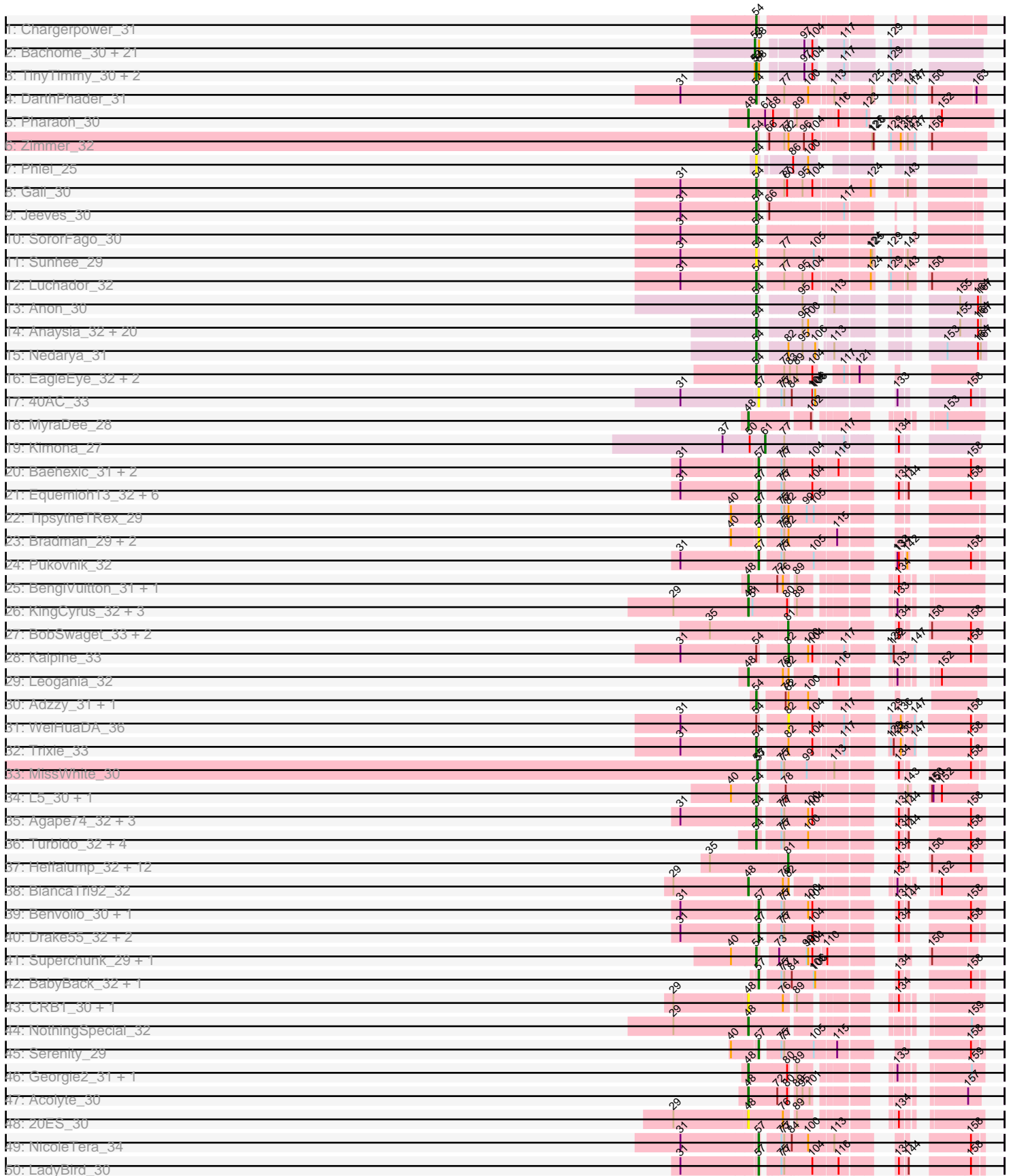
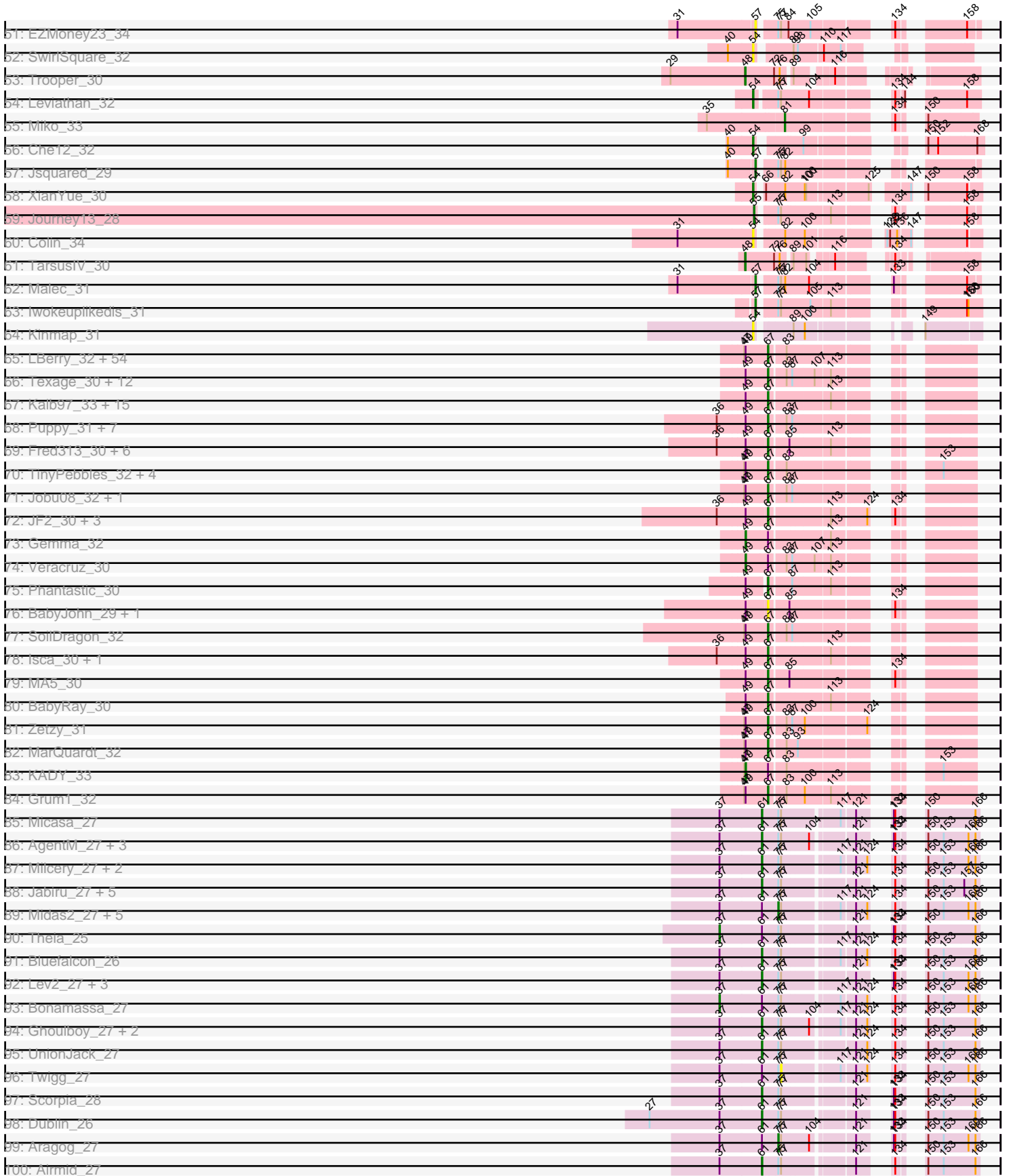


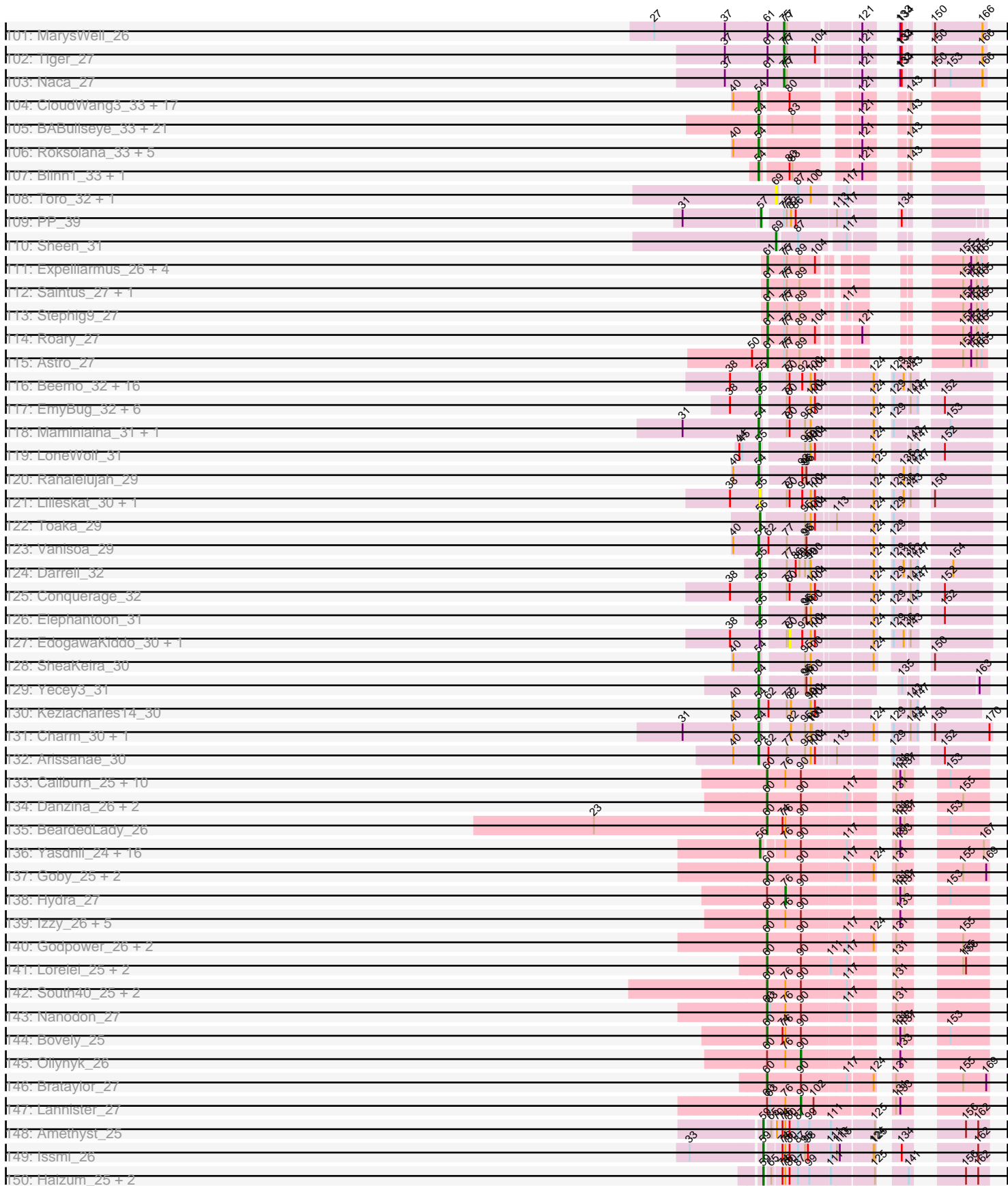
Pham 202533



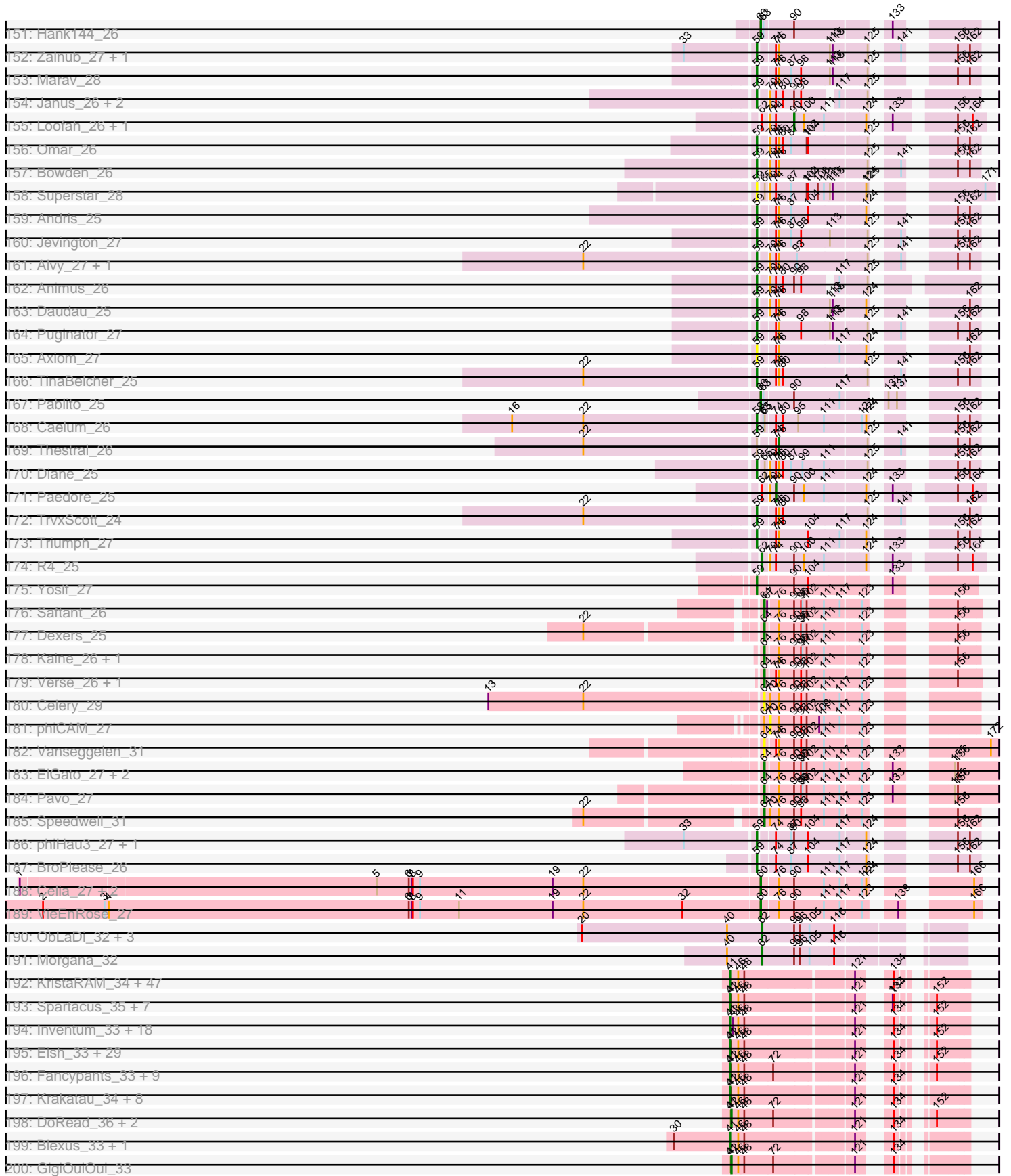
Pham 202533



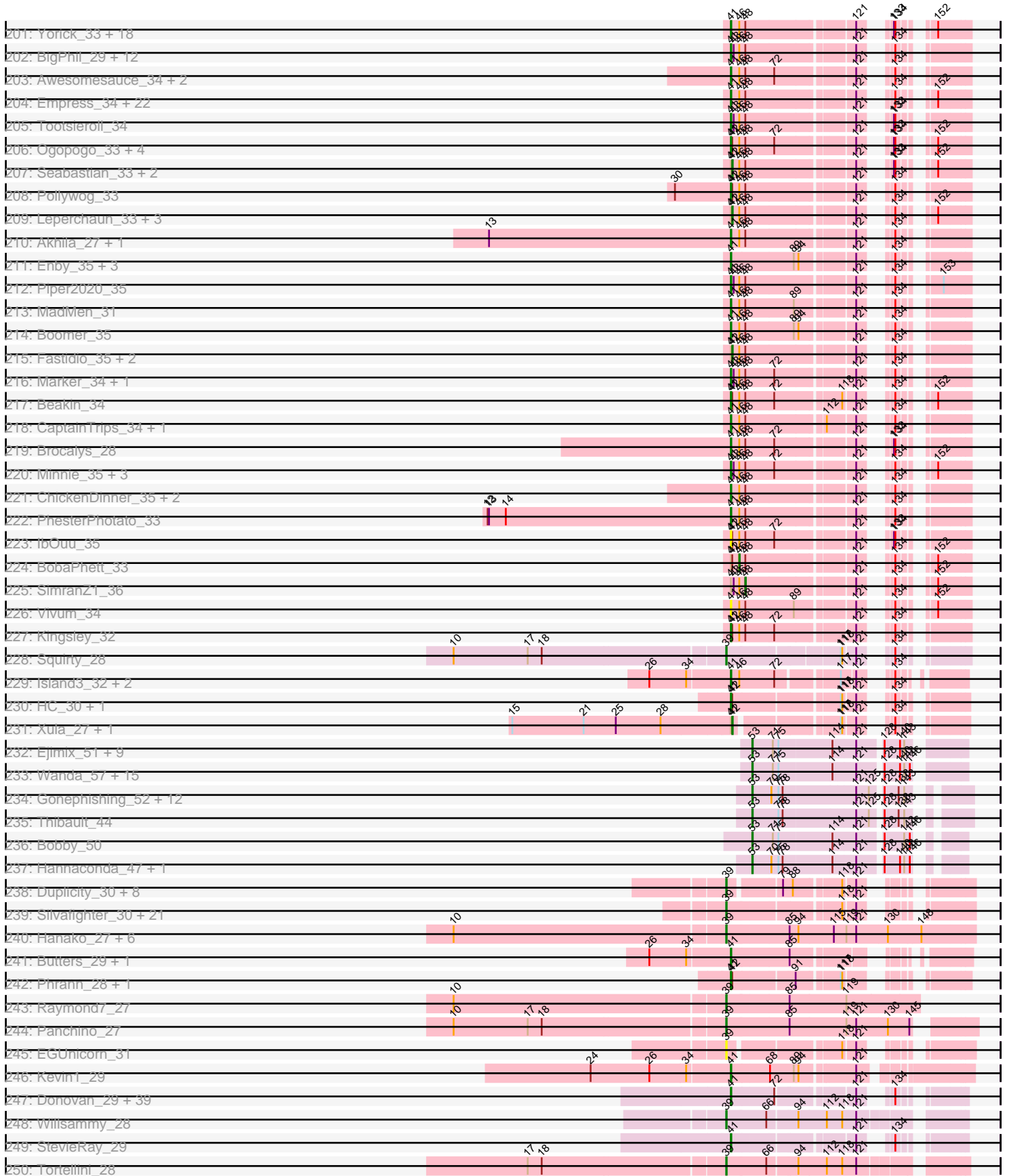
Pham 202533

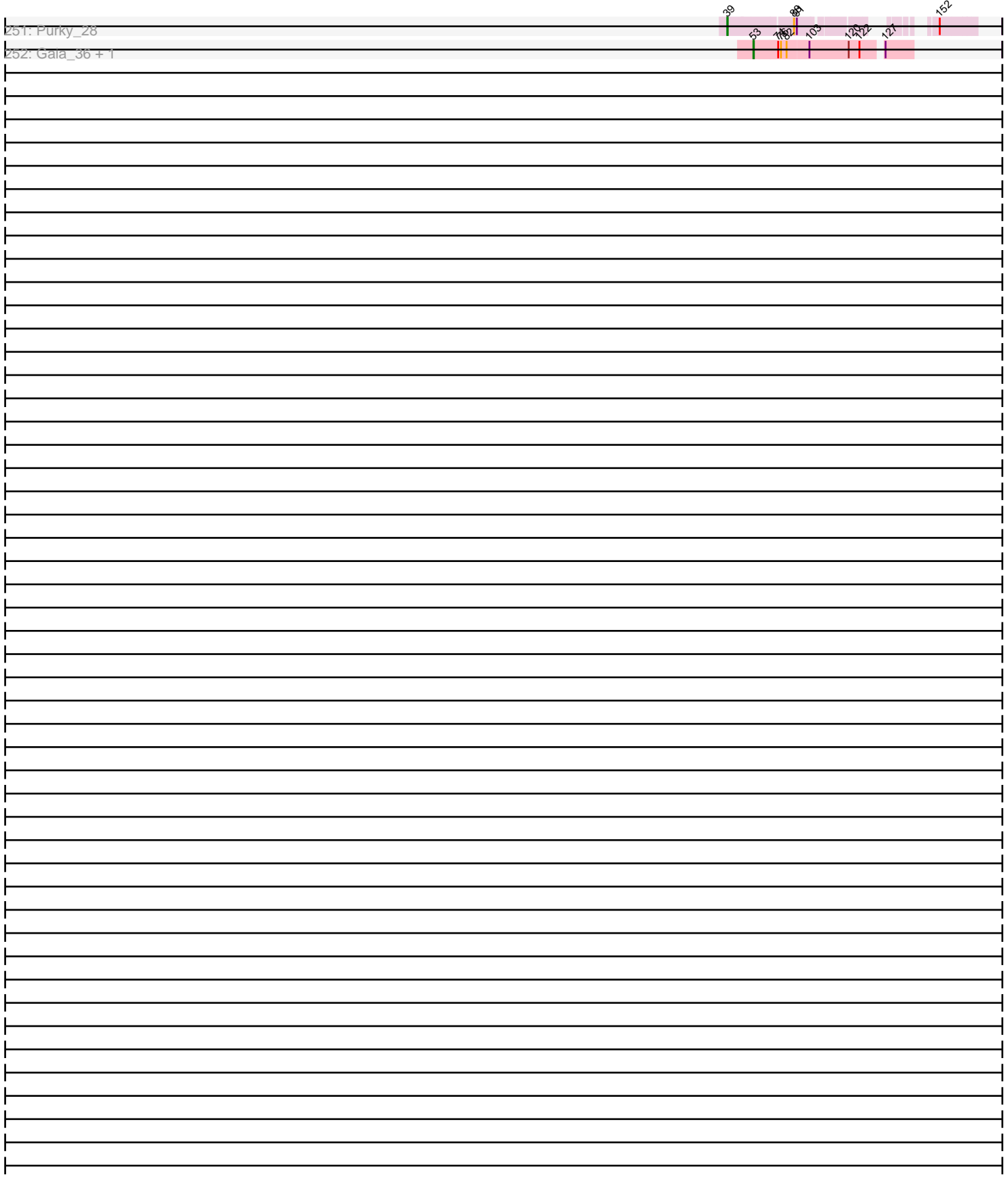


Pham 202533



# Pham 202533





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 202533 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 202533 has 914 members, 80 are drafts.

Phages represented in each track:

- Track 1 : Chargerpower\_31
- Track 2 : Bachome\_30, Aneem\_30, Flaverint\_30, Salz\_30, Hutc2\_30, Orange\_30, Ebony\_30, Sham4\_30, Fibonacci\_30, Insomnia\_30, Joselito\_30, Jabith\_30, Gilberta\_30, Et2Brutus\_29, Mulciber\_30, MaCh\_30, Bud\_30, Petersenfast\_29, Snape\_30, Munch\_30, Lucivia\_30, Timothy\_30
- Track 3 : TinyTimmy\_30, Bowtie\_30, Mabel\_30
- Track 4 : DarthPhader\_31
- Track 5 : Pharaoh\_30
- Track 6 : Zimmer\_32
- Track 7 : Phlei\_25
- Track 8 : Gail\_30
- Track 9 : Jeeves\_30
- Track 10 : SororFago\_30
- Track 11 : Sunhee\_29
- Track 12 : Luchador\_32
- Track 13 : Anon\_30
- Track 14 : Anaysia\_32, Boohoo\_32, LastResort\_32, Strosahl\_32, DekHockey33\_32, ReMo\_32, Remus\_32, Rosalind\_32, ShayRa\_33, JSwag\_32, Epsocamisio\_32, Soups\_32, MinecraftSteve\_33, Waits\_32, KatherineG\_32, Nebulosus\_32, Battleship\_33, Warrior24\_33, Switzerland\_32, Oofda\_33, Looper\_33
- Track 15 : Nedarya\_31
- Track 16 : EagleEye\_32, PainterBoy\_31, Lucyedi\_31
- Track 17 : 40AC\_33
- Track 18 : MyraDee\_28
- Track 19 : Kimona\_27
- Track 20 : Baehexic\_31, NaSiaTalie\_30, Piro94\_31
- Track 21 : Equemioh13\_32, Sknot\_31, MiculUcigas\_30, WideWale\_32, Updawg\_32, Flare16\_30, Centaur\_32
- Track 22 : TipsytheTRex\_29
- Track 23 : Bradman\_29, Quokka\_28, MajorMajor\_29
- Track 24 : Pukovnik\_32
- Track 25 : BengiVuitton\_31, Deloris\_31
- Track 26 : KingCyrus\_32, JoshKayV\_32, EvilGenius\_32, ChipMunk\_32

- Track 27 : BobSwaget\_33, Lokk\_33, Rachaly\_33
- Track 28 : Kalpine\_33
- Track 29 : Leogania\_32
- Track 30 : Adzzy\_31, Ph8s\_31
- Track 31 : WeiHuaDA\_36
- Track 32 : Trixie\_33
- Track 33 : MissWhite\_30
- Track 34 : L5\_30, Koduck\_30
- Track 35 : Agape74\_32, Dignity\_32, AbbyPaige\_32, Buggy\_32
- Track 36 : Turbido\_32, Jerm\_32, Whabigail7\_32, LilTurb\_32, Smeagan\_32
- Track 37 : Heffalump\_32, DudeLittle\_30, Crucio\_30, FiringLine\_30, QueenBeesly\_30, Anselm\_30, SemperFi\_32, SweetiePie\_30, QueenB2\_30, Fameo\_30, Retro23\_30, Dalmatian\_30, SnapTap\_30
- Track 38 : BiancaTri92\_32
- Track 39 : Benvolio\_30, Echild\_30
- Track 40 : Drake55\_32, Larenn\_31, HarryHoudini\_32
- Track 41 : Superchunk\_29, Caraxes\_29
- Track 42 : BabyBack\_32, GaugeLDP\_32
- Track 43 : CRB1\_30, First\_0030
- Track 44 : NothingSpecial\_32
- Track 45 : Serenity\_29
- Track 46 : Georgie2\_31, Power\_30
- Track 47 : Acolyte\_30
- Track 48 : 20ES\_30
- Track 49 : NicoleTera\_34
- Track 50 : LadyBird\_30
- Track 51 : EZMoney23\_34
- Track 52 : SwirlSquare\_32
- Track 53 : Trooper\_30
- Track 54 : Leviathan\_32
- Track 55 : Miko\_33
- Track 56 : Che12\_32
- Track 57 : Jsquared\_29
- Track 58 : XianYue\_30
- Track 59 : Journey13\_28
- Track 60 : Colin\_34
- Track 61 : TarsusIV\_30
- Track 62 : Malec\_31
- Track 63 : Iwokeuplikedis\_31
- Track 64 : Kinmap\_31
- Track 65 : LBerry\_32, Sabinator\_32, Hercules11\_32, MuchMore\_34, GingkoMaracino\_32, Cullens\_32, Watson\_32, Microwolf\_32, Soshari\_34, Stagni\_32, Lilith\_32, Sabia\_32, Phoxy\_32, AgronaGT15\_32, Dieselweasel\_32, Vix\_32, Anubis\_34, Spike509\_32, Rummer\_32, SoYo\_32, AugsMagnumOpus\_34, Grub\_32, Phoebe\_32, Methuselah\_31, Louie6\_32, Malinsilva\_34, Bxz2\_31, Beauxregard13\_32, LugYA\_34, MadMarie\_32, StepMih\_32, Penny1\_32, Farber\_32, EpicPhail\_32, Wooldri\_34, Aglet\_32, Tiffany\_32, BreSam8\_32, Marie\_32, HashRod\_33, Pembroke\_32, Fernando\_32, PGHhamlin\_34, PotatoSplit\_33, DaHudson\_32, Snickers\_32, Colbster\_32, Mainiac\_32, P28Green\_32, JHC117\_32, JenCasNa\_32, GtownJaz\_32, Grif\_32, MoneyMay\_32, Taurus\_32
- Track 66 : Texage\_30, Margo\_31, QuinnKiro\_30, Lambert1\_31, Norbert\_30, Todacoro\_31, Caviar\_31, Panamaxus\_30, Noella\_31, ResDef\_31, Hookmount\_31, Pocahontas\_31, Popcicle\_31



- Track 67 : Kalb97\_33, Reba\_33, Manu\_33, PurpleHaze\_32, ACFishhook\_32, Pawn\_32, Kalnoky\_33, JeppNRM\_33, Marius\_33, Groupthink\_33, HaveUMetTed\_33, OlanP\_32, Phranny\_33, Heliosoles\_32, Calvinny\_33, PhishRPhriends\_31
- Track 68 : Puppy\_31, Giroux\_30, Idleandcovert\_30, Bugatti\_30, TNguyen7\_30, SaturnRing\_30, BlueBird\_31, Pistachio\_31
- Track 69 : Fred313\_30, Kachowdy\_30, HelDan\_30, Heathen\_30, Marchesa\_30, Scout\_30, DropBear\_30
- Track 70 : TinyPebbles\_32, BuzzBuzz\_31, LarryKay\_32, Misomonster\_34, Daishi\_31
- Track 71 : Jobu08\_32, Ollie\_32
- Track 72 : JF2\_30, B1\_28, MK4\_30, JF4\_30
- Track 73 : Gemma\_32
- Track 74 : Veracruz\_30
- Track 75 : Phantastic\_30
- Track 76 : BabyJohn\_29, Chiqui\_29
- Track 77 : SoilDragon\_32
- Track 78 : Isca\_30, Rockstar\_30
- Track 79 : MA5\_30
- Track 80 : BabyRay\_30
- Track 81 : Zetzy\_31
- Track 82 : MarQuardt\_32
- Track 83 : KADY\_33
- Track 84 : Grum1\_32
- Track 85 : Micasa\_27
- Track 86 : AgentM\_27, PickleBack\_27, Discoknowium\_27, Phlorence\_27
- Track 87 : Milcery\_27, Tarynearal\_26, HuhtaEnerson15\_27
- Track 88 : Jabiru\_27, Archetta\_27, PetterN\_28, Chadwick\_28, EITiger69\_27, Benedict\_27
- Track 89 : Midas2\_27, Swirley\_27, George\_26, LittleCherry\_27, Cuco\_27, Coog\_27
- Track 90 : Theia\_25
- Track 91 : Bluefalcon\_26
- Track 92 : Lev2\_27, ForGetIt\_27, Jovo\_27, Conspiracy\_27
- Track 93 : Bonamassa\_27
- Track 94 : Ghoulboy\_27, Zolita\_26, SydNat\_27
- Track 95 : UnionJack\_27
- Track 96 : Twigg\_27
- Track 97 : Scorpio\_28
- Track 98 : Dublin\_26
- Track 99 : Aragog\_27
- Track 100 : Airmid\_27
- Track 101 : MarysWell\_26
- Track 102 : Tiger\_27
- Track 103 : Naca\_27
- Track 104 : CloudWang3\_33, Gruunaga\_33, Helmet\_34, Temprado\_34, Indra\_33, Garak\_34, Zaka\_33, Jeffabunny\_33, Lilbunny\_33, WunderPhul\_33, BlessJoy\_33, Yokurt\_33, Zulu\_33, Wiks\_33, Rifter\_33, Hammer\_33, Gladiator\_33, Blue7\_33
- Track 105 : BABullseye\_33, Chartreuse\_33, Dorothea\_33, Kipper29\_33, Pmask\_33, DaVinci\_33, Kazan\_33, Candra\_33, Hoot\_33, EricB\_33, McFly\_33, Newrala\_33, GreedyLawyer\_33, SuperAwesome\_33, Cookiedough\_33, Isiphiwo\_33, VohminGhazi\_33, SuperCallie99\_33, JewelBug\_33, Neeharika16\_33, Jordennis\_33, SmellyB\_33
- Track 106 : Roksolana\_33, Artemis2UCLA\_33, Hexamo\_33, Tucker\_33, Koko\_33, ToneTone\_31

- Track 107 : Blinn1\_33, Priamo\_33
- Track 108 : Toro\_32, FlyCatcher\_33
- Track 109 : PP\_39
- Track 110 : Sheen\_31
- Track 111 : Expelliarmus\_26, Dixon\_27, Smeadley\_27, Groundhog\_26, NearlyHeadless\_27
- Track 112 : Saintus\_27, Danforth\_26
- Track 113 : Stephig9\_27
- Track 114 : Roary\_27
- Track 115 : Astro\_27
- Track 116 : Beemo\_32, Aliter\_32, Pioneer\_32, Fayely\_32, Phonnegut\_32, Myxus\_32, Holes\_31, Catalina\_33, Jiawan\_31, PackMan\_32, Phaeder\_32, RyeScarlet\_33, HortumSL17\_32, Tubs\_32, Ugenie5\_29, Hanray\_31, Scherzo\_32
- Track 117 : EmyBug\_32, Eidsmoe\_32, Alma\_32, ExplosioNervosa\_32, Spouty\_32, Qobbit\_32, Priya\_32
- Track 118 : Maminiaina\_31, BogosyJay\_31
- Track 119 : LoneWolf\_31
- Track 120 : Rahalelujah\_29
- Track 121 : Lilleskat\_30, Onglai\_31
- Track 122 : Toaka\_29
- Track 123 : Vanisoa\_29
- Track 124 : Darrell\_32
- Track 125 : Conquerage\_32
- Track 126 : Elephantoon\_31
- Track 127 : EdogawaKiddo\_30, Sachima\_30
- Track 128 : SheaKeira\_30
- Track 129 : Yecey3\_31
- Track 130 : Keziacharles14\_30
- Track 131 : Charm\_30, DreamTeam1\_30
- Track 132 : Arissanae\_30
- Track 133 : Caliburn\_25, SunsetPointe\_25, Unstoppable\_25, Leviticus\_25, Aaronocolus\_25, Esperer\_25, Indigo\_24, Legacy\_25, Nerdos\_25, Phettuccine\_25, Ozzie\_25
- Track 134 : Danzina\_26, Celeste\_25, Zemlya\_26
- Track 135 : BeardedLady\_26
- Track 136 : Yasdnil\_24, Chucky\_24, Maneekul\_24, Hippo\_24, Asten\_24, Werner\_24, Dwayne\_24, SarahRose\_24, Snorlax\_24, Emaanora\_26, TuanPN\_24, TagePhighter\_25, Ejemplo\_24, BarryBee\_26, OzzyJ\_25, Whatever\_24, Triste\_24
- Track 137 : Goby\_25, Toma\_25, Sujidade\_26
- Track 138 : Hydra\_27
- Track 139 : Izzy\_26, Eddasa\_26, Rusticus\_26, BryanRecycles\_26, EnochSoames\_27, Jash\_26
- Track 140 : Godpower\_26, Dattran\_26, Lika\_25
- Track 141 : Lorelei\_25, Rana\_25, Nabi\_25
- Track 142 : South40\_25, Katalie\_25, RedBear\_26
- Track 143 : Nanodon\_27
- Track 144 : Bovely\_25
- Track 145 : Oliyayk\_26
- Track 146 : Brataylor\_27
- Track 147 : Lannister\_27
- Track 148 : Amethyst\_25
- Track 149 : Issmi\_26
- Track 150 : Haizum\_25, Tefunt\_25, Nishikigoi\_25

- Track 151 : Hank144\_26
- Track 152 : Zainub\_27, Paolo\_27
- Track 153 : Marav\_28
- Track 154 : Janus\_26, SqueakyClean\_26, GirlDinner\_25
- Track 155 : Loofah\_26, ELB20\_24
- Track 156 : Omar\_26
- Track 157 : Bowden\_26
- Track 158 : Superstar\_28
- Track 159 : Andris\_25
- Track 160 : Jevington\_27
- Track 161 : Alvy\_27, BartholomewSD\_27
- Track 162 : Animus\_26
- Track 163 : Daudau\_25
- Track 164 : Puginator\_27
- Track 165 : Axiom\_27
- Track 166 : TinaBelcher\_25
- Track 167 : Pablito\_25
- Track 168 : Caelum\_26
- Track 169 : Thestral\_26
- Track 170 : Diane\_25
- Track 171 : Paedore\_25
- Track 172 : TrvxScott\_24
- Track 173 : Triumph\_27
- Track 174 : R4\_25
- Track 175 : Yosif\_27
- Track 176 : Saftant\_26
- Track 177 : Dexers\_25
- Track 178 : Kaine\_26, Alsaber\_27
- Track 179 : Verse\_26, Amela\_26
- Track 180 : Celery\_29
- Track 181 : phiCAM\_27
- Track 182 : Vanseggelen\_31
- Track 183 : ElGato\_27, Provolone\_27, Conan\_27
- Track 184 : Pavo\_27
- Track 185 : Speedwell\_31
- Track 186 : phiHau3\_27, GreenWeasel\_27
- Track 187 : BroPlease\_26
- Track 188 : Celia\_27, Urza\_27, Itza\_27
- Track 189 : VieEnRose\_27
- Track 190 : ObLaDi\_32, ModicumRichard\_32, Aleemily\_31, Cafasso\_32
- Track 191 : Morgana\_32
- Track 192 : KristaRAM\_34, Hegedechwinu\_34, LunaBlu\_36, MilleniumForce\_34, SassyB\_33, Whatsapiecost\_34, Melissauren88\_33, PopTart\_33, Plumbus\_35, Fruitloop\_32, Mova\_34, Cornie\_33, Batiatus\_33, Emma\_35, Shauna1\_30, Juice456\_35, Latretium\_34, Tweety\_33, Galactic\_35, Mandlovu\_34, Ms6\_27, DLane\_33, Hlubikazi\_34, Flathead\_33, Kenuha5\_30, Ardmore\_32, VRedHorse\_33, Renaud18\_33, Filuzino\_33, Phanphagia\_30, Blarby\_42, Firehouse51\_34, Strokeseat\_34, OwlsT2W\_34, Moonbeam\_34, Gandalph\_34, MulchSalad\_32, Bobi\_35, SuperGrey\_34, MinionDave\_36, Brushbloom\_36, Coco12\_33, Donkeykong\_33, Byougenkin\_33, Leozinho\_35, Wachhund\_33, Phalconet\_33, JalFarm20\_36
- Track 193 : Spartacus\_35, Ochi17\_31, IrishSherpFalk\_35, Llama\_33, Jinglebell\_32, Modragons\_33, WillSterrel\_35, Oksu\_34

- Track 194 : Inventum\_33, JoeyJr\_33, Hamulus\_34, Scottish\_34, Sassafras\_34, SiSi\_33, Dorothy\_33, BuzzLyseyear\_36, DaddyRickover\_33, Veteran\_33, Polka14\_34, Daenerys\_33, Spikelee\_35, GUmbie\_33, RedBird\_33, Frankie\_37, Alexphander\_36, DaWorst\_35, Phasih\_34
- Track 195 : Eish\_33, Gorge\_33, PMC\_33, Royals2015\_33, Grimmer\_35, Seagreen\_34, Quico\_34, Girafales\_34, Saal\_33, Sparkdehlily\_33, DRBy19\_33, James\_33, Pacc40\_33, Florinda\_33, Rockne\_33, Phatniss\_34, UncleRicky\_36, Spoonbill\_33, Kersh\_32, Llij\_33, Radiance\_33, Drago\_34, Karhdo\_33, OlympiaSaint\_33, ShroomBoi\_30, Mattes\_33, Philus\_33, Mutaforma13\_33, Chuckly\_33, TDanisky\_33
- Track 196 : Fancypants\_33, Mahavrat\_33, Harley\_33, DirtMcgirt\_34, RitaG\_34, Mozy\_35, Ovechkin\_34, Ibhubesi\_33, ArcusAngelus\_33, Hades\_34
- Track 197 : Krakatau\_34, DillTech15\_33, Estave1\_31, Mantra\_33, Totinger\_34, DotProduct\_33, Nitzel\_34, Rialto\_37, XFactor\_33
- Track 198 : DoRead\_36, Chevrolet\_34, Ramsey\_36
- Track 199 : Blexus\_33, BodEinwohner17\_33
- Track 200 : GigiOuiOui\_33
- Track 201 : Yorick\_33, NormanBulbieJr\_33, Cabrinians\_33, Zizzle\_33, Jarcob\_33, LastJedi\_27, Koella\_27, Maravista\_33, LilMoolah\_33, ShiLan\_33, Lizziana\_33, SwagPiggett\_33, Clifton\_27, Martik\_33, Pippy\_27, Nivrat\_33, ShowerHandel\_33, Priscilla\_33, Burwell21\_33
- Track 202 : BigPhil\_29, Sandalphon\_34, Sarma624\_29, Poenanya\_33, RockyHorror\_34, Bipolar\_30, Cerasum\_29, Doomphist\_33, Sabbb\_34, Zerg\_33, Rita\_34, StAnnes\_32, Velveteen\_29
- Track 203 : Awesomesauce\_34, Misha28\_34, TootsiePop\_34
- Track 204 : Empress\_34, OldBen\_33, Doug\_34, Eradicator\_33, DeadP\_33, Girr\_35, Deb65\_33, Ruby\_35, MisterCuddles\_35, BlueCrab\_33, PHappiness\_33, KingMidas\_35, IMpilo\_32, Dante\_33, Aubs\_34, Whouxphf\_34, Taj\_33, Wee\_34, Starcevich\_37, Geralt\_33, Nimbo\_33, Bubbles123\_35, Stap\_34
- Track 205 : Tootsieroll\_34
- Track 206 : Ogoopogo\_33, QuickMath\_34, Kimberlium\_35, Cornucopia\_34, MulchExplorer\_37
- Track 207 : Seabastian\_33, OfUltron\_33, AlpineSix\_34
- Track 208 : Pollywog\_33
- Track 209 : Leperchaun\_33, Madiba\_31, Crumble\_27, Juniper1\_33
- Track 210 : Akhila\_27, MilanaBonita\_27
- Track 211 : Enby\_35, SG4\_34, Lorde\_35, EleanorGeorge\_34
- Track 212 : Piper2020\_35
- Track 213 : MadMen\_31
- Track 214 : Boomer\_35
- Track 215 : Fastidio\_35, FreddyB\_33, LittleShirley\_36
- Track 216 : Marker\_34, Soul22\_38
- Track 217 : Beakin\_34
- Track 218 : CaptainTrips\_34, Guppsters\_35
- Track 219 : Brocalys\_28
- Track 220 : Minnie\_35, Che8\_35, Job42\_37, DosHalletts\_35
- Track 221 : ChickenDinner\_35, DocMcStuffins\_35, Aloeri\_35
- Track 222 : PhesterPhotato\_33
- Track 223 : IbOuu\_35
- Track 224 : BobaPhett\_33
- Track 225 : SimranZ1\_36
- Track 226 : Vivum\_34
- Track 227 : Kingsley\_32

- Track 228 : Squirty\_28
- Track 229 : Island3\_32, Bogie\_31, Brujita\_32
- Track 230 : HC\_30, Babsiella\_29
- Track 231 : Xula\_27, QueenHazel\_28
- Track 232 : Ejimix\_51, Halley\_51, HokkenD\_44, EricMillard\_51, Beem\_51, ThreeRngTarjay\_49, Hughesyang\_49, Bagrid\_50, Yeet\_49, BAKA\_55
- Track 233 : Wanda\_57, Minerva\_57, JuicyJay\_53, Klein\_51, Bombitas\_48, Dove\_48, DmpstrDiver\_52, Pound\_53, Kalah2\_51, Constella\_43, Schatzie\_48, NihilNomen\_50, Duke13\_54, Optimus\_56, Phoebus\_50, Odette\_51
- Track 234 : Gonephishing\_52, Omega\_55, Ariel\_50, Superphikiman\_50, Lucky2013\_50, Dallas\_53, LittleE\_55, Porcelain\_49, MiaZeal\_50, Squint\_49, Courthouse\_50, Zelink\_52, Redno2\_49
- Track 235 : Thibault\_44
- Track 236 : Bobby\_50
- Track 237 : Hannaconda\_47, KashFlow\_44
- Track 238 : Duplicity\_30, Charlie\_30, SkinnyPete\_27, Aggie\_30, Journey\_30, Bosection6\_30, Silvy\_30, Scitech\_27, Xeno\_29
- Track 239 : Silvafighter\_30, Parmesanjohn\_30, Philonius\_30, Pipsqueaks\_30, Tapioca\_30, Andies\_27, MichelleMyBell\_28, Chewbacca\_30, Phloss\_27, Shweta\_27, Smurph\_30, SpongeBob\_27, Gex\_30, Melville\_30, Snekmaggedon\_27, Magsby\_30, Schnauzer\_30, Rebel\_27, Carcharodon\_30, Xerxes\_30, Fulbright\_29, Jamie19\_27
- Track 240 : Hanako\_27, Redi\_27, Nenae\_27, PhancyPhin\_27, ShrimpFriedEgg\_27, BabeRuth\_27, Purgamenstris\_27
- Track 241 : Butters\_29, Rubeelu\_29
- Track 242 : Phrann\_28, Xavia\_29
- Track 243 : Raymond7\_27
- Track 244 : Panchino\_27
- Track 245 : EGUnicorn\_31
- Track 246 : Kevin1\_29
- Track 247 : Donovan\_29, Jung\_28, Phegasus\_29, Gavriela\_29, Ksquared\_29, Fishburne\_29, Techage\_29, Brusacoram\_29, Bunnies\_29, Sonah\_29, GreaseLightnin\_29, Shipwreck\_31, Pygmy\_31, Jebeks\_29, Zilizebeth\_29, Kari\_29, Atcoo\_29, Bartholomew\_28, Glaske\_29, Venti\_29, Dynamo\_29, Polkaroo\_29, Necropolis\_29, Mangethe\_29, StressBall\_29, HUHilltop\_29, FirstPlacePfu\_29, Vidya\_29, CactusJack\_29, Juniormint\_29, Camster\_29, Majeke\_29, KilKor\_29, Phalm\_29, Phineas\_29, Langerak\_29, Megiddo\_29, Malithi\_29, Thespis\_29, Arib1\_29
- Track 248 : Willsammy\_28
- Track 249 : StevieRay\_29
- Track 250 : Tortellini\_28
- Track 251 : Purky\_28
- Track 252 : Gaia\_36, Nebkiss\_37

