\_26 Start: 16201, Stop: 16608, Start Num: 59

Candidate Starts for ChipMunk\_26:

(Start: 59 @16201 has 514 MA's), (69, 16285), (92, 16414), (101, 16456), (109, 16489), (124, 16549), (127, 16564),

Gene: Chiqui\_22 Start: 14967, Stop: 15350, Start Num: 57

Candidate Starts for Chiqui\_22:

(Start: 46 @14901 has 41 MA's), (Start: 57 @14967 has 315 MA's), (72, 15060), (86, 15126), (87, 15135), (91, 15162), (101, 15207), (124, 15291), (127, 15306),

Gene: Chucky\_16 Start: 10931, Stop: 11254, Start Num: 59

Candidate Starts for Chucky\_16:

(Start: 59 @10931 has 514 MA's), (116, 11180), (131, 11240),

Gene: Chupacabra\_23 Start: 14909, Stop: 15277, Start Num: 57  
Candidate Starts for Chupacabra\_23:  
(Start: 57 @14909 has 315 MA's), (65, 14969), (67, 14975), (71, 14999), (80, 15047), (98, 15119),  
(100, 15131), (122, 15212),

Gene: Ciao\_22 Start: 15500, Stop: 15877, Start Num: 59  
Candidate Starts for Ciao\_22:  
(Start: 59 @15500 has 514 MA's), (67, 15569), (71, 15593), (74, 15608), (75, 15611), (78, 15629),  
(114, 15779),

Gene: Cici\_23 Start: 15089, Stop: 15460, Start Num: 57  
Candidate Starts for Cici\_23:  
(Start: 57 @15089 has 315 MA's), (67, 15155), (72, 15182), (77, 15203), (80, 15227), (98, 15302),  
(122, 15395), (124, 15401),

Gene: Cindaradix\_22 Start: 14823, Stop: 15194, Start Num: 57  
Candidate Starts for Cindaradix\_22:  
(Start: 46 @14754 has 41 MA's), (Start: 57 @14823 has 315 MA's), (67, 14889), (72, 14916), (77,  
14937), (80, 14961), (98, 15036), (122, 15129), (124, 15135),

Gene: Cintron\_23 Start: 15146, Stop: 15517, Start Num: 57  
Candidate Starts for Cintron\_23:  
(50, 15116), (Start: 57 @15146 has 315 MA's), (67, 15212), (72, 15239), (98, 15359), (122, 15452),  
(124, 15458),

Gene: Citius\_23 Start: 15098, Stop: 15469, Start Num: 57  
Candidate Starts for Citius\_23:  
(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (98, 15311), (122, 15404), (124, 15410),

Gene: Clarenza\_23 Start: 15095, Stop: 15466, Start Num: 57  
Candidate Starts for Clarenza\_23:  
(Start: 57 @15095 has 315 MA's), (67, 15161), (72, 15188), (98, 15308), (122, 15401), (124, 15407),

Gene: CloudWang3\_27 Start: 15844, Stop: 16311, Start Num: 46  
Candidate Starts for CloudWang3\_27:  
(Start: 46 @15844 has 41 MA's), (Start: 59 @15907 has 514 MA's), (80, 16045), (86, 16066), (91,  
16114), (99, 16147), (101, 16159), (124, 16252),

Gene: Cocoaberry\_23 Start: 15102, Stop: 15473, Start Num: 57  
Candidate Starts for Cocoaberry\_23:  
(Start: 57 @15102 has 315 MA's), (67, 15168), (72, 15195), (98, 15315), (122, 15408), (124, 15414),

Gene: Colbster\_25 Start: 15183, Stop: 15581, Start Num: 57  
Candidate Starts for Colbster\_25:  
(Start: 46 @15120 has 41 MA's), (Start: 57 @15183 has 315 MA's), (72, 15276), (74, 15288), (80,  
15321), (84, 15333), (95, 15408), (98, 15417), (101, 15438), (113, 15480), (120, 15510), (127, 15537),

Gene: Colin\_28 Start: 17492, Stop: 17896, Start Num: 59  
Candidate Starts for Colin\_28:  
(24, 17387), (38, 17402), (Start: 46 @17429 has 41 MA's), (Start: 59 @17492 has 514 MA's), (66,  
17555), (80, 17630), (92, 17702), (101, 17744), (124, 17837), (127, 17852),



Gene: Commander\_23 Start: 15098, Stop: 15469, Start Num: 57  
Candidate Starts for Commander\_23:  
(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (98, 15311), (122, 15404), (124, 15410),

Gene: Conan\_17 Start: 10571, Stop: 10894, Start Num: 59  
Candidate Starts for Conan\_17:  
(28, 10466), (32, 10472), (Start: 59 @10571 has 514 MA's), (99, 10754), (120, 10838),

Gene: ConceptII\_23 Start: 16008, Stop: 16385, Start Num: 59  
Candidate Starts for ConceptII\_23:  
(38, 15909), (Start: 59 @16008 has 514 MA's), (78, 16137), (80, 16149), (100, 16239), (131, 16356),

Gene: Connomayer\_23 Start: 15098, Stop: 15469, Start Num: 57  
Candidate Starts for Connomayer\_23:  
(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (98, 15311), (122, 15404), (124, 15410),

Gene: Conquerage\_25 Start: 16644, Stop: 17039, Start Num: 59  
Candidate Starts for Conquerage\_25:  
(Start: 59 @16644 has 514 MA's), (68, 16716), (77, 16755), (93, 16857), (95, 16866), (118, 16962),  
(124, 16980), (127, 16995),

Gene: Conspiracy\_20 Start: 14271, Stop: 14651, Start Num: 57  
Candidate Starts for Conspiracy\_20:  
(Start: 57 @14271 has 315 MA's), (65, 14328), (67, 14334), (77, 14382), (80, 14406), (86, 14427), (88,  
14436), (91, 14463), (97, 14484), (100, 14499), (106, 14520), (108, 14532), (127, 14604), (132,  
14631),

Gene: Coog\_20 Start: 14325, Stop: 14795, Start Num: 40  
Candidate Starts for Coog\_20:  
(Start: 40 @14325 has 3 MA's), (Start: 57 @14415 has 315 MA's), (65, 14472), (77, 14526), (80,  
14550), (86, 14571), (88, 14580), (91, 14607), (97, 14628), (100, 14643), (106, 14664), (108, 14676),  
(118, 14715), (127, 14748), (132, 14775),

Gene: Cookiedough\_27 Start: 15915, Stop: 16319, Start Num: 59  
Candidate Starts for Cookiedough\_27:  
(24, 15810), (38, 15825), (Start: 46 @15852 has 41 MA's), (Start: 59 @15915 has 514 MA's), (80,  
16053), (86, 16074), (97, 16143), (99, 16155), (101, 16167), (124, 16260), (127, 16275),

Gene: Corvo\_22 Start: 15992, Stop: 16369, Start Num: 59  
Candidate Starts for Corvo\_22:  
(Start: 59 @15992 has 514 MA's), (67, 16061), (71, 16085), (74, 16100), (75, 16103), (114, 16271),

Gene: CosmicSans\_19 Start: 11349, Stop: 11699, Start Num: 57  
Candidate Starts for CosmicSans\_19:  
(Start: 57 @11349 has 315 MA's), (81, 11487), (83, 11493), (95, 11544), (122, 11649), (124, 11655),  
(131, 11685),

Gene: Crispicious1\_21 Start: 14997, Stop: 15374, Start Num: 59  
Candidate Starts for Crispicious1\_21:  
(38, 14898), (Start: 59 @14997 has 514 MA's), (78, 15126), (80, 15138), (100, 15228), (131, 15345),

Gene: Crucio\_24 Start: 15725, Stop: 16132, Start Num: 59  
Candidate Starts for Crucio\_24:

(Start: 59 @15725 has 514 MA's), (61, 15752), (66, 15788), (69, 15809), (101, 15980), (104, 15989), (109, 16013), (124, 16073), (127, 16088),

Gene: Cuco\_20 Start: 14445, Stop: 14825, Start Num: 57

Candidate Starts for Cuco\_20:

(Start: 57 @14445 has 315 MA's), (65, 14502), (77, 14556), (80, 14580), (86, 14601), (88, 14610), (91, 14637), (97, 14658), (100, 14673), (106, 14694), (108, 14706), (118, 14745), (127, 14778), (132, 14805),

Gene: Cueyllyss\_22 Start: 15699, Stop: 16076, Start Num: 59

Candidate Starts for Cueyllyss\_22:

(Start: 59 @15699 has 514 MA's), (78, 15828), (80, 15840), (100, 15930), (131, 16047),

Gene: Cullens\_25 Start: 15182, Stop: 15580, Start Num: 57

Candidate Starts for Cullens\_25:

(Start: 57 @15182 has 315 MA's), (72, 15275), (74, 15287), (80, 15320), (84, 15332), (95, 15407), (98, 15416), (101, 15437), (113, 15479), (120, 15509), (127, 15536),

Gene: D29\_24 Start: 15695, Stop: 16099, Start Num: 59

Candidate Starts for D29\_24:

(Start: 59 @15695 has 514 MA's), (69, 15779), (80, 15833), (92, 15905), (127, 16055), (128, 16058),

Gene: D32\_27 Start: 15695, Stop: 16099, Start Num: 59

Candidate Starts for D32\_27:

(Start: 59 @15695 has 514 MA's), (69, 15779), (80, 15833), (92, 15905), (127, 16055), (128, 16058),

Gene: DBQu4n\_27 Start: 15695, Stop: 16099, Start Num: 59

Candidate Starts for DBQu4n\_27:

(Start: 59 @15695 has 514 MA's), (69, 15779), (80, 15833), (92, 15905), (127, 16055), (128, 16058),

Gene: DaHudson\_25 Start: 15112, Stop: 15573, Start Num: 46

Candidate Starts for DaHudson\_25:

(Start: 46 @15112 has 41 MA's), (Start: 57 @15175 has 315 MA's), (72, 15268), (74, 15280), (80, 15313), (84, 15325), (95, 15400), (98, 15409), (101, 15430), (113, 15472), (120, 15502), (127, 15529),

Gene: DaVinci\_27 Start: 15923, Stop: 16327, Start Num: 59

Candidate Starts for DaVinci\_27:

(Start: 46 @15860 has 41 MA's), (Start: 59 @15923 has 514 MA's), (80, 16061), (86, 16082), (99, 16163), (101, 16175), (124, 16268), (127, 16283), (132, 16310),

Gene: Daishi\_24 Start: 14108, Stop: 14506, Start Num: 57

Candidate Starts for Daishi\_24:

(Start: 46 @14045 has 41 MA's), (Start: 57 @14108 has 315 MA's), (72, 14201), (74, 14213), (80, 14246), (84, 14258), (95, 14333), (98, 14342), (101, 14363), (113, 14405), (120, 14435), (127, 14462),

Gene: Dalmatian\_24 Start: 15866, Stop: 16273, Start Num: 59

Candidate Starts for Dalmatian\_24:

(14, 15722), (Start: 59 @15866 has 514 MA's), (61, 15893), (66, 15929), (101, 16121), (109, 16154), (124, 16214), (127, 16229),

Gene: Danforth\_19 Start: 13733, Stop: 14098, Start Num: 57

Candidate Starts for Danforth\_19:

(Start: 57 @13733 has 315 MA's), (65, 13793), (68, 13805), (85, 13889), (86, 13892), (91, 13928), (98, 13952), (122, 14048),

Gene: Danzina\_17 Start: 11144, Stop: 11467, Start Num: 59

Candidate Starts for Danzina\_17:

(Start: 59 @11144 has 514 MA's), (86, 11297), (116, 11393),

Gene: Darrell\_26 Start: 16806, Stop: 17201, Start Num: 59

Candidate Starts for Darrell\_26:

(Start: 59 @16806 has 514 MA's), (60, 16815), (68, 16878), (72, 16896), (74, 16908), (77, 16917), (93, 17019), (95, 17028), (101, 17058), (115, 17109), (118, 17124), (124, 17142), (127, 17157),

Gene: DARTHPhader\_25 Start: 16774, Stop: 17169, Start Num: 59

Candidate Starts for DARTHPhader\_25:

(Start: 59 @16774 has 514 MA's), (68, 16846), (72, 16864), (74, 16876), (77, 16885), (80, 16909), (95, 16996), (118, 17092), (122, 17104), (124, 17110), (127, 17125),

Gene: Dattran\_17 Start: 10933, Stop: 11256, Start Num: 59

Candidate Starts for Dattran\_17:

(Start: 59 @10933 has 514 MA's), (86, 11086), (116, 11182),

Gene: Datway\_23 Start: 15104, Stop: 15475, Start Num: 57

Candidate Starts for Datway\_23:

(Start: 57 @15104 has 315 MA's), (67, 15170), (72, 15197), (74, 15209), (77, 15218), (80, 15242), (98, 15317), (122, 15410), (124, 15416),

Gene: Daudau\_16 Start: 10861, Stop: 11208, Start Num: 59

Candidate Starts for Daudau\_16:

(32, 10762), (43, 10777), (54, 10843), (Start: 59 @10861 has 514 MA's), (68, 10930), (86, 11017), (105, 11077), (131, 11179),

Gene: Deano\_23 Start: 15106, Stop: 15477, Start Num: 57

Candidate Starts for Deano\_23:

(Start: 57 @15106 has 315 MA's), (67, 15172), (72, 15199), (98, 15319), (122, 15412), (124, 15418),

Gene: DekHockey33\_26 Start: 15070, Stop: 15453, Start Num: 59

Candidate Starts for DekHockey33\_26:

(52, 15040), (Start: 59 @15070 has 514 MA's), (71, 15160), (117, 15370), (122, 15388), (124, 15394), (131, 15424),

Gene: Deloris\_25 Start: 16220, Stop: 16627, Start Num: 59

Candidate Starts for Deloris\_25:

(4, 15968), (8, 16004), (Start: 46 @16157 has 41 MA's), (Start: 59 @16220 has 514 MA's), (61, 16247), (65, 16280), (69, 16304), (92, 16433), (101, 16475), (109, 16508), (124, 16568), (127, 16583),

Gene: Dexers\_15 Start: 10555, Stop: 10878, Start Num: 59

Candidate Starts for Dexers\_15:

(Start: 59 @10555 has 514 MA's), (99, 10738), (120, 10822),

Gene: Dexes\_23 Start: 16216, Stop: 16593, Start Num: 59

Candidate Starts for Dexes\_23:

(38, 16114), (Start: 59 @16216 has 514 MA's), (67, 16285), (71, 16309), (74, 16324), (75, 16327), (78, 16345), (114, 16495), (131, 16564),

Gene: Dhanush\_24 Start: 15101, Stop: 15472, Start Num: 57

Candidate Starts for Dhanush\_24:

(Start: 57 @15101 has 315 MA's), (67, 15167), (72, 15194), (98, 15314), (122, 15407), (124, 15413),

Gene: Diane\_16 Start: 10806, Stop: 11144, Start Num: 59

Candidate Starts for Diane\_16:

(17, 10668), (20, 10686), (54, 10788), (Start: 59 @10806 has 514 MA's), (99, 10989), (131, 11115),

Gene: Dieselweasel\_25 Start: 15184, Stop: 15582, Start Num: 57

Candidate Starts for Dieselweasel\_25:

(Start: 46 @15121 has 41 MA's), (Start: 57 @15184 has 315 MA's), (72, 15277), (74, 15289), (80, 15322), (84, 15334), (95, 15409), (98, 15418), (101, 15439), (113, 15481), (120, 15511), (127, 15538),

Gene: Dignity\_26 Start: 16242, Stop: 16649, Start Num: 59

Candidate Starts for Dignity\_26:

(Start: 59 @16242 has 514 MA's), (61, 16269), (66, 16305), (69, 16326), (92, 16455), (101, 16497), (109, 16530), (124, 16590), (127, 16605),

Gene: Dinger\_19 Start: 11319, Stop: 11669, Start Num: 57

Candidate Starts for Dinger\_19:

(Start: 57 @11319 has 315 MA's), (81, 11457), (83, 11463), (95, 11514), (104, 11553), (122, 11619), (124, 11625), (131, 11655),

Gene: DirtyDunning\_23 Start: 15094, Stop: 15465, Start Num: 57

Candidate Starts for DirtyDunning\_23:

(Start: 57 @15094 has 315 MA's), (67, 15160), (72, 15187), (98, 15307), (122, 15400), (124, 15406),

Gene: Discoknowium\_20 Start: 14560, Stop: 14940, Start Num: 57

Candidate Starts for Discoknowium\_20:

(Start: 57 @14560 has 315 MA's), (65, 14617), (67, 14623), (77, 14671), (80, 14695), (86, 14716), (88, 14725), (91, 14752), (97, 14773), (100, 14788), (106, 14809), (108, 14821), (127, 14893), (132, 14920),

Gene: Dixon\_20 Start: 13752, Stop: 14117, Start Num: 57

Candidate Starts for Dixon\_20:

(Start: 57 @13752 has 315 MA's), (65, 13812), (68, 13824), (85, 13908), (86, 13911), (91, 13947), (98, 13971), (122, 14067),

Gene: DontArgue\_22 Start: 13170, Stop: 13541, Start Num: 57

Candidate Starts for DontArgue\_22:

(50, 13140), (Start: 57 @13170 has 315 MA's), (65, 13230), (98, 13383), (122, 13476), (124, 13482),

Gene: Doom\_23 Start: 16337, Stop: 16714, Start Num: 59

Candidate Starts for Doom\_23:

(31, 16223), (47, 16271), (Start: 59 @16337 has 514 MA's), (75, 16448), (98, 16556), (100, 16568), (118, 16637),

Gene: Dorothea\_27 Start: 15926, Stop: 16327, Start Num: 59

Candidate Starts for Dorothea\_27:

(24, 15821), (38, 15836), (Start: 46 @15863 has 41 MA's), (Start: 59 @15926 has 514 MA's), (80, 16064), (86, 16085), (99, 16163), (101, 16175), (124, 16268), (127, 16283),

Gene: Drake55\_26 Start: 16310, Stop: 16714, Start Num: 59

Candidate Starts for Drake55\_26:

(38, 16220), (Start: 46 @16247 has 41 MA's), (Start: 59 @16310 has 514 MA's), (61, 16337), (69, 16394), (100, 16553), (101, 16562), (124, 16655), (127, 16670),

Gene: Drake94\_22 Start: 13002, Stop: 13370, Start Num: 57

Candidate Starts for Drake94\_22:

(Start: 46 @12939 has 41 MA's), (Start: 57 @13002 has 315 MA's), (65, 13062), (67, 13068), (80, 13140), (98, 13212), (101, 13233), (102, 13236), (122, 13305),

Gene: DreamCatcher\_25 Start: 16965, Stop: 17342, Start Num: 59

Candidate Starts for DreamCatcher\_25:

(Start: 59 @16965 has 514 MA's), (67, 17034), (71, 17058), (74, 17073), (75, 17076), (114, 17244),

Gene: DreamTeam1\_24 Start: 14746, Stop: 15141, Start Num: 59

Candidate Starts for DreamTeam1\_24:

(Start: 59 @14746 has 514 MA's), (68, 14818), (80, 14881), (93, 14959), (95, 14968), (118, 15064), (124, 15082), (127, 15097),

Gene: Dreamboat\_23 Start: 15493, Stop: 15870, Start Num: 59

Candidate Starts for Dreamboat\_23:

(Start: 59 @15493 has 514 MA's), (67, 15562), (71, 15586), (74, 15601), (75, 15604), (114, 15772),

Gene: DroogsArmy\_24 Start: 16476, Stop: 16838, Start Num: 59

Candidate Starts for DroogsArmy\_24:

(Start: 59 @16476 has 514 MA's), (65, 16536), (109, 16737), (110, 16740), (112, 16749), (121, 16785), (127, 16809), (131, 16824),

Gene: DropBear\_23 Start: 14692, Stop: 15141, Start Num: 46

Candidate Starts for DropBear\_23:

(21, 14644), (Start: 46 @14692 has 41 MA's), (Start: 57 @14758 has 315 MA's), (72, 14851), (86, 14917), (87, 14926), (91, 14953), (101, 14998), (120, 15070), (124, 15082), (127, 15097),

Gene: Druantia\_23 Start: 15099, Stop: 15470, Start Num: 57

Candidate Starts for Druantia\_23:

(Start: 57 @15099 has 315 MA's), (67, 15165), (72, 15192), (98, 15312), (122, 15405), (124, 15411),

Gene: Dublin\_19 Start: 14414, Stop: 14794, Start Num: 57

Candidate Starts for Dublin\_19:

(Start: 40 @14324 has 3 MA's), (Start: 57 @14414 has 315 MA's), (65, 14471), (77, 14525), (80, 14549), (86, 14570), (88, 14579), (91, 14606), (97, 14627), (100, 14642), (106, 14663), (108, 14675), (127, 14747), (132, 14774),

Gene: DudeLittle\_24 Start: 15868, Stop: 16275, Start Num: 59

Candidate Starts for DudeLittle\_24:

(Start: 59 @15868 has 514 MA's), (61, 15895), (66, 15931), (69, 15952), (101, 16123), (109, 16156), (124, 16216), (127, 16231),

Gene: Dulcie\_21 Start: 15190, Stop: 15567, Start Num: 59

Candidate Starts for Dulcie\_21:

(Start: 59 @15190 has 514 MA's), (67, 15259), (71, 15283), (74, 15298), (75, 15301), (78, 15319), (114, 15469), (131, 15538),

Gene: Duplo\_27 Start: 15733, Stop: 16137, Start Num: 59  
Candidate Starts for Duplo\_27:  
(Start: 59 @15733 has 514 MA's), (69, 15817), (80, 15871), (92, 15943), (127, 16093), (128, 16096),

Gene: Dussy\_23 Start: 15843, Stop: 16229, Start Num: 59  
Candidate Starts for Dussy\_23:  
(38, 15744), (Start: 59 @15843 has 514 MA's), (74, 15951), (85, 16002), (88, 16014), (91, 16047),  
(101, 16092), (111, 16125), (124, 16170), (127, 16185), (131, 16200),

Gene: DustyMartin\_26 Start: 14979, Stop: 15347, Start Num: 57  
Candidate Starts for DustyMartin\_26:  
(Start: 57 @14979 has 315 MA's), (65, 15039), (67, 15045), (80, 15117), (98, 15189), (100, 15201),  
(104, 15219), (120, 15276), (122, 15282), (124, 15288),

Gene: Dwayne\_16 Start: 10927, Stop: 11250, Start Num: 59  
Candidate Starts for Dwayne\_16:  
(Start: 59 @10927 has 514 MA's), (116, 11176), (131, 11236),

Gene: Dynamix\_23 Start: 15587, Stop: 15964, Start Num: 59  
Candidate Starts for Dynamix\_23:  
(51, 15554), (Start: 59 @15587 has 514 MA's), (80, 15728),

Gene: ELB20\_15 Start: 10890, Stop: 11231, Start Num: 59  
Candidate Starts for ELB20\_15:  
(54, 10872), (Start: 59 @10890 has 514 MA's), (86, 11046), (95, 11061), (103, 11094), (116, 11142),  
(131, 11202),

Gene: EZMoney23\_28 Start: 17778, Stop: 18182, Start Num: 59  
Candidate Starts for EZMoney23\_28:  
(Start: 59 @17778 has 514 MA's), (69, 17862), (80, 17916), (86, 17937), (100, 18021), (101, 18030),  
(124, 18123), (127, 18138),

Gene: Eagle\_22 Start: 15098, Stop: 15469, Start Num: 57  
Candidate Starts for Eagle\_22:  
(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (98, 15311), (122, 15404), (124, 15410),

Gene: EagleEye\_26 Start: 16035, Stop: 16430, Start Num: 59  
Candidate Starts for EagleEye\_26:  
(Start: 59 @16035 has 514 MA's), (67, 16101), (77, 16149), (90, 16212), (101, 16281), (124, 16371),  
(126, 16377), (131, 16401),

Gene: Eaglepride\_24 Start: 14919, Stop: 15290, Start Num: 57  
Candidate Starts for Eaglepride\_24:  
(Start: 57 @14919 has 315 MA's), (65, 14979), (67, 14985), (98, 15132), (122, 15225),

Gene: Eapen\_23 Start: 15097, Stop: 15468, Start Num: 57  
Candidate Starts for Eapen\_23:  
(Start: 57 @15097 has 315 MA's), (67, 15163), (72, 15190), (98, 15310), (122, 15403), (124, 15409),

Gene: Ebony\_24 Start: 16405, Stop: 16800, Start Num: 59  
Candidate Starts for Ebony\_24:  
(Start: 59 @16405 has 514 MA's), (68, 16477), (71, 16495), (83, 16552), (98, 16630), (118, 16723),

Gene: Echild\_24 Start: 15899, Stop: 16306, Start Num: 59  
Candidate Starts for Echild\_24:  
(Start: 59 @15899 has 514 MA's), (65, 15959), (69, 15983), (92, 16112), (101, 16154), (124, 16247),  
(127, 16262),

Gene: Eddasa\_17 Start: 11113, Stop: 11436, Start Num: 59  
Candidate Starts for Eddasa\_17:  
(Start: 59 @11113 has 514 MA's), (131, 11422),

Gene: Edison31\_23 Start: 14949, Stop: 15317, Start Num: 57  
Candidate Starts for Edison31\_23:  
(49, 14919), (Start: 57 @14949 has 315 MA's), (65, 15009), (67, 15015), (80, 15087), (98, 15159),  
(100, 15171), (120, 15246), (122, 15252), (124, 15258),

Gene: EdogawaKiddo\_23 Start: 16614, Stop: 17009, Start Num: 59  
Candidate Starts for EdogawaKiddo\_23:  
(Start: 59 @16614 has 514 MA's), (68, 16686), (77, 16725), (93, 16827), (95, 16836), (118, 16932),  
(124, 16950), (127, 16965),

Gene: Eidsmoe\_25 Start: 16644, Stop: 17039, Start Num: 59  
Candidate Starts for Eidsmoe\_25:  
(Start: 59 @16644 has 514 MA's), (68, 16716), (77, 16755), (93, 16857), (95, 16866), (118, 16962),  
(124, 16980), (127, 16995),

Gene: Ejemplo\_16 Start: 10930, Stop: 11253, Start Num: 59  
Candidate Starts for Ejemplo\_16:  
(Start: 59 @10930 has 514 MA's), (116, 11179),

Gene: ElGato\_17 Start: 10574, Stop: 10897, Start Num: 59  
Candidate Starts for ElGato\_17:  
(28, 10469), (32, 10475), (Start: 59 @10574 has 514 MA's), (99, 10757), (120, 10841),

Gene: ElTiger69\_21 Start: 14288, Stop: 14668, Start Num: 57  
Candidate Starts for ElTiger69\_21:  
(29, 14186), (Start: 46 @14225 has 41 MA's), (Start: 57 @14288 has 315 MA's), (80, 14423), (86,  
14444), (91, 14480), (100, 14516), (120, 14594), (127, 14621), (131, 14636),

Gene: Elephantoon\_25 Start: 16235, Stop: 16633, Start Num: 59  
Candidate Starts for Elephantoon\_25:  
(Start: 59 @16235 has 514 MA's), (63, 16274), (68, 16307), (74, 16340), (77, 16349), (80, 16373), (95,  
16460), (118, 16556), (120, 16562), (122, 16568), (127, 16589),

Gene: Emaanora\_18 Start: 10930, Stop: 11253, Start Num: 59  
Candidate Starts for Emaanora\_18:  
(Start: 59 @10930 has 514 MA's), (116, 11179), (131, 11239),

Gene: EmyBug\_25 Start: 16644, Stop: 17039, Start Num: 59  
Candidate Starts for EmyBug\_25:  
(Start: 59 @16644 has 514 MA's), (68, 16716), (77, 16755), (93, 16857), (95, 16866), (118, 16962),  
(124, 16980), (127, 16995),

Gene: EnochSoames\_17 Start: 11109, Stop: 11432, Start Num: 59  
Candidate Starts for EnochSoames\_17:

(Start: 59 @11109 has 514 MA's), (131, 11418),

Gene: EpicPhail\_26 Start: 15120, Stop: 15581, Start Num: 46

Candidate Starts for EpicPhail\_26:

(Start: 46 @15120 has 41 MA's), (Start: 57 @15183 has 315 MA's), (72, 15276), (74, 15288), (80, 15321), (84, 15333), (95, 15408), (98, 15417), (101, 15438), (113, 15480), (120, 15510), (127, 15537),

Gene: Epsocamisio\_26 Start: 14948, Stop: 15331, Start Num: 59

Candidate Starts for Epsocamisio\_26:

(52, 14918), (Start: 59 @14948 has 514 MA's), (71, 15038), (117, 15248), (122, 15266), (124, 15272), (131, 15302),

Gene: Equemioh13\_26 Start: 16296, Stop: 16700, Start Num: 59

Candidate Starts for Equemioh13\_26:

(53, 16269), (Start: 59 @16296 has 514 MA's), (61, 16323), (69, 16380), (100, 16539), (101, 16548), (124, 16641), (127, 16656),

Gene: EricB\_27 Start: 15915, Stop: 16319, Start Num: 59

Candidate Starts for EricB\_27:

(24, 15810), (38, 15825), (Start: 46 @15852 has 41 MA's), (Start: 59 @15915 has 514 MA's), (80, 16053), (86, 16074), (99, 16155), (101, 16167), (124, 16260), (127, 16275),

Gene: Erik\_19 Start: 11348, Stop: 11698, Start Num: 57

Candidate Starts for Erik\_19:

(Start: 57 @11348 has 315 MA's), (81, 11486), (83, 11492), (95, 11543), (122, 11648), (124, 11654), (131, 11684),

Gene: Eris\_88 Start: 15098, Stop: 15469, Start Num: 57

Candidate Starts for Eris\_88:

(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (98, 15311), (122, 15404), (124, 15410),

Gene: Eros\_24 Start: 15098, Stop: 15469, Start Num: 57

Candidate Starts for Eros\_24:

(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (98, 15311), (122, 15404), (124, 15410),

Gene: Esperer\_16 Start: 10950, Stop: 11273, Start Num: 59

Candidate Starts for Esperer\_16:

(Start: 59 @10950 has 514 MA's), (116, 11199), (131, 11259),

Gene: Espica\_19 Start: 11349, Stop: 11699, Start Num: 57

Candidate Starts for Espica\_19:

(Start: 57 @11349 has 315 MA's), (81, 11487), (83, 11493), (95, 11544), (122, 11649), (124, 11655), (131, 11685),

Gene: Espresso\_22 Start: 15638, Stop: 16015, Start Num: 59

Candidate Starts for Espresso\_22:

(Start: 59 @15638 has 514 MA's), (67, 15707), (71, 15731), (74, 15746), (75, 15749), (114, 15917),

Gene: Et2Brutus\_23 Start: 16365, Stop: 16760, Start Num: 59

Candidate Starts for Et2Brutus\_23:

(Start: 59 @16365 has 514 MA's), (68, 16437), (71, 16455), (83, 16512), (98, 16590), (118, 16683),

Gene: Euphoria\_22 Start: 15528, Stop: 15905, Start Num: 59



Candidate Starts for Euphoria\_22:

(Start: 59 @15528 has 514 MA's), (67, 15597), (71, 15621), (74, 15636), (75, 15639), (114, 15807),

Gene: Eurydice\_23 Start: 15095, Stop: 15466, Start Num: 57

Candidate Starts for Eurydice\_23:

(Start: 57 @15095 has 315 MA's), (67, 15161), (72, 15188), (98, 15308), (122, 15401), (124, 15407),

Gene: EvilGenius\_26 Start: 16210, Stop: 16617, Start Num: 59

Candidate Starts for EvilGenius\_26:

(Start: 59 @16210 has 514 MA's), (69, 16294), (92, 16423), (101, 16465), (109, 16498), (124, 16558), (127, 16573),

Gene: Expelliarmus\_19 Start: 13719, Stop: 14084, Start Num: 57

Candidate Starts for Expelliarmus\_19:

(Start: 57 @13719 has 315 MA's), (65, 13779), (68, 13791), (85, 13875), (86, 13878), (91, 13914), (98, 13938), (122, 14034),

Gene: ExplosioNervosa\_25 Start: 16647, Stop: 17042, Start Num: 59

Candidate Starts for ExplosioNervosa\_25:

(Start: 59 @16647 has 514 MA's), (68, 16719), (77, 16758), (93, 16860), (95, 16869), (118, 16965), (124, 16983), (127, 16998),

Gene: Eyeball\_22 Start: 15344, Stop: 15721, Start Num: 59

Candidate Starts for Eyeball\_22:

(Start: 59 @15344 has 514 MA's), (78, 15473), (80, 15485), (100, 15575), (131, 15692),

Gene: Fajezeel\_24 Start: 15863, Stop: 16240, Start Num: 59

Candidate Starts for Fajezeel\_24:

(Start: 59 @15863 has 514 MA's), (67, 15932), (71, 15956), (74, 15971), (75, 15974), (78, 15992), (114, 16142),

Gene: Fameo\_24 Start: 15843, Stop: 16250, Start Num: 59

Candidate Starts for Fameo\_24:

(34, 15750), (Start: 59 @15843 has 514 MA's), (69, 15927), (92, 16056), (101, 16098), (109, 16131), (124, 16191), (127, 16206),

Gene: Farber\_25 Start: 15113, Stop: 15574, Start Num: 46

Candidate Starts for Farber\_25:

(Start: 46 @15113 has 41 MA's), (Start: 57 @15176 has 315 MA's), (72, 15269), (74, 15281), (80, 15314), (84, 15326), (95, 15401), (98, 15410), (101, 15431), (113, 15473), (120, 15503), (127, 15530),

Gene: Fascinus\_21 Start: 15286, Stop: 15663, Start Num: 59

Candidate Starts for Fascinus\_21:

(Start: 59 @15286 has 514 MA's), (75, 15397), (80, 15427), (100, 15517),

Gene: Fayely\_25 Start: 16647, Stop: 17042, Start Num: 59

Candidate Starts for Fayely\_25:

(Start: 59 @16647 has 514 MA's), (68, 16719), (77, 16758), (93, 16860), (95, 16869), (118, 16965), (124, 16983), (127, 16998),

Gene: Fenn\_23 Start: 17090, Stop: 17461, Start Num: 59

Candidate Starts for Fenn\_23:

(38, 16991), (Start: 59 @17090 has 514 MA's), (67, 17159), (75, 17201), (81, 17234), (118, 17384), (123, 17399), (124, 17402), (125, 17405),

Gene: Fernando\_25 Start: 15182, Stop: 15580, Start Num: 57

Candidate Starts for Fernando\_25:

(Start: 57 @15182 has 315 MA's), (72, 15275), (74, 15287), (80, 15320), (84, 15332), (95, 15407), (98, 15416), (101, 15437), (113, 15479), (120, 15509), (127, 15536),

Gene: Fibonacci\_24 Start: 16359, Stop: 16754, Start Num: 59

Candidate Starts for Fibonacci\_24:

(Start: 59 @16359 has 514 MA's), (68, 16431), (71, 16449), (83, 16506), (98, 16584), (118, 16677),

Gene: FiringLine\_24 Start: 15725, Stop: 16132, Start Num: 59

Candidate Starts for FiringLine\_24:

(Start: 59 @15725 has 514 MA's), (61, 15752), (66, 15788), (69, 15809), (101, 15980), (109, 16013), (124, 16073), (127, 16088),

Gene: First\_0025 Start: 15760, Stop: 16230, Start Num: 46

Candidate Starts for First\_0025:

(38, 15733), (Start: 46 @15760 has 41 MA's), (Start: 59 @15823 has 514 MA's), (61, 15850), (69, 15907), (92, 16036), (101, 16078), (110, 16114), (112, 16123), (124, 16171), (127, 16186),

Gene: Flare16\_24 Start: 15854, Stop: 16258, Start Num: 59

Candidate Starts for Flare16\_24:

(53, 15827), (Start: 59 @15854 has 514 MA's), (61, 15881), (69, 15938), (100, 16097), (101, 16106), (124, 16199), (127, 16214),

Gene: Flaverint\_24 Start: 16356, Stop: 16751, Start Num: 59

Candidate Starts for Flaverint\_24:

(Start: 59 @16356 has 514 MA's), (68, 16428), (71, 16446), (83, 16503), (98, 16581), (118, 16674),

Gene: Florean\_23 Start: 15095, Stop: 15466, Start Num: 57

Candidate Starts for Florean\_23:

(Start: 57 @15095 has 315 MA's), (67, 15161), (72, 15188), (98, 15308), (122, 15401), (124, 15407),

Gene: Flux\_23 Start: 15098, Stop: 15469, Start Num: 57

Candidate Starts for Flux\_23:

(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (98, 15311), (122, 15404), (124, 15410),

Gene: FlyCatcher\_27 Start: 16763, Stop: 17128, Start Num: 59

Candidate Starts for FlyCatcher\_27:

(Start: 59 @16763 has 514 MA's), (66, 16826), (79, 16898), (110, 17027), (112, 17036), (121, 17075), (127, 17099), (131, 17114),

Gene: ForGetIt\_20 Start: 14296, Stop: 14676, Start Num: 57

Candidate Starts for ForGetIt\_20:

(Start: 57 @14296 has 315 MA's), (65, 14353), (67, 14359), (77, 14407), (80, 14431), (86, 14452), (88, 14461), (91, 14488), (97, 14509), (100, 14524), (106, 14545), (108, 14557), (127, 14629), (132, 14656),

Gene: Forsytheast\_22 Start: 15552, Stop: 15929, Start Num: 59

Candidate Starts for Forsytheast\_22:

(38, 15453), (Start: 59 @15552 has 514 MA's), (67, 15621), (71, 15645), (74, 15660), (75, 15663), (114, 15831),

Gene: Francis47\_22 Start: 16091, Stop: 16468, Start Num: 59

Candidate Starts for Francis47\_22:

(Start: 59 @16091 has 514 MA's), (75, 16202), (98, 16310), (100, 16322), (118, 16391),

Gene: Fred313\_23 Start: 14443, Stop: 14826, Start Num: 57

Candidate Starts for Fred313\_23:

(1, 14125), (2, 14131), (6, 14200), (21, 14329), (Start: 46 @14377 has 41 MA's), (Start: 57 @14443 has 315 MA's), (72, 14536), (86, 14602), (87, 14611), (91, 14638), (101, 14683), (116, 14737), (120, 14755), (124, 14767), (127, 14782),

Gene: Funston\_23 Start: 15098, Stop: 15469, Start Num: 57

Candidate Starts for Funston\_23:

(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (98, 15311), (122, 15404), (124, 15410),

Gene: Fushigi\_23 Start: 15963, Stop: 16340, Start Num: 59

Candidate Starts for Fushigi\_23:

(Start: 59 @15963 has 514 MA's), (78, 16092), (80, 16104), (100, 16194), (131, 16311),

Gene: GMonster\_21 Start: 15383, Stop: 15760, Start Num: 59

Candidate Starts for GMonster\_21:

(Start: 59 @15383 has 514 MA's), (67, 15452), (71, 15476), (74, 15491), (75, 15494), (114, 15662),

Gene: Gadost\_23 Start: 15102, Stop: 15473, Start Num: 57

Candidate Starts for Gadost\_23:

(Start: 57 @15102 has 315 MA's), (67, 15168), (72, 15195), (98, 15315), (122, 15408), (124, 15414),

Gene: GageAP\_24 Start: 16264, Stop: 16641, Start Num: 59

Candidate Starts for GageAP\_24:

(Start: 59 @16264 has 514 MA's), (67, 16333), (71, 16357), (74, 16372), (75, 16375), (78, 16393), (114, 16543), (131, 16612),

Gene: Gail\_23 Start: 14916, Stop: 15317, Start Num: 59

Candidate Starts for Gail\_23:

(13, 14760), (25, 14808), (38, 14823), (Start: 46 @14850 has 41 MA's), (Start: 59 @14916 has 514 MA's), (61, 14943), (73, 15012), (80, 15054), (89, 15096), (109, 15201),

Gene: Gandalf20\_23 Start: 16391, Stop: 16768, Start Num: 59

Candidate Starts for Gandalf20\_23:

(Start: 59 @16391 has 514 MA's), (67, 16460), (71, 16484), (74, 16499), (75, 16502), (114, 16670),

Gene: Garak\_28 Start: 15920, Stop: 16324, Start Num: 59

Candidate Starts for Garak\_28:

(24, 15815), (38, 15830), (Start: 46 @15857 has 41 MA's), (Start: 59 @15920 has 514 MA's), (80, 16058), (86, 16079), (99, 16160), (101, 16172), (124, 16265), (127, 16280),

Gene: GaugeLDP\_26 Start: 17092, Stop: 17496, Start Num: 59

Candidate Starts for GaugeLDP\_26:

(Start: 40 @17005 has 3 MA's), (Start: 59 @17092 has 514 MA's), (61, 17119), (66, 17155), (69, 17176), (80, 17230), (91, 17299), (92, 17302), (101, 17344), (124, 17437), (127, 17452),

Gene: Gemma\_25 Start: 15257, Stop: 15655, Start Num: 57

Candidate Starts for Gemma\_25:

(Start: 46 @15194 has 41 MA's), (Start: 57 @15257 has 315 MA's), (72, 15350), (74, 15362), (95, 15482), (98, 15491), (101, 15512), (113, 15554), (118, 15578), (120, 15584), (127, 15611),

Gene: George\_19 Start: 14446, Stop: 14826, Start Num: 57

Candidate Starts for George\_19:

(Start: 57 @14446 has 315 MA's), (64, 14485), (65, 14503), (77, 14557), (80, 14581), (86, 14602), (88, 14611), (91, 14638), (97, 14659), (100, 14674), (106, 14695), (108, 14707), (118, 14746), (127, 14779), (132, 14806),

Gene: Georgie2\_25 Start: 15716, Stop: 16123, Start Num: 59

Candidate Starts for Georgie2\_25:

(7, 15482), (9, 15509), (24, 15614), (Start: 59 @15716 has 514 MA's), (61, 15743), (66, 15779), (69, 15800), (101, 15971), (109, 16004), (124, 16064), (127, 16079),

Gene: Ghoulboy\_20 Start: 14551, Stop: 14931, Start Num: 57

Candidate Starts for Ghoulboy\_20:

(52, 14521), (Start: 57 @14551 has 315 MA's), (77, 14662), (86, 14707), (91, 14743), (100, 14779), (106, 14800), (119, 14854), (121, 14860), (127, 14884), (132, 14911),

Gene: Gilberta\_24 Start: 16353, Stop: 16748, Start Num: 59

Candidate Starts for Gilberta\_24:

(Start: 59 @16353 has 514 MA's), (68, 16425), (71, 16443), (83, 16500), (98, 16578), (104, 16608), (118, 16671),

Gene: GingkoMaracino\_25 Start: 15069, Stop: 15467, Start Num: 57

Candidate Starts for GingkoMaracino\_25:

(Start: 46 @15006 has 41 MA's), (Start: 57 @15069 has 315 MA's), (72, 15162), (74, 15174), (80, 15207), (84, 15219), (95, 15294), (98, 15303), (101, 15324), (113, 15366), (120, 15396), (127, 15423),

Gene: GirlDinner\_16 Start: 10769, Stop: 11110, Start Num: 59

Candidate Starts for GirlDinner\_16:

(54, 10751), (Start: 59 @10769 has 514 MA's), (86, 10925), (131, 11081),

Gene: Giroux\_23 Start: 14698, Stop: 15081, Start Num: 57

Candidate Starts for Giroux\_23:

(21, 14584), (Start: 46 @14632 has 41 MA's), (Start: 57 @14698 has 315 MA's), (72, 14791), (86, 14857), (87, 14866), (91, 14893), (101, 14938), (120, 15010), (124, 15022), (127, 15037),

Gene: Gladiator\_27 Start: 15897, Stop: 16301, Start Num: 59

Candidate Starts for Gladiator\_27:

(Start: 46 @15834 has 41 MA's), (Start: 59 @15897 has 514 MA's), (80, 16035), (86, 16056), (91, 16104), (99, 16137), (101, 16149), (124, 16242),

Gene: Goby\_16 Start: 10936, Stop: 11259, Start Num: 59

Candidate Starts for Goby\_16:

(Start: 59 @10936 has 514 MA's), (116, 11185), (131, 11245),

Gene: Godpower\_17 Start: 10948, Stop: 11271, Start Num: 59

Candidate Starts for Godpower\_17:

(Start: 59 @10948 has 514 MA's), (116, 11197), (131, 11257),

Gene: Gollum\_19 Start: 11349, Stop: 11699, Start Num: 57  
Candidate Starts for Gollum\_19:  
(Start: 57 @11349 has 315 MA's), (81, 11487), (83, 11493), (95, 11544), (122, 11649), (124, 11655),  
(131, 11685),

Gene: Gompeii16\_22 Start: 16039, Stop: 16416, Start Num: 59  
Candidate Starts for Gompeii16\_22:  
(Start: 59 @16039 has 514 MA's), (75, 16150), (98, 16258), (100, 16270), (118, 16339),

Gene: Goose\_23 Start: 14910, Stop: 15278, Start Num: 57  
Candidate Starts for Goose\_23:  
(Start: 57 @14910 has 315 MA's), (65, 14970), (67, 14976), (71, 15000), (80, 15048), (98, 15120),  
(100, 15132), (122, 15213),

Gene: Graduation\_24 Start: 16297, Stop: 16674, Start Num: 59  
Candidate Starts for Graduation\_24:  
(44, 16210), (Start: 59 @16297 has 514 MA's), (67, 16366), (71, 16390), (74, 16405), (75, 16408),  
(114, 16576),

Gene: GrecoEtereo\_23 Start: 15840, Stop: 16217, Start Num: 59  
Candidate Starts for GrecoEtereo\_23:  
(51, 15807), (Start: 59 @15840 has 514 MA's), (67, 15909), (71, 15933), (74, 15948), (75, 15951),  
(114, 16119),

Gene: GreedyLawyer\_27 Start: 15922, Stop: 16326, Start Num: 59  
Candidate Starts for GreedyLawyer\_27:  
(Start: 46 @15859 has 41 MA's), (Start: 59 @15922 has 514 MA's), (80, 16060), (86, 16081), (99,  
16162), (101, 16174), (124, 16267), (127, 16282),

Gene: GreenWeasel\_18 Start: 11140, Stop: 11469, Start Num: 59  
Candidate Starts for GreenWeasel\_18:  
(31, 11038), (Start: 59 @11140 has 514 MA's), (105, 11353), (116, 11395), (120, 11413),

Gene: Greg\_24 Start: 15863, Stop: 16240, Start Num: 59  
Candidate Starts for Greg\_24:  
(Start: 59 @15863 has 514 MA's), (67, 15932), (71, 15956), (74, 15971), (75, 15974), (78, 15992),  
(114, 16142),

Gene: Grif\_25 Start: 15266, Stop: 15664, Start Num: 57  
Candidate Starts for Grif\_25:  
(Start: 46 @15203 has 41 MA's), (Start: 57 @15266 has 315 MA's), (72, 15359), (74, 15371), (80,  
15404), (84, 15416), (95, 15491), (98, 15500), (101, 15521), (113, 15563), (120, 15593), (127, 15620),

Gene: Groundhog\_19 Start: 13720, Stop: 14085, Start Num: 57  
Candidate Starts for Groundhog\_19:  
(Start: 57 @13720 has 315 MA's), (65, 13780), (68, 13792), (85, 13876), (86, 13879), (91, 13915), (98,  
13939), (122, 14035),

Gene: Groupthink\_26 Start: 15261, Stop: 15659, Start Num: 57  
Candidate Starts for Groupthink\_26:  
(Start: 57 @15261 has 315 MA's), (68, 15333), (72, 15354), (74, 15366), (95, 15486), (98, 15495),  
(101, 15516), (113, 15558), (118, 15582), (120, 15588), (127, 15615),

Gene: Grub\_25 Start: 15175, Stop: 15573, Start Num: 57

Candidate Starts for Grub\_25:

(Start: 46 @15112 has 41 MA's), (Start: 57 @15175 has 315 MA's), (72, 15268), (74, 15280), (80, 15313), (84, 15325), (95, 15400), (98, 15409), (101, 15430), (113, 15472), (120, 15502), (127, 15529),

Gene: Grum1\_25 Start: 15176, Stop: 15574, Start Num: 57

Candidate Starts for Grum1\_25:

(Start: 46 @15113 has 41 MA's), (Start: 57 @15176 has 315 MA's), (72, 15269), (74, 15281), (80, 15314), (84, 15326), (95, 15401), (98, 15410), (101, 15431), (113, 15473), (120, 15503), (127, 15530),

Gene: Gruunaga\_27 Start: 15897, Stop: 16301, Start Num: 59

Candidate Starts for Gruunaga\_27:

(Start: 46 @15834 has 41 MA's), (Start: 59 @15897 has 514 MA's), (80, 16035), (86, 16056), (91, 16104), (99, 16137), (101, 16149), (124, 16242),

Gene: GtownJaz\_25 Start: 15184, Stop: 15582, Start Num: 57

Candidate Starts for GtownJaz\_25:

(Start: 46 @15121 has 41 MA's), (Start: 57 @15184 has 315 MA's), (72, 15277), (74, 15289), (80, 15322), (84, 15334), (95, 15409), (98, 15418), (101, 15439), (113, 15481), (120, 15511), (127, 15538),

Gene: Gwendoluna\_24 Start: 17059, Stop: 17445, Start Num: 59

Candidate Starts for Gwendoluna\_24:

(25, 16945), (38, 16960), (Start: 59 @17059 has 514 MA's), (74, 17167), (85, 17218), (88, 17230), (91, 17263), (101, 17308), (124, 17386), (127, 17401), (131, 17416),

Gene: Gyzlar\_24 Start: 16789, Stop: 17166, Start Num: 59

Candidate Starts for Gyzlar\_24:

(38, 16690), (Start: 59 @16789 has 514 MA's), (67, 16858), (71, 16882), (74, 16897), (75, 16900), (114, 17068),

Gene: HINdeR\_23 Start: 16577, Stop: 16939, Start Num: 59

Candidate Starts for HINdeR\_23:

(Start: 59 @16577 has 514 MA's), (65, 16637), (110, 16841), (112, 16850), (121, 16886), (127, 16910), (131, 16925),

Gene: Haizum\_16 Start: 10836, Stop: 11177, Start Num: 59

Candidate Starts for Haizum\_16:

(17, 10698), (Start: 59 @10836 has 514 MA's), (81, 10974), (99, 11022), (105, 11046), (131, 11148),

Gene: HamSlice\_22 Start: 15096, Stop: 15467, Start Num: 57

Candidate Starts for HamSlice\_22:

(Start: 57 @15096 has 315 MA's), (67, 15162), (72, 15189), (98, 15309), (122, 15402), (124, 15408),

Gene: Hami1\_24 Start: 15935, Stop: 16312, Start Num: 59

Candidate Starts for Hami1\_24:

(Start: 59 @15935 has 514 MA's), (67, 16004), (71, 16028), (74, 16043), (75, 16046), (78, 16064), (114, 16214),

Gene: Hammer\_28 Start: 15849, Stop: 16316, Start Num: 46

Candidate Starts for Hammer\_28:

(Start: 46 @15849 has 41 MA's), (Start: 59 @15912 has 514 MA's), (80, 16050), (86, 16071), (91, 16119), (99, 16152), (101, 16164), (124, 16257),

Gene: HanShotFirst\_22 Start: 15469, Stop: 15846, Start Num: 59

Candidate Starts for HanShotFirst\_22:

(56, 15451), (Start: 59 @15469 has 514 MA's), (67, 15538), (71, 15562), (74, 15577), (75, 15580), (78, 15598), (114, 15748),

Gene: Hank144\_17 Start: 11071, Stop: 11412, Start Num: 59

Candidate Starts for Hank144\_17:

(54, 11053), (Start: 59 @11071 has 514 MA's), (86, 11227), (131, 11383),

Gene: Hanray\_24 Start: 16618, Stop: 17013, Start Num: 59

Candidate Starts for Hanray\_24:

(Start: 59 @16618 has 514 MA's), (68, 16690), (77, 16729), (93, 16831), (95, 16840), (118, 16936), (124, 16954), (127, 16969),

Gene: Happiness\_23 Start: 15104, Stop: 15475, Start Num: 57

Candidate Starts for Happiness\_23:

(Start: 57 @15104 has 315 MA's), (67, 15170), (72, 15197), (98, 15317), (122, 15410), (124, 15416),

Gene: Harlequin\_19 Start: 11299, Stop: 11649, Start Num: 57

Candidate Starts for Harlequin\_19:

(Start: 57 @11299 has 315 MA's), (81, 11437), (83, 11443), (95, 11494), (104, 11533), (122, 11599), (124, 11605), (131, 11635),

Gene: HarryHoudini\_26 Start: 16313, Stop: 16717, Start Num: 59

Candidate Starts for HarryHoudini\_26:

(Start: 59 @16313 has 514 MA's), (69, 16397), (100, 16556), (101, 16565), (124, 16658), (127, 16673),

Gene: HashRod\_26 Start: 15267, Stop: 15665, Start Num: 57

Candidate Starts for HashRod\_26:

(Start: 46 @15204 has 41 MA's), (Start: 57 @15267 has 315 MA's), (72, 15360), (74, 15372), (80, 15405), (84, 15417), (95, 15492), (98, 15501), (101, 15522), (113, 15564), (120, 15594), (127, 15621),

Gene: HaveUMetTed\_26 Start: 15254, Stop: 15652, Start Num: 57

Candidate Starts for HaveUMetTed\_26:

(Start: 57 @15254 has 315 MA's), (68, 15326), (72, 15347), (74, 15359), (95, 15479), (98, 15488), (101, 15509), (113, 15551), (118, 15575), (120, 15581), (127, 15608),

Gene: Heathen\_23 Start: 14433, Stop: 14882, Start Num: 46

Candidate Starts for Heathen\_23:

(21, 14385), (Start: 46 @14433 has 41 MA's), (Start: 57 @14499 has 315 MA's), (72, 14592), (86, 14658), (87, 14667), (91, 14694), (101, 14739), (120, 14811), (124, 14823), (127, 14838),

Gene: Heffalump\_27 Start: 17645, Stop: 18052, Start Num: 59

Candidate Starts for Heffalump\_27:

(34, 17552), (Start: 59 @17645 has 514 MA's), (69, 17729), (92, 17858), (101, 17900), (109, 17933), (124, 17993), (127, 18008),

Gene: Heliosoles\_25 Start: 15261, Stop: 15659, Start Num: 57

Candidate Starts for Heliosoles\_25:

(Start: 57 @15261 has 315 MA's), (68, 15333), (72, 15354), (74, 15366), (95, 15486), (98, 15495), (101, 15516), (113, 15558), (118, 15582), (120, 15588), (127, 15615),

Gene: Helmet\_28 Start: 15920, Stop: 16324, Start Num: 59

Candidate Starts for Helmet\_28:

(24, 15815), (38, 15830), (Start: 46 @15857 has 41 MA's), (Start: 59 @15920 has 514 MA's), (80, 16058), (86, 16079), (99, 16160), (101, 16172), (124, 16265), (127, 16280),

Gene: Herbertwm\_21 Start: 14510, Stop: 14914, Start Num: 59

Candidate Starts for Herbertwm\_21:

(Start: 59 @14510 has 514 MA's), (66, 14573), (77, 14624), (104, 14771),

Gene: Hercules11\_25 Start: 15190, Stop: 15588, Start Num: 57

Candidate Starts for Hercules11\_25:

(Start: 46 @15127 has 41 MA's), (Start: 57 @15190 has 315 MA's), (72, 15283), (74, 15295), (80, 15328), (84, 15340), (95, 15415), (98, 15424), (101, 15445), (113, 15487), (120, 15517), (127, 15544),

Gene: Hermia\_24 Start: 16576, Stop: 16953, Start Num: 59

Candidate Starts for Hermia\_24:

(38, 16477), (Start: 59 @16576 has 514 MA's), (67, 16645), (71, 16669), (74, 16684), (75, 16687), (114, 16855),

Gene: Hexamo\_27 Start: 15879, Stop: 16283, Start Num: 59

Candidate Starts for Hexamo\_27:

(Start: 46 @15816 has 41 MA's), (Start: 59 @15879 has 514 MA's), (80, 16017), (86, 16038), (91, 16086), (99, 16119), (101, 16131), (124, 16224),

Gene: Hippo\_16 Start: 10930, Stop: 11253, Start Num: 59

Candidate Starts for Hippo\_16:

(Start: 59 @10930 has 514 MA's), (116, 11179), (131, 11239),

Gene: Hiro\_19 Start: 11293, Stop: 11643, Start Num: 57

Candidate Starts for Hiro\_19:

(Start: 57 @11293 has 315 MA's), (95, 11488), (122, 11593), (124, 11599), (131, 11629),

Gene: Horex\_24 Start: 16618, Stop: 17013, Start Num: 59

Candidate Starts for Horex\_24:

(Start: 59 @16618 has 514 MA's), (68, 16690), (77, 16729), (93, 16831), (95, 16840), (118, 16936), (124, 16954), (127, 16969),

Gene: Holli\_24 Start: 14888, Stop: 15259, Start Num: 57

Candidate Starts for Holli\_24:

(Start: 57 @14888 has 315 MA's), (67, 14954), (72, 14981), (98, 15101), (122, 15194), (124, 15200),

Gene: Homines\_22 Start: 15639, Stop: 16010, Start Num: 59

Candidate Starts for Homines\_22:

(12, 15465), (38, 15540), (Start: 59 @15639 has 514 MA's), (67, 15708), (75, 15750), (81, 15783), (118, 15933), (123, 15948), (124, 15951), (125, 15954),

