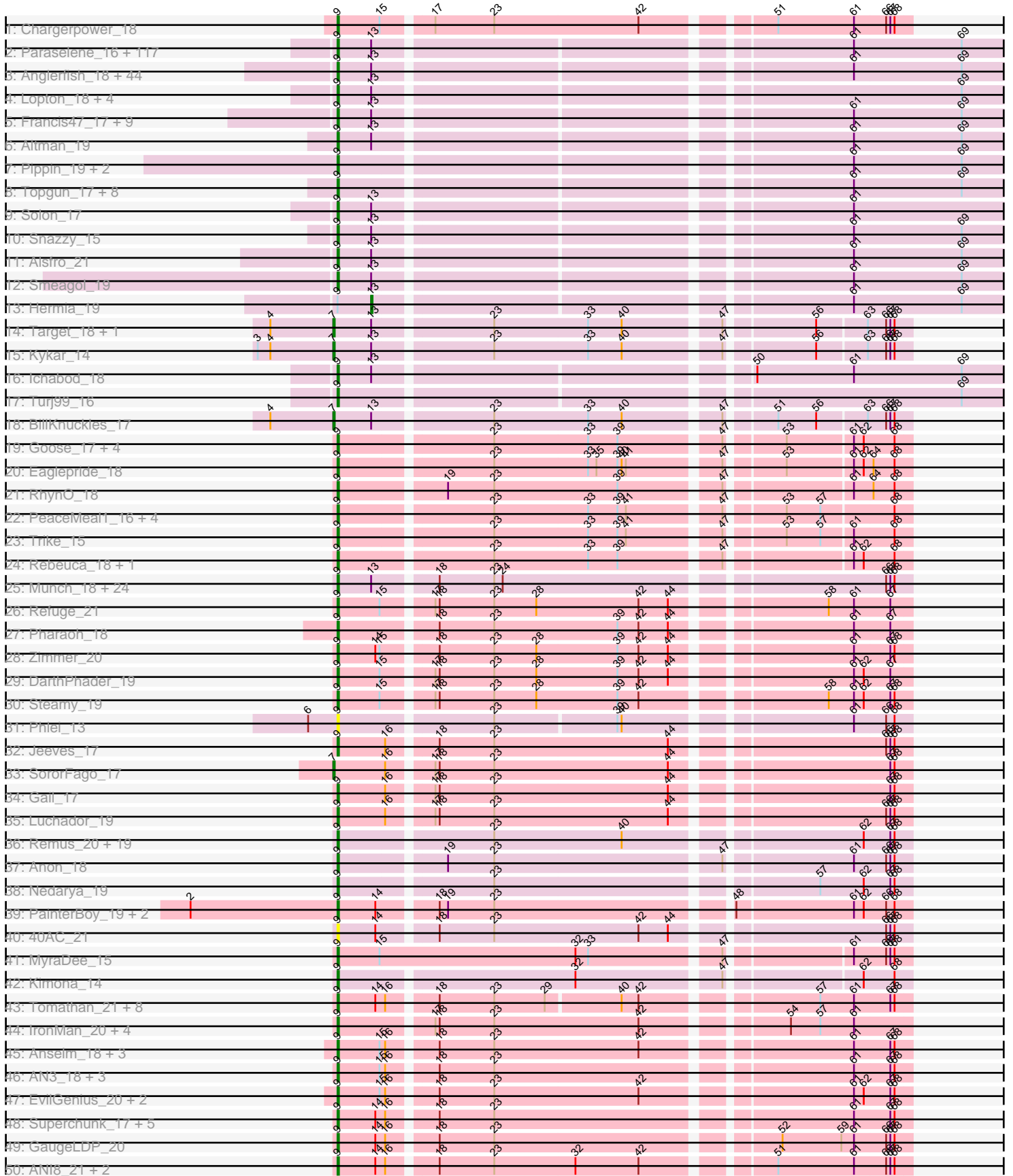
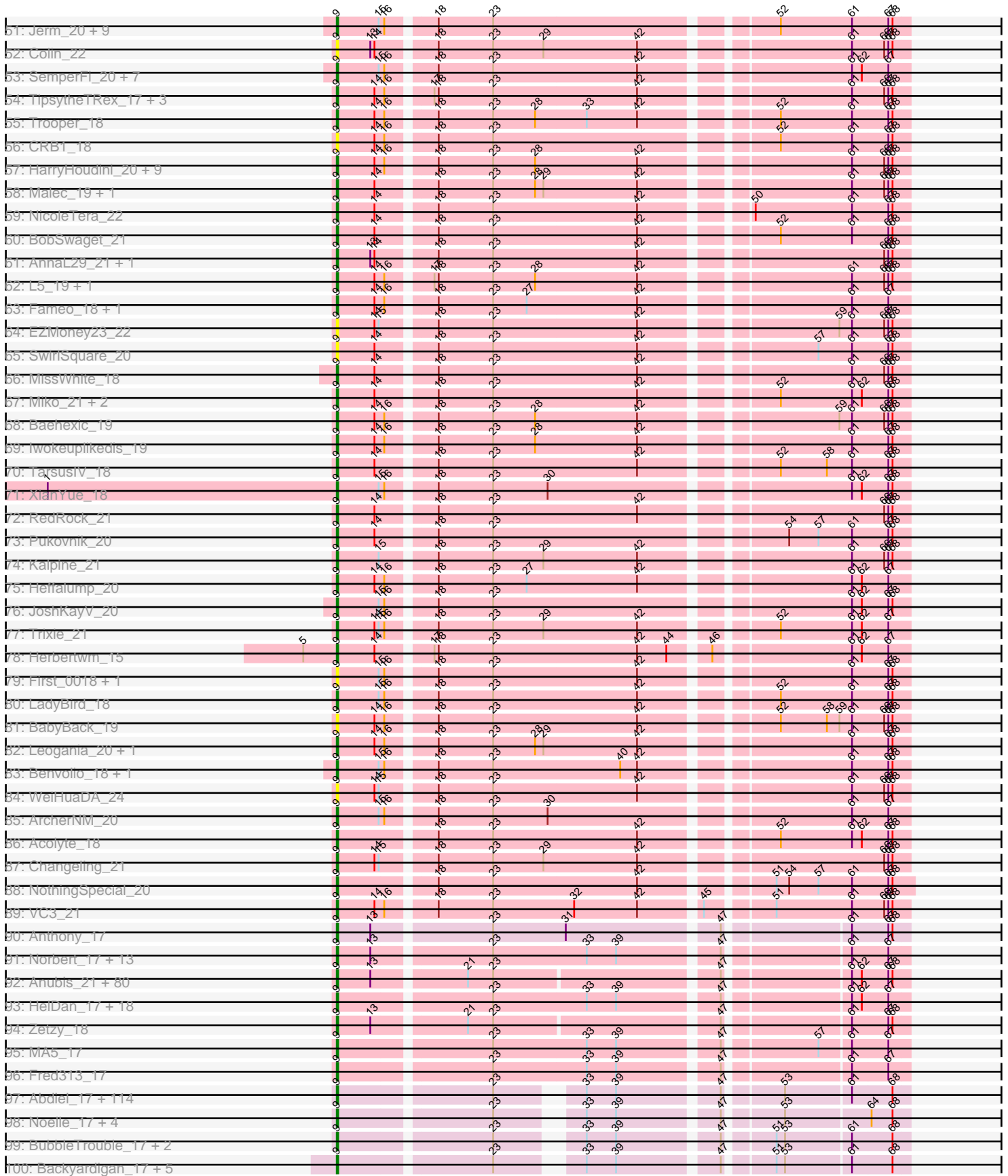