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

The start number called the most often in the published annotations is 41, it was called in 250 of the 834 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Akhila\_27, Alexphander\_36, Aloeri\_35, ArcusAngelus\_33, Ardmore\_32, Arib1\_29, Atcoo\_29, Aubs\_34, Awesomesauce\_34, Babsiella\_29, Bartholomew\_28, Batiatus\_33, Beakin\_34, BigPhil\_29, Bipolar\_30, Blarby\_42, Blexus\_33, BlueCrab\_33, Bobi\_35, BodEinwohner17\_33, Bogie\_31, Boomer\_35, Brocalys\_28, Brujita\_32, Brusacoram\_29, Brushbloom\_36, Bubbles123\_35, Bunnies\_29, Burwell21\_33, Butters\_29, BuzzLyseyear\_36, Byougenkin\_33, Cabrinians\_33, CactusJack\_29, Camster\_29, CaptainTrips\_34, Cerasum\_29, Che8\_35, ChickenDinner\_35, Chuckly\_33, Clifton\_27, Coco12\_33, Cornie\_33, Cornucopia\_34, DLane\_33, DRBy19\_33, DaWorst\_35, DaddyRickover\_33, Daenerys\_33, Dante\_33, DeadP\_33, Deb65\_33, DillTech15\_33, DirtMcgirt\_34, DocMcStuffins\_35, Donkeykong\_33, Donovan\_29, Doomphist\_33, Dorothy\_33, DosHalletts\_35, DotProduct\_33, Doug\_34, Drago\_34, Dynamo\_29, Eish\_33, EleanorGeorge\_34, Emma\_35, Empress\_34, Enby\_35, Eradicator\_33, Estave1\_31, Fancypants\_33, Filuzino\_33, Firehouse51\_34, FirstPlacePfu\_29, Fishburne\_29, Flathead\_33, Florinda\_33, Frankie\_37, Fruitloop\_32, GUmbe\_33, Galactic\_35, Gandalph\_34, Gavriela\_29, Geralt\_33, Girafales\_34, Girr\_35, Glaske\_29, Gorge\_33, GreaseLightnin\_29, Grimmer\_35, Guppsters\_35, HC\_30, HUHilltop\_29, Hades\_34, Hamulus\_34, Harley\_33, Hegedechwinu\_34, Hlubikazi\_34, IMpilo\_32, IbOuu\_35, Ibhubesi\_33, Inventum\_33, IrishSherpFalk\_35, Island3\_32, JalFarm20\_36, James\_33, Jarcob\_33, Jebeks\_29, Jinglebell\_32, Job42\_37, JoeyJr\_33, Juice456\_35, Jung\_28, Juniormint\_29, Karhdo\_33, Kari\_29, Kenuha5\_30, Kersh\_32, Kevin1\_29, KilKor\_29, Kimberlium\_35, KingMidas\_35, Kingsley\_32, Koella\_27, Krakatau\_34, KristaRAM\_34, Ksquared\_29, Langerak\_29, LastJedi\_27, Latretium\_34, Leozinho\_35, LilMoolah\_33, Lizziana\_33, Llama\_33, Llij\_33, Lorde\_35, LunaBlu\_36, MadMen\_31, Mahavrat\_33, Majeke\_29, Malithi\_29, Mandlovu\_34, Mangethe\_29, Mantra\_33, Maravista\_33, Marker\_34, Martik\_33, Mattes\_33, Megiddo\_29, Melissauren88\_33, MilanaBonita\_27, MilleniumForce\_34, MinionDave\_36, Minnie\_35, Misha28\_34, MisterCuddles\_35, Modragons\_33, Moonbeam\_34, Mova\_34, Mozy\_35, Ms6\_27, MulchExplorer\_37, MulchSalad\_32, Mutaforma13\_33, Necropolis\_29, Nimbo\_33, Nitzel\_34, Nivrat\_33, NormanBulbieJr\_33, Ochi17\_31, Ogopogo\_33, Oksu\_34, OldBen\_33, OlympiaSaint\_33, Ovechkin\_34, OwlsT2W\_34, PHappiness\_33, PMC\_33, Pacc40\_33, Phalconet\_33, Phalm\_29, Phanphagia\_30, Phasih\_34, Phatniss\_34, Phegasus\_29, PhesterPhotato\_33, Philus\_33, Phineas\_29, Phrann\_28, Piper2020\_35, Pippy\_27, Plumbus\_35, Poenanya\_33, Polka14\_34, Polkaroo\_29, Pollywog\_33, PopTart\_33, Priscilla\_33, Pygmy\_31, QuickMath\_34, Quico\_34, Radiance\_33, RedBird\_33, Renaud18\_33, Rialto\_37, RitaG\_34, Rita\_34, Rockne\_33, RockyHorror\_34, Royals2015\_33, Rubeelu\_29, Ruby\_35, SG4\_34, Saal\_33, Sabb\_34, Sandalphon\_34, Sarma624\_29, Sassafras\_34, SassyB\_33, Scottish\_34, Seagreen\_34, Shauna1\_30, ShiLan\_33, Shipwreck\_31, ShowerHandel\_33, ShroomBoi\_30, SiSi\_33, Sonah\_29, Soul22\_38, Sparkdehlily\_33, Spartacus\_35, Spikelee\_35, Spoonbill\_33, StAnnes\_32, Stap\_34, Starcevich\_37, StevieRay\_29, StressBall\_29, Strokeseat\_34, SuperGrey\_34, SwagPiggett\_33, TDanisky\_33, Taj\_33, Techage\_29, Thespis\_29, TootsiePop\_34, Tootsieroll\_34, Totinger\_34, Tweety\_33, UncleRicky\_36, VRedHorse\_33, Velveteen\_29, Venti\_29, Veteran\_33, Vidya\_29, Vivum\_34, Wachhund\_33, Wee\_34, Whatsapiecost\_34, Whouxphf\_34, WillSterrel\_35, XFactor\_33, Xavia\_29, Yorick\_33, Zerg\_33, Zilizebeth\_29, Zizzle\_33,

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

- AlpineSix\_34, BobaPhett\_33, Chevrolet\_34, Crumble\_27, DoRead\_36, Fastidio\_35, FreddyB\_33, GigiOuiOui\_33, Juniper1\_33, Leperchaun\_33, LittleShirley\_36, Madiba\_31, OfUltron\_33, QueenHazel\_28, Ramsey\_36, Sebastian\_33, SimranZ1\_36, Xula\_27,

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

• 20ES\_30, 40AC\_33, ACFishhook\_32, Aaronocolus\_25, AbbyPaige\_32, Acolyte\_30, Adzzy\_31, Agape74\_32, AgentM\_27, Aggie\_30, Aglet\_32, AgronaGT15\_32, Airmid\_27, Aleemily\_31, Aliter\_32, Alma\_32, Alsaber\_27, Alvy\_27, Amela\_26, Amethyst\_25, Anaysia\_32, Andies\_27, Andris\_25, Aneem\_30, Animus\_26, Anon\_30, Anselm\_30, Anubis\_34, Aragog\_27, Archetta\_27, Ariel\_50, Arissanae\_30, Artemis2UCLA\_33, Asten\_24, Astro\_27, AugsMagnumOpus\_34, Axiom\_27, B1\_28, BABullseye\_33, BAKA\_55, BabeRuth\_27, BabyBack\_32, BabyJohn\_29, BabyRay\_30, Bachome\_30, Baehexic\_31, Bagrid\_50, BarryBee\_26, BartholomewSD\_27, Battleship\_33, BeardedLady\_26, Beauxregard13\_32, Beem\_51, Beemo\_32, Benedict\_27, BengiVuitton\_31, Benvolio\_30, BiancaTri92\_32, BlessJoy\_33, Blinn1\_33, Blue7\_33, BlueBird\_31, Bluefalcon\_26, BobSwaget\_33, Bobby\_50, BogosyJay\_31, Bombitas\_48, Bonamassa\_27, Boohoo\_32, Bosection6\_30, Bovely\_25, Bowden\_26, Bowtie\_30, Bradman\_29, Brataylor\_27, BreSam8\_32, BroPlease\_26, BryanRecycles\_26, Bud\_30, Bugatti\_30, Buggy\_32, BuzzBuzz\_31, Bxz2\_31, CRB1\_30, Caelum\_26, Cafasso\_32, Caliburn\_25, Calvinny\_33, Candra\_33, Caraxes\_29, Carcharodon\_30, Catalina\_33, Caviar\_31, Celery\_29, Celeste\_25, Celia\_27, Centaur\_32, Chadwick\_28, Chargerpower\_31, Charlie\_30, Charm\_30, Chartreuse\_33, Che12\_32, Chewbacca\_30, ChipMunk\_32, Chiqui\_29, Chucky\_24, CloudWang3\_33, Colbster\_32, Colin\_34, Conan\_27, Conquerage\_32, Conspiracy\_27, Constella\_43, Coog\_27, Cookiedough\_33, Courthouse\_50, Crucio\_30, Cuco\_27, Cullens\_32, DaHudson\_32, DaVinci\_33, Daishi\_31, Dallas\_53, Dalmatian\_30, Danforth\_26, Danzina\_26, Darrell\_32, DARTHPhader\_31, Dattran\_26, Daudau\_25, DekHockey33\_32, Deloris\_31, Dexers\_25, Diane\_25, Dieselweasel\_32, Dignity\_32, Discoknowium\_27, Dixon\_27, DmpstrDiver\_52, Dorothea\_33, Dove\_48, Drake55\_32, DreamTeam1\_30, DropBear\_30, Dublin\_26, DudeLittle\_30, Duke13\_54, Duplicity\_30, Dwayne\_24, EGUnicorn\_31, ELB20\_24, EZMoney23\_34, EagleEye\_32, Ebony\_30, Echild\_30, Eddasa\_26, EdogawaKiddo\_30, Eidsmoe\_32, Ejemplo\_24, Ejimix\_51, ElGato\_27, ElTiger69\_27, Elephantoon\_31, Emaanora\_26, EmyBug\_32, EnochSoames\_27, EpicPhail\_32, Epsocamisio\_32, Equemioh13\_32, EricB\_33, EricMillard\_51, Esperer\_25, Et2Brutus\_29, EvilGenius\_32, Expelliarmus\_26, ExplosioNervosa\_32, Fameo\_30, Farber\_32, Fayely\_32, Fernando\_32, Fibonacci\_30, FiringLine\_30, First\_0030, Flare16\_30, Flaverint\_30, FlyCatcher\_33, ForGetIt\_27, Fred313\_30, Fulbright\_29, Gaia\_36, Gail\_30, Garak\_34, GaugeLDP\_32, Gemma\_32, George\_26, Georgie2\_31, Gex\_30, Ghoulyboy\_27, Gilberta\_30, GingkoMaracino\_32, GirlDinner\_25, Giroux\_30, Gladiator\_33, Goby\_25, Godpower\_26, Gonephishing\_52, GreedyLawyer\_33, GreenWeasel\_27, Grif\_32, Groundhog\_26, Groupthink\_33, Grub\_32, Grum1\_32, Gruunaga\_33, GtownJaz\_32, Haizum\_25, Halley\_51, Hammer\_33, Hanako\_27, Hank144\_26, Hannaconda\_47, Hanray\_31, HarryHoudini\_32, HashRod\_33, HaveUMetTed\_33, Heathen\_30, Heffalump\_32, HelDan\_30, Heliosoles\_32, Helmet\_34, Hercules11\_32, Hexamo\_33, Hippo\_24, HokkenD\_44, Halex\_31, Hookmount\_31, Hoot\_33, HortumSL17\_32, Hughesyang\_49, HuhtaEnerson15\_27, Hutc2\_30, Hydra\_27, Idleandcovert\_30, Indigo\_24, Indra\_33, Insomnia\_30, Isca\_30, Isiphiwo\_33, Issmi\_26, Itza\_27, Iwokeuplikedis\_31, Izzy\_26, JF2\_30, JF4\_30, JHC117\_32, JSwag\_32, Jabiru\_27, Jabith\_30, Jamie19\_27, Janus\_26, Jash\_26, Jeeves\_30, Jeffabunny\_33, JenCasNa\_32, JeppNRM\_33, Jerm\_32, Jevington\_27, JewelBug\_33, Jiawan\_31, Jobu08\_32, Jordennis\_33, Joselito\_30, JoshKayV\_32, Journey13\_28, Journey\_30, Jovo\_27, Jsquared\_29, JuicyJay\_53, KADY\_33, Kachowdy\_30, Kaine\_26, Kalah2\_51, Kalb97\_33, Kalnoky\_33, Kalpine\_33, KashFlow\_44, Katalie\_25, KatherineG\_32, Kazan\_33, Keziacharles14\_30, Kimona\_27, KingCyrus\_32,

Kinmap\_31, Kipper29\_33, Klein\_51, Koduck\_30, Koko\_33, L5\_30, LBerry\_32, LadyBird\_30, Lambert1\_31, Lannister\_27, Larenn\_31, LarryKay\_32, LastResort\_32, Legacy\_25, Leogania\_32, Lev2\_27, Leviathan\_32, Leviticus\_25, Lika\_25, LiITurb\_32, Lilbunny\_33, Lilith\_32, Lilleskat\_30, LittleCherry\_27, LittleE\_55, Lökk\_33, LoneWolf\_31, Loofah\_26, Looper\_33, Lorelei\_25, Louie6\_32, Luchador\_32, Lucivia\_30, Lucky2013\_50, Lucyedi\_31, LugYA\_34, MA5\_30, MK4\_30, MaCh\_30, Mabel\_30, MadMarie\_32, Magsby\_30, Mainiac\_32, MajorMajor\_29, Malec\_31, Malinsilva\_34, Maminiaina\_31, Maneekul\_24, Manu\_33, MarQuardt\_32, Marav\_28, Marchesa\_30, Margo\_31, Marie\_32, Marius\_33, MarysWell\_26, McFly\_33, Melville\_30, Methuselah\_31, MiaZeal\_50, Micasa\_27, MichelleMyBell\_28, Microwolf\_32, MiculUcigas\_30, Midas2\_27, Miko\_33, Milcery\_27, MinecraftSteve\_33, Minerva\_57, Misomonster\_34, MissWhite\_30, ModicumRichard\_32, MoneyMay\_32, Morgana\_32, MuchMore\_34, Mulciber\_30, Munch\_30, MyraDee\_28, Myxus\_32, NaSiaTalie\_30, Nabi\_25, Naca\_27, Nanodon\_27, NearlyHeadless\_27, Nebkiss\_37, Nebulosus\_32, Nedarya\_31, Neeharika16\_33, Nenae\_27, Nerdos\_25, Newrala\_33, NicoleTera\_34, NihilNomen\_50, Nishikigoi\_25, Noella\_31, Norbert\_30, NothingSpecial\_32, ObLaDi\_32, Odette\_51, OlanP\_32, Oliynyk\_26, Ollie\_32, Omar\_26, Omega\_55, Onglai\_31, Oofda\_33, Optimus\_56, Orange\_30, Ozzie\_25, OzzyJ\_25, P28Green\_32, PGHhamlin\_34, PP\_39, Pablito\_25, PackMan\_32, Paedore\_25, PainterBoy\_31, Panamaxus\_30, Panchino\_27, Paolo\_27, Parmesanjohn\_30, Pavo\_27, Pawn\_32, Pembroke\_32, Penny1\_32, Petersenfast\_29, PetterN\_28, Ph8s\_31, Phaeder\_32, PhancyPhin\_27, Phantastic\_30, Pharaoh\_30, Phettuccine\_25, Philonius\_30, PhishRPhriends\_31, Phlei\_25, Phlorence\_27, Phloss\_27, Phoebe\_32, Phoebus\_50, Phonnegut\_32, Phoxy\_32, Phranny\_33, PickleBack\_27, Pioneer\_32, Pipsqueaks\_30, Piro94\_31, Pistachio\_31, Pmask\_33, Pocahontas\_31, Popcicle\_31, Porcelain\_49, PotatoSplit\_33, Pound\_53, Power\_30, Priamo\_33, Priya\_32, Provolone\_27, Puginator\_27, Pukovnik\_32, Puppy\_31, Purgamenstris\_27, Purky\_28, PurpleHaze\_32, Qobbit\_32, QueenB2\_30, QueenBeesly\_30, QuinnKiro\_30, Quokka\_28, R4\_25, Rachaly\_33, Rahalelujah\_29, Rana\_25, Raymond7\_27, ReMo\_32, Reba\_33, Rebel\_27, RedBear\_26, Redi\_27, Redno2\_49, Remus\_32, ResDef\_31, Retro23\_30, Rifter\_33, Roary\_27, Rockstar\_30, Roksolana\_33, Rosalind\_32, Rummer\_32, Rusticus\_26, RyeScarlet\_33, Sabia\_32, Sabinator\_32, Sachima\_30, Saftant\_26, Saintus\_27, Salz\_30, SarahRose\_24, SaturnRing\_30, Schatzie\_48, Scherzo\_32, Schnauzer\_30, Scitech\_27, Scorpia\_28, Scout\_30, SemperFi\_32, Serenity\_29, Sham4\_30, ShayRa\_33, SheaKeira\_30, Sheen\_31, ShrimpFriedEgg\_27, Shweta\_27, Silvafighter\_30, Silvy\_30, SkinnyPete\_27, Sknot\_31, Smeadley\_27, Smeagan\_32, SmellyB\_33, Smurph\_30, SnapTap\_30, Snape\_30, SnekMaggedon\_27, Snickers\_32, Snorlax\_24, SoYo\_32, SoilDragon\_32, SororFago\_30, Soshari\_34, Soups\_32, South40\_25, Speedwell\_31, Spike509\_32, SpongeBob\_27, Spouty\_32, SqueakyClean\_26, Squint\_49, Squirty\_28, Stagni\_32, StepMih\_32, Stephig9\_27, Strosahl\_32, Sujidade\_26, Sunhee\_29, SunsetPointe\_25, SuperAwesome\_33, SuperCallie99\_33, Superchunk\_29, Superphikiman\_50, Superstar\_28, SweetiePie\_30, SwirlSquare\_32, Swirley\_27, Switzerland\_32, SydNat\_27, TNguyen7\_30, TagePhighter\_25, Tapioca\_30, TarsusIV\_30, Tarynearal\_26, Taurus\_32, Tefunt\_25, Temprado\_34, Texage\_30, Theia\_25, Thestral\_26, Thibault\_44, ThreeRngTarjay\_49, Tiffany\_32, Tiger\_27, Timothy\_30, TinaBelcher\_25, TinyPebbles\_32, TinyTimmy\_30, TipsytheTRex\_29, Toaka\_29, Todacoro\_31, Toma\_25, ToneTone\_31, Toro\_32, Tortellini\_28, Triste\_24, Triumph\_27, Trixie\_33, Trooper\_30, TrvxScott\_24, TuanPN\_24, Tubs\_32, Tucker\_33, Turbido\_32, Twigg\_27, Ugenie5\_29, UnionJack\_27, Unstoppable\_25, Updawg\_32, Urza\_27, Vanisoa\_29, Vanseggelen\_31, Veracruz\_30, Verse\_26, VieEnRose\_27, Vix\_32, VohminGhazi\_33, Waits\_32, Wanda\_57, Warrior24\_33, Watson\_32, WeiHuaDA\_36, Werner\_24, Whabigail7\_32, Whatever\_24,



WideWale\_32, Wiks\_33, Willsammy\_28, Wooldri\_34, WunderPhul\_33, Xeno\_29, Xerxes\_30, XianYue\_30, Yasdnil\_24, Yecey3\_31, Yeet\_49, Yokurt\_33, Yosif\_27, Zainub\_27, Zaka\_33, Zelink\_52, Zemlya\_26, Zetzy\_31, Zimmer\_32, Zolita\_26, Zulu\_33, phiCAM\_27, phiHau3\_27,

### Summary by start number:

#### Start 37:

- Found in 40 of 914 ( 4.4% ) of genes in pham
- Manual Annotations of this start: 2 of 834
- Called 5.0% of time when present
- Phage (with cluster) where this start called: Bonamassa\_27 (A5), Theia\_25 (A5),

#### Start 39:

- Found in 45 of 914 ( 4.9% ) of genes in pham
- Manual Annotations of this start: 42 of 834
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aggie\_30 (N), Andies\_27 (N), BabeRuth\_27 (N), Bosection6\_30 (N), Carcharodon\_30 (N), Charlie\_30 (N), Chewbacca\_30 (N), Duplicity\_30 (N), EGUunicorn\_31 (N), Fulbright\_29 (N), Gex\_30 (N), Hanako\_27 (N), Jamie19\_27 (N), Journey\_30 (N), Magsby\_30 (N), Melville\_30 (N), MichelleMyBell\_28 (N), Nenae\_27 (N), Panchino\_27 (N), Parmesanjohn\_30 (N), PhancyPhin\_27 (N), Philonius\_30 (N), Phloss\_27 (N), Pipsqueaks\_30 (N), Purgamenstris\_27 (N), Purky\_28 (P6), Raymond7\_27 (N), Rebel\_27 (N), Redi\_27 (N), Schnauzer\_30 (N), Scitech\_27 (N), ShrimpFriedEgg\_27 (N), Shweta\_27 (N), Silvafighter\_30 (N), Silvy\_30 (N), SkinnyPete\_27 (N), Smurph\_30 (N), Snekmaggedon\_27 (N), SpongeBob\_27 (N), Squirty\_28 (F3), Tapioca\_30 (N), Tortellini\_28 (P2), Willsammy\_28 (P1), Xeno\_29 (N), Xerxes\_30 (N),

#### Start 41:

- Found in 286 of 914 ( 31.3% ) of genes in pham
- Manual Annotations of this start: 250 of 834
- Called 93.7% of time when present
- Phage (with cluster) where this start called: Akhila\_27 (F1), Alexphander\_36 (F1), Aloeri\_35 (F1), ArcusAngelus\_33 (F1), Ardmore\_32 (F1), Arib1\_29 (P1), Atcoo\_29 (P1), Aubs\_34 (F1), Awesomesauce\_34 (F1), Babsiella\_29 (I1), Bartholomew\_28 (P1), Batiatus\_33 (F1), Beakin\_34 (F1), BigPhil\_29 (F1), Bipolar\_30 (F1), Blarby\_42 (F), Blexus\_33 (F1), BlueCrab\_33 (F1), Bobi\_35 (F1), BodEinwohner17\_33 (F1), Bogie\_31 (P1), Boomer\_35 (F1), Brocalys\_28 (F1), Brujita\_32 (I1), Brusacoram\_29 (P1), Brushbloom\_36 (F1), Bubbles123\_35 (F1), Bunnies\_29 (P1), Burwell21\_33 (F1), Butters\_29 (N), BuzzLyseyear\_36 (F1), Byougenkin\_33 (F1), Cabrinians\_33 (F1), CactusJack\_29 (P1), Camster\_29 (P1), CaptainTrips\_34 (F1), Cerasum\_29 (F1), Che8\_35 (F1), ChickenDinner\_35 (F1), Chuckly\_33 (F1), Clifton\_27 (F1), Coco12\_33 (F1), Cornie\_33 (F5), Cornucopia\_34 (F1), DLane\_33 (F1), DRBy19\_33 (F1), DaWorst\_35 (F1), DaddyRickover\_33 (F1), Daenerys\_33 (F1), Dante\_33 (F1), DeadP\_33 (F1), Deb65\_33 (F1), DillTech15\_33 (F1), DirtMcgirt\_34 (F1), DocMcStuffins\_35 (F1), Donkeykong\_33 (F1), Donovan\_29 (P1), Doomphist\_33 (F1), Dorothy\_33 (F1), DosHalletts\_35 (F1), DotProduct\_33 (F1), Doug\_34 (F1), Drago\_34 (F1), Dynamo\_29 (P1), Eish\_33 (F1), EleanorGeorge\_34 (F1), Emma\_35 (F1), Empress\_34 (F1), Enby\_35 (F1), Eradicator\_33 (F1), Estave1\_31 (F1), Fancypants\_33 (F1), Filuzino\_33 (F1), Firehouse51\_34 (F1), FirstPlacePfu\_29 (P1), Fishburne\_29 (P1), Flathead\_33 (F1), Florinda\_33 (F1), Frankie\_37 (F1), Fruitloop\_32 (F1), GUmbie\_33 (F1), Galactic\_35 (F1), Gandalph\_34 (F1),

Gavriela\_29 (P1), Geralt\_33 (F1), Girafales\_34 (F1), Girr\_35 (F1), Glaske\_29 (P1), Gorge\_33 (F1), GreaseLightnin\_29 (P1), Grimmer\_35 (F1), Guppsters\_35 (F1), HC\_30 (I1), HUHilltop\_29 (P1), Hades\_34 (F1), Hamulus\_34 (F1), Harley\_33 (F1), Hegedechwinu\_34 (F1), Hlubikazi\_34 (F1), IMpilo\_32 (F1), IbOuu\_35 (F1), Ibhubesi\_33 (F1), Inventum\_33 (F1), IrishSherpFalk\_35 (F1), Island3\_32 (I1), JalFarm20\_36 (F1), James\_33 (F1), Jarcob\_33 (F1), Jebeks\_29 (P1), Jinglebell\_32 (F1), Job42\_37 (F1), JoeyJr\_33 (F1), Juice456\_35 (F1), Jung\_28 (P1), Juniormint\_29 (P1), Karhdo\_33 (F1), Kari\_29 (P1), Kenuha5\_30 (F1), Kersh\_32 (F1), Kevin1\_29 (N), KilKor\_29 (P1), Kimberlium\_35 (F1), KingMidas\_35 (F1), Kingsley\_32 (F1), Koella\_27 (F1), Krakatau\_34 (F1), KristaRAM\_34 (F1), Ksquared\_29 (P1), Langerak\_29 (P1), LastJedi\_27 (F1), Latretium\_34 (F1), Leozinho\_35 (F1), LilMoolah\_33 (F1), Lizziana\_33 (F1), Llama\_33 (F1), Llij\_33 (F1), Lorde\_35 (F1), LunaBlu\_36 (F1), MadMen\_31 (F1), Mahavrat\_33 (F1), Majeke\_29 (P1), Malithi\_29 (P1), Mandlovu\_34 (F1), Mangethe\_29 (P1), Mantra\_33 (F1), Maravista\_33 (F1), Marker\_34 (F1), Martik\_33 (F1), Mattes\_33 (F1), Megiddo\_29 (P1), Melissauren88\_33 (F1), MilanaBonita\_27 (F1), MilleniumForce\_34 (F1), MinionDave\_36 (F1), Minnie\_35 (F1), Misha28\_34 (F1), MisterCuddles\_35 (F1), Modragons\_33 (F1), Moonbeam\_34 (F1), Mova\_34 (F1), Mozy\_35 (F1), Ms6\_27 (F1), MulchExplorer\_37 (F1), MulchSalad\_32 (F), Mutaforma13\_33 (F1), Necropolis\_29 (P1), Nimbo\_33 (F1), Nitzel\_34 (F1), Nivrat\_33 (F1), NormanBulbieJr\_33 (F1), Ochi17\_31 (F1), Ogopogo\_33 (F1), Oksu\_34 (F1), OldBen\_33 (F1), OlympiaSaint\_33 (F1), Ovechkin\_34 (F1), OwlsT2W\_34 (F1), PHappiness\_33 (F1), PMC\_33 (F1), Pacc40\_33 (F1), Phalconet\_33 (F1), Phalm\_29 (P1), Phanphagia\_30 (F1), Phasih\_34 (F1), Phatniss\_34 (F1), Phegasus\_29 (P1), PhesterPhotato\_33 (F1), Philus\_33 (F1), Phineas\_29 (P1), Phrann\_28 (N), Piper2020\_35 (F1), Pippy\_27 (F1), Plumbus\_35 (F1), Poenanya\_33 (F1), Polka14\_34 (F1), Polkaroo\_29 (P1), Pollywog\_33 (F1), PopTart\_33 (F1), Priscilla\_33 (F1), Pygmy\_31 (P1), QuickMath\_34 (F1), Quico\_34 (F1), Radiance\_33 (F1), RedBird\_33 (F1), Renaud18\_33 (F4), Rialto\_37 (F1), RitaG\_34 (F1), Rita\_34 (F1), Rockne\_33 (F1), RockyHorror\_34 (F1), Royals2015\_33 (F1), Rubeelu\_29 (N), Ruby\_35 (F1), SG4\_34 (F1), Saal\_33 (F1), Sabbb\_34 (F1), Sandalphon\_34 (F1), Sarma624\_29 (F1), Sassafras\_34 (F1), SassyB\_33 (F1), Scottish\_34 (F1), Seagreen\_34 (F1), Shauna1\_30 (F1), ShiLan\_33 (F1), Shipwreck\_31 (P1), ShowerHandel\_33 (F1), ShroomBoi\_30 (F1), SiSi\_33 (F1), Sonah\_29 (P1), Soul22\_38 (F2), Sparkdehlily\_33 (F1), Spartacus\_35 (F1), Spikelee\_35 (F1), Spoonbill\_33 (F1), StAnnes\_32 (F1), Stap\_34 (F1), Starcevich\_37 (F1), StevieRay\_29 (P1), StressBall\_29 (P1), Strokeseat\_34 (F1), SuperGrey\_34 (F1), SwagPigglett\_33 (F1), TDanisky\_33 (F1), Taj\_33 (F1), Techage\_29 (P1), Thespis\_29 (P1), TootsiePop\_34 (F1), Tootsieroll\_34 (F1), Totinger\_34 (F1), Tweety\_33 (F1), UncleRicky\_36 (F1), VRedHorse\_33 (F1), Velveteen\_29 (F1), Venti\_29 (P1), Veteran\_33 (F1), Vidya\_29 (P1), Vivum\_34 (F1), Wachhund\_33 (F1), Wee\_34 (F1), Whatsapiecost\_34 (F1), Whouxphf\_34 (F1), WillSterrel\_35 (F1), XFactor\_33 (F1), Xavia\_29 (P3), Yorick\_33 (F1), Zerg\_33 (F1), Zilizabeth\_29 (P1), Zizzle\_33 (F1),

Start 42:

- Found in 87 of 914 ( 9.5% ) of genes in pham
- Manual Annotations of this start: 15 of 834
- Called 18.4% of time when present
- Phage (with cluster) where this start called: AlpineSix\_34 (F1), Chevrolet\_34 (F1), Crumble\_27 (F1), DoRead\_36 (F1), Fastidio\_35 (F1), FreddyB\_33 (F1), GigiOuiOui\_33 (F1), Juniper1\_33 (F1), Leperchaun\_33 (F1), LittleShirley\_36 (F1), Madiba\_31 (F1), OfUltron\_33 (F1), QueenHazel\_28 (I1), Ramsey\_36 (F1), Seabastian\_33 (F1), Xula\_27 (I1),

Start 46:

- Found in 232 of 914 ( 25.4% ) of genes in pham
- Manual Annotations of this start: 1 of 834
- Called 0.4% of time when present
- Phage (with cluster) where this start called: BobaPhett\_33 (F1),

Start 48:

- Found in 248 of 914 ( 27.1% ) of genes in pham
- Manual Annotations of this start: 17 of 834
- Called 8.1% of time when present
- Phage (with cluster) where this start called: 20ES\_30 (A2), Acolyte\_30 (A2), BengiVuitton\_31 (A2), BiancaTri92\_32 (A2), CRB1\_30 (A2), ChipMunk\_32 (A2), Deloris\_31 (A2), EvilGenius\_32 (A2), First\_0030 (A2), Georgie2\_31 (A2), JoshKayV\_32 (A2), KingCyrus\_32 (A2), Leogania\_32 (A2), MyraDee\_28 (A18), NothingSpecial\_32 (A2), Pharaoh\_30 (A12), Power\_30 (A2), SimranZ1\_36 (F1), TarsusIV\_30 (A2), Trooper\_30 (A2),

Start 49:

- Found in 124 of 914 ( 13.6% ) of genes in pham
- Manual Annotations of this start: 3 of 834
- Called 2.4% of time when present
- Phage (with cluster) where this start called: Gemma\_32 (A3), KADY\_33 (A3), Veracruz\_30 (A3),

Start 52:

- Found in 25 of 914 ( 2.7% ) of genes in pham
- Manual Annotations of this start: 21 of 834
- Called 88.0% of time when present
- Phage (with cluster) where this start called: Aneem\_30 (A11), Bachome\_30 (A11), Bud\_30 (A11), Ebony\_30 (A11), Et2Brutus\_29 (A11), Fibonacci\_30 (A11), Flaverint\_30 (A11), Gilberta\_30 (A11), Hutc2\_30 (A11), Insomnia\_30 (A11), Jabith\_30 (A11), Joselito\_30 (A11), Lucivia\_30 (A11), MaCh\_30 (A11), Mulciber\_30 (A11), Munch\_30 (A11), Orange\_30 (A11), Petersenfast\_29 (A11), Salz\_30 (A11), Sham4\_30 (A11), Snape\_30 (A11), Timothy\_30 (A11),

Start 53:

- Found in 45 of 914 ( 4.9% ) of genes in pham
- Manual Annotations of this start: 42 of 834
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ariel\_50 (J), BAKA\_55 (J), Bagrid\_50 (J), Beem\_51 (J), Bobby\_50 (J), Bombitas\_48 (J), Constella\_43 (J), Courthouse\_50 (J), Dallas\_53 (J), DmpstrDiver\_52 (J), Dove\_48 (J), Duke13\_54 (J), Ejimix\_51 (J), EricMillard\_51 (J), Gaia\_36 (X), Gonephishing\_52 (J), Halley\_51 (J), Hannaconda\_47 (J), HokkenD\_44 (J), Hughesyang\_49 (J), JuicyJay\_53 (J), Kalah2\_51 (J), KashFlow\_44 (J), Klein\_51 (J), LittleE\_55 (J), Lucky2013\_50 (J), MiaZeal\_50 (J), Minerva\_57 (J), Nebkiss\_37 (X), NihilNomen\_50 (J), Odette\_51 (J), Omega\_55 (J), Optimus\_56 (J), Phoebus\_50 (J), Porcelain\_49 (J), Pound\_53 (J), Redno2\_49 (J), Schatzie\_48 (J), Squint\_49 (J), Superphikiman\_50 (J), Thibault\_44 (J), ThreeRngTarjay\_49 (J), Wanda\_57 (J), Yeet\_49 (J), Zelink\_52 (J),

Start 54:

- Found in 120 of 914 ( 13.1% ) of genes in pham

- Manual Annotations of this start: 103 of 834
- Called 98.3% of time when present
- Phage (with cluster) where this start called: AbbyPaige\_32 (A2), Adzzy\_31 (A2), Agape74\_32 (A2), Anaysia\_32 (A15), Anon\_30 (A15), Arissanae\_30 (A9), Artemis2UCLA\_33 (A6), BABullseye\_33 (A6), Battleship\_33 (A15), BlessJoy\_33 (A6), Blinn1\_33 (A6), Blue7\_33 (A6), BogosyJay\_31 (A9), BooHoo\_32 (A15), Bowtie\_30 (A11), Buggy\_32 (A2), Candra\_33 (A6), Caraxes\_29 (A2), Chargerpower\_31 (A), Charm\_30 (A9), Chartreuse\_33 (A6), Che12\_32 (A2), CloudWang3\_33 (A6), Colin\_34 (A2), Cookiedough\_33 (A6), DaVinci\_33 (A6), DarthPhader\_31 (A12), DekHockey33\_32 (A15), Dignity\_32 (A2), Dorothea\_33 (A6), DreamTeam1\_30 (A9), EagleEye\_32 (A16), Epsocamisio\_32 (A15), EricB\_33 (A6), Gail\_30 (A14), Garak\_34 (A6), Gladiator\_33 (A6), GreedyLawyer\_33 (A6), Gruunaga\_33 (A6), Hammer\_33 (A6), Helmet\_34 (A6), Hexamo\_33 (A6), Hoot\_33 (A6), Indra\_33 (A6), Isiphiwo\_33 (A6), JSwag\_32 (A15), Jeeves\_30 (A14), Jeffabunny\_33 (A6), Jerm\_32 (A2), JewelBug\_33 (A6), Jordennis\_33 (A6), KatherineG\_32 (A15), Kazan\_33 (A6), Keziacharles14\_30 (A9), Kinmap\_31 (A21), Kipper29\_33 (A6), Koduck\_30 (A2), Koko\_33 (A6), L5\_30 (A2), LastResort\_32 (A15), Leviathan\_32 (A2), LiITurb\_32 (A2), Lilbunny\_33 (A6), Looper\_33 (A15), Luchador\_32 (A14), Lucyedi\_31 (A16), Mabel\_30 (A11), Maminiaina\_31 (A9), McFly\_33 (A6), MinecraftSteve\_33 (A15), Nebulosus\_32 (A15), Nedarya\_31 (A15), Neeharika16\_33 (A6), Newrala\_33 (A6), Oofda\_33 (A15), PainterBoy\_31 (A16), Ph8s\_31 (A2), Phlei\_25 (A13), Pmask\_33 (A6), Priamo\_33 (A6), Rahalelujah\_29 (A9), ReMo\_32 (A15), Remus\_32 (A15), Rifter\_33 (A6), Roksolana\_33 (A6), Rosalind\_32 (A15), ShayRa\_33 (A15), SheaKeira\_30 (A9), Smeagan\_32 (A2), SmellyB\_33 (A6), SororFago\_30 (A14), Soups\_32 (A15), Strosahl\_32 (A15), Sunhee\_29 (A14), SuperAwesome\_33 (A6), SuperCallie99\_33 (A6), Superchunk\_29 (A2), SwirlSquare\_32 (A2), Switzerland\_32 (A15), Temprado\_34 (A6), TinyTimmy\_30 (A11), ToneTone\_31 (A6), Trixie\_33 (A2), Tucker\_33 (A6), Turbido\_32 (A2), Vanisoa\_29 (A9), VohminGhazi\_33 (A6), Waits\_32 (A15), Warrior24\_33 (A15), Whabigail7\_32 (A2), Wiks\_33 (A6), WunderPhul\_33 (A6), XianYue\_30 (A2), Yecey3\_31 (A9), Yokurt\_33 (A6), Zaka\_33 (A6), Zimmer\_32 (A12), Zulu\_33 (A6),

#### Start 55:

- Found in 34 of 914 ( 3.7% ) of genes in pham
- Manual Annotations of this start: 26 of 834
- Called 94.1% of time when present
- Phage (with cluster) where this start called: Aliter\_32 (A9), Alma\_32 (A9), Beemo\_32 (A9), Catalina\_33 (A9), Conquerage\_32 (A9), Darrell\_32 (A9), Eidsmoe\_32 (A9), Elephantoon\_31 (A9), EmyBug\_32 (A9), ExplosioNervosa\_32 (A9), Fayely\_32 (A9), Hanray\_31 (A9), Halex\_31 (A9), HortumSL17\_32 (A9), Jiawan\_31 (A9), Journey13\_28 (A2), Lilleskat\_30 (A9), LoneWolf\_31 (A9), MissWhite\_30 (A2), Myxus\_32 (A9), Onglai\_31 (A9), PackMan\_32 (A9), Phaeder\_32 (A9), Phonnegut\_32 (A9), Pioneer\_32 (A9), Priya\_32 (A9), Qobbit\_32 (A9), RyeScarlet\_33 (A9), Scherzo\_32 (A9), Spouty\_32 (A9), Tubs\_32 (A9), Ugenie5\_29 (A9),

#### Start 56:

- Found in 18 of 914 ( 2.0% ) of genes in pham
- Manual Annotations of this start: 18 of 834
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Asten\_24 (BD1), BarryBee\_26 (BD1), Chucky\_24 (BD1), Dwayne\_24 (BD1), Ejemplo\_24 (BD1), Emaanora\_26 (BD1), Hippo\_24 (BD1), Maneekul\_24 (BD1), OzzyJ\_25 (BD1), SarahRose\_24 (BD1), Snorlax\_24 (BD1), TagePghter\_25 (BD1), Toaka\_29 (A9), Triste\_24 (BD1),

TuanPN\_24 (BD1), Werner\_24 (BD1), Whatever\_24 (BD1), Yasdnil\_24 (BD1),

Start 57:

- Found in 32 of 914 ( 3.5% ) of genes in pham
- Manual Annotations of this start: 25 of 834
- Called 96.9% of time when present
- Phage (with cluster) where this start called: 40AC\_33 (A17), BabyBack\_32 (A2), Baehexic\_31 (A2), Benvolio\_30 (A2), Bradman\_29 (A2), Centaur\_32 (A2), Drake55\_32 (A2), EZMoney23\_34 (A2), Echild\_30 (A2), Equemioh13\_32 (A2), Flare16\_30 (A2), GaugeLDP\_32 (A2), HarryHoudini\_32 (A2), Iwokeuplikedis\_31 (A2), Jsquared\_29 (A2), LadyBird\_30 (A2), Larenn\_31 (A2), MajorMajor\_29 (A2), Malec\_31 (A2), MiculUcigas\_30 (A2), NaSiaTalie\_30 (A2), NicoleTera\_34 (A2), PP\_39 (A7), Piro94\_31 (A2), Pukovnik\_32 (A2), Quokka\_28 (A2), Serenity\_29 (A2), Sknot\_31 (A2), TopsytheTRex\_29 (A2), Updawg\_32 (A2), WideWale\_32 (A2),

Start 59:

- Found in 32 of 914 ( 3.5% ) of genes in pham
- Manual Annotations of this start: 29 of 834
- Called 96.9% of time when present
- Phage (with cluster) where this start called: Alvy\_27 (BD2), Amethyst\_25 (BD2), Andris\_25 (BD2), Animus\_26 (BD2), Axiom\_27 (BD2), BartholomewSD\_27 (BD2), Bowden\_26 (BD2), BroPlease\_26 (BD4), Caelum\_26 (BD2), Daudau\_25 (BD2), Diane\_25 (BD2), GirlDinner\_25 (BD2), GreenWeasel\_27 (BD4), Haizum\_25 (BD2), Issmi\_26 (BD2), Janus\_26 (BD2), Jevington\_27 (BD2), Marav\_28 (BD2), Nishikigoi\_25 (BD2), Omar\_26 (BD2), Paolo\_27 (BD2), Puginator\_27 (BD2), SqueakyClean\_26 (BD2), Superstar\_28 (BD2), Tefunt\_25 (BD2), TinaBelcher\_25 (BD2), Triumph\_27 (BD2), TrvxScott\_24 (BD2), Yosif\_27 (BD3), Zainub\_27 (BD2), phiHau3\_27 (BD4),

Start 60:

- Found in 45 of 914 ( 4.9% ) of genes in pham
- Manual Annotations of this start: 41 of 834
- Called 93.3% of time when present
- Phage (with cluster) where this start called: Aaronocolus\_25 (BD1), BeardedLady\_26 (BD1), Bovely\_25 (BD1), Brataylor\_27 (BD1), BryanRecycles\_26 (BD1), Caliburn\_25 (BD1), Celeste\_25 (BD1), Celia\_27 (BD6), Danzina\_26 (BD1), Dattran\_26 (BD1), Eddasa\_26 (BD1), EnochSoames\_27 (BD1), Esperer\_25 (BD1), Goby\_25 (BD1), Godpower\_26 (BD1), Hank144\_26 (BD2), Indigo\_24 (BD1), Itza\_27 (BD6), Izzy\_26 (BD1), Jash\_26 (BD1), Katalie\_25 (BD1), Legacy\_25 (BD1), Leviticus\_25 (BD1), Lika\_25 (BD1), Lorelei\_25 (BD1), Nabi\_25 (BD1), Nanodon\_27 (BD1), Nerdos\_25 (BD1), Ozzie\_25 (BD1), Pablito\_25 (BD2), Phettuccine\_25 (BD1), Rana\_25 (BD1), RedBear\_26 (BD1), Rusticus\_26 (BD1), South40\_25 (BD1), Sujidade\_26 (BD1), SunsetPointe\_25 (BD1), Toma\_25 (BD1), Unstoppable\_25 (BD1), Urza\_27 (BD6), VieEnRose\_27 (BD6), Zemlya\_26 (BD1),

Start 61:

- Found in 51 of 914 ( 5.6% ) of genes in pham
- Manual Annotations of this start: 37 of 834
- Called 72.5% of time when present
- Phage (with cluster) where this start called: AgentM\_27 (A5), Airmid\_27 (A5), Archetta\_27 (A5), Astro\_27 (A8), Benedict\_27 (A5), Bluefalcon\_26 (A5), Chadwick\_28 (A5), Conspiracy\_27 (A5), Danforth\_26 (A8), Discoknowium\_27 (A5), Dixon\_27 (A8), Dublin\_26 (A5), EITiger69\_27 (A5), Expelliarmus\_26 (A8),

ForGetIt\_27 (A5), Ghoulboy\_27 (A5), Groundhog\_26 (A8), HuhtaEnerson15\_27 (A5), Jabiru\_27 (A5), Jovo\_27 (A5), Kimona\_27 (A19), Lev2\_27 (A5), Micasa\_27 (A5), Milcery\_27 (A5), NearlyHeadless\_27 (A8), PetterN\_28 (A5), Phlorence\_27 (A5), PickleBack\_27 (A5), Roary\_27 (A8), Saintus\_27 (A8), Scorpia\_28 (A5), Smeadley\_27 (A8), Stephig9\_27 (A8), SydNat\_27 (A5), Tarynearal\_26 (A5), UnionJack\_27 (A5), Zolita\_26 (A5),

Start 62:

- Found in 12 of 914 ( 1.3% ) of genes in pham
- Manual Annotations of this start: 5 of 834
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Aleemily\_31 (DZ), Cafasso\_32 (DZ), ModicumRichard\_32 (DZ), Morgana\_32 (DZ), ObLaDi\_32 (DZ), R4\_25 (BD2),

Start 64:

- Found in 14 of 914 ( 1.5% ) of genes in pham
- Manual Annotations of this start: 11 of 834
- Called 92.9% of time when present
- Phage (with cluster) where this start called: Alsaber\_27 (BD3), Amela\_26 (BD3), Celery\_29 (BD3), Conan\_27 (BD3), Dexers\_25 (BD3), ElGato\_27 (BD3), Kaine\_26 (BD3), Pavo\_27 (BD3), Provolone\_27 (BD3), Saftant\_26 (BD3), Speedwell\_31 (BD3), Vanseggelen\_31 (BD3), Verse\_26 (BD3),

Start 67:

- Found in 125 of 914 ( 13.7% ) of genes in pham
- Manual Annotations of this start: 110 of 834
- Called 96.8% of time when present
- Phage (with cluster) where this start called: ACFishhook\_32 (A3), Aglet\_32 (A3), AgronaGT15\_32 (A3), Anubis\_34 (A3), AugsMagnumOpus\_34 (A3), B1\_28 (A3), BabyJohn\_29 (A3), BabyRay\_30 (A3), Beauxregard13\_32 (A3), BlueBird\_31 (A3), BreSam8\_32 (A3), Bugatti\_30 (A3), BuzzBuzz\_31 (A3), Bxz2\_31 (A3), Calvinny\_33 (A3), Caviar\_31 (A3), Chiqui\_29 (A3), Colbster\_32 (A3), Cullens\_32 (A3), DaHudson\_32 (A3), Daishi\_31 (A3), Dieselweasel\_32 (A3), DropBear\_30 (A3), EpicPhail\_32 (A3), Farber\_32 (A3), Fernando\_32 (A3), Fred313\_30 (A3), GingkoMaracino\_32 (A3), Giroux\_30 (A3), Grif\_32 (A3), Groupthink\_33 (A3), Grub\_32 (A3), Grum1\_32 (A3), GtownJaz\_32 (A3), HashRod\_33 (A3), HaveUMetTed\_33 (A3), Heathen\_30 (A3), HelDan\_30 (A3), Heliosoles\_32 (A3), Hercules11\_32 (A3), Hookmount\_31 (A3), Idleandcovert\_30 (A3), Isca\_30 (A3), JF2\_30 (A3), JF4\_30 (A3), JHC117\_32 (A3), JenCasNa\_32 (A3), JeppNRM\_33 (A3), Jobu08\_32 (A3), Kachowdy\_30 (A3), Kalb97\_33 (A3), Kalnoky\_33 (A3), LBerry\_32 (A3), Lambert1\_31 (A3), LarryKay\_32 (A3), Lilith\_32 (A3), Louie6\_32 (A3), LugYA\_34 (A3), MA5\_30 (A3), MK4\_30 (A3), MadMarie\_32 (A3), Mainiac\_32 (A3), Malinsilva\_34 (A3), Manu\_33 (A3), MarQuardt\_32 (A3), Marchesa\_30 (A3), Margo\_31 (A3), Marie\_32 (A3), Marius\_33 (A3), Methuselah\_31 (A3), Microwolf\_32 (A3), Misomonster\_34 (A3), MoneyMay\_32 (A3), MuchMore\_34 (A3), Noella\_31 (A3), Norbert\_30 (A3), OlanP\_32 (A3), Ollie\_32 (A3), P28Green\_32 (A3), PGHhamlin\_34 (A3), Panamaxus\_30 (A3), Pawn\_32 (A3), Pembroke\_32 (A3), Penny1\_32 (A3), Phantastic\_30 (A3), PhishRPhriends\_31 (A3), Phoebe\_32 (A3), Phoxy\_32 (A3), Phranny\_33 (A3), Pistachio\_31 (A3), Pocahontas\_31 (A3), Popcicle\_31 (A3), PotatoSplit\_33 (A3), Puppy\_31 (A3), PurpleHaze\_32 (A3), QuinnKiro\_30 (A3), Reba\_33 (A3), ResDef\_31 (A3), Rockstar\_30 (A3), Rummer\_32 (A3), Sabia\_32 (A3), Sabinator\_32 (A3), SaturnRing\_30 (A3), Scout\_30 (A3), Snickers\_32 (A3), SoYo\_32 (A3), SoilDragon\_32 (A3), Soshari\_34 (A3), Spike509\_32 (A3), Stagni\_32 (A3),

StepMih\_32 (A3), TNguyen7\_30 (A3), Taurus\_32 (A3), Texage\_30 (A3), Tiffany\_32 (A3), TinyPebbles\_32 (A3), Todacoro\_31 (A3), Vix\_32 (A3), Watson\_32 (A3), Wooldri\_34 (A3), Zetzy\_31 (A3),

Start 69:

- Found in 3 of 914 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 834
- Called 100.0% of time when present
- Phage (with cluster) where this start called: FlyCatcher\_33 (A7), Sheen\_31 (A7), Toro\_32 (A7),

Start 70:

- Found in 34 of 914 ( 3.7% ) of genes in pham
- No Manual Annotations of this start.
- Called 2.9% of time when present
- Phage (with cluster) where this start called: phiCAM\_27 (BD3),

Start 74:

- Found in 42 of 914 ( 4.6% ) of genes in pham
- Manual Annotations of this start: 1 of 834
- Called 2.4% of time when present
- Phage (with cluster) where this start called: Paedore\_25 (BD2),

Start 75:

- Found in 135 of 914 ( 14.8% ) of genes in pham
- Manual Annotations of this start: 10 of 834
- Called 7.4% of time when present
- Phage (with cluster) where this start called: Aragog\_27 (A5), Coog\_27 (A5), Cuco\_27 (A5), George\_26 (A5), LittleCherry\_27 (A5), MarysWell\_26 (A5), Midas2\_27 (A5), Naca\_27 (A5), Swirley\_27 (A5), Tiger\_27 (A5),

Start 76:

- Found in 94 of 914 ( 10.3% ) of genes in pham
- Manual Annotations of this start: 2 of 834
- Called 2.1% of time when present
- Phage (with cluster) where this start called: Hydra\_27 (BD1), Thestral\_26 (BD2),

Start 77:

- Found in 136 of 914 ( 14.9% ) of genes in pham
- No Manual Annotations of this start.
- Called 0.7% of time when present
- Phage (with cluster) where this start called: Twigg\_27 (A5),

Start 80:

- Found in 73 of 914 ( 8.0% ) of genes in pham
- No Manual Annotations of this start.
- Called 2.7% of time when present
- Phage (with cluster) where this start called: EdogawaKiddo\_30 (A9), Sachima\_30 (A9),

Start 81:

- Found in 17 of 914 ( 1.9% ) of genes in pham
- Manual Annotations of this start: 17 of 834

- Called 100.0% of time when present
- Phage (with cluster) where this start called: Anselm\_30 (A2), BobSwaget\_33 (A2), Crucio\_30 (A2), Dalmatian\_30 (A2), DudeLittle\_30 (A2), Fameo\_30 (A2), FiringLine\_30 (A2), Heffalump\_32 (A2), Lokk\_33 (A2), Miko\_33 (A2), QueenB2\_30 (A2), QueenBeesly\_30 (A2), Rachaly\_33 (A2), Retro23\_30 (A2), SemperFi\_32 (A2), SnapTap\_30 (A2), SweetiePie\_30 (A2),

Start 82:

- Found in 23 of 914 ( 2.5% ) of genes in pham
- Manual Annotations of this start: 1 of 834
- Called 8.7% of time when present
- Phage (with cluster) where this start called: Kalpine\_33 (A2), WeiHuaDA\_36 (A2),

Start 90:

- Found in 92 of 914 ( 10.1% ) of genes in pham
- Manual Annotations of this start: 4 of 834
- Called 4.3% of time when present
- Phage (with cluster) where this start called: ELB20\_24 (BD2), Lannister\_27 (BD1), Loofah\_26 (BD2), Oliynyk\_26 (BD1),

### Summary by clusters:

There are 38 clusters represented in this pham: A, DZ, A15, A14, A17, A16, A11, A13, A12, I1, F, A19, A18, BD4, A3, BD6, BD1, BD3, A6, A9, A5, A2, P2, P3, P1, P6, A7, A21, J, N, A8, X, F1, F2, F3, F4, F5, BD2,

Info for manual annotations of cluster A:

- Start number 54 was manually annotated 1 time for cluster A.