Gene: Hookmount\_24 Start: 15248, Stop: 15631, Start Num: 57

Candidate Starts for Hookmount\_24:

(Start: 40 @15164 has 3 MA's), (Start: 57 @15248 has 315 MA's), (72, 15341), (86, 15407), (87, 15416), (91, 15443), (101, 15488), (116, 15542), (120, 15560), (127, 15587),

Gene: Hoot\_27 Start: 15901, Stop: 16305, Start Num: 59

Candidate Starts for Hoot\_27:



(Start: 46 @15838 has 41 MA's), (Start: 59 @15901 has 514 MA's), (80, 16039), (86, 16060), (99, 16141), (101, 16153), (124, 16246), (127, 16261),

Gene: Hope4ever\_22 Start: 15953, Stop: 16330, Start Num: 59

Candidate Starts for Hope4ever\_22:

(24, 15842), (30, 15848), (41, 15863), (49, 15917), (Start: 59 @15953 has 514 MA's), (75, 16064), (98, 16172), (100, 16184), (118, 16253),

Gene: HortumSL17\_25 Start: 16614, Stop: 17009, Start Num: 59

Candidate Starts for HortumSL17\_25:

(Start: 59 @16614 has 514 MA's), (68, 16686), (77, 16725), (93, 16827), (95, 16836), (118, 16932), (124, 16950), (127, 16965),

Gene: Houdini22\_23 Start: 15102, Stop: 15473, Start Num: 57

Candidate Starts for Houdini22\_23:

(Start: 57 @15102 has 315 MA's), (67, 15168), (72, 15195), (122, 15408), (124, 15414),

Gene: HuhtaEnerson15\_20 Start: 14446, Stop: 14826, Start Num: 57

Candidate Starts for HuhtaEnerson15\_20:

(Start: 57 @14446 has 315 MA's), (64, 14485), (65, 14503), (77, 14557), (80, 14581), (86, 14602), (88, 14611), (91, 14638), (97, 14659), (100, 14674), (106, 14695), (108, 14707), (118, 14746), (127, 14779), (132, 14806),

Gene: Hutc2\_24 Start: 16359, Stop: 16754, Start Num: 59

Candidate Starts for Hutc2\_24:

(Start: 59 @16359 has 514 MA's), (68, 16431), (71, 16449), (83, 16506), (98, 16584), (118, 16677),

Gene: Huxley\_23 Start: 15162, Stop: 15533, Start Num: 57

Candidate Starts for Huxley\_23:

(Start: 57 @15162 has 315 MA's), (67, 15228), (72, 15255), (98, 15375), (122, 15468), (124, 15474),

Gene: Hydra\_18 Start: 11478, Stop: 11801, Start Num: 59

Candidate Starts for Hydra\_18:

(Start: 59 @11478 has 514 MA's), (116, 11727), (131, 11787),

Gene: ICleared\_23 Start: 15096, Stop: 15467, Start Num: 57

Candidate Starts for ICleared\_23:

(Start: 57 @15096 has 315 MA's), (67, 15162), (72, 15189), (98, 15309), (122, 15402), (124, 15408),

Gene: ILeeKay\_24 Start: 15715, Stop: 16092, Start Num: 59

Candidate Starts for ILeeKay\_24:

(Start: 59 @15715 has 514 MA's), (75, 15826), (98, 15934), (100, 15946), (118, 16015),

Gene: Iceman\_24 Start: 15387, Stop: 15758, Start Num: 57

Candidate Starts for Iceman\_24:

(Start: 57 @15387 has 315 MA's), (67, 15453), (72, 15480), (98, 15600), (122, 15693), (124, 15699),

Gene: Ichabod\_23 Start: 15567, Stop: 15938, Start Num: 59

Candidate Starts for Ichabod\_23:

(Start: 59 @15567 has 514 MA's), (67, 15636), (75, 15678), (81, 15711), (118, 15861), (123, 15876), (124, 15879), (125, 15882),

Gene: Idleandcovert\_24 Start: 14632, Stop: 15081, Start Num: 46

Candidate Starts for Idleandcovert\_24:

(21, 14584), (Start: 46 @14632 has 41 MA's), (Start: 57 @14698 has 315 MA's), (72, 14791), (86, 14857), (87, 14866), (91, 14893), (101, 14938), (120, 15010), (124, 15022), (127, 15037),

Gene: IgnatiusPatJac\_21 Start: 15550, Stop: 15927, Start Num: 59

Candidate Starts for IgnatiusPatJac\_21:

(Start: 59 @15550 has 514 MA's), (67, 15619), (71, 15643), (74, 15658), (75, 15661), (78, 15679), (114, 15829),

Gene: Indigo\_16 Start: 10950, Stop: 11273, Start Num: 59

Candidate Starts for Indigo\_16:

(Start: 59 @10950 has 514 MA's), (116, 11199), (131, 11259),

Gene: Indra\_27 Start: 15861, Stop: 16328, Start Num: 46

Candidate Starts for Indra\_27:

(Start: 46 @15861 has 41 MA's), (Start: 59 @15924 has 514 MA's), (80, 16062), (86, 16083), (91, 16131), (99, 16164), (101, 16176), (124, 16269),

Gene: Insomnia\_24 Start: 16414, Stop: 16809, Start Num: 59

Candidate Starts for Insomnia\_24:

(Start: 59 @16414 has 514 MA's), (68, 16486), (71, 16504), (83, 16561), (98, 16639), (118, 16732),

Gene: Inyanga\_21 Start: 15327, Stop: 15704, Start Num: 59

Candidate Starts for Inyanga\_21:

(Start: 27 @15213 has 1 MA's), (Start: 46 @15255 has 41 MA's), (Start: 59 @15327 has 514 MA's), (67, 15396), (71, 15420), (74, 15435), (75, 15438), (78, 15456), (114, 15606),

Gene: Iracema64\_24 Start: 15409, Stop: 15780, Start Num: 57

Candidate Starts for Iracema64\_24:

(Start: 57 @15409 has 315 MA's), (67, 15475), (72, 15502), (98, 15622), (122, 15715), (124, 15721),

Gene: IronMan\_26 Start: 17501, Stop: 17899, Start Num: 59

Candidate Starts for IronMan\_26:

(3, 17234), (8, 17285), (Start: 27 @17399 has 1 MA's), (Start: 59 @17501 has 514 MA's), (74, 17606), (80, 17639), (94, 17717), (124, 17840),

Gene: Isca\_23 Start: 14560, Stop: 15009, Start Num: 46

Candidate Starts for Isca\_23:

(Start: 46 @14560 has 41 MA's), (Start: 57 @14626 has 315 MA's), (86, 14785), (87, 14794), (91, 14821), (101, 14866), (120, 14938), (127, 14965),

Gene: Isiphiwo\_27 Start: 15915, Stop: 16319, Start Num: 59

Candidate Starts for Isiphiwo\_27:

(24, 15810), (38, 15825), (Start: 46 @15852 has 41 MA's), (Start: 59 @15915 has 514 MA's), (80, 16053), (86, 16074), (99, 16155), (101, 16167), (124, 16260), (127, 16275),

Gene: Issmi\_17 Start: 11089, Stop: 11430, Start Num: 59

Candidate Starts for Issmi\_17:

(33, 10990), (36, 10993), (43, 11005), (54, 11071), (Start: 59 @11089 has 514 MA's), (99, 11275), (131, 11401),

Gene: Itza\_16 Start: 11214, Stop: 11540, Start Num: 59

Candidate Starts for Itza\_16:

(Start: 59 @11214 has 514 MA's), (99, 11400), (116, 11466), (120, 11484), (131, 11526),

Gene: Iwokeuplikedis\_25 Start: 15798, Stop: 16199, Start Num: 59

Candidate Starts for Iwokeuplikedis\_25:

(Start: 59 @15798 has 514 MA's), (61, 15825), (75, 15906), (92, 16008), (101, 16050), (120, 16128), (127, 16155),

Gene: Izzy\_17 Start: 11160, Stop: 11483, Start Num: 59

Candidate Starts for Izzy\_17:

(Start: 59 @11160 has 514 MA's), (131, 11469),

Gene: JC27\_25 Start: 16451, Stop: 16828, Start Num: 59

Candidate Starts for JC27\_25:

(Start: 59 @16451 has 514 MA's), (75, 16562), (98, 16670), (100, 16682), (118, 16751),

Gene: JF2\_23 Start: 14311, Stop: 14760, Start Num: 46

Candidate Starts for JF2\_23:

(Start: 46 @14311 has 41 MA's), (Start: 57 @14377 has 315 MA's), (86, 14536), (87, 14545), (91, 14572), (101, 14617), (120, 14689), (127, 14716),

Gene: JF4\_23 Start: 14311, Stop: 14760, Start Num: 46

Candidate Starts for JF4\_23:

(Start: 46 @14311 has 41 MA's), (Start: 57 @14377 has 315 MA's), (86, 14536), (87, 14545), (91, 14572), (101, 14617), (120, 14689), (127, 14716),

Gene: JHC117\_25 Start: 15181, Stop: 15579, Start Num: 57

Candidate Starts for JHC117\_25:

(Start: 46 @15118 has 41 MA's), (Start: 57 @15181 has 315 MA's), (72, 15274), (74, 15286), (80, 15319), (84, 15331), (95, 15406), (98, 15415), (101, 15436), (113, 15478), (120, 15508), (127, 15535),

Gene: JSwag\_26 Start: 14934, Stop: 15317, Start Num: 59

Candidate Starts for JSwag\_26:

(52, 14904), (Start: 59 @14934 has 514 MA's), (117, 15234), (122, 15252), (124, 15258), (131, 15288),

Gene: Jaan\_27 Start: 17899, Stop: 18297, Start Num: 59

Candidate Starts for Jaan\_27:

(3, 17632), (8, 17683), (Start: 27 @17797 has 1 MA's), (Start: 59 @17899 has 514 MA's), (74, 18004), (124, 18238), (125, 18241),

Gene: Jabiru\_20 Start: 14338, Stop: 14718, Start Num: 57

Candidate Starts for Jabiru\_20:

(29, 14236), (Start: 46 @14275 has 41 MA's), (Start: 57 @14338 has 315 MA's), (80, 14473), (86, 14494), (91, 14530), (100, 14566), (120, 14644), (127, 14671), (131, 14686),

Gene: Jabith\_24 Start: 16414, Stop: 16809, Start Num: 59

Candidate Starts for Jabith\_24:

(Start: 59 @16414 has 514 MA's), (68, 16486), (71, 16504), (83, 16561), (98, 16639), (118, 16732),

Gene: JackSparrow\_23 Start: 15891, Stop: 16268, Start Num: 59

Candidate Starts for JackSparrow\_23:

(Start: 59 @15891 has 514 MA's), (78, 16020), (80, 16032), (100, 16122), (131, 16239),

Gene: Janus\_17 Start: 11107, Stop: 11448, Start Num: 59

Candidate Starts for Janus\_17:  
(54, 11089), (Start: 59 @11107 has 514 MA's), (86, 11263), (131, 11419),

Gene: Jash\_17 Start: 11113, Stop: 11436, Start Num: 59  
Candidate Starts for Jash\_17:  
(Start: 59 @11113 has 514 MA's), (131, 11422),

Gene: Jasper\_23 Start: 15392, Stop: 15769, Start Num: 59  
Candidate Starts for Jasper\_23:  
(Start: 59 @15392 has 514 MA's), (78, 15521), (80, 15533), (100, 15623), (131, 15740),

Gene: Jaykayelowell\_23 Start: 15094, Stop: 15465, Start Num: 57  
Candidate Starts for Jaykayelowell\_23:  
(Start: 57 @15094 has 315 MA's), (67, 15160), (72, 15187), (98, 15307), (122, 15400), (124, 15406),

Gene: Jeeves\_23 Start: 14942, Stop: 15343, Start Num: 59  
Candidate Starts for Jeeves\_23:  
(Start: 59 @14942 has 514 MA's), (73, 15038), (74, 15047), (80, 15080), (109, 15227), (124, 15284),

Gene: Jeffabunny\_27 Start: 15868, Stop: 16335, Start Num: 46  
Candidate Starts for Jeffabunny\_27:  
(Start: 46 @15868 has 41 MA's), (Start: 59 @15931 has 514 MA's), (80, 16069), (86, 16090), (91, 16138), (99, 16171), (101, 16183), (124, 16276),

Gene: JenCasNa\_26 Start: 15182, Stop: 15580, Start Num: 57  
Candidate Starts for JenCasNa\_26:  
(Start: 57 @15182 has 315 MA's), (72, 15275), (74, 15287), (80, 15320), (84, 15332), (95, 15407), (98, 15416), (101, 15437), (113, 15479), (120, 15509), (127, 15536),

Gene: JeppNRM\_26 Start: 15259, Stop: 15657, Start Num: 57  
Candidate Starts for JeppNRM\_26:  
(Start: 57 @15259 has 315 MA's), (68, 15331), (72, 15352), (74, 15364), (95, 15484), (98, 15493), (101, 15514), (113, 15556), (118, 15580), (120, 15586), (127, 15613),

Gene: Jerm\_26 Start: 16234, Stop: 16641, Start Num: 59  
Candidate Starts for Jerm\_26:  
(Start: 59 @16234 has 514 MA's), (61, 16261), (66, 16297), (69, 16318), (92, 16447), (101, 16489), (109, 16522), (124, 16582), (127, 16597),

Gene: Jerm2\_23 Start: 15760, Stop: 16137, Start Num: 59  
Candidate Starts for Jerm2\_23:  
(38, 15661), (Start: 59 @15760 has 514 MA's), (78, 15889), (80, 15901), (98, 15979), (100, 15991), (131, 16108),

Gene: Jester\_20 Start: 11293, Stop: 11643, Start Num: 57  
Candidate Starts for Jester\_20:  
(Start: 57 @11293 has 315 MA's), (95, 11488), (122, 11593), (124, 11599), (131, 11629),

Gene: JetBlade\_23 Start: 15095, Stop: 15466, Start Num: 57  
Candidate Starts for JetBlade\_23:  
(Start: 57 @15095 has 315 MA's), (67, 15161), (72, 15188), (98, 15308), (122, 15401), (124, 15407),

Gene: Jevington\_18 Start: 11409, Stop: 11750, Start Num: 59

Candidate Starts for Jevington\_18:

(55, 11391), (Start: 59 @11409 has 514 MA's), (86, 11565), (116, 11661), (131, 11721),

Gene: JewelBug\_27 Start: 15927, Stop: 16331, Start Num: 59

Candidate Starts for JewelBug\_27:

(24, 15822), (38, 15837), (Start: 46 @15864 has 41 MA's), (Start: 59 @15927 has 514 MA's), (80, 16065), (86, 16086), (99, 16167), (101, 16179), (124, 16272), (127, 16287), (132, 16314),

Gene: Jiawan\_24 Start: 16650, Stop: 17045, Start Num: 59

Candidate Starts for Jiawan\_24:

(Start: 59 @16650 has 514 MA's), (68, 16722), (77, 16761), (93, 16863), (95, 16872), (118, 16968), (124, 16986), (127, 17001),

Gene: Jobu08\_25 Start: 15192, Stop: 15653, Start Num: 46

Candidate Starts for Jobu08\_25:

(Start: 46 @15192 has 41 MA's), (Start: 57 @15255 has 315 MA's), (72, 15348), (74, 15360), (80, 15393), (84, 15405), (95, 15480), (98, 15489), (101, 15510), (113, 15552), (120, 15582), (127, 15609),

Gene: JoongJeon\_24 Start: 15098, Stop: 15469, Start Num: 57

Candidate Starts for JoongJeon\_24:

(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (98, 15311), (122, 15404), (124, 15410),

Gene: Jordennis\_27 Start: 15915, Stop: 16316, Start Num: 59

Candidate Starts for Jordennis\_27:

(24, 15810), (38, 15825), (Start: 46 @15852 has 41 MA's), (Start: 59 @15915 has 514 MA's), (80, 16053), (86, 16074), (99, 16152), (101, 16164), (124, 16257), (127, 16272),

Gene: Jorgensen\_22 Start: 15347, Stop: 15724, Start Num: 59

Candidate Starts for Jorgensen\_22:

(38, 15248), (Start: 59 @15347 has 514 MA's), (75, 15458), (80, 15488), (100, 15578),

Gene: Joselito\_24 Start: 16362, Stop: 16757, Start Num: 59

Candidate Starts for Joselito\_24:

(Start: 59 @16362 has 514 MA's), (68, 16434), (71, 16452), (83, 16509), (98, 16587), (118, 16680),

Gene: JoshKayV\_26 Start: 16204, Stop: 16611, Start Num: 59

Candidate Starts for JoshKayV\_26:

(Start: 59 @16204 has 514 MA's), (61, 16231), (66, 16267), (69, 16288), (92, 16417), (101, 16459), (109, 16492), (124, 16552), (127, 16567),

Gene: Journey13\_22 Start: 14965, Stop: 15369, Start Num: 59

Candidate Starts for Journey13\_22:

(Start: 59 @14965 has 514 MA's), (69, 15049), (80, 15103), (92, 15175), (101, 15217), (127, 15325),

Gene: Jovo\_20 Start: 14552, Stop: 14932, Start Num: 57

Candidate Starts for Jovo\_20:

(Start: 57 @14552 has 315 MA's), (65, 14609), (67, 14615), (77, 14663), (80, 14687), (86, 14708), (88, 14717), (91, 14744), (97, 14765), (100, 14780), (106, 14801), (108, 14813), (127, 14885), (132, 14912),

Gene: Jsquared\_23 Start: 14730, Stop: 15134, Start Num: 59

Candidate Starts for Jsquared\_23:

(Start: 59 @14730 has 514 MA's), (69, 14814), (73, 14826), (92, 14940), (112, 15027),

Gene: JuliaChild\_24 Start: 16021, Stop: 16398, Start Num: 59

Candidate Starts for JuliaChild\_24:

(38, 15919), (Start: 59 @16021 has 514 MA's), (67, 16090), (71, 16114), (74, 16129), (75, 16132), (78, 16150), (114, 16300), (131, 16369),

Gene: KADY\_27 Start: 15267, Stop: 15665, Start Num: 57

Candidate Starts for KADY\_27:

(Start: 46 @15204 has 41 MA's), (Start: 57 @15267 has 315 MA's), (72, 15360), (74, 15372), (80, 15405), (84, 15417), (95, 15492), (98, 15501), (101, 15522), (113, 15564), (120, 15594), (127, 15621),

Gene: KFPoly\_23 Start: 15098, Stop: 15469, Start Num: 57

Candidate Starts for KFPoly\_23:

(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (98, 15311), (122, 15404), (124, 15410),

Gene: KSSJEB\_23 Start: 15350, Stop: 15727, Start Num: 59

Candidate Starts for KSSJEB\_23:

(Start: 59 @15350 has 514 MA's), (67, 15419), (71, 15443), (74, 15458), (75, 15461), (114, 15629),

Gene: Kachowdy\_23 Start: 14685, Stop: 15134, Start Num: 46

Candidate Starts for Kachowdy\_23:

(21, 14637), (Start: 46 @14685 has 41 MA's), (Start: 57 @14751 has 315 MA's), (72, 14844), (86, 14910), (87, 14919), (91, 14946), (101, 14991), (120, 15063), (124, 15075), (127, 15090),

Gene: Kaine\_16 Start: 10555, Stop: 10878, Start Num: 59

Candidate Starts for Kaine\_16:

(Start: 59 @10555 has 514 MA's), (99, 10738), (120, 10822),

Gene: Kalb97\_26 Start: 15260, Stop: 15658, Start Num: 57

Candidate Starts for Kalb97\_26:

(Start: 46 @15197 has 41 MA's), (Start: 57 @15260 has 315 MA's), (68, 15332), (72, 15353), (74, 15365), (95, 15485), (98, 15494), (101, 15515), (113, 15557), (118, 15581), (120, 15587), (127, 15614),

Gene: Kalnoky\_26 Start: 15261, Stop: 15659, Start Num: 57

Candidate Starts for Kalnoky\_26:

(Start: 57 @15261 has 315 MA's), (68, 15333), (72, 15354), (74, 15366), (95, 15486), (98, 15495), (101, 15516), (113, 15558), (118, 15582), (120, 15588), (127, 15615),

Gene: Kalpine\_27 Start: 17586, Stop: 17990, Start Num: 59

Candidate Starts for Kalpine\_27:

(24, 17481), (38, 17496), (Start: 46 @17523 has 41 MA's), (Start: 59 @17586 has 514 MA's), (66, 17649), (80, 17724), (84, 17736), (101, 17838), (127, 17946),

Gene: Kampy\_23 Start: 15096, Stop: 15467, Start Num: 57

Candidate Starts for Kampy\_23:

(Start: 57 @15096 has 315 MA's), (67, 15162), (72, 15189), (98, 15309), (122, 15402), (124, 15408),

Gene: Kanely\_23 Start: 16127, Stop: 16504, Start Num: 59

Candidate Starts for Kanely\_23:

(38, 16028), (Start: 59 @16127 has 514 MA's), (78, 16256), (80, 16268), (100, 16358), (131, 16475),

Gene: Katalie\_17 Start: 11188, Stop: 11511, Start Num: 59

Candidate Starts for Katalie\_17:

(Start: 59 @11188 has 514 MA's), (75, 11290), (116, 11437), (131, 11497),

Gene: Katalie136\_23 Start: 15098, Stop: 15469, Start Num: 57

Candidate Starts for Katalie136\_23:

(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (77, 15212), (80, 15236), (98, 15311), (122, 15404), (124, 15410),

Gene: KatherineG\_26 Start: 15070, Stop: 15453, Start Num: 59

Candidate Starts for KatherineG\_26:

(52, 15040), (Start: 59 @15070 has 514 MA's), (71, 15160), (117, 15370), (122, 15388), (124, 15394), (131, 15424),

Gene: Kazan\_27 Start: 15865, Stop: 16332, Start Num: 46

Candidate Starts for Kazan\_27:

(Start: 46 @15865 has 41 MA's), (Start: 59 @15928 has 514 MA's), (80, 16066), (86, 16087), (99, 16168), (101, 16180), (124, 16273), (127, 16288),

Gene: Kenmech\_25 Start: 16930, Stop: 17316, Start Num: 59

Candidate Starts for Kenmech\_25:

(Start: 59 @16930 has 514 MA's), (74, 17038), (85, 17089), (88, 17101), (91, 17134), (101, 17179), (111, 17212), (124, 17257), (127, 17272), (131, 17287),

Gene: Kerberos\_27 Start: 15695, Stop: 16099, Start Num: 59

Candidate Starts for Kerberos\_27:

(Start: 59 @15695 has 514 MA's), (69, 15779), (80, 15833), (92, 15905), (127, 16055), (128, 16058),

Gene: Keziacharles14\_23 Start: 14734, Stop: 15132, Start Num: 59

Candidate Starts for Keziacharles14\_23:

(Start: 59 @14734 has 514 MA's), (63, 14773), (68, 14806), (74, 14839), (77, 14848), (80, 14872), (95, 14959), (105, 15001), (118, 15055), (120, 15061), (124, 15073), (127, 15088),

Gene: Killigrew\_20 Start: 15047, Stop: 15424, Start Num: 59

Candidate Starts for Killigrew\_20:

(38, 14960), (Start: 59 @15047 has 514 MA's), (75, 15158), (100, 15278), (127, 15380),

Gene: Kimona\_20 Start: 12658, Stop: 13038, Start Num: 57

Candidate Starts for Kimona\_20:

(Start: 40 @12565 has 3 MA's), (Start: 57 @12658 has 315 MA's), (86, 12814), (87, 12823), (91, 12850), (101, 12895), (114, 12940), (120, 12967), (127, 12994),

Gene: KingCyrus\_26 Start: 16201, Stop: 16608, Start Num: 59

Candidate Starts for KingCyrus\_26:

(Start: 59 @16201 has 514 MA's), (69, 16285), (92, 16414), (101, 16456), (109, 16489), (124, 16549), (127, 16564),

Gene: Kinmap\_23 Start: 15609, Stop: 16001, Start Num: 59

Candidate Starts for Kinmap\_23:

(Start: 59 @15609 has 514 MA's), (61, 15636), (72, 15702), (80, 15747), (91, 15807), (98, 15831), (109, 15885), (127, 15957),

Gene: Kipper29\_27 Start: 15922, Stop: 16326, Start Num: 59

Candidate Starts for Kipper29\_27:

(Start: 46 @15859 has 41 MA's), (Start: 59 @15922 has 514 MA's), (80, 16060), (86, 16081), (99, 16162), (101, 16174), (124, 16267), (127, 16282),

Gene: KittenMittens\_22 Start: 13010, Stop: 13378, Start Num: 57

Candidate Starts for KittenMittens\_22:

(Start: 46 @12947 has 41 MA's), (Start: 57 @13010 has 315 MA's), (65, 13070), (67, 13076), (80, 13148), (98, 13220), (101, 13241), (102, 13244), (122, 13313),

Gene: Koan\_22 Start: 15098, Stop: 15469, Start Num: 57

Candidate Starts for Koan\_22:

(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (98, 15311), (122, 15404), (124, 15410),

Gene: Koduck\_24 Start: 14976, Stop: 15374, Start Num: 59

Candidate Starts for Koduck\_24:

(Start: 59 @14976 has 514 MA's), (69, 15060), (80, 15114), (83, 15123), (91, 15177), (112, 15267),

Gene: Koko\_27 Start: 15936, Stop: 16340, Start Num: 59

Candidate Starts for Koko\_27:

(53, 15909), (Start: 59 @15936 has 514 MA's), (69, 16020), (73, 16032), (80, 16074), (83, 16083), (92, 16146), (104, 16197),

Gene: Koreni\_22 Start: 14744, Stop: 15115, Start Num: 57

Candidate Starts for Koreni\_22:

(Start: 57 @14744 has 315 MA's), (67, 14810), (72, 14837), (98, 14957), (122, 15050), (124, 15056),

Gene: Kratak\_23 Start: 15093, Stop: 15464, Start Num: 57

Candidate Starts for Kratak\_23:

(Start: 57 @15093 has 315 MA's), (67, 15159), (72, 15186), (98, 15306), (122, 15399), (124, 15405),

Gene: Kremtemulon\_23 Start: 15146, Stop: 15517, Start Num: 57

Candidate Starts for Kremtemulon\_23:

(Start: 57 @15146 has 315 MA's), (67, 15212), (72, 15239), (98, 15359), (122, 15452), (124, 15458),

Gene: Krishelle\_19 Start: 11308, Stop: 11658, Start Num: 57

Candidate Starts for Krishelle\_19:

(Start: 57 @11308 has 315 MA's), (95, 11503), (122, 11608), (124, 11614), (131, 11644),

Gene: Kristoff\_24 Start: 15098, Stop: 15466, Start Num: 57

Candidate Starts for Kristoff\_24:

(Start: 46 @15035 has 41 MA's), (Start: 57 @15098 has 315 MA's), (65, 15158), (67, 15164), (80, 15236), (98, 15308), (100, 15320), (120, 15395), (122, 15401), (124, 15407), (127, 15422),

Gene: KyMonks1A\_24 Start: 15866, Stop: 16243, Start Num: 59

Candidate Starts for KyMonks1A\_24:

(38, 15767), (Start: 59 @15866 has 514 MA's), (78, 15995), (80, 16007), (100, 16097), (131, 16214),

Gene: Kyee\_23 Start: 15099, Stop: 15470, Start Num: 57

Candidate Starts for Kyee\_23:

(Start: 57 @15099 has 315 MA's), (67, 15165), (72, 15192), (98, 15312), (122, 15405), (124, 15411),

Gene: Kykar\_20 Start: 15136, Stop: 15513, Start Num: 59

Candidate Starts for Kykar\_20:

(38, 15037), (Start: 59 @15136 has 514 MA's), (75, 15247), (80, 15277), (100, 15367),



Gene: L5\_24 Start: 14987, Stop: 15385, Start Num: 59

Candidate Starts for L5\_24:

(Start: 59 @14987 has 514 MA's), (69, 15071), (80, 15125), (83, 15134), (91, 15188), (112, 15278),

Gene: LBerry\_25 Start: 15183, Stop: 15581, Start Num: 57

Candidate Starts for LBerry\_25:

(Start: 46 @15120 has 41 MA's), (Start: 57 @15183 has 315 MA's), (72, 15276), (74, 15288), (80, 15321), (84, 15333), (95, 15408), (98, 15417), (101, 15438), (113, 15480), (120, 15510), (127, 15537),

Gene: LHTSCC\_24 Start: 15409, Stop: 15780, Start Num: 57

Candidate Starts for LHTSCC\_24:

(Start: 57 @15409 has 315 MA's), (67, 15475), (72, 15502), (98, 15622), (122, 15715), (124, 15721),

Gene: LadyBird\_24 Start: 15774, Stop: 16181, Start Num: 59

Candidate Starts for LadyBird\_24:

(24, 15669), (Start: 46 @15711 has 41 MA's), (Start: 59 @15774 has 514 MA's), (61, 15801), (66, 15837), (92, 15987), (101, 16029), (110, 16065), (112, 16074), (124, 16122), (127, 16137),

Gene: Lambert1\_24 Start: 15247, Stop: 15630, Start Num: 57

Candidate Starts for Lambert1\_24:

(Start: 57 @15247 has 315 MA's), (72, 15340), (86, 15406), (87, 15415), (91, 15442), (101, 15487), (116, 15541), (120, 15559), (127, 15586),

Gene: Lamina13\_22 Start: 15146, Stop: 15523, Start Num: 59

Candidate Starts for Lamina13\_22:

(Start: 59 @15146 has 514 MA's), (67, 15215), (71, 15239), (74, 15254), (75, 15257), (78, 15275), (114, 15425),

Gene: Landor\_25 Start: 17551, Stop: 17949, Start Num: 59

Candidate Starts for Landor\_25:

(3, 17284), (8, 17335), (Start: 27 @17449 has 1 MA's), (Start: 59 @17551 has 514 MA's), (74, 17656), (124, 17890), (125, 17893),

Gene: Lannister\_17 Start: 10954, Stop: 11277, Start Num: 59

Candidate Starts for Lannister\_17:

(Start: 59 @10954 has 514 MA's), (116, 11203), (131, 11263),

Gene: LappelDuVide\_23 Start: 15095, Stop: 15466, Start Num: 57

Candidate Starts for LappelDuVide\_23:

(Start: 57 @15095 has 315 MA's), (67, 15161), (72, 15188), (98, 15308), (122, 15401), (124, 15407),

Gene: Larenn\_25 Start: 16075, Stop: 16479, Start Num: 59

Candidate Starts for Larenn\_25:

(5, 15832), (8, 15859), (24, 15970), (Start: 59 @16075 has 514 MA's), (61, 16102), (69, 16159), (80, 16213), (86, 16234), (101, 16327), (109, 16360), (124, 16420), (127, 16435),

Gene: LarryKay\_25 Start: 15269, Stop: 15667, Start Num: 57

Candidate Starts for LarryKay\_25:

(Start: 46 @15206 has 41 MA's), (Start: 57 @15269 has 315 MA's), (72, 15362), (74, 15374), (80, 15407), (84, 15419), (95, 15494), (98, 15503), (101, 15524), (113, 15566), (120, 15596), (127, 15623),

Gene: LastResort\_26 Start: 14948, Stop: 15331, Start Num: 59

Candidate Starts for LastResort\_26:

(52, 14918), (Start: 59 @14948 has 514 MA's), (71, 15038), (117, 15248), (122, 15266), (124, 15272), (131, 15302),

Gene: Legacy\_16 Start: 10921, Stop: 11244, Start Num: 59

Candidate Starts for Legacy\_16:

(Start: 59 @10921 has 514 MA's), (116, 11170), (131, 11230),

Gene: Lemur\_23 Start: 15095, Stop: 15466, Start Num: 57

Candidate Starts for Lemur\_23:

(Start: 57 @15095 has 315 MA's), (67, 15161), (72, 15188), (98, 15308), (122, 15401), (124, 15407),

Gene: LeoAvram\_23 Start: 15095, Stop: 15466, Start Num: 57

Candidate Starts for LeoAvram\_23:

(Start: 57 @15095 has 315 MA's), (67, 15161), (72, 15188), (98, 15308), (122, 15401), (124, 15407),

Gene: Leogania\_26 Start: 17943, Stop: 18350, Start Num: 59

Candidate Starts for Leogania\_26:

(Start: 59 @17943 has 514 MA's), (66, 18006), (69, 18027), (80, 18081), (92, 18156), (101, 18198), (109, 18231), (124, 18291), (127, 18306),

Gene: Lesedi\_22 Start: 15304, Stop: 15681, Start Num: 59

Candidate Starts for Lesedi\_22:

(38, 15205), (Start: 59 @15304 has 514 MA's), (67, 15373), (71, 15397), (74, 15412), (75, 15415), (78, 15433), (114, 15583),

Gene: Lev2\_20 Start: 14264, Stop: 14644, Start Num: 57

Candidate Starts for Lev2\_20:

(Start: 57 @14264 has 315 MA's), (65, 14321), (67, 14327), (77, 14375), (80, 14399), (86, 14420), (88, 14429), (91, 14456), (97, 14477), (100, 14492), (106, 14513), (108, 14525), (127, 14597), (132, 14624),

Gene: Leviathan\_26 Start: 16290, Stop: 16697, Start Num: 59

Candidate Starts for Leviathan\_26:

(Start: 59 @16290 has 514 MA's), (61, 16317), (66, 16353), (69, 16374), (92, 16503), (101, 16545), (109, 16578), (124, 16638), (127, 16653),

Gene: Leviticus\_16 Start: 10950, Stop: 11273, Start Num: 59

Candidate Starts for Leviticus\_16:

(Start: 59 @10950 has 514 MA's), (116, 11199), (131, 11259),

Gene: Lika\_16 Start: 10952, Stop: 11275, Start Num: 59

Candidate Starts for Lika\_16:

(Start: 59 @10952 has 514 MA's), (116, 11201), (131, 11261),

Gene: LilBib\_23 Start: 16388, Stop: 16774, Start Num: 59

Candidate Starts for LilBib\_23:

(38, 16286), (Start: 59 @16388 has 514 MA's), (74, 16496), (85, 16547), (88, 16559), (91, 16592), (101, 16637), (124, 16715), (127, 16730), (131, 16745),

Gene: LilTurb\_26 Start: 16293, Stop: 16700, Start Num: 59

Candidate Starts for LilTurb\_26:

(Start: 59 @16293 has 514 MA's), (61, 16320), (66, 16356), (69, 16377), (92, 16506), (101, 16548), (109, 16581), (124, 16641), (127, 16656),

Gene: Lilbunny\_27 Start: 15905, Stop: 16309, Start Num: 59

Candidate Starts for Lilbunny\_27:

(Start: 46 @15842 has 41 MA's), (Start: 59 @15905 has 514 MA's), (80, 16043), (86, 16064), (91, 16112), (99, 16145), (101, 16157), (124, 16250),

Gene: Lilith\_25 Start: 15113, Stop: 15574, Start Num: 46

Candidate Starts for Lilith\_25:

(Start: 46 @15113 has 41 MA's), (Start: 57 @15176 has 315 MA's), (72, 15269), (74, 15281), (80, 15314), (84, 15326), (95, 15401), (98, 15410), (101, 15431), (113, 15473), (120, 15503), (127, 15530),

Gene: Lilleskat\_23 Start: 16614, Stop: 17009, Start Num: 59

Candidate Starts for Lilleskat\_23:

(Start: 59 @16614 has 514 MA's), (68, 16686), (77, 16725), (93, 16827), (95, 16836), (118, 16932), (124, 16950), (127, 16965),

Gene: Lillie\_19 Start: 11349, Stop: 11699, Start Num: 57

Candidate Starts for Lillie\_19:

(Start: 57 @11349 has 315 MA's), (81, 11487), (83, 11493), (95, 11544), (122, 11649), (124, 11655), (131, 11685),

Gene: LittleB\_23 Start: 15098, Stop: 15469, Start Num: 57

Candidate Starts for LittleB\_23:

(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (98, 15311), (122, 15404), (124, 15410),

Gene: LittleCherry\_20 Start: 14447, Stop: 14827, Start Num: 57

Candidate Starts for LittleCherry\_20:

(Start: 57 @14447 has 315 MA's), (64, 14486), (65, 14504), (77, 14558), (80, 14582), (86, 14603), (88, 14612), (91, 14639), (97, 14660), (100, 14675), (106, 14696), (108, 14708), (118, 14747), (127, 14780), (132, 14807),

Gene: LittleGuy\_23 Start: 15041, Stop: 15412, Start Num: 57

Candidate Starts for LittleGuy\_23:

(Start: 57 @15041 has 315 MA's), (67, 15107), (72, 15134), (98, 15254), (122, 15347), (124, 15353),

Gene: LochMonster\_23 Start: 15073, Stop: 15444, Start Num: 57

Candidate Starts for LochMonster\_23:

(Start: 57 @15073 has 315 MA's), (67, 15139), (72, 15166), (98, 15286), (122, 15379), (124, 15385),

Gene: Lokk\_27 Start: 17449, Stop: 17853, Start Num: 59

Candidate Starts for Lokk\_27:

(Start: 59 @17449 has 514 MA's), (66, 17512), (69, 17533), (80, 17587), (91, 17656), (101, 17701), (109, 17734), (124, 17794), (127, 17809),

Gene: LoneWolf\_25 Start: 16414, Stop: 16809, Start Num: 59

Candidate Starts for LoneWolf\_25:

(Start: 59 @16414 has 514 MA's), (68, 16486), (77, 16525), (80, 16549), (93, 16627), (95, 16636), (118, 16732), (124, 16750), (127, 16765),

Gene: Loofah\_17 Start: 10918, Stop: 11259, Start Num: 59

Candidate Starts for Loofah\_17:

(45, 10840), (54, 10900), (Start: 59 @10918 has 514 MA's), (86, 11074), (95, 11089), (103, 11122), (108, 11143), (116, 11170), (131, 11230),

Gene: Looper\_27 Start: 14948, Stop: 15331, Start Num: 59

Candidate Starts for Looper\_27:

(52, 14918), (Start: 59 @14948 has 514 MA's), (71, 15038), (117, 15248), (122, 15266), (124, 15272), (131, 15302),

Gene: Lorelei\_16 Start: 10924, Stop: 11247, Start Num: 59

Candidate Starts for Lorelei\_16:

(Start: 59 @10924 has 514 MA's), (86, 11077), (116, 11173),

Gene: Lorenzo\_23 Start: 15098, Stop: 15469, Start Num: 57

Candidate Starts for Lorenzo\_23:

(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (98, 15311), (122, 15404), (124, 15410),

Gene: Loser\_27 Start: 17580, Stop: 17984, Start Num: 59

Candidate Starts for Loser\_27:

(Start: 59 @17580 has 514 MA's), (69, 17664), (71, 17670), (80, 17718), (86, 17739), (101, 17832), (124, 17925), (127, 17940),

Gene: Louie6\_25 Start: 15207, Stop: 15668, Start Num: 46

Candidate Starts for Louie6\_25:

(Start: 46 @15207 has 41 MA's), (Start: 57 @15270 has 315 MA's), (72, 15363), (74, 15375), (80, 15408), (84, 15420), (95, 15495), (98, 15504), (101, 15525), (113, 15567), (120, 15597), (127, 15624),

Gene: Luchador\_25 Start: 16146, Stop: 16547, Start Num: 59

Candidate Starts for Luchador\_25:

(Start: 59 @16146 has 514 MA's), (73, 16242), (74, 16251), (124, 16488),

Gene: Lucivia\_24 Start: 16411, Stop: 16806, Start Num: 59

Candidate Starts for Lucivia\_24:

(Start: 59 @16411 has 514 MA's), (68, 16483), (71, 16501), (83, 16558), (98, 16636), (118, 16729),

Gene: Lucyedi\_25 Start: 15972, Stop: 16367, Start Num: 59

Candidate Starts for Lucyedi\_25:

(Start: 59 @15972 has 514 MA's), (67, 16038), (77, 16086), (90, 16149), (101, 16218), (124, 16308), (126, 16314), (131, 16338),

Gene: LugYA\_27 Start: 15183, Stop: 15581, Start Num: 57

Candidate Starts for LugYA\_27:

(Start: 57 @15183 has 315 MA's), (72, 15276), (74, 15288), (80, 15321), (84, 15333), (95, 15408), (98, 15417), (101, 15438), (113, 15480), (120, 15510), (127, 15537),

Gene: Lunsford\_24 Start: 15095, Stop: 15466, Start Num: 57

Candidate Starts for Lunsford\_24:

(Start: 57 @15095 has 315 MA's), (67, 15161), (72, 15188), (98, 15308), (122, 15401), (124, 15407),

Gene: MA5\_23 Start: 14248, Stop: 14697, Start Num: 46

Candidate Starts for MA5\_23:

(Start: 46 @14248 has 41 MA's), (Start: 57 @14314 has 315 MA's), (72, 14407), (86, 14473), (87, 14482), (91, 14509), (101, 14554), (124, 14638), (127, 14653),

Gene: MK4\_23 Start: 14545, Stop: 14994, Start Num: 46

Candidate Starts for MK4\_23:

(Start: 46 @14545 has 41 MA's), (Start: 57 @14611 has 315 MA's), (86, 14770), (87, 14779), (91, 14806), (101, 14851), (120, 14923), (127, 14950),

Gene: MPlant7149\_22 Start: 15114, Stop: 15491, Start Num: 59

Candidate Starts for MPlant7149\_22:

(38, 15015), (Start: 59 @15114 has 514 MA's), (78, 15243), (80, 15255), (100, 15345), (131, 15462),

Gene: MaCh\_24 Start: 16353, Stop: 16748, Start Num: 59

Candidate Starts for MaCh\_24:

(Start: 59 @16353 has 514 MA's), (68, 16425), (71, 16443), (83, 16500), (98, 16578), (104, 16608), (118, 16671),

Gene: Mabel\_24 Start: 16414, Stop: 16809, Start Num: 59

Candidate Starts for Mabel\_24:

(Start: 59 @16414 has 514 MA's), (68, 16486), (71, 16504), (83, 16561), (98, 16639), (118, 16732),

Gene: MadMarie\_25 Start: 15185, Stop: 15583, Start Num: 57

Candidate Starts for MadMarie\_25:

(Start: 46 @15122 has 41 MA's), (Start: 57 @15185 has 315 MA's), (72, 15278), (74, 15290), (80, 15323), (84, 15335), (95, 15410), (98, 15419), (101, 15440), (113, 15482), (120, 15512), (127, 15539),

Gene: Magnar\_22 Start: 15261, Stop: 15638, Start Num: 59

Candidate Starts for Magnar\_22:

(38, 15162), (Start: 59 @15261 has 514 MA's), (78, 15390), (80, 15402), (100, 15492), (131, 15609),

Gene: Mainiac\_25 Start: 15113, Stop: 15574, Start Num: 46

Candidate Starts for Mainiac\_25:

(Start: 46 @15113 has 41 MA's), (Start: 57 @15176 has 315 MA's), (72, 15269), (74, 15281), (80, 15314), (84, 15326), (95, 15401), (98, 15410), (101, 15431), (113, 15473), (120, 15503), (127, 15530),

Gene: MajorMajor\_23 Start: 14715, Stop: 15119, Start Num: 59

Candidate Starts for MajorMajor\_23:

(Start: 59 @14715 has 514 MA's), (69, 14799), (73, 14811), (112, 15012),

Gene: Makemake\_22 Start: 16741, Stop: 17118, Start Num: 59

Candidate Starts for Makemake\_22:

(Start: 59 @16741 has 514 MA's), (67, 16810), (71, 16834), (74, 16849), (75, 16852), (78, 16870), (114, 17020), (131, 17089),

Gene: Malec\_25 Start: 16080, Stop: 16484, Start Num: 59

Candidate Starts for Malec\_25:

(5, 15837), (8, 15864), (24, 15975), (Start: 59 @16080 has 514 MA's), (61, 16107), (69, 16164), (80, 16218), (86, 16239), (101, 16332), (109, 16365), (124, 16425), (127, 16440),

Gene: Malinsilva\_27 Start: 15112, Stop: 15573, Start Num: 46

Candidate Starts for Malinsilva\_27:

(Start: 46 @15112 has 41 MA's), (Start: 57 @15175 has 315 MA's), (72, 15268), (74, 15280), (80, 15313), (84, 15325), (95, 15400), (98, 15409), (101, 15430), (113, 15472), (120, 15502), (127, 15529),

Gene: Maminiaina\_25 Start: 16344, Stop: 16739, Start Num: 59

Candidate Starts for Maminiaina\_25:

(Start: 59 @16344 has 514 MA's), (67, 16410), (68, 16416), (77, 16455), (93, 16557), (95, 16566), (118, 16662), (124, 16680), (127, 16695),

Gene: Manatee\_23 Start: 15764, Stop: 16141, Start Num: 59

Candidate Starts for Manatee\_23:

(51, 15731), (Start: 59 @15764 has 514 MA's), (67, 15833), (71, 15857), (74, 15872), (75, 15875), (78, 15893), (114, 16043), (131, 16112),

Gene: Maneekul\_16 Start: 10929, Stop: 11252, Start Num: 59

Candidate Starts for Maneekul\_16:

(Start: 59 @10929 has 514 MA's), (116, 11178),

Gene: Manu\_26 Start: 15261, Stop: 15659, Start Num: 57

Candidate Starts for Manu\_26:

(Start: 57 @15261 has 315 MA's), (68, 15333), (72, 15354), (74, 15366), (95, 15486), (98, 15495), (101, 15516), (113, 15558), (118, 15582), (120, 15588), (127, 15615),

Gene: MarQuardt\_25 Start: 15121, Stop: 15582, Start Num: 46

Candidate Starts for MarQuardt\_25:

(Start: 46 @15121 has 41 MA's), (Start: 57 @15184 has 315 MA's), (72, 15277), (74, 15289), (80, 15322), (84, 15334), (95, 15409), (98, 15418), (101, 15439), (113, 15481), (120, 15511), (127, 15538),

Gene: Marav\_19 Start: 11753, Stop: 12094, Start Num: 59

Candidate Starts for Marav\_19:

(55, 11735), (Start: 59 @11753 has 514 MA's), (86, 11909), (116, 12005), (131, 12065),

Gene: Marchesa\_23 Start: 14683, Stop: 15132, Start Num: 46

Candidate Starts for Marchesa\_23:

(21, 14635), (Start: 46 @14683 has 41 MA's), (Start: 57 @14749 has 315 MA's), (72, 14842), (86, 14908), (87, 14917), (91, 14944), (101, 14989), (120, 15061), (124, 15073), (127, 15088),

Gene: Marchy\_21 Start: 15090, Stop: 15467, Start Num: 59

Candidate Starts for Marchy\_21:

(30, 14982), (34, 14988), (44, 15003), (Start: 59 @15090 has 514 MA's), (67, 15159), (71, 15183), (74, 15198), (75, 15201), (114, 15369),

Gene: Marge\_23 Start: 16000, Stop: 16371, Start Num: 59

Candidate Starts for Marge\_23:

(38, 15901), (Start: 59 @16000 has 514 MA's), (67, 16069), (75, 16111), (81, 16144), (118, 16294), (123, 16309), (124, 16312), (125, 16315), (131, 16342),

Gene: Margo\_24 Start: 15273, Stop: 15656, Start Num: 57

Candidate Starts for Margo\_24:

(Start: 40 @15189 has 3 MA's), (Start: 57 @15273 has 315 MA's), (72, 15366), (86, 15432), (87, 15441), (91, 15468), (101, 15513), (116, 15567), (120, 15585), (127, 15612),

Gene: Marie\_25 Start: 15182, Stop: 15580, Start Num: 57

Candidate Starts for Marie\_25:

(Start: 57 @15182 has 315 MA's), (72, 15275), (74, 15287), (80, 15320), (84, 15332), (95, 15407), (98, 15416), (101, 15437), (113, 15479), (120, 15509), (127, 15536),

Gene: Marius\_26 Start: 15261, Stop: 15659, Start Num: 57

Candidate Starts for Marius\_26:

(Start: 57 @15261 has 315 MA's), (68, 15333), (72, 15354), (74, 15366), (95, 15486), (98, 15495), (101, 15516), (113, 15558), (118, 15582), (120, 15588), (127, 15615),

Gene: Maroc7\_21 Start: 15287, Stop: 15664, Start Num: 59

Candidate Starts for Maroc7\_21:

(Start: 59 @15287 has 514 MA's), (67, 15356), (71, 15380), (74, 15395), (75, 15398), (78, 15416), (114, 15566),

Gene: Marsha\_22 Start: 16042, Stop: 16428, Start Num: 59

Candidate Starts for Marsha\_22:

(38, 15943), (Start: 59 @16042 has 514 MA's), (74, 16150), (85, 16201), (88, 16213), (91, 16246), (101, 16291), (124, 16369), (127, 16384), (131, 16399),

Gene: MaryBeth\_22 Start: 15695, Stop: 16072, Start Num: 59

Candidate Starts for MaryBeth\_22:

(Start: 59 @15695 has 514 MA's), (67, 15764), (71, 15788), (74, 15803), (75, 15806), (114, 15974),

Gene: MarysWell\_19 Start: 14415, Stop: 14795, Start Num: 57

Candidate Starts for MarysWell\_19:

(Start: 40 @14325 has 3 MA's), (Start: 57 @14415 has 315 MA's), (65, 14472), (77, 14526), (80, 14550), (86, 14571), (88, 14580), (91, 14607), (97, 14628), (100, 14643), (106, 14664), (108, 14676), (118, 14715), (127, 14748), (132, 14775),

Gene: Maverick\_23 Start: 15098, Stop: 15469, Start Num: 57

Candidate Starts for Maverick\_23:

(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (98, 15311), (122, 15404), (124, 15410),

Gene: Maxo\_23 Start: 15096, Stop: 15467, Start Num: 57

Candidate Starts for Maxo\_23:

(Start: 57 @15096 has 315 MA's), (67, 15162), (72, 15189), (98, 15309), (122, 15402), (124, 15408),

Gene: Mazhar510\_23 Start: 15099, Stop: 15470, Start Num: 57

Candidate Starts for Mazhar510\_23:

(Start: 57 @15099 has 315 MA's), (67, 15165), (72, 15192), (98, 15312), (122, 15405), (124, 15411),

Gene: McFly\_27 Start: 15922, Stop: 16326, Start Num: 59

Candidate Starts for McFly\_27:

(Start: 46 @15859 has 41 MA's), (Start: 59 @15922 has 514 MA's), (80, 16060), (86, 16081), (99, 16162), (101, 16174), (124, 16267), (127, 16282),

Gene: McGuire\_23 Start: 15578, Stop: 15955, Start Num: 59

Candidate Starts for McGuire\_23:

(23, 15473), (Start: 27 @15479 has 1 MA's), (Start: 59 @15578 has 514 MA's), (80, 15719), (100, 15809),

Gene: Medusa\_23 Start: 15099, Stop: 15470, Start Num: 57

Candidate Starts for Medusa\_23:

(Start: 57 @15099 has 315 MA's), (67, 15165), (72, 15192), (98, 15312), (122, 15405), (124, 15411),

Gene: MeeZee\_23 Start: 15098, Stop: 15469, Start Num: 57

Candidate Starts for MeeZee\_23:

(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (98, 15311), (122, 15404), (124, 15410),

Gene: Melvin\_23 Start: 15098, Stop: 15469, Start Num: 57  
Candidate Starts for Melvin\_23:  
(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (98, 15311), (122, 15404), (124, 15410),

Gene: MetalQZJ\_22 Start: 15695, Stop: 16072, Start Num: 59  
Candidate Starts for MetalQZJ\_22:  
(Start: 59 @15695 has 514 MA's), (67, 15764), (71, 15788), (74, 15803), (75, 15806), (114, 15974),

Gene: Methuselah\_24 Start: 15266, Stop: 15664, Start Num: 57  
Candidate Starts for Methuselah\_24:  
(Start: 46 @15203 has 41 MA's), (Start: 57 @15266 has 315 MA's), (72, 15359), (74, 15371), (80, 15404), (84, 15416), (95, 15491), (98, 15500), (101, 15521), (113, 15563), (120, 15593), (127, 15620),

Gene: Micasa\_20 Start: 14415, Stop: 14795, Start Num: 57  
Candidate Starts for Micasa\_20:  
(Start: 57 @14415 has 315 MA's), (65, 14472), (77, 14526), (80, 14550), (86, 14571), (88, 14580), (91, 14607), (97, 14628), (100, 14643), (106, 14664), (108, 14676), (118, 14715), (127, 14748), (132, 14775),

Gene: Michley\_22 Start: 15440, Stop: 15817, Start Num: 59  
Candidate Starts for Michley\_22:  
(Start: 59 @15440 has 514 MA's), (67, 15509), (71, 15533), (74, 15548), (75, 15551), (114, 15719),

Gene: Microwolf\_25 Start: 15121, Stop: 15582, Start Num: 46  
Candidate Starts for Microwolf\_25:  
(Start: 46 @15121 has 41 MA's), (Start: 57 @15184 has 315 MA's), (72, 15277), (74, 15289), (80, 15322), (84, 15334), (95, 15409), (98, 15418), (101, 15439), (113, 15481), (120, 15511), (127, 15538),

Gene: MiculUcigas\_24 Start: 15853, Stop: 16257, Start Num: 59  
Candidate Starts for MiculUcigas\_24:  
(4, 15601), (8, 15637), (24, 15748), (53, 15826), (Start: 59 @15853 has 514 MA's), (61, 15880), (69, 15937), (100, 16096), (101, 16105), (124, 16198), (127, 16213),

Gene: Midas2\_20 Start: 14325, Stop: 14795, Start Num: 40  
Candidate Starts for Midas2\_20:  
(Start: 40 @14325 has 3 MA's), (Start: 57 @14415 has 315 MA's), (65, 14472), (77, 14526), (80, 14550), (86, 14571), (88, 14580), (91, 14607), (97, 14628), (100, 14643), (106, 14664), (108, 14676), (118, 14715), (127, 14748), (132, 14775),

Gene: Miko\_27 Start: 17419, Stop: 17823, Start Num: 59  
Candidate Starts for Miko\_27:  
(Start: 59 @17419 has 514 MA's), (66, 17482), (69, 17503), (91, 17626), (101, 17671), (109, 17704), (124, 17764), (127, 17779),

Gene: Milcery\_20 Start: 14451, Stop: 14831, Start Num: 57  
Candidate Starts for Milcery\_20:  
(Start: 57 @14451 has 315 MA's), (64, 14490), (65, 14508), (77, 14562), (80, 14586), (86, 14607), (88, 14616), (91, 14643), (97, 14664), (100, 14679), (106, 14700), (108, 14712), (118, 14751), (127, 14784), (132, 14811),

Gene: Millski\_88 Start: 15101, Stop: 15472, Start Num: 57  
Candidate Starts for Millski\_88:  
(Start: 57 @15101 has 315 MA's), (67, 15167), (72, 15194), (98, 15314), (122, 15407), (124, 15413),



Gene: MinecraftSteve\_27 Start: 15070, Stop: 15453, Start Num: 59

Candidate Starts for MinecraftSteve\_27:

(52, 15040), (Start: 59 @15070 has 514 MA's), (117, 15370), (122, 15388), (124, 15394), (131, 15424),

Gene: Miramae\_23 Start: 15041, Stop: 15412, Start Num: 57

Candidate Starts for Miramae\_23:

(Start: 40 @14951 has 3 MA's), (42, 14954), (Start: 57 @15041 has 315 MA's), (67, 15107), (72, 15134), (77, 15155), (80, 15179), (98, 15254), (122, 15347), (124, 15353),

Gene: Misomonster\_27 Start: 15266, Stop: 15664, Start Num: 57

Candidate Starts for Misomonster\_27:

(Start: 46 @15203 has 41 MA's), (Start: 57 @15266 has 315 MA's), (72, 15359), (74, 15371), (80, 15404), (84, 15416), (95, 15491), (98, 15500), (101, 15521), (113, 15563), (120, 15593), (127, 15620),

Gene: MissWhite\_24 Start: 14925, Stop: 15329, Start Num: 59

Candidate Starts for MissWhite\_24:

(39, 14835), (Start: 59 @14925 has 514 MA's), (69, 15009), (80, 15063), (101, 15177), (127, 15285), (132, 15312),

Gene: Mkhuseleli\_23 Start: 15610, Stop: 15987, Start Num: 59

Candidate Starts for Mkhuseleli\_23:

(Start: 27 @15496 has 1 MA's), (Start: 46 @15538 has 41 MA's), (Start: 59 @15610 has 514 MA's), (67, 15679), (71, 15703), (74, 15718), (75, 15721), (78, 15739), (114, 15889),

Gene: Molly\_23 Start: 15317, Stop: 15694, Start Num: 59

Candidate Starts for Molly\_23:

(56, 15299), (Start: 59 @15317 has 514 MA's), (78, 15446), (80, 15458), (131, 15665),

Gene: Monet\_24 Start: 16811, Stop: 17188, Start Num: 59

Candidate Starts for Monet\_24:

(38, 16712), (Start: 59 @16811 has 514 MA's), (67, 16880), (71, 16904), (74, 16919), (75, 16922), (114, 17090),

Gene: MoneyMay\_25 Start: 15182, Stop: 15580, Start Num: 57

Candidate Starts for MoneyMay\_25:

(Start: 57 @15182 has 315 MA's), (72, 15275), (74, 15287), (80, 15320), (84, 15332), (95, 15407), (98, 15416), (101, 15437), (113, 15479), (120, 15509), (127, 15536),