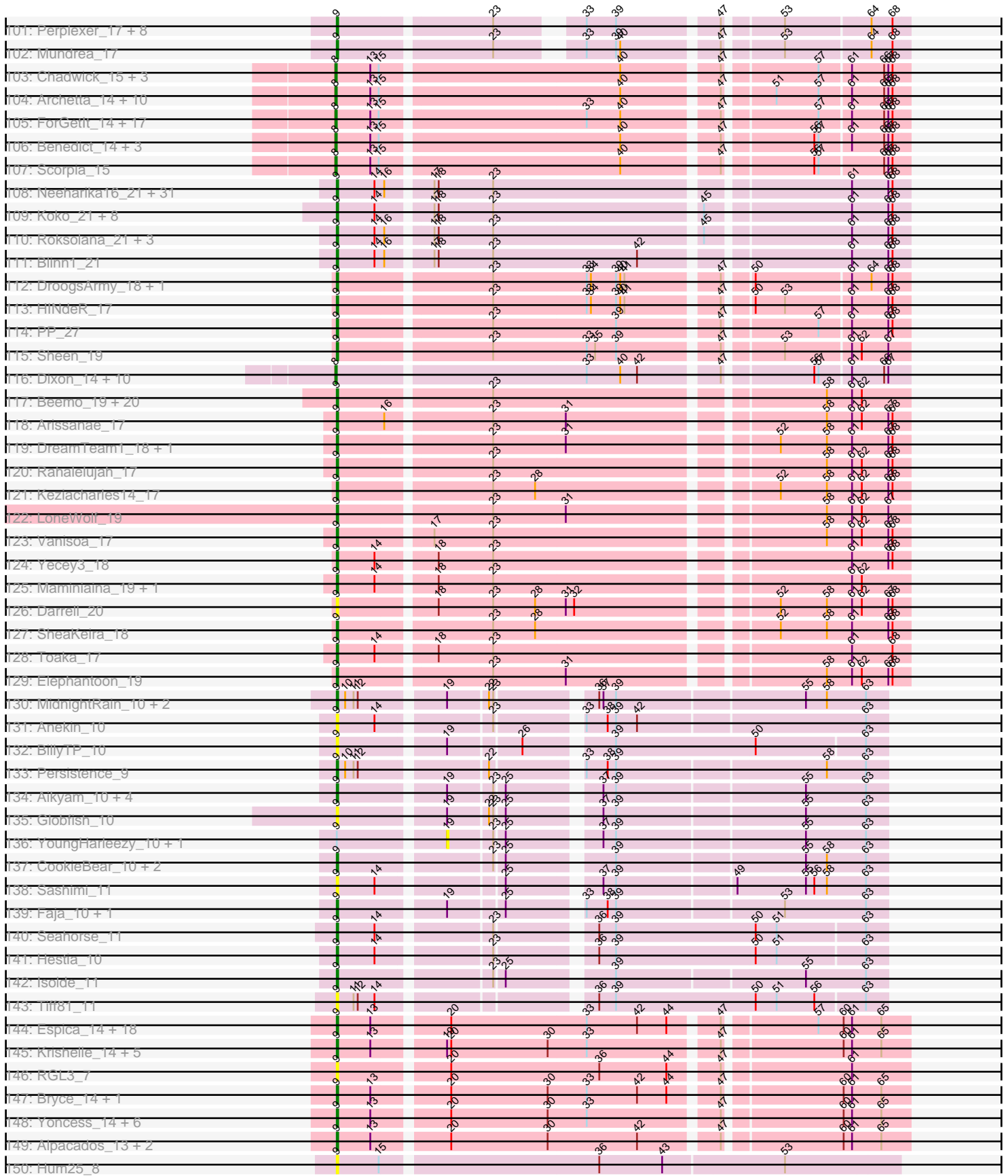
Pham 163224



Pham 163224



Pham 163224



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 163224 Report

This analysis was run 04/28/24 on database version 559.