Info for manual annotations of cluster A11:

- Start number 52 was manually annotated 21 times for cluster A11.
- Start number 54 was manually annotated 3 times for cluster A11.

Info for manual annotations of cluster A12:

- Start number 48 was manually annotated 1 time for cluster A12.
- Start number 54 was manually annotated 2 times for cluster A12.

Info for manual annotations of cluster A14:

- Start number 54 was manually annotated 4 times for cluster A14.

Info for manual annotations of cluster A15:

- Start number 54 was manually annotated 21 times for cluster A15.

Info for manual annotations of cluster A16:

- Start number 54 was manually annotated 3 times for cluster A16.

Info for manual annotations of cluster A18:

- Start number 48 was manually annotated 1 time for cluster A18.

Info for manual annotations of cluster A19:

- Start number 61 was manually annotated 1 time for cluster A19.



Info for manual annotations of cluster A2:

- Start number 48 was manually annotated 14 times for cluster A2.
- Start number 54 was manually annotated 17 times for cluster A2.
- Start number 55 was manually annotated 2 times for cluster A2.
- Start number 57 was manually annotated 24 times for cluster A2.
- Start number 81 was manually annotated 17 times for cluster A2.
- Start number 82 was manually annotated 1 time for cluster A2.

Info for manual annotations of cluster A3:

- Start number 49 was manually annotated 3 times for cluster A3.
- Start number 67 was manually annotated 110 times for cluster A3.

Info for manual annotations of cluster A5:

- Start number 37 was manually annotated 2 times for cluster A5.
- Start number 61 was manually annotated 26 times for cluster A5.
- Start number 75 was manually annotated 10 times for cluster A5.

Info for manual annotations of cluster A6:

- Start number 54 was manually annotated 42 times for cluster A6.

Info for manual annotations of cluster A7:

- Start number 57 was manually annotated 1 time for cluster A7.
- Start number 69 was manually annotated 1 time for cluster A7.

Info for manual annotations of cluster A8:

- Start number 61 was manually annotated 10 times for cluster A8.

Info for manual annotations of cluster A9:

- Start number 54 was manually annotated 10 times for cluster A9.
- Start number 55 was manually annotated 24 times for cluster A9.
- Start number 56 was manually annotated 1 time for cluster A9.

Info for manual annotations of cluster BD1:

- Start number 56 was manually annotated 17 times for cluster BD1.
- Start number 60 was manually annotated 35 times for cluster BD1.
- Start number 76 was manually annotated 1 time for cluster BD1.
- Start number 90 was manually annotated 2 times for cluster BD1.

Info for manual annotations of cluster BD2:

- Start number 59 was manually annotated 25 times for cluster BD2.
- Start number 60 was manually annotated 2 times for cluster BD2.
- Start number 62 was manually annotated 1 time for cluster BD2.
- Start number 74 was manually annotated 1 time for cluster BD2.
- Start number 76 was manually annotated 1 time for cluster BD2.
- Start number 90 was manually annotated 2 times for cluster BD2.

Info for manual annotations of cluster BD3:

- Start number 59 was manually annotated 1 time for cluster BD3.
- Start number 64 was manually annotated 11 times for cluster BD3.

Info for manual annotations of cluster BD4:

- Start number 59 was manually annotated 3 times for cluster BD4.

Info for manual annotations of cluster BD6:

- Start number 60 was manually annotated 4 times for cluster BD6.

Info for manual annotations of cluster DZ:

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

Info for manual annotations of cluster F1:

- Start number 41 was manually annotated 200 times for cluster F1.
- Start number 42 was manually annotated 13 times for cluster F1.
- Start number 46 was manually annotated 1 time for cluster F1.
- Start number 48 was manually annotated 1 time for cluster F1.

Info for manual annotations of cluster F2:

- Start number 41 was manually annotated 1 time for cluster F2.

Info for manual annotations of cluster F3:

- Start number 39 was manually annotated 1 time for cluster F3.

Info for manual annotations of cluster F4:

- Start number 41 was manually annotated 1 time for cluster F4.

Info for manual annotations of cluster F5:

- Start number 41 was manually annotated 1 time for cluster F5.

Info for manual annotations of cluster I1:

- Start number 41 was manually annotated 4 times for cluster I1.
- Start number 42 was manually annotated 2 times for cluster I1.

Info for manual annotations of cluster J:

- Start number 53 was manually annotated 40 times for cluster J.

Info for manual annotations of cluster N:

- Start number 39 was manually annotated 38 times for cluster N.
- Start number 41 was manually annotated 4 times for cluster N.

Info for manual annotations of cluster P1:

- Start number 39 was manually annotated 1 time for cluster P1.
- Start number 41 was manually annotated 38 times for cluster P1.

Info for manual annotations of cluster P2:

- Start number 39 was manually annotated 1 time for cluster P2.

Info for manual annotations of cluster P3:

- Start number 41 was manually annotated 1 time for cluster P3.

Info for manual annotations of cluster P6:

- Start number 39 was manually annotated 1 time for cluster P6.

Info for manual annotations of cluster X:

- Start number 53 was manually annotated 2 times for cluster X.

**Gene Information:**

Gene: 20ES\_30 Start: 22455, Stop: 22796, Start Num: 48

Candidate Starts for 20ES\_30:

(29, 22299), (Start: 48 @22455 has 17 MA's), (Start: 76 @22527 has 2 MA's), (89, 22545), (134, 22674),

Gene: 40AC\_33 Start: 24651, Stop: 24977, Start Num: 57

Candidate Starts for 40AC\_33:

(31, 24492), (Start: 57 @24651 has 25 MA's), (Start: 75 @24678 has 10 MA's), (77, 24684), (84, 24699), (104, 24738), (105, 24741), (106, 24744), (133, 24852), (158, 24954),

Gene: ACFishhook\_32 Start: 23128, Stop: 23430, Start Num: 67

Candidate Starts for ACFishhook\_32:

(Start: 49 @23083 has 3 MA's), (Start: 67 @23128 has 110 MA's), (113, 23236),

Gene: Aaronocolus\_25 Start: 20591, Stop: 20944, Start Num: 60

Candidate Starts for Aaronocolus\_25:

(Start: 60 @20591 has 41 MA's), (Start: 76 @20627 has 2 MA's), (Start: 90 @20660 has 4 MA's), (131, 20810), (133, 20819), (137, 20828), (153, 20873),

Gene: AbbyPaige\_32 Start: 22929, Stop: 23267, Start Num: 54

Candidate Starts for AbbyPaige\_32:

(31, 22770), (Start: 54 @22929 has 103 MA's), (Start: 75 @22965 has 10 MA's), (77, 22971), (100, 23016), (104, 23025), (134, 23139), (144, 23154), (158, 23238),

Gene: Acolyte\_30 Start: 22997, Stop: 23335, Start Num: 48

Candidate Starts for Acolyte\_30:

(Start: 48 @22997 has 17 MA's), (72, 23057), (80, 23078), (89, 23087), (95, 23096), (101, 23111), (157, 23309),

Gene: Adzzy\_31 Start: 21176, Stop: 21445, Start Num: 54

Candidate Starts for Adzzy\_31:

(Start: 54 @21176 has 103 MA's), (78, 21215), (Start: 82 @21221 has 1 MA's), (100, 21257),

Gene: Agape74\_32 Start: 22905, Stop: 23243, Start Num: 54

Candidate Starts for Agape74\_32:

(31, 22746), (Start: 54 @22905 has 103 MA's), (Start: 75 @22941 has 10 MA's), (77, 22947), (100, 22992), (104, 23001), (134, 23115), (144, 23130), (158, 23214),

Gene: AgentM\_27 Start: 22303, Stop: 22623, Start Num: 61

Candidate Starts for AgentM\_27:

(Start: 37 @22213 has 2 MA's), (Start: 61 @22303 has 37 MA's), (Start: 75 @22333 has 10 MA's), (77, 22339), (104, 22393), (121, 22465), (133, 22495), (134, 22498), (150, 22519), (153, 22552), (160, 22600), (166, 22615),

Gene: Aggie\_30 Start: 24741, Stop: 25109, Start Num: 39

Candidate Starts for Aggie\_30:

(Start: 39 @24741 has 42 MA's), (79, 24834), (88, 24852), (118, 24939), (121, 24960),

Gene: Aglet\_32 Start: 22964, Stop: 23266, Start Num: 67

Candidate Starts for Aglet\_32:

(47, 22916), (Start: 49 @22919 has 3 MA's), (Start: 67 @22964 has 110 MA's), (83, 22994),

Gene: AgronaGT15\_32 Start: 22871, Stop: 23173, Start Num: 67

Candidate Starts for AgronaGT15\_32:

(47, 22823), (Start: 49 @22826 has 3 MA's), (Start: 67 @22871 has 110 MA's), (83, 22901),

Gene: Airmid\_27 Start: 21544, Stop: 21864, Start Num: 61

Candidate Starts for Airmid\_27:

(Start: 37 @21454 has 2 MA's), (Start: 61 @21544 has 37 MA's), (Start: 75 @21574 has 10 MA's), (77, 21580), (121, 21706), (134, 21739), (150, 21760), (153, 21793), (166, 21856),

Gene: Akhila\_27 Start: 24837, Stop: 25211, Start Num: 41

Candidate Starts for Akhila\_27:

(13, 24318), (Start: 41 @24837 has 250 MA's), (Start: 46 @24852 has 1 MA's), (Start: 48 @24864 has 17 MA's), (121, 25071), (134, 25104),

Gene: Aleemily\_31 Start: 26903, Stop: 27274, Start Num: 62

Candidate Starts for Aleemily\_31:

(20, 26516), (40, 26828), (Start: 62 @26903 has 5 MA's), (Start: 90 @26972 has 4 MA's), (96, 26984), (105, 27005), (116, 27053),

Gene: Alexphander\_36 Start: 29528, Stop: 29902, Start Num: 41

Candidate Starts for Alexphander\_36:

(Start: 41 @29528 has 250 MA's), (43, 29534), (Start: 46 @29543 has 1 MA's), (Start: 48 @29555 has 17 MA's), (121, 29762), (134, 29795), (152, 29837),

Gene: Aliter\_32 Start: 23936, Stop: 24304, Start Num: 55

Candidate Starts for Aliter\_32:

(38, 23876), (Start: 55 @23936 has 26 MA's), (77, 23972), (80, 23978), (92, 23999), (100, 24017), (104, 24026), (124, 24125), (129, 24137), (136, 24158), (143, 24167),

Gene: Alma\_32 Start: 24051, Stop: 24419, Start Num: 55

Candidate Starts for Alma\_32:

(38, 23991), (Start: 55 @24051 has 26 MA's), (77, 24087), (80, 24093), (100, 24132), (104, 24141), (124, 24240), (129, 24252), (143, 24282), (147, 24294), (152, 24324),

Gene: Aloeri\_35 Start: 29381, Stop: 29755, Start Num: 41

Candidate Starts for Aloeri\_35:

(Start: 41 @29381 has 250 MA's), (Start: 46 @29396 has 1 MA's), (Start: 48 @29408 has 17 MA's), (121, 29615), (134, 29648),

Gene: AlpineSix\_34 Start: 28978, Stop: 29349, Start Num: 42

Candidate Starts for AlpineSix\_34:

(Start: 41 @28975 has 250 MA's), (Start: 42 @28978 has 15 MA's), (Start: 46 @28990 has 1 MA's), (Start: 48 @29002 has 17 MA's), (121, 29209), (133, 29239), (134, 29242), (152, 29284),

Gene: Alsaber\_27 Start: 22278, Stop: 22622, Start Num: 64

Candidate Starts for Alsaber\_27:

(Start: 64 @22278 has 11 MA's), (Start: 76 @22302 has 2 MA's), (Start: 90 @22335 has 4 MA's), (98, 22350), (99, 22353), (102, 22362), (111, 22395), (123, 22464), (156, 22578),

Gene: Alvy\_27 Start: 21377, Stop: 21730, Start Num: 59

Candidate Starts for Alvy\_27:

(22, 21017), (Start: 59 @21377 has 29 MA's), (70, 21392), (Start: 74 @21404 has 1 MA's), (Start: 76 @21410 has 2 MA's), (93, 21449), (125, 21584), (141, 21620), (156, 21686), (162, 21710),

Gene: Amela\_26 Start: 22973, Stop: 23320, Start Num: 64

Candidate Starts for Amela\_26:

(Start: 64 @22973 has 11 MA's), (Start: 74 @22991 has 1 MA's), (Start: 76 @22997 has 2 MA's), (Start: 90 @23030 has 4 MA's), (98, 23045), (102, 23057), (111, 23090), (123, 23159), (156, 23273),

Gene: Amethyst\_25 Start: 21208, Stop: 21561, Start Num: 59

Candidate Starts for Amethyst\_25:

(Start: 59 @21208 has 29 MA's), (65, 21217), (70, 21223), (Start: 74 @21235 has 1 MA's), (Start: 76 @21241 has 2 MA's), (80, 21250), (87, 21268), (99, 21292), (111, 21334), (125, 21415), (156, 21517), (162, 21541),

Gene: Anaysia\_32 Start: 21408, Stop: 21749, Start Num: 54

Candidate Starts for Anaysia\_32:

(Start: 54 @21408 has 103 MA's), (95, 21474), (100, 21486), (155, 21696), (164, 21732), (167, 21738),

Gene: Andies\_27 Start: 23908, Stop: 24288, Start Num: 39

Candidate Starts for Andies\_27:

(Start: 39 @23908 has 42 MA's), (118, 24118), (121, 24139),

Gene: Andris\_25 Start: 21074, Stop: 21427, Start Num: 59

Candidate Starts for Andris\_25:

(Start: 59 @21074 has 29 MA's), (Start: 74 @21101 has 1 MA's), (Start: 76 @21107 has 2 MA's), (87, 21134), (104, 21170), (124, 21278), (156, 21383), (162, 21407),

Gene: Aneem\_30 Start: 23073, Stop: 23396, Start Num: 52

Candidate Starts for Aneem\_30:

(Start: 52 @23073 has 21 MA's), (58, 23082), (97, 23142), (104, 23154), (117, 23196), (129, 23253),

Gene: Animus\_26 Start: 21413, Stop: 21766, Start Num: 59

Candidate Starts for Animus\_26:

(Start: 59 @21413 has 29 MA's), (70, 21428), (Start: 74 @21440 has 1 MA's), (80, 21455), (Start: 90 @21479 has 4 MA's), (98, 21494), (117, 21551), (125, 21599),

Gene: Anon\_30 Start: 21972, Stop: 22313, Start Num: 54

Candidate Starts for Anon\_30:

(Start: 54 @21972 has 103 MA's), (95, 22038), (113, 22083), (155, 22260), (164, 22296), (167, 22302),

Gene: Anselm\_30 Start: 22585, Stop: 22872, Start Num: 81

Candidate Starts for Anselm\_30:

(35, 22426), (Start: 81 @22585 has 17 MA's), (134, 22750), (150, 22771), (158, 22849),

Gene: Anubis\_34 Start: 22849, Stop: 23151, Start Num: 67

Candidate Starts for Anubis\_34:

(47, 22801), (Start: 49 @22804 has 3 MA's), (Start: 67 @22849 has 110 MA's), (83, 22879),

Gene: Aragog\_27 Start: 22363, Stop: 22653, Start Num: 75

Candidate Starts for Aragog\_27:

(Start: 37 @22243 has 2 MA's), (Start: 61 @22333 has 37 MA's), (Start: 75 @22363 has 10 MA's), (77, 22369), (104, 22423), (121, 22495), (133, 22525), (134, 22528), (150, 22549), (153, 22582), (160, 22630), (166, 22645),

Gene: Archetta\_27 Start: 22126, Stop: 22446, Start Num: 61

Candidate Starts for Archetta\_27:

(Start: 37 @22036 has 2 MA's), (Start: 61 @22126 has 37 MA's), (Start: 75 @22156 has 10 MA's), (77, 22162), (121, 22288), (134, 22321), (150, 22342), (153, 22375), (157, 22414), (166, 22438),

Gene: ArcusAngelus\_33 Start: 29310, Stop: 29684, Start Num: 41

Candidate Starts for ArcusAngelus\_33:

(Start: 41 @29310 has 250 MA's), (Start: 42 @29313 has 15 MA's), (Start: 46 @29325 has 1 MA's), (Start: 48 @29337 has 17 MA's), (72, 29397), (121, 29544), (134, 29577), (152, 29619),

Gene: Ardmore\_32 Start: 28754, Stop: 29128, Start Num: 41

Candidate Starts for Ardmore\_32:

(Start: 41 @28754 has 250 MA's), (Start: 46 @28769 has 1 MA's), (Start: 48 @28781 has 17 MA's), (121, 28988), (134, 29021),

Gene: Arib1\_29 Start: 25491, Stop: 25850, Start Num: 41

Candidate Starts for Arib1\_29:

(Start: 41 @25491 has 250 MA's), (72, 25578), (121, 25716), (134, 25749),

Gene: Ariel\_50 Start: 40019, Stop: 40405, Start Num: 53

Candidate Starts for Ariel\_50:

(Start: 53 @40019 has 42 MA's), (70, 40058), (Start: 75 @40073 has 10 MA's), (78, 40082), (121, 40229), (125, 40253), (128, 40271), (138, 40301), (143, 40313),

Gene: Arissanae\_30 Start: 22064, Stop: 22444, Start Num: 54

Candidate Starts for Arissanae\_30:

(40, 22013), (Start: 54 @22064 has 103 MA's), (Start: 62 @22085 has 5 MA's), (77, 22118), (95, 22151), (100, 22163), (104, 22172), (113, 22205), (129, 22283), (152, 22355),

Gene: Artemis2UCLA\_33 Start: 22110, Stop: 22406, Start Num: 54

Candidate Starts for Artemis2UCLA\_33:

(40, 22059), (Start: 54 @22110 has 103 MA's), (121, 22263), (143, 22308),

Gene: Asten\_24 Start: 20696, Stop: 21052, Start Num: 56

Candidate Starts for Asten\_24:

(Start: 56 @20696 has 18 MA's), (Start: 76 @20735 has 2 MA's), (Start: 90 @20768 has 4 MA's), (117, 20861), (131, 20918), (133, 20927), (167, 21044),

Gene: Astro\_27 Start: 21234, Stop: 21515, Start Num: 61

Candidate Starts for Astro\_27:

(50, 21201), (Start: 61 @21234 has 37 MA's), (Start: 75 @21261 has 10 MA's), (77, 21267), (89, 21291), (155, 21468), (157, 21483), (161, 21495), (165, 21504),

Gene: Atcoo\_29 Start: 25974, Stop: 26333, Start Num: 41

Candidate Starts for Atcoo\_29:

(Start: 41 @25974 has 250 MA's), (72, 26061), (121, 26199), (134, 26232),

Gene: Aubs\_34 Start: 29089, Stop: 29463, Start Num: 41

Candidate Starts for Aubs\_34:

(Start: 41 @29089 has 250 MA's), (Start: 46 @29104 has 1 MA's), (Start: 48 @29116 has 17 MA's), (121, 29323), (134, 29356), (152, 29398),

Gene: AugsMagnumOpus\_34 Start: 22955, Stop: 23257, Start Num: 67

Candidate Starts for AugsMagnumOpus\_34:

(47, 22907), (Start: 49 @22910 has 3 MA's), (Start: 67 @22955 has 110 MA's), (83, 22985),

Gene: Awesomesauce\_34 Start: 28643, Stop: 29017, Start Num: 41

Candidate Starts for Awesomesauce\_34:

(Start: 41 @28643 has 250 MA's), (Start: 46 @28658 has 1 MA's), (Start: 48 @28670 has 17 MA's), (72, 28730), (121, 28877), (134, 28910),

Gene: Axiom\_27 Start: 21249, Stop: 21602, Start Num: 59

Candidate Starts for Axiom\_27:

(Start: 59 @21249 has 29 MA's), (Start: 74 @21276 has 1 MA's), (Start: 76 @21282 has 2 MA's), (117, 21408), (124, 21453), (162, 21582),

Gene: B1\_28 Start: 22213, Stop: 22515, Start Num: 67

Candidate Starts for B1\_28:

(36, 22114), (Start: 49 @22171 has 3 MA's), (Start: 67 @22213 has 110 MA's), (113, 22321), (124, 22387), (134, 22399),

Gene: BABullseye\_33 Start: 22286, Stop: 22582, Start Num: 54

Candidate Starts for BABullseye\_33:

(Start: 54 @22286 has 103 MA's), (83, 22340), (121, 22439), (143, 22484),

Gene: BAKA\_55 Start: 43842, Stop: 44237, Start Num: 53

Candidate Starts for BAKA\_55:

(Start: 53 @43842 has 42 MA's), (71, 43884), (Start: 75 @43896 has 10 MA's), (114, 44007), (121, 44052), (128, 44094), (140, 44127), (143, 44136),

Gene: BabeRuth\_27 Start: 23790, Stop: 24299, Start Num: 39

Candidate Starts for BabeRuth\_27:

(10, 23220), (Start: 39 @23790 has 42 MA's), (85, 23916), (94, 23934), (115, 24009), (119, 24036), (121, 24057), (130, 24120), (148, 24189),

Gene: Babsiella\_29 Start: 25555, Stop: 25917, Start Num: 41

Candidate Starts for Babsiella\_29:

(Start: 41 @25555 has 250 MA's), (Start: 42 @25558 has 15 MA's), (117, 25756), (118, 25759), (121, 25780), (134, 25813),

Gene: BabyBack\_32 Start: 24024, Stop: 24350, Start Num: 57

Candidate Starts for BabyBack\_32:

(Start: 57 @24024 has 25 MA's), (Start: 75 @24051 has 10 MA's), (77, 24057), (84, 24072), (105, 24114), (106, 24117), (134, 24228), (158, 24327),

Gene: BabyJohn\_29 Start: 22795, Stop: 23097, Start Num: 67

Candidate Starts for BabyJohn\_29:

(Start: 49 @22753 has 3 MA's), (Start: 67 @22795 has 110 MA's), (85, 22831), (134, 22981),

Gene: BabyRay\_30 Start: 22773, Stop: 23075, Start Num: 67

Candidate Starts for BabyRay\_30:

(Start: 49 @22731 has 3 MA's), (Start: 67 @22773 has 110 MA's), (113, 22881),

Gene: Bachome\_30 Start: 23064, Stop: 23387, Start Num: 52

Candidate Starts for Bachome\_30:

(Start: 52 @23064 has 21 MA's), (58, 23073), (97, 23133), (104, 23145), (117, 23187), (129, 23244),

Gene: Baehexic\_31 Start: 22907, Stop: 23236, Start Num: 57

Candidate Starts for Baehexic\_31:

(31, 22748), (Start: 57 @22907 has 25 MA's), (Start: 75 @22934 has 10 MA's), (77, 22940), (104, 22994), (116, 23039), (158, 23207),

Gene: Bagrid\_50 Start: 43175, Stop: 43570, Start Num: 53

Candidate Starts for Bagrid\_50:

(Start: 53 @43175 has 42 MA's), (71, 43217), (Start: 75 @43229 has 10 MA's), (114, 43340), (121, 43385), (128, 43427), (140, 43460), (143, 43469),

Gene: BarryBee\_26 Start: 20706, Stop: 21062, Start Num: 56

Candidate Starts for BarryBee\_26:

(Start: 56 @20706 has 18 MA's), (Start: 76 @20745 has 2 MA's), (Start: 90 @20778 has 4 MA's), (117, 20871), (131, 20928), (133, 20937), (167, 21054),

Gene: Bartholomew\_28 Start: 25485, Stop: 25844, Start Num: 41

Candidate Starts for Bartholomew\_28:

(Start: 41 @25485 has 250 MA's), (72, 25572), (121, 25710), (134, 25743),

Gene: BartholomewSD\_27 Start: 21377, Stop: 21730, Start Num: 59

Candidate Starts for BartholomewSD\_27:

(22, 21017), (Start: 59 @21377 has 29 MA's), (70, 21392), (Start: 74 @21404 has 1 MA's), (Start: 76 @21410 has 2 MA's), (93, 21449), (125, 21584), (141, 21620), (156, 21686), (162, 21710),

Gene: Batiatus\_33 Start: 28747, Stop: 29121, Start Num: 41

Candidate Starts for Batiatus\_33:

(Start: 41 @28747 has 250 MA's), (Start: 46 @28762 has 1 MA's), (Start: 48 @28774 has 17 MA's), (121, 28981), (134, 29014),

Gene: Battleship\_33 Start: 21520, Stop: 21861, Start Num: 54

Candidate Starts for Battleship\_33:

(Start: 54 @21520 has 103 MA's), (95, 21586), (100, 21598), (155, 21808), (164, 21844), (167, 21850),

Gene: Beakin\_34 Start: 28661, Stop: 29035, Start Num: 41

Candidate Starts for Beakin\_34:

(Start: 41 @28661 has 250 MA's), (Start: 42 @28664 has 15 MA's), (Start: 46 @28676 has 1 MA's), (Start: 48 @28688 has 17 MA's), (72, 28748), (118, 28874), (121, 28895), (134, 28928), (152, 28970),

Gene: BeardedLady\_26 Start: 20844, Stop: 21197, Start Num: 60

Candidate Starts for BeardedLady\_26:

(23, 20478), (Start: 60 @20844 has 41 MA's), (Start: 74 @20874 has 1 MA's), (Start: 76 @20880 has 2 MA's), (Start: 90 @20913 has 4 MA's), (131, 21063), (133, 21072), (137, 21081), (153, 21126),

Gene: Beauxregard13\_32 Start: 22963, Stop: 23265, Start Num: 67

Candidate Starts for Beauxregard13\_32:

(47, 22915), (Start: 49 @22918 has 3 MA's), (Start: 67 @22963 has 110 MA's), (83, 22993),

Gene: Beem\_51 Start: 43741, Stop: 44136, Start Num: 53



Candidate Starts for Beem\_51:

(Start: 53 @43741 has 42 MA's), (71, 43783), (Start: 75 @43795 has 10 MA's), (114, 43906), (121, 43951), (128, 43993), (140, 44026), (143, 44035),

Gene: Beemo\_32 Start: 24042, Stop: 24410, Start Num: 55

Candidate Starts for Beemo\_32:

(38, 23982), (Start: 55 @24042 has 26 MA's), (77, 24078), (80, 24084), (92, 24105), (100, 24123), (104, 24132), (124, 24231), (129, 24243), (136, 24264), (143, 24273),

Gene: Benedict\_27 Start: 21547, Stop: 21867, Start Num: 61

Candidate Starts for Benedict\_27:

(Start: 37 @21457 has 2 MA's), (Start: 61 @21547 has 37 MA's), (Start: 75 @21577 has 10 MA's), (77, 21583), (121, 21709), (134, 21742), (150, 21763), (153, 21796), (157, 21835), (166, 21859),

Gene: BengiVuitton\_31 Start: 22849, Stop: 23190, Start Num: 48

Candidate Starts for BengiVuitton\_31:

(Start: 48 @22849 has 17 MA's), (72, 22909), (Start: 76 @22921 has 2 MA's), (89, 22939), (134, 23068),

Gene: Benvolio\_30 Start: 22524, Stop: 22853, Start Num: 57

Candidate Starts for Benvolio\_30:

(31, 22365), (Start: 57 @22524 has 25 MA's), (Start: 75 @22551 has 10 MA's), (77, 22557), (100, 22602), (104, 22611), (134, 22725), (144, 22740), (158, 22824),

Gene: BiancaTri92\_32 Start: 24210, Stop: 24560, Start Num: 48

Candidate Starts for BiancaTri92\_32:

(29, 24051), (Start: 48 @24210 has 17 MA's), (Start: 76 @24282 has 2 MA's), (Start: 82 @24294 has 1 MA's), (133, 24426), (152, 24471),

Gene: BigPhil\_29 Start: 24971, Stop: 25345, Start Num: 41

Candidate Starts for BigPhil\_29:

(Start: 41 @24971 has 250 MA's), (43, 24977), (Start: 46 @24986 has 1 MA's), (Start: 48 @24998 has 17 MA's), (121, 25205), (134, 25238),

Gene: Bipolar\_30 Start: 27833, Stop: 28207, Start Num: 41

Candidate Starts for Bipolar\_30:

(Start: 41 @27833 has 250 MA's), (43, 27839), (Start: 46 @27848 has 1 MA's), (Start: 48 @27860 has 17 MA's), (121, 28067), (134, 28100),

Gene: Blarby\_42 Start: 29226, Stop: 29600, Start Num: 41

Candidate Starts for Blarby\_42:

(Start: 41 @29226 has 250 MA's), (Start: 46 @29241 has 1 MA's), (Start: 48 @29253 has 17 MA's), (121, 29460), (134, 29493),

Gene: BlessJoy\_33 Start: 22208, Stop: 22504, Start Num: 54

Candidate Starts for BlessJoy\_33:

(40, 22157), (Start: 54 @22208 has 103 MA's), (80, 22256), (121, 22361), (143, 22406),

Gene: Blexus\_33 Start: 29083, Stop: 29457, Start Num: 41

Candidate Starts for Blexus\_33:

(30, 28963), (Start: 41 @29083 has 250 MA's), (Start: 46 @29098 has 1 MA's), (Start: 48 @29110 has 17 MA's), (121, 29317), (134, 29350),

Gene: Blinn1\_33 Start: 22279, Stop: 22575, Start Num: 54  
Candidate Starts for Blinn1\_33:  
(Start: 54 @22279 has 103 MA's), (80, 22327), (83, 22333), (121, 22432), (143, 22477),

Gene: Blue7\_33 Start: 22200, Stop: 22496, Start Num: 54  
Candidate Starts for Blue7\_33:  
(40, 22149), (Start: 54 @22200 has 103 MA's), (80, 22248), (121, 22353), (143, 22398),

Gene: BlueBird\_31 Start: 22524, Stop: 22826, Start Num: 67  
Candidate Starts for BlueBird\_31:  
(36, 22422), (Start: 49 @22479 has 3 MA's), (Start: 67 @22524 has 110 MA's), (83, 22554), (87, 22563),

Gene: BlueCrab\_33 Start: 28933, Stop: 29307, Start Num: 41  
Candidate Starts for BlueCrab\_33:  
(Start: 41 @28933 has 250 MA's), (Start: 46 @28948 has 1 MA's), (Start: 48 @28960 has 17 MA's), (121, 29167), (134, 29200), (152, 29242),

Gene: Bluefalcon\_26 Start: 22383, Stop: 22703, Start Num: 61  
Candidate Starts for Bluefalcon\_26:  
(Start: 37 @22293 has 2 MA's), (Start: 61 @22383 has 37 MA's), (Start: 75 @22413 has 10 MA's), (77, 22419), (117, 22521), (121, 22545), (124, 22566), (134, 22578), (150, 22599), (153, 22632), (166, 22695),

Gene: BobSwaget\_33 Start: 24051, Stop: 24338, Start Num: 81  
Candidate Starts for BobSwaget\_33:  
(35, 23892), (Start: 81 @24051 has 17 MA's), (134, 24216), (150, 24237), (158, 24315),

Gene: BobaPhett\_33 Start: 28968, Stop: 29327, Start Num: 46  
Candidate Starts for BobaPhett\_33:  
(Start: 41 @28953 has 250 MA's), (Start: 42 @28956 has 15 MA's), (Start: 46 @28968 has 1 MA's), (Start: 48 @28980 has 17 MA's), (121, 29187), (134, 29220), (152, 29262),

Gene: Bobby\_50 Start: 42341, Stop: 42715, Start Num: 53  
Candidate Starts for Bobby\_50:  
(Start: 53 @42341 has 42 MA's), (71, 42383), (Start: 75 @42395 has 10 MA's), (114, 42506), (121, 42551), (128, 42593), (143, 42635), (146, 42647),

Gene: Bobi\_35 Start: 29460, Stop: 29834, Start Num: 41  
Candidate Starts for Bobi\_35:  
(Start: 41 @29460 has 250 MA's), (Start: 46 @29475 has 1 MA's), (Start: 48 @29487 has 17 MA's), (121, 29694), (134, 29727),

Gene: BodEinwohner17\_33 Start: 29153, Stop: 29527, Start Num: 41  
Candidate Starts for BodEinwohner17\_33:  
(30, 29033), (Start: 41 @29153 has 250 MA's), (Start: 46 @29168 has 1 MA's), (Start: 48 @29180 has 17 MA's), (121, 29387), (134, 29420),

Gene: Bogie\_31 Start: 27268, Stop: 27627, Start Num: 41  
Candidate Starts for Bogie\_31:  
(26, 27100), (34, 27178), (Start: 41 @27268 has 250 MA's), (Start: 46 @27286 has 1 MA's), (72, 27355), (117, 27469), (121, 27493), (134, 27526),

Gene: BogosyJay\_31 Start: 23567, Stop: 23932, Start Num: 54

Candidate Starts for BogosyJay\_31:

(31, 23408), (Start: 54 @23567 has 103 MA's), (77, 23603), (80, 23609), (95, 23636), (100, 23648), (124, 23756), (129, 23768), (153, 23852),

Gene: Bombitas\_48 Start: 43335, Stop: 43730, Start Num: 53

Candidate Starts for Bombitas\_48:

(Start: 53 @43335 has 42 MA's), (71, 43377), (Start: 75 @43389 has 10 MA's), (114, 43500), (121, 43545), (128, 43587), (140, 43620), (143, 43629), (146, 43641),

Gene: Bonamassa\_27 Start: 22134, Stop: 22544, Start Num: 37

Candidate Starts for Bonamassa\_27:

(Start: 37 @22134 has 2 MA's), (Start: 61 @22224 has 37 MA's), (Start: 75 @22254 has 10 MA's), (77, 22260), (117, 22362), (121, 22386), (124, 22407), (134, 22419), (150, 22440), (153, 22473), (160, 22521), (166, 22536),

Gene: Boohoo\_32 Start: 21408, Stop: 21749, Start Num: 54

Candidate Starts for Boohoo\_32:

(Start: 54 @21408 has 103 MA's), (95, 21474), (100, 21486), (155, 21696), (164, 21732), (167, 21738),

Gene: Boomer\_35 Start: 28823, Stop: 29197, Start Num: 41

Candidate Starts for Boomer\_35:

(Start: 41 @28823 has 250 MA's), (Start: 46 @28838 has 1 MA's), (Start: 48 @28850 has 17 MA's), (89, 28952), (94, 28961), (121, 29057), (134, 29090),

Gene: Bosection6\_30 Start: 24740, Stop: 25108, Start Num: 39

Candidate Starts for Bosection6\_30:

(Start: 39 @24740 has 42 MA's), (79, 24833), (88, 24851), (118, 24938), (121, 24959),

Gene: Bovely\_25 Start: 20597, Stop: 20950, Start Num: 60

Candidate Starts for Bovely\_25:

(Start: 60 @20597 has 41 MA's), (Start: 74 @20627 has 1 MA's), (Start: 76 @20633 has 2 MA's), (Start: 90 @20666 has 4 MA's), (131, 20816), (133, 20825), (137, 20834), (153, 20879),

Gene: Bowden\_26 Start: 21309, Stop: 21662, Start Num: 59

Candidate Starts for Bowden\_26:

(Start: 59 @21309 has 29 MA's), (70, 21324), (Start: 74 @21336 has 1 MA's), (Start: 76 @21342 has 2 MA's), (125, 21516), (141, 21552), (156, 21618), (162, 21642),

Gene: Bowtie\_30 Start: 23076, Stop: 23396, Start Num: 54

Candidate Starts for Bowtie\_30:

(Start: 52 @23073 has 21 MA's), (Start: 54 @23076 has 103 MA's), (58, 23082), (97, 23142), (104, 23154), (117, 23196), (129, 23253),

Gene: Bradman\_29 Start: 21322, Stop: 21645, Start Num: 57

Candidate Starts for Bradman\_29:

(40, 21274), (Start: 57 @21322 has 25 MA's), (Start: 75 @21349 has 10 MA's), (77, 21355), (Start: 82 @21364 has 1 MA's), (115, 21451),

Gene: Brataylor\_27 Start: 21715, Stop: 22068, Start Num: 60

Candidate Starts for Brataylor\_27:

(Start: 60 @21715 has 41 MA's), (Start: 90 @21787 has 4 MA's), (117, 21880), (124, 21925), (131, 21937), (155, 22024), (169, 22063),

Gene: BreSam8\_32 Start: 22956, Stop: 23258, Start Num: 67

Candidate Starts for BreSam8\_32:

(47, 22908), (Start: 49 @22911 has 3 MA's), (Start: 67 @22956 has 110 MA's), (83, 22986),

Gene: BroPlease\_26 Start: 20975, Stop: 21328, Start Num: 59

Candidate Starts for BroPlease\_26:

(Start: 59 @20975 has 29 MA's), (Start: 74 @21002 has 1 MA's), (87, 21035), (104, 21071), (117, 21134), (124, 21179), (156, 21284), (162, 21308),

Gene: Brocalys\_28 Start: 24550, Stop: 24924, Start Num: 41

Candidate Starts for Brocalys\_28:

(Start: 41 @24550 has 250 MA's), (Start: 46 @24565 has 1 MA's), (Start: 48 @24577 has 17 MA's), (72, 24637), (121, 24784), (133, 24814), (134, 24817),

Gene: Brujita\_32 Start: 27623, Stop: 27982, Start Num: 41

Candidate Starts for Brujita\_32:

(26, 27455), (34, 27533), (Start: 41 @27623 has 250 MA's), (Start: 46 @27641 has 1 MA's), (72, 27710), (117, 27824), (121, 27848), (134, 27881),

Gene: Brusacoram\_29 Start: 25480, Stop: 25839, Start Num: 41

Candidate Starts for Brusacoram\_29:

(Start: 41 @25480 has 250 MA's), (72, 25567), (121, 25705), (134, 25738),

Gene: Brushbloom\_36 Start: 28771, Stop: 29145, Start Num: 41

Candidate Starts for Brushbloom\_36:

(Start: 41 @28771 has 250 MA's), (Start: 46 @28786 has 1 MA's), (Start: 48 @28798 has 17 MA's), (121, 29005), (134, 29038),

Gene: BryanRecycles\_26 Start: 20960, Stop: 21313, Start Num: 60

Candidate Starts for BryanRecycles\_26:

(Start: 60 @20960 has 41 MA's), (Start: 76 @20996 has 2 MA's), (Start: 90 @21029 has 4 MA's), (133, 21188),

Gene: Bubbles123\_35 Start: 29738, Stop: 30112, Start Num: 41

Candidate Starts for Bubbles123\_35:

(Start: 41 @29738 has 250 MA's), (Start: 46 @29753 has 1 MA's), (Start: 48 @29765 has 17 MA's), (121, 29972), (134, 30005), (152, 30047),

Gene: Bud\_30 Start: 23079, Stop: 23402, Start Num: 52

Candidate Starts for Bud\_30:

(Start: 52 @23079 has 21 MA's), (58, 23088), (97, 23148), (104, 23160), (117, 23202), (129, 23259),

Gene: Bugatti\_30 Start: 22524, Stop: 22826, Start Num: 67

Candidate Starts for Bugatti\_30:

(36, 22422), (Start: 49 @22479 has 3 MA's), (Start: 67 @22524 has 110 MA's), (83, 22554), (87, 22563),

Gene: Buggy\_32 Start: 22928, Stop: 23266, Start Num: 54

Candidate Starts for Buggy\_32:

(31, 22769), (Start: 54 @22928 has 103 MA's), (Start: 75 @22964 has 10 MA's), (77, 22970), (100, 23015), (104, 23024), (134, 23138), (144, 23153), (158, 23237),

Gene: Bunnies\_29 Start: 25501, Stop: 25860, Start Num: 41  
Candidate Starts for Bunnies\_29:  
(Start: 41 @25501 has 250 MA's), (72, 25588), (121, 25726), (134, 25759),

Gene: Burwell21\_33 Start: 28937, Stop: 29311, Start Num: 41  
Candidate Starts for Burwell21\_33:  
(Start: 41 @28937 has 250 MA's), (Start: 46 @28952 has 1 MA's), (Start: 48 @28964 has 17 MA's),  
(121, 29171), (133, 29201), (134, 29204), (152, 29246),

Gene: Butters\_29 Start: 24134, Stop: 24508, Start Num: 41  
Candidate Starts for Butters\_29:  
(26, 23966), (34, 24044), (Start: 41 @24134 has 250 MA's), (85, 24251),

Gene: BuzzBuzz\_31 Start: 23047, Stop: 23352, Start Num: 67  
Candidate Starts for BuzzBuzz\_31:  
(47, 22999), (Start: 49 @23002 has 3 MA's), (Start: 67 @23047 has 110 MA's), (83, 23077), (153,  
23287),

Gene: BuzzLyseyear\_36 Start: 29552, Stop: 29926, Start Num: 41  
Candidate Starts for BuzzLyseyear\_36:  
(Start: 41 @29552 has 250 MA's), (43, 29558), (Start: 46 @29567 has 1 MA's), (Start: 48 @29579 has  
17 MA's), (121, 29786), (134, 29819), (152, 29861),

Gene: Bxz2\_31 Start: 23057, Stop: 23359, Start Num: 67  
Candidate Starts for Bxz2\_31:  
(47, 23009), (Start: 49 @23012 has 3 MA's), (Start: 67 @23057 has 110 MA's), (83, 23087),

Gene: Byougenkin\_33 Start: 28835, Stop: 29209, Start Num: 41  
Candidate Starts for Byougenkin\_33:  
(Start: 41 @28835 has 250 MA's), (Start: 46 @28850 has 1 MA's), (Start: 48 @28862 has 17 MA's),  
(121, 29069), (134, 29102),

Gene: CRB1\_30 Start: 22412, Stop: 22753, Start Num: 48  
Candidate Starts for CRB1\_30:  
(29, 22256), (Start: 48 @22412 has 17 MA's), (Start: 76 @22484 has 2 MA's), (89, 22502), (134,  
22631),

Gene: Cabrinians\_33 Start: 29015, Stop: 29389, Start Num: 41  
Candidate Starts for Cabrinians\_33:  
(Start: 41 @29015 has 250 MA's), (Start: 46 @29030 has 1 MA's), (Start: 48 @29042 has 17 MA's),  
(121, 29249), (133, 29279), (134, 29282), (152, 29324),

Gene: CactusJack\_29 Start: 25744, Stop: 26103, Start Num: 41  
Candidate Starts for CactusJack\_29:  
(Start: 41 @25744 has 250 MA's), (72, 25831), (121, 25969), (134, 26002),

Gene: Caelum\_26 Start: 21282, Stop: 21635, Start Num: 59  
Candidate Starts for Caelum\_26:  
(16, 20769), (22, 20922), (Start: 59 @21282 has 29 MA's), (63, 21288), (65, 21291), (Start: 74 @21309  
has 1 MA's), (80, 21324), (95, 21357), (111, 21408), (123, 21477), (124, 21486), (156, 21591), (162,  
21615),

Gene: Cafasso\_32 Start: 27477, Stop: 27848, Start Num: 62

Candidate Starts for Cafasso\_32:

(20, 27090), (40, 27402), (Start: 62 @27477 has 5 MA's), (Start: 90 @27546 has 4 MA's), (96, 27558), (105, 27579), (116, 27627),

Gene: Caliburn\_25 Start: 20574, Stop: 20927, Start Num: 60

Candidate Starts for Caliburn\_25:

(Start: 60 @20574 has 41 MA's), (Start: 76 @20610 has 2 MA's), (Start: 90 @20643 has 4 MA's), (131, 20793), (133, 20802), (137, 20811), (153, 20856),

Gene: Calvinny\_33 Start: 23047, Stop: 23349, Start Num: 67

Candidate Starts for Calvinny\_33:

(Start: 49 @23002 has 3 MA's), (Start: 67 @23047 has 110 MA's), (113, 23155),

Gene: Camster\_29 Start: 25517, Stop: 25876, Start Num: 41

Candidate Starts for Camster\_29:

(Start: 41 @25517 has 250 MA's), (72, 25604), (121, 25742), (134, 25775),

Gene: Candra\_33 Start: 22249, Stop: 22545, Start Num: 54

Candidate Starts for Candra\_33:

(Start: 54 @22249 has 103 MA's), (83, 22303), (121, 22402), (143, 22447),

Gene: CaptainTrips\_34 Start: 29160, Stop: 29534, Start Num: 41

Candidate Starts for CaptainTrips\_34:

(Start: 41 @29160 has 250 MA's), (Start: 46 @29175 has 1 MA's), (Start: 48 @29187 has 17 MA's), (112, 29343), (121, 29394), (134, 29427),

Gene: Caraxes\_29 Start: 21092, Stop: 21400, Start Num: 54

Candidate Starts for Caraxes\_29:

(40, 21041), (Start: 54 @21092 has 103 MA's), (73, 21116), (99, 21170), (100, 21173), (104, 21182), (110, 21203), (150, 21314),

Gene: Carcharodon\_30 Start: 24740, Stop: 25120, Start Num: 39

Candidate Starts for Carcharodon\_30:

(Start: 39 @24740 has 42 MA's), (118, 24950), (121, 24971),

Gene: Catalina\_33 Start: 24008, Stop: 24376, Start Num: 55

Candidate Starts for Catalina\_33:

(38, 23948), (Start: 55 @24008 has 26 MA's), (77, 24044), (80, 24050), (92, 24071), (100, 24089), (104, 24098), (124, 24197), (129, 24209), (136, 24230), (143, 24239),