Gene: Moose\_21 Start: 15552, Stop: 15929, Start Num: 59

Candidate Starts for Moose\_21:

(38, 15453), (Start: 59 @15552 has 514 MA's), (67, 15621), (71, 15645), (74, 15660), (75, 15663), (114, 15831),

Gene: Morpher26\_23 Start: 15098, Stop: 15469, Start Num: 57

Candidate Starts for Morpher26\_23:

(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (77, 15212), (80, 15236), (98, 15311), (122, 15404), (124, 15410),

Gene: Morrow\_23 Start: 15101, Stop: 15472, Start Num: 57

Candidate Starts for Morrow\_23:

(Start: 57 @15101 has 315 MA's), (67, 15167), (72, 15194), (98, 15314), (122, 15407), (124, 15413),

Gene: MrGordo\_22 Start: 15253, Stop: 15630, Start Num: 59  
Candidate Starts for MrGordo\_22:  
(Start: 59 @15253 has 514 MA's), (67, 15322), (71, 15346), (74, 15361), (75, 15364), (114, 15532),

Gene: Mryolo\_22 Start: 15302, Stop: 15679, Start Num: 59  
Candidate Starts for Mryolo\_22:  
(38, 15203), (Start: 59 @15302 has 514 MA's), (74, 15410), (78, 15431), (80, 15443), (100, 15533),  
(131, 15650),

Gene: MuchMore\_27 Start: 15175, Stop: 15573, Start Num: 57  
Candidate Starts for MuchMore\_27:  
(Start: 46 @15112 has 41 MA's), (Start: 57 @15175 has 315 MA's), (72, 15268), (74, 15280), (80, 15313), (84, 15325), (95, 15400), (98, 15409), (101, 15430), (113, 15472), (120, 15502), (127, 15529),

Gene: Mulciber\_24 Start: 16356, Stop: 16751, Start Num: 59  
Candidate Starts for Mulciber\_24:  
(Start: 59 @16356 has 514 MA's), (68, 16428), (71, 16446), (83, 16503), (98, 16581), (118, 16674),

Gene: Mule\_22 Start: 15590, Stop: 15967, Start Num: 59  
Candidate Starts for Mule\_22:  
(38, 15491), (Start: 59 @15590 has 514 MA's), (78, 15719), (80, 15731), (131, 15938),

Gene: Munch\_24 Start: 16362, Stop: 16757, Start Num: 59  
Candidate Starts for Munch\_24:  
(Start: 59 @16362 has 514 MA's), (68, 16434), (71, 16452), (83, 16509), (98, 16587), (118, 16680),

Gene: Mundrea\_23 Start: 15063, Stop: 15434, Start Num: 57  
Candidate Starts for Mundrea\_23:  
(42, 14973), (Start: 57 @15063 has 315 MA's), (72, 15156), (77, 15177), (80, 15201), (98, 15276),  
(122, 15369), (124, 15375),

Gene: Museum\_25 Start: 15609, Stop: 15986, Start Num: 59  
Candidate Starts for Museum\_25:  
(38, 15510), (Start: 59 @15609 has 514 MA's), (67, 15678), (71, 15702), (74, 15717), (75, 15720), (78, 15738), (114, 15888),

Gene: MyraDee\_21 Start: 13288, Stop: 13680, Start Num: 59  
Candidate Starts for MyraDee\_21:  
(Start: 46 @13222 has 41 MA's), (Start: 59 @13288 has 514 MA's), (75, 13396), (80, 13426), (121, 13612), (124, 13621), (131, 13651),

Gene: Myxus\_25 Start: 16614, Stop: 17009, Start Num: 59  
Candidate Starts for Myxus\_25:  
(Start: 59 @16614 has 514 MA's), (68, 16686), (77, 16725), (93, 16827), (95, 16836), (118, 16932),  
(124, 16950), (127, 16965),

Gene: NEHalo\_22 Start: 15338, Stop: 15715, Start Num: 59  
Candidate Starts for NEHalo\_22:  
(38, 15239), (Start: 59 @15338 has 514 MA's), (78, 15467), (80, 15479), (131, 15686),

Gene: NaSiaTalie\_24 Start: 15851, Stop: 16255, Start Num: 59  
Candidate Starts for NaSiaTalie\_24:

(53, 15824), (Start: 59 @15851 has 514 MA's), (61, 15878), (69, 15935), (100, 16094), (101, 16103), (124, 16196), (127, 16211),

Gene: Nabi\_16 Start: 10924, Stop: 11247, Start Num: 59

Candidate Starts for Nabi\_16:

(Start: 59 @10924 has 514 MA's), (86, 11077), (116, 11173),

Gene: Naca\_20 Start: 14284, Stop: 14754, Start Num: 40

Candidate Starts for Naca\_20:

(Start: 40 @14284 has 3 MA's), (52, 14344), (Start: 57 @14374 has 315 MA's), (77, 14485), (80, 14509), (86, 14530), (88, 14539), (91, 14566), (100, 14602), (108, 14635), (124, 14692), (127, 14707), (132, 14734),

Gene: Naiad\_19 Start: 11349, Stop: 11699, Start Num: 57

Candidate Starts for Naiad\_19:

(Start: 57 @11349 has 315 MA's), (81, 11487), (83, 11493), (95, 11544), (122, 11649), (124, 11655), (131, 11685),

Gene: Naira\_23 Start: 17090, Stop: 17461, Start Num: 59

Candidate Starts for Naira\_23:

(38, 16991), (Start: 59 @17090 has 514 MA's), (67, 17159), (75, 17201), (81, 17234), (118, 17384), (123, 17399), (124, 17402), (125, 17405),

Gene: Naji\_27 Start: 15695, Stop: 16099, Start Num: 59

Candidate Starts for Naji\_27:

(Start: 59 @15695 has 514 MA's), (69, 15779), (80, 15833), (92, 15905), (127, 16055), (128, 16058),

Gene: Nancinator\_19 Start: 11349, Stop: 11699, Start Num: 57

Candidate Starts for Nancinator\_19:

(Start: 57 @11349 has 315 MA's), (81, 11487), (83, 11493), (95, 11544), (122, 11649), (124, 11655), (131, 11685),

Gene: Nanodon\_18 Start: 11129, Stop: 11452, Start Num: 59

Candidate Starts for Nanodon\_18:

(Start: 59 @11129 has 514 MA's), (116, 11378), (131, 11438),

Gene: Natosaleda\_19 Start: 11349, Stop: 11699, Start Num: 57

Candidate Starts for Natosaleda\_19:

(Start: 57 @11349 has 315 MA's), (81, 11487), (83, 11493), (95, 11544), (122, 11649), (124, 11655), (131, 11685),

Gene: NearlyHeadless\_20 Start: 13769, Stop: 14134, Start Num: 57

Candidate Starts for NearlyHeadless\_20:

(Start: 57 @13769 has 315 MA's), (65, 13829), (68, 13841), (85, 13925), (86, 13928), (91, 13964), (98, 13988), (122, 14084),

Gene: Nebs\_23 Start: 15095, Stop: 15466, Start Num: 57

Candidate Starts for Nebs\_23:

(Start: 57 @15095 has 315 MA's), (67, 15161), (72, 15188), (98, 15308), (122, 15401), (124, 15407),

Gene: Nebulosus\_26 Start: 14948, Stop: 15331, Start Num: 59

Candidate Starts for Nebulosus\_26:

(52, 14918), (Start: 59 @14948 has 514 MA's), (71, 15038), (117, 15248), (122, 15266), (124, 15272), (131, 15302),

Gene: Nedarya\_25 Start: 15606, Stop: 15986, Start Num: 57

Candidate Starts for Nedarya\_25:

(Start: 57 @15606 has 315 MA's), (70, 15690), (80, 15741), (98, 15816), (117, 15903), (122, 15921), (130, 15951), (131, 15957),

Gene: Neeharika16\_27 Start: 15915, Stop: 16319, Start Num: 59

Candidate Starts for Neeharika16\_27:

(24, 15810), (38, 15825), (Start: 46 @15852 has 41 MA's), (Start: 59 @15915 has 514 MA's), (80, 16053), (86, 16074), (97, 16143), (99, 16155), (101, 16167), (124, 16260), (127, 16275),

Gene: Nemo27\_23 Start: 15097, Stop: 15468, Start Num: 57

Candidate Starts for Nemo27\_23:

(Start: 57 @15097 has 315 MA's), (67, 15163), (72, 15190), (98, 15310), (122, 15403), (124, 15409),

Gene: Nerdos\_16 Start: 10950, Stop: 11273, Start Num: 59

Candidate Starts for Nerdos\_16:

(Start: 59 @10950 has 514 MA's), (116, 11199), (131, 11259),

Gene: Nerujay\_23 Start: 16006, Stop: 16383, Start Num: 59

Candidate Starts for Nerujay\_23:

(Start: 59 @16006 has 514 MA's), (75, 16117), (98, 16225), (100, 16237), (118, 16306),

Gene: Newrala\_28 Start: 15915, Stop: 16319, Start Num: 59

Candidate Starts for Newrala\_28:

(24, 15810), (38, 15825), (Start: 46 @15852 has 41 MA's), (Start: 59 @15915 has 514 MA's), (80, 16053), (86, 16074), (97, 16143), (99, 16155), (101, 16167), (124, 16260), (127, 16275),

Gene: Nhonho\_22 Start: 15759, Stop: 16136, Start Num: 59

Candidate Starts for Nhonho\_22:

(Start: 59 @15759 has 514 MA's), (75, 15870), (87, 15927), (98, 15978), (100, 15990), (118, 16059),

Gene: NicoleTera\_28 Start: 17616, Stop: 18020, Start Num: 59

Candidate Starts for NicoleTera\_28:

(25, 17514), (Start: 59 @17616 has 514 MA's), (61, 17643), (66, 17679), (80, 17754), (101, 17868), (109, 17901), (120, 17949), (124, 17961), (127, 17976),

Gene: Nishikigoi\_16 Start: 10836, Stop: 11177, Start Num: 59

Candidate Starts for Nishikigoi\_16:

(17, 10698), (Start: 59 @10836 has 514 MA's), (81, 10974), (99, 11022), (105, 11046), (131, 11148),

Gene: Niza\_24 Start: 16610, Stop: 16987, Start Num: 59

Candidate Starts for Niza\_24:

(Start: 59 @16610 has 514 MA's), (67, 16679), (71, 16703), (74, 16718), (75, 16721), (114, 16889),

Gene: Noella\_24 Start: 15248, Stop: 15631, Start Num: 57

Candidate Starts for Noella\_24:

(Start: 40 @15164 has 3 MA's), (Start: 57 @15248 has 315 MA's), (72, 15341), (86, 15407), (87, 15416), (91, 15443), (101, 15488), (116, 15542), (120, 15560), (127, 15587),

Gene: Noelle\_23 Start: 15151, Stop: 15522, Start Num: 57

Candidate Starts for Noelle\_23:

(29, 15043), (Start: 46 @15082 has 41 MA's), (Start: 57 @15151 has 315 MA's), (67, 15217), (72, 15244), (74, 15256), (77, 15265), (80, 15289), (98, 15364), (122, 15457), (124, 15463),

Gene: Norbert\_23 Start: 15247, Stop: 15630, Start Num: 57

Candidate Starts for Norbert\_23:

(Start: 57 @15247 has 315 MA's), (72, 15340), (86, 15406), (87, 15415), (91, 15442), (101, 15487), (116, 15541), (120, 15559), (127, 15586),

Gene: NorthStar\_23 Start: 15098, Stop: 15469, Start Num: 57

Candidate Starts for NorthStar\_23:

(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (98, 15311), (122, 15404), (124, 15410),

Gene: Norz\_24 Start: 16261, Stop: 16632, Start Num: 59

Candidate Starts for Norz\_24:

(38, 16162), (Start: 59 @16261 has 514 MA's), (67, 16330), (75, 16372), (81, 16405), (118, 16555), (123, 16570), (124, 16573), (125, 16576),

Gene: NotAPhaseMom\_23 Start: 15102, Stop: 15473, Start Num: 57

Candidate Starts for NotAPhaseMom\_23:

(Start: 57 @15102 has 315 MA's), (67, 15168), (72, 15195), (98, 15315), (122, 15408), (124, 15414),

Gene: NothingSpecial\_26 Start: 17823, Stop: 18227, Start Num: 59

Candidate Starts for NothingSpecial\_26:

(Start: 59 @17823 has 514 MA's), (69, 17907), (80, 17961), (92, 18033), (101, 18075), (109, 18108), (112, 18120), (124, 18168), (127, 18183),

Gene: Nyxis\_23 Start: 15041, Stop: 15412, Start Num: 57

Candidate Starts for Nyxis\_23:

(Start: 57 @15041 has 315 MA's), (67, 15107), (72, 15134), (98, 15254), (122, 15347), (124, 15353),

Gene: OKCentral2016\_23 Start: 14610, Stop: 14978, Start Num: 57

Candidate Starts for OKCentral2016\_23:

(Start: 57 @14610 has 315 MA's), (65, 14670), (67, 14676), (71, 14700), (80, 14748), (98, 14820), (100, 14832), (122, 14913),

Gene: OKaNui\_24 Start: 15151, Stop: 15522, Start Num: 57

Candidate Starts for OKaNui\_24:

(Start: 57 @15151 has 315 MA's), (67, 15217), (72, 15244), (98, 15364), (122, 15457), (124, 15463),

Gene: Obama12\_24 Start: 15411, Stop: 15782, Start Num: 57

Candidate Starts for Obama12\_24:

(Start: 57 @15411 has 315 MA's), (67, 15477), (72, 15504), (98, 15624), (122, 15717), (124, 15723),

Gene: Odin\_23 Start: 14584, Stop: 14988, Start Num: 59

Candidate Starts for Odin\_23:

(Start: 59 @14584 has 514 MA's), (69, 14668), (73, 14680), (80, 14722), (83, 14731), (92, 14794),

Gene: Ohfah\_23 Start: 15095, Stop: 15466, Start Num: 57

Candidate Starts for Ohfah\_23:

(Start: 57 @15095 has 315 MA's), (67, 15161), (72, 15188), (98, 15308), (122, 15401), (124, 15407),

Gene: Ohno789\_22 Start: 15408, Stop: 15785, Start Num: 59

Candidate Starts for Ohno789\_22:

(38, 15309), (Start: 59 @15408 has 514 MA's), (67, 15477), (71, 15501), (74, 15516), (75, 15519), (114, 15687),

Gene: OlanP\_26 Start: 15441, Stop: 15839, Start Num: 57

Candidate Starts for OlanP\_26:

(Start: 57 @15441 has 315 MA's), (72, 15534), (74, 15546), (95, 15666), (98, 15675), (101, 15696), (113, 15738), (118, 15762), (120, 15768), (127, 15795),

Gene: Oliynyk\_17 Start: 11113, Stop: 11436, Start Num: 59

Candidate Starts for Oliynyk\_17:

(Start: 59 @11113 has 514 MA's), (131, 11422),

Gene: Ollie\_25 Start: 15053, Stop: 15451, Start Num: 57

Candidate Starts for Ollie\_25:

(Start: 57 @15053 has 315 MA's), (72, 15146), (74, 15158), (84, 15203), (95, 15278), (98, 15287), (101, 15308), (113, 15350), (120, 15380), (127, 15407),

Gene: Omar\_17 Start: 11069, Stop: 11410, Start Num: 59

Candidate Starts for Omar\_17:

(Start: 59 @11069 has 514 MA's), (81, 11207), (99, 11255), (131, 11381),

Gene: Onglai\_24 Start: 14948, Stop: 15343, Start Num: 59

Candidate Starts for Onglai\_24:

(Start: 59 @14948 has 514 MA's), (68, 15020), (77, 15059), (93, 15161), (95, 15170), (118, 15266), (124, 15284), (127, 15299),

Gene: Oofda\_27 Start: 14919, Stop: 15302, Start Num: 59

Candidate Starts for Oofda\_27:

(52, 14889), (Start: 59 @14919 has 514 MA's), (71, 15009), (117, 15219), (122, 15237), (124, 15243), (131, 15273),

Gene: Oogway\_21 Start: 15521, Stop: 15898, Start Num: 59

Candidate Starts for Oogway\_21:

(Start: 59 @15521 has 514 MA's), (78, 15650), (80, 15662), (100, 15752), (131, 15869),

Gene: Orange\_24 Start: 16362, Stop: 16757, Start Num: 59

Candidate Starts for Orange\_24:

(Start: 59 @16362 has 514 MA's), (68, 16434), (71, 16452), (83, 16509), (98, 16587), (118, 16680),

Gene: Ozzie\_16 Start: 10930, Stop: 11253, Start Num: 59

Candidate Starts for Ozzie\_16:

(Start: 59 @10930 has 514 MA's), (116, 11179), (131, 11239),

Gene: OzzyJ\_17 Start: 10921, Stop: 11244, Start Num: 59

Candidate Starts for OzzyJ\_17:

(Start: 59 @10921 has 514 MA's), (116, 11170), (131, 11230),

Gene: P28Green\_25 Start: 15184, Stop: 15582, Start Num: 57

Candidate Starts for P28Green\_25:

(Start: 57 @15184 has 315 MA's), (68, 15256), (72, 15277), (74, 15289), (84, 15334), (95, 15409), (98, 15418), (101, 15439), (113, 15481), (118, 15505), (120, 15511), (127, 15538),

Gene: PGHhamlin\_27 Start: 15175, Stop: 15573, Start Num: 57

Candidate Starts for PGHhamlin\_27:

(Start: 46 @15112 has 41 MA's), (Start: 57 @15175 has 315 MA's), (72, 15268), (74, 15280), (80, 15313), (84, 15325), (95, 15400), (98, 15409), (101, 15430), (113, 15472), (120, 15502), (127, 15529),

Gene: PP\_33 Start: 20980, Stop: 21342, Start Num: 59

Candidate Starts for PP\_33:

(23, 20866), (Start: 59 @20980 has 514 MA's), (61, 21007), (73, 21076), (110, 21244), (120, 21286), (121, 21289), (131, 21328),

Gene: PSullivan\_24 Start: 16021, Stop: 16398, Start Num: 59

Candidate Starts for PSullivan\_24:

(38, 15919), (Start: 59 @16021 has 514 MA's), (67, 16090), (71, 16114), (74, 16129), (75, 16132), (78, 16150), (114, 16300), (131, 16369),

Gene: Pablito\_16 Start: 10769, Stop: 11110, Start Num: 59

Candidate Starts for Pablito\_16:

(54, 10751), (Start: 59 @10769 has 514 MA's), (86, 10925), (131, 11081),

Gene: PacerPaul\_22 Start: 15831, Stop: 16208, Start Num: 59

Candidate Starts for PacerPaul\_22:

(45, 15744), (Start: 59 @15831 has 514 MA's), (67, 15900), (71, 15924), (74, 15939), (75, 15942), (114, 16110),

Gene: PackMan\_25 Start: 16614, Stop: 17009, Start Num: 59

Candidate Starts for PackMan\_25:

(Start: 59 @16614 has 514 MA's), (68, 16686), (77, 16725), (93, 16827), (95, 16836), (118, 16932), (124, 16950), (127, 16965),

Gene: Paedore\_16 Start: 10918, Stop: 11259, Start Num: 59

Candidate Starts for Paedore\_16:

(45, 10840), (54, 10900), (Start: 59 @10918 has 514 MA's), (86, 11074), (95, 11089), (103, 11122), (108, 11143), (116, 11170), (131, 11230),

Gene: PainterBoy\_25 Start: 15972, Stop: 16367, Start Num: 59

Candidate Starts for PainterBoy\_25:

(Start: 59 @15972 has 514 MA's), (67, 16038), (77, 16086), (90, 16149), (101, 16218), (124, 16308), (126, 16314), (131, 16338),

Gene: Palestino\_88 Start: 15098, Stop: 15469, Start Num: 57

Candidate Starts for Palestino\_88:

(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (98, 15311), (122, 15404), (124, 15410),

Gene: Panamaxus\_23 Start: 15247, Stop: 15630, Start Num: 57

Candidate Starts for Panamaxus\_23:

(Start: 57 @15247 has 315 MA's), (72, 15340), (86, 15406), (87, 15415), (91, 15442), (101, 15487), (116, 15541), (120, 15559), (127, 15586),

Gene: Paolo\_18 Start: 11416, Stop: 11757, Start Num: 59

Candidate Starts for Paolo\_18:

(55, 11398), (Start: 59 @11416 has 514 MA's), (86, 11572), (116, 11668), (131, 11728),

Gene: Papez\_24 Start: 17237, Stop: 17614, Start Num: 59

Candidate Starts for Papez\_24:

(38, 17138), (Start: 59 @17237 has 514 MA's), (78, 17366), (80, 17378), (100, 17468), (131, 17585),

Gene: Paphu\_21 Start: 14977, Stop: 15363, Start Num: 59

Candidate Starts for Paphu\_21:

(38, 14875), (Start: 59 @14977 has 514 MA's), (74, 15085), (85, 15136), (88, 15148), (91, 15181), (101, 15226), (124, 15304), (127, 15319), (131, 15334),

Gene: Paraselene\_21 Start: 15348, Stop: 15734, Start Num: 59

Candidate Starts for Paraselene\_21:

(38, 15249), (Start: 59 @15348 has 514 MA's), (74, 15456), (85, 15507), (88, 15519), (91, 15552), (101, 15597), (124, 15675), (127, 15690), (131, 15705),

Gene: Pari\_23 Start: 15753, Stop: 16130, Start Num: 59

Candidate Starts for Pari\_23:

(51, 15720), (Start: 59 @15753 has 514 MA's), (67, 15822), (71, 15846), (74, 15861), (75, 15864), (78, 15882), (114, 16032), (131, 16101),

Gene: Parliament\_21 Start: 15639, Stop: 16016, Start Num: 59

Candidate Starts for Parliament\_21:

(Start: 59 @15639 has 514 MA's), (67, 15708), (71, 15732), (74, 15747), (75, 15750), (78, 15768), (114, 15918), (131, 15987),

Gene: Partridge\_19 Start: 11382, Stop: 11732, Start Num: 57

Candidate Starts for Partridge\_19:

(Start: 57 @11382 has 315 MA's), (81, 11520), (83, 11526), (95, 11577), (104, 11616), (122, 11682), (124, 11688), (131, 11718),

Gene: PascalRango\_21 Start: 15196, Stop: 15567, Start Num: 59

Candidate Starts for PascalRango\_21:

(Start: 59 @15196 has 514 MA's), (67, 15265), (75, 15307), (81, 15340), (118, 15490), (123, 15505), (124, 15508), (125, 15511),

Gene: Pavo\_17 Start: 10844, Stop: 11167, Start Num: 59

Candidate Starts for Pavo\_17:

(28, 10739), (32, 10745), (Start: 59 @10844 has 514 MA's), (99, 11027), (120, 11111),

Gene: Pawn\_25 Start: 15261, Stop: 15659, Start Num: 57

Candidate Starts for Pawn\_25:

(Start: 57 @15261 has 315 MA's), (68, 15333), (72, 15354), (74, 15366), (95, 15486), (98, 15495), (101, 15516), (113, 15558), (118, 15582), (120, 15588), (127, 15615),

Gene: Payneful\_22 Start: 15090, Stop: 15467, Start Num: 59

Candidate Starts for Payneful\_22:

(30, 14982), (34, 14988), (44, 15003), (Start: 59 @15090 has 514 MA's), (67, 15159), (71, 15183), (74, 15198), (75, 15201), (114, 15369),

Gene: PeaceMeal1\_22 Start: 13011, Stop: 13379, Start Num: 57

Candidate Starts for PeaceMeal1\_22:

(Start: 46 @12948 has 41 MA's), (Start: 57 @13011 has 315 MA's), (65, 13071), (67, 13077), (80, 13149), (98, 13221), (101, 13242), (102, 13245), (122, 13314),

Gene: Peaches\_23 Start: 15097, Stop: 15468, Start Num: 57



Candidate Starts for Peaches\_23:

(Start: 57 @15097 has 315 MA's), (67, 15163), (72, 15190), (98, 15310), (122, 15403), (124, 15409),

Gene: Pelly\_23 Start: 16054, Stop: 16425, Start Num: 59

Candidate Starts for Pelly\_23:

(38, 15955), (Start: 59 @16054 has 514 MA's), (67, 16123), (75, 16165), (81, 16198), (118, 16348), (123, 16363), (124, 16366), (125, 16369),

Gene: Pembroke\_25 Start: 15184, Stop: 15582, Start Num: 57

Candidate Starts for Pembroke\_25:

(Start: 46 @15121 has 41 MA's), (Start: 57 @15184 has 315 MA's), (72, 15277), (74, 15289), (80, 15322), (84, 15334), (95, 15409), (98, 15418), (101, 15439), (113, 15481), (120, 15511), (127, 15538),

Gene: Penny1\_26 Start: 15120, Stop: 15581, Start Num: 46

Candidate Starts for Penny1\_26:

(Start: 46 @15120 has 41 MA's), (Start: 57 @15183 has 315 MA's), (72, 15276), (74, 15288), (80, 15321), (84, 15333), (95, 15408), (98, 15417), (101, 15438), (113, 15480), (120, 15510), (127, 15537),

Gene: Pepe\_23 Start: 16055, Stop: 16441, Start Num: 59

Candidate Starts for Pepe\_23:

(38, 15968), (Start: 59 @16055 has 514 MA's), (74, 16163), (88, 16226), (91, 16259), (101, 16304), (124, 16382), (127, 16397), (131, 16412),

Gene: Perplexer\_23 Start: 15092, Stop: 15463, Start Num: 57

Candidate Starts for Perplexer\_23:

(Start: 57 @15092 has 315 MA's), (67, 15158), (72, 15185), (77, 15206), (80, 15230), (98, 15305), (122, 15398), (124, 15404),

Gene: Perseus\_23 Start: 15675, Stop: 16052, Start Num: 59

Candidate Starts for Perseus\_23:

(47, 15612), (Start: 59 @15675 has 514 MA's), (78, 15804), (80, 15816), (100, 15906), (131, 16023),

Gene: PeterPeter\_23 Start: 15098, Stop: 15469, Start Num: 57

Candidate Starts for PeterPeter\_23:

(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (98, 15311), (122, 15404), (124, 15410),

Gene: Petersenfast\_23 Start: 16359, Stop: 16754, Start Num: 59

Candidate Starts for Petersenfast\_23:

(Start: 59 @16359 has 514 MA's), (68, 16431), (71, 16449), (83, 16506), (98, 16584), (118, 16677),

Gene: PetiteSangsue\_23 Start: 15098, Stop: 15469, Start Num: 57

Candidate Starts for PetiteSangsue\_23:

(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (77, 15212), (80, 15236), (98, 15311), (122, 15404), (124, 15410),

Gene: Petp2012\_24 Start: 16486, Stop: 16863, Start Num: 59

Candidate Starts for Petp2012\_24:

(38, 16387), (Start: 59 @16486 has 514 MA's), (78, 16615), (80, 16627), (100, 16717), (131, 16834),

Gene: Petruccio\_22 Start: 15516, Stop: 15893, Start Num: 59

Candidate Starts for Petruccio\_22:

(Start: 59 @15516 has 514 MA's), (67, 15585), (71, 15609), (74, 15624), (75, 15627), (78, 15645), (114, 15795), (131, 15864),

Gene: PetterN\_21 Start: 14258, Stop: 14638, Start Num: 57

Candidate Starts for PetterN\_21:

(29, 14156), (Start: 46 @14195 has 41 MA's), (Start: 57 @14258 has 315 MA's), (80, 14393), (86, 14414), (91, 14450), (100, 14486), (120, 14564), (127, 14591), (131, 14606),

Gene: Ph8s\_25 Start: 14539, Stop: 14943, Start Num: 59

Candidate Starts for Ph8s\_25:

(Start: 59 @14539 has 514 MA's), (69, 14623), (73, 14635), (80, 14677), (92, 14749), (124, 14884),

Gene: Phacado\_24 Start: 15097, Stop: 15468, Start Num: 57

Candidate Starts for Phacado\_24:

(Start: 57 @15097 has 315 MA's), (67, 15163), (72, 15190), (98, 15310), (122, 15403), (124, 15409),

Gene: Phaded\_27 Start: 17796, Stop: 18296, Start Num: 27

Candidate Starts for Phaded\_27:

(3, 17631), (8, 17682), (Start: 27 @17796 has 1 MA's), (Start: 59 @17898 has 514 MA's), (74, 18003), (124, 18237), (125, 18240),

Gene: Phaeder\_25 Start: 16614, Stop: 17009, Start Num: 59

Candidate Starts for Phaeder\_25:

(Start: 59 @16614 has 514 MA's), (68, 16686), (77, 16725), (93, 16827), (95, 16836), (118, 16932), (124, 16950), (127, 16965),

Gene: PhailMary\_18 Start: 11359, Stop: 11709, Start Num: 57

Candidate Starts for PhailMary\_18:

(Start: 57 @11359 has 315 MA's), (95, 11554), (122, 11659), (124, 11665), (131, 11695),

Gene: Phantastic\_23 Start: 14600, Stop: 15049, Start Num: 46

Candidate Starts for Phantastic\_23:

(Start: 46 @14600 has 41 MA's), (Start: 57 @14666 has 315 MA's), (86, 14825), (87, 14834), (91, 14861), (101, 14906), (120, 14978), (124, 14990), (127, 15005),

Gene: Pharaoh\_24 Start: 16375, Stop: 16770, Start Num: 59

Candidate Starts for Pharaoh\_24:

(Start: 59 @16375 has 514 MA's), (68, 16447), (71, 16462), (80, 16510), (95, 16597), (118, 16693), (127, 16726),

Gene: Phelipe\_23 Start: 15098, Stop: 15469, Start Num: 57

Candidate Starts for Phelipe\_23:

(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (98, 15311), (122, 15404), (124, 15410),

Gene: PherrisBueller\_23 Start: 15424, Stop: 15801, Start Num: 59

Candidate Starts for PherrisBueller\_23:

(Start: 59 @15424 has 514 MA's), (67, 15493), (71, 15517), (74, 15532), (75, 15535), (114, 15703),

Gene: Phettuccine\_16 Start: 10950, Stop: 11273, Start Num: 59

Candidate Starts for Phettuccine\_16:

(Start: 59 @10950 has 514 MA's), (116, 11199), (131, 11259),

Gene: Phighter1804\_23 Start: 15076, Stop: 15447, Start Num: 57

Candidate Starts for Phighter1804\_23:

(Start: 57 @15076 has 315 MA's), (67, 15142), (72, 15169), (98, 15289), (122, 15382), (124, 15388),

Gene: Phillis\_20 Start: 13727, Stop: 14092, Start Num: 57

Candidate Starts for Phillis\_20:

(Start: 57 @13727 has 315 MA's), (65, 13787), (68, 13799), (85, 13883), (86, 13886), (91, 13922), (98, 13946), (122, 14042),

Gene: PhishRPhriends\_24 Start: 14445, Stop: 14843, Start Num: 57

Candidate Starts for PhishRPhriends\_24:

(Start: 57 @14445 has 315 MA's), (68, 14517), (72, 14538), (74, 14550), (95, 14670), (98, 14679), (101, 14700), (113, 14742), (118, 14766), (120, 14772), (127, 14799),

Gene: Phlei\_19 Start: 16633, Stop: 17028, Start Num: 59

Candidate Starts for Phlei\_19:

(Start: 59 @16633 has 514 MA's), (73, 16735), (86, 16798), (101, 16879), (120, 16957), (132, 17011),

Gene: Phlorence\_20 Start: 14551, Stop: 14931, Start Num: 57

Candidate Starts for Phlorence\_20:

(Start: 57 @14551 has 315 MA's), (65, 14608), (67, 14614), (77, 14662), (80, 14686), (86, 14707), (88, 14716), (91, 14743), (97, 14764), (100, 14779), (106, 14800), (108, 14812), (127, 14884), (132, 14911),

Gene: Phoebe\_25 Start: 15181, Stop: 15579, Start Num: 57

Candidate Starts for Phoebe\_25:

(Start: 46 @15118 has 41 MA's), (Start: 57 @15181 has 315 MA's), (72, 15274), (74, 15286), (80, 15319), (84, 15331), (95, 15406), (98, 15415), (101, 15436), (113, 15478), (120, 15508), (127, 15535),

Gene: Phonnegut\_25 Start: 16647, Stop: 17042, Start Num: 59

Candidate Starts for Phonnegut\_25:

(Start: 59 @16647 has 514 MA's), (68, 16719), (77, 16758), (93, 16860), (95, 16869), (118, 16965), (124, 16983), (127, 16998),

Gene: Phontbonne\_23 Start: 15042, Stop: 15413, Start Num: 57

Candidate Starts for Phontbonne\_23:

(Start: 57 @15042 has 315 MA's), (67, 15108), (72, 15135), (98, 15255), (122, 15348), (124, 15354),

Gene: Phoxy\_26 Start: 15267, Stop: 15665, Start Num: 57

Candidate Starts for Phoxy\_26:

(Start: 46 @15204 has 41 MA's), (Start: 57 @15267 has 315 MA's), (72, 15360), (74, 15372), (80, 15405), (84, 15417), (95, 15492), (98, 15501), (101, 15522), (113, 15564), (120, 15594), (127, 15621),

Gene: Phrankenstein\_19 Start: 11349, Stop: 11699, Start Num: 57

Candidate Starts for Phrankenstein\_19:

(Start: 57 @11349 has 315 MA's), (81, 11487), (83, 11493), (95, 11544), (122, 11649), (124, 11655), (131, 11685),

Gene: Phranny\_26 Start: 15253, Stop: 15651, Start Num: 57

Candidate Starts for Phranny\_26:

(Start: 57 @15253 has 315 MA's), (68, 15325), (72, 15346), (74, 15358), (95, 15478), (98, 15487), (101, 15508), (113, 15550), (118, 15574), (120, 15580), (127, 15607),

Gene: PickleBack\_20 Start: 14265, Stop: 14645, Start Num: 57

Candidate Starts for PickleBack\_20:

(Start: 57 @14265 has 315 MA's), (65, 14322), (67, 14328), (77, 14376), (80, 14400), (86, 14421), (88, 14430), (91, 14457), (97, 14478), (100, 14493), (106, 14514), (108, 14526), (127, 14598), (132, 14625),

Gene: PinkPlastic\_21 Start: 15352, Stop: 15729, Start Num: 59

Candidate Starts for PinkPlastic\_21:

(38, 15253), (Start: 59 @15352 has 514 MA's), (78, 15481), (80, 15493), (100, 15583), (131, 15700),

Gene: Pinto\_24 Start: 15654, Stop: 16031, Start Num: 59

Candidate Starts for Pinto\_24:

(Start: 59 @15654 has 514 MA's), (67, 15723), (71, 15747), (74, 15762), (75, 15765), (114, 15933),

Gene: Pioneer\_25 Start: 16647, Stop: 17042, Start Num: 59

Candidate Starts for Pioneer\_25:

(Start: 59 @16647 has 514 MA's), (68, 16719), (77, 16758), (93, 16860), (95, 16869), (118, 16965), (124, 16983), (127, 16998),

Gene: Pipcraft\_23 Start: 15098, Stop: 15469, Start Num: 57

Candidate Starts for Pipcraft\_23:

(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (98, 15311), (122, 15404), (124, 15410),

Gene: Pippin\_24 Start: 15922, Stop: 16299, Start Num: 59

Candidate Starts for Pippin\_24:

(Start: 59 @15922 has 514 MA's), (67, 15991), (71, 16015), (74, 16030), (75, 16033), (78, 16051), (114, 16201),

Gene: Piro94\_25 Start: 16312, Stop: 16716, Start Num: 59

Candidate Starts for Piro94\_25:

(53, 16285), (Start: 59 @16312 has 514 MA's), (61, 16339), (69, 16396), (100, 16555), (101, 16564), (124, 16657), (127, 16672),

Gene: Pistachio\_24 Start: 14179, Stop: 14628, Start Num: 46

Candidate Starts for Pistachio\_24:

(21, 14131), (Start: 46 @14179 has 41 MA's), (Start: 57 @14245 has 315 MA's), (72, 14338), (86, 14404), (87, 14413), (91, 14440), (101, 14485), (120, 14557), (124, 14569), (127, 14584),

Gene: Pita2\_24 Start: 16021, Stop: 16398, Start Num: 59

Candidate Starts for Pita2\_24:

(38, 15919), (Start: 59 @16021 has 514 MA's), (67, 16090), (71, 16114), (74, 16129), (75, 16132), (78, 16150), (114, 16300), (131, 16369),

Gene: Pmask\_27 Start: 15853, Stop: 16320, Start Num: 46

Candidate Starts for Pmask\_27:

(24, 15811), (38, 15826), (Start: 46 @15853 has 41 MA's), (Start: 59 @15916 has 514 MA's), (80, 16054), (86, 16075), (97, 16144), (99, 16156), (101, 16168), (124, 16261), (127, 16276),

Gene: Pocahontas\_24 Start: 15244, Stop: 15627, Start Num: 57

Candidate Starts for Pocahontas\_24:

(Start: 57 @15244 has 315 MA's), (72, 15337), (86, 15403), (87, 15412), (91, 15439), (101, 15484), (116, 15538), (120, 15556), (127, 15583),

Gene: Polymorphads\_23 Start: 15095, Stop: 15466, Start Num: 57

Candidate Starts for Polymorphads\_23:

(Start: 57 @15095 has 315 MA's), (67, 15161), (72, 15188), (98, 15308), (122, 15401), (124, 15407),

Gene: Pomar16\_27 Start: 15736, Stop: 16140, Start Num: 59

Candidate Starts for Pomar16\_27:

(Start: 59 @15736 has 514 MA's), (69, 15820), (80, 15874), (92, 15946), (127, 16096), (128, 16099),

Gene: Poompha\_22 Start: 13009, Stop: 13377, Start Num: 57

Candidate Starts for Poompha\_22:

(Start: 46 @12946 has 41 MA's), (Start: 57 @13009 has 315 MA's), (65, 13069), (67, 13075), (80, 13147), (98, 13219), (101, 13240), (102, 13243), (122, 13312),

Gene: Popcicle\_24 Start: 15244, Stop: 15627, Start Num: 57

Candidate Starts for Popcicle\_24:

(Start: 57 @15244 has 315 MA's), (72, 15337), (86, 15403), (87, 15412), (91, 15439), (101, 15484), (116, 15538), (120, 15556), (127, 15583),

Gene: PotatoSplit\_26 Start: 15120, Stop: 15581, Start Num: 46

Candidate Starts for PotatoSplit\_26:

(Start: 46 @15120 has 41 MA's), (Start: 57 @15183 has 315 MA's), (72, 15276), (74, 15288), (80, 15321), (84, 15333), (95, 15408), (98, 15417), (101, 15438), (113, 15480), (120, 15510), (127, 15537),

Gene: Power\_24 Start: 15725, Stop: 16132, Start Num: 59

Candidate Starts for Power\_24:

(Start: 59 @15725 has 514 MA's), (61, 15752), (66, 15788), (69, 15809), (101, 15980), (109, 16013), (124, 16073), (127, 16088),

Gene: Priamo\_27 Start: 15941, Stop: 16345, Start Num: 59

Candidate Starts for Priamo\_27:

(Start: 59 @15941 has 514 MA's), (80, 16079), (86, 16100), (91, 16148), (99, 16181), (101, 16193), (124, 16286), (127, 16301),

Gene: Priya\_25 Start: 16645, Stop: 17040, Start Num: 59

Candidate Starts for Priya\_25:

(Start: 59 @16645 has 514 MA's), (68, 16717), (77, 16756), (93, 16858), (95, 16867), (118, 16963), (124, 16981), (127, 16996),

Gene: ProMouse\_21 Start: 16041, Stop: 16418, Start Num: 59

Candidate Starts for ProMouse\_21:

(16, 15894), (51, 16008), (Start: 59 @16041 has 514 MA's), (67, 16110), (71, 16134), (74, 16149), (75, 16152), (114, 16320),

Gene: Provolone\_17 Start: 10574, Stop: 10897, Start Num: 59

Candidate Starts for Provolone\_17:

(28, 10469), (32, 10475), (Start: 59 @10574 has 514 MA's), (99, 10757), (120, 10841),

Gene: Puginator\_18 Start: 11374, Stop: 11715, Start Num: 59

Candidate Starts for Puginator\_18:

(55, 11356), (Start: 59 @11374 has 514 MA's), (86, 11530), (131, 11686),

Gene: Pukovnik\_26 Start: 17453, Stop: 17851, Start Num: 59

Candidate Starts for Pukovnik\_26:

(3, 17186), (8, 17237), (Start: 27 @17351 has 1 MA's), (Start: 59 @17453 has 514 MA's), (74, 17558), (124, 17792), (125, 17795),

Gene: Pumbaa\_23 Start: 15073, Stop: 15444, Start Num: 57  
Candidate Starts for Pumbaa\_23:  
(Start: 57 @15073 has 315 MA's), (67, 15139), (72, 15166), (98, 15286), (122, 15379), (124, 15385),

Gene: Puppy\_24 Start: 14251, Stop: 14700, Start Num: 46  
Candidate Starts for Puppy\_24:  
(21, 14203), (Start: 46 @14251 has 41 MA's), (Start: 57 @14317 has 315 MA's), (72, 14410), (86, 14476), (87, 14485), (91, 14512), (101, 14557), (120, 14629), (124, 14641), (127, 14656),

Gene: PurpleHaze\_25 Start: 15260, Stop: 15658, Start Num: 57  
Candidate Starts for PurpleHaze\_25:  
(Start: 57 @15260 has 315 MA's), (68, 15332), (72, 15353), (74, 15365), (95, 15485), (98, 15494), (101, 15515), (113, 15557), (118, 15581), (120, 15587), (127, 15614),

Gene: QTRlifeCrisis\_22 Start: 15995, Stop: 16366, Start Num: 59  
Candidate Starts for QTRlifeCrisis\_22:  
(38, 15896), (Start: 59 @15995 has 514 MA's), (67, 16064), (75, 16106), (81, 16139), (118, 16289), (123, 16304), (124, 16307), (125, 16310),

Gene: Qobbit\_25 Start: 16644, Stop: 17039, Start Num: 59  
Candidate Starts for Qobbit\_25:  
(Start: 59 @16644 has 514 MA's), (68, 16716), (77, 16755), (93, 16857), (95, 16866), (118, 16962), (124, 16980), (127, 16995),

Gene: QueenB2\_24 Start: 15843, Stop: 16250, Start Num: 59  
Candidate Starts for QueenB2\_24:  
(34, 15750), (Start: 59 @15843 has 514 MA's), (69, 15927), (92, 16056), (101, 16098), (109, 16131), (124, 16191), (127, 16206),

Gene: QueenBeesly\_24 Start: 15725, Stop: 16132, Start Num: 59  
Candidate Starts for QueenBeesly\_24:  
(Start: 59 @15725 has 514 MA's), (61, 15752), (66, 15788), (69, 15809), (101, 15980), (109, 16013), (124, 16073), (127, 16088),

Gene: QuinnKiro\_23 Start: 15247, Stop: 15630, Start Num: 57  
Candidate Starts for QuinnKiro\_23:  
(Start: 57 @15247 has 315 MA's), (72, 15340), (86, 15406), (87, 15415), (91, 15442), (101, 15487), (116, 15541), (120, 15559), (127, 15586),

Gene: Quokka\_22 Start: 14715, Stop: 15119, Start Num: 59  
Candidate Starts for Quokka\_22:  
(Start: 59 @14715 has 514 MA's), (69, 14799), (73, 14811), (112, 15012),

Gene: R4\_16 Start: 10901, Stop: 11242, Start Num: 59  
Candidate Starts for R4\_16:  
(54, 10883), (Start: 59 @10901 has 514 MA's), (86, 11057), (95, 11072), (103, 11105), (116, 11153), (131, 11213),

Gene: Rachaly\_27 Start: 17446, Stop: 17850, Start Num: 59  
Candidate Starts for Rachaly\_27:  
(Start: 59 @17446 has 514 MA's), (66, 17509), (69, 17530), (80, 17584), (91, 17653), (101, 17698), (109, 17731), (124, 17791), (127, 17806),

Gene: Rahalelujah\_23 Start: 14692, Stop: 15087, Start Num: 59

Candidate Starts for Rahalelujah\_23:

(Start: 59 @14692 has 514 MA's), (68, 14764), (80, 14827), (93, 14905), (95, 14914), (118, 15010), (124, 15028), (127, 15043),

Gene: Raid\_23 Start: 15263, Stop: 15649, Start Num: 59

Candidate Starts for Raid\_23:

(Start: 59 @15263 has 514 MA's), (74, 15371), (85, 15422), (88, 15434), (91, 15467), (101, 15512), (124, 15590), (127, 15605), (131, 15620),

Gene: Rajelicia\_22 Start: 15788, Stop: 16165, Start Num: 59

Candidate Starts for Rajelicia\_22:

(Start: 59 @15788 has 514 MA's), (67, 15857), (71, 15881), (74, 15896), (75, 15899), (114, 16067),

Gene: Rana\_16 Start: 10924, Stop: 11247, Start Num: 59

Candidate Starts for Rana\_16:

(Start: 59 @10924 has 514 MA's), (86, 11077), (116, 11173),

Gene: Rasputin\_19 Start: 11317, Stop: 11667, Start Num: 57

Candidate Starts for Rasputin\_19:

(Start: 57 @11317 has 315 MA's), (95, 11512), (122, 11617), (124, 11623), (131, 11653),

Gene: ReMo\_26 Start: 14948, Stop: 15331, Start Num: 59

Candidate Starts for ReMo\_26:

(52, 14918), (Start: 59 @14948 has 514 MA's), (71, 15038), (117, 15248), (122, 15266), (124, 15272), (131, 15302),

Gene: Reba\_26 Start: 14926, Stop: 15324, Start Num: 57

Candidate Starts for Reba\_26:

(Start: 57 @14926 has 315 MA's), (68, 14998), (72, 15019), (74, 15031), (95, 15151), (98, 15160), (101, 15181), (113, 15223), (118, 15247), (120, 15253), (127, 15280),

Gene: Rebeuca\_24 Start: 15099, Stop: 15467, Start Num: 57

Candidate Starts for Rebeuca\_24:

(Start: 46 @15036 has 41 MA's), (Start: 57 @15099 has 315 MA's), (65, 15159), (67, 15165), (80, 15237), (98, 15309), (100, 15321), (120, 15396), (122, 15402), (124, 15408),

Gene: RedBear\_18 Start: 11188, Stop: 11511, Start Num: 59

Candidate Starts for RedBear\_18:

(Start: 59 @11188 has 514 MA's), (75, 11290), (116, 11437), (131, 11497),

Gene: RedRock\_27 Start: 17739, Stop: 18143, Start Num: 59

Candidate Starts for RedRock\_27:

(24, 17634), (Start: 46 @17676 has 41 MA's), (Start: 59 @17739 has 514 MA's), (69, 17823), (71, 17829), (80, 17877), (86, 17898), (100, 17982), (101, 17991), (124, 18084), (127, 18099),

Gene: Refuge\_27 Start: 18154, Stop: 18549, Start Num: 59

Candidate Starts for Refuge\_27:

(Start: 59 @18154 has 514 MA's), (68, 18226), (72, 18244), (74, 18256), (77, 18265), (80, 18289), (95, 18376), (118, 18472), (124, 18490), (127, 18505),

Gene: Relief\_23 Start: 15096, Stop: 15467, Start Num: 57

Candidate Starts for Relief\_23:

(Start: 57 @15096 has 315 MA's), (67, 15162), (72, 15189), (98, 15309), (122, 15402), (124, 15408),

Gene: Remus\_26 Start: 14909, Stop: 15292, Start Num: 59

Candidate Starts for Remus\_26:

(52, 14879), (Start: 59 @14909 has 514 MA's), (71, 14999), (117, 15209), (122, 15227), (124, 15233), (131, 15263),

Gene: ResDef\_24 Start: 15247, Stop: 15630, Start Num: 57

Candidate Starts for ResDef\_24:

(Start: 57 @15247 has 315 MA's), (72, 15340), (86, 15406), (87, 15415), (91, 15442), (101, 15487), (116, 15541), (120, 15559), (127, 15586),

Gene: Retro23\_24 Start: 15867, Stop: 16274, Start Num: 59

Candidate Starts for Retro23\_24:

(Start: 59 @15867 has 514 MA's), (61, 15894), (66, 15930), (69, 15951), (101, 16122), (109, 16155), (124, 16215), (127, 16230),

Gene: RexFury\_19 Start: 11380, Stop: 11730, Start Num: 57

Candidate Starts for RexFury\_19:

(Start: 57 @11380 has 315 MA's), (81, 11518), (83, 11524), (95, 11575), (122, 11680), (124, 11686), (131, 11716),

Gene: Rhodalysa\_19 Start: 11349, Stop: 11699, Start Num: 57

Candidate Starts for Rhodalysa\_19:

(Start: 57 @11349 has 315 MA's), (81, 11487), (83, 11493), (95, 11544), (122, 11649), (124, 11655), (131, 11685),

Gene: RhynO\_24 Start: 15068, Stop: 15436, Start Num: 57

Candidate Starts for RhynO\_24:

(Start: 57 @15068 has 315 MA's), (65, 15128), (67, 15134), (80, 15206), (98, 15278), (100, 15290), (104, 15308), (120, 15365), (122, 15371), (124, 15377),

Gene: RidgeCB\_22 Start: 15371, Stop: 15748, Start Num: 59

Candidate Starts for RidgeCB\_22:

(Start: 59 @15371 has 514 MA's), (78, 15500), (80, 15512), (100, 15602), (131, 15719),

Gene: Rifter\_27 Start: 15896, Stop: 16300, Start Num: 59

Candidate Starts for Rifter\_27:

(Start: 46 @15833 has 41 MA's), (Start: 59 @15896 has 514 MA's), (80, 16034), (86, 16055), (91, 16103), (99, 16136), (101, 16148), (124, 16241),

Gene: Ringer\_22 Start: 15915, Stop: 16301, Start Num: 59

Candidate Starts for Ringer\_22:

(11, 15741), (38, 15816), (Start: 59 @15915 has 514 MA's), (74, 16023), (85, 16074), (88, 16086), (91, 16119), (101, 16164), (124, 16242), (127, 16257), (131, 16272),

Gene: Roary\_20 Start: 13718, Stop: 14083, Start Num: 57

Candidate Starts for Roary\_20:

(Start: 57 @13718 has 315 MA's), (65, 13778), (68, 13790), (85, 13874), (86, 13877), (91, 13913), (98, 13937), (122, 14033),

Gene: Rockstar\_23 Start: 14553, Stop: 15002, Start Num: 46



Candidate Starts for Rockstar\_23:

(Start: 46 @14553 has 41 MA's), (Start: 57 @14619 has 315 MA's), (86, 14778), (87, 14787), (91, 14814), (101, 14859), (120, 14931), (127, 14958),

Gene: Rohr\_23 Start: 15793, Stop: 16170, Start Num: 59

Candidate Starts for Rohr\_23:

(38, 15694), (Start: 59 @15793 has 514 MA's), (78, 15922), (80, 15934), (100, 16024), (131, 16141),

Gene: Roksolana\_27 Start: 15924, Stop: 16328, Start Num: 59

Candidate Starts for Roksolana\_27:

(Start: 46 @15861 has 41 MA's), (Start: 59 @15924 has 514 MA's), (80, 16062), (86, 16083), (91, 16131), (99, 16164), (101, 16176), (124, 16269),

Gene: Romney\_23 Start: 15098, Stop: 15469, Start Num: 57

Candidate Starts for Romney\_23:

(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (98, 15311), (122, 15404), (124, 15410),

Gene: Roosevelt\_23 Start: 15098, Stop: 15469, Start Num: 57

Candidate Starts for Roosevelt\_23:

(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (98, 15311), (122, 15404), (124, 15410),

Gene: Rosa24\_22 Start: 15070, Stop: 15441, Start Num: 57

Candidate Starts for Rosa24\_22:

(Start: 57 @15070 has 315 MA's), (67, 15136), (72, 15163), (98, 15283), (122, 15376), (124, 15382),

Gene: Rosalind\_26 Start: 15070, Stop: 15453, Start Num: 59

Candidate Starts for Rosalind\_26:

(52, 15040), (Start: 59 @15070 has 514 MA's), (117, 15370), (122, 15388), (124, 15394), (131, 15424),

Gene: Rowdy\_26 Start: 14979, Stop: 15347, Start Num: 57

Candidate Starts for Rowdy\_26:

(Start: 57 @14979 has 315 MA's), (65, 15039), (67, 15045), (80, 15117), (98, 15189), (100, 15201), (104, 15219), (120, 15276), (122, 15282), (124, 15288),

Gene: Rubeus\_23 Start: 15628, Stop: 16005, Start Num: 59

Candidate Starts for Rubeus\_23:

(Start: 59 @15628 has 514 MA's), (80, 15769), (100, 15859), (131, 15976),

Gene: Ruin\_23 Start: 15094, Stop: 15465, Start Num: 57

Candidate Starts for Ruin\_23:

(Start: 57 @15094 has 315 MA's), (67, 15160), (72, 15187), (98, 15307), (122, 15400), (124, 15406),

Gene: Rummer\_25 Start: 15267, Stop: 15665, Start Num: 57

Candidate Starts for Rummer\_25:

(Start: 46 @15204 has 41 MA's), (Start: 57 @15267 has 315 MA's), (72, 15360), (74, 15372), (80, 15405), (84, 15417), (95, 15492), (98, 15501), (101, 15522), (113, 15564), (120, 15594), (127, 15621),

Gene: Ruotula\_22 Start: 15800, Stop: 16186, Start Num: 59

Candidate Starts for Ruotula\_22:

(47, 15737), (Start: 59 @15800 has 514 MA's), (74, 15908), (85, 15959), (88, 15971), (91, 16004), (101, 16049), (124, 16127), (127, 16142), (131, 16157),

Gene: Rusticus\_17 Start: 11113, Stop: 11436, Start Num: 59

Candidate Starts for Rusticus\_17:  
(Start: 59 @11113 has 514 MA's), (131, 11422),

Gene: Rutherferd\_24 Start: 16202, Stop: 16579, Start Num: 59  
Candidate Starts for Rutherferd\_24:  
(12, 16028), (38, 16103), (Start: 59 @16202 has 514 MA's), (78, 16331), (80, 16343), (100, 16433),  
(131, 16550),

Gene: RyeScarlet\_26 Start: 16618, Stop: 17013, Start Num: 59  
Candidate Starts for RyeScarlet\_26:  
(Start: 59 @16618 has 514 MA's), (68, 16690), (77, 16729), (93, 16831), (95, 16840), (118, 16936),  
(124, 16954), (127, 16969),

Gene: STLscum\_23 Start: 16004, Stop: 16390, Start Num: 59  
Candidate Starts for STLscum\_23:  
(Start: 59 @16004 has 514 MA's), (74, 16112), (85, 16163), (88, 16175), (91, 16208), (101, 16253),  
(124, 16331), (127, 16346), (131, 16361),

Gene: Sabertooth\_24 Start: 15095, Stop: 15466, Start Num: 57  
Candidate Starts for Sabertooth\_24:  
(Start: 57 @15095 has 315 MA's), (67, 15161), (72, 15188), (98, 15308), (122, 15401), (124, 15407),

Gene: Sabia\_26 Start: 15113, Stop: 15574, Start Num: 46  
Candidate Starts for Sabia\_26:  
(Start: 46 @15113 has 41 MA's), (Start: 57 @15176 has 315 MA's), (72, 15269), (74, 15281), (80,  
15314), (84, 15326), (95, 15401), (98, 15410), (101, 15431), (113, 15473), (120, 15503), (127, 15530),

Gene: Sabinator\_25 Start: 15118, Stop: 15579, Start Num: 46  
Candidate Starts for Sabinator\_25:  
(Start: 46 @15118 has 41 MA's), (Start: 57 @15181 has 315 MA's), (72, 15274), (74, 15286), (80,  
15319), (84, 15331), (95, 15406), (98, 15415), (101, 15436), (113, 15478), (120, 15508), (127, 15535),

Gene: Sachima\_23 Start: 16614, Stop: 17009, Start Num: 59  
Candidate Starts for Sachima\_23:  
(Start: 59 @16614 has 514 MA's), (68, 16686), (77, 16725), (93, 16827), (95, 16836), (118, 16932),  
(124, 16950), (127, 16965),

Gene: Saftant\_16 Start: 10847, Stop: 11170, Start Num: 59  
Candidate Starts for Saftant\_16:  
(Start: 59 @10847 has 514 MA's), (99, 11030), (120, 11114),

Gene: Saintus\_20 Start: 13733, Stop: 14098, Start Num: 57  
Candidate Starts for Saintus\_20:  
(Start: 57 @13733 has 315 MA's), (65, 13793), (68, 13805), (85, 13889), (86, 13892), (91, 13928), (98,  
13952), (122, 14048),

Gene: Salz\_24 Start: 16353, Stop: 16748, Start Num: 59  
Candidate Starts for Salz\_24:  
(Start: 59 @16353 has 514 MA's), (68, 16425), (71, 16443), (83, 16500), (98, 16578), (118, 16671),

Gene: Sandaddy\_21 Start: 15517, Stop: 15894, Start Num: 59  
Candidate Starts for Sandaddy\_21:

(Start: 59 @15517 has 514 MA's), (67, 15586), (71, 15610), (74, 15625), (75, 15628), (78, 15646), (114, 15796),

Gene: Sanya\_21 Start: 16179, Stop: 16556, Start Num: 59

Candidate Starts for Sanya\_21:

(Start: 59 @16179 has 514 MA's), (67, 16248), (71, 16272), (74, 16287), (75, 16290), (78, 16308), (114, 16458),

Gene: SarFire\_22 Start: 15657, Stop: 16034, Start Num: 59

Candidate Starts for SarFire\_22:

(Start: 59 @15657 has 514 MA's), (67, 15726), (71, 15750), (74, 15765), (75, 15768), (114, 15936),

Gene: SarahRose\_16 Start: 10927, Stop: 11250, Start Num: 59

Candidate Starts for SarahRose\_16:

(Start: 59 @10927 has 514 MA's), (116, 11176), (131, 11236),

Gene: SaturnRing\_23 Start: 14698, Stop: 15081, Start Num: 57

Candidate Starts for SaturnRing\_23:

(21, 14584), (Start: 46 @14632 has 41 MA's), (Start: 57 @14698 has 315 MA's), (72, 14791), (86, 14857), (87, 14866), (91, 14893), (101, 14938), (120, 15010), (124, 15022), (127, 15037),

Gene: Scamp\_23 Start: 15098, Stop: 15469, Start Num: 57

Candidate Starts for Scamp\_23:

(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (98, 15311), (122, 15404), (124, 15410),

Gene: Scherzo\_25 Start: 16647, Stop: 17042, Start Num: 59

Candidate Starts for Scherzo\_25:

(Start: 59 @16647 has 514 MA's), (68, 16719), (77, 16758), (93, 16860), (95, 16869), (118, 16965), (124, 16983), (127, 16998),

Gene: Scorpia\_21 Start: 14261, Stop: 14641, Start Num: 57

Candidate Starts for Scorpia\_21:

(Start: 46 @14198 has 41 MA's), (Start: 57 @14261 has 315 MA's), (80, 14396), (86, 14417), (91, 14453), (100, 14489), (120, 14567), (127, 14594), (131, 14609),

Gene: Scout\_23 Start: 13998, Stop: 14381, Start Num: 57

Candidate Starts for Scout\_23:

(21, 13884), (Start: 46 @13932 has 41 MA's), (Start: 57 @13998 has 315 MA's), (72, 14091), (86, 14157), (87, 14166), (91, 14193), (101, 14238), (120, 14310), (124, 14322), (127, 14337),

Gene: Scowl\_24 Start: 16056, Stop: 16427, Start Num: 59

Candidate Starts for Scowl\_24:

(22, 15945), (26, 15951), (38, 15966), (Start: 59 @16056 has 514 MA's), (67, 16125), (75, 16167), (81, 16200), (118, 16350), (123, 16365), (124, 16368), (125, 16371),

Gene: Seabiscuit\_24 Start: 15587, Stop: 15964, Start Num: 59

Candidate Starts for Seabiscuit\_24:

(Start: 59 @15587 has 514 MA's), (67, 15656), (71, 15680), (74, 15695), (75, 15698), (114, 15866),

Gene: Seanderson\_23 Start: 16037, Stop: 16414, Start Num: 59

Candidate Starts for Seanderson\_23:

(38, 15938), (Start: 59 @16037 has 514 MA's), (67, 16106), (71, 16130), (74, 16145), (75, 16148), (78, 16166), (114, 16316), (131, 16385),

Gene: SemperFi\_26 Start: 16142, Stop: 16549, Start Num: 59

Candidate Starts for SemperFi\_26:

(7, 15908), (9, 15935), (24, 16040), (Start: 59 @16142 has 514 MA's), (61, 16169), (66, 16205), (69, 16226), (101, 16397), (109, 16430), (124, 16490), (127, 16505),

Gene: SenorClean\_22 Start: 15098, Stop: 15469, Start Num: 57

Candidate Starts for SenorClean\_22:

(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (98, 15311), (122, 15404), (124, 15410),

Gene: Serenity\_23 Start: 14766, Stop: 15170, Start Num: 59

Candidate Starts for Serenity\_23:

(Start: 59 @14766 has 514 MA's), (69, 14850), (73, 14862), (92, 14976), (112, 15063),

Gene: Severus\_22 Start: 13009, Stop: 13377, Start Num: 57

Candidate Starts for Severus\_22:

(Start: 46 @12946 has 41 MA's), (Start: 57 @13009 has 315 MA's), (65, 13069), (67, 13075), (80, 13147), (98, 13219), (101, 13240), (102, 13243), (122, 13312),

Gene: Shaka\_23 Start: 15098, Stop: 15469, Start Num: 57

Candidate Starts for Shaka\_23:

(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (98, 15311), (122, 15404), (124, 15410),

Gene: Sham4\_24 Start: 16359, Stop: 16754, Start Num: 59

Candidate Starts for Sham4\_24:

(Start: 59 @16359 has 514 MA's), (68, 16431), (71, 16449), (83, 16506), (98, 16584), (118, 16677),

Gene: Shapes\_26 Start: 14979, Stop: 15347, Start Num: 57

Candidate Starts for Shapes\_26:

(Start: 57 @14979 has 315 MA's), (65, 15039), (67, 15045), (80, 15117), (98, 15189), (100, 15201), (104, 15219), (120, 15276), (122, 15282), (124, 15288),

Gene: ShayRa\_27 Start: 15070, Stop: 15453, Start Num: 59

Candidate Starts for ShayRa\_27:

(52, 15040), (Start: 59 @15070 has 514 MA's), (71, 15160), (117, 15370), (122, 15388), (124, 15394), (131, 15424),

Gene: SheaKeira\_24 Start: 14773, Stop: 15168, Start Num: 59

Candidate Starts for SheaKeira\_24:

(Start: 59 @14773 has 514 MA's), (68, 14845), (80, 14908), (93, 14986), (95, 14995), (118, 15091), (124, 15109), (127, 15124),

Gene: Sheen\_25 Start: 16821, Stop: 17186, Start Num: 59

Candidate Starts for Sheen\_25:

(Start: 59 @16821 has 514 MA's), (66, 16884), (79, 16956), (110, 17085), (112, 17094), (121, 17133), (127, 17157), (131, 17172),

Gene: SheldonCooper\_24 Start: 15410, Stop: 15781, Start Num: 57

Candidate Starts for SheldonCooper\_24:

(Start: 57 @15410 has 315 MA's), (67, 15476), (72, 15503), (98, 15623), (122, 15716), (124, 15722),

Gene: ShortQueendom\_21 Start: 15477, Stop: 15854, Start Num: 59

Candidate Starts for ShortQueendom\_21:

(Start: 27 @15363 has 1 MA's), (Start: 46 @15405 has 41 MA's), (Start: 59 @15477 has 514 MA's), (67, 15546), (71, 15570), (74, 15585), (75, 15588), (78, 15606), (114, 15756),

Gene: Shuman\_19 Start: 11349, Stop: 11699, Start Num: 57

Candidate Starts for Shuman\_19:

(Start: 57 @11349 has 315 MA's), (81, 11487), (83, 11493), (95, 11544), (122, 11649), (124, 11655), (131, 11685),

Gene: Shygu2\_23 Start: 15089, Stop: 15460, Start Num: 57

Candidate Starts for Shygu2\_23:

(42, 15002), (Start: 57 @15089 has 315 MA's), (67, 15155), (72, 15182), (77, 15203), (80, 15227), (98, 15302), (122, 15395), (124, 15401),

Gene: Sibs6\_24 Start: 16113, Stop: 16490, Start Num: 59

Candidate Starts for Sibs6\_24:

(38, 16014), (Start: 59 @16113 has 514 MA's), (74, 16221), (78, 16242), (80, 16254), (100, 16344), (131, 16461),

Gene: Skipitt\_23 Start: 15095, Stop: 15466, Start Num: 57

Candidate Starts for Skipitt\_23:

(Start: 57 @15095 has 315 MA's), (67, 15161), (72, 15188), (98, 15308), (122, 15401), (124, 15407),

Gene: Sknot\_25 Start: 15854, Stop: 16258, Start Num: 59

Candidate Starts for Sknot\_25:

(53, 15827), (Start: 59 @15854 has 514 MA's), (61, 15881), (69, 15938), (100, 16097), (101, 16106), (124, 16199), (127, 16214),

Gene: Smairt\_23 Start: 16297, Stop: 16674, Start Num: 59

Candidate Starts for Smairt\_23:

(Start: 59 @16297 has 514 MA's), (67, 16366), (71, 16390), (74, 16405), (75, 16408), (78, 16426), (114, 16576),

Gene: Smeadley\_20 Start: 13751, Stop: 14116, Start Num: 57

Candidate Starts for Smeadley\_20:

(Start: 57 @13751 has 315 MA's), (65, 13811), (68, 13823), (85, 13907), (86, 13910), (91, 13946), (98, 13970), (122, 14066),

Gene: Smeagan\_26 Start: 16293, Stop: 16700, Start Num: 59

Candidate Starts for Smeagan\_26:

(Start: 59 @16293 has 514 MA's), (61, 16320), (66, 16356), (69, 16377), (92, 16506), (101, 16548), (109, 16581), (124, 16641), (127, 16656),

Gene: Smeagol\_24 Start: 16886, Stop: 17263, Start Num: 59

Candidate Starts for Smeagol\_24:

(Start: 59 @16886 has 514 MA's), (80, 17027), (100, 17117), (131, 17234),

Gene: SmellyB\_27 Start: 15922, Stop: 16326, Start Num: 59

Candidate Starts for SmellyB\_27:

(Start: 46 @15859 has 41 MA's), (Start: 59 @15922 has 514 MA's), (80, 16060), (86, 16081), (99, 16162), (101, 16174), (124, 16267), (127, 16282), (132, 16309),

Gene: SnapTap\_24 Start: 15725, Stop: 16132, Start Num: 59

Candidate Starts for SnapTap\_24:

(Start: 59 @15725 has 514 MA's), (61, 15752), (66, 15788), (69, 15809), (101, 15980), (109, 16013), (124, 16073), (127, 16088),

Gene: Snape\_24 Start: 16359, Stop: 16754, Start Num: 59

Candidate Starts for Snape\_24:

(Start: 59 @16359 has 514 MA's), (68, 16431), (71, 16449), (83, 16506), (98, 16584), (118, 16677),

Gene: Snazzy\_20 Start: 14986, Stop: 15363, Start Num: 59

Candidate Starts for Snazzy\_20:

(Start: 59 @14986 has 514 MA's), (67, 15055), (71, 15079), (74, 15094), (75, 15097), (78, 15115), (114, 15265),

Gene: Snickers\_25 Start: 15157, Stop: 15555, Start Num: 57

Candidate Starts for Snickers\_25:

(Start: 46 @15094 has 41 MA's), (Start: 57 @15157 has 315 MA's), (72, 15250), (74, 15262), (80, 15295), (84, 15307), (95, 15382), (98, 15391), (101, 15412), (113, 15454), (120, 15484), (127, 15511),

Gene: Snorlax\_16 Start: 10930, Stop: 11253, Start Num: 59

Candidate Starts for Snorlax\_16:

(Start: 59 @10930 has 514 MA's), (116, 11179), (131, 11239),

Gene: SoYo\_25 Start: 15094, Stop: 15492, Start Num: 57

Candidate Starts for SoYo\_25:

(Start: 46 @15031 has 41 MA's), (Start: 57 @15094 has 315 MA's), (72, 15187), (74, 15199), (80, 15232), (84, 15244), (95, 15319), (98, 15328), (101, 15349), (113, 15391), (120, 15421), (127, 15448),

Gene: SoilDragon\_25 Start: 14871, Stop: 15269, Start Num: 57

Candidate Starts for SoilDragon\_25:

(Start: 46 @14808 has 41 MA's), (Start: 57 @14871 has 315 MA's), (72, 14964), (74, 14976), (80, 15009), (84, 15021), (95, 15096), (98, 15105), (101, 15126), (113, 15168), (120, 15198), (127, 15225),

Gene: Solon\_22 Start: 16148, Stop: 16525, Start Num: 59

Candidate Starts for Solon\_22:

(38, 16049), (Start: 59 @16148 has 514 MA's), (67, 16217), (71, 16241), (74, 16256), (75, 16259), (78, 16277), (114, 16427), (131, 16496),

Gene: SororFago\_23 Start: 14931, Stop: 15332, Start Num: 59

Candidate Starts for SororFago\_23:

(Start: 59 @14931 has 514 MA's), (61, 14958), (73, 15027), (80, 15069), (89, 15111), (109, 15216), (124, 15273),

Gene: Sorpresa\_22 Start: 15517, Stop: 15894, Start Num: 59

Candidate Starts for Sorpresa\_22:

(Start: 59 @15517 has 514 MA's), (67, 15586), (71, 15610), (74, 15625), (75, 15628), (78, 15646), (114, 15796),

Gene: Soshari\_27 Start: 15203, Stop: 15664, Start Num: 46

Candidate Starts for Soshari\_27:

(Start: 46 @15203 has 41 MA's), (Start: 57 @15266 has 315 MA's), (72, 15359), (74, 15371), (80, 15404), (84, 15416), (95, 15491), (98, 15500), (101, 15521), (113, 15563), (120, 15593), (127, 15620),

Gene: Soups\_26 Start: 15070, Stop: 15453, Start Num: 59

Candidate Starts for Soups\_26:

(52, 15040), (Start: 59 @15070 has 514 MA's), (117, 15370), (122, 15388), (124, 15394), (131, 15424),

Gene: South40\_17 Start: 11188, Stop: 11511, Start Num: 59

Candidate Starts for South40\_17:

(Start: 59 @11188 has 514 MA's), (75, 11290), (116, 11437), (131, 11497),

Gene: Sparxx\_23 Start: 15096, Stop: 15467, Start Num: 57

Candidate Starts for Sparxx\_23:

(41, 15009), (Start: 46 @15033 has 41 MA's), (Start: 57 @15096 has 315 MA's), (67, 15162), (72, 15189), (98, 15309), (122, 15402), (124, 15408),

Gene: Speedwell\_21 Start: 12580, Stop: 12903, Start Num: 59

Candidate Starts for Speedwell\_21:

(Start: 59 @12580 has 514 MA's), (99, 12763), (120, 12847),

Gene: Spike509\_26 Start: 15267, Stop: 15665, Start Num: 57

Candidate Starts for Spike509\_26:

(Start: 46 @15204 has 41 MA's), (Start: 57 @15267 has 315 MA's), (72, 15360), (74, 15372), (80, 15405), (84, 15417), (95, 15492), (98, 15501), (101, 15522), (113, 15564), (120, 15594), (127, 15621),

Gene: SpikeBT\_24 Start: 16453, Stop: 16830, Start Num: 59

Candidate Starts for SpikeBT\_24:

(Start: 27 @16339 has 1 MA's), (Start: 46 @16381 has 41 MA's), (Start: 59 @16453 has 514 MA's), (67, 16522), (71, 16546), (74, 16561), (75, 16564), (78, 16582), (114, 16732),

Gene: Spino\_23 Start: 15098, Stop: 15469, Start Num: 57

Candidate Starts for Spino\_23:

(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (98, 15311), (122, 15404), (124, 15410),

Gene: Spouty\_25 Start: 16644, Stop: 17039, Start Num: 59

Candidate Starts for Spouty\_25:

(Start: 59 @16644 has 514 MA's), (68, 16716), (77, 16755), (93, 16857), (95, 16866), (118, 16962), (124, 16980), (127, 16995),

Gene: SqueakyClean\_17 Start: 11033, Stop: 11374, Start Num: 59

Candidate Starts for SqueakyClean\_17:

(54, 11015), (Start: 59 @11033 has 514 MA's), (86, 11189), (131, 11345),

Gene: Squee\_23 Start: 16286, Stop: 16657, Start Num: 59

Candidate Starts for Squee\_23:

(38, 16187), (Start: 59 @16286 has 514 MA's), (67, 16355), (75, 16397), (81, 16430), (118, 16580), (123, 16595), (124, 16598), (125, 16601),

Gene: StCroix\_19 Start: 11349, Stop: 11699, Start Num: 57

Candidate Starts for StCroix\_19:

(Start: 57 @11349 has 315 MA's), (81, 11487), (83, 11493), (95, 11544), (122, 11649), (124, 11655), (131, 11685),

Gene: Stagni\_26 Start: 15185, Stop: 15583, Start Num: 57

Candidate Starts for Stagni\_26:

(Start: 46 @15122 has 41 MA's), (Start: 57 @15185 has 315 MA's), (72, 15278), (74, 15290), (80, 15323), (84, 15335), (95, 15410), (98, 15419), (101, 15440), (113, 15482), (120, 15512), (127, 15539),

Gene: StarStuff\_27 Start: 15695, Stop: 16099, Start Num: 59  
Candidate Starts for StarStuff\_27:  
(Start: 59 @15695 has 514 MA's), (69, 15779), (80, 15833), (92, 15905), (127, 16055), (128, 16058),

Gene: Stasia\_24 Start: 15537, Stop: 15908, Start Num: 57  
Candidate Starts for Stasia\_24:  
(Start: 57 @15537 has 315 MA's), (67, 15603), (68, 15609), (77, 15651), (80, 15675), (98, 15750),  
(114, 15810), (122, 15843), (124, 15849), (125, 15852),

Gene: Steamy\_25 Start: 16381, Stop: 16776, Start Num: 59  
Candidate Starts for Steamy\_25:  
(Start: 59 @16381 has 514 MA's), (68, 16453), (71, 16468), (77, 16492), (80, 16516), (95, 16603),  
(115, 16684), (118, 16699), (127, 16732),

Gene: StepMih\_25 Start: 15113, Stop: 15574, Start Num: 46  
Candidate Starts for StepMih\_25:  
(Start: 46 @15113 has 41 MA's), (Start: 57 @15176 has 315 MA's), (72, 15269), (74, 15281), (80,  
15314), (84, 15326), (95, 15401), (98, 15410), (101, 15431), (113, 15473), (120, 15503), (127, 15530),

Gene: Stephig9\_20 Start: 13732, Stop: 14097, Start Num: 57  
Candidate Starts for Stephig9\_20:  
(Start: 57 @13732 has 315 MA's), (65, 13792), (68, 13804), (85, 13888), (86, 13891), (91, 13927), (98,  
13951), (122, 14047),

Gene: StewieG\_21 Start: 15360, Stop: 15737, Start Num: 59  
Candidate Starts for StewieG\_21:  
(38, 15261), (Start: 59 @15360 has 514 MA's), (67, 15429), (71, 15453), (74, 15468), (75, 15471), (78,  
15489), (114, 15639),

Gene: Stink\_24 Start: 15378, Stop: 15749, Start Num: 57  
Candidate Starts for Stink\_24:  
(Start: 40 @15288 has 3 MA's), (42, 15291), (Start: 57 @15378 has 315 MA's), (67, 15444), (72,  
15471), (77, 15492), (80, 15516), (98, 15591), (122, 15684), (124, 15690),

Gene: StrongArm\_21 Start: 16537, Stop: 16914, Start Num: 59  
Candidate Starts for StrongArm\_21:  
(38, 16438), (Start: 59 @16537 has 514 MA's), (67, 16606), (71, 16630), (74, 16645), (75, 16648), (78,  
16666), (114, 16816), (131, 16885),

Gene: Strosahl\_26 Start: 14909, Stop: 15292, Start Num: 59  
Candidate Starts for Strosahl\_26:  
(52, 14879), (Start: 59 @14909 has 514 MA's), (71, 14999), (117, 15209), (122, 15227), (124, 15233),  
(131, 15263),

Gene: Sujidade\_17 Start: 11228, Stop: 11551, Start Num: 59  
Candidate Starts for Sujidade\_17:  
(Start: 59 @11228 has 514 MA's), (116, 11477), (131, 11537),

Gene: Sumter\_21 Start: 15099, Stop: 15476, Start Num: 59  
Candidate Starts for Sumter\_21:  
(Start: 59 @15099 has 514 MA's), (75, 15210), (98, 15318), (100, 15330), (118, 15399),

Gene: Sunhee\_22 Start: 14987, Stop: 15388, Start Num: 59



Candidate Starts for Sunhee\_22:

(Start: 59 @14987 has 514 MA's), (73, 15083), (75, 15095), (80, 15125), (88, 15164), (109, 15272), (124, 15329),

Gene: SunsetPointe\_16 Start: 10940, Stop: 11263, Start Num: 59

Candidate Starts for SunsetPointe\_16:

(Start: 59 @10940 has 514 MA's), (116, 11189), (131, 11249),

Gene: Sunshine924\_21 Start: 15083, Stop: 15460, Start Num: 59

Candidate Starts for Sunshine924\_21:

(Start: 59 @15083 has 514 MA's), (75, 15194), (98, 15302), (100, 15314), (118, 15383),

Gene: SuperAwesome\_27 Start: 15852, Stop: 16319, Start Num: 46

Candidate Starts for SuperAwesome\_27:

(24, 15810), (38, 15825), (Start: 46 @15852 has 41 MA's), (Start: 59 @15915 has 514 MA's), (80, 16053), (86, 16074), (97, 16143), (99, 16155), (101, 16167), (124, 16260), (127, 16275),

Gene: SuperCallie99\_27 Start: 15914, Stop: 16318, Start Num: 59

Candidate Starts for SuperCallie99\_27:

(24, 15809), (38, 15824), (Start: 46 @15851 has 41 MA's), (Start: 59 @15914 has 514 MA's), (80, 16052), (86, 16073), (99, 16154), (101, 16166), (124, 16259), (127, 16274),

Gene: Superchunk\_23 Start: 14448, Stop: 14852, Start Num: 59

Candidate Starts for Superchunk\_23:

(Start: 59 @14448 has 514 MA's), (69, 14532), (80, 14586), (83, 14595), (92, 14658),

Gene: Superstar\_19 Start: 11940, Stop: 12281, Start Num: 59

Candidate Starts for Superstar\_19:

(Start: 59 @11940 has 514 MA's), (99, 12126), (131, 12252),

Gene: Swann\_19 Start: 11349, Stop: 11699, Start Num: 57

Candidate Starts for Swann\_19:

(Start: 57 @11349 has 315 MA's), (81, 11487), (83, 11493), (95, 11544), (122, 11649), (124, 11655), (131, 11685),

Gene: SweetiePie\_24 Start: 15725, Stop: 16132, Start Num: 59

Candidate Starts for SweetiePie\_24:

(Start: 59 @15725 has 514 MA's), (61, 15752), (66, 15788), (69, 15809), (101, 15980), (104, 15989), (109, 16013), (124, 16073), (127, 16088),

Gene: SwirlSquare\_26 Start: 14621, Stop: 15025, Start Num: 59

Candidate Starts for SwirlSquare\_26:

(Start: 59 @14621 has 514 MA's), (69, 14705), (73, 14717), (80, 14759), (81, 14762), (92, 14831), (124, 14966),

Gene: Swirley\_20 Start: 14416, Stop: 14796, Start Num: 57

Candidate Starts for Swirley\_20:

(Start: 57 @14416 has 315 MA's), (64, 14455), (65, 14473), (77, 14527), (80, 14551), (86, 14572), (88, 14581), (91, 14608), (97, 14629), (100, 14644), (106, 14665), (108, 14677), (118, 14716), (127, 14749), (132, 14776),

Gene: SwissCheese\_22 Start: 15555, Stop: 15932, Start Num: 59

Candidate Starts for SwissCheese\_22:

(38, 15453), (Start: 59 @15555 has 514 MA's), (67, 15624), (71, 15648), (74, 15663), (75, 15666), (78, 15684), (114, 15834),

Gene: Switzer\_24 Start: 15693, Stop: 16070, Start Num: 59

Candidate Starts for Switzer\_24:

(Start: 59 @15693 has 514 MA's), (67, 15762), (71, 15786), (74, 15801), (75, 15804), (114, 15972),

Gene: Switzerland\_26 Start: 15063, Stop: 15446, Start Num: 59

Candidate Starts for Switzerland\_26:

(52, 15033), (Start: 59 @15063 has 514 MA's), (71, 15153), (117, 15363), (122, 15381), (124, 15387), (131, 15417),

Gene: Swole\_24 Start: 16021, Stop: 16398, Start Num: 59

Candidate Starts for Swole\_24:

(38, 15919), (Start: 59 @16021 has 514 MA's), (67, 16090), (71, 16114), (74, 16129), (75, 16132), (78, 16150), (114, 16300), (131, 16369),

Gene: SydNat\_20 Start: 14551, Stop: 14931, Start Num: 57

Candidate Starts for SydNat\_20:

(52, 14521), (Start: 57 @14551 has 315 MA's), (77, 14662), (86, 14707), (91, 14743), (100, 14779), (106, 14800), (119, 14854), (121, 14860), (127, 14884), (132, 14911),

Gene: TWAMP\_19 Start: 11349, Stop: 11699, Start Num: 57

Candidate Starts for TWAMP\_19:

(Start: 57 @11349 has 315 MA's), (81, 11487), (83, 11493), (95, 11544), (122, 11649), (124, 11655), (131, 11685),

Gene: TagePhighter\_17 Start: 10930, Stop: 11253, Start Num: 59

Candidate Starts for TagePhighter\_17:

(Start: 59 @10930 has 514 MA's), (116, 11179), (131, 11239),

Gene: Takoda\_19 Start: 11309, Stop: 11659, Start Num: 57

Candidate Starts for Takoda\_19:

(Start: 57 @11309 has 315 MA's), (81, 11447), (83, 11453), (95, 11504), (104, 11543), (122, 11609), (124, 11615), (131, 11645),

Gene: Taquarus\_23 Start: 15101, Stop: 15472, Start Num: 57

Candidate Starts for Taquarus\_23:

(Start: 57 @15101 has 315 MA's), (67, 15167), (72, 15194), (98, 15314), (122, 15407), (124, 15413),

Gene: Target\_24 Start: 16413, Stop: 16790, Start Num: 59

Candidate Starts for Target\_24:

(34, 16311), (50, 16377), (Start: 59 @16413 has 514 MA's), (75, 16524), (98, 16632), (100, 16644), (118, 16713),

Gene: TarsusIV\_24 Start: 15828, Stop: 16232, Start Num: 59

Candidate Starts for TarsusIV\_24:

(Start: 59 @15828 has 514 MA's), (69, 15912), (71, 15918), (80, 15966), (92, 16038), (96, 16053), (101, 16080), (109, 16113), (124, 16173), (127, 16188),

Gene: Tarynearal\_20 Start: 14444, Stop: 14824, Start Num: 57

Candidate Starts for Tarynearal\_20:

(Start: 40 @14354 has 3 MA's), (Start: 57 @14444 has 315 MA's), (64, 14483), (65, 14501), (77, 14555), (80, 14579), (86, 14600), (88, 14609), (91, 14636), (97, 14657), (100, 14672), (106, 14693), (108, 14705), (118, 14744), (127, 14777), (132, 14804),

Gene: Tasp14\_23 Start: 15782, Stop: 16159, Start Num: 59

Candidate Starts for Tasp14\_23:

(Start: 59 @15782 has 514 MA's), (67, 15851), (71, 15875), (74, 15890), (75, 15893), (78, 15911), (114, 16061), (131, 16130),

Gene: Taurus\_25 Start: 15182, Stop: 15580, Start Num: 57

Candidate Starts for Taurus\_25:

(Start: 57 @15182 has 315 MA's), (72, 15275), (74, 15287), (80, 15320), (84, 15332), (95, 15407), (98, 15416), (101, 15437), (113, 15479), (120, 15509), (127, 15536),

Gene: Tefunt\_16 Start: 10836, Stop: 11177, Start Num: 59

Candidate Starts for Tefunt\_16:

(17, 10698), (19, 10707), (Start: 59 @10836 has 514 MA's), (81, 10974), (99, 11022), (105, 11046), (131, 11148),

Gene: Temprado\_28 Start: 15920, Stop: 16324, Start Num: 59

Candidate Starts for Temprado\_28:

(24, 15815), (38, 15830), (Start: 46 @15857 has 41 MA's), (Start: 59 @15920 has 514 MA's), (80, 16058), (86, 16079), (99, 16160), (101, 16172), (124, 16265), (127, 16280),

Gene: Teodoridan\_20 Start: 14925, Stop: 15302, Start Num: 59

Candidate Starts for Teodoridan\_20:

(Start: 59 @14925 has 514 MA's), (67, 14994), (71, 15018), (74, 15033), (75, 15036), (78, 15054), (114, 15204),

Gene: Texage\_23 Start: 15248, Stop: 15631, Start Num: 57

Candidate Starts for Texage\_23:

(Start: 40 @15164 has 3 MA's), (Start: 57 @15248 has 315 MA's), (72, 15341), (86, 15407), (87, 15416), (91, 15443), (101, 15488), (116, 15542), (120, 15560), (127, 15587),

Gene: Thanksgivukkah\_23 Start: 15102, Stop: 15473, Start Num: 57

Candidate Starts for Thanksgivukkah\_23:

(Start: 57 @15102 has 315 MA's), (67, 15168), (72, 15195), (98, 15315), (122, 15408), (124, 15414),

Gene: Theia\_18 Start: 14382, Stop: 14762, Start Num: 57

Candidate Starts for Theia\_18:

(Start: 57 @14382 has 315 MA's), (65, 14439), (77, 14493), (80, 14517), (86, 14538), (88, 14547), (91, 14574), (97, 14595), (100, 14610), (106, 14631), (108, 14643), (118, 14682), (127, 14715), (132, 14742),

Gene: TheloniousMonk\_24 Start: 16832, Stop: 17218, Start Num: 59

Candidate Starts for TheloniousMonk\_24:

(38, 16733), (Start: 59 @16832 has 514 MA's), (74, 16940), (85, 16991), (88, 17003), (91, 17036), (101, 17081), (124, 17159), (127, 17174), (131, 17189),

Gene: Thestral\_17 Start: 10890, Stop: 11237, Start Num: 59

Candidate Starts for Thestral\_17:

(54, 10872), (Start: 59 @10890 has 514 MA's), (86, 11046), (105, 11106),

Gene: Thor\_23 Start: 15657, Stop: 16034, Start Num: 59

Candidate Starts for Thor\_23:

(Start: 59 @15657 has 514 MA's), (67, 15726), (71, 15750), (74, 15765), (75, 15768), (114, 15936),

Gene: Tiffany\_25 Start: 15014, Stop: 15475, Start Num: 46

Candidate Starts for Tiffany\_25:

(Start: 46 @15014 has 41 MA's), (Start: 57 @15077 has 315 MA's), (72, 15170), (74, 15182), (80, 15215), (84, 15227), (95, 15302), (98, 15311), (101, 15332), (113, 15374), (120, 15404), (127, 15431),

Gene: Tiger\_20 Start: 14269, Stop: 14649, Start Num: 57

Candidate Starts for Tiger\_20:

(29, 14167), (Start: 57 @14269 has 315 MA's), (65, 14326), (77, 14380), (80, 14404), (86, 14425), (88, 14434), (91, 14461), (97, 14482), (100, 14497), (106, 14518), (108, 14530), (118, 14569), (127, 14602), (132, 14629),

Gene: Timothy\_24 Start: 16356, Stop: 16751, Start Num: 59

Candidate Starts for Timothy\_24:

(Start: 59 @16356 has 514 MA's), (68, 16428), (71, 16446), (83, 16503), (98, 16581), (118, 16674),

Gene: Timshel\_24 Start: 16706, Stop: 17068, Start Num: 59

Candidate Starts for Timshel\_24:

(Start: 59 @16706 has 514 MA's), (65, 16766), (110, 16970), (112, 16979), (121, 17015), (127, 17039), (131, 17054),

Gene: TinaBelcher\_16 Start: 10838, Stop: 11185, Start Num: 59

Candidate Starts for TinaBelcher\_16:

(54, 10820), (Start: 59 @10838 has 514 MA's), (86, 10994), (105, 11054),

Gene: TinaFeyge\_24 Start: 15095, Stop: 15466, Start Num: 57

Candidate Starts for TinaFeyge\_24:

(Start: 57 @15095 has 315 MA's), (67, 15161), (72, 15188), (98, 15308), (122, 15401), (124, 15407),

Gene: TinyPebbles\_25 Start: 15266, Stop: 15664, Start Num: 57

Candidate Starts for TinyPebbles\_25:

(Start: 46 @15203 has 41 MA's), (Start: 57 @15266 has 315 MA's), (72, 15359), (74, 15371), (80, 15404), (84, 15416), (95, 15491), (98, 15500), (101, 15521), (113, 15563), (120, 15593), (127, 15620),

Gene: TinyTimmy\_24 Start: 16399, Stop: 16794, Start Num: 59

Candidate Starts for TinyTimmy\_24:

(Start: 59 @16399 has 514 MA's), (68, 16471), (71, 16489), (83, 16546), (98, 16624), (118, 16717),

Gene: Tinybot\_22 Start: 15075, Stop: 15446, Start Num: 57

Candidate Starts for Tinybot\_22:

(Start: 57 @15075 has 315 MA's), (67, 15141), (72, 15168), (77, 15189), (98, 15288), (122, 15381), (124, 15387),

Gene: TipsytheTRex\_23 Start: 14931, Stop: 15335, Start Num: 59

Candidate Starts for TipsytheTRex\_23:

(Start: 59 @14931 has 514 MA's), (69, 15015), (73, 15027), (92, 15141), (112, 15228),

Gene: TiroTheta9\_23 Start: 15095, Stop: 15466, Start Num: 57

Candidate Starts for TiroTheta9\_23:

(Start: 57 @15095 has 315 MA's), (67, 15161), (72, 15188), (98, 15308), (122, 15401), (124, 15407),

Gene: Toaka\_23 Start: 14962, Stop: 15357, Start Num: 58

Candidate Starts for Toaka\_23:

(37, 14872), (Start: 58 @14962 has 4 MA's), (63, 15001), (68, 15034), (77, 15073), (80, 15097), (93, 15175), (95, 15184), (118, 15280), (124, 15298), (127, 15313),

Gene: Todacoro\_24 Start: 15247, Stop: 15630, Start Num: 57

Candidate Starts for Todacoro\_24:

(Start: 57 @15247 has 315 MA's), (72, 15340), (86, 15406), (87, 15415), (91, 15442), (101, 15487), (116, 15541), (120, 15559), (127, 15586),

Gene: Toma\_16 Start: 10936, Stop: 11259, Start Num: 59

Candidate Starts for Toma\_16:

(Start: 59 @10936 has 514 MA's), (116, 11185), (131, 11245),

Gene: Tomathan\_27 Start: 15695, Stop: 16099, Start Num: 59

Candidate Starts for Tomathan\_27:

(Start: 59 @15695 has 514 MA's), (69, 15779), (80, 15833), (92, 15905), (127, 16055), (128, 16058),

Gene: ToneTone\_25 Start: 15774, Stop: 16241, Start Num: 46

Candidate Starts for ToneTone\_25:

(Start: 46 @15774 has 41 MA's), (Start: 59 @15837 has 514 MA's), (80, 15975), (86, 15996), (91, 16044), (99, 16077), (101, 16089), (124, 16182),

Gene: Topanga\_23 Start: 15051, Stop: 15419, Start Num: 57

Candidate Starts for Topanga\_23:

(49, 15021), (Start: 57 @15051 has 315 MA's), (65, 15111), (67, 15117), (80, 15189), (98, 15261), (100, 15273), (120, 15348), (122, 15354), (124, 15360),

Gene: Topgun\_22 Start: 15272, Stop: 15643, Start Num: 59

Candidate Starts for Topgun\_22:

(38, 15173), (Start: 59 @15272 has 514 MA's), (67, 15341), (75, 15383), (81, 15416), (118, 15566), (123, 15581), (124, 15584), (125, 15587),

Gene: Toro\_26 Start: 16763, Stop: 17128, Start Num: 59

Candidate Starts for Toro\_26:

(Start: 59 @16763 has 514 MA's), (66, 16826), (79, 16898), (110, 17027), (112, 17036), (121, 17075), (127, 17099), (131, 17114),

Gene: Tote\_24 Start: 16021, Stop: 16398, Start Num: 59

Candidate Starts for Tote\_24:

(38, 15919), (Start: 59 @16021 has 514 MA's), (67, 16090), (71, 16114), (74, 16129), (75, 16132), (78, 16150), (114, 16300), (131, 16369),

Gene: Traft412\_24 Start: 16491, Stop: 16868, Start Num: 59

Candidate Starts for Traft412\_24:

(Start: 59 @16491 has 514 MA's), (75, 16602), (98, 16710), (100, 16722), (118, 16791),

Gene: Travvers\_27 Start: 15695, Stop: 16099, Start Num: 59

Candidate Starts for Travvers\_27:

(Start: 59 @15695 has 514 MA's), (69, 15779), (80, 15833), (92, 15905), (127, 16055), (128, 16058),

Gene: Trike\_21 Start: 13017, Stop: 13385, Start Num: 57

Candidate Starts for Trike\_21:

(Start: 46 @12954 has 41 MA's), (Start: 57 @13017 has 315 MA's), (65, 13077), (67, 13083), (80, 13155), (98, 13227), (100, 13239), (122, 13320), (124, 13326),

Gene: Tripl3t\_23 Start: 16497, Stop: 16883, Start Num: 59

Candidate Starts for Tripl3t\_23:

(38, 16398), (Start: 59 @16497 has 514 MA's), (74, 16605), (85, 16656), (88, 16668), (91, 16701), (101, 16746), (111, 16779), (124, 16824), (127, 16839), (131, 16854),

Gene: Triste\_16 Start: 10921, Stop: 11244, Start Num: 59

Candidate Starts for Triste\_16:

(Start: 59 @10921 has 514 MA's), (116, 11170), (131, 11230),

Gene: Triumph\_18 Start: 10851, Stop: 11192, Start Num: 59

Candidate Starts for Triumph\_18:

(54, 10833), (Start: 59 @10851 has 514 MA's), (86, 11007), (120, 11121), (131, 11163),

Gene: Trixie\_27 Start: 17455, Stop: 17859, Start Num: 59

Candidate Starts for Trixie\_27:

(24, 17350), (38, 17365), (Start: 46 @17392 has 41 MA's), (Start: 59 @17455 has 514 MA's), (66, 17518), (80, 17593), (101, 17707), (124, 17800), (127, 17815),

Gene: Trooper\_24 Start: 15623, Stop: 16027, Start Num: 59

Candidate Starts for Trooper\_24:

(Start: 59 @15623 has 514 MA's), (80, 15761), (92, 15833), (96, 15848), (101, 15875), (109, 15908), (124, 15968), (127, 15983),

Gene: TroyPia\_23 Start: 15098, Stop: 15469, Start Num: 57

Candidate Starts for TroyPia\_23:

(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (98, 15311), (122, 15404), (124, 15410),

Gene: TrvxScott\_15 Start: 10708, Stop: 11187, Start Num: 18

Candidate Starts for TrvxScott\_15:

(Start: 18 @10708 has 1 MA's), (54, 10822), (Start: 59 @10840 has 514 MA's), (86, 10996), (105, 11056),

Gene: TuanPN\_16 Start: 10930, Stop: 11253, Start Num: 59

Candidate Starts for TuanPN\_16:

(Start: 59 @10930 has 514 MA's), (116, 11179),

Gene: Tubs\_25 Start: 16614, Stop: 17009, Start Num: 59

Candidate Starts for Tubs\_25:

(Start: 59 @16614 has 514 MA's), (68, 16686), (77, 16725), (93, 16827), (95, 16836), (118, 16932), (124, 16950), (127, 16965),

Gene: Tucker\_27 Start: 15923, Stop: 16327, Start Num: 59

Candidate Starts for Tucker\_27:

(Start: 46 @15860 has 41 MA's), (Start: 59 @15923 has 514 MA's), (80, 16061), (86, 16082), (91, 16130), (99, 16163), (101, 16175), (124, 16268),

Gene: Turbido\_26 Start: 16296, Stop: 16703, Start Num: 59

Candidate Starts for Turbido\_26:

(Start: 59 @16296 has 514 MA's), (69, 16380), (92, 16509), (101, 16551), (109, 16584), (124, 16644), (127, 16659),

Gene: Twigg\_20 Start: 14417, Stop: 14797, Start Num: 57

Candidate Starts for Twigg\_20:

(29, 14312), (Start: 46 @14351 has 41 MA's), (Start: 57 @14417 has 315 MA's), (64, 14456), (65, 14474), (77, 14528), (80, 14552), (86, 14573), (88, 14582), (91, 14609), (97, 14630), (100, 14645), (106, 14666), (108, 14678), (118, 14717), (127, 14750), (132, 14777),

Gene: Twister\_23 Start: 14950, Stop: 15318, Start Num: 57

Candidate Starts for Twister\_23:

(49, 14920), (Start: 57 @14950 has 315 MA's), (65, 15010), (67, 15016), (80, 15088), (98, 15160), (100, 15172), (120, 15247), (122, 15253), (124, 15259),

Gene: TwoPeat\_23 Start: 15811, Stop: 16188, Start Num: 59

Candidate Starts for TwoPeat\_23:

(38, 15712), (Start: 59 @15811 has 514 MA's), (78, 15940), (80, 15952), (98, 16030), (100, 16042), (131, 16159),

Gene: TygerBlood\_23 Start: 15098, Stop: 15469, Start Num: 57

Candidate Starts for TygerBlood\_23:

(41, 15011), (Start: 46 @15035 has 41 MA's), (Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (98, 15311), (122, 15404), (124, 15410),

Gene: U2\_22 Start: 15699, Stop: 16076, Start Num: 59

Candidate Starts for U2\_22:

(Start: 59 @15699 has 514 MA's), (67, 15768), (71, 15792), (74, 15807), (75, 15810), (114, 15978),

Gene: Ugenie5\_22 Start: 16647, Stop: 17042, Start Num: 59

Candidate Starts for Ugenie5\_22:

(Start: 59 @16647 has 514 MA's), (68, 16719), (77, 16758), (93, 16860), (95, 16869), (118, 16965), (124, 16983), (127, 16998),

Gene: UhSalsa\_19 Start: 11349, Stop: 11699, Start Num: 57

Candidate Starts for UhSalsa\_19:

(Start: 57 @11349 has 315 MA's), (81, 11487), (83, 11493), (95, 11544), (122, 11649), (124, 11655), (131, 11685),

Gene: Ulysses\_22 Start: 14819, Stop: 15190, Start Num: 57

Candidate Starts for Ulysses\_22:

(Start: 57 @14819 has 315 MA's), (67, 14885), (72, 14912), (98, 15032), (122, 15125), (124, 15131),

Gene: UnionJack\_21 Start: 13935, Stop: 14378, Start Num: 46

Candidate Starts for UnionJack\_21:

(29, 13896), (Start: 46 @13935 has 41 MA's), (Start: 57 @13998 has 315 MA's), (64, 14037), (80, 14133), (86, 14154), (91, 14190), (100, 14226), (120, 14304), (127, 14331), (131, 14346),

Gene: Unstoppable\_16 Start: 10941, Stop: 11264, Start Num: 59

Candidate Starts for Unstoppable\_16:

(Start: 59 @10941 has 514 MA's), (116, 11190), (131, 11250),

Gene: Updawg\_26 Start: 16296, Stop: 16700, Start Num: 59

Candidate Starts for Updawg\_26:

(53, 16269), (Start: 59 @16296 has 514 MA's), (61, 16323), (69, 16380), (100, 16539), (101, 16548), (124, 16641), (127, 16656),

Gene: Urza\_16 Start: 11226, Stop: 11552, Start Num: 59

Candidate Starts for Urza\_16:

(Start: 59 @11226 has 514 MA's), (99, 11412), (116, 11478), (120, 11496), (131, 11538),

Gene: VA6\_24 Start: 15807, Stop: 16214, Start Num: 59

Candidate Starts for VA6\_24:

(38, 15717), (Start: 46 @15744 has 41 MA's), (Start: 59 @15807 has 514 MA's), (61, 15834), (66, 15870), (92, 16020), (101, 16062), (109, 16095), (124, 16155), (127, 16170),

Gene: VC3\_27 Start: 15838, Stop: 16242, Start Num: 59

Candidate Starts for VC3\_27:

(Start: 59 @15838 has 514 MA's), (69, 15922), (80, 15976), (92, 16048), (127, 16198), (128, 16201),

Gene: Vanisoa\_23 Start: 14692, Stop: 15087, Start Num: 58

Candidate Starts for Vanisoa\_23:

(37, 14602), (Start: 58 @14692 has 4 MA's), (68, 14764), (80, 14827), (93, 14905), (95, 14914), (118, 15010), (124, 15028), (127, 15043),

Gene: Vanseggelen\_20 Start: 10505, Stop: 10828, Start Num: 59

Candidate Starts for Vanseggelen\_20:

(Start: 59 @10505 has 514 MA's), (99, 10688), (116, 10754), (120, 10772),

Gene: Verabelle\_17 Start: 10836, Stop: 11159, Start Num: 59

Candidate Starts for Verabelle\_17:

(Start: 59 @10836 has 514 MA's), (99, 11019), (116, 11085),

Gene: Veracruz\_23 Start: 15247, Stop: 15630, Start Num: 57

Candidate Starts for Veracruz\_23:

(Start: 57 @15247 has 315 MA's), (72, 15340), (86, 15406), (87, 15415), (91, 15442), (101, 15487), (116, 15541), (120, 15559), (127, 15586),

Gene: Verse\_16 Start: 11135, Stop: 11458, Start Num: 59

Candidate Starts for Verse\_16:

(Start: 59 @11135 has 514 MA's), (99, 11318), (120, 11402),

Gene: VieEnRose\_16 Start: 11292, Stop: 11618, Start Num: 59

Candidate Starts for VieEnRose\_16:

(15, 11148), (Start: 59 @11292 has 514 MA's), (99, 11478), (116, 11544), (120, 11562), (131, 11604),

Gene: Violet\_21 Start: 16104, Stop: 16481, Start Num: 59

Candidate Starts for Violet\_21:

(Start: 59 @16104 has 514 MA's), (67, 16173), (71, 16197), (74, 16212), (75, 16215), (78, 16233), (114, 16383),

Gene: Vix\_25 Start: 15265, Stop: 15663, Start Num: 57

Candidate Starts for Vix\_25:

(Start: 46 @15202 has 41 MA's), (Start: 57 @15265 has 315 MA's), (72, 15358), (74, 15370), (80, 15403), (84, 15415), (95, 15490), (98, 15499), (101, 15520), (113, 15562), (120, 15592), (127, 15619),

Gene: VohminGhazi\_27 Start: 15922, Stop: 16326, Start Num: 59



Candidate Starts for VohminGhazi\_27:

(Start: 46 @15859 has 41 MA's), (Start: 59 @15922 has 514 MA's), (80, 16060), (86, 16081), (99, 16162), (101, 16174), (124, 16267), (127, 16282),

Gene: Waits\_26 Start: 14915, Stop: 15298, Start Num: 59

Candidate Starts for Waits\_26:

(52, 14885), (Start: 59 @14915 has 514 MA's), (71, 15005), (117, 15215), (122, 15233), (124, 15239), (131, 15269),

Gene: WalterMcMickey\_23 Start: 14950, Stop: 15318, Start Num: 57

Candidate Starts for WalterMcMickey\_23:

(49, 14920), (Start: 57 @14950 has 315 MA's), (65, 15010), (67, 15016), (80, 15088), (98, 15160), (100, 15172), (120, 15247), (122, 15253), (124, 15259),

Gene: Wander\_23 Start: 15098, Stop: 15469, Start Num: 57

Candidate Starts for Wander\_23:

(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (98, 15311), (122, 15404), (124, 15410),

Gene: Warrior24\_27 Start: 14919, Stop: 15302, Start Num: 59

Candidate Starts for Warrior24\_27:

(52, 14889), (Start: 59 @14919 has 514 MA's), (71, 15009), (117, 15219), (122, 15237), (124, 15243), (131, 15273),

Gene: Watermelon\_24 Start: 16409, Stop: 16786, Start Num: 59

Candidate Starts for Watermelon\_24:

(Start: 59 @16409 has 514 MA's), (78, 16538), (80, 16550), (98, 16628), (100, 16640), (131, 16757),

Gene: Watson\_25 Start: 15175, Stop: 15573, Start Num: 57

Candidate Starts for Watson\_25:

(Start: 46 @15112 has 41 MA's), (Start: 57 @15175 has 315 MA's), (72, 15268), (74, 15280), (80, 15313), (84, 15325), (95, 15400), (98, 15409), (101, 15430), (113, 15472), (120, 15502), (127, 15529),

Gene: WeiHuaDA\_30 Start: 18062, Stop: 18466, Start Num: 59

Candidate Starts for WeiHuaDA\_30:

(38, 17972), (Start: 46 @17999 has 41 MA's), (Start: 59 @18062 has 514 MA's), (66, 18125), (80, 18200), (84, 18212), (92, 18272), (101, 18314), (104, 18323), (110, 18350), (124, 18407), (127, 18422),

Gene: Werner\_16 Start: 10931, Stop: 11254, Start Num: 59

Candidate Starts for Werner\_16:

(Start: 59 @10931 has 514 MA's), (116, 11180), (131, 11240),

Gene: Whabigail7\_26 Start: 16284, Stop: 16691, Start Num: 59

Candidate Starts for Whabigail7\_26:

(Start: 59 @16284 has 514 MA's), (61, 16311), (66, 16347), (69, 16368), (92, 16497), (101, 16539), (109, 16572), (124, 16632), (127, 16647),

Gene: Whatever\_16 Start: 10931, Stop: 11254, Start Num: 59

Candidate Starts for Whatever\_16:

(Start: 59 @10931 has 514 MA's), (116, 11180), (131, 11240),

Gene: Wheeler\_22 Start: 15865, Stop: 16242, Start Num: 59

Candidate Starts for Wheeler\_22:

(Start: 59 @15865 has 514 MA's), (78, 15994), (80, 16006), (100, 16096), (131, 16213),

Gene: WideWale\_26 Start: 16296, Stop: 16700, Start Num: 59

Candidate Starts for WideWale\_26:

(53, 16269), (Start: 59 @16296 has 514 MA's), (61, 16323), (69, 16380), (100, 16539), (101, 16548), (124, 16641), (127, 16656),

Gene: Wiks\_27 Start: 15905, Stop: 16309, Start Num: 59

Candidate Starts for Wiks\_27:

(Start: 46 @15842 has 41 MA's), (Start: 59 @15905 has 514 MA's), (80, 16043), (86, 16064), (91, 16112), (99, 16145), (101, 16157), (124, 16250),

Gene: Wilbur\_23 Start: 15098, Stop: 15469, Start Num: 57

Candidate Starts for Wilbur\_23:

(Start: 57 @15098 has 315 MA's), (67, 15164), (72, 15191), (98, 15311), (122, 15404), (124, 15410),

Gene: Wile\_23 Start: 15105, Stop: 15476, Start Num: 57

Candidate Starts for Wile\_23:

(Start: 57 @15105 has 315 MA's), (67, 15171), (72, 15198), (74, 15210), (77, 15219), (80, 15243), (98, 15318), (122, 15411), (124, 15417),

Gene: Wilkins\_22 Start: 15272, Stop: 15643, Start Num: 59

Candidate Starts for Wilkins\_22:

(38, 15173), (Start: 59 @15272 has 514 MA's), (67, 15341), (75, 15383), (81, 15416), (118, 15566), (123, 15581), (124, 15584), (125, 15587),

Gene: Wizard007\_23 Start: 15100, Stop: 15471, Start Num: 57

Candidate Starts for Wizard007\_23:

(Start: 57 @15100 has 315 MA's), (67, 15166), (72, 15193), (98, 15313), (122, 15406), (124, 15412),

Gene: Wooldri\_27 Start: 15094, Stop: 15492, Start Num: 57

Candidate Starts for Wooldri\_27:

(Start: 46 @15031 has 41 MA's), (Start: 57 @15094 has 315 MA's), (72, 15187), (74, 15199), (80, 15232), (84, 15244), (95, 15319), (98, 15328), (101, 15349), (113, 15391), (120, 15421), (127, 15448),

Gene: WunderPhul\_28 Start: 15905, Stop: 16309, Start Num: 59

Candidate Starts for WunderPhul\_28:

(Start: 46 @15842 has 41 MA's), (Start: 59 @15905 has 514 MA's), (80, 16043), (86, 16064), (91, 16112), (99, 16145), (101, 16157), (124, 16250),

Gene: Xena\_23 Start: 15092, Stop: 15463, Start Num: 57

Candidate Starts for Xena\_23:

(Start: 57 @15092 has 315 MA's), (67, 15158), (72, 15185), (74, 15197), (77, 15206), (80, 15230), (98, 15305), (122, 15398), (124, 15404),

Gene: XianYue\_24 Start: 15758, Stop: 16147, Start Num: 59

Candidate Starts for XianYue\_24:

(4, 15509), (8, 15545), (10, 15593), (24, 15656), (38, 15671), (Start: 59 @15758 has 514 MA's), (66, 15821), (69, 15842), (74, 15863), (80, 15896), (101, 16010), (109, 16043), (124, 16103), (127, 16118),

Gene: Yasdniil\_16 Start: 10926, Stop: 11249, Start Num: 59

Candidate Starts for Yasdniil\_16:

(Start: 59 @10926 has 514 MA's), (116, 11175),

Gene: Yecey3\_24 Start: 14721, Stop: 15116, Start Num: 58

Candidate Starts for Yecey3\_24:

(37, 14631), (Start: 58 @14721 has 4 MA's), (63, 14760), (68, 14793), (77, 14832), (80, 14856), (93, 14934), (95, 14943), (105, 14985), (118, 15039), (124, 15057), (127, 15072),

Gene: YoSam321\_23 Start: 15095, Stop: 15466, Start Num: 57

Candidate Starts for YoSam321\_23:

(Start: 57 @15095 has 315 MA's), (67, 15161), (72, 15188), (98, 15308), (122, 15401), (124, 15407),

Gene: Yogi\_19 Start: 11323, Stop: 11673, Start Num: 57

Candidate Starts for Yogi\_19:

(Start: 57 @11323 has 315 MA's), (81, 11461), (83, 11467), (95, 11518), (104, 11557), (122, 11623), (124, 11629), (131, 11659),

Gene: Yokurt\_27 Start: 15905, Stop: 16309, Start Num: 59

Candidate Starts for Yokurt\_27:

(Start: 46 @15842 has 41 MA's), (Start: 59 @15905 has 514 MA's), (80, 16043), (86, 16064), (91, 16112), (99, 16145), (101, 16157), (124, 16250),

Gene: Yoncess\_19 Start: 11323, Stop: 11673, Start Num: 57

Candidate Starts for Yoncess\_19:

(Start: 57 @11323 has 315 MA's), (81, 11461), (83, 11467), (95, 11518), (104, 11557), (122, 11623), (124, 11629), (131, 11659),

Gene: Yosif\_17 Start: 11220, Stop: 11543, Start Num: 59

Candidate Starts for Yosif\_17:

(Start: 59 @11220 has 514 MA's), (81, 11355), (99, 11403), (116, 11469),

Gene: Zainub\_18 Start: 11374, Stop: 11715, Start Num: 59

Candidate Starts for Zainub\_18:

(55, 11356), (Start: 59 @11374 has 514 MA's), (86, 11530), (116, 11626), (131, 11686),

Gene: Zaka\_27 Start: 15905, Stop: 16309, Start Num: 59

Candidate Starts for Zaka\_27:

(Start: 46 @15842 has 41 MA's), (Start: 59 @15905 has 514 MA's), (80, 16043), (86, 16064), (91, 16112), (99, 16145), (101, 16157), (124, 16250),

Gene: Zeeculate\_21 Start: 15551, Stop: 15922, Start Num: 59

Candidate Starts for Zeeculate\_21:

(38, 15452), (Start: 59 @15551 has 514 MA's), (67, 15620), (75, 15662), (81, 15695), (118, 15845), (123, 15860), (124, 15863), (125, 15866),

Gene: Zemlya\_17 Start: 10950, Stop: 11273, Start Num: 59

Candidate Starts for Zemlya\_17:

(Start: 59 @10950 has 514 MA's), (86, 11103), (116, 11199),

Gene: Zetzy\_24 Start: 14717, Stop: 15115, Start Num: 57

Candidate Starts for Zetzy\_24:

(47, 14663), (48, 14684), (Start: 57 @14717 has 315 MA's), (72, 14810), (74, 14822), (84, 14867), (95, 14942), (98, 14951), (101, 14972), (113, 15014), (118, 15038), (120, 15044), (127, 15071),

Gene: Zeuska\_23 Start: 16076, Stop: 16453, Start Num: 59

Candidate Starts for Zeuska\_23:

(Start: 59 @16076 has 514 MA's), (75, 16187), (98, 16295), (100, 16307), (118, 16376),

Gene: Zimmer\_26 Start: 17406, Stop: 17801, Start Num: 59

Candidate Starts for Zimmer\_26:

(Start: 59 @17406 has 514 MA's), (68, 17478), (74, 17508), (77, 17517), (80, 17541), (95, 17628), (118, 17724), (127, 17757),

Gene: Zolita\_19 Start: 14552, Stop: 14932, Start Num: 57

Candidate Starts for Zolita\_19:

(52, 14522), (Start: 57 @14552 has 315 MA's), (77, 14663), (86, 14708), (91, 14744), (100, 14780), (106, 14801), (119, 14855), (121, 14861), (127, 14885), (132, 14912),

Gene: Zulu\_27 Start: 15904, Stop: 16308, Start Num: 59

Candidate Starts for Zulu\_27:

(Start: 46 @15841 has 41 MA's), (Start: 59 @15904 has 514 MA's), (80, 16042), (86, 16063), (91, 16111), (99, 16144), (101, 16156), (124, 16249),

Gene: phiCAM\_17 Start: 12801, Stop: 13124, Start Num: 59

Candidate Starts for phiCAM\_17:

(Start: 59 @12801 has 514 MA's), (99, 12984), (120, 13068),