Pham number 163224 has 847 members, 70 are drafts.

Phages represented in each track:

- Track 1 : Chargerpower\_18
- Track 2 : Paraselene\_16, CactusRose\_16, Nerujay\_18, Molly\_18, Atkinbua\_18, QTRlifeCrisis\_20, Petp2012\_19, A6\_15, Pepe\_18, Bigfoot\_16, Euphoria\_17, Bruns\_16, Michley\_17, Sorpresa\_16, Pita2\_19, GrecoEtereo\_18, Mryolo\_16, StewieG\_16, Jasper\_18, MetalQZJ\_17, Dreamboat\_18, Rohr\_18, Ruotula\_16, ILeeKay\_19, BigMau\_19, Blue\_17, PattyP\_19, Seanderson\_18, BigPaolini\_18, Hami1\_19, Sumter\_16, Payneful\_16, Magnito\_16, Dynamix\_18, Burton\_18, MPlant7149\_16, Marge\_18, Tote\_19, Barriga\_17, Makemake\_17, Niza\_19, PSullivan\_18, Beatrix\_16, Watermelon\_19, Fushigi\_18, SkiPole\_19, Magnar\_17, Gandalf20\_18, Crispicous1\_16, Aeneas\_19, Lesedi\_16, AFIS\_17, BPBiebs31\_18, Chanagan\_16, Dexes\_18, Bob3\_16, Abrogate\_180, Seabiscuit\_19, Sandaddy\_16, DD5\_18, Mule\_17, Moose\_16, Teodoridan\_15, Pelly\_18, Zeuska\_18, Ringer\_17, PhrostyMug\_17, GageAP\_19, Marchy\_15, Lockley\_17, HarryOW\_18, Tasp14\_18, Maroc7\_16, Homines\_17, Fajezeel\_19, Sagefire\_18, Paphu\_16, Swole\_19, KBG\_18, Perseus\_18, JackSparrow\_18, Museum\_19, Rutherferd\_19, BK1\_15, Eyeball\_17, Rhynn\_17, Ashballer\_16, McGuire\_18, Pinto\_19, Arlo\_16, Bethlehem\_17, KSSJEB\_17, Pari\_18, Ajay\_17, KyMonks1A\_19, Applejack\_17, Kanely\_18, TwoPeat\_17, Rubeus\_18, Espresso\_17, Killigrew\_15, Lamina13\_17, Sunshine924\_16, Dulcie\_16, Slagathor\_18, Jerm2\_18, Greg\_19, SwissCheese\_17, MrGordo\_17, Trouble\_17, MaryBeth\_17, Forsytheast\_16, JuliaChild\_19, Fascinus\_16, Jorgensen\_17, Ohno789\_17, PinkPlastic\_16, SpikeBT\_19
- Track 3 : Anglerfish\_18, Parliament\_16, Kenmech\_20, Squee\_18, Thor\_17, Briton15\_19, Agaliana\_17, Petruccio\_17, Peterson\_20, Corvo\_17, Switzer\_18, Alvin\_18, Treddle\_19, Abbyshoes\_18, HermioneGrange\_17, Monet\_19, Naira\_18, Edtherson\_18, NEHalo\_17, HanShotFirst\_17, DreamCatcher\_20, Carlyle\_19, TheloniousMonk\_19, Hope4ever\_17, Zephyr\_17, LilBib\_18, ShortQueendom\_16, JC27\_19, Gyzlar\_19, Rufus\_18, Doom\_18, Zeeculate\_16, Marcell\_17, U2\_17, STLscum\_18, Gwendoluna\_19, Froghopper\_18, Sibs6\_19, Licorice\_19, Buttons\_18, SarFire\_17, Wheeler\_17, Manatee\_18, Fenn\_18, Dussy\_18
- Track 4 : Lopton\_18, Big3\_17, PherrisBueller\_18, Scowl\_18, Norz\_19