Gene: Caviar\_31 Start: 23059, Stop: 23361, Start Num: 67

Candidate Starts for Caviar\_31:

(Start: 49 @23014 has 3 MA's), (Start: 67 @23059 has 110 MA's), (83, 23089), (87, 23098), (107, 23140), (113, 23167),

Gene: Celery\_29 Start: 22253, Stop: 22603, Start Num: 64

Candidate Starts for Celery\_29:

(13, 21680), (22, 21884), (Start: 64 @22253 has 11 MA's), (70, 22265), (Start: 76 @22283 has 2 MA's), (Start: 90 @22316 has 4 MA's), (98, 22331), (102, 22343), (111, 22376), (117, 22409), (123, 22445),

Gene: Celeste\_25 Start: 21167, Stop: 21520, Start Num: 60

Candidate Starts for Celeste\_25:

(Start: 60 @21167 has 41 MA's), (Start: 90 @21239 has 4 MA's), (117, 21332), (131, 21389), (155, 21476),

Gene: Celia\_27 Start: 21558, Stop: 21914, Start Num: 60

Candidate Starts for Celia\_27:

(1, 20016), (5, 20751), (6, 20820), (7, 20826), (8, 20829), (9, 20844), (19, 21126), (22, 21192), (Start: 60 @21558 has 41 MA's), (Start: 76 @21591 has 2 MA's), (Start: 90 @21624 has 4 MA's), (111, 21684), (117, 21717), (123, 21753), (124, 21762), (166, 21900),

Gene: Centaur\_32 Start: 22885, Stop: 23214, Start Num: 57

Candidate Starts for Centaur\_32:

(31, 22726), (Start: 57 @22885 has 25 MA's), (Start: 75 @22912 has 10 MA's), (77, 22918), (104, 22972), (134, 23086), (144, 23101), (158, 23185),

Gene: Cerasum\_29 Start: 24971, Stop: 25345, Start Num: 41

Candidate Starts for Cerasum\_29:

(Start: 41 @24971 has 250 MA's), (43, 24977), (Start: 46 @24986 has 1 MA's), (Start: 48 @24998 has 17 MA's), (121, 25205), (134, 25238),

Gene: Chadwick\_28 Start: 21515, Stop: 21835, Start Num: 61

Candidate Starts for Chadwick\_28:

(Start: 37 @21425 has 2 MA's), (Start: 61 @21515 has 37 MA's), (Start: 75 @21545 has 10 MA's), (77, 21551), (121, 21677), (134, 21710), (150, 21731), (153, 21764), (157, 21803), (166, 21827),

Gene: Chargerpower\_31 Start: 21744, Stop: 22049, Start Num: 54

Candidate Starts for Chargerpower\_31:

(Start: 54 @21744 has 103 MA's),

Gene: Charlie\_30 Start: 24740, Stop: 25108, Start Num: 39

Candidate Starts for Charlie\_30:

(Start: 39 @24740 has 42 MA's), (79, 24833), (88, 24851), (118, 24938), (121, 24959),

Gene: Charm\_30 Start: 21952, Stop: 22320, Start Num: 54

Candidate Starts for Charm\_30:

(31, 21793), (40, 21901), (Start: 54 @21952 has 103 MA's), (Start: 82 @21997 has 1 MA's), (95, 22021), (100, 22033), (101, 22036), (124, 22141), (129, 22153), (143, 22183), (147, 22195), (150, 22204), (170, 22315),

Gene: Chartreuse\_33 Start: 22160, Stop: 22456, Start Num: 54

Candidate Starts for Chartreuse\_33:

(Start: 54 @22160 has 103 MA's), (83, 22214), (121, 22313), (143, 22358),

Gene: Che12\_32 Start: 21345, Stop: 21671, Start Num: 54

Candidate Starts for Che12\_32:

(40, 21294), (Start: 54 @21345 has 103 MA's), (99, 21414), (150, 21558), (152, 21579), (168, 21657),

Gene: Che8\_35 Start: 29204, Stop: 29578, Start Num: 41

Candidate Starts for Che8\_35:

(Start: 41 @29204 has 250 MA's), (43, 29210), (Start: 46 @29219 has 1 MA's), (Start: 48 @29231 has 17 MA's), (72, 29291), (121, 29438), (134, 29471), (152, 29513),

Gene: Chevrolet\_34 Start: 29314, Stop: 29685, Start Num: 42

Candidate Starts for Chevrolet\_34:

(Start: 41 @29311 has 250 MA's), (Start: 42 @29314 has 15 MA's), (Start: 46 @29326 has 1 MA's), (Start: 48 @29338 has 17 MA's), (72, 29398), (121, 29545), (134, 29578), (152, 29620),

Gene: Chewbacca\_30 Start: 24740, Stop: 25120, Start Num: 39

Candidate Starts for Chewbacca\_30:

(Start: 39 @24740 has 42 MA's), (118, 24950), (121, 24971),

Gene: ChickenDinner\_35 Start: 29381, Stop: 29755, Start Num: 41

Candidate Starts for ChickenDinner\_35:

(Start: 41 @29381 has 250 MA's), (Start: 46 @29396 has 1 MA's), (Start: 48 @29408 has 17 MA's), (121, 29615), (134, 29648),

Gene: ChipMunk\_32 Start: 22832, Stop: 23176, Start Num: 48

Candidate Starts for ChipMunk\_32:

(29, 22673), (Start: 48 @22832 has 17 MA's), (51, 22841), (80, 22913), (89, 22922), (133, 23048),

Gene: Chiqui\_29 Start: 22795, Stop: 23097, Start Num: 67

Candidate Starts for Chiqui\_29:

(Start: 49 @22753 has 3 MA's), (Start: 67 @22795 has 110 MA's), (85, 22831), (134, 22981),

Gene: Chuckly\_33 Start: 28936, Stop: 29310, Start Num: 41

Candidate Starts for Chuckly\_33:

(Start: 41 @28936 has 250 MA's), (Start: 42 @28939 has 15 MA's), (Start: 46 @28951 has 1 MA's), (Start: 48 @28963 has 17 MA's), (121, 29170), (134, 29203), (152, 29245),

Gene: Chucky\_24 Start: 20710, Stop: 21066, Start Num: 56

Candidate Starts for Chucky\_24:

(Start: 56 @20710 has 18 MA's), (Start: 76 @20749 has 2 MA's), (Start: 90 @20782 has 4 MA's), (117, 20875), (131, 20932), (133, 20941), (167, 21058),

Gene: Clifton\_27 Start: 24901, Stop: 25275, Start Num: 41

Candidate Starts for Clifton\_27:

(Start: 41 @24901 has 250 MA's), (Start: 46 @24916 has 1 MA's), (Start: 48 @24928 has 17 MA's), (121, 25135), (133, 25165), (134, 25168), (152, 25210),

Gene: CloudWang3\_33 Start: 22210, Stop: 22506, Start Num: 54

Candidate Starts for CloudWang3\_33:

(40, 22159), (Start: 54 @22210 has 103 MA's), (80, 22258), (121, 22363), (143, 22408),

Gene: Coco12\_33 Start: 28820, Stop: 29194, Start Num: 41

Candidate Starts for Coco12\_33:

(Start: 41 @28820 has 250 MA's), (Start: 46 @28835 has 1 MA's), (Start: 48 @28847 has 17 MA's), (121, 29054), (134, 29087),

Gene: Colbster\_32 Start: 22963, Stop: 23265, Start Num: 67

Candidate Starts for Colbster\_32:

(47, 22915), (Start: 49 @22918 has 3 MA's), (Start: 67 @22963 has 110 MA's), (83, 22993),

Gene: Colin\_34 Start: 24125, Stop: 24478, Start Num: 54

Candidate Starts for Colin\_34:

(31, 23966), (Start: 54 @24125 has 103 MA's), (Start: 82 @24170 has 1 MA's), (100, 24206), (129, 24326), (132, 24332), (136, 24347), (147, 24368), (158, 24455),



Gene: Conan\_27 Start: 22175, Stop: 22561, Start Num: 64

Candidate Starts for Conan\_27:

(Start: 64 @22175 has 11 MA's), (Start: 76 @22199 has 2 MA's), (Start: 90 @22232 has 4 MA's), (98, 22247), (99, 22250), (102, 22259), (111, 22292), (117, 22325), (123, 22361), (133, 22391), (155, 22469), (156, 22475),

Gene: Conquerage\_32 Start: 24038, Stop: 24406, Start Num: 55

Candidate Starts for Conquerage\_32:

(38, 23978), (Start: 55 @24038 has 26 MA's), (77, 24074), (80, 24080), (100, 24119), (104, 24128), (124, 24227), (129, 24239), (143, 24269), (147, 24281), (152, 24311),

Gene: Conspiracy\_27 Start: 22133, Stop: 22453, Start Num: 61

Candidate Starts for Conspiracy\_27:

(Start: 37 @22043 has 2 MA's), (Start: 61 @22133 has 37 MA's), (Start: 75 @22163 has 10 MA's), (77, 22169), (121, 22295), (133, 22325), (134, 22328), (150, 22349), (153, 22382), (160, 22430), (166, 22445),

Gene: Constella\_43 Start: 39899, Stop: 40273, Start Num: 53

Candidate Starts for Constella\_43:

(Start: 53 @39899 has 42 MA's), (71, 39941), (Start: 75 @39953 has 10 MA's), (114, 40064), (121, 40109), (128, 40151), (140, 40184), (143, 40193), (146, 40205),

Gene: Coog\_27 Start: 22303, Stop: 22593, Start Num: 75

Candidate Starts for Coog\_27:

(Start: 37 @22183 has 2 MA's), (Start: 61 @22273 has 37 MA's), (Start: 75 @22303 has 10 MA's), (77, 22309), (117, 22411), (121, 22435), (124, 22456), (134, 22468), (150, 22489), (153, 22522), (160, 22570), (166, 22585),

Gene: Cookiedough\_33 Start: 22206, Stop: 22502, Start Num: 54

Candidate Starts for Cookiedough\_33:

(Start: 54 @22206 has 103 MA's), (83, 22260), (121, 22359), (143, 22404),

Gene: Cornie\_33 Start: 29258, Stop: 29632, Start Num: 41

Candidate Starts for Cornie\_33:

(Start: 41 @29258 has 250 MA's), (Start: 46 @29273 has 1 MA's), (Start: 48 @29285 has 17 MA's), (121, 29492), (134, 29525),

Gene: Cornucopia\_34 Start: 28779, Stop: 29153, Start Num: 41

Candidate Starts for Cornucopia\_34:

(Start: 41 @28779 has 250 MA's), (Start: 42 @28782 has 15 MA's), (Start: 46 @28794 has 1 MA's), (Start: 48 @28806 has 17 MA's), (72, 28866), (121, 29013), (133, 29043), (134, 29046), (152, 29088),

Gene: Courthouse\_50 Start: 40423, Stop: 40809, Start Num: 53

Candidate Starts for Courthouse\_50:

(Start: 53 @40423 has 42 MA's), (70, 40462), (Start: 75 @40477 has 10 MA's), (78, 40486), (121, 40633), (125, 40657), (128, 40675), (138, 40705), (143, 40717),

Gene: Crucio\_30 Start: 22350, Stop: 22637, Start Num: 81

Candidate Starts for Crucio\_30:

(35, 22191), (Start: 81 @22350 has 17 MA's), (134, 22515), (150, 22536), (158, 22614),

Gene: Crumble\_27 Start: 24953, Stop: 25324, Start Num: 42

Candidate Starts for Crumble\_27:

(Start: 41 @24950 has 250 MA's), (Start: 42 @24953 has 15 MA's), (Start: 46 @24965 has 1 MA's),  
(Start: 48 @24977 has 17 MA's), (121, 25184), (134, 25217), (152, 25259),

Gene: Cuco\_27 Start: 22253, Stop: 22543, Start Num: 75

Candidate Starts for Cuco\_27:

(Start: 37 @22133 has 2 MA's), (Start: 61 @22223 has 37 MA's), (Start: 75 @22253 has 10 MA's), (77,  
22259), (117, 22361), (121, 22385), (124, 22406), (134, 22418), (150, 22439), (153, 22472), (160,  
22520), (166, 22535),

Gene: Cullens\_32 Start: 22962, Stop: 23264, Start Num: 67

Candidate Starts for Cullens\_32:

(47, 22914), (Start: 49 @22917 has 3 MA's), (Start: 67 @22962 has 110 MA's), (83, 22992),

Gene: DLane\_33 Start: 28724, Stop: 29098, Start Num: 41

Candidate Starts for DLane\_33:

(Start: 41 @28724 has 250 MA's), (Start: 46 @28739 has 1 MA's), (Start: 48 @28751 has 17 MA's),  
(121, 28958), (134, 28991),

Gene: DRBy19\_33 Start: 28862, Stop: 29236, Start Num: 41

Candidate Starts for DRBy19\_33:

(Start: 41 @28862 has 250 MA's), (Start: 42 @28865 has 15 MA's), (Start: 46 @28877 has 1 MA's),  
(Start: 48 @28889 has 17 MA's), (121, 29096), (134, 29129), (152, 29171),

Gene: DaHudson\_32 Start: 22955, Stop: 23257, Start Num: 67

Candidate Starts for DaHudson\_32:

(47, 22907), (Start: 49 @22910 has 3 MA's), (Start: 67 @22955 has 110 MA's), (83, 22985),

Gene: DaVinci\_33 Start: 22214, Stop: 22510, Start Num: 54

Candidate Starts for DaVinci\_33:

(Start: 54 @22214 has 103 MA's), (83, 22268), (121, 22367), (143, 22412),

Gene: DaWorst\_35 Start: 29302, Stop: 29676, Start Num: 41

Candidate Starts for DaWorst\_35:

(Start: 41 @29302 has 250 MA's), (43, 29308), (Start: 46 @29317 has 1 MA's), (Start: 48 @29329 has  
17 MA's), (121, 29536), (134, 29569), (152, 29611),

Gene: DaddyRickover\_33 Start: 28945, Stop: 29319, Start Num: 41

Candidate Starts for DaddyRickover\_33:

(Start: 41 @28945 has 250 MA's), (43, 28951), (Start: 46 @28960 has 1 MA's), (Start: 48 @28972 has  
17 MA's), (121, 29179), (134, 29212), (152, 29254),

Gene: Daenerys\_33 Start: 28766, Stop: 29140, Start Num: 41

Candidate Starts for Daenerys\_33:

(Start: 41 @28766 has 250 MA's), (43, 28772), (Start: 46 @28781 has 1 MA's), (Start: 48 @28793 has  
17 MA's), (121, 29000), (134, 29033), (152, 29075),

Gene: Daishi\_31 Start: 21888, Stop: 22193, Start Num: 67

Candidate Starts for Daishi\_31:

(47, 21840), (Start: 49 @21843 has 3 MA's), (Start: 67 @21888 has 110 MA's), (83, 21918), (153,  
22128),

Gene: Dallas\_53 Start: 43296, Stop: 43670, Start Num: 53

Candidate Starts for Dallas\_53:

(Start: 53 @43296 has 42 MA's), (70, 43335), (Start: 75 @43350 has 10 MA's), (78, 43359), (121, 43506), (125, 43530), (128, 43548), (138, 43578), (143, 43590),

Gene: Dalmatian\_30 Start: 22557, Stop: 22844, Start Num: 81

Candidate Starts for Dalmatian\_30:

(35, 22398), (Start: 81 @22557 has 17 MA's), (134, 22722), (150, 22743), (158, 22821),

Gene: Danforth\_26 Start: 21212, Stop: 21493, Start Num: 61

Candidate Starts for Danforth\_26:

(Start: 61 @21212 has 37 MA's), (Start: 75 @21239 has 10 MA's), (77, 21245), (89, 21269), (155, 21446), (157, 21461), (161, 21473), (165, 21482),

Gene: Dante\_33 Start: 28884, Stop: 29258, Start Num: 41

Candidate Starts for Dante\_33:

(Start: 41 @28884 has 250 MA's), (Start: 46 @28899 has 1 MA's), (Start: 48 @28911 has 17 MA's), (121, 29118), (134, 29151), (152, 29193),

Gene: Danzina\_26 Start: 21468, Stop: 21821, Start Num: 60

Candidate Starts for Danzina\_26:

(Start: 60 @21468 has 41 MA's), (Start: 90 @21540 has 4 MA's), (117, 21633), (131, 21690), (155, 21777),

Gene: Darrell\_32 Start: 24002, Stop: 24370, Start Num: 55

Candidate Starts for Darrell\_32:

(Start: 55 @24002 has 26 MA's), (77, 24038), (86, 24056), (89, 24062), (95, 24071), (99, 24080), (100, 24083), (124, 24191), (129, 24203), (136, 24224), (143, 24233), (147, 24245), (154, 24293),

Gene: DARTHPhader\_31 Start: 24013, Stop: 24369, Start Num: 54

Candidate Starts for DARTHPhader\_31:

(31, 23854), (Start: 54 @24013 has 103 MA's), (77, 24049), (100, 24094), (113, 24136), (125, 24205), (129, 24214), (143, 24244), (147, 24256), (150, 24265), (163, 24349),

Gene: Dattran\_26 Start: 21277, Stop: 21630, Start Num: 60

Candidate Starts for Dattran\_26:

(Start: 60 @21277 has 41 MA's), (Start: 90 @21349 has 4 MA's), (117, 21442), (124, 21487), (131, 21499), (155, 21586),

Gene: Daudau\_25 Start: 21308, Stop: 21661, Start Num: 59

Candidate Starts for Daudau\_25:

(Start: 59 @21308 has 29 MA's), (70, 21323), (Start: 74 @21335 has 1 MA's), (Start: 76 @21341 has 2 MA's), (113, 21446), (115, 21452), (124, 21512), (162, 21641),

Gene: DeadP\_33 Start: 28921, Stop: 29295, Start Num: 41

Candidate Starts for DeadP\_33:

(Start: 41 @28921 has 250 MA's), (Start: 46 @28936 has 1 MA's), (Start: 48 @28948 has 17 MA's), (121, 29155), (134, 29188), (152, 29230),

Gene: Deb65\_33 Start: 28767, Stop: 29141, Start Num: 41

Candidate Starts for Deb65\_33:

(Start: 41 @28767 has 250 MA's), (Start: 46 @28782 has 1 MA's), (Start: 48 @28794 has 17 MA's), (121, 29001), (134, 29034), (152, 29076),

Gene: DekHockey33\_32 Start: 21527, Stop: 21868, Start Num: 54

Candidate Starts for DekHockey33\_32:

(Start: 54 @21527 has 103 MA's), (95, 21593), (100, 21605), (155, 21815), (164, 21851), (167, 21857),

Gene: Deloris\_31 Start: 22849, Stop: 23190, Start Num: 48

Candidate Starts for Deloris\_31:

(Start: 48 @22849 has 17 MA's), (72, 22909), (Start: 76 @22921 has 2 MA's), (89, 22939), (134, 23068),

Gene: Dexers\_25 Start: 22199, Stop: 22543, Start Num: 64

Candidate Starts for Dexers\_25:

(22, 21863), (Start: 64 @22199 has 11 MA's), (Start: 76 @22223 has 2 MA's), (Start: 90 @22256 has 4 MA's), (98, 22271), (99, 22274), (102, 22283), (111, 22316), (123, 22385), (156, 22499),

Gene: Diane\_25 Start: 21541, Stop: 21894, Start Num: 59

Candidate Starts for Diane\_25:

(Start: 59 @21541 has 29 MA's), (65, 21550), (70, 21556), (Start: 74 @21568 has 1 MA's), (Start: 76 @21574 has 2 MA's), (80, 21583), (87, 21601), (99, 21625), (111, 21667), (125, 21748), (156, 21850), (162, 21874),

Gene: Dieselweasel\_32 Start: 22964, Stop: 23266, Start Num: 67

Candidate Starts for Dieselweasel\_32:

(47, 22916), (Start: 49 @22919 has 3 MA's), (Start: 67 @22964 has 110 MA's), (83, 22994),

Gene: Dignity\_32 Start: 22873, Stop: 23211, Start Num: 54

Candidate Starts for Dignity\_32:

(31, 22714), (Start: 54 @22873 has 103 MA's), (Start: 75 @22909 has 10 MA's), (77, 22915), (100, 22960), (104, 22969), (134, 23083), (144, 23098), (158, 23182),

Gene: DillTech15\_33 Start: 28852, Stop: 29226, Start Num: 41

Candidate Starts for DillTech15\_33:

(Start: 41 @28852 has 250 MA's), (Start: 42 @28855 has 15 MA's), (Start: 46 @28867 has 1 MA's), (Start: 48 @28879 has 17 MA's), (121, 29086), (134, 29119),

Gene: DirtMcgirt\_34 Start: 28587, Stop: 28961, Start Num: 41

Candidate Starts for DirtMcgirt\_34:

(Start: 41 @28587 has 250 MA's), (Start: 42 @28590 has 15 MA's), (Start: 46 @28602 has 1 MA's), (Start: 48 @28614 has 17 MA's), (72, 28674), (121, 28821), (134, 28854), (152, 28896),

Gene: Discoknowium\_27 Start: 22342, Stop: 22662, Start Num: 61

Candidate Starts for Discoknowium\_27:

(Start: 37 @22252 has 2 MA's), (Start: 61 @22342 has 37 MA's), (Start: 75 @22372 has 10 MA's), (77, 22378), (104, 22432), (121, 22504), (133, 22534), (134, 22537), (150, 22558), (153, 22591), (160, 22639), (166, 22654),

Gene: Dixon\_27 Start: 21231, Stop: 21512, Start Num: 61

Candidate Starts for Dixon\_27:

(Start: 61 @21231 has 37 MA's), (Start: 75 @21258 has 10 MA's), (77, 21264), (89, 21288), (104, 21318), (155, 21465), (157, 21480), (161, 21492), (165, 21501),

Gene: DmpstrDiver\_52 Start: 43289, Stop: 43663, Start Num: 53

Candidate Starts for DmpstrDiver\_52:

(Start: 53 @43289 has 42 MA's), (71, 43331), (Start: 75 @43343 has 10 MA's), (114, 43454), (121, 43499), (128, 43541), (140, 43574), (143, 43583), (146, 43595),

Gene: DoRead\_36 Start: 28999, Stop: 29370, Start Num: 42

Candidate Starts for DoRead\_36:

(Start: 41 @28996 has 250 MA's), (Start: 42 @28999 has 15 MA's), (Start: 46 @29011 has 1 MA's),  
(Start: 48 @29023 has 17 MA's), (72, 29083), (121, 29230), (134, 29263), (152, 29305),

Gene: DocMcStuffins\_35 Start: 29381, Stop: 29755, Start Num: 41

Candidate Starts for DocMcStuffins\_35:

(Start: 41 @29381 has 250 MA's), (Start: 46 @29396 has 1 MA's), (Start: 48 @29408 has 17 MA's),  
(121, 29615), (134, 29648),

Gene: Donkeykong\_33 Start: 28947, Stop: 29321, Start Num: 41

Candidate Starts for Donkeykong\_33:

(Start: 41 @28947 has 250 MA's), (Start: 46 @28962 has 1 MA's), (Start: 48 @28974 has 17 MA's),  
(121, 29181), (134, 29214),

Gene: Donovan\_29 Start: 25474, Stop: 25833, Start Num: 41

Candidate Starts for Donovan\_29:

(Start: 41 @25474 has 250 MA's), (72, 25561), (121, 25699), (134, 25732),

Gene: Doomphist\_33 Start: 28884, Stop: 29258, Start Num: 41

Candidate Starts for Doomphist\_33:

(Start: 41 @28884 has 250 MA's), (43, 28890), (Start: 46 @28899 has 1 MA's), (Start: 48 @28911 has  
17 MA's), (121, 29118), (134, 29151),

Gene: Dorothea\_33 Start: 22214, Stop: 22510, Start Num: 54

Candidate Starts for Dorothea\_33:

(Start: 54 @22214 has 103 MA's), (83, 22268), (121, 22367), (143, 22412),

Gene: Dorothy\_33 Start: 28730, Stop: 29104, Start Num: 41

Candidate Starts for Dorothy\_33:

(Start: 41 @28730 has 250 MA's), (43, 28736), (Start: 46 @28745 has 1 MA's), (Start: 48 @28757 has  
17 MA's), (121, 28964), (134, 28997), (152, 29039),

Gene: DosHalletts\_35 Start: 29148, Stop: 29522, Start Num: 41

Candidate Starts for DosHalletts\_35:

(Start: 41 @29148 has 250 MA's), (43, 29154), (Start: 46 @29163 has 1 MA's), (Start: 48 @29175 has  
17 MA's), (72, 29235), (121, 29382), (134, 29415), (152, 29457),

Gene: DotProduct\_33 Start: 28753, Stop: 29127, Start Num: 41

Candidate Starts for DotProduct\_33:

(Start: 41 @28753 has 250 MA's), (Start: 42 @28756 has 15 MA's), (Start: 46 @28768 has 1 MA's),  
(Start: 48 @28780 has 17 MA's), (121, 28987), (134, 29020),

Gene: Doug\_34 Start: 29325, Stop: 29699, Start Num: 41

Candidate Starts for Doug\_34:

(Start: 41 @29325 has 250 MA's), (Start: 46 @29340 has 1 MA's), (Start: 48 @29352 has 17 MA's),  
(121, 29559), (134, 29592), (152, 29634),

Gene: Dove\_48 Start: 42823, Stop: 43197, Start Num: 53

Candidate Starts for Dove\_48:

(Start: 53 @42823 has 42 MA's), (71, 42865), (Start: 75 @42877 has 10 MA's), (114, 42988), (121,  
43033), (128, 43075), (140, 43108), (143, 43117), (146, 43129),

Gene: Drago\_34 Start: 28580, Stop: 28954, Start Num: 41

Candidate Starts for Drago\_34:

(Start: 41 @28580 has 250 MA's), (Start: 42 @28583 has 15 MA's), (Start: 46 @28595 has 1 MA's), (Start: 48 @28607 has 17 MA's), (121, 28814), (134, 28847), (152, 28889),

Gene: Drake55\_32 Start: 22902, Stop: 23225, Start Num: 57

Candidate Starts for Drake55\_32:

(31, 22743), (Start: 57 @22902 has 25 MA's), (Start: 75 @22929 has 10 MA's), (77, 22935), (104, 22989), (134, 23103), (158, 23202),

Gene: DreamTeam1\_30 Start: 21951, Stop: 22319, Start Num: 54

Candidate Starts for DreamTeam1\_30:

(31, 21792), (40, 21900), (Start: 54 @21951 has 103 MA's), (Start: 82 @21996 has 1 MA's), (95, 22020), (100, 22032), (101, 22035), (124, 22140), (129, 22152), (143, 22182), (147, 22194), (150, 22203), (170, 22314),

Gene: DropBear\_30 Start: 22585, Stop: 22887, Start Num: 67

Candidate Starts for DropBear\_30:

(36, 22486), (Start: 49 @22543 has 3 MA's), (Start: 67 @22585 has 110 MA's), (85, 22621), (113, 22693),

Gene: Dublin\_26 Start: 22192, Stop: 22512, Start Num: 61

Candidate Starts for Dublin\_26:

(27, 21952), (Start: 37 @22102 has 2 MA's), (Start: 61 @22192 has 37 MA's), (Start: 75 @22222 has 10 MA's), (77, 22228), (121, 22354), (133, 22384), (134, 22387), (150, 22408), (153, 22441), (166, 22504),

Gene: DudeLittle\_30 Start: 22559, Stop: 22846, Start Num: 81

Candidate Starts for DudeLittle\_30:

(35, 22400), (Start: 81 @22559 has 17 MA's), (134, 22724), (150, 22745), (158, 22823),

Gene: Duke13\_54 Start: 43607, Stop: 44002, Start Num: 53

Candidate Starts for Duke13\_54:

(Start: 53 @43607 has 42 MA's), (71, 43649), (Start: 75 @43661 has 10 MA's), (114, 43772), (121, 43817), (128, 43859), (140, 43892), (143, 43901), (146, 43913),

Gene: Duplicity\_30 Start: 24740, Stop: 25108, Start Num: 39

Candidate Starts for Duplicity\_30:

(Start: 39 @24740 has 42 MA's), (79, 24833), (88, 24851), (118, 24938), (121, 24959),

Gene: Dwayne\_24 Start: 20697, Stop: 21053, Start Num: 56

Candidate Starts for Dwayne\_24:

(Start: 56 @20697 has 18 MA's), (Start: 76 @20736 has 2 MA's), (Start: 90 @20769 has 4 MA's), (117, 20862), (131, 20919), (133, 20928), (167, 21045),

Gene: Dynamo\_29 Start: 25896, Stop: 26255, Start Num: 41

Candidate Starts for Dynamo\_29:

(Start: 41 @25896 has 250 MA's), (72, 25983), (121, 26121), (134, 26154),

Gene: EGUunicorn\_31 Start: 24740, Stop: 25108, Start Num: 39

Candidate Starts for EGUunicorn\_31:

(Start: 39 @24740 has 42 MA's), (118, 24938), (121, 24959),

Gene: ELB20\_24 Start: 21476, Stop: 21796, Start Num: 90

Candidate Starts for ELB20\_24:

(Start: 62 @21413 has 5 MA's), (70, 21425), (Start: 74 @21437 has 1 MA's), (Start: 90 @21476 has 4 MA's), (100, 21497), (111, 21536), (124, 21614), (133, 21635), (156, 21740), (164, 21770),

Gene: EZMoney23\_34 Start: 24442, Stop: 24765, Start Num: 57

Candidate Starts for EZMoney23\_34:

(31, 24283), (Start: 57 @24442 has 25 MA's), (Start: 75 @24469 has 10 MA's), (77, 24475), (84, 24490), (105, 24532), (134, 24643), (158, 24742),

Gene: EagleEye\_32 Start: 23189, Stop: 23464, Start Num: 54

Candidate Starts for EagleEye\_32:

(Start: 54 @23189 has 103 MA's), (77, 23231), (83, 23243), (89, 23255), (104, 23285), (117, 23318), (121, 23342),

Gene: Ebony\_30 Start: 23116, Stop: 23439, Start Num: 52

Candidate Starts for Ebony\_30:

(Start: 52 @23116 has 21 MA's), (58, 23125), (97, 23185), (104, 23197), (117, 23239), (129, 23296),

Gene: Echild\_30 Start: 22524, Stop: 22853, Start Num: 57

Candidate Starts for Echild\_30:

(31, 22365), (Start: 57 @22524 has 25 MA's), (Start: 75 @22551 has 10 MA's), (77, 22557), (100, 22602), (104, 22611), (134, 22725), (144, 22740), (158, 22824),

Gene: Eddasa\_26 Start: 20960, Stop: 21313, Start Num: 60

Candidate Starts for Eddasa\_26:

(Start: 60 @20960 has 41 MA's), (Start: 76 @20996 has 2 MA's), (Start: 90 @21029 has 4 MA's), (133, 21188),

Gene: EdogawaKiddo\_30 Start: 24050, Stop: 24376, Start Num: 80

Candidate Starts for EdogawaKiddo\_30:

(38, 23948), (Start: 55 @24008 has 26 MA's), (77, 24044), (80, 24050), (92, 24071), (100, 24089), (104, 24098), (124, 24197), (129, 24209), (136, 24230), (143, 24239),

Gene: Eidsmoe\_32 Start: 24074, Stop: 24442, Start Num: 55

Candidate Starts for Eidsmoe\_32:

(38, 24014), (Start: 55 @24074 has 26 MA's), (77, 24110), (80, 24116), (100, 24155), (104, 24164), (124, 24263), (129, 24275), (143, 24305), (147, 24317), (152, 24347),

Gene: Eish\_33 Start: 29472, Stop: 29846, Start Num: 41

Candidate Starts for Eish\_33:

(Start: 41 @29472 has 250 MA's), (Start: 42 @29475 has 15 MA's), (Start: 46 @29487 has 1 MA's), (Start: 48 @29499 has 17 MA's), (121, 29706), (134, 29739), (152, 29781),

Gene: Ejemplo\_24 Start: 20736, Stop: 21092, Start Num: 56

Candidate Starts for Ejemplo\_24:

(Start: 56 @20736 has 18 MA's), (Start: 76 @20775 has 2 MA's), (Start: 90 @20808 has 4 MA's), (117, 20901), (131, 20958), (133, 20967), (167, 21084),

Gene: Ejimix\_51 Start: 44526, Stop: 44921, Start Num: 53

Candidate Starts for Ejimix\_51:

(Start: 53 @44526 has 42 MA's), (71, 44568), (Start: 75 @44580 has 10 MA's), (114, 44691), (121, 44736), (128, 44778), (140, 44811), (143, 44820),

Gene: ElGato\_27 Start: 21835, Stop: 22221, Start Num: 64

Candidate Starts for ElGato\_27:

(Start: 64 @21835 has 11 MA's), (Start: 76 @21859 has 2 MA's), (Start: 90 @21892 has 4 MA's), (98, 21907), (99, 21910), (102, 21919), (111, 21952), (117, 21985), (123, 22021), (133, 22051), (155, 22129), (156, 22135),

Gene: ElTiger69\_27 Start: 21545, Stop: 21865, Start Num: 61

Candidate Starts for ElTiger69\_27:

(Start: 37 @21455 has 2 MA's), (Start: 61 @21545 has 37 MA's), (Start: 75 @21575 has 10 MA's), (77, 21581), (121, 21707), (134, 21740), (150, 21761), (153, 21794), (157, 21833), (166, 21857),

Gene: EleanorGeorge\_34 Start: 29497, Stop: 29871, Start Num: 41

Candidate Starts for EleanorGeorge\_34:

(Start: 41 @29497 has 250 MA's), (89, 29626), (94, 29635), (121, 29731), (134, 29764),

Gene: Elephantoon\_31 Start: 23447, Stop: 23815, Start Num: 55

Candidate Starts for Elephantoon\_31:

(Start: 55 @23447 has 26 MA's), (95, 23516), (96, 23519), (100, 23528), (124, 23636), (129, 23648), (143, 23678), (152, 23720),

Gene: Emaanora\_26 Start: 20655, Stop: 21011, Start Num: 56

Candidate Starts for Emaanora\_26:

(Start: 56 @20655 has 18 MA's), (Start: 76 @20694 has 2 MA's), (Start: 90 @20727 has 4 MA's), (117, 20820), (131, 20877), (133, 20886), (167, 21003),

Gene: Emma\_35 Start: 29365, Stop: 29739, Start Num: 41

Candidate Starts for Emma\_35:

(Start: 41 @29365 has 250 MA's), (Start: 46 @29380 has 1 MA's), (Start: 48 @29392 has 17 MA's), (121, 29599), (134, 29632),

Gene: Empress\_34 Start: 30180, Stop: 30554, Start Num: 41

Candidate Starts for Empress\_34:

(Start: 41 @30180 has 250 MA's), (Start: 46 @30195 has 1 MA's), (Start: 48 @30207 has 17 MA's), (121, 30414), (134, 30447), (152, 30489),

Gene: EmyBug\_32 Start: 24074, Stop: 24442, Start Num: 55

Candidate Starts for EmyBug\_32:

(38, 24014), (Start: 55 @24074 has 26 MA's), (77, 24110), (80, 24116), (100, 24155), (104, 24164), (124, 24263), (129, 24275), (143, 24305), (147, 24317), (152, 24347),

Gene: Enby\_35 Start: 29026, Stop: 29400, Start Num: 41

Candidate Starts for Enby\_35:

(Start: 41 @29026 has 250 MA's), (89, 29155), (94, 29164), (121, 29260), (134, 29293),

Gene: EnochSoames\_27 Start: 20955, Stop: 21308, Start Num: 60

Candidate Starts for EnochSoames\_27:

(Start: 60 @20955 has 41 MA's), (Start: 76 @20991 has 2 MA's), (Start: 90 @21024 has 4 MA's), (133, 21183),

Gene: EpicPhail\_32 Start: 22963, Stop: 23265, Start Num: 67



Candidate Starts for EpicPhail\_32:

(47, 22915), (Start: 49 @22918 has 3 MA's), (Start: 67 @22963 has 110 MA's), (83, 22993),

Gene: Epsocamisio\_32 Start: 21405, Stop: 21746, Start Num: 54

Candidate Starts for Epsocamisio\_32:

(Start: 54 @21405 has 103 MA's), (95, 21471), (100, 21483), (155, 21693), (164, 21729), (167, 21735),

Gene: Equemioh13\_32 Start: 22888, Stop: 23217, Start Num: 57

Candidate Starts for Equemioh13\_32:

(31, 22729), (Start: 57 @22888 has 25 MA's), (Start: 75 @22915 has 10 MA's), (77, 22921), (104, 22975), (134, 23089), (144, 23104), (158, 23188),

Gene: Eradicator\_33 Start: 28867, Stop: 29241, Start Num: 41

Candidate Starts for Eradicator\_33:

(Start: 41 @28867 has 250 MA's), (Start: 46 @28882 has 1 MA's), (Start: 48 @28894 has 17 MA's), (121, 29101), (134, 29134), (152, 29176),

Gene: EricB\_33 Start: 22206, Stop: 22502, Start Num: 54

Candidate Starts for EricB\_33:

(Start: 54 @22206 has 103 MA's), (83, 22260), (121, 22359), (143, 22404),

Gene: EricMillard\_51 Start: 44027, Stop: 44422, Start Num: 53

Candidate Starts for EricMillard\_51:

(Start: 53 @44027 has 42 MA's), (71, 44069), (Start: 75 @44081 has 10 MA's), (114, 44192), (121, 44237), (128, 44279), (140, 44312), (143, 44321),

Gene: Esperer\_25 Start: 20410, Stop: 20763, Start Num: 60

Candidate Starts for Esperer\_25:

(Start: 60 @20410 has 41 MA's), (Start: 76 @20446 has 2 MA's), (Start: 90 @20479 has 4 MA's), (131, 20629), (133, 20638), (137, 20647), (153, 20692),

Gene: Estave1\_31 Start: 28284, Stop: 28658, Start Num: 41

Candidate Starts for Estave1\_31:

(Start: 41 @28284 has 250 MA's), (Start: 42 @28287 has 15 MA's), (Start: 46 @28299 has 1 MA's), (Start: 48 @28311 has 17 MA's), (121, 28518), (134, 28551),

Gene: Et2Brutus\_29 Start: 23076, Stop: 23399, Start Num: 52

Candidate Starts for Et2Brutus\_29:

(Start: 52 @23076 has 21 MA's), (58, 23085), (97, 23145), (104, 23157), (117, 23199), (129, 23256),

Gene: EvilGenius\_32 Start: 22841, Stop: 23185, Start Num: 48

Candidate Starts for EvilGenius\_32:

(29, 22682), (Start: 48 @22841 has 17 MA's), (51, 22850), (80, 22922), (89, 22931), (133, 23057),

Gene: Expelliarmus\_26 Start: 21198, Stop: 21479, Start Num: 61

Candidate Starts for Expelliarmus\_26:

(Start: 61 @21198 has 37 MA's), (Start: 75 @21225 has 10 MA's), (77, 21231), (89, 21255), (104, 21285), (155, 21432), (157, 21447), (161, 21459), (165, 21468),

Gene: ExplosioNervosa\_32 Start: 24077, Stop: 24445, Start Num: 55

Candidate Starts for ExplosioNervosa\_32:

(38, 24017), (Start: 55 @24077 has 26 MA's), (77, 24113), (80, 24119), (100, 24158), (104, 24167), (124, 24266), (129, 24278), (143, 24308), (147, 24320), (152, 24350),

Gene: Fameo\_30 Start: 22528, Stop: 22815, Start Num: 81

Candidate Starts for Fameo\_30:

(35, 22369), (Start: 81 @22528 has 17 MA's), (134, 22693), (150, 22714), (158, 22792),

Gene: Fancypants\_33 Start: 28773, Stop: 29147, Start Num: 41

Candidate Starts for Fancypants\_33:

(Start: 41 @28773 has 250 MA's), (Start: 42 @28776 has 15 MA's), (Start: 46 @28788 has 1 MA's),  
(Start: 48 @28800 has 17 MA's), (72, 28860), (121, 29007), (134, 29040), (152, 29082),

Gene: Farber\_32 Start: 22956, Stop: 23258, Start Num: 67

Candidate Starts for Farber\_32:

(47, 22908), (Start: 49 @22911 has 3 MA's), (Start: 67 @22956 has 110 MA's), (83, 22986),

Gene: Fastidio\_35 Start: 29084, Stop: 29455, Start Num: 42

Candidate Starts for Fastidio\_35:

(Start: 41 @29081 has 250 MA's), (Start: 42 @29084 has 15 MA's), (Start: 46 @29096 has 1 MA's),  
(Start: 48 @29108 has 17 MA's), (121, 29315), (134, 29348),

Gene: Fayely\_32 Start: 24041, Stop: 24409, Start Num: 55

Candidate Starts for Fayely\_32:

(38, 23981), (Start: 55 @24041 has 26 MA's), (77, 24077), (80, 24083), (92, 24104), (100, 24122),  
(104, 24131), (124, 24230), (129, 24242), (136, 24263), (143, 24272),

Gene: Fernando\_32 Start: 22962, Stop: 23264, Start Num: 67

Candidate Starts for Fernando\_32:

(47, 22914), (Start: 49 @22917 has 3 MA's), (Start: 67 @22962 has 110 MA's), (83, 22992),

Gene: Fibonacci\_30 Start: 23070, Stop: 23393, Start Num: 52

Candidate Starts for Fibonacci\_30:

(Start: 52 @23070 has 21 MA's), (58, 23079), (97, 23139), (104, 23151), (117, 23193), (129, 23250),

Gene: Filuzino\_33 Start: 28715, Stop: 29089, Start Num: 41

Candidate Starts for Filuzino\_33:

(Start: 41 @28715 has 250 MA's), (Start: 46 @28730 has 1 MA's), (Start: 48 @28742 has 17 MA's),  
(121, 28949), (134, 28982),

Gene: Firehouse51\_34 Start: 29554, Stop: 29928, Start Num: 41

Candidate Starts for Firehouse51\_34:

(Start: 41 @29554 has 250 MA's), (Start: 46 @29569 has 1 MA's), (Start: 48 @29581 has 17 MA's),  
(121, 29788), (134, 29821),

Gene: FiringLine\_30 Start: 22350, Stop: 22637, Start Num: 81

Candidate Starts for FiringLine\_30:

(35, 22191), (Start: 81 @22350 has 17 MA's), (134, 22515), (150, 22536), (158, 22614),

Gene: First\_0030 Start: 22516, Stop: 22857, Start Num: 48

Candidate Starts for First\_0030:

(29, 22360), (Start: 48 @22516 has 17 MA's), (Start: 76 @22588 has 2 MA's), (89, 22606), (134,  
22735),

Gene: FirstPlacePfu\_29 Start: 25485, Stop: 25844, Start Num: 41

Candidate Starts for FirstPlacePfu\_29:

(Start: 41 @25485 has 250 MA's), (72, 25572), (121, 25710), (134, 25743),

Gene: Fishburne\_29 Start: 25485, Stop: 25844, Start Num: 41

Candidate Starts for Fishburne\_29:

(Start: 41 @25485 has 250 MA's), (72, 25572), (121, 25710), (134, 25743),

Gene: Flare16\_30 Start: 22446, Stop: 22775, Start Num: 57

Candidate Starts for Flare16\_30:

(31, 22287), (Start: 57 @22446 has 25 MA's), (Start: 75 @22473 has 10 MA's), (77, 22479), (104, 22533), (134, 22647), (144, 22662), (158, 22746),

Gene: Flathead\_33 Start: 29361, Stop: 29735, Start Num: 41

Candidate Starts for Flathead\_33:

(Start: 41 @29361 has 250 MA's), (Start: 46 @29376 has 1 MA's), (Start: 48 @29388 has 17 MA's), (121, 29595), (134, 29628),

Gene: Flaverint\_30 Start: 23067, Stop: 23390, Start Num: 52

Candidate Starts for Flaverint\_30:

(Start: 52 @23067 has 21 MA's), (58, 23076), (97, 23136), (104, 23148), (117, 23190), (129, 23247),

Gene: Florinda\_33 Start: 28765, Stop: 29139, Start Num: 41

Candidate Starts for Florinda\_33:

(Start: 41 @28765 has 250 MA's), (Start: 42 @28768 has 15 MA's), (Start: 46 @28780 has 1 MA's), (Start: 48 @28792 has 17 MA's), (121, 28999), (134, 29032), (152, 29074),

Gene: FlyCatcher\_33 Start: 25243, Stop: 25533, Start Num: 69

Candidate Starts for FlyCatcher\_33:

(Start: 69 @25243 has 1 MA's), (87, 25279), (100, 25300), (117, 25360),

Gene: ForGetIt\_27 Start: 22158, Stop: 22478, Start Num: 61

Candidate Starts for ForGetIt\_27:

(Start: 37 @22068 has 2 MA's), (Start: 61 @22158 has 37 MA's), (Start: 75 @22188 has 10 MA's), (77, 22194), (121, 22320), (133, 22350), (134, 22353), (150, 22374), (153, 22407), (160, 22455), (166, 22470),

Gene: Frankie\_37 Start: 29909, Stop: 30283, Start Num: 41

Candidate Starts for Frankie\_37:

(Start: 41 @29909 has 250 MA's), (43, 29915), (Start: 46 @29924 has 1 MA's), (Start: 48 @29936 has 17 MA's), (121, 30143), (134, 30176), (152, 30218),

Gene: Fred313\_30 Start: 22270, Stop: 22572, Start Num: 67

Candidate Starts for Fred313\_30:

(36, 22171), (Start: 49 @22228 has 3 MA's), (Start: 67 @22270 has 110 MA's), (85, 22306), (113, 22378),

Gene: FreddyB\_33 Start: 29032, Stop: 29403, Start Num: 42

Candidate Starts for FreddyB\_33:

(Start: 41 @29029 has 250 MA's), (Start: 42 @29032 has 15 MA's), (Start: 46 @29044 has 1 MA's), (Start: 48 @29056 has 17 MA's), (121, 29263), (134, 29296),

Gene: Fruitloop\_32 Start: 28910, Stop: 29284, Start Num: 41

Candidate Starts for Fruitloop\_32:

(Start: 41 @28910 has 250 MA's), (Start: 46 @28925 has 1 MA's), (Start: 48 @28937 has 17 MA's), (121, 29144), (134, 29177),

Gene: Fulbright\_29 Start: 24563, Stop: 24943, Start Num: 39  
Candidate Starts for Fulbright\_29:  
(Start: 39 @24563 has 42 MA's), (118, 24773), (121, 24794),

Gene: GUmbie\_33 Start: 28784, Stop: 29158, Start Num: 41  
Candidate Starts for GUmbie\_33:  
(Start: 41 @28784 has 250 MA's), (43, 28790), (Start: 46 @28799 has 1 MA's), (Start: 48 @28811 has 17 MA's), (121, 29018), (134, 29051), (152, 29093),

Gene: Gaia\_36 Start: 31870, Stop: 32178, Start Num: 53  
Candidate Starts for Gaia\_36:  
(Start: 53 @31870 has 42 MA's), (Start: 74 @31918 has 1 MA's), (Start: 76 @31924 has 2 MA's), (Start: 82 @31936 has 1 MA's), (103, 31981), (120, 32065), (122, 32086), (127, 32119),

Gene: Gail\_30 Start: 21666, Stop: 22022, Start Num: 54  
Candidate Starts for Gail\_30:  
(31, 21507), (Start: 54 @21666 has 103 MA's), (77, 21702), (80, 21708), (95, 21735), (104, 21756), (124, 21855), (143, 21897),

Gene: Galactic\_35 Start: 29602, Stop: 29976, Start Num: 41  
Candidate Starts for Galactic\_35:  
(Start: 41 @29602 has 250 MA's), (Start: 46 @29617 has 1 MA's), (Start: 48 @29629 has 17 MA's), (121, 29836), (134, 29869),

Gene: Gandolph\_34 Start: 29100, Stop: 29474, Start Num: 41  
Candidate Starts for Gandolph\_34:  
(Start: 41 @29100 has 250 MA's), (Start: 46 @29115 has 1 MA's), (Start: 48 @29127 has 17 MA's), (121, 29334), (134, 29367),

Gene: Garak\_34 Start: 22214, Stop: 22510, Start Num: 54  
Candidate Starts for Garak\_34:  
(40, 22163), (Start: 54 @22214 has 103 MA's), (80, 22262), (121, 22367), (143, 22412),

Gene: GaugeLDP\_32 Start: 23699, Stop: 24025, Start Num: 57  
Candidate Starts for GaugeLDP\_32:  
(Start: 57 @23699 has 25 MA's), (Start: 75 @23726 has 10 MA's), (77, 23732), (84, 23747), (105, 23789), (106, 23792), (134, 23903), (158, 24002),

Gene: Gavriela\_29 Start: 25744, Stop: 26103, Start Num: 41  
Candidate Starts for Gavriela\_29:  
(Start: 41 @25744 has 250 MA's), (72, 25831), (121, 25969), (134, 26002),

Gene: Gemma\_32 Start: 22998, Stop: 23345, Start Num: 49  
Candidate Starts for Gemma\_32:  
(Start: 49 @22998 has 3 MA's), (Start: 67 @23043 has 110 MA's), (113, 23151),

Gene: George\_26 Start: 22254, Stop: 22544, Start Num: 75  
Candidate Starts for George\_26:  
(Start: 37 @22134 has 2 MA's), (Start: 61 @22224 has 37 MA's), (Start: 75 @22254 has 10 MA's), (77, 22260), (117, 22362), (121, 22386), (124, 22407), (134, 22419), (150, 22440), (153, 22473), (160,

22521), (166, 22536),

Gene: Georgie2\_31 Start: 22341, Stop: 22682, Start Num: 48

Candidate Starts for Georgie2\_31:

(Start: 48 @22341 has 17 MA's), (80, 22422), (89, 22431), (133, 22557), (159, 22659),

Gene: Geralt\_33 Start: 28766, Stop: 29140, Start Num: 41

Candidate Starts for Geralt\_33:

(Start: 41 @28766 has 250 MA's), (Start: 46 @28781 has 1 MA's), (Start: 48 @28793 has 17 MA's), (121, 29000), (134, 29033), (152, 29075),

Gene: Gex\_30 Start: 24736, Stop: 25116, Start Num: 39

Candidate Starts for Gex\_30:

(Start: 39 @24736 has 42 MA's), (118, 24946), (121, 24967),

Gene: Ghouboy\_27 Start: 22473, Stop: 22793, Start Num: 61

Candidate Starts for Ghouboy\_27:

(Start: 37 @22383 has 2 MA's), (Start: 61 @22473 has 37 MA's), (Start: 75 @22503 has 10 MA's), (77, 22509), (104, 22563), (117, 22611), (121, 22635), (124, 22656), (134, 22668), (150, 22689), (153, 22722), (166, 22785),

Gene: GigiOuiOui\_33 Start: 28899, Stop: 29270, Start Num: 42

Candidate Starts for GigiOuiOui\_33:

(Start: 41 @28896 has 250 MA's), (Start: 42 @28899 has 15 MA's), (Start: 46 @28911 has 1 MA's), (Start: 48 @28923 has 17 MA's), (72, 28983), (121, 29130), (134, 29163),

Gene: Gilberta\_30 Start: 23064, Stop: 23387, Start Num: 52

Candidate Starts for Gilberta\_30:

(Start: 52 @23064 has 21 MA's), (58, 23073), (97, 23133), (104, 23145), (117, 23187), (129, 23244),

Gene: GingkoMaracino\_32 Start: 22849, Stop: 23151, Start Num: 67

Candidate Starts for GingkoMaracino\_32:

(47, 22801), (Start: 49 @22804 has 3 MA's), (Start: 67 @22849 has 110 MA's), (83, 22879),

Gene: Girafales\_34 Start: 28573, Stop: 28947, Start Num: 41

Candidate Starts for Girafales\_34:

(Start: 41 @28573 has 250 MA's), (Start: 42 @28576 has 15 MA's), (Start: 46 @28588 has 1 MA's), (Start: 48 @28600 has 17 MA's), (121, 28807), (134, 28840), (152, 28882),

Gene: GirlDinner\_25 Start: 21075, Stop: 21428, Start Num: 59

Candidate Starts for GirlDinner\_25:

(Start: 59 @21075 has 29 MA's), (70, 21090), (Start: 74 @21102 has 1 MA's), (80, 21117), (Start: 90 @21141 has 4 MA's), (98, 21156), (117, 21213), (125, 21261),

Gene: Giroux\_30 Start: 22524, Stop: 22826, Start Num: 67

Candidate Starts for Giroux\_30:

(36, 22422), (Start: 49 @22479 has 3 MA's), (Start: 67 @22524 has 110 MA's), (83, 22554), (87, 22563),

Gene: Girr\_35 Start: 29802, Stop: 30176, Start Num: 41

Candidate Starts for Girr\_35:

(Start: 41 @29802 has 250 MA's), (Start: 46 @29817 has 1 MA's), (Start: 48 @29829 has 17 MA's), (121, 30036), (134, 30069), (152, 30111),

Gene: Gladiator\_33 Start: 22200, Stop: 22496, Start Num: 54

Candidate Starts for Gladiator\_33:

(40, 22149), (Start: 54 @22200 has 103 MA's), (80, 22248), (121, 22353), (143, 22398),

Gene: Glaske\_29 Start: 25744, Stop: 26103, Start Num: 41

Candidate Starts for Glaske\_29:

(Start: 41 @25744 has 250 MA's), (72, 25831), (121, 25969), (134, 26002),

Gene: Goby\_25 Start: 21283, Stop: 21636, Start Num: 60

Candidate Starts for Goby\_25:

(Start: 60 @21283 has 41 MA's), (Start: 90 @21355 has 4 MA's), (117, 21448), (124, 21493), (131, 21505), (155, 21592), (169, 21631),

Gene: Godpower\_26 Start: 21275, Stop: 21628, Start Num: 60

Candidate Starts for Godpower\_26:

(Start: 60 @21275 has 41 MA's), (Start: 90 @21347 has 4 MA's), (117, 21440), (124, 21485), (131, 21497), (155, 21584),

Gene: Gonephishing\_52 Start: 41701, Stop: 42087, Start Num: 53

Candidate Starts for Gonephishing\_52:

(Start: 53 @41701 has 42 MA's), (70, 41740), (Start: 75 @41755 has 10 MA's), (78, 41764), (121, 41911), (125, 41935), (128, 41953), (138, 41983), (143, 41995),

Gene: Gorge\_33 Start: 28996, Stop: 29370, Start Num: 41

Candidate Starts for Gorge\_33:

(Start: 41 @28996 has 250 MA's), (Start: 42 @28999 has 15 MA's), (Start: 46 @29011 has 1 MA's), (Start: 48 @29023 has 17 MA's), (121, 29230), (134, 29263), (152, 29305),

Gene: GreaseLightnin\_29 Start: 25736, Stop: 26095, Start Num: 41

Candidate Starts for GreaseLightnin\_29:

(Start: 41 @25736 has 250 MA's), (72, 25823), (121, 25961), (134, 25994),

Gene: GreedyLawyer\_33 Start: 22213, Stop: 22509, Start Num: 54

Candidate Starts for GreedyLawyer\_33:

(Start: 54 @22213 has 103 MA's), (83, 22267), (121, 22366), (143, 22411),

Gene: GreenWeasel\_27 Start: 20984, Stop: 21337, Start Num: 59

Candidate Starts for GreenWeasel\_27:

(33, 20843), (Start: 59 @20984 has 29 MA's), (Start: 74 @21011 has 1 MA's), (87, 21044), (Start: 90 @21050 has 4 MA's), (104, 21080), (117, 21143), (124, 21188), (156, 21293), (162, 21317),

Gene: Grif\_32 Start: 23046, Stop: 23348, Start Num: 67

Candidate Starts for Grif\_32:

(47, 22998), (Start: 49 @23001 has 3 MA's), (Start: 67 @23046 has 110 MA's), (83, 23076),

Gene: Grimmer\_35 Start: 29487, Stop: 29861, Start Num: 41

Candidate Starts for Grimmer\_35:

(Start: 41 @29487 has 250 MA's), (Start: 42 @29490 has 15 MA's), (Start: 46 @29502 has 1 MA's), (Start: 48 @29514 has 17 MA's), (121, 29721), (134, 29754), (152, 29796),

Gene: Groundhog\_26 Start: 21199, Stop: 21480, Start Num: 61

Candidate Starts for Groundhog\_26:

(Start: 61 @21199 has 37 MA's), (Start: 75 @21226 has 10 MA's), (77, 21232), (89, 21256), (104, 21286), (155, 21433), (157, 21448), (161, 21460), (165, 21469),

Gene: Groupthink\_33 Start: 23047, Stop: 23349, Start Num: 67

Candidate Starts for Groupthink\_33:

(Start: 49 @23002 has 3 MA's), (Start: 67 @23047 has 110 MA's), (113, 23155),

Gene: Grub\_32 Start: 22955, Stop: 23257, Start Num: 67

Candidate Starts for Grub\_32:

(47, 22907), (Start: 49 @22910 has 3 MA's), (Start: 67 @22955 has 110 MA's), (83, 22985),

Gene: Grum1\_32 Start: 22962, Stop: 23264, Start Num: 67

Candidate Starts for Grum1\_32:

(47, 22914), (Start: 49 @22917 has 3 MA's), (Start: 67 @22962 has 110 MA's), (83, 22992), (100, 23022), (113, 23070),

Gene: Gruunaga\_33 Start: 22200, Stop: 22496, Start Num: 54

Candidate Starts for Gruunaga\_33:

(40, 22149), (Start: 54 @22200 has 103 MA's), (80, 22248), (121, 22353), (143, 22398),

Gene: GtownJaz\_32 Start: 22964, Stop: 23266, Start Num: 67

Candidate Starts for GtownJaz\_32:

(47, 22916), (Start: 49 @22919 has 3 MA's), (Start: 67 @22964 has 110 MA's), (83, 22994),

Gene: Guppsters\_35 Start: 29282, Stop: 29656, Start Num: 41

Candidate Starts for Guppsters\_35:

(Start: 41 @29282 has 250 MA's), (Start: 46 @29297 has 1 MA's), (Start: 48 @29309 has 17 MA's), (112, 29465), (121, 29516), (134, 29549),

Gene: HC\_30 Start: 25611, Stop: 25973, Start Num: 41

Candidate Starts for HC\_30:

(Start: 41 @25611 has 250 MA's), (Start: 42 @25614 has 15 MA's), (117, 25812), (118, 25815), (121, 25836), (134, 25869),

Gene: HUHilltop\_29 Start: 25485, Stop: 25844, Start Num: 41

Candidate Starts for HUHilltop\_29:

(Start: 41 @25485 has 250 MA's), (72, 25572), (121, 25710), (134, 25743),

Gene: Hades\_34 Start: 29093, Stop: 29467, Start Num: 41

Candidate Starts for Hades\_34:

(Start: 41 @29093 has 250 MA's), (Start: 42 @29096 has 15 MA's), (Start: 46 @29108 has 1 MA's), (Start: 48 @29120 has 17 MA's), (72, 29180), (121, 29327), (134, 29360), (152, 29402),

Gene: Haizum\_25 Start: 21215, Stop: 21568, Start Num: 59

Candidate Starts for Haizum\_25:

(Start: 59 @21215 has 29 MA's), (65, 21224), (Start: 74 @21242 has 1 MA's), (Start: 76 @21248 has 2 MA's), (80, 21257), (87, 21275), (99, 21299), (111, 21341), (125, 21422), (141, 21458), (156, 21524), (162, 21548),

Gene: Halley\_51 Start: 43740, Stop: 44135, Start Num: 53

Candidate Starts for Halley\_51:

(Start: 53 @43740 has 42 MA's), (71, 43782), (Start: 75 @43794 has 10 MA's), (114, 43905), (121, 43950), (128, 43992), (140, 44025), (143, 44034),

Gene: Hammer\_33 Start: 22215, Stop: 22511, Start Num: 54

Candidate Starts for Hammer\_33:

(40, 22164), (Start: 54 @22215 has 103 MA's), (80, 22263), (121, 22368), (143, 22413),

Gene: Hamulus\_34 Start: 29756, Stop: 30130, Start Num: 41

Candidate Starts for Hamulus\_34:

(Start: 41 @29756 has 250 MA's), (43, 29762), (Start: 46 @29771 has 1 MA's), (Start: 48 @29783 has 17 MA's), (121, 29990), (134, 30023), (152, 30065),

Gene: Hanako\_27 Start: 23790, Stop: 24299, Start Num: 39

Candidate Starts for Hanako\_27:

(10, 23220), (Start: 39 @23790 has 42 MA's), (85, 23916), (94, 23934), (115, 24009), (119, 24036), (121, 24057), (130, 24120), (148, 24189),

Gene: Hank144\_26 Start: 21524, Stop: 21877, Start Num: 60

Candidate Starts for Hank144\_26:

(Start: 60 @21524 has 41 MA's), (63, 21530), (Start: 90 @21590 has 4 MA's), (133, 21749),

Gene: Hannaconda\_47 Start: 38249, Stop: 38623, Start Num: 53

Candidate Starts for Hannaconda\_47:

(Start: 53 @38249 has 42 MA's), (70, 38288), (Start: 75 @38303 has 10 MA's), (78, 38312), (114, 38414), (121, 38459), (128, 38501), (140, 38534), (143, 38543), (146, 38555),

Gene: Hanray\_31 Start: 24012, Stop: 24380, Start Num: 55

Candidate Starts for Hanray\_31:

(38, 23952), (Start: 55 @24012 has 26 MA's), (77, 24048), (80, 24054), (92, 24075), (100, 24093), (104, 24102), (124, 24201), (129, 24213), (136, 24234), (143, 24243),

Gene: Harley\_33 Start: 28702, Stop: 29076, Start Num: 41

Candidate Starts for Harley\_33:

(Start: 41 @28702 has 250 MA's), (Start: 42 @28705 has 15 MA's), (Start: 46 @28717 has 1 MA's), (Start: 48 @28729 has 17 MA's), (72, 28789), (121, 28936), (134, 28969), (152, 29011),

Gene: HarryHoudini\_32 Start: 22905, Stop: 23228, Start Num: 57

Candidate Starts for HarryHoudini\_32:

(31, 22746), (Start: 57 @22905 has 25 MA's), (Start: 75 @22932 has 10 MA's), (77, 22938), (104, 22992), (134, 23106), (158, 23205),

Gene: HashRod\_33 Start: 23050, Stop: 23352, Start Num: 67

Candidate Starts for HashRod\_33:

(47, 23002), (Start: 49 @23005 has 3 MA's), (Start: 67 @23050 has 110 MA's), (83, 23080),

Gene: HaveUMetTed\_33 Start: 23040, Stop: 23342, Start Num: 67

Candidate Starts for HaveUMetTed\_33:

(Start: 49 @22995 has 3 MA's), (Start: 67 @23040 has 110 MA's), (113, 23148),

Gene: Heathen\_30 Start: 22326, Stop: 22628, Start Num: 67

Candidate Starts for Heathen\_30:

(36, 22227), (Start: 49 @22284 has 3 MA's), (Start: 67 @22326 has 110 MA's), (85, 22362), (113, 22434),

Gene: Heffalump\_32 Start: 24270, Stop: 24557, Start Num: 81



Candidate Starts for Heffalump\_32:

(35, 24111), (Start: 81 @24270 has 17 MA's), (134, 24435), (150, 24456), (158, 24534),

Gene: Hegedechwinu\_34 Start: 28791, Stop: 29165, Start Num: 41

Candidate Starts for Hegedechwinu\_34:

(Start: 41 @28791 has 250 MA's), (Start: 46 @28806 has 1 MA's), (Start: 48 @28818 has 17 MA's), (121, 29025), (134, 29058),

Gene: HelDan\_30 Start: 22578, Stop: 22880, Start Num: 67

Candidate Starts for HelDan\_30:

(36, 22479), (Start: 49 @22536 has 3 MA's), (Start: 67 @22578 has 110 MA's), (85, 22614), (113, 22686),

Gene: Heliosoles\_32 Start: 23047, Stop: 23349, Start Num: 67

Candidate Starts for Heliosoles\_32:

(Start: 49 @23002 has 3 MA's), (Start: 67 @23047 has 110 MA's), (113, 23155),

Gene: Helmet\_34 Start: 22214, Stop: 22510, Start Num: 54

Candidate Starts for Helmet\_34:

(40, 22163), (Start: 54 @22214 has 103 MA's), (80, 22262), (121, 22367), (143, 22412),

Gene: Hercules11\_32 Start: 22970, Stop: 23272, Start Num: 67

Candidate Starts for Hercules11\_32:

(47, 22922), (Start: 49 @22925 has 3 MA's), (Start: 67 @22970 has 110 MA's), (83, 23000),

Gene: Hexamo\_33 Start: 22182, Stop: 22478, Start Num: 54

Candidate Starts for Hexamo\_33:

(40, 22131), (Start: 54 @22182 has 103 MA's), (121, 22335), (143, 22380),

Gene: Hippo\_24 Start: 20706, Stop: 21062, Start Num: 56

Candidate Starts for Hippo\_24:

(Start: 56 @20706 has 18 MA's), (Start: 76 @20745 has 2 MA's), (Start: 90 @20778 has 4 MA's), (117, 20871), (131, 20928), (133, 20937), (167, 21054),

Gene: Hlubikazi\_34 Start: 29588, Stop: 29962, Start Num: 41

Candidate Starts for Hlubikazi\_34:

(Start: 41 @29588 has 250 MA's), (Start: 46 @29603 has 1 MA's), (Start: 48 @29615 has 17 MA's), (121, 29822), (134, 29855),

Gene: HokkenD\_44 Start: 42009, Stop: 42404, Start Num: 53

Candidate Starts for HokkenD\_44:

(Start: 53 @42009 has 42 MA's), (71, 42051), (Start: 75 @42063 has 10 MA's), (114, 42174), (121, 42219), (128, 42261), (140, 42294), (143, 42303),

Gene: Holec\_31 Start: 24012, Stop: 24380, Start Num: 55

Candidate Starts for Holec\_31:

(38, 23952), (Start: 55 @24012 has 26 MA's), (77, 24048), (80, 24054), (92, 24075), (100, 24093), (104, 24102), (124, 24201), (129, 24213), (136, 24234), (143, 24243),

Gene: Hookmount\_31 Start: 23060, Stop: 23362, Start Num: 67

Candidate Starts for Hookmount\_31:

(Start: 49 @23015 has 3 MA's), (Start: 67 @23060 has 110 MA's), (83, 23090), (87, 23099), (107, 23141), (113, 23168),

Gene: Hoot\_33 Start: 22192, Stop: 22488, Start Num: 54  
Candidate Starts for Hoot\_33:  
(Start: 54 @22192 has 103 MA's), (83, 22246), (121, 22345), (143, 22390),

Gene: HortumSL17\_32 Start: 24008, Stop: 24376, Start Num: 55  
Candidate Starts for HortumSL17\_32:  
(38, 23948), (Start: 55 @24008 has 26 MA's), (77, 24044), (80, 24050), (92, 24071), (100, 24089),  
(104, 24098), (124, 24197), (129, 24209), (136, 24230), (143, 24239),

Gene: Hughesyang\_49 Start: 43669, Stop: 44064, Start Num: 53  
Candidate Starts for Hughesyang\_49:  
(Start: 53 @43669 has 42 MA's), (71, 43711), (Start: 75 @43723 has 10 MA's), (114, 43834), (121,  
43879), (128, 43921), (140, 43954), (143, 43963),

Gene: HuhtaEnerson15\_27 Start: 22224, Stop: 22544, Start Num: 61  
Candidate Starts for HuhtaEnerson15\_27:  
(Start: 37 @22134 has 2 MA's), (Start: 61 @22224 has 37 MA's), (Start: 75 @22254 has 10 MA's), (77,  
22260), (117, 22362), (121, 22386), (124, 22407), (134, 22419), (150, 22440), (153, 22473), (160,  
22521), (166, 22536),

Gene: Hutc2\_30 Start: 23070, Stop: 23393, Start Num: 52  
Candidate Starts for Hutc2\_30:  
(Start: 52 @23070 has 21 MA's), (58, 23079), (97, 23139), (104, 23151), (117, 23193), (129, 23250),

Gene: Hydra\_27 Start: 21158, Stop: 21475, Start Num: 76  
Candidate Starts for Hydra\_27:  
(Start: 60 @21122 has 41 MA's), (Start: 76 @21158 has 2 MA's), (Start: 90 @21191 has 4 MA's), (131,  
21341), (133, 21350), (137, 21359), (153, 21404),

Gene: IMpilo\_32 Start: 28569, Stop: 28943, Start Num: 41  
Candidate Starts for IMpilo\_32:  
(Start: 41 @28569 has 250 MA's), (Start: 46 @28584 has 1 MA's), (Start: 48 @28596 has 17 MA's),  
(121, 28803), (134, 28836), (152, 28878),

Gene: IbOuu\_35 Start: 29341, Stop: 29715, Start Num: 41  
Candidate Starts for IbOuu\_35:  
(Start: 41 @29341 has 250 MA's), (Start: 42 @29344 has 15 MA's), (Start: 46 @29356 has 1 MA's),  
(Start: 48 @29368 has 17 MA's), (72, 29428), (121, 29575), (133, 29605), (134, 29608),

Gene: Ibhubesi\_33 Start: 28709, Stop: 29083, Start Num: 41  
Candidate Starts for Ibhubesi\_33:  
(Start: 41 @28709 has 250 MA's), (Start: 42 @28712 has 15 MA's), (Start: 46 @28724 has 1 MA's),  
(Start: 48 @28736 has 17 MA's), (72, 28796), (121, 28943), (134, 28976), (152, 29018),

Gene: Idleandcovert\_30 Start: 22524, Stop: 22826, Start Num: 67  
Candidate Starts for Idleandcovert\_30:  
(36, 22422), (Start: 49 @22479 has 3 MA's), (Start: 67 @22524 has 110 MA's), (83, 22554), (87,  
22563),

Gene: Indigo\_24 Start: 20590, Stop: 20943, Start Num: 60  
Candidate Starts for Indigo\_24:

(Start: 60 @20590 has 41 MA's), (Start: 76 @20626 has 2 MA's), (Start: 90 @20659 has 4 MA's), (131, 20809), (133, 20818), (137, 20827), (153, 20872),

Gene: Indra\_33 Start: 22215, Stop: 22511, Start Num: 54

Candidate Starts for Indra\_33:

(40, 22164), (Start: 54 @22215 has 103 MA's), (80, 22263), (121, 22368), (143, 22413),

Gene: Insomnia\_30 Start: 23125, Stop: 23448, Start Num: 52

Candidate Starts for Insomnia\_30:

(Start: 52 @23125 has 21 MA's), (58, 23134), (97, 23194), (104, 23206), (117, 23248), (129, 23305),

Gene: Inventum\_33 Start: 29446, Stop: 29820, Start Num: 41

Candidate Starts for Inventum\_33:

(Start: 41 @29446 has 250 MA's), (43, 29452), (Start: 46 @29461 has 1 MA's), (Start: 48 @29473 has 17 MA's), (121, 29680), (134, 29713), (152, 29755),

Gene: IrishSherpFalk\_35 Start: 30353, Stop: 30727, Start Num: 41

Candidate Starts for IrishSherpFalk\_35:

(Start: 41 @30353 has 250 MA's), (Start: 42 @30356 has 15 MA's), (Start: 46 @30368 has 1 MA's), (Start: 48 @30380 has 17 MA's), (121, 30587), (133, 30617), (134, 30620), (152, 30662),

Gene: Isca\_30 Start: 22462, Stop: 22764, Start Num: 67

Candidate Starts for Isca\_30:

(36, 22363), (Start: 49 @22420 has 3 MA's), (Start: 67 @22462 has 110 MA's), (113, 22570),

Gene: Isiphiwo\_33 Start: 22284, Stop: 22580, Start Num: 54

Candidate Starts for Isiphiwo\_33:

(Start: 54 @22284 has 103 MA's), (83, 22338), (121, 22437), (143, 22482),

Gene: Island3\_32 Start: 27623, Stop: 27982, Start Num: 41

Candidate Starts for Island3\_32:

(26, 27455), (34, 27533), (Start: 41 @27623 has 250 MA's), (Start: 46 @27641 has 1 MA's), (72, 27710), (117, 27824), (121, 27848), (134, 27881),

Gene: Issmi\_26 Start: 21936, Stop: 22289, Start Num: 59

Candidate Starts for Issmi\_26:

(33, 21792), (Start: 59 @21936 has 29 MA's), (Start: 74 @21963 has 1 MA's), (Start: 76 @21969 has 2 MA's), (80, 21978), (87, 21996), (95, 22011), (98, 22017), (111, 22062), (113, 22074), (115, 22080), (124, 22140), (125, 22143), (134, 22164), (162, 22269),

Gene: Itza\_27 Start: 21472, Stop: 21828, Start Num: 60

Candidate Starts for Itza\_27:

(1, 19930), (5, 20665), (6, 20734), (7, 20740), (8, 20743), (9, 20758), (19, 21040), (22, 21106), (Start: 60 @21472 has 41 MA's), (Start: 76 @21505 has 2 MA's), (Start: 90 @21538 has 4 MA's), (111, 21598), (117, 21631), (123, 21667), (124, 21676), (166, 21814),

Gene: Iwokeuplikedis\_31 Start: 22164, Stop: 22496, Start Num: 57

Candidate Starts for Iwokeuplikedis\_31:

(Start: 57 @22164 has 25 MA's), (Start: 75 @22191 has 10 MA's), (77, 22197), (105, 22254), (113, 22287), (158, 22464), (160, 22467),

Gene: Izzy\_26 Start: 21007, Stop: 21360, Start Num: 60

Candidate Starts for Izzy\_26:

(Start: 60 @21007 has 41 MA's), (Start: 76 @21043 has 2 MA's), (Start: 90 @21076 has 4 MA's), (133, 21235),

Gene: JF2\_30 Start: 22213, Stop: 22515, Start Num: 67

Candidate Starts for JF2\_30:

(36, 22114), (Start: 49 @22171 has 3 MA's), (Start: 67 @22213 has 110 MA's), (113, 22321), (124, 22387), (134, 22399),

Gene: JF4\_30 Start: 22213, Stop: 22515, Start Num: 67

Candidate Starts for JF4\_30:

(36, 22114), (Start: 49 @22171 has 3 MA's), (Start: 67 @22213 has 110 MA's), (113, 22321), (124, 22387), (134, 22399),

Gene: JHC117\_32 Start: 22961, Stop: 23263, Start Num: 67

Candidate Starts for JHC117\_32:

(47, 22913), (Start: 49 @22916 has 3 MA's), (Start: 67 @22961 has 110 MA's), (83, 22991),

Gene: JSwag\_32 Start: 21391, Stop: 21732, Start Num: 54

Candidate Starts for JSwag\_32:

(Start: 54 @21391 has 103 MA's), (95, 21457), (100, 21469), (155, 21679), (164, 21715), (167, 21721),

Gene: Jabiru\_27 Start: 21595, Stop: 21915, Start Num: 61

Candidate Starts for Jabiru\_27:

(Start: 37 @21505 has 2 MA's), (Start: 61 @21595 has 37 MA's), (Start: 75 @21625 has 10 MA's), (77, 21631), (121, 21757), (134, 21790), (150, 21811), (153, 21844), (157, 21883), (166, 21907),

Gene: Jabith\_30 Start: 23125, Stop: 23448, Start Num: 52

Candidate Starts for Jabith\_30:

(Start: 52 @23125 has 21 MA's), (58, 23134), (97, 23194), (104, 23206), (117, 23248), (129, 23305),

Gene: JalFarm20\_36 Start: 29841, Stop: 30215, Start Num: 41

Candidate Starts for JalFarm20\_36:

(Start: 41 @29841 has 250 MA's), (Start: 46 @29856 has 1 MA's), (Start: 48 @29868 has 17 MA's), (121, 30075), (134, 30108),

Gene: James\_33 Start: 28953, Stop: 29327, Start Num: 41

Candidate Starts for James\_33:

(Start: 41 @28953 has 250 MA's), (Start: 42 @28956 has 15 MA's), (Start: 46 @28968 has 1 MA's), (Start: 48 @28980 has 17 MA's), (121, 29187), (134, 29220), (152, 29262),

Gene: Jamie19\_27 Start: 23790, Stop: 24170, Start Num: 39

Candidate Starts for Jamie19\_27:

(Start: 39 @23790 has 42 MA's), (118, 24000), (121, 24021),

Gene: Janus\_26 Start: 21413, Stop: 21766, Start Num: 59

Candidate Starts for Janus\_26:

(Start: 59 @21413 has 29 MA's), (70, 21428), (Start: 74 @21440 has 1 MA's), (80, 21455), (Start: 90 @21479 has 4 MA's), (98, 21494), (117, 21551), (125, 21599),

Gene: Jacob\_33 Start: 28989, Stop: 29363, Start Num: 41

Candidate Starts for Jacob\_33:

(Start: 41 @28989 has 250 MA's), (Start: 46 @29004 has 1 MA's), (Start: 48 @29016 has 17 MA's), (121, 29223), (133, 29253), (134, 29256), (152, 29298),

Gene: Jash\_26 Start: 20960, Stop: 21313, Start Num: 60

Candidate Starts for Jash\_26:

(Start: 60 @20960 has 41 MA's), (Start: 76 @20996 has 2 MA's), (Start: 90 @21029 has 4 MA's), (133, 21188),

Gene: Jebeks\_29 Start: 25470, Stop: 25829, Start Num: 41

Candidate Starts for Jebeks\_29:

(Start: 41 @25470 has 250 MA's), (72, 25557), (121, 25695), (134, 25728),

Gene: Jeeves\_30 Start: 21688, Stop: 21981, Start Num: 54

Candidate Starts for Jeeves\_30:

(31, 21529), (Start: 54 @21688 has 103 MA's), (66, 21697), (117, 21832),

Gene: Jeffabunny\_33 Start: 22234, Stop: 22530, Start Num: 54

Candidate Starts for Jeffabunny\_33:

(40, 22183), (Start: 54 @22234 has 103 MA's), (80, 22282), (121, 22387), (143, 22432),

Gene: JenCasNa\_32 Start: 22962, Stop: 23264, Start Num: 67

Candidate Starts for JenCasNa\_32:

(47, 22914), (Start: 49 @22917 has 3 MA's), (Start: 67 @22962 has 110 MA's), (83, 22992),

Gene: JeppNRM\_33 Start: 23046, Stop: 23348, Start Num: 67

Candidate Starts for JeppNRM\_33:

(Start: 49 @23001 has 3 MA's), (Start: 67 @23046 has 110 MA's), (113, 23154),

Gene: Jerm\_32 Start: 22865, Stop: 23203, Start Num: 54

Candidate Starts for Jerm\_32:

(Start: 54 @22865 has 103 MA's), (Start: 75 @22901 has 10 MA's), (77, 22907), (100, 22952), (134, 23075), (144, 23090), (158, 23174),

Gene: Jevington\_27 Start: 21756, Stop: 22109, Start Num: 59

Candidate Starts for Jevington\_27:

(Start: 59 @21756 has 29 MA's), (Start: 74 @21783 has 1 MA's), (Start: 76 @21789 has 2 MA's), (87, 21816), (98, 21837), (113, 21894), (125, 21963), (141, 21999), (156, 22065), (162, 22089),

Gene: JewelBug\_33 Start: 22218, Stop: 22514, Start Num: 54

Candidate Starts for JewelBug\_33:

(Start: 54 @22218 has 103 MA's), (83, 22272), (121, 22371), (143, 22416),

Gene: Jiawan\_31 Start: 24044, Stop: 24412, Start Num: 55

Candidate Starts for Jiawan\_31:

(38, 23984), (Start: 55 @24044 has 26 MA's), (77, 24080), (80, 24086), (92, 24107), (100, 24125), (104, 24134), (124, 24233), (129, 24245), (136, 24266), (143, 24275),

Gene: Jinglebell\_32 Start: 28974, Stop: 29348, Start Num: 41

Candidate Starts for Jinglebell\_32:

(Start: 41 @28974 has 250 MA's), (Start: 42 @28977 has 15 MA's), (Start: 46 @28989 has 1 MA's), (Start: 48 @29001 has 17 MA's), (121, 29208), (133, 29238), (134, 29241), (152, 29283),

Gene: Job42\_37 Start: 30762, Stop: 31136, Start Num: 41

Candidate Starts for Job42\_37:

(Start: 41 @30762 has 250 MA's), (43, 30768), (Start: 46 @30777 has 1 MA's), (Start: 48 @30789 has 17 MA's), (72, 30849), (121, 30996), (134, 31029), (152, 31071),

Gene: Jobu08\_32 Start: 23035, Stop: 23337, Start Num: 67

Candidate Starts for Jobu08\_32:

(47, 22987), (Start: 49 @22990 has 3 MA's), (Start: 67 @23035 has 110 MA's), (83, 23065), (87, 23074),

Gene: JoeyJr\_33 Start: 28934, Stop: 29308, Start Num: 41

Candidate Starts for JoeyJr\_33:

(Start: 41 @28934 has 250 MA's), (43, 28940), (Start: 46 @28949 has 1 MA's), (Start: 48 @28961 has 17 MA's), (121, 29168), (134, 29201), (152, 29243),

Gene: Jordennis\_33 Start: 22203, Stop: 22499, Start Num: 54

Candidate Starts for Jordennis\_33:

(Start: 54 @22203 has 103 MA's), (83, 22257), (121, 22356), (143, 22401),

Gene: Joselito\_30 Start: 23073, Stop: 23396, Start Num: 52

Candidate Starts for Joselito\_30:

(Start: 52 @23073 has 21 MA's), (58, 23082), (97, 23142), (104, 23154), (117, 23196), (129, 23253),

Gene: JoshKayV\_32 Start: 22835, Stop: 23179, Start Num: 48

Candidate Starts for JoshKayV\_32:

(29, 22676), (Start: 48 @22835 has 17 MA's), (51, 22844), (80, 22916), (89, 22925), (133, 23051),

Gene: Journey\_30 Start: 24740, Stop: 25108, Start Num: 39

Candidate Starts for Journey\_30:

(Start: 39 @24740 has 42 MA's), (79, 24833), (88, 24851), (118, 24938), (121, 24959),

Gene: Journey13\_28 Start: 21581, Stop: 21907, Start Num: 55

Candidate Starts for Journey13\_28:

(Start: 55 @21581 has 26 MA's), (Start: 75 @21611 has 10 MA's), (77, 21617), (113, 21707), (134, 21785), (158, 21884),

Gene: Jovo\_27 Start: 22414, Stop: 22734, Start Num: 61

Candidate Starts for Jovo\_27:

(Start: 37 @22324 has 2 MA's), (Start: 61 @22414 has 37 MA's), (Start: 75 @22444 has 10 MA's), (77, 22450), (121, 22576), (133, 22606), (134, 22609), (150, 22630), (153, 22663), (160, 22711), (166, 22726),

Gene: Jsquared\_29 Start: 21395, Stop: 21718, Start Num: 57

Candidate Starts for Jsquared\_29:

(40, 21347), (Start: 57 @21395 has 25 MA's), (Start: 75 @21422 has 10 MA's), (77, 21428), (Start: 82 @21437 has 1 MA's),

Gene: Juice456\_35 Start: 30062, Stop: 30436, Start Num: 41

Candidate Starts for Juice456\_35:

(Start: 41 @30062 has 250 MA's), (Start: 46 @30077 has 1 MA's), (Start: 48 @30089 has 17 MA's), (121, 30296), (134, 30329),

Gene: JuicyJay\_53 Start: 45516, Stop: 45890, Start Num: 53

Candidate Starts for JuicyJay\_53:

(Start: 53 @45516 has 42 MA's), (71, 45558), (Start: 75 @45570 has 10 MA's), (114, 45681), (121, 45726), (128, 45768), (140, 45801), (143, 45810), (146, 45822),

Gene: Jung\_28 Start: 25447, Stop: 25806, Start Num: 41

Candidate Starts for Jung\_28:

(Start: 41 @25447 has 250 MA's), (72, 25534), (121, 25672), (134, 25705),

Gene: Juniormint\_29 Start: 25523, Stop: 25882, Start Num: 41

Candidate Starts for Juniormint\_29:

(Start: 41 @25523 has 250 MA's), (72, 25610), (121, 25748), (134, 25781),

Gene: Juniper1\_33 Start: 28735, Stop: 29106, Start Num: 42

Candidate Starts for Juniper1\_33:

(Start: 41 @28732 has 250 MA's), (Start: 42 @28735 has 15 MA's), (Start: 46 @28747 has 1 MA's), (Start: 48 @28759 has 17 MA's), (121, 28966), (134, 28999), (152, 29041),

Gene: KADY\_33 Start: 23002, Stop: 23352, Start Num: 49

Candidate Starts for KADY\_33:

(47, 22999), (Start: 49 @23002 has 3 MA's), (Start: 67 @23047 has 110 MA's), (83, 23077), (153, 23287),

Gene: Kachowdy\_30 Start: 22578, Stop: 22880, Start Num: 67

Candidate Starts for Kachowdy\_30:

(36, 22479), (Start: 49 @22536 has 3 MA's), (Start: 67 @22578 has 110 MA's), (85, 22614), (113, 22686),

Gene: Kaine\_26 Start: 21981, Stop: 22325, Start Num: 64

Candidate Starts for Kaine\_26:

(Start: 64 @21981 has 11 MA's), (Start: 76 @22005 has 2 MA's), (Start: 90 @22038 has 4 MA's), (98, 22053), (99, 22056), (102, 22065), (111, 22098), (123, 22167), (156, 22281),

Gene: Kalah2\_51 Start: 44095, Stop: 44490, Start Num: 53

Candidate Starts for Kalah2\_51:

(Start: 53 @44095 has 42 MA's), (71, 44137), (Start: 75 @44149 has 10 MA's), (114, 44260), (121, 44305), (128, 44347), (140, 44380), (143, 44389), (146, 44401),

Gene: Kalb97\_33 Start: 23046, Stop: 23348, Start Num: 67

Candidate Starts for Kalb97\_33:

(Start: 49 @23001 has 3 MA's), (Start: 67 @23046 has 110 MA's), (113, 23154),

Gene: Kalnoky\_33 Start: 23047, Stop: 23349, Start Num: 67

Candidate Starts for Kalnoky\_33:

(Start: 49 @23002 has 3 MA's), (Start: 67 @23047 has 110 MA's), (113, 23155),

Gene: Kalpine\_33 Start: 24261, Stop: 24569, Start Num: 82

Candidate Starts for Kalpine\_33:

(31, 24057), (Start: 54 @24216 has 103 MA's), (Start: 82 @24261 has 1 MA's), (100, 24297), (104, 24306), (117, 24360), (129, 24417), (132, 24423), (147, 24459), (158, 24546),

Gene: Karhdo\_33 Start: 28898, Stop: 29272, Start Num: 41

Candidate Starts for Karhdo\_33:

(Start: 41 @28898 has 250 MA's), (Start: 42 @28901 has 15 MA's), (Start: 46 @28913 has 1 MA's), (Start: 48 @28925 has 17 MA's), (121, 29132), (134, 29165), (152, 29207),

Gene: Kari\_29 Start: 25482, Stop: 25841, Start Num: 41

Candidate Starts for Kari\_29:

(Start: 41 @25482 has 250 MA's), (72, 25569), (121, 25707), (134, 25740),

Gene: KashFlow\_44 Start: 37870, Stop: 38244, Start Num: 53

Candidate Starts for KashFlow\_44:

(Start: 53 @37870 has 42 MA's), (70, 37909), (Start: 75 @37924 has 10 MA's), (78, 37933), (114, 38035), (121, 38080), (128, 38122), (140, 38155), (143, 38164), (146, 38176),

Gene: Katalie\_25 Start: 20998, Stop: 21354, Start Num: 60

Candidate Starts for Katalie\_25:

(Start: 60 @20998 has 41 MA's), (Start: 76 @21037 has 2 MA's), (Start: 90 @21070 has 4 MA's), (117, 21163), (131, 21220),

Gene: KatherineG\_32 Start: 21527, Stop: 21868, Start Num: 54

Candidate Starts for KatherineG\_32:

(Start: 54 @21527 has 103 MA's), (95, 21593), (100, 21605), (155, 21815), (164, 21851), (167, 21857),

Gene: Kazan\_33 Start: 22219, Stop: 22515, Start Num: 54

Candidate Starts for Kazan\_33:

(Start: 54 @22219 has 103 MA's), (83, 22273), (121, 22372), (143, 22417),

Gene: Kenuha5\_30 Start: 27876, Stop: 28250, Start Num: 41

Candidate Starts for Kenuha5\_30:

(Start: 41 @27876 has 250 MA's), (Start: 46 @27891 has 1 MA's), (Start: 48 @27903 has 17 MA's), (121, 28110), (134, 28143),

Gene: Kersh\_32 Start: 29972, Stop: 30346, Start Num: 41

Candidate Starts for Kersh\_32:

(Start: 41 @29972 has 250 MA's), (Start: 42 @29975 has 15 MA's), (Start: 46 @29987 has 1 MA's), (Start: 48 @29999 has 17 MA's), (121, 30206), (134, 30239), (152, 30281),

Gene: Kevin1\_29 Start: 24131, Stop: 24568, Start Num: 41

Candidate Starts for Kevin1\_29:

(24, 23837), (26, 23963), (34, 24041), (Start: 41 @24131 has 250 MA's), (68, 24209), (89, 24260), (94, 24269), (121, 24371),

Gene: Keziacharles14\_30 Start: 22093, Stop: 22422, Start Num: 54

Candidate Starts for Keziacharles14\_30:

(40, 22042), (Start: 54 @22093 has 103 MA's), (Start: 62 @22111 has 5 MA's), (77, 22144), (Start: 82 @22153 has 1 MA's), (99, 22186), (100, 22189), (104, 22198), (143, 22309), (147, 22321),

Gene: KilKor\_29 Start: 25744, Stop: 26103, Start Num: 41

Candidate Starts for KilKor\_29:

(Start: 41 @25744 has 250 MA's), (72, 25831), (121, 25969), (134, 26002),

Gene: Kimberlium\_35 Start: 29890, Stop: 30264, Start Num: 41

Candidate Starts for Kimberlium\_35:

(Start: 41 @29890 has 250 MA's), (Start: 42 @29893 has 15 MA's), (Start: 46 @29905 has 1 MA's), (Start: 48 @29917 has 17 MA's), (72, 29977), (121, 30124), (133, 30154), (134, 30157), (152, 30199),

Gene: Kimona\_27 Start: 20435, Stop: 20734, Start Num: 61



Candidate Starts for Kimona\_27:

(Start: 37 @20345 has 2 MA's), (50, 20402), (Start: 61 @20435 has 37 MA's), (77, 20468), (117, 20564), (134, 20618),

Gene: KingCyrus\_32 Start: 22832, Stop: 23176, Start Num: 48

Candidate Starts for KingCyrus\_32:

(29, 22673), (Start: 48 @22832 has 17 MA's), (51, 22841), (80, 22913), (89, 22922), (133, 23048),

Gene: KingMidas\_35 Start: 30629, Stop: 31003, Start Num: 41

Candidate Starts for KingMidas\_35:

(Start: 41 @30629 has 250 MA's), (Start: 46 @30644 has 1 MA's), (Start: 48 @30656 has 17 MA's), (121, 30863), (134, 30896), (152, 30938),

Gene: Kingsley\_32 Start: 28585, Stop: 28959, Start Num: 41

Candidate Starts for Kingsley\_32:

(Start: 41 @28585 has 250 MA's), (Start: 42 @28588 has 15 MA's), (Start: 46 @28600 has 1 MA's), (Start: 48 @28612 has 17 MA's), (72, 28672), (121, 28819), (134, 28852),

Gene: Kinmap\_31 Start: 22035, Stop: 22355, Start Num: 54

Candidate Starts for Kinmap\_31:

(Start: 54 @22035 has 103 MA's), (89, 22092), (100, 22113), (149, 22248),

Gene: Kipper29\_33 Start: 22213, Stop: 22509, Start Num: 54

Candidate Starts for Kipper29\_33:

(Start: 54 @22213 has 103 MA's), (83, 22267), (121, 22366), (143, 22411),

Gene: Klein\_51 Start: 43328, Stop: 43702, Start Num: 53

Candidate Starts for Klein\_51:

(Start: 53 @43328 has 42 MA's), (71, 43370), (Start: 75 @43382 has 10 MA's), (114, 43493), (121, 43538), (128, 43580), (140, 43613), (143, 43622), (146, 43634),

Gene: Koduck\_30 Start: 21634, Stop: 21939, Start Num: 54

Candidate Starts for Koduck\_30:

(40, 21586), (Start: 54 @21634 has 103 MA's), (78, 21670), (143, 21838), (150, 21850), (151, 21853), (152, 21871),

Gene: Koella\_27 Start: 24913, Stop: 25287, Start Num: 41

Candidate Starts for Koella\_27:

(Start: 41 @24913 has 250 MA's), (Start: 46 @24928 has 1 MA's), (Start: 48 @24940 has 17 MA's), (121, 25147), (133, 25177), (134, 25180), (152, 25222),

Gene: Koko\_33 Start: 22551, Stop: 22847, Start Num: 54

Candidate Starts for Koko\_33:

(40, 22500), (Start: 54 @22551 has 103 MA's), (121, 22704), (143, 22749),

Gene: Krakatau\_34 Start: 29459, Stop: 29833, Start Num: 41

Candidate Starts for Krakatau\_34:

(Start: 41 @29459 has 250 MA's), (Start: 42 @29462 has 15 MA's), (Start: 46 @29474 has 1 MA's), (Start: 48 @29486 has 17 MA's), (121, 29693), (134, 29726),

Gene: KristaRAM\_34 Start: 29585, Stop: 29959, Start Num: 41

Candidate Starts for KristaRAM\_34:

(Start: 41 @29585 has 250 MA's), (Start: 46 @29600 has 1 MA's), (Start: 48 @29612 has 17 MA's), (121, 29819), (134, 29852),

Gene: Ksquared\_29 Start: 25501, Stop: 25860, Start Num: 41

Candidate Starts for Ksquared\_29:

(Start: 41 @25501 has 250 MA's), (72, 25588), (121, 25726), (134, 25759),

Gene: L5\_30 Start: 21588, Stop: 21893, Start Num: 54

Candidate Starts for L5\_30:

(40, 21540), (Start: 54 @21588 has 103 MA's), (78, 21624), (143, 21792), (150, 21804), (151, 21807), (152, 21825),

Gene: LBerry\_32 Start: 22963, Stop: 23265, Start Num: 67

Candidate Starts for LBerry\_32:

(47, 22915), (Start: 49 @22918 has 3 MA's), (Start: 67 @22963 has 110 MA's), (83, 22993),

Gene: LadyBird\_30 Start: 22403, Stop: 22726, Start Num: 57

Candidate Starts for LadyBird\_30:

(31, 22244), (Start: 57 @22403 has 25 MA's), (Start: 75 @22430 has 10 MA's), (77, 22436), (104, 22490), (116, 22535), (134, 22604), (144, 22619), (158, 22703),

Gene: Lambert1\_31 Start: 23059, Stop: 23361, Start Num: 67

Candidate Starts for Lambert1\_31:

(Start: 49 @23014 has 3 MA's), (Start: 67 @23059 has 110 MA's), (83, 23089), (87, 23098), (107, 23140), (113, 23167),

Gene: Langerak\_29 Start: 25469, Stop: 25828, Start Num: 41

Candidate Starts for Langerak\_29:

(Start: 41 @25469 has 250 MA's), (72, 25556), (121, 25694), (134, 25727),

Gene: Lannister\_27 Start: 21693, Stop: 21974, Start Num: 90

Candidate Starts for Lannister\_27:

(Start: 60 @21624 has 41 MA's), (63, 21630), (Start: 76 @21660 has 2 MA's), (Start: 90 @21693 has 4 MA's), (102, 21720), (131, 21843), (133, 21852),

Gene: Larenn\_31 Start: 22700, Stop: 23023, Start Num: 57

Candidate Starts for Larenn\_31:

(31, 22541), (Start: 57 @22700 has 25 MA's), (Start: 75 @22727 has 10 MA's), (77, 22733), (104, 22787), (134, 22901), (158, 23000),

Gene: LarryKay\_32 Start: 23049, Stop: 23354, Start Num: 67

Candidate Starts for LarryKay\_32:

(47, 23001), (Start: 49 @23004 has 3 MA's), (Start: 67 @23049 has 110 MA's), (83, 23079), (153, 23289),

Gene: LastJedi\_27 Start: 24944, Stop: 25318, Start Num: 41

Candidate Starts for LastJedi\_27:

(Start: 41 @24944 has 250 MA's), (Start: 46 @24959 has 1 MA's), (Start: 48 @24971 has 17 MA's), (121, 25178), (133, 25208), (134, 25211), (152, 25253),