- Track 5 : Francis47\_17, BaconJack\_19, Marsha\_17, Papez\_19, Arcanine\_18, Rajelicia\_17, Nhonho\_17, RidgeCB\_17, Traft412\_19, Smairt\_18
- Track 6 : Altman\_19
- Track 7 : Pippin\_19, Acme\_19, Ciao\_17
- Track 8 : Topgun\_17, Cueylyss\_17, Violet\_16, BeesKnees\_18, Adahisdi\_18, Bones\_17, PascalRango\_16, Wilkins\_17, Oogway\_16
- Track 9 : Solon\_17

- Track 10 : Snazzy\_15
- Track 11 : Alsfro\_21
- Track 12 : Smeagol\_19
- Track 13 : Hermia\_19
- Track 14 : Target\_18, Bxb1\_15
- Track 15 : Kykar\_14
- Track 16 : Ichabod\_18
- Track 17 : Turj99\_16
- Track 18 : BillKnuckles\_17
- Track 19 : Goose\_17, OKCentral2016\_17, Chupacabra\_17, WalterMcMickey\_17, Twister\_17
- Track 20 : Eaglepride\_18
- Track 21 : RhynO\_18
- Track 22 : PeaceMeal1\_16, Severus\_16, Drake94\_16, KittenMittens\_16, Poompha\_16
- Track 23 : Trike\_15
- Track 24 : Rebeuca\_18, Kristoff\_18
- Track 25 : Munch\_18, Salz\_18, Lucivia\_18, Insomnia\_17, Jabith\_18, TinyTimmy\_17, Et2Brutus\_17, Orange\_18, MaCh\_18, Flaverint\_18, Mulciber\_18, Fibonacci\_18, Bowtie\_18, Sham4\_18, Bachome\_18, Petersenfast\_17, Ebony\_18, Timothy\_18, Joselito\_18, Aneem\_18, Gilberta\_18, Bud\_18, Mabel\_18, Hutc2\_18, Snape\_18
- Track 26 : Refuge\_21
- Track 27 : Pharaoh\_18
- Track 28 : Zimmer\_20
- Track 29 : DarthPhader\_19
- Track 30 : Steamy\_19
- Track 31 : Phlei\_13
- Track 32 : Jeeves\_17
- Track 33 : SororFago\_17
- Track 34 : Gail\_17
- Track 35 : Luchador\_19
- Track 36 : Remus\_20, Switzerland\_20, Battleship\_21, JSwag\_20, ShayRa\_21, MinecraftSteve\_21, Rosalind\_20, KatherineG\_20, DekHockey33\_20, Oofda\_21, Waits\_20, Nebulosus\_20, Looper\_21, ReMo\_20, Anaysia\_20, LastResort\_20, Epsocamisio\_20, Strosahl\_20, Boohoo\_20, Soups\_20
- Track 37 : Anon\_18
- Track 38 : Nedarya\_19
- Track 39 : PainterBoy\_19, EagleEye\_20, Lucyedi\_19
- Track 40 : 40AC\_21
- Track 41 : MyraDee\_15
- Track 42 : Kimona\_14
- Track 43 : Tomathan\_21, D29\_19, Duplo\_21, Kerberos\_21, DBQu4n\_21, D32\_21, StarStuff\_21, Pomar16\_21, Naji\_21
- Track 44 : IronMan\_20, Phaded\_21, Landor\_19, Jaan\_21, Bactobuster\_19
- Track 45 : Anselm\_18, DudeLittle\_18, Retro23\_18, Dalmatian\_18
- Track 46 : AN3\_18, VA6\_18, Deloris\_19, BengiVuitton\_19
- Track 47 : EvilGenius\_20, KingCyrus\_20, ChipMunk\_20
- Track 48 : Superchunk\_17, Caraxes\_17, Che12\_20, Odin\_17, Ph8s\_19, Adzzy\_19
- Track 49 : GaugeLDP\_20