Gene: LastResort\_32 Start: 21408, Stop: 21749, Start Num: 54

Candidate Starts for LastResort\_32:

(Start: 54 @21408 has 103 MA's), (95, 21474), (100, 21486), (155, 21696), (164, 21732), (167, 21738),

Gene: Latretium\_34 Start: 29544, Stop: 29918, Start Num: 41

Candidate Starts for Latretium\_34:

(Start: 41 @29544 has 250 MA's), (Start: 46 @29559 has 1 MA's), (Start: 48 @29571 has 17 MA's), (121, 29778), (134, 29811),

Gene: Legacy\_25 Start: 20565, Stop: 20918, Start Num: 60

Candidate Starts for Legacy\_25:

(Start: 60 @20565 has 41 MA's), (Start: 76 @20601 has 2 MA's), (Start: 90 @20634 has 4 MA's), (131, 20784), (133, 20793), (137, 20802), (153, 20847),

Gene: Leogania\_32 Start: 24566, Stop: 24916, Start Num: 48

Candidate Starts for Leogania\_32:

(Start: 48 @24566 has 17 MA's), (Start: 76 @24638 has 2 MA's), (Start: 82 @24650 has 1 MA's), (116, 24716), (133, 24782), (152, 24827),

Gene: Leozinho\_35 Start: 29187, Stop: 29561, Start Num: 41

Candidate Starts for Leozinho\_35:

(Start: 41 @29187 has 250 MA's), (Start: 46 @29202 has 1 MA's), (Start: 48 @29214 has 17 MA's), (121, 29421), (134, 29454),

Gene: Leperchaun\_33 Start: 28842, Stop: 29213, Start Num: 42

Candidate Starts for Leperchaun\_33:

(Start: 41 @28839 has 250 MA's), (Start: 42 @28842 has 15 MA's), (Start: 46 @28854 has 1 MA's), (Start: 48 @28866 has 17 MA's), (121, 29073), (134, 29106), (152, 29148),

Gene: Lev2\_27 Start: 22046, Stop: 22366, Start Num: 61

Candidate Starts for Lev2\_27:

(Start: 37 @21956 has 2 MA's), (Start: 61 @22046 has 37 MA's), (Start: 75 @22076 has 10 MA's), (77, 22082), (121, 22208), (133, 22238), (134, 22241), (150, 22262), (153, 22295), (160, 22343), (166, 22358),

Gene: Leviathan\_32 Start: 22921, Stop: 23259, Start Num: 54

Candidate Starts for Leviathan\_32:

(Start: 54 @22921 has 103 MA's), (Start: 75 @22957 has 10 MA's), (77, 22963), (104, 23017), (134, 23131), (144, 23146), (158, 23230),

Gene: Leviticus\_25 Start: 20594, Stop: 20947, Start Num: 60

Candidate Starts for Leviticus\_25:

(Start: 60 @20594 has 41 MA's), (Start: 76 @20630 has 2 MA's), (Start: 90 @20663 has 4 MA's), (131, 20813), (133, 20822), (137, 20831), (153, 20876),

Gene: Lika\_25 Start: 21279, Stop: 21632, Start Num: 60

Candidate Starts for Lika\_25:

(Start: 60 @21279 has 41 MA's), (Start: 90 @21351 has 4 MA's), (117, 21444), (124, 21489), (131, 21501), (155, 21588),

Gene: LilMoolah\_33 Start: 29037, Stop: 29411, Start Num: 41

Candidate Starts for LilMoolah\_33:

(Start: 41 @29037 has 250 MA's), (Start: 46 @29052 has 1 MA's), (Start: 48 @29064 has 17 MA's), (121, 29271), (133, 29301), (134, 29304), (152, 29346),

Gene: LilTurb\_32 Start: 22924, Stop: 23262, Start Num: 54

Candidate Starts for LilTurb\_32:

(Start: 54 @22924 has 103 MA's), (Start: 75 @22960 has 10 MA's), (77, 22966), (100, 23011), (134, 23134), (144, 23149), (158, 23233),

Gene: Lilbunny\_33 Start: 22208, Stop: 22504, Start Num: 54

Candidate Starts for Lilbunny\_33:

(40, 22157), (Start: 54 @22208 has 103 MA's), (80, 22256), (121, 22361), (143, 22406),

Gene: Lilit\_32 Start: 22956, Stop: 23258, Start Num: 67

Candidate Starts for Lilit\_32:

(47, 22908), (Start: 49 @22911 has 3 MA's), (Start: 67 @22956 has 110 MA's), (83, 22986),

Gene: Lilleskat\_30 Start: 24008, Stop: 24376, Start Num: 55

Candidate Starts for Lilleskat\_30:

(38, 23948), (Start: 55 @24008 has 26 MA's), (77, 24044), (80, 24050), (92, 24071), (100, 24089), (104, 24098), (124, 24197), (129, 24209), (136, 24230), (143, 24239), (150, 24260),

Gene: LittleCherry\_27 Start: 22255, Stop: 22545, Start Num: 75

Candidate Starts for LittleCherry\_27:

(Start: 37 @22135 has 2 MA's), (Start: 61 @22225 has 37 MA's), (Start: 75 @22255 has 10 MA's), (77, 22261), (117, 22363), (121, 22387), (124, 22408), (134, 22420), (150, 22441), (153, 22474), (160, 22522), (166, 22537),

Gene: LittleE\_55 Start: 43568, Stop: 43954, Start Num: 53

Candidate Starts for LittleE\_55:

(Start: 53 @43568 has 42 MA's), (70, 43607), (Start: 75 @43622 has 10 MA's), (78, 43631), (121, 43778), (125, 43802), (128, 43820), (138, 43850), (143, 43862),

Gene: LittleShirley\_36 Start: 30407, Stop: 30778, Start Num: 42

Candidate Starts for LittleShirley\_36:

(Start: 41 @30404 has 250 MA's), (Start: 42 @30407 has 15 MA's), (Start: 46 @30419 has 1 MA's), (Start: 48 @30431 has 17 MA's), (121, 30638), (134, 30671),

Gene: Lizziana\_33 Start: 28912, Stop: 29286, Start Num: 41

Candidate Starts for Lizziana\_33:

(Start: 41 @28912 has 250 MA's), (Start: 46 @28927 has 1 MA's), (Start: 48 @28939 has 17 MA's), (121, 29146), (133, 29176), (134, 29179), (152, 29221),

Gene: Llama\_33 Start: 28973, Stop: 29347, Start Num: 41

Candidate Starts for Llama\_33:

(Start: 41 @28973 has 250 MA's), (Start: 42 @28976 has 15 MA's), (Start: 46 @28988 has 1 MA's), (Start: 48 @29000 has 17 MA's), (121, 29207), (133, 29237), (134, 29240), (152, 29282),

Gene: Llij\_33 Start: 28744, Stop: 29118, Start Num: 41

Candidate Starts for Llij\_33:

(Start: 41 @28744 has 250 MA's), (Start: 42 @28747 has 15 MA's), (Start: 46 @28759 has 1 MA's), (Start: 48 @28771 has 17 MA's), (121, 28978), (134, 29011), (152, 29053),

Gene: Lokk\_33 Start: 24070, Stop: 24357, Start Num: 81

Candidate Starts for Lokk\_33:

(35, 23911), (Start: 81 @24070 has 17 MA's), (134, 24235), (150, 24256), (158, 24334),

Gene: LoneWolf\_31 Start: 23601, Stop: 23969, Start Num: 55

Candidate Starts for LoneWolf\_31:

(44, 23559), (45, 23565), (Start: 55 @23601 has 26 MA's), (95, 23670), (99, 23679), (100, 23682), (104, 23691), (124, 23790), (143, 23832), (147, 23844), (152, 23874),

Gene: Loofah\_26 Start: 21398, Stop: 21718, Start Num: 90

Candidate Starts for Loofah\_26:

(Start: 62 @21335 has 5 MA's), (70, 21347), (Start: 74 @21359 has 1 MA's), (Start: 90 @21398 has 4 MA's), (100, 21419), (111, 21458), (124, 21536), (133, 21557), (156, 21662), (164, 21692),

Gene: Looper\_33 Start: 21405, Stop: 21746, Start Num: 54

Candidate Starts for Looper\_33:

(Start: 54 @21405 has 103 MA's), (95, 21471), (100, 21483), (155, 21693), (164, 21729), (167, 21735),

Gene: Lorde\_35 Start: 29001, Stop: 29375, Start Num: 41

Candidate Starts for Lorde\_35:

(Start: 41 @29001 has 250 MA's), (89, 29130), (94, 29139), (121, 29235), (134, 29268),

Gene: Lorelei\_25 Start: 21248, Stop: 21601, Start Num: 60

Candidate Starts for Lorelei\_25:

(Start: 60 @21248 has 41 MA's), (Start: 90 @21320 has 4 MA's), (111, 21380), (117, 21413), (131, 21470), (155, 21557), (156, 21563),

Gene: Louie6\_32 Start: 23050, Stop: 23352, Start Num: 67

Candidate Starts for Louie6\_32:

(47, 23002), (Start: 49 @23005 has 3 MA's), (Start: 67 @23050 has 110 MA's), (83, 23080),

Gene: Luchador\_32 Start: 22915, Stop: 23271, Start Num: 54

Candidate Starts for Luchador\_32:

(31, 22756), (Start: 54 @22915 has 103 MA's), (77, 22951), (95, 22984), (104, 23005), (124, 23104), (129, 23116), (143, 23146), (150, 23167),

Gene: Lucivia\_30 Start: 23122, Stop: 23445, Start Num: 52

Candidate Starts for Lucivia\_30:

(Start: 52 @23122 has 21 MA's), (58, 23131), (97, 23191), (104, 23203), (117, 23245), (129, 23302),

Gene: Lucky2013\_50 Start: 40559, Stop: 40945, Start Num: 53

Candidate Starts for Lucky2013\_50:

(Start: 53 @40559 has 42 MA's), (70, 40598), (Start: 75 @40613 has 10 MA's), (78, 40622), (121, 40769), (125, 40793), (128, 40811), (138, 40841), (143, 40853),

Gene: Lucyedi\_31 Start: 23189, Stop: 23464, Start Num: 54

Candidate Starts for Lucyedi\_31:

(Start: 54 @23189 has 103 MA's), (77, 23231), (83, 23243), (89, 23255), (104, 23285), (117, 23318), (121, 23342),

Gene: LugYA\_34 Start: 22963, Stop: 23265, Start Num: 67

Candidate Starts for LugYA\_34:

(47, 22915), (Start: 49 @22918 has 3 MA's), (Start: 67 @22963 has 110 MA's), (83, 22993),

Gene: LunaBlu\_36 Start: 29776, Stop: 30150, Start Num: 41

Candidate Starts for LunaBlu\_36:

(Start: 41 @29776 has 250 MA's), (Start: 46 @29791 has 1 MA's), (Start: 48 @29803 has 17 MA's), (121, 30010), (134, 30043),

Gene: MA5\_30 Start: 22141, Stop: 22443, Start Num: 67

Candidate Starts for MA5\_30:

(Start: 49 @22099 has 3 MA's), (Start: 67 @22141 has 110 MA's), (85, 22177), (134, 22327),

Gene: MK4\_30 Start: 22447, Stop: 22749, Start Num: 67

Candidate Starts for MK4\_30:

(36, 22348), (Start: 49 @22405 has 3 MA's), (Start: 67 @22447 has 110 MA's), (113, 22555), (124, 22621), (134, 22633),

Gene: MaCh\_30 Start: 23064, Stop: 23387, Start Num: 52

Candidate Starts for MaCh\_30:

(Start: 52 @23064 has 21 MA's), (58, 23073), (97, 23133), (104, 23145), (117, 23187), (129, 23244),

Gene: Mabel\_30 Start: 23128, Stop: 23448, Start Num: 54

Candidate Starts for Mabel\_30:

(Start: 52 @23125 has 21 MA's), (Start: 54 @23128 has 103 MA's), (58, 23134), (97, 23194), (104, 23206), (117, 23248), (129, 23305),

Gene: MadMarie\_32 Start: 22965, Stop: 23267, Start Num: 67

Candidate Starts for MadMarie\_32:

(47, 22917), (Start: 49 @22920 has 3 MA's), (Start: 67 @22965 has 110 MA's), (83, 22995),

Gene: MadMen\_31 Start: 28197, Stop: 28571, Start Num: 41

Candidate Starts for MadMen\_31:

(Start: 41 @28197 has 250 MA's), (Start: 46 @28212 has 1 MA's), (Start: 48 @28224 has 17 MA's), (89, 28326), (121, 28431), (134, 28464),

Gene: Madiba\_31 Start: 27677, Stop: 28048, Start Num: 42

Candidate Starts for Madiba\_31:

(Start: 41 @27674 has 250 MA's), (Start: 42 @27677 has 15 MA's), (Start: 46 @27689 has 1 MA's), (Start: 48 @27701 has 17 MA's), (121, 27908), (134, 27941), (152, 27983),

Gene: Magsby\_30 Start: 24737, Stop: 25117, Start Num: 39

Candidate Starts for Magsby\_30:

(Start: 39 @24737 has 42 MA's), (118, 24947), (121, 24968),

Gene: Mahavrat\_33 Start: 28804, Stop: 29178, Start Num: 41

Candidate Starts for Mahavrat\_33:

(Start: 41 @28804 has 250 MA's), (Start: 42 @28807 has 15 MA's), (Start: 46 @28819 has 1 MA's), (Start: 48 @28831 has 17 MA's), (72, 28891), (121, 29038), (134, 29071), (152, 29113),

Gene: Mainiac\_32 Start: 22956, Stop: 23258, Start Num: 67

Candidate Starts for Mainiac\_32:

(47, 22908), (Start: 49 @22911 has 3 MA's), (Start: 67 @22956 has 110 MA's), (83, 22986),

Gene: Majeke\_29 Start: 25491, Stop: 25850, Start Num: 41

Candidate Starts for Majeke\_29:

(Start: 41 @25491 has 250 MA's), (72, 25578), (121, 25716), (134, 25749),

Gene: MajorMajor\_29 Start: 21322, Stop: 21645, Start Num: 57

Candidate Starts for MajorMajor\_29:

(40, 21274), (Start: 57 @21322 has 25 MA's), (Start: 75 @21349 has 10 MA's), (77, 21355), (Start: 82 @21364 has 1 MA's), (115, 21451),

Gene: Malec\_31 Start: 22705, Stop: 23028, Start Num: 57

Candidate Starts for Malec\_31:

(31, 22546), (Start: 57 @22705 has 25 MA's), (Start: 75 @22732 has 10 MA's), (77, 22738), (Start: 82 @22747 has 1 MA's), (104, 22792), (133, 22903), (158, 23005),

Gene: Malinsilva\_34 Start: 22955, Stop: 23257, Start Num: 67

Candidate Starts for Malinsilva\_34:

(47, 22907), (Start: 49 @22910 has 3 MA's), (Start: 67 @22955 has 110 MA's), (83, 22985),

Gene: Malithi\_29 Start: 25410, Stop: 25769, Start Num: 41

Candidate Starts for Malithi\_29:

(Start: 41 @25410 has 250 MA's), (72, 25497), (121, 25635), (134, 25668),

Gene: Maminiaina\_31 Start: 23549, Stop: 23914, Start Num: 54

Candidate Starts for Maminiaina\_31:

(31, 23390), (Start: 54 @23549 has 103 MA's), (77, 23585), (80, 23591), (95, 23618), (100, 23630), (124, 23738), (129, 23750), (153, 23834),

Gene: Mandlovu\_34 Start: 29530, Stop: 29904, Start Num: 41

Candidate Starts for Mandlovu\_34:

(Start: 41 @29530 has 250 MA's), (Start: 46 @29545 has 1 MA's), (Start: 48 @29557 has 17 MA's), (121, 29764), (134, 29797),

Gene: Maneekul\_24 Start: 20735, Stop: 21091, Start Num: 56

Candidate Starts for Maneekul\_24:

(Start: 56 @20735 has 18 MA's), (Start: 76 @20774 has 2 MA's), (Start: 90 @20807 has 4 MA's), (117, 20900), (131, 20957), (133, 20966), (167, 21083),

Gene: Mangethe\_29 Start: 25491, Stop: 25850, Start Num: 41

Candidate Starts for Mangethe\_29:

(Start: 41 @25491 has 250 MA's), (72, 25578), (121, 25716), (134, 25749),

Gene: Mantra\_33 Start: 28863, Stop: 29237, Start Num: 41

Candidate Starts for Mantra\_33:

(Start: 41 @28863 has 250 MA's), (Start: 42 @28866 has 15 MA's), (Start: 46 @28878 has 1 MA's), (Start: 48 @28890 has 17 MA's), (121, 29097), (134, 29130),

Gene: Manu\_33 Start: 23047, Stop: 23349, Start Num: 67

Candidate Starts for Manu\_33:

(Start: 49 @23002 has 3 MA's), (Start: 67 @23047 has 110 MA's), (113, 23155),

Gene: MarQuardt\_32 Start: 22964, Stop: 23266, Start Num: 67

Candidate Starts for MarQuardt\_32:

(47, 22916), (Start: 49 @22919 has 3 MA's), (Start: 67 @22964 has 110 MA's), (83, 22994), (93, 23012),

Gene: Marav\_28 Start: 22095, Stop: 22448, Start Num: 59

Candidate Starts for Marav\_28:

(Start: 59 @22095 has 29 MA's), (Start: 74 @22122 has 1 MA's), (Start: 76 @22128 has 2 MA's), (87, 22155), (98, 22176), (113, 22233), (115, 22239), (125, 22302), (156, 22404), (162, 22428),

Gene: Maravista\_33 Start: 28694, Stop: 29068, Start Num: 41

Candidate Starts for Maravista\_33:

(Start: 41 @28694 has 250 MA's), (Start: 46 @28709 has 1 MA's), (Start: 48 @28721 has 17 MA's), (121, 28928), (133, 28958), (134, 28961), (152, 29003),

Gene: Marchesa\_30 Start: 22576, Stop: 22878, Start Num: 67

Candidate Starts for Marchesa\_30:

(36, 22477), (Start: 49 @22534 has 3 MA's), (Start: 67 @22576 has 110 MA's), (85, 22612), (113, 22684),

Gene: Margo\_31 Start: 23085, Stop: 23387, Start Num: 67

Candidate Starts for Margo\_31:

(Start: 49 @23040 has 3 MA's), (Start: 67 @23085 has 110 MA's), (83, 23115), (87, 23124), (107, 23166), (113, 23193),

Gene: Marie\_32 Start: 22962, Stop: 23264, Start Num: 67

Candidate Starts for Marie\_32:

(47, 22914), (Start: 49 @22917 has 3 MA's), (Start: 67 @22962 has 110 MA's), (83, 22992),

Gene: Marius\_33 Start: 23047, Stop: 23349, Start Num: 67

Candidate Starts for Marius\_33:

(Start: 49 @23002 has 3 MA's), (Start: 67 @23047 has 110 MA's), (113, 23155),

Gene: Marker\_34 Start: 28630, Stop: 29004, Start Num: 41

Candidate Starts for Marker\_34:

(Start: 41 @28630 has 250 MA's), (43, 28636), (Start: 46 @28645 has 1 MA's), (Start: 48 @28657 has 17 MA's), (72, 28717), (121, 28864), (134, 28897),

Gene: Martik\_33 Start: 28939, Stop: 29313, Start Num: 41

Candidate Starts for Martik\_33:

(Start: 41 @28939 has 250 MA's), (Start: 46 @28954 has 1 MA's), (Start: 48 @28966 has 17 MA's), (121, 29173), (133, 29203), (134, 29206), (152, 29248),

Gene: MarysWell\_26 Start: 22303, Stop: 22593, Start Num: 75

Candidate Starts for MarysWell\_26:

(27, 22033), (Start: 37 @22183 has 2 MA's), (Start: 61 @22273 has 37 MA's), (Start: 75 @22303 has 10 MA's), (77, 22309), (121, 22435), (133, 22465), (134, 22468), (150, 22489), (166, 22585),

Gene: Mattes\_33 Start: 28953, Stop: 29327, Start Num: 41

Candidate Starts for Mattes\_33:

(Start: 41 @28953 has 250 MA's), (Start: 42 @28956 has 15 MA's), (Start: 46 @28968 has 1 MA's), (Start: 48 @28980 has 17 MA's), (121, 29187), (134, 29220), (152, 29262),

Gene: McFly\_33 Start: 22213, Stop: 22509, Start Num: 54

Candidate Starts for McFly\_33:

(Start: 54 @22213 has 103 MA's), (83, 22267), (121, 22366), (143, 22411),

Gene: Megiddo\_29 Start: 25744, Stop: 26103, Start Num: 41

Candidate Starts for Megiddo\_29:

(Start: 41 @25744 has 250 MA's), (72, 25831), (121, 25969), (134, 26002),

Gene: Melissauren88\_33 Start: 28906, Stop: 29280, Start Num: 41



Candidate Starts for Melissauren88\_33:

(Start: 41 @28906 has 250 MA's), (Start: 46 @28921 has 1 MA's), (Start: 48 @28933 has 17 MA's), (121, 29140), (134, 29173),

Gene: Melville\_30 Start: 24740, Stop: 25120, Start Num: 39

Candidate Starts for Melville\_30:

(Start: 39 @24740 has 42 MA's), (118, 24950), (121, 24971),

Gene: Methuselah\_31 Start: 23046, Stop: 23348, Start Num: 67

Candidate Starts for Methuselah\_31:

(47, 22998), (Start: 49 @23001 has 3 MA's), (Start: 67 @23046 has 110 MA's), (83, 23076),

Gene: MiaZeal\_50 Start: 40234, Stop: 40620, Start Num: 53

Candidate Starts for MiaZeal\_50:

(Start: 53 @40234 has 42 MA's), (70, 40273), (Start: 75 @40288 has 10 MA's), (78, 40297), (121, 40444), (125, 40468), (128, 40486), (138, 40516), (143, 40528),

Gene: Micasa\_27 Start: 22199, Stop: 22519, Start Num: 61

Candidate Starts for Micasa\_27:

(Start: 37 @22109 has 2 MA's), (Start: 61 @22199 has 37 MA's), (Start: 75 @22229 has 10 MA's), (77, 22235), (117, 22337), (121, 22361), (133, 22391), (134, 22394), (150, 22415), (166, 22511),

Gene: MichelleMyBell\_28 Start: 23728, Stop: 24108, Start Num: 39

Candidate Starts for MichelleMyBell\_28:

(Start: 39 @23728 has 42 MA's), (118, 23938), (121, 23959),

Gene: Microwolf\_32 Start: 22964, Stop: 23266, Start Num: 67

Candidate Starts for Microwolf\_32:

(47, 22916), (Start: 49 @22919 has 3 MA's), (Start: 67 @22964 has 110 MA's), (83, 22994),

Gene: MiculUcigas\_30 Start: 22445, Stop: 22774, Start Num: 57

Candidate Starts for MiculUcigas\_30:

(31, 22286), (Start: 57 @22445 has 25 MA's), (Start: 75 @22472 has 10 MA's), (77, 22478), (104, 22532), (134, 22646), (144, 22661), (158, 22745),

Gene: Midas2\_27 Start: 22303, Stop: 22593, Start Num: 75

Candidate Starts for Midas2\_27:

(Start: 37 @22183 has 2 MA's), (Start: 61 @22273 has 37 MA's), (Start: 75 @22303 has 10 MA's), (77, 22309), (117, 22411), (121, 22435), (124, 22456), (134, 22468), (150, 22489), (153, 22522), (160, 22570), (166, 22585),

Gene: Miko\_33 Start: 24038, Stop: 24325, Start Num: 81

Candidate Starts for Miko\_33:

(35, 23879), (Start: 81 @24038 has 17 MA's), (134, 24203), (150, 24224),

Gene: MilanaBonita\_27 Start: 24837, Stop: 25211, Start Num: 41

Candidate Starts for MilanaBonita\_27:

(13, 24318), (Start: 41 @24837 has 250 MA's), (Start: 46 @24852 has 1 MA's), (Start: 48 @24864 has 17 MA's), (121, 25071), (134, 25104),

Gene: Milcery\_27 Start: 22229, Stop: 22549, Start Num: 61

Candidate Starts for Milcery\_27:

(Start: 37 @22139 has 2 MA's), (Start: 61 @22229 has 37 MA's), (Start: 75 @22259 has 10 MA's), (77, 22265), (117, 22367), (121, 22391), (124, 22412), (134, 22424), (150, 22445), (153, 22478), (160, 22526), (166, 22541),

Gene: MilleniumForce\_34 Start: 29698, Stop: 30072, Start Num: 41

Candidate Starts for MilleniumForce\_34:

(Start: 41 @29698 has 250 MA's), (Start: 46 @29713 has 1 MA's), (Start: 48 @29725 has 17 MA's), (121, 29932), (134, 29965),

Gene: MinecraftSteve\_33 Start: 21527, Stop: 21868, Start Num: 54

Candidate Starts for MinecraftSteve\_33:

(Start: 54 @21527 has 103 MA's), (95, 21593), (100, 21605), (155, 21815), (164, 21851), (167, 21857),

Gene: Minerva\_57 Start: 45156, Stop: 45551, Start Num: 53

Candidate Starts for Minerva\_57:

(Start: 53 @45156 has 42 MA's), (71, 45198), (Start: 75 @45210 has 10 MA's), (114, 45321), (121, 45366), (128, 45408), (140, 45441), (143, 45450), (146, 45462),

Gene: MinionDave\_36 Start: 29935, Stop: 30309, Start Num: 41

Candidate Starts for MinionDave\_36:

(Start: 41 @29935 has 250 MA's), (Start: 46 @29950 has 1 MA's), (Start: 48 @29962 has 17 MA's), (121, 30169), (134, 30202),

Gene: Minnie\_35 Start: 29748, Stop: 30122, Start Num: 41

Candidate Starts for Minnie\_35:

(Start: 41 @29748 has 250 MA's), (43, 29754), (Start: 46 @29763 has 1 MA's), (Start: 48 @29775 has 17 MA's), (72, 29835), (121, 29982), (134, 30015), (152, 30057),

Gene: Misha28\_34 Start: 28648, Stop: 29022, Start Num: 41

Candidate Starts for Misha28\_34:

(Start: 41 @28648 has 250 MA's), (Start: 46 @28663 has 1 MA's), (Start: 48 @28675 has 17 MA's), (72, 28735), (121, 28882), (134, 28915),

Gene: Misomonster\_34 Start: 23046, Stop: 23351, Start Num: 67

Candidate Starts for Misomonster\_34:

(47, 22998), (Start: 49 @23001 has 3 MA's), (Start: 67 @23046 has 110 MA's), (83, 23076), (153, 23286),

Gene: MissWhite\_30 Start: 21529, Stop: 21855, Start Num: 55

Candidate Starts for MissWhite\_30:

(Start: 55 @21529 has 26 MA's), (Start: 57 @21532 has 25 MA's), (Start: 75 @21559 has 10 MA's), (77, 21565), (99, 21607), (113, 21655), (134, 21733), (158, 21832),

Gene: MisterCuddles\_35 Start: 29802, Stop: 30176, Start Num: 41

Candidate Starts for MisterCuddles\_35:

(Start: 41 @29802 has 250 MA's), (Start: 46 @29817 has 1 MA's), (Start: 48 @29829 has 17 MA's), (121, 30036), (134, 30069), (152, 30111),

Gene: ModicumRichard\_32 Start: 27476, Stop: 27847, Start Num: 62

Candidate Starts for ModicumRichard\_32:

(20, 27089), (40, 27401), (Start: 62 @27476 has 5 MA's), (Start: 90 @27545 has 4 MA's), (96, 27557), (105, 27578), (116, 27626),

Gene: Modragons\_33 Start: 28818, Stop: 29192, Start Num: 41

Candidate Starts for Modragons\_33:

(Start: 41 @28818 has 250 MA's), (Start: 42 @28821 has 15 MA's), (Start: 46 @28833 has 1 MA's), (Start: 48 @28845 has 17 MA's), (121, 29052), (133, 29082), (134, 29085), (152, 29127),

Gene: MoneyMay\_32 Start: 22962, Stop: 23264, Start Num: 67

Candidate Starts for MoneyMay\_32:

(47, 22914), (Start: 49 @22917 has 3 MA's), (Start: 67 @22962 has 110 MA's), (83, 22992),

Gene: Moonbeam\_34 Start: 29452, Stop: 29826, Start Num: 41

Candidate Starts for Moonbeam\_34:

(Start: 41 @29452 has 250 MA's), (Start: 46 @29467 has 1 MA's), (Start: 48 @29479 has 17 MA's), (121, 29686), (134, 29719),

Gene: Morgana\_32 Start: 27232, Stop: 27603, Start Num: 62

Candidate Starts for Morgana\_32:

(40, 27157), (Start: 62 @27232 has 5 MA's), (Start: 90 @27301 has 4 MA's), (96, 27313), (105, 27334), (116, 27382),

Gene: Mova\_34 Start: 28587, Stop: 28961, Start Num: 41

Candidate Starts for Mova\_34:

(Start: 41 @28587 has 250 MA's), (Start: 46 @28602 has 1 MA's), (Start: 48 @28614 has 17 MA's), (121, 28821), (134, 28854),

Gene: Mozy\_35 Start: 29643, Stop: 30017, Start Num: 41

Candidate Starts for Mozy\_35:

(Start: 41 @29643 has 250 MA's), (Start: 42 @29646 has 15 MA's), (Start: 46 @29658 has 1 MA's), (Start: 48 @29670 has 17 MA's), (72, 29730), (121, 29877), (134, 29910), (152, 29952),

Gene: Ms6\_27 Start: 24369, Stop: 24743, Start Num: 41

Candidate Starts for Ms6\_27:

(Start: 41 @24369 has 250 MA's), (Start: 46 @24384 has 1 MA's), (Start: 48 @24396 has 17 MA's), (121, 24603), (134, 24636),

Gene: MuchMore\_34 Start: 22955, Stop: 23257, Start Num: 67

Candidate Starts for MuchMore\_34:

(47, 22907), (Start: 49 @22910 has 3 MA's), (Start: 67 @22955 has 110 MA's), (83, 22985),

Gene: MulchExplorer\_37 Start: 29889, Stop: 30263, Start Num: 41

Candidate Starts for MulchExplorer\_37:

(Start: 41 @29889 has 250 MA's), (Start: 42 @29892 has 15 MA's), (Start: 46 @29904 has 1 MA's), (Start: 48 @29916 has 17 MA's), (72, 29976), (121, 30123), (133, 30153), (134, 30156), (152, 30198),

Gene: MulchSalad\_32 Start: 25650, Stop: 26024, Start Num: 41

Candidate Starts for MulchSalad\_32:

(Start: 41 @25650 has 250 MA's), (Start: 46 @25665 has 1 MA's), (Start: 48 @25677 has 17 MA's), (121, 25884), (134, 25917),

Gene: Mulciber\_30 Start: 23067, Stop: 23390, Start Num: 52

Candidate Starts for Mulciber\_30:

(Start: 52 @23067 has 21 MA's), (58, 23076), (97, 23136), (104, 23148), (117, 23190), (129, 23247),

Gene: Munch\_30 Start: 23073, Stop: 23396, Start Num: 52

Candidate Starts for Munch\_30:

(Start: 52 @23073 has 21 MA's), (58, 23082), (97, 23142), (104, 23154), (117, 23196), (129, 23253),

Gene: Mutaforma13\_33 Start: 29022, Stop: 29396, Start Num: 41

Candidate Starts for Mutaforma13\_33:

(Start: 41 @29022 has 250 MA's), (Start: 42 @29025 has 15 MA's), (Start: 46 @29037 has 1 MA's),  
(Start: 48 @29049 has 17 MA's), (121, 29256), (134, 29289), (152, 29331),

Gene: MyraDee\_28 Start: 20416, Stop: 20760, Start Num: 48

Candidate Starts for MyraDee\_28:

(Start: 48 @20416 has 17 MA's), (102, 20533), (153, 20689),

Gene: Myxus\_32 Start: 24008, Stop: 24376, Start Num: 55

Candidate Starts for Myxus\_32:

(38, 23948), (Start: 55 @24008 has 26 MA's), (77, 24044), (80, 24050), (92, 24071), (100, 24089),  
(104, 24098), (124, 24197), (129, 24209), (136, 24230), (143, 24239),

Gene: NaSiaTalie\_30 Start: 22443, Stop: 22772, Start Num: 57

Candidate Starts for NaSiaTalie\_30:

(31, 22284), (Start: 57 @22443 has 25 MA's), (Start: 75 @22470 has 10 MA's), (77, 22476), (104,  
22530), (116, 22575), (158, 22743),

Gene: Nabi\_25 Start: 21248, Stop: 21601, Start Num: 60

Candidate Starts for Nabi\_25:

(Start: 60 @21248 has 41 MA's), (Start: 90 @21320 has 4 MA's), (111, 21380), (117, 21413), (131,  
21470), (155, 21557), (156, 21563),

Gene: Naca\_27 Start: 22111, Stop: 22401, Start Num: 75

Candidate Starts for Naca\_27:

(Start: 37 @21991 has 2 MA's), (Start: 61 @22081 has 37 MA's), (Start: 75 @22111 has 10 MA's), (77,  
22117), (121, 22243), (133, 22273), (134, 22276), (150, 22297), (153, 22330), (166, 22393),

Gene: Nanodon\_27 Start: 21238, Stop: 21588, Start Num: 60

Candidate Starts for Nanodon\_27:

(Start: 60 @21238 has 41 MA's), (63, 21244), (Start: 76 @21274 has 2 MA's), (Start: 90 @21307 has 4  
MA's), (117, 21400), (131, 21457),

Gene: NearlyHeadless\_27 Start: 21248, Stop: 21529, Start Num: 61

Candidate Starts for NearlyHeadless\_27:

(Start: 61 @21248 has 37 MA's), (Start: 75 @21275 has 10 MA's), (77, 21281), (89, 21305), (104,  
21335), (155, 21482), (157, 21497), (161, 21509), (165, 21518),

Gene: Nebkiss\_37 Start: 31571, Stop: 31879, Start Num: 53

Candidate Starts for Nebkiss\_37:

(Start: 53 @31571 has 42 MA's), (Start: 74 @31619 has 1 MA's), (Start: 76 @31625 has 2 MA's),  
(Start: 82 @31637 has 1 MA's), (103, 31682), (120, 31766), (122, 31787), (127, 31820),

Gene: Nebulosus\_32 Start: 21405, Stop: 21746, Start Num: 54

Candidate Starts for Nebulosus\_32:

(Start: 54 @21405 has 103 MA's), (95, 21471), (100, 21483), (155, 21693), (164, 21729), (167, 21735),

Gene: Necropolis\_29 Start: 25482, Stop: 25841, Start Num: 41

Candidate Starts for Necropolis\_29:

(Start: 41 @25482 has 250 MA's), (72, 25569), (121, 25707), (134, 25740),

Gene: Nedarya\_31 Start: 22021, Stop: 22362, Start Num: 54

Candidate Starts for Nedarya\_31:

(Start: 54 @22021 has 103 MA's), (Start: 82 @22063 has 1 MA's), (95, 22087), (106, 22114), (113, 22132), (153, 22285), (164, 22345), (167, 22351),

Gene: Neeharika16\_33 Start: 22206, Stop: 22502, Start Num: 54

Candidate Starts for Neeharika16\_33:

(Start: 54 @22206 has 103 MA's), (83, 22260), (121, 22359), (143, 22404),

Gene: Nенаe\_27 Start: 23790, Stop: 24299, Start Num: 39

Candidate Starts for Nенаe\_27:

(10, 23220), (Start: 39 @23790 has 42 MA's), (85, 23916), (94, 23934), (115, 24009), (119, 24036), (121, 24057), (130, 24120), (148, 24189),

Gene: Nerдos\_25 Start: 20588, Stop: 20941, Start Num: 60

Candidate Starts for Nerдos\_25:

(Start: 60 @20588 has 41 MA's), (Start: 76 @20624 has 2 MA's), (Start: 90 @20657 has 4 MA's), (131, 20807), (133, 20816), (137, 20825), (153, 20870),

Gene: Newrala\_33 Start: 22206, Stop: 22502, Start Num: 54

Candidate Starts for Newrala\_33:

(Start: 54 @22206 has 103 MA's), (83, 22260), (121, 22359), (143, 22404),

Gene: NicoleTera\_34 Start: 24306, Stop: 24629, Start Num: 57

Candidate Starts for NicoleTera\_34:

(31, 24147), (Start: 57 @24306 has 25 MA's), (Start: 75 @24333 has 10 MA's), (77, 24339), (84, 24354), (100, 24384), (113, 24429), (158, 24606),

Gene: NihilNomen\_50 Start: 43826, Stop: 44221, Start Num: 53

Candidate Starts for NihilNomen\_50:

(Start: 53 @43826 has 42 MA's), (71, 43868), (Start: 75 @43880 has 10 MA's), (114, 43991), (121, 44036), (128, 44078), (140, 44111), (143, 44120), (146, 44132),

Gene: Nimbo\_33 Start: 28770, Stop: 29144, Start Num: 41

Candidate Starts for Nimbo\_33:

(Start: 41 @28770 has 250 MA's), (Start: 46 @28785 has 1 MA's), (Start: 48 @28797 has 17 MA's), (121, 29004), (134, 29037), (152, 29079),

Gene: Nishikigoi\_25 Start: 21215, Stop: 21568, Start Num: 59

Candidate Starts for Nishikigoi\_25:

(Start: 59 @21215 has 29 MA's), (65, 21224), (Start: 74 @21242 has 1 MA's), (Start: 76 @21248 has 2 MA's), (80, 21257), (87, 21275), (99, 21299), (111, 21341), (125, 21422), (141, 21458), (156, 21524), (162, 21548),

Gene: Nitzel\_34 Start: 29486, Stop: 29860, Start Num: 41

Candidate Starts for Nitzel\_34:

(Start: 41 @29486 has 250 MA's), (Start: 42 @29489 has 15 MA's), (Start: 46 @29501 has 1 MA's), (Start: 48 @29513 has 17 MA's), (121, 29720), (134, 29753),

Gene: Nivrat\_33 Start: 28911, Stop: 29285, Start Num: 41

Candidate Starts for Nivrat\_33:

(Start: 41 @28911 has 250 MA's), (Start: 46 @28926 has 1 MA's), (Start: 48 @28938 has 17 MA's), (121, 29145), (133, 29175), (134, 29178), (152, 29220),

Gene: Noella\_31 Start: 23060, Stop: 23362, Start Num: 67

Candidate Starts for Noella\_31:

(Start: 49 @23015 has 3 MA's), (Start: 67 @23060 has 110 MA's), (83, 23090), (87, 23099), (107, 23141), (113, 23168),

Gene: Norbert\_30 Start: 23059, Stop: 23361, Start Num: 67

Candidate Starts for Norbert\_30:

(Start: 49 @23014 has 3 MA's), (Start: 67 @23059 has 110 MA's), (83, 23089), (87, 23098), (107, 23140), (113, 23167),

Gene: NormanBulbieJr\_33 Start: 28926, Stop: 29300, Start Num: 41

Candidate Starts for NormanBulbieJr\_33:

(Start: 41 @28926 has 250 MA's), (Start: 46 @28941 has 1 MA's), (Start: 48 @28953 has 17 MA's), (121, 29160), (133, 29190), (134, 29193), (152, 29235),

Gene: NothingSpecial\_32 Start: 24442, Stop: 24783, Start Num: 48

Candidate Starts for NothingSpecial\_32:

(29, 24283), (Start: 48 @24442 has 17 MA's), (159, 24760),

Gene: ObLaDi\_32 Start: 27455, Stop: 27826, Start Num: 62

Candidate Starts for ObLaDi\_32:

(20, 27068), (40, 27380), (Start: 62 @27455 has 5 MA's), (Start: 90 @27524 has 4 MA's), (96, 27536), (105, 27557), (116, 27605),

Gene: Ochi17\_31 Start: 28425, Stop: 28799, Start Num: 41

Candidate Starts for Ochi17\_31:

(Start: 41 @28425 has 250 MA's), (Start: 42 @28428 has 15 MA's), (Start: 46 @28440 has 1 MA's), (Start: 48 @28452 has 17 MA's), (121, 28659), (133, 28689), (134, 28692), (152, 28734),

Gene: Odette\_51 Start: 43068, Stop: 43442, Start Num: 53

Candidate Starts for Odette\_51:

(Start: 53 @43068 has 42 MA's), (71, 43110), (Start: 75 @43122 has 10 MA's), (114, 43233), (121, 43278), (128, 43320), (140, 43353), (143, 43362), (146, 43374),

Gene: OfUltron\_33 Start: 28977, Stop: 29348, Start Num: 42

Candidate Starts for OfUltron\_33:

(Start: 41 @28974 has 250 MA's), (Start: 42 @28977 has 15 MA's), (Start: 46 @28989 has 1 MA's), (Start: 48 @29001 has 17 MA's), (121, 29208), (133, 29238), (134, 29241), (152, 29283),

Gene: Ogopogo\_33 Start: 28118, Stop: 28492, Start Num: 41

Candidate Starts for Ogopogo\_33:

(Start: 41 @28118 has 250 MA's), (Start: 42 @28121 has 15 MA's), (Start: 46 @28133 has 1 MA's), (Start: 48 @28145 has 17 MA's), (72, 28205), (121, 28352), (133, 28382), (134, 28385), (152, 28427),

Gene: Oksu\_34 Start: 28818, Stop: 29192, Start Num: 41

Candidate Starts for Oksu\_34:

(Start: 41 @28818 has 250 MA's), (Start: 42 @28821 has 15 MA's), (Start: 46 @28833 has 1 MA's), (Start: 48 @28845 has 17 MA's), (121, 29052), (133, 29082), (134, 29085), (152, 29127),

Gene: OlanP\_32 Start: 23227, Stop: 23529, Start Num: 67

Candidate Starts for OlanP\_32:

(Start: 49 @23182 has 3 MA's), (Start: 67 @23227 has 110 MA's), (113, 23335),

Gene: OldBen\_33 Start: 28801, Stop: 29175, Start Num: 41

Candidate Starts for OldBen\_33:

(Start: 41 @28801 has 250 MA's), (Start: 46 @28816 has 1 MA's), (Start: 48 @28828 has 17 MA's), (121, 29035), (134, 29068), (152, 29110),

Gene: Oliynyk\_26 Start: 21029, Stop: 21313, Start Num: 90

Candidate Starts for Oliynyk\_26:

(Start: 60 @20960 has 41 MA's), (Start: 76 @20996 has 2 MA's), (Start: 90 @21029 has 4 MA's), (133, 21188),

Gene: Ollie\_32 Start: 22833, Stop: 23135, Start Num: 67

Candidate Starts for Ollie\_32:

(47, 22785), (Start: 49 @22788 has 3 MA's), (Start: 67 @22833 has 110 MA's), (83, 22863), (87, 22872),

Gene: OlympiaSaint\_33 Start: 29215, Stop: 29589, Start Num: 41

Candidate Starts for OlympiaSaint\_33:

(Start: 41 @29215 has 250 MA's), (Start: 42 @29218 has 15 MA's), (Start: 46 @29230 has 1 MA's), (Start: 48 @29242 has 17 MA's), (121, 29449), (134, 29482), (152, 29524),

Gene: Omar\_26 Start: 21578, Stop: 21931, Start Num: 59

Candidate Starts for Omar\_26:

(Start: 59 @21578 has 29 MA's), (70, 21593), (Start: 74 @21605 has 1 MA's), (Start: 76 @21611 has 2 MA's), (80, 21620), (87, 21638), (102, 21671), (104, 21674), (125, 21785), (156, 21887), (162, 21911),

Gene: Omega\_55 Start: 44873, Stop: 45259, Start Num: 53

Candidate Starts for Omega\_55:

(Start: 53 @44873 has 42 MA's), (70, 44912), (Start: 75 @44927 has 10 MA's), (78, 44936), (121, 45083), (125, 45107), (128, 45125), (138, 45155), (143, 45167),

Gene: Onglai\_31 Start: 22342, Stop: 22710, Start Num: 55

Candidate Starts for Onglai\_31:

(38, 22282), (Start: 55 @22342 has 26 MA's), (77, 22378), (80, 22384), (92, 22405), (100, 22423), (104, 22432), (124, 22531), (129, 22543), (136, 22564), (143, 22573), (150, 22594),

Gene: Oofda\_33 Start: 21379, Stop: 21720, Start Num: 54

Candidate Starts for Oofda\_33:

(Start: 54 @21379 has 103 MA's), (95, 21445), (100, 21457), (155, 21667), (164, 21703), (167, 21709),

Gene: Optimus\_56 Start: 44741, Stop: 45136, Start Num: 53

Candidate Starts for Optimus\_56:

(Start: 53 @44741 has 42 MA's), (71, 44783), (Start: 75 @44795 has 10 MA's), (114, 44906), (121, 44951), (128, 44993), (140, 45026), (143, 45035), (146, 45047),

Gene: Orange\_30 Start: 23073, Stop: 23396, Start Num: 52

Candidate Starts for Orange\_30:

(Start: 52 @23073 has 21 MA's), (58, 23082), (97, 23142), (104, 23154), (117, 23196), (129, 23253),

Gene: Ovechkin\_34 Start: 29774, Stop: 30148, Start Num: 41

Candidate Starts for Ovechkin\_34:

(Start: 41 @29774 has 250 MA's), (Start: 42 @29777 has 15 MA's), (Start: 46 @29789 has 1 MA's),  
(Start: 48 @29801 has 17 MA's), (72, 29861), (121, 30008), (134, 30041), (152, 30083),

Gene: OwlsT2W\_34 Start: 29190, Stop: 29564, Start Num: 41

Candidate Starts for OwlsT2W\_34:

(Start: 41 @29190 has 250 MA's), (Start: 46 @29205 has 1 MA's), (Start: 48 @29217 has 17 MA's),  
(121, 29424), (134, 29457),

Gene: Ozzie\_25 Start: 20574, Stop: 20927, Start Num: 60

Candidate Starts for Ozzie\_25:

(Start: 60 @20574 has 41 MA's), (Start: 76 @20610 has 2 MA's), (Start: 90 @20643 has 4 MA's), (131,  
20793), (133, 20802), (137, 20811), (153, 20856),

Gene: OzzyJ\_25 Start: 20697, Stop: 21053, Start Num: 56

Candidate Starts for OzzyJ\_25:

(Start: 56 @20697 has 18 MA's), (Start: 76 @20736 has 2 MA's), (Start: 90 @20769 has 4 MA's), (117,  
20862), (131, 20919), (133, 20928), (167, 21045),

Gene: P28Green\_32 Start: 22964, Stop: 23266, Start Num: 67

Candidate Starts for P28Green\_32:

(47, 22916), (Start: 49 @22919 has 3 MA's), (Start: 67 @22964 has 110 MA's), (83, 22994),

Gene: PGHhamlin\_34 Start: 22955, Stop: 23257, Start Num: 67

Candidate Starts for PGHhamlin\_34:

(47, 22907), (Start: 49 @22910 has 3 MA's), (Start: 67 @22955 has 110 MA's), (83, 22985),

Gene: PHappiness\_33 Start: 28743, Stop: 29117, Start Num: 41

Candidate Starts for PHappiness\_33:

(Start: 41 @28743 has 250 MA's), (Start: 46 @28758 has 1 MA's), (Start: 48 @28770 has 17 MA's),  
(121, 28977), (134, 29010), (152, 29052),

Gene: PMC\_33 Start: 28744, Stop: 29118, Start Num: 41

Candidate Starts for PMC\_33:

(Start: 41 @28744 has 250 MA's), (Start: 42 @28747 has 15 MA's), (Start: 46 @28759 has 1 MA's),  
(Start: 48 @28771 has 17 MA's), (121, 28978), (134, 29011), (152, 29053),

Gene: PP\_39 Start: 28078, Stop: 28395, Start Num: 57

Candidate Starts for PP\_39:

(31, 27919), (Start: 57 @28078 has 25 MA's), (Start: 75 @28105 has 10 MA's), (77, 28111), (Start: 82  
@28120 has 1 MA's), (86, 28129), (113, 28201), (117, 28222), (134, 28279),

Gene: Pablito\_25 Start: 21194, Stop: 21544, Start Num: 60

Candidate Starts for Pablito\_25:

(Start: 60 @21194 has 41 MA's), (63, 21200), (Start: 90 @21260 has 4 MA's), (117, 21353), (131,  
21410), (137, 21428),

Gene: Pacc40\_33 Start: 28935, Stop: 29309, Start Num: 41

Candidate Starts for Pacc40\_33:

(Start: 41 @28935 has 250 MA's), (Start: 42 @28938 has 15 MA's), (Start: 46 @28950 has 1 MA's),  
(Start: 48 @28962 has 17 MA's), (121, 29169), (134, 29202), (152, 29244),

Gene: PackMan\_32 Start: 24008, Stop: 24376, Start Num: 55

Candidate Starts for PackMan\_32:



(38, 23948), (Start: 55 @24008 has 26 MA's), (77, 24044), (80, 24050), (92, 24071), (100, 24089), (104, 24098), (124, 24197), (129, 24209), (136, 24230), (143, 24239),

Gene: Paedore\_25 Start: 21359, Stop: 21718, Start Num: 74

Candidate Starts for Paedore\_25:

(Start: 62 @21335 has 5 MA's), (70, 21347), (Start: 74 @21359 has 1 MA's), (Start: 90 @21398 has 4 MA's), (100, 21419), (111, 21458), (124, 21536), (133, 21557), (156, 21662), (164, 21692),

Gene: PainterBoy\_31 Start: 23126, Stop: 23401, Start Num: 54

Candidate Starts for PainterBoy\_31:

(Start: 54 @23126 has 103 MA's), (77, 23168), (83, 23180), (89, 23192), (104, 23222), (117, 23255), (121, 23279),

Gene: Panamaxus\_30 Start: 23059, Stop: 23361, Start Num: 67

Candidate Starts for Panamaxus\_30:

(Start: 49 @23014 has 3 MA's), (Start: 67 @23059 has 110 MA's), (83, 23089), (87, 23098), (107, 23140), (113, 23167),

Gene: Panchino\_27 Start: 23750, Stop: 24223, Start Num: 39

Candidate Starts for Panchino\_27:

(10, 23186), (17, 23345), (18, 23372), (Start: 39 @23750 has 42 MA's), (85, 23876), (119, 23996), (121, 24017), (130, 24080), (145, 24122),

Gene: Paolo\_27 Start: 21760, Stop: 22113, Start Num: 59

Candidate Starts for Paolo\_27:

(33, 21616), (Start: 59 @21760 has 29 MA's), (Start: 74 @21787 has 1 MA's), (Start: 76 @21793 has 2 MA's), (113, 21898), (115, 21904), (125, 21967), (141, 22003), (156, 22069), (162, 22093),

Gene: Parmesanjohn\_30 Start: 24740, Stop: 25120, Start Num: 39

Candidate Starts for Parmesanjohn\_30:

(Start: 39 @24740 has 42 MA's), (118, 24950), (121, 24971),

Gene: Pavo\_27 Start: 22448, Stop: 22834, Start Num: 64

Candidate Starts for Pavo\_27:

(Start: 64 @22448 has 11 MA's), (Start: 76 @22472 has 2 MA's), (Start: 90 @22505 has 4 MA's), (98, 22520), (99, 22523), (102, 22532), (111, 22565), (117, 22598), (123, 22634), (133, 22664), (155, 22742), (156, 22748),

Gene: Pawn\_32 Start: 23047, Stop: 23349, Start Num: 67

Candidate Starts for Pawn\_32:

(Start: 49 @23002 has 3 MA's), (Start: 67 @23047 has 110 MA's), (113, 23155),

Gene: Pembroke\_32 Start: 22964, Stop: 23266, Start Num: 67

Candidate Starts for Pembroke\_32:

(47, 22916), (Start: 49 @22919 has 3 MA's), (Start: 67 @22964 has 110 MA's), (83, 22994),

Gene: Penny1\_32 Start: 22963, Stop: 23265, Start Num: 67

Candidate Starts for Penny1\_32:

(47, 22915), (Start: 49 @22918 has 3 MA's), (Start: 67 @22963 has 110 MA's), (83, 22993),

Gene: Petersenfast\_29 Start: 23070, Stop: 23393, Start Num: 52

Candidate Starts for Petersenfast\_29:

(Start: 52 @23070 has 21 MA's), (58, 23079), (97, 23139), (104, 23151), (117, 23193), (129, 23250),

Gene: PetterN\_28 Start: 21515, Stop: 21835, Start Num: 61

Candidate Starts for PetterN\_28:

(Start: 37 @21425 has 2 MA's), (Start: 61 @21515 has 37 MA's), (Start: 75 @21545 has 10 MA's), (77, 21551), (121, 21677), (134, 21710), (150, 21731), (153, 21764), (157, 21803), (166, 21827),

Gene: Ph8s\_31 Start: 21176, Stop: 21445, Start Num: 54

Candidate Starts for Ph8s\_31:

(Start: 54 @21176 has 103 MA's), (78, 21215), (Start: 82 @21221 has 1 MA's), (100, 21257),

Gene: Phaeder\_32 Start: 24008, Stop: 24376, Start Num: 55

Candidate Starts for Phaeder\_32:

(38, 23948), (Start: 55 @24008 has 26 MA's), (77, 24044), (80, 24050), (92, 24071), (100, 24089), (104, 24098), (124, 24197), (129, 24209), (136, 24230), (143, 24239),

Gene: Phalconet\_33 Start: 28872, Stop: 29246, Start Num: 41

Candidate Starts for Phalconet\_33:

(Start: 41 @28872 has 250 MA's), (Start: 46 @28887 has 1 MA's), (Start: 48 @28899 has 17 MA's), (121, 29106), (134, 29139),

Gene: Phalm\_29 Start: 25744, Stop: 26103, Start Num: 41

Candidate Starts for Phalm\_29:

(Start: 41 @25744 has 250 MA's), (72, 25831), (121, 25969), (134, 26002),

Gene: PhancyPhin\_27 Start: 23787, Stop: 24296, Start Num: 39

Candidate Starts for PhancyPhin\_27:

(10, 23217), (Start: 39 @23787 has 42 MA's), (85, 23913), (94, 23931), (115, 24006), (119, 24033), (121, 24054), (130, 24117), (148, 24186),

Gene: Phanphagia\_30 Start: 27895, Stop: 28269, Start Num: 41

Candidate Starts for Phanphagia\_30:

(Start: 41 @27895 has 250 MA's), (Start: 46 @27910 has 1 MA's), (Start: 48 @27922 has 17 MA's), (121, 28129), (134, 28162),

Gene: Phantastic\_30 Start: 22482, Stop: 22784, Start Num: 67

Candidate Starts for Phantastic\_30:

(Start: 49 @22446 has 3 MA's), (Start: 67 @22482 has 110 MA's), (87, 22521), (113, 22590),

Gene: Pharaoh\_30 Start: 23508, Stop: 23873, Start Num: 48

Candidate Starts for Pharaoh\_30:

(Start: 48 @23508 has 17 MA's), (Start: 61 @23544 has 37 MA's), (68, 23559), (89, 23598), (116, 23658), (123, 23706), (152, 23769),

Gene: Phasih\_34 Start: 29321, Stop: 29695, Start Num: 41

Candidate Starts for Phasih\_34:

(Start: 41 @29321 has 250 MA's), (43, 29327), (Start: 46 @29336 has 1 MA's), (Start: 48 @29348 has 17 MA's), (121, 29555), (134, 29588), (152, 29630),

Gene: Phatniss\_34 Start: 29261, Stop: 29635, Start Num: 41

Candidate Starts for Phatniss\_34:

(Start: 41 @29261 has 250 MA's), (Start: 42 @29264 has 15 MA's), (Start: 46 @29276 has 1 MA's), (Start: 48 @29288 has 17 MA's), (121, 29495), (134, 29528), (152, 29570),

Gene: Phegasus\_29 Start: 25491, Stop: 25850, Start Num: 41  
Candidate Starts for Phegasus\_29:  
(Start: 41 @25491 has 250 MA's), (72, 25578), (121, 25716), (134, 25749),

Gene: PhesterPhotato\_33 Start: 28792, Stop: 29166, Start Num: 41  
Candidate Starts for PhesterPhotato\_33:  
(12, 28270), (13, 28273), (14, 28309), (Start: 41 @28792 has 250 MA's), (Start: 46 @28807 has 1 MA's), (Start: 48 @28819 has 17 MA's), (121, 29026), (134, 29059),

Gene: Phettuccine\_25 Start: 20590, Stop: 20943, Start Num: 60  
Candidate Starts for Phettuccine\_25:  
(Start: 60 @20590 has 41 MA's), (Start: 76 @20626 has 2 MA's), (Start: 90 @20659 has 4 MA's), (131, 20809), (133, 20818), (137, 20827), (153, 20872),

Gene: Philonius\_30 Start: 24731, Stop: 25099, Start Num: 39  
Candidate Starts for Philonius\_30:  
(Start: 39 @24731 has 42 MA's), (118, 24929), (121, 24950),

Gene: Philus\_33 Start: 28838, Stop: 29212, Start Num: 41  
Candidate Starts for Philus\_33:  
(Start: 41 @28838 has 250 MA's), (Start: 42 @28841 has 15 MA's), (Start: 46 @28853 has 1 MA's), (Start: 48 @28865 has 17 MA's), (121, 29072), (134, 29105), (152, 29147),

Gene: Phineas\_29 Start: 25856, Stop: 26215, Start Num: 41  
Candidate Starts for Phineas\_29:  
(Start: 41 @25856 has 250 MA's), (72, 25943), (121, 26081), (134, 26114),

Gene: PhishRPhriends\_31 Start: 22231, Stop: 22533, Start Num: 67  
Candidate Starts for PhishRPhriends\_31:  
(Start: 49 @22186 has 3 MA's), (Start: 67 @22231 has 110 MA's), (113, 22339),

Gene: Phlei\_25 Start: 24001, Stop: 24303, Start Num: 54  
Candidate Starts for Phlei\_25:  
(Start: 54 @24001 has 103 MA's), (86, 24055), (100, 24082),

Gene: Phlorence\_27 Start: 22333, Stop: 22653, Start Num: 61  
Candidate Starts for Phlorence\_27:  
(Start: 37 @22243 has 2 MA's), (Start: 61 @22333 has 37 MA's), (Start: 75 @22363 has 10 MA's), (77, 22369), (104, 22423), (121, 22495), (133, 22525), (134, 22528), (150, 22549), (153, 22582), (160, 22630), (166, 22645),

Gene: Phloss\_27 Start: 24167, Stop: 24547, Start Num: 39  
Candidate Starts for Phloss\_27:  
(Start: 39 @24167 has 42 MA's), (118, 24377), (121, 24398),

Gene: Phoebe\_32 Start: 22961, Stop: 23263, Start Num: 67  
Candidate Starts for Phoebe\_32:  
(47, 22913), (Start: 49 @22916 has 3 MA's), (Start: 67 @22961 has 110 MA's), (83, 22991),

Gene: Phoebus\_50 Start: 44027, Stop: 44422, Start Num: 53  
Candidate Starts for Phoebus\_50:  
(Start: 53 @44027 has 42 MA's), (71, 44069), (Start: 75 @44081 has 10 MA's), (114, 44192), (121, 44237), (128, 44279), (140, 44312), (143, 44321), (146, 44333),

Gene: Phonnegut\_32 Start: 24041, Stop: 24409, Start Num: 55

Candidate Starts for Phonnegut\_32:

(38, 23981), (Start: 55 @24041 has 26 MA's), (77, 24077), (80, 24083), (92, 24104), (100, 24122), (104, 24131), (124, 24230), (129, 24242), (136, 24263), (143, 24272),

Gene: Phoxy\_32 Start: 23047, Stop: 23349, Start Num: 67

Candidate Starts for Phoxy\_32:

(47, 22999), (Start: 49 @23002 has 3 MA's), (Start: 67 @23047 has 110 MA's), (83, 23077),

Gene: Phrann\_28 Start: 24634, Stop: 24999, Start Num: 41

Candidate Starts for Phrann\_28:

(Start: 41 @24634 has 250 MA's), (Start: 42 @24637 has 15 MA's), (91, 24757), (117, 24835), (118, 24838),

Gene: Phranny\_33 Start: 23039, Stop: 23341, Start Num: 67

Candidate Starts for Phranny\_33:

(Start: 49 @22994 has 3 MA's), (Start: 67 @23039 has 110 MA's), (113, 23147),

Gene: PickleBack\_27 Start: 22047, Stop: 22367, Start Num: 61

Candidate Starts for PickleBack\_27:

(Start: 37 @21957 has 2 MA's), (Start: 61 @22047 has 37 MA's), (Start: 75 @22077 has 10 MA's), (77, 22083), (104, 22137), (121, 22209), (133, 22239), (134, 22242), (150, 22263), (153, 22296), (160, 22344), (166, 22359),

Gene: Pioneer\_32 Start: 24041, Stop: 24409, Start Num: 55

Candidate Starts for Pioneer\_32:

(38, 23981), (Start: 55 @24041 has 26 MA's), (77, 24077), (80, 24083), (92, 24104), (100, 24122), (104, 24131), (124, 24230), (129, 24242), (136, 24263), (143, 24272),

Gene: Piper2020\_35 Start: 29364, Stop: 29738, Start Num: 41

Candidate Starts for Piper2020\_35:

(Start: 41 @29364 has 250 MA's), (43, 29370), (Start: 46 @29379 has 1 MA's), (Start: 48 @29391 has 17 MA's), (121, 29598), (134, 29631), (153, 29685),

Gene: Pippy\_27 Start: 24902, Stop: 25276, Start Num: 41

Candidate Starts for Pippy\_27:

(Start: 41 @24902 has 250 MA's), (Start: 46 @24917 has 1 MA's), (Start: 48 @24929 has 17 MA's), (121, 25136), (133, 25166), (134, 25169), (152, 25211),

Gene: Pipsqueaks\_30 Start: 24740, Stop: 25120, Start Num: 39

Candidate Starts for Pipsqueaks\_30:

(Start: 39 @24740 has 42 MA's), (118, 24950), (121, 24971),

Gene: Piro94\_31 Start: 22904, Stop: 23233, Start Num: 57

Candidate Starts for Piro94\_31:

(31, 22745), (Start: 57 @22904 has 25 MA's), (Start: 75 @22931 has 10 MA's), (77, 22937), (104, 22991), (116, 23036), (158, 23204),

Gene: Pistachio\_31 Start: 22071, Stop: 22373, Start Num: 67

Candidate Starts for Pistachio\_31:

(36, 21969), (Start: 49 @22026 has 3 MA's), (Start: 67 @22071 has 110 MA's), (83, 22101), (87, 22110),

Gene: Plumbus\_35 Start: 28841, Stop: 29215, Start Num: 41

Candidate Starts for Plumbus\_35:

(Start: 41 @28841 has 250 MA's), (Start: 46 @28856 has 1 MA's), (Start: 48 @28868 has 17 MA's), (121, 29075), (134, 29108),

Gene: Pmask\_33 Start: 22207, Stop: 22503, Start Num: 54

Candidate Starts for Pmask\_33:

(Start: 54 @22207 has 103 MA's), (83, 22261), (121, 22360), (143, 22405),

Gene: Pocahontas\_31 Start: 23056, Stop: 23358, Start Num: 67

Candidate Starts for Pocahontas\_31:

(Start: 49 @23011 has 3 MA's), (Start: 67 @23056 has 110 MA's), (83, 23086), (87, 23095), (107, 23137), (113, 23164),

Gene: Poenanya\_33 Start: 28884, Stop: 29258, Start Num: 41

Candidate Starts for Poenanya\_33:

(Start: 41 @28884 has 250 MA's), (43, 28890), (Start: 46 @28899 has 1 MA's), (Start: 48 @28911 has 17 MA's), (121, 29118), (134, 29151),

Gene: Polka14\_34 Start: 29387, Stop: 29761, Start Num: 41

Candidate Starts for Polka14\_34:

(Start: 41 @29387 has 250 MA's), (43, 29393), (Start: 46 @29402 has 1 MA's), (Start: 48 @29414 has 17 MA's), (121, 29621), (134, 29654), (152, 29696),

Gene: Polkaroo\_29 Start: 25501, Stop: 25860, Start Num: 41

Candidate Starts for Polkaroo\_29:

(Start: 41 @25501 has 250 MA's), (72, 25588), (121, 25726), (134, 25759),

Gene: Pollywog\_33 Start: 29096, Stop: 29470, Start Num: 41

Candidate Starts for Pollywog\_33:

(30, 28976), (Start: 41 @29096 has 250 MA's), (Start: 42 @29099 has 15 MA's), (Start: 46 @29111 has 1 MA's), (Start: 48 @29123 has 17 MA's), (121, 29330), (134, 29363),

Gene: PopTart\_33 Start: 29077, Stop: 29451, Start Num: 41

Candidate Starts for PopTart\_33:

(Start: 41 @29077 has 250 MA's), (Start: 46 @29092 has 1 MA's), (Start: 48 @29104 has 17 MA's), (121, 29311), (134, 29344),

Gene: Popsicle\_31 Start: 23056, Stop: 23358, Start Num: 67

Candidate Starts for Popsicle\_31:

(Start: 49 @23011 has 3 MA's), (Start: 67 @23056 has 110 MA's), (83, 23086), (87, 23095), (107, 23137), (113, 23164),

Gene: Porcelain\_49 Start: 40234, Stop: 40620, Start Num: 53

Candidate Starts for Porcelain\_49:

(Start: 53 @40234 has 42 MA's), (70, 40273), (Start: 75 @40288 has 10 MA's), (78, 40297), (121, 40444), (125, 40468), (128, 40486), (138, 40516), (143, 40528),

Gene: PotatoSplit\_33 Start: 22963, Stop: 23265, Start Num: 67

Candidate Starts for PotatoSplit\_33:

(47, 22915), (Start: 49 @22918 has 3 MA's), (Start: 67 @22963 has 110 MA's), (83, 22993),

Gene: Pound\_53 Start: 45604, Stop: 45999, Start Num: 53

Candidate Starts for Pound\_53:

(Start: 53 @45604 has 42 MA's), (71, 45646), (Start: 75 @45658 has 10 MA's), (114, 45769), (121, 45814), (128, 45856), (140, 45889), (143, 45898), (146, 45910),

Gene: Power\_30 Start: 22350, Stop: 22691, Start Num: 48

Candidate Starts for Power\_30:

(Start: 48 @22350 has 17 MA's), (80, 22431), (89, 22440), (133, 22566), (159, 22668),

Gene: Priamo\_33 Start: 22256, Stop: 22552, Start Num: 54

Candidate Starts for Priamo\_33:

(Start: 54 @22256 has 103 MA's), (80, 22304), (83, 22310), (121, 22409), (143, 22454),

Gene: Priscilla\_33 Start: 29024, Stop: 29398, Start Num: 41

Candidate Starts for Priscilla\_33:

(Start: 41 @29024 has 250 MA's), (Start: 46 @29039 has 1 MA's), (Start: 48 @29051 has 17 MA's), (121, 29258), (133, 29288), (134, 29291), (152, 29333),

Gene: Priya\_32 Start: 24075, Stop: 24443, Start Num: 55

Candidate Starts for Priya\_32:

(38, 24015), (Start: 55 @24075 has 26 MA's), (77, 24111), (80, 24117), (100, 24156), (104, 24165), (124, 24264), (129, 24276), (143, 24306), (147, 24318), (152, 24348),

Gene: Provolone\_27 Start: 21827, Stop: 22213, Start Num: 64

Candidate Starts for Provolone\_27:

(Start: 64 @21827 has 11 MA's), (Start: 76 @21851 has 2 MA's), (Start: 90 @21884 has 4 MA's), (98, 21899), (99, 21902), (102, 21911), (111, 21944), (117, 21977), (123, 22013), (133, 22043), (155, 22121), (156, 22127),

Gene: Puginator\_27 Start: 21775, Stop: 22128, Start Num: 59

Candidate Starts for Puginator\_27:

(Start: 59 @21775 has 29 MA's), (Start: 74 @21802 has 1 MA's), (Start: 76 @21808 has 2 MA's), (98, 21856), (113, 21913), (115, 21919), (125, 21982), (141, 22018), (156, 22084), (162, 22108),

Gene: Pukovnik\_32 Start: 23927, Stop: 24250, Start Num: 57

Candidate Starts for Pukovnik\_32:

(31, 23768), (Start: 57 @23927 has 25 MA's), (Start: 75 @23954 has 10 MA's), (77, 23960), (105, 24017), (133, 24125), (134, 24128), (142, 24140), (158, 24227),

Gene: Puppy\_31 Start: 22141, Stop: 22443, Start Num: 67

Candidate Starts for Puppy\_31:

(36, 22039), (Start: 49 @22096 has 3 MA's), (Start: 67 @22141 has 110 MA's), (83, 22171), (87, 22180),

Gene: Purgamenstris\_27 Start: 23790, Stop: 24299, Start Num: 39

Candidate Starts for Purgamenstris\_27:

(10, 23220), (Start: 39 @23790 has 42 MA's), (85, 23916), (94, 23934), (115, 24009), (119, 24036), (121, 24057), (130, 24120), (148, 24189),

Gene: Purky\_28 Start: 25121, Stop: 25498, Start Num: 39

Candidate Starts for Purky\_28:

(Start: 39 @25121 has 42 MA's), (88, 25244), (91, 25250), (152, 25427),

Gene: PurpleHaze\_32 Start: 23046, Stop: 23348, Start Num: 67  
Candidate Starts for PurpleHaze\_32:  
(Start: 49 @23001 has 3 MA's), (Start: 67 @23046 has 110 MA's), (113, 23154),

Gene: Pygmy\_31 Start: 27324, Stop: 27683, Start Num: 41  
Candidate Starts for Pygmy\_31:  
(Start: 41 @27324 has 250 MA's), (72, 27411), (121, 27549), (134, 27582),

Gene: Qobbit\_32 Start: 24038, Stop: 24406, Start Num: 55  
Candidate Starts for Qobbit\_32:  
(38, 23978), (Start: 55 @24038 has 26 MA's), (77, 24074), (80, 24080), (100, 24119), (104, 24128),  
(124, 24227), (129, 24239), (143, 24269), (147, 24281), (152, 24311),

Gene: QueenB2\_30 Start: 22468, Stop: 22755, Start Num: 81  
Candidate Starts for QueenB2\_30:  
(35, 22309), (Start: 81 @22468 has 17 MA's), (134, 22633), (150, 22654), (158, 22732),

Gene: QueenBeesly\_30 Start: 22350, Stop: 22637, Start Num: 81  
Candidate Starts for QueenBeesly\_30:  
(35, 22191), (Start: 81 @22350 has 17 MA's), (134, 22515), (150, 22536), (158, 22614),

Gene: QueenHazel\_28 Start: 25657, Stop: 26001, Start Num: 42  
Candidate Starts for QueenHazel\_28:  
(15, 25192), (21, 25345), (25, 25414), (28, 25510), (Start: 41 @25654 has 250 MA's), (Start: 42  
@25657 has 15 MA's), (117, 25840), (118, 25843), (121, 25864), (134, 25897),

Gene: QuickMath\_34 Start: 30113, Stop: 30487, Start Num: 41  
Candidate Starts for QuickMath\_34:  
(Start: 41 @30113 has 250 MA's), (Start: 42 @30116 has 15 MA's), (Start: 46 @30128 has 1 MA's),  
(Start: 48 @30140 has 17 MA's), (72, 30200), (121, 30347), (133, 30377), (134, 30380), (152, 30422),

Gene: Quico\_34 Start: 28573, Stop: 28947, Start Num: 41  
Candidate Starts for Quico\_34:  
(Start: 41 @28573 has 250 MA's), (Start: 42 @28576 has 15 MA's), (Start: 46 @28588 has 1 MA's),  
(Start: 48 @28600 has 17 MA's), (121, 28807), (134, 28840), (152, 28882),

Gene: QuinnKiro\_30 Start: 23059, Stop: 23361, Start Num: 67  
Candidate Starts for QuinnKiro\_30:  
(Start: 49 @23014 has 3 MA's), (Start: 67 @23059 has 110 MA's), (83, 23089), (87, 23098), (107,  
23140), (113, 23167),

Gene: Quokka\_28 Start: 21322, Stop: 21645, Start Num: 57  
Candidate Starts for Quokka\_28:  
(40, 21274), (Start: 57 @21322 has 25 MA's), (Start: 75 @21349 has 10 MA's), (77, 21355), (Start: 82  
@21364 has 1 MA's), (115, 21451),

Gene: R4\_25 Start: 21424, Stop: 21807, Start Num: 62  
Candidate Starts for R4\_25:  
(Start: 62 @21424 has 5 MA's), (70, 21436), (Start: 74 @21448 has 1 MA's), (Start: 90 @21487 has 4  
MA's), (100, 21508), (111, 21547), (124, 21625), (133, 21646), (156, 21751), (164, 21781),

Gene: Rachaly\_33 Start: 24066, Stop: 24353, Start Num: 81  
Candidate Starts for Rachaly\_33:

(35, 23907), (Start: 81 @24066 has 17 MA's), (134, 24231), (150, 24252), (158, 24330),

Gene: Radiance\_33 Start: 28937, Stop: 29311, Start Num: 41

Candidate Starts for Radiance\_33:

(Start: 41 @28937 has 250 MA's), (Start: 42 @28940 has 15 MA's), (Start: 46 @28952 has 1 MA's),  
(Start: 48 @28964 has 17 MA's), (121, 29171), (134, 29204), (152, 29246),

Gene: Rahalelujah\_29 Start: 21862, Stop: 22227, Start Num: 54

Candidate Starts for Rahalelujah\_29:

(40, 21811), (Start: 54 @21862 has 103 MA's), (92, 21925), (95, 21931), (96, 21934), (125, 22054),  
(136, 22084), (143, 22093), (147, 22105),

Gene: Ramsey\_36 Start: 29600, Stop: 29971, Start Num: 42

Candidate Starts for Ramsey\_36:

(Start: 41 @29597 has 250 MA's), (Start: 42 @29600 has 15 MA's), (Start: 46 @29612 has 1 MA's),  
(Start: 48 @29624 has 17 MA's), (72, 29684), (121, 29831), (134, 29864), (152, 29906),

Gene: Rana\_25 Start: 21248, Stop: 21601, Start Num: 60

Candidate Starts for Rana\_25:

(Start: 60 @21248 has 41 MA's), (Start: 90 @21320 has 4 MA's), (111, 21380), (117, 21413), (131,  
21470), (155, 21557), (156, 21563),

Gene: Raymond7\_27 Start: 24117, Stop: 24518, Start Num: 39

Candidate Starts for Raymond7\_27:

(10, 23547), (Start: 39 @24117 has 42 MA's), (85, 24243), (119, 24363),

Gene: ReMo\_32 Start: 21405, Stop: 21746, Start Num: 54

Candidate Starts for ReMo\_32:

(Start: 54 @21405 has 103 MA's), (95, 21471), (100, 21483), (155, 21693), (164, 21729), (167, 21735),

Gene: Reba\_33 Start: 22712, Stop: 23014, Start Num: 67

Candidate Starts for Reba\_33:

(Start: 49 @22667 has 3 MA's), (Start: 67 @22712 has 110 MA's), (113, 22820),

Gene: Rebel\_27 Start: 23579, Stop: 23959, Start Num: 39

Candidate Starts for Rebel\_27:

(Start: 39 @23579 has 42 MA's), (118, 23789), (121, 23810),

Gene: RedBear\_26 Start: 20998, Stop: 21354, Start Num: 60

Candidate Starts for RedBear\_26:

(Start: 60 @20998 has 41 MA's), (Start: 76 @21037 has 2 MA's), (Start: 90 @21070 has 4 MA's), (117,  
21163), (131, 21220),

Gene: RedBird\_33 Start: 28742, Stop: 29116, Start Num: 41

Candidate Starts for RedBird\_33:

(Start: 41 @28742 has 250 MA's), (43, 28748), (Start: 46 @28757 has 1 MA's), (Start: 48 @28769 has  
17 MA's), (121, 28976), (134, 29009), (152, 29051),

Gene: Redi\_27 Start: 23790, Stop: 24299, Start Num: 39

Candidate Starts for Redi\_27:

(10, 23220), (Start: 39 @23790 has 42 MA's), (85, 23916), (94, 23934), (115, 24009), (119, 24036),  
(121, 24057), (130, 24120), (148, 24189),



Gene: Redno2\_49 Start: 40812, Stop: 41186, Start Num: 53

Candidate Starts for Redno2\_49:

(Start: 53 @40812 has 42 MA's), (70, 40851), (Start: 75 @40866 has 10 MA's), (78, 40875), (121, 41022), (125, 41046), (128, 41064), (138, 41094), (143, 41106),

Gene: Remus\_32 Start: 21369, Stop: 21710, Start Num: 54

Candidate Starts for Remus\_32:

(Start: 54 @21369 has 103 MA's), (95, 21435), (100, 21447), (155, 21657), (164, 21693), (167, 21699),

Gene: Renaud18\_33 Start: 28962, Stop: 29336, Start Num: 41

Candidate Starts for Renaud18\_33:

(Start: 41 @28962 has 250 MA's), (Start: 46 @28977 has 1 MA's), (Start: 48 @28989 has 17 MA's), (121, 29196), (134, 29229),

Gene: ResDef\_31 Start: 23059, Stop: 23361, Start Num: 67

Candidate Starts for ResDef\_31:

(Start: 49 @23014 has 3 MA's), (Start: 67 @23059 has 110 MA's), (83, 23089), (87, 23098), (107, 23140), (113, 23167),

Gene: Retro23\_30 Start: 22558, Stop: 22845, Start Num: 81

Candidate Starts for Retro23\_30:

(35, 22399), (Start: 81 @22558 has 17 MA's), (134, 22723), (150, 22744), (158, 22822),

Gene: Rialto\_37 Start: 31095, Stop: 31469, Start Num: 41

Candidate Starts for Rialto\_37:

(Start: 41 @31095 has 250 MA's), (Start: 42 @31098 has 15 MA's), (Start: 46 @31110 has 1 MA's), (Start: 48 @31122 has 17 MA's), (121, 31329), (134, 31362),

Gene: Rifter\_33 Start: 22199, Stop: 22495, Start Num: 54

Candidate Starts for Rifter\_33:

(40, 22148), (Start: 54 @22199 has 103 MA's), (80, 22247), (121, 22352), (143, 22397),

Gene: Rita\_34 Start: 29011, Stop: 29385, Start Num: 41

Candidate Starts for Rita\_34:

(Start: 41 @29011 has 250 MA's), (43, 29017), (Start: 46 @29026 has 1 MA's), (Start: 48 @29038 has 17 MA's), (121, 29245), (134, 29278),

Gene: RitaG\_34 Start: 29207, Stop: 29581, Start Num: 41

Candidate Starts for RitaG\_34:

(Start: 41 @29207 has 250 MA's), (Start: 42 @29210 has 15 MA's), (Start: 46 @29222 has 1 MA's), (Start: 48 @29234 has 17 MA's), (72, 29294), (121, 29441), (134, 29474), (152, 29516),

Gene: Roary\_27 Start: 21197, Stop: 21478, Start Num: 61

Candidate Starts for Roary\_27:

(Start: 61 @21197 has 37 MA's), (Start: 75 @21224 has 10 MA's), (77, 21230), (89, 21254), (104, 21284), (121, 21341), (155, 21431), (157, 21446), (161, 21458), (165, 21467),

Gene: Rockne\_33 Start: 28744, Stop: 29118, Start Num: 41

Candidate Starts for Rockne\_33:

(Start: 41 @28744 has 250 MA's), (Start: 42 @28747 has 15 MA's), (Start: 46 @28759 has 1 MA's), (Start: 48 @28771 has 17 MA's), (121, 28978), (134, 29011), (152, 29053),

Gene: Rockstar\_30 Start: 22455, Stop: 22757, Start Num: 67

Candidate Starts for Rockstar\_30:

(36, 22356), (Start: 49 @22413 has 3 MA's), (Start: 67 @22455 has 110 MA's), (113, 22563),

Gene: RockyHorror\_34 Start: 28688, Stop: 29062, Start Num: 41

Candidate Starts for RockyHorror\_34:

(Start: 41 @28688 has 250 MA's), (43, 28694), (Start: 46 @28703 has 1 MA's), (Start: 48 @28715 has 17 MA's), (121, 28922), (134, 28955),

Gene: Roksolana\_33 Start: 22227, Stop: 22523, Start Num: 54

Candidate Starts for Roksolana\_33:

(40, 22176), (Start: 54 @22227 has 103 MA's), (121, 22380), (143, 22425),

Gene: Rosalind\_32 Start: 21527, Stop: 21868, Start Num: 54

Candidate Starts for Rosalind\_32:

(Start: 54 @21527 has 103 MA's), (95, 21593), (100, 21605), (155, 21815), (164, 21851), (167, 21857),

Gene: Royals2015\_33 Start: 28861, Stop: 29235, Start Num: 41

Candidate Starts for Royals2015\_33:

(Start: 41 @28861 has 250 MA's), (Start: 42 @28864 has 15 MA's), (Start: 46 @28876 has 1 MA's), (Start: 48 @28888 has 17 MA's), (121, 29095), (134, 29128), (152, 29170),

Gene: Rubeelu\_29 Start: 24134, Stop: 24508, Start Num: 41

Candidate Starts for Rubeelu\_29:

(26, 23966), (34, 24044), (Start: 41 @24134 has 250 MA's), (85, 24251),

Gene: Ruby\_35 Start: 29802, Stop: 30176, Start Num: 41

Candidate Starts for Ruby\_35:

(Start: 41 @29802 has 250 MA's), (Start: 46 @29817 has 1 MA's), (Start: 48 @29829 has 17 MA's), (121, 30036), (134, 30069), (152, 30111),

Gene: Rummer\_32 Start: 23047, Stop: 23349, Start Num: 67

Candidate Starts for Rummer\_32:

(47, 22999), (Start: 49 @23002 has 3 MA's), (Start: 67 @23047 has 110 MA's), (83, 23077),

Gene: Rusticus\_26 Start: 20960, Stop: 21313, Start Num: 60

Candidate Starts for Rusticus\_26:

(Start: 60 @20960 has 41 MA's), (Start: 76 @20996 has 2 MA's), (Start: 90 @21029 has 4 MA's), (133, 21188),

Gene: RyeScarlet\_33 Start: 24012, Stop: 24380, Start Num: 55

Candidate Starts for RyeScarlet\_33:

(38, 23952), (Start: 55 @24012 has 26 MA's), (77, 24048), (80, 24054), (92, 24075), (100, 24093), (104, 24102), (124, 24201), (129, 24213), (136, 24234), (143, 24243),

Gene: SG4\_34 Start: 29511, Stop: 29885, Start Num: 41

Candidate Starts for SG4\_34:

(Start: 41 @29511 has 250 MA's), (89, 29640), (94, 29649), (121, 29745), (134, 29778),

Gene: Saal\_33 Start: 28816, Stop: 29190, Start Num: 41

Candidate Starts for Saal\_33:

(Start: 41 @28816 has 250 MA's), (Start: 42 @28819 has 15 MA's), (Start: 46 @28831 has 1 MA's), (Start: 48 @28843 has 17 MA's), (121, 29050), (134, 29083), (152, 29125),

Gene: Sabbb\_34 Start: 29161, Stop: 29535, Start Num: 41

Candidate Starts for Sabbb\_34:

(Start: 41 @29161 has 250 MA's), (43, 29167), (Start: 46 @29176 has 1 MA's), (Start: 48 @29188 has 17 MA's), (121, 29395), (134, 29428),

Gene: Sabia\_32 Start: 22956, Stop: 23258, Start Num: 67

Candidate Starts for Sabia\_32:

(47, 22908), (Start: 49 @22911 has 3 MA's), (Start: 67 @22956 has 110 MA's), (83, 22986),

Gene: Sabinator\_32 Start: 22961, Stop: 23263, Start Num: 67

Candidate Starts for Sabinator\_32:

(47, 22913), (Start: 49 @22916 has 3 MA's), (Start: 67 @22961 has 110 MA's), (83, 22991),

Gene: Sachima\_30 Start: 24050, Stop: 24376, Start Num: 80

Candidate Starts for Sachima\_30:

(38, 23948), (Start: 55 @24008 has 26 MA's), (77, 24044), (80, 24050), (92, 24071), (100, 24089), (104, 24098), (124, 24197), (129, 24209), (136, 24230), (143, 24239),

Gene: Saftant\_26 Start: 22490, Stop: 22837, Start Num: 64

Candidate Starts for Saftant\_26:

(Start: 64 @22490 has 11 MA's), (Start: 67 @22496 has 110 MA's), (Start: 76 @22514 has 2 MA's), (Start: 90 @22547 has 4 MA's), (98, 22562), (99, 22565), (102, 22574), (111, 22607), (117, 22640), (123, 22676), (156, 22790),

Gene: Saintus\_27 Start: 21213, Stop: 21494, Start Num: 61

Candidate Starts for Saintus\_27:

(Start: 61 @21213 has 37 MA's), (Start: 75 @21240 has 10 MA's), (77, 21246), (89, 21270), (155, 21447), (157, 21462), (161, 21474), (165, 21483),

Gene: Salz\_30 Start: 23064, Stop: 23387, Start Num: 52

Candidate Starts for Salz\_30:

(Start: 52 @23064 has 21 MA's), (58, 23073), (97, 23133), (104, 23145), (117, 23187), (129, 23244),

Gene: Sandalphon\_34 Start: 29545, Stop: 29919, Start Num: 41

Candidate Starts for Sandalphon\_34:

(Start: 41 @29545 has 250 MA's), (43, 29551), (Start: 46 @29560 has 1 MA's), (Start: 48 @29572 has 17 MA's), (121, 29779), (134, 29812),

Gene: SarahRose\_24 Start: 20706, Stop: 21062, Start Num: 56

Candidate Starts for SarahRose\_24:

(Start: 56 @20706 has 18 MA's), (Start: 76 @20745 has 2 MA's), (Start: 90 @20778 has 4 MA's), (117, 20871), (131, 20928), (133, 20937), (167, 21054),

Gene: Sarma624\_29 Start: 24971, Stop: 25345, Start Num: 41

Candidate Starts for Sarma624\_29:

(Start: 41 @24971 has 250 MA's), (43, 24977), (Start: 46 @24986 has 1 MA's), (Start: 48 @24998 has 17 MA's), (121, 25205), (134, 25238),

Gene: Sassafras\_34 Start: 29446, Stop: 29820, Start Num: 41

Candidate Starts for Sassafras\_34:

(Start: 41 @29446 has 250 MA's), (43, 29452), (Start: 46 @29461 has 1 MA's), (Start: 48 @29473 has 17 MA's), (121, 29680), (134, 29713), (152, 29755),

Gene: SassyB\_33 Start: 29077, Stop: 29451, Start Num: 41  
Candidate Starts for SassyB\_33:  
(Start: 41 @29077 has 250 MA's), (Start: 46 @29092 has 1 MA's), (Start: 48 @29104 has 17 MA's),  
(121, 29311), (134, 29344),

Gene: SaturnRing\_30 Start: 22524, Stop: 22826, Start Num: 67  
Candidate Starts for SaturnRing\_30:  
(36, 22422), (Start: 49 @22479 has 3 MA's), (Start: 67 @22524 has 110 MA's), (83, 22554), (87,  
22563),

Gene: Schatzie\_48 Start: 42816, Stop: 43190, Start Num: 53  
Candidate Starts for Schatzie\_48:  
(Start: 53 @42816 has 42 MA's), (71, 42858), (Start: 75 @42870 has 10 MA's), (114, 42981), (121,  
43026), (128, 43068), (140, 43101), (143, 43110), (146, 43122),

Gene: Scherzo\_32 Start: 24041, Stop: 24409, Start Num: 55  
Candidate Starts for Scherzo\_32:  
(38, 23981), (Start: 55 @24041 has 26 MA's), (77, 24077), (80, 24083), (92, 24104), (100, 24122),  
(104, 24131), (124, 24230), (129, 24242), (136, 24263), (143, 24272),

Gene: Schnauzer\_30 Start: 24740, Stop: 25120, Start Num: 39  
Candidate Starts for Schnauzer\_30:  
(Start: 39 @24740 has 42 MA's), (118, 24950), (121, 24971),

Gene: Scitech\_27 Start: 23917, Stop: 24285, Start Num: 39  
Candidate Starts for Scitech\_27:  
(Start: 39 @23917 has 42 MA's), (79, 24010), (88, 24028), (118, 24115), (121, 24136),

Gene: Scorpio\_28 Start: 21518, Stop: 21838, Start Num: 61  
Candidate Starts for Scorpio\_28:  
(Start: 37 @21428 has 2 MA's), (Start: 61 @21518 has 37 MA's), (Start: 75 @21548 has 10 MA's), (77,  
21554), (121, 21680), (133, 21710), (134, 21713), (150, 21734), (153, 21767), (166, 21830),

Gene: Scottish\_34 Start: 30067, Stop: 30441, Start Num: 41  
Candidate Starts for Scottish\_34:  
(Start: 41 @30067 has 250 MA's), (43, 30073), (Start: 46 @30082 has 1 MA's), (Start: 48 @30094 has  
17 MA's), (121, 30301), (134, 30334), (152, 30376),

Gene: Scout\_30 Start: 21825, Stop: 22127, Start Num: 67  
Candidate Starts for Scout\_30:  
(36, 21726), (Start: 49 @21783 has 3 MA's), (Start: 67 @21825 has 110 MA's), (85, 21861), (113,  
21933),

Gene: Seabastian\_33 Start: 28977, Stop: 29348, Start Num: 42  
Candidate Starts for Seabastian\_33:  
(Start: 41 @28974 has 250 MA's), (Start: 42 @28977 has 15 MA's), (Start: 46 @28989 has 1 MA's),  
(Start: 48 @29001 has 17 MA's), (121, 29208), (133, 29238), (134, 29241), (152, 29283),

Gene: Seagreen\_34 Start: 28884, Stop: 29258, Start Num: 41  
Candidate Starts for Seagreen\_34:  
(Start: 41 @28884 has 250 MA's), (Start: 42 @28887 has 15 MA's), (Start: 46 @28899 has 1 MA's),  
(Start: 48 @28911 has 17 MA's), (121, 29118), (134, 29151), (152, 29193),

Gene: SemperFi\_32 Start: 22767, Stop: 23054, Start Num: 81

Candidate Starts for SemperFi\_32:

(35, 22608), (Start: 81 @22767 has 17 MA's), (134, 22932), (150, 22953), (158, 23031),

Gene: Serenity\_29 Start: 21447, Stop: 21770, Start Num: 57

Candidate Starts for Serenity\_29:

(40, 21399), (Start: 57 @21447 has 25 MA's), (Start: 75 @21474 has 10 MA's), (77, 21480), (105, 21537), (115, 21576), (158, 21747),

Gene: Sham4\_30 Start: 23070, Stop: 23393, Start Num: 52

Candidate Starts for Sham4\_30:

(Start: 52 @23070 has 21 MA's), (58, 23079), (97, 23139), (104, 23151), (117, 23193), (129, 23250),

Gene: Shauna1\_30 Start: 27898, Stop: 28272, Start Num: 41

Candidate Starts for Shauna1\_30:

(Start: 41 @27898 has 250 MA's), (Start: 46 @27913 has 1 MA's), (Start: 48 @27925 has 17 MA's), (121, 28132), (134, 28165),

Gene: ShayRa\_33 Start: 21527, Stop: 21868, Start Num: 54

Candidate Starts for ShayRa\_33:

(Start: 54 @21527 has 103 MA's), (95, 21593), (100, 21605), (155, 21815), (164, 21851), (167, 21857),

Gene: SheaKeira\_30 Start: 21980, Stop: 22342, Start Num: 54

Candidate Starts for SheaKeira\_30:

(40, 21929), (Start: 54 @21980 has 103 MA's), (95, 22049), (100, 22061), (124, 22169), (150, 22232),

Gene: Sheen\_31 Start: 25298, Stop: 25588, Start Num: 69

Candidate Starts for Sheen\_31:

(Start: 69 @25298 has 1 MA's), (87, 25334), (117, 25415),

Gene: ShiLan\_33 Start: 28980, Stop: 29354, Start Num: 41

Candidate Starts for ShiLan\_33:

(Start: 41 @28980 has 250 MA's), (Start: 46 @28995 has 1 MA's), (Start: 48 @29007 has 17 MA's), (121, 29214), (133, 29244), (134, 29247), (152, 29289),

Gene: Shipwreck\_31 Start: 27299, Stop: 27658, Start Num: 41

Candidate Starts for Shipwreck\_31:

(Start: 41 @27299 has 250 MA's), (72, 27386), (121, 27524), (134, 27557),

Gene: ShowerHandel\_33 Start: 28939, Stop: 29313, Start Num: 41

Candidate Starts for ShowerHandel\_33:

(Start: 41 @28939 has 250 MA's), (Start: 46 @28954 has 1 MA's), (Start: 48 @28966 has 17 MA's), (121, 29173), (133, 29203), (134, 29206), (152, 29248),

Gene: ShrimpFriedEgg\_27 Start: 23790, Stop: 24299, Start Num: 39

Candidate Starts for ShrimpFriedEgg\_27:

(10, 23220), (Start: 39 @23790 has 42 MA's), (85, 23916), (94, 23934), (115, 24009), (119, 24036), (121, 24057), (130, 24120), (148, 24189),

Gene: ShroomBoi\_30 Start: 27837, Stop: 28211, Start Num: 41

Candidate Starts for ShroomBoi\_30:

(Start: 41 @27837 has 250 MA's), (Start: 42 @27840 has 15 MA's), (Start: 46 @27852 has 1 MA's), (Start: 48 @27864 has 17 MA's), (121, 28071), (134, 28104), (152, 28146),

Gene: Shweta\_27 Start: 23918, Stop: 24298, Start Num: 39  
Candidate Starts for Shweta\_27:  
(Start: 39 @23918 has 42 MA's), (118, 24128), (121, 24149),

Gene: SiSi\_33 Start: 28745, Stop: 29119, Start Num: 41  
Candidate Starts for SiSi\_33:  
(Start: 41 @28745 has 250 MA's), (43, 28751), (Start: 46 @28760 has 1 MA's), (Start: 48 @28772 has 17 MA's), (121, 28979), (134, 29012), (152, 29054),

Gene: Silvafighter\_30 Start: 24740, Stop: 25120, Start Num: 39  
Candidate Starts for Silvafighter\_30:  
(Start: 39 @24740 has 42 MA's), (118, 24950), (121, 24971),

Gene: Silvy\_30 Start: 24741, Stop: 25109, Start Num: 39  
Candidate Starts for Silvy\_30:  
(Start: 39 @24741 has 42 MA's), (79, 24834), (88, 24852), (118, 24939), (121, 24960),

Gene: SimranZ1\_36 Start: 29091, Stop: 29438, Start Num: 48  
Candidate Starts for SimranZ1\_36:  
(Start: 41 @29064 has 250 MA's), (43, 29070), (Start: 46 @29079 has 1 MA's), (Start: 48 @29091 has 17 MA's), (121, 29298), (134, 29331), (152, 29373),

Gene: SkinnyPete\_27 Start: 23780, Stop: 24148, Start Num: 39  
Candidate Starts for SkinnyPete\_27:  
(Start: 39 @23780 has 42 MA's), (79, 23873), (88, 23891), (118, 23978), (121, 23999),

Gene: Sknot\_31 Start: 22446, Stop: 22775, Start Num: 57  
Candidate Starts for Sknot\_31:  
(31, 22287), (Start: 57 @22446 has 25 MA's), (Start: 75 @22473 has 10 MA's), (77, 22479), (104, 22533), (134, 22647), (144, 22662), (158, 22746),

Gene: Smeadley\_27 Start: 21230, Stop: 21511, Start Num: 61  
Candidate Starts for Smeadley\_27:  
(Start: 61 @21230 has 37 MA's), (Start: 75 @21257 has 10 MA's), (77, 21263), (89, 21287), (104, 21317), (155, 21464), (157, 21479), (161, 21491), (165, 21500),

Gene: Smeagan\_32 Start: 22924, Stop: 23262, Start Num: 54  
Candidate Starts for Smeagan\_32:  
(Start: 54 @22924 has 103 MA's), (Start: 75 @22960 has 10 MA's), (77, 22966), (100, 23011), (134, 23134), (144, 23149), (158, 23233),

Gene: SmellyB\_33 Start: 22213, Stop: 22509, Start Num: 54  
Candidate Starts for SmellyB\_33:  
(Start: 54 @22213 has 103 MA's), (83, 22267), (121, 22366), (143, 22411),

Gene: Smurph\_30 Start: 24740, Stop: 25120, Start Num: 39  
Candidate Starts for Smurph\_30:  
(Start: 39 @24740 has 42 MA's), (118, 24950), (121, 24971),