- Track 50 : ANI8\_21, AN9\_21, C3\_16
- Track 51 : Jerm\_20, Dignity\_20, Whabigail7\_20, Smeagan\_20, Buggy\_20, Leviathan\_20, LilTurb\_20, Agape74\_20, AbbyPaige\_20, Turbido\_20

- Track 52 : Colin\_22
- Track 53 : SemperFi\_20, Georgie2\_19, Power\_18, SweetiePie\_18, Crucio\_18, QueenBeesly\_18, SnapTap\_18, FiringLine\_18
- Track 54 : TipsytheTRex\_17, Serenity\_17, Journey13\_16, Jsquared\_17
- Track 55 : Trooper\_18
- Track 56 : CRB1\_18
- Track 57 : HarryHoudini\_20, Updawg\_20, NaSiaTalie\_18, Flare16\_18, Equemioh13\_20, MiculUcigas\_18, WideWale\_20, Centaur\_20, Drake55\_20, Piro94\_19
- Track 58 : Malec\_19, Larenn\_19
- Track 59 : NicoleTera\_22
- Track 60 : BobSwaget\_21
- Track 61 : AnnaL29\_21, Loser\_21
- Track 62 : L5\_19, Koduck\_18
- Track 63 : Fameo\_18, QueenB2\_18
- Track 64 : EZMoney23\_22
- Track 65 : SwirlSquare\_20
- Track 66 : MissWhite\_18
- Track 67 : Miko\_21, Rachaly\_21, Lokk\_21
- Track 68 : Baehexic\_19
- Track 69 : Iwokeuplikedis\_19
- Track 70 : TarsusIV\_18
- Track 71 : XianYue\_18
- Track 72 : RedRock\_21
- Track 73 : Pukovnik\_20
- Track 74 : Kalpine\_21
- Track 75 : Heffalump\_20
- Track 76 : JoshKayV\_20
- Track 77 : Trixie\_21
- Track 78 : Herbertwm\_15
- Track 79 : First\_0018, 20ES\_18
- Track 80 : LadyBird\_18
- Track 81 : BabyBack\_19
- Track 82 : Leogania\_20, BiancaTri92\_20
- Track 83 : Benvolio\_18, Echild\_18
- Track 84 : WeiHuaDA\_24
- Track 85 : ArcherNM\_20
- Track 86 : Acolyte\_18
- Track 87 : Changeling\_21
- Track 88 : NothingSpecial\_20
- Track 89 : VC3\_21
- Track 90 : Anthony\_17
- Track 91 : Norbert\_17, Popcicle\_18, Veracruz\_17, Noella\_18, Panamaxus\_18, Caviar\_18, Todacoro\_18, ResDef\_18, Hookmount\_18, Texage\_17, Margo\_18, Lambert1\_18, Pocahontas\_18, QuinnKiro\_17
- Track 92 : Anubis\_21, Rummer\_19, Stagni\_19, LugYA\_21, Grum1\_19, JenCasNa\_19, LarryKay\_19, Misomonster\_21, Louie6\_19, SoilDragon\_19, Malinsilva\_21, Wooldri\_21, Spike509\_19, Hercules11\_19, P28Green\_19, Heliosoles\_19, SoYo\_19, Grub\_19, MadMarie\_19, StepMih\_19, Methuseloh\_19, KADY\_20, MoneyMay\_19, PhishRPhriends\_18, HashRod\_20, Sabinator\_19, Bxz2\_19, Beauxregard13\_19, Ollie\_19, PotatoSplit\_20, Farber\_19, PGHhamlin\_21, HaveUMetTed\_20, Microwolf\_19, AgronaGT15\_19, Vix\_19, Groupthink\_20, Dieselweasel\_19, Gemma\_19, MuchMore\_21, BreSam8\_19, OlanP\_19,