Gene: SnapTap\_30 Start: 22410, Stop: 22697, Start Num: 81  
Candidate Starts for SnapTap\_30:  
(35, 22251), (Start: 81 @22410 has 17 MA's), (134, 22575), (150, 22596), (158, 22674),

Gene: Snape\_30 Start: 23070, Stop: 23393, Start Num: 52  
Candidate Starts for Snape\_30:  
(Start: 52 @23070 has 21 MA's), (58, 23079), (97, 23139), (104, 23151), (117, 23193), (129, 23250),

Gene: Snekmaggedon\_27 Start: 23790, Stop: 24170, Start Num: 39  
Candidate Starts for Snekmaggedon\_27:  
(Start: 39 @23790 has 42 MA's), (118, 24000), (121, 24021),

Gene: Snickers\_32 Start: 22937, Stop: 23239, Start Num: 67  
Candidate Starts for Snickers\_32:  
(47, 22889), (Start: 49 @22892 has 3 MA's), (Start: 67 @22937 has 110 MA's), (83, 22967),

Gene: Snorlax\_24 Start: 20709, Stop: 21065, Start Num: 56  
Candidate Starts for Snorlax\_24:  
(Start: 56 @20709 has 18 MA's), (Start: 76 @20748 has 2 MA's), (Start: 90 @20781 has 4 MA's), (117, 20874), (131, 20931), (133, 20940), (167, 21057),

Gene: SoYo\_32 Start: 22874, Stop: 23176, Start Num: 67  
Candidate Starts for SoYo\_32:  
(47, 22826), (Start: 49 @22829 has 3 MA's), (Start: 67 @22874 has 110 MA's), (83, 22904),

Gene: SoilDragon\_32 Start: 22651, Stop: 22953, Start Num: 67  
Candidate Starts for SoilDragon\_32:  
(47, 22603), (Start: 49 @22606 has 3 MA's), (Start: 67 @22651 has 110 MA's), (83, 22681), (87, 22690),

Gene: Sonah\_29 Start: 25472, Stop: 25831, Start Num: 41  
Candidate Starts for Sonah\_29:  
(Start: 41 @25472 has 250 MA's), (72, 25559), (121, 25697), (134, 25730),

Gene: SororFago\_30 Start: 21704, Stop: 21997, Start Num: 54  
Candidate Starts for SororFago\_30:  
(31, 21545), (Start: 54 @21704 has 103 MA's),

Gene: Soshari\_34 Start: 23046, Stop: 23348, Start Num: 67  
Candidate Starts for Soshari\_34:  
(47, 22998), (Start: 49 @23001 has 3 MA's), (Start: 67 @23046 has 110 MA's), (83, 23076),

Gene: Soul22\_38 Start: 29141, Stop: 29515, Start Num: 41  
Candidate Starts for Soul22\_38:  
(Start: 41 @29141 has 250 MA's), (43, 29147), (Start: 46 @29156 has 1 MA's), (Start: 48 @29168 has 17 MA's), (72, 29228), (121, 29375), (134, 29408),

Gene: Soups\_32 Start: 21527, Stop: 21868, Start Num: 54  
Candidate Starts for Soups\_32:  
(Start: 54 @21527 has 103 MA's), (95, 21593), (100, 21605), (155, 21815), (164, 21851), (167, 21857),

Gene: South40\_25 Start: 20998, Stop: 21354, Start Num: 60  
Candidate Starts for South40\_25:  
(Start: 60 @20998 has 41 MA's), (Start: 76 @21037 has 2 MA's), (Start: 90 @21070 has 4 MA's), (117, 21163), (131, 21220),

Gene: Sparkdehlily\_33 Start: 28862, Stop: 29236, Start Num: 41

Candidate Starts for Sparkdehlily\_33:

(Start: 41 @28862 has 250 MA's), (Start: 42 @28865 has 15 MA's), (Start: 46 @28877 has 1 MA's),  
(Start: 48 @28889 has 17 MA's), (121, 29096), (134, 29129), (152, 29171),

Gene: Spartacus\_35 Start: 29272, Stop: 29646, Start Num: 41

Candidate Starts for Spartacus\_35:

(Start: 41 @29272 has 250 MA's), (Start: 42 @29275 has 15 MA's), (Start: 46 @29287 has 1 MA's),  
(Start: 48 @29299 has 17 MA's), (121, 29506), (133, 29536), (134, 29539), (152, 29581),

Gene: Speedwell\_31 Start: 23703, Stop: 24053, Start Num: 64

Candidate Starts for Speedwell\_31:

(22, 23367), (Start: 64 @23703 has 11 MA's), (70, 23715), (Start: 76 @23733 has 2 MA's), (Start: 90  
@23766 has 4 MA's), (98, 23781), (111, 23826), (117, 23859), (123, 23895), (156, 24009),

Gene: Spike509\_32 Start: 23047, Stop: 23349, Start Num: 67

Candidate Starts for Spike509\_32:

(47, 22999), (Start: 49 @23002 has 3 MA's), (Start: 67 @23047 has 110 MA's), (83, 23077),

Gene: Spikelee\_35 Start: 29010, Stop: 29384, Start Num: 41

Candidate Starts for Spikelee\_35:

(Start: 41 @29010 has 250 MA's), (43, 29016), (Start: 46 @29025 has 1 MA's), (Start: 48 @29037 has  
17 MA's), (121, 29244), (134, 29277), (152, 29319),

Gene: SpongeBob\_27 Start: 23790, Stop: 24170, Start Num: 39

Candidate Starts for SpongeBob\_27:

(Start: 39 @23790 has 42 MA's), (118, 24000), (121, 24021),

Gene: Spoonbill\_33 Start: 29026, Stop: 29400, Start Num: 41

Candidate Starts for Spoonbill\_33:

(Start: 41 @29026 has 250 MA's), (Start: 42 @29029 has 15 MA's), (Start: 46 @29041 has 1 MA's),  
(Start: 48 @29053 has 17 MA's), (121, 29260), (134, 29293), (152, 29335),

Gene: Spouty\_32 Start: 24074, Stop: 24442, Start Num: 55

Candidate Starts for Spouty\_32:

(38, 24014), (Start: 55 @24074 has 26 MA's), (77, 24110), (80, 24116), (100, 24155), (104, 24164),  
(124, 24263), (129, 24275), (143, 24305), (147, 24317), (152, 24347),

Gene: SqueakyClean\_26 Start: 21339, Stop: 21692, Start Num: 59

Candidate Starts for SqueakyClean\_26:

(Start: 59 @21339 has 29 MA's), (70, 21354), (Start: 74 @21366 has 1 MA's), (80, 21381), (Start: 90  
@21405 has 4 MA's), (98, 21420), (117, 21477), (125, 21525),

Gene: Squint\_49 Start: 40353, Stop: 40739, Start Num: 53

Candidate Starts for Squint\_49:

(Start: 53 @40353 has 42 MA's), (70, 40392), (Start: 75 @40407 has 10 MA's), (78, 40416), (121,  
40563), (125, 40587), (128, 40605), (138, 40635), (143, 40647),

Gene: Squirty\_28 Start: 24272, Stop: 24643, Start Num: 39

Candidate Starts for Squirty\_28:

(10, 23714), (17, 23873), (18, 23900), (Start: 39 @24272 has 42 MA's), (117, 24479), (118, 24482),  
(121, 24503), (134, 24536),



Gene: StAnnes\_32 Start: 29341, Stop: 29715, Start Num: 41  
Candidate Starts for StAnnes\_32:  
(Start: 41 @29341 has 250 MA's), (43, 29347), (Start: 46 @29356 has 1 MA's), (Start: 48 @29368 has 17 MA's), (121, 29575), (134, 29608),

Gene: Stagni\_32 Start: 22965, Stop: 23267, Start Num: 67  
Candidate Starts for Stagni\_32:  
(47, 22917), (Start: 49 @22920 has 3 MA's), (Start: 67 @22965 has 110 MA's), (83, 22995),

Gene: Stap\_34 Start: 28918, Stop: 29292, Start Num: 41  
Candidate Starts for Stap\_34:  
(Start: 41 @28918 has 250 MA's), (Start: 46 @28933 has 1 MA's), (Start: 48 @28945 has 17 MA's), (121, 29152), (134, 29185), (152, 29227),

Gene: Starcevich\_37 Start: 29640, Stop: 30014, Start Num: 41  
Candidate Starts for Starcevich\_37:  
(Start: 41 @29640 has 250 MA's), (Start: 46 @29655 has 1 MA's), (Start: 48 @29667 has 17 MA's), (121, 29874), (134, 29907), (152, 29949),

Gene: StepMih\_32 Start: 22956, Stop: 23258, Start Num: 67  
Candidate Starts for StepMih\_32:  
(47, 22908), (Start: 49 @22911 has 3 MA's), (Start: 67 @22956 has 110 MA's), (83, 22986),

Gene: Stephig9\_27 Start: 21212, Stop: 21493, Start Num: 61  
Candidate Starts for Stephig9\_27:  
(Start: 61 @21212 has 37 MA's), (Start: 75 @21239 has 10 MA's), (77, 21245), (89, 21269), (117, 21332), (155, 21446), (157, 21461), (161, 21473), (165, 21482),

Gene: StevieRay\_29 Start: 25461, Stop: 25820, Start Num: 41  
Candidate Starts for StevieRay\_29:  
(Start: 41 @25461 has 250 MA's), (121, 25686), (134, 25719),

Gene: StressBall\_29 Start: 25744, Stop: 26103, Start Num: 41  
Candidate Starts for StressBall\_29:  
(Start: 41 @25744 has 250 MA's), (72, 25831), (121, 25969), (134, 26002),

Gene: Strokeseat\_34 Start: 29587, Stop: 29961, Start Num: 41  
Candidate Starts for Strokeseat\_34:  
(Start: 41 @29587 has 250 MA's), (Start: 46 @29602 has 1 MA's), (Start: 48 @29614 has 17 MA's), (121, 29821), (134, 29854),

Gene: Strosahl\_32 Start: 21369, Stop: 21710, Start Num: 54  
Candidate Starts for Strosahl\_32:  
(Start: 54 @21369 has 103 MA's), (95, 21435), (100, 21447), (155, 21657), (164, 21693), (167, 21699),

Gene: Sujidade\_26 Start: 21571, Stop: 21924, Start Num: 60  
Candidate Starts for Sujidade\_26:  
(Start: 60 @21571 has 41 MA's), (Start: 90 @21643 has 4 MA's), (117, 21736), (124, 21781), (131, 21793), (155, 21880), (169, 21919),

Gene: Sunhee\_29 Start: 21708, Stop: 22064, Start Num: 54  
Candidate Starts for Sunhee\_29:

(31, 21549), (Start: 54 @21708 has 103 MA's), (77, 21744), (105, 21801), (124, 21897), (125, 21900), (129, 21909), (143, 21939),

Gene: SunsetPointe\_25 Start: 20581, Stop: 20934, Start Num: 60

Candidate Starts for SunsetPointe\_25:

(Start: 60 @20581 has 41 MA's), (Start: 76 @20617 has 2 MA's), (Start: 90 @20650 has 4 MA's), (131, 20800), (133, 20809), (137, 20818), (153, 20863),

Gene: SuperAwesome\_33 Start: 22206, Stop: 22502, Start Num: 54

Candidate Starts for SuperAwesome\_33:

(Start: 54 @22206 has 103 MA's), (83, 22260), (121, 22359), (143, 22404),

Gene: SuperCallie99\_33 Start: 22205, Stop: 22501, Start Num: 54

Candidate Starts for SuperCallie99\_33:

(Start: 54 @22205 has 103 MA's), (83, 22259), (121, 22358), (143, 22403),

Gene: SuperGrey\_34 Start: 29733, Stop: 30107, Start Num: 41

Candidate Starts for SuperGrey\_34:

(Start: 41 @29733 has 250 MA's), (Start: 46 @29748 has 1 MA's), (Start: 48 @29760 has 17 MA's), (121, 29967), (134, 30000),

Gene: Superchunk\_29 Start: 21092, Stop: 21400, Start Num: 54

Candidate Starts for Superchunk\_29:

(40, 21041), (Start: 54 @21092 has 103 MA's), (73, 21116), (99, 21170), (100, 21173), (104, 21182), (110, 21203), (150, 21314),

Gene: Superphikiman\_50 Start: 40425, Stop: 40811, Start Num: 53

Candidate Starts for Superphikiman\_50:

(Start: 53 @40425 has 42 MA's), (70, 40464), (Start: 75 @40479 has 10 MA's), (78, 40488), (121, 40635), (125, 40659), (128, 40677), (138, 40707), (143, 40719),

Gene: Superstar\_28 Start: 22437, Stop: 22820, Start Num: 59

Candidate Starts for Superstar\_28:

(Start: 59 @22437 has 29 MA's), (65, 22446), (70, 22452), (Start: 74 @22464 has 1 MA's), (87, 22497), (102, 22530), (104, 22533), (108, 22554), (111, 22563), (113, 22575), (115, 22581), (124, 22641), (125, 22644), (171, 22800),

Gene: SwagPigglett\_33 Start: 28750, Stop: 29124, Start Num: 41

Candidate Starts for SwagPigglett\_33:

(Start: 41 @28750 has 250 MA's), (Start: 46 @28765 has 1 MA's), (Start: 48 @28777 has 17 MA's), (121, 28984), (133, 29014), (134, 29017), (152, 29059),

Gene: SweetiePie\_30 Start: 22410, Stop: 22697, Start Num: 81

Candidate Starts for SweetiePie\_30:

(35, 22251), (Start: 81 @22410 has 17 MA's), (134, 22575), (150, 22596), (158, 22674),

Gene: SwirlSquare\_32 Start: 21246, Stop: 21536, Start Num: 54

Candidate Starts for SwirlSquare\_32:

(40, 21198), (Start: 54 @21246 has 103 MA's), (89, 21306), (93, 21312), (110, 21357), (117, 21390),

Gene: Swirley\_27 Start: 22230, Stop: 22520, Start Num: 75

Candidate Starts for Swirley\_27:

(Start: 37 @22110 has 2 MA's), (Start: 61 @22200 has 37 MA's), (Start: 75 @22230 has 10 MA's), (77, 22236), (117, 22338), (121, 22362), (124, 22383), (134, 22395), (150, 22416), (153, 22449), (160, 22497), (166, 22512),

Gene: Switzerland\_32 Start: 21520, Stop: 21861, Start Num: 54

Candidate Starts for Switzerland\_32:

(Start: 54 @21520 has 103 MA's), (95, 21586), (100, 21598), (155, 21808), (164, 21844), (167, 21850),

Gene: SydNat\_27 Start: 22485, Stop: 22805, Start Num: 61

Candidate Starts for SydNat\_27:

(Start: 37 @22395 has 2 MA's), (Start: 61 @22485 has 37 MA's), (Start: 75 @22515 has 10 MA's), (77, 22521), (104, 22575), (117, 22623), (121, 22647), (124, 22668), (134, 22680), (150, 22701), (153, 22734), (166, 22797),

Gene: TDanisky\_33 Start: 28862, Stop: 29236, Start Num: 41

Candidate Starts for TDanisky\_33:

(Start: 41 @28862 has 250 MA's), (Start: 42 @28865 has 15 MA's), (Start: 46 @28877 has 1 MA's), (Start: 48 @28889 has 17 MA's), (121, 29096), (134, 29129), (152, 29171),

Gene: TNguyen7\_30 Start: 22492, Stop: 22794, Start Num: 67

Candidate Starts for TNguyen7\_30:

(36, 22390), (Start: 49 @22447 has 3 MA's), (Start: 67 @22492 has 110 MA's), (83, 22522), (87, 22531),

Gene: TagePighiter\_25 Start: 20709, Stop: 21065, Start Num: 56

Candidate Starts for TagePighiter\_25:

(Start: 56 @20709 has 18 MA's), (Start: 76 @20748 has 2 MA's), (Start: 90 @20781 has 4 MA's), (117, 20874), (131, 20931), (133, 20940), (167, 21057),

Gene: Taj\_33 Start: 28923, Stop: 29297, Start Num: 41

Candidate Starts for Taj\_33:

(Start: 41 @28923 has 250 MA's), (Start: 46 @28938 has 1 MA's), (Start: 48 @28950 has 17 MA's), (121, 29157), (134, 29190), (152, 29232),

Gene: Tapioca\_30 Start: 24740, Stop: 25108, Start Num: 39

Candidate Starts for Tapioca\_30:

(Start: 39 @24740 has 42 MA's), (118, 24938), (121, 24959),

Gene: TarsusIV\_30 Start: 22501, Stop: 22845, Start Num: 48

Candidate Starts for TarsusIV\_30:

(Start: 48 @22501 has 17 MA's), (72, 22561), (Start: 76 @22573 has 2 MA's), (89, 22591), (101, 22615), (116, 22651), (134, 22720),

Gene: Tarynearal\_26 Start: 22222, Stop: 22542, Start Num: 61

Candidate Starts for Tarynearal\_26:

(Start: 37 @22132 has 2 MA's), (Start: 61 @22222 has 37 MA's), (Start: 75 @22252 has 10 MA's), (77, 22258), (117, 22360), (121, 22384), (124, 22405), (134, 22417), (150, 22438), (153, 22471), (160, 22519), (166, 22534),

Gene: Taurus\_32 Start: 22962, Stop: 23264, Start Num: 67

Candidate Starts for Taurus\_32:

(47, 22914), (Start: 49 @22917 has 3 MA's), (Start: 67 @22962 has 110 MA's), (83, 22992),

Gene: Techage\_29 Start: 25476, Stop: 25835, Start Num: 41  
Candidate Starts for Techage\_29:  
(Start: 41 @25476 has 250 MA's), (72, 25563), (121, 25701), (134, 25734),

Gene: Tefunt\_25 Start: 21218, Stop: 21571, Start Num: 59  
Candidate Starts for Tefunt\_25:  
(Start: 59 @21218 has 29 MA's), (65, 21227), (Start: 74 @21245 has 1 MA's), (Start: 76 @21251 has 2 MA's), (80, 21260), (87, 21278), (99, 21302), (111, 21344), (125, 21425), (141, 21461), (156, 21527), (162, 21551),

Gene: Temprado\_34 Start: 22214, Stop: 22510, Start Num: 54  
Candidate Starts for Temprado\_34:  
(40, 22163), (Start: 54 @22214 has 103 MA's), (80, 22262), (121, 22367), (143, 22412),

Gene: Texage\_30 Start: 23060, Stop: 23362, Start Num: 67  
Candidate Starts for Texage\_30:  
(Start: 49 @23015 has 3 MA's), (Start: 67 @23060 has 110 MA's), (83, 23090), (87, 23099), (107, 23141), (113, 23168),

Gene: Theia\_25 Start: 22156, Stop: 22566, Start Num: 37  
Candidate Starts for Theia\_25:  
(Start: 37 @22156 has 2 MA's), (Start: 61 @22246 has 37 MA's), (Start: 75 @22276 has 10 MA's), (77, 22282), (121, 22408), (133, 22438), (134, 22441), (150, 22462), (166, 22558),

Gene: Thespis\_29 Start: 25480, Stop: 25839, Start Num: 41  
Candidate Starts for Thespis\_29:  
(Start: 41 @25480 has 250 MA's), (72, 25567), (121, 25705), (134, 25738),

Gene: Thestral\_26 Start: 21345, Stop: 21665, Start Num: 76  
Candidate Starts for Thestral\_26:  
(22, 20952), (Start: 59 @21312 has 29 MA's), (Start: 74 @21339 has 1 MA's), (Start: 76 @21345 has 2 MA's), (125, 21519), (141, 21555), (156, 21621), (162, 21645),

Gene: Thibault\_44 Start: 40998, Stop: 41384, Start Num: 53  
Candidate Starts for Thibault\_44:  
(Start: 53 @40998 has 42 MA's), (Start: 75 @41052 has 10 MA's), (78, 41061), (121, 41208), (125, 41232), (128, 41250), (138, 41280), (143, 41292),

Gene: ThreeRngTarjay\_49 Start: 43904, Stop: 44299, Start Num: 53  
Candidate Starts for ThreeRngTarjay\_49:  
(Start: 53 @43904 has 42 MA's), (71, 43946), (Start: 75 @43958 has 10 MA's), (114, 44069), (121, 44114), (128, 44156), (140, 44189), (143, 44198),

Gene: Tiffany\_32 Start: 22857, Stop: 23159, Start Num: 67  
Candidate Starts for Tiffany\_32:  
(47, 22809), (Start: 49 @22812 has 3 MA's), (Start: 67 @22857 has 110 MA's), (83, 22887),

Gene: Tiger\_27 Start: 22154, Stop: 22444, Start Num: 75  
Candidate Starts for Tiger\_27:  
(Start: 37 @22034 has 2 MA's), (Start: 61 @22124 has 37 MA's), (Start: 75 @22154 has 10 MA's), (77, 22160), (104, 22214), (121, 22286), (133, 22316), (134, 22319), (150, 22340), (166, 22436),

Gene: Timothy\_30 Start: 23067, Stop: 23390, Start Num: 52

Candidate Starts for Timothy\_30:

(Start: 52 @23067 has 21 MA's), (58, 23076), (97, 23136), (104, 23148), (117, 23190), (129, 23247),

Gene: TinaBelcher\_25 Start: 21260, Stop: 21613, Start Num: 59

Candidate Starts for TinaBelcher\_25:

(22, 20900), (Start: 59 @21260 has 29 MA's), (Start: 74 @21287 has 1 MA's), (Start: 76 @21293 has 2 MA's), (80, 21302), (125, 21467), (141, 21503), (156, 21569), (162, 21593),

Gene: TinyPebbles\_32 Start: 23049, Stop: 23354, Start Num: 67

Candidate Starts for TinyPebbles\_32:

(47, 23001), (Start: 49 @23004 has 3 MA's), (Start: 67 @23049 has 110 MA's), (83, 23079), (153, 23289),

Gene: TinyTimmy\_30 Start: 23113, Stop: 23433, Start Num: 54

Candidate Starts for TinyTimmy\_30:

(Start: 52 @23110 has 21 MA's), (Start: 54 @23113 has 103 MA's), (58, 23119), (97, 23179), (104, 23191), (117, 23233), (129, 23290),

Gene: TipsytheTRex\_29 Start: 21554, Stop: 21877, Start Num: 57

Candidate Starts for TipsytheTRex\_29:

(40, 21506), (Start: 57 @21554 has 25 MA's), (Start: 75 @21581 has 10 MA's), (77, 21587), (Start: 82 @21596 has 1 MA's), (99, 21629), (105, 21644),

Gene: Toaka\_29 Start: 22167, Stop: 22535, Start Num: 56

Candidate Starts for Toaka\_29:

(Start: 56 @22167 has 18 MA's), (95, 22236), (100, 22248), (104, 22257), (113, 22290), (124, 22356), (129, 22368),

Gene: Todacoro\_31 Start: 23059, Stop: 23361, Start Num: 67

Candidate Starts for Todacoro\_31:

(Start: 49 @23014 has 3 MA's), (Start: 67 @23059 has 110 MA's), (83, 23089), (87, 23098), (107, 23140), (113, 23167),

Gene: Toma\_25 Start: 21283, Stop: 21636, Start Num: 60

Candidate Starts for Toma\_25:

(Start: 60 @21283 has 41 MA's), (Start: 90 @21355 has 4 MA's), (117, 21448), (124, 21493), (131, 21505), (155, 21592), (169, 21631),

Gene: ToneTone\_31 Start: 22140, Stop: 22436, Start Num: 54

Candidate Starts for ToneTone\_31:

(40, 22089), (Start: 54 @22140 has 103 MA's), (121, 22293), (143, 22338),

Gene: TootsiePop\_34 Start: 28648, Stop: 29022, Start Num: 41

Candidate Starts for TootsiePop\_34:

(Start: 41 @28648 has 250 MA's), (Start: 46 @28663 has 1 MA's), (Start: 48 @28675 has 17 MA's), (72, 28735), (121, 28882), (134, 28915),

Gene: Tootsieroll\_34 Start: 28814, Stop: 29188, Start Num: 41

Candidate Starts for Tootsieroll\_34:

(Start: 41 @28814 has 250 MA's), (43, 28820), (Start: 46 @28829 has 1 MA's), (Start: 48 @28841 has 17 MA's), (121, 29048), (133, 29078), (134, 29081),

Gene: Toro\_32 Start: 25243, Stop: 25533, Start Num: 69

Candidate Starts for Toro\_32:

(Start: 69 @25243 has 1 MA's), (87, 25279), (100, 25300), (117, 25360),

Gene: Tortellini\_28 Start: 25473, Stop: 25922, Start Num: 39

Candidate Starts for Tortellini\_28:

(17, 25074), (18, 25101), (Start: 39 @25473 has 42 MA's), (66, 25554), (94, 25611), (112, 25671), (118, 25704), (121, 25734),

Gene: Totinger\_34 Start: 28746, Stop: 29120, Start Num: 41

Candidate Starts for Totinger\_34:

(Start: 41 @28746 has 250 MA's), (Start: 42 @28749 has 15 MA's), (Start: 46 @28761 has 1 MA's), (Start: 48 @28773 has 17 MA's), (121, 28980), (134, 29013),

Gene: Triste\_24 Start: 20697, Stop: 21053, Start Num: 56

Candidate Starts for Triste\_24:

(Start: 56 @20697 has 18 MA's), (Start: 76 @20736 has 2 MA's), (Start: 90 @20769 has 4 MA's), (117, 20862), (131, 20919), (133, 20928), (167, 21045),

Gene: Triumph\_27 Start: 21263, Stop: 21616, Start Num: 59

Candidate Starts for Triumph\_27:

(Start: 59 @21263 has 29 MA's), (Start: 74 @21290 has 1 MA's), (Start: 76 @21296 has 2 MA's), (104, 21359), (117, 21422), (124, 21467), (156, 21572), (162, 21596),

Gene: Trixie\_33 Start: 24085, Stop: 24438, Start Num: 54

Candidate Starts for Trixie\_33:

(31, 23926), (Start: 54 @24085 has 103 MA's), (Start: 82 @24130 has 1 MA's), (104, 24175), (117, 24229), (129, 24286), (132, 24292), (136, 24307), (147, 24328), (158, 24415),

Gene: Trooper\_30 Start: 22271, Stop: 22612, Start Num: 48

Candidate Starts for Trooper\_30:

(29, 22112), (Start: 48 @22271 has 17 MA's), (72, 22331), (Start: 76 @22343 has 2 MA's), (89, 22361), (116, 22421),

Gene: TrvxScott\_24 Start: 21290, Stop: 21643, Start Num: 59

Candidate Starts for TrvxScott\_24:

(22, 20930), (Start: 59 @21290 has 29 MA's), (Start: 74 @21317 has 1 MA's), (Start: 76 @21323 has 2 MA's), (80, 21332), (125, 21497), (141, 21533), (162, 21623),

Gene: TuanPN\_24 Start: 20736, Stop: 21092, Start Num: 56

Candidate Starts for TuanPN\_24:

(Start: 56 @20736 has 18 MA's), (Start: 76 @20775 has 2 MA's), (Start: 90 @20808 has 4 MA's), (117, 20901), (131, 20958), (133, 20967), (167, 21084),

Gene: Tubs\_32 Start: 24008, Stop: 24376, Start Num: 55

Candidate Starts for Tubs\_32:

(38, 23948), (Start: 55 @24008 has 26 MA's), (77, 24044), (80, 24050), (92, 24071), (100, 24089), (104, 24098), (124, 24197), (129, 24209), (136, 24230), (143, 24239),

Gene: Tucker\_33 Start: 22226, Stop: 22522, Start Num: 54

Candidate Starts for Tucker\_33:

(40, 22175), (Start: 54 @22226 has 103 MA's), (121, 22379), (143, 22424),

Gene: Turbido\_32 Start: 22927, Stop: 23265, Start Num: 54

Candidate Starts for Turbido\_32:

(Start: 54 @22927 has 103 MA's), (Start: 75 @22963 has 10 MA's), (77, 22969), (100, 23014), (134, 23137), (144, 23152), (158, 23236),

Gene: Tweety\_33 Start: 28981, Stop: 29355, Start Num: 41

Candidate Starts for Tweety\_33:

(Start: 41 @28981 has 250 MA's), (Start: 46 @28996 has 1 MA's), (Start: 48 @29008 has 17 MA's), (121, 29215), (134, 29248),

Gene: Twigg\_27 Start: 22231, Stop: 22515, Start Num: 77

Candidate Starts for Twigg\_27:

(Start: 37 @22105 has 2 MA's), (Start: 61 @22195 has 37 MA's), (Start: 75 @22225 has 10 MA's), (77, 22231), (117, 22333), (121, 22357), (124, 22378), (134, 22390), (150, 22411), (153, 22444), (160, 22492), (166, 22507),

Gene: Ugenie5\_29 Start: 24041, Stop: 24409, Start Num: 55

Candidate Starts for Ugenie5\_29:

(38, 23981), (Start: 55 @24041 has 26 MA's), (77, 24077), (80, 24083), (92, 24104), (100, 24122), (104, 24131), (124, 24230), (129, 24242), (136, 24263), (143, 24272),

Gene: UncleRicky\_36 Start: 30077, Stop: 30451, Start Num: 41

Candidate Starts for UncleRicky\_36:

(Start: 41 @30077 has 250 MA's), (Start: 42 @30080 has 15 MA's), (Start: 46 @30092 has 1 MA's), (Start: 48 @30104 has 17 MA's), (121, 30311), (134, 30344), (152, 30386),

Gene: UnionJack\_27 Start: 21253, Stop: 21573, Start Num: 61

Candidate Starts for UnionJack\_27:

(Start: 37 @21163 has 2 MA's), (Start: 61 @21253 has 37 MA's), (Start: 75 @21283 has 10 MA's), (77, 21289), (121, 21415), (124, 21436), (134, 21448), (150, 21469), (153, 21502), (166, 21565),

Gene: Unstoppable\_25 Start: 20585, Stop: 20938, Start Num: 60

Candidate Starts for Unstoppable\_25:

(Start: 60 @20585 has 41 MA's), (Start: 76 @20621 has 2 MA's), (Start: 90 @20654 has 4 MA's), (131, 20804), (133, 20813), (137, 20822), (153, 20867),

Gene: Updawg\_32 Start: 22888, Stop: 23217, Start Num: 57

Candidate Starts for Updawg\_32:

(31, 22729), (Start: 57 @22888 has 25 MA's), (Start: 75 @22915 has 10 MA's), (77, 22921), (104, 22975), (134, 23089), (144, 23104), (158, 23188),

Gene: Urza\_27 Start: 21493, Stop: 21849, Start Num: 60

Candidate Starts for Urza\_27:

(1, 19951), (5, 20686), (6, 20755), (7, 20761), (8, 20764), (9, 20779), (19, 21061), (22, 21127), (Start: 60 @21493 has 41 MA's), (Start: 76 @21526 has 2 MA's), (Start: 90 @21559 has 4 MA's), (111, 21619), (117, 21652), (123, 21688), (124, 21697), (166, 21835),

Gene: VRedHorse\_33 Start: 28935, Stop: 29309, Start Num: 41

Candidate Starts for VRedHorse\_33:

(Start: 41 @28935 has 250 MA's), (Start: 46 @28950 has 1 MA's), (Start: 48 @28962 has 17 MA's), (121, 29169), (134, 29202),

Gene: Vanisoa\_29 Start: 21862, Stop: 22248, Start Num: 54

Candidate Starts for Vanisoa\_29:

(40, 21811), (Start: 54 @21862 has 103 MA's), (Start: 62 @21883 has 5 MA's), (77, 21916), (95, 21949), (96, 21952), (124, 22069), (129, 22081),

Gene: Vanseggelen\_31 Start: 21971, Stop: 22357, Start Num: 64

Candidate Starts for Vanseggelen\_31:

(Start: 64 @21971 has 11 MA's), (Start: 74 @21989 has 1 MA's), (Start: 76 @21995 has 2 MA's), (Start: 90 @22028 has 4 MA's), (98, 22043), (102, 22055), (111, 22088), (123, 22157), (172, 22340),

Gene: Velveteen\_29 Start: 24971, Stop: 25345, Start Num: 41

Candidate Starts for Velveteen\_29:

(Start: 41 @24971 has 250 MA's), (43, 24977), (Start: 46 @24986 has 1 MA's), (Start: 48 @24998 has 17 MA's), (121, 25205), (134, 25238),

Gene: Venti\_29 Start: 25485, Stop: 25844, Start Num: 41

Candidate Starts for Venti\_29:

(Start: 41 @25485 has 250 MA's), (72, 25572), (121, 25710), (134, 25743),

Gene: Veracruz\_30 Start: 23014, Stop: 23361, Start Num: 49

Candidate Starts for Veracruz\_30:

(Start: 49 @23014 has 3 MA's), (Start: 67 @23059 has 110 MA's), (83, 23089), (87, 23098), (107, 23140), (113, 23167),

Gene: Verse\_26 Start: 22967, Stop: 23314, Start Num: 64

Candidate Starts for Verse\_26:

(Start: 64 @22967 has 11 MA's), (Start: 74 @22985 has 1 MA's), (Start: 76 @22991 has 2 MA's), (Start: 90 @23024 has 4 MA's), (98, 23039), (102, 23051), (111, 23084), (123, 23153), (156, 23267),

Gene: Veteran\_33 Start: 28784, Stop: 29158, Start Num: 41

Candidate Starts for Veteran\_33:

(Start: 41 @28784 has 250 MA's), (43, 28790), (Start: 46 @28799 has 1 MA's), (Start: 48 @28811 has 17 MA's), (121, 29018), (134, 29051), (152, 29093),

Gene: Vidya\_29 Start: 25485, Stop: 25844, Start Num: 41

Candidate Starts for Vidya\_29:

(Start: 41 @25485 has 250 MA's), (72, 25572), (121, 25710), (134, 25743),

Gene: VieEnRose\_27 Start: 21399, Stop: 21755, Start Num: 60

Candidate Starts for VieEnRose\_27:

(2, 19875), (3, 20007), (4, 20016), (6, 20661), (7, 20667), (8, 20670), (9, 20685), (11, 20769), (19, 20967), (22, 21033), (32, 21246), (Start: 60 @21399 has 41 MA's), (Start: 76 @21432 has 2 MA's), (Start: 90 @21465 has 4 MA's), (111, 21525), (117, 21558), (123, 21594), (139, 21636), (166, 21741),

Gene: Vivum\_34 Start: 28762, Stop: 29136, Start Num: 41

Candidate Starts for Vivum\_34:

(Start: 41 @28762 has 250 MA's), (Start: 46 @28777 has 1 MA's), (Start: 48 @28789 has 17 MA's), (89, 28891), (121, 28996), (134, 29029), (152, 29071),

Gene: Vix\_32 Start: 23045, Stop: 23347, Start Num: 67

Candidate Starts for Vix\_32:

(47, 22997), (Start: 49 @23000 has 3 MA's), (Start: 67 @23045 has 110 MA's), (83, 23075),

Gene: VohminGhazi\_33 Start: 22213, Stop: 22509, Start Num: 54

Candidate Starts for VohminGhazi\_33:



(Start: 54 @22213 has 103 MA's), (83, 22267), (121, 22366), (143, 22411),

Gene: Wachhund\_33 Start: 28938, Stop: 29312, Start Num: 41

Candidate Starts for Wachhund\_33:

(Start: 41 @28938 has 250 MA's), (Start: 46 @28953 has 1 MA's), (Start: 48 @28965 has 17 MA's), (121, 29172), (134, 29205),

Gene: Waits\_32 Start: 21375, Stop: 21716, Start Num: 54

Candidate Starts for Waits\_32:

(Start: 54 @21375 has 103 MA's), (95, 21441), (100, 21453), (155, 21663), (164, 21699), (167, 21705),

Gene: Wanda\_57 Start: 43615, Stop: 44010, Start Num: 53

Candidate Starts for Wanda\_57:

(Start: 53 @43615 has 42 MA's), (71, 43657), (Start: 75 @43669 has 10 MA's), (114, 43780), (121, 43825), (128, 43867), (140, 43900), (143, 43909), (146, 43921),

Gene: Warrior24\_33 Start: 21379, Stop: 21720, Start Num: 54

Candidate Starts for Warrior24\_33:

(Start: 54 @21379 has 103 MA's), (95, 21445), (100, 21457), (155, 21667), (164, 21703), (167, 21709),

Gene: Watson\_32 Start: 22955, Stop: 23257, Start Num: 67

Candidate Starts for Watson\_32:

(47, 22907), (Start: 49 @22910 has 3 MA's), (Start: 67 @22955 has 110 MA's), (83, 22985),

Gene: Wee\_34 Start: 29461, Stop: 29835, Start Num: 41

Candidate Starts for Wee\_34:

(Start: 41 @29461 has 250 MA's), (Start: 46 @29476 has 1 MA's), (Start: 48 @29488 has 17 MA's), (121, 29695), (134, 29728), (152, 29770),

Gene: WeiHuaDA\_36 Start: 24801, Stop: 25109, Start Num: 82

Candidate Starts for WeiHuaDA\_36:

(31, 24597), (Start: 54 @24756 has 103 MA's), (Start: 82 @24801 has 1 MA's), (104, 24846), (117, 24900), (129, 24957), (136, 24978), (147, 24999), (158, 25086),

Gene: Werner\_24 Start: 20707, Stop: 21063, Start Num: 56

Candidate Starts for Werner\_24:

(Start: 56 @20707 has 18 MA's), (Start: 76 @20746 has 2 MA's), (Start: 90 @20779 has 4 MA's), (117, 20872), (131, 20929), (133, 20938), (167, 21055),

Gene: Whabigail7\_32 Start: 22915, Stop: 23253, Start Num: 54

Candidate Starts for Whabigail7\_32:

(Start: 54 @22915 has 103 MA's), (Start: 75 @22951 has 10 MA's), (77, 22957), (100, 23002), (134, 23125), (144, 23140), (158, 23224),

Gene: Whatever\_24 Start: 20707, Stop: 21063, Start Num: 56

Candidate Starts for Whatever\_24:

(Start: 56 @20707 has 18 MA's), (Start: 76 @20746 has 2 MA's), (Start: 90 @20779 has 4 MA's), (117, 20872), (131, 20929), (133, 20938), (167, 21055),

Gene: Whatsapiecost\_34 Start: 29197, Stop: 29571, Start Num: 41

Candidate Starts for Whatsapiecost\_34:

(Start: 41 @29197 has 250 MA's), (Start: 46 @29212 has 1 MA's), (Start: 48 @29224 has 17 MA's), (121, 29431), (134, 29464),

Gene: Whouxphf\_34 Start: 29255, Stop: 29629, Start Num: 41  
Candidate Starts for Whouxphf\_34:  
(Start: 41 @29255 has 250 MA's), (Start: 46 @29270 has 1 MA's), (Start: 48 @29282 has 17 MA's),  
(121, 29489), (134, 29522), (152, 29564),

Gene: WideWale\_32 Start: 22888, Stop: 23217, Start Num: 57  
Candidate Starts for WideWale\_32:  
(31, 22729), (Start: 57 @22888 has 25 MA's), (Start: 75 @22915 has 10 MA's), (77, 22921), (104,  
22975), (134, 23089), (144, 23104), (158, 23188),

Gene: Wiks\_33 Start: 22208, Stop: 22504, Start Num: 54  
Candidate Starts for Wiks\_33:  
(40, 22157), (Start: 54 @22208 has 103 MA's), (80, 22256), (121, 22361), (143, 22406),

Gene: WillSterrel\_35 Start: 30386, Stop: 30760, Start Num: 41  
Candidate Starts for WillSterrel\_35:  
(Start: 41 @30386 has 250 MA's), (Start: 42 @30389 has 15 MA's), (Start: 46 @30401 has 1 MA's),  
(Start: 48 @30413 has 17 MA's), (121, 30620), (133, 30650), (134, 30653), (152, 30695),

Gene: Willsammy\_28 Start: 25140, Stop: 25586, Start Num: 39  
Candidate Starts for Willsammy\_28:  
(Start: 39 @25140 has 42 MA's), (66, 25221), (94, 25278), (112, 25338), (118, 25371), (121, 25401),

Gene: Wooldri\_34 Start: 22874, Stop: 23176, Start Num: 67  
Candidate Starts for Wooldri\_34:  
(47, 22826), (Start: 49 @22829 has 3 MA's), (Start: 67 @22874 has 110 MA's), (83, 22904),

Gene: WunderPhul\_33 Start: 22208, Stop: 22504, Start Num: 54  
Candidate Starts for WunderPhul\_33:  
(40, 22157), (Start: 54 @22208 has 103 MA's), (80, 22256), (121, 22361), (143, 22406),

Gene: XFactor\_33 Start: 28942, Stop: 29316, Start Num: 41  
Candidate Starts for XFactor\_33:  
(Start: 41 @28942 has 250 MA's), (Start: 42 @28945 has 15 MA's), (Start: 46 @28957 has 1 MA's),  
(Start: 48 @28969 has 17 MA's), (121, 29176), (134, 29209),

Gene: Xavia\_29 Start: 26111, Stop: 26473, Start Num: 41  
Candidate Starts for Xavia\_29:  
(Start: 41 @26111 has 250 MA's), (Start: 42 @26114 has 15 MA's), (91, 26234), (117, 26312), (118,  
26315),

Gene: Xeno\_29 Start: 24506, Stop: 24874, Start Num: 39  
Candidate Starts for Xeno\_29:  
(Start: 39 @24506 has 42 MA's), (79, 24599), (88, 24617), (118, 24704), (121, 24725),

Gene: Xerxes\_30 Start: 24737, Stop: 25117, Start Num: 39  
Candidate Starts for Xerxes\_30:  
(Start: 39 @24737 has 42 MA's), (118, 24947), (121, 24968),

Gene: XianYue\_30 Start: 22369, Stop: 22722, Start Num: 54  
Candidate Starts for XianYue\_30:

(Start: 54 @22369 has 103 MA's), (66, 22378), (Start: 82 @22414 has 1 MA's), (100, 22450), (101, 22453), (125, 22561), (147, 22612), (150, 22621), (158, 22699),

Gene: Xula\_27 Start: 25181, Stop: 25525, Start Num: 42

Candidate Starts for Xula\_27:

(15, 24716), (21, 24869), (25, 24938), (28, 25034), (Start: 41 @25178 has 250 MA's), (Start: 42 @25181 has 15 MA's), (117, 25364), (118, 25367), (121, 25388), (134, 25421),

Gene: Yasdnii\_24 Start: 20732, Stop: 21088, Start Num: 56

Candidate Starts for Yasdnii\_24:

(Start: 56 @20732 has 18 MA's), (Start: 76 @20771 has 2 MA's), (Start: 90 @20804 has 4 MA's), (117, 20897), (131, 20954), (133, 20963), (167, 21080),

Gene: Yecey3\_31 Start: 22095, Stop: 22433, Start Num: 54

Candidate Starts for Yecey3\_31:

(Start: 54 @22095 has 103 MA's), (95, 22164), (96, 22167), (100, 22176), (135, 22296), (163, 22413),

Gene: Yeet\_49 Start: 43036, Stop: 43431, Start Num: 53

Candidate Starts for Yeet\_49:

(Start: 53 @43036 has 42 MA's), (71, 43078), (Start: 75 @43090 has 10 MA's), (114, 43201), (121, 43246), (128, 43288), (140, 43321), (143, 43330),

Gene: Yokurt\_33 Start: 22208, Stop: 22504, Start Num: 54

Candidate Starts for Yokurt\_33:

(40, 22157), (Start: 54 @22208 has 103 MA's), (80, 22256), (121, 22361), (143, 22406),

Gene: Yorick\_33 Start: 28937, Stop: 29311, Start Num: 41

Candidate Starts for Yorick\_33:

(Start: 41 @28937 has 250 MA's), (Start: 46 @28952 has 1 MA's), (Start: 48 @28964 has 17 MA's), (121, 29171), (133, 29201), (134, 29204), (152, 29246),

Gene: Yosif\_27 Start: 22496, Stop: 22846, Start Num: 59

Candidate Starts for Yosif\_27:

(Start: 59 @22496 has 29 MA's), (Start: 90 @22565 has 4 MA's), (104, 22595), (133, 22724),

Gene: Zainub\_27 Start: 21723, Stop: 22076, Start Num: 59

Candidate Starts for Zainub\_27:

(33, 21579), (Start: 59 @21723 has 29 MA's), (Start: 74 @21750 has 1 MA's), (Start: 76 @21756 has 2 MA's), (113, 21861), (115, 21867), (125, 21930), (141, 21966), (156, 22032), (162, 22056),

Gene: Zaka\_33 Start: 22208, Stop: 22504, Start Num: 54

Candidate Starts for Zaka\_33:

(40, 22157), (Start: 54 @22208 has 103 MA's), (80, 22256), (121, 22361), (143, 22406),

Gene: Zelink\_52 Start: 44851, Stop: 45225, Start Num: 53

Candidate Starts for Zelink\_52:

(Start: 53 @44851 has 42 MA's), (70, 44890), (Start: 75 @44905 has 10 MA's), (78, 44914), (121, 45061), (125, 45085), (128, 45103), (138, 45133), (143, 45145),

Gene: Zemlya\_26 Start: 21274, Stop: 21627, Start Num: 60

Candidate Starts for Zemlya\_26:

(Start: 60 @21274 has 41 MA's), (Start: 90 @21346 has 4 MA's), (117, 21439), (131, 21496), (155, 21583),

Gene: Zerg\_33 Start: 28797, Stop: 29171, Start Num: 41

Candidate Starts for Zerg\_33:

(Start: 41 @28797 has 250 MA's), (43, 28803), (Start: 46 @28812 has 1 MA's), (Start: 48 @28824 has 17 MA's), (121, 29031), (134, 29064),

Gene: Zetzy\_31 Start: 22500, Stop: 22805, Start Num: 67

Candidate Starts for Zetzy\_31:

(47, 22452), (Start: 49 @22455 has 3 MA's), (Start: 67 @22500 has 110 MA's), (83, 22530), (87, 22539), (100, 22560), (124, 22674),

Gene: Zilizabeth\_29 Start: 25485, Stop: 25844, Start Num: 41

Candidate Starts for Zilizabeth\_29:

(Start: 41 @25485 has 250 MA's), (72, 25572), (121, 25710), (134, 25743),

Gene: Zimmer\_32 Start: 24617, Stop: 24979, Start Num: 54

Candidate Starts for Zimmer\_32:

(Start: 54 @24617 has 103 MA's), (66, 24626), (77, 24653), (Start: 82 @24662 has 1 MA's), (96, 24689), (104, 24707), (125, 24809), (126, 24812), (129, 24818), (136, 24839), (143, 24848), (147, 24860), (150, 24869),

Gene: Zizzle\_33 Start: 28881, Stop: 29255, Start Num: 41

Candidate Starts for Zizzle\_33:

(Start: 41 @28881 has 250 MA's), (Start: 46 @28896 has 1 MA's), (Start: 48 @28908 has 17 MA's), (121, 29115), (133, 29145), (134, 29148), (152, 29190),

Gene: Zolita\_26 Start: 22486, Stop: 22806, Start Num: 61

Candidate Starts for Zolita\_26:

(Start: 37 @22396 has 2 MA's), (Start: 61 @22486 has 37 MA's), (Start: 75 @22516 has 10 MA's), (77, 22522), (104, 22576), (117, 22624), (121, 22648), (124, 22669), (134, 22681), (150, 22702), (153, 22735), (166, 22798),

Gene: Zulu\_33 Start: 22207, Stop: 22503, Start Num: 54

Candidate Starts for Zulu\_33:

(40, 22156), (Start: 54 @22207 has 103 MA's), (80, 22255), (121, 22360), (143, 22405),

Gene: phiCAM\_27 Start: 24270, Stop: 24608, Start Num: 70

Candidate Starts for phiCAM\_27:

(Start: 64 @24258 has 11 MA's), (70, 24270), (Start: 76 @24288 has 2 MA's), (Start: 90 @24321 has 4 MA's), (98, 24336), (102, 24348), (109, 24375), (111, 24381), (117, 24414), (123, 24450),

Gene: phiHau3\_27 Start: 20948, Stop: 21301, Start Num: 59

Candidate Starts for phiHau3\_27:

(33, 20807), (Start: 59 @20948 has 29 MA's), (Start: 74 @20975 has 1 MA's), (87, 21008), (Start: 90 @21014 has 4 MA's), (104, 21044), (117, 21107), (124, 21152), (156, 21257), (162, 21281),