BuzzBuzz\_18, Colbster\_19, Kalb97\_20, Kalnoky\_20, Phoebe\_19, Daishi\_18, Taurus\_19, LBerry\_19, JHC117\_19, GinkgoMaracino\_19, ACFishhook\_19, GtownJaz\_19, Marie\_19, Manu\_20, Phranny\_20, Grif\_19, Tiffany\_19, PurpleHaze\_19, Penny1\_19, EpicPhail\_19, JeppNRM\_20, Mainiac\_19, Pembroke\_19, Cullens\_19, Aglet\_19, Phoxy\_19, MarQuardt\_19, Watson\_19, AugsMagnumOpus\_21, Fernando\_19, Sabia\_19, Jobu08\_19, Lilith\_19, Marius\_20, DaHudson\_19, Soshari\_21, Snickers\_19, Pawn\_20, Reba\_20

- Track 93 : HelDan\_17, Isca\_17, Giroux\_17, Bugatti\_17, Idleandcovert\_17, BabyRay\_17, Rockstar\_17, Puppy\_18, Phantastic\_17, Scout\_17, B1\_15, Pistachio\_18, Heathen\_17, MK4\_17, TNguyen7\_17, BlueBird\_18, JF4\_17, JF2\_17, SaturnRing\_17
- Track 94 : Zetzy\_18
- Track 95 : MA5\_17
- Track 96 : Fred313\_17
- Track 97 : Abdiel\_17, Scamp\_17, Baby16\_17, Spino\_17, Roosevelt\_17, Eurydice\_17, Kremtemulon\_16, Romney\_17, Albee\_17, Taquarus\_17, Pipcraft\_17, Maverick\_17, Cocoaberry\_17, Houdini22\_17, Eagle\_16, Commander\_17, BellusTerra\_17, Ulysses\_16, Chaph\_17, JetBlade\_17, LHTSCC\_18, KFPoly\_17, Medusa\_17, BangNhom\_17, Iceman\_18, Phacado\_17, Peaches\_17, Funston\_17, Wizard007\_17, Citius\_17, Deano\_17, PeterPeter\_17, Ohfah\_17, Annyong\_17, LeoAvram\_17, Florean\_17, MeeZee\_17, ICleared\_17, Eapen\_17, Jaykayelowell\_17, Cerulean\_18, Polymorphads\_17, OKaNui\_18, Gadost\_17, Lunsford\_18, NotAPhaseMom\_17, Dhanush\_17, LittleB\_17, HamSlice\_16, Bartimeaus\_17, Blackmoor\_17, Morrow\_17, Bruiser\_17, Happiness\_17, Arturo\_16, Eros\_17, Burger\_16, Clarenza\_17, NorthStar\_17, Iracema64\_18, Flux\_17, YoSam321\_17, Phontbonne\_17, Sparxx\_17, TiroTheta9\_17, Maxo\_17, Pumbaa\_17, Cintron\_17, Kyee\_17, JoongJeon\_17, Melvin\_17, Shaka\_17, LochMonster\_17, Koreni\_16, Millski\_17, Wilbur\_17, Avle17\_17, Bombshell\_17, Phelipe\_17, LittleGuy\_17, Mazhar510\_17, Sabertooth\_17, Topanga\_17, ChampagnePapi\_18, Tinybot\_16, Alberto7\_18, Camperdownii\_16, Thanksgivukkah\_17, Ruin\_17, LappelDuVide\_16, Eris\_17, Broseidon\_17, Druantia\_17, Lorenzo\_17, Holli\_17, Kratark\_17, TygerBlood\_17, Relief\_17, Kingmustik0402\_17, CentreCat\_17, Obama12\_18, Kamy\_17, TinaFeyge\_17, Nyxis\_17, Nebs\_17, Nemo27\_17, Lemur\_17, Edison31\_16, Phighter1804\_17, Wander\_17, DirtyDunning\_17, SheldonCooper\_18, TroyPia\_17, Caelakin\_17, Skipitt\_17
- Track 98 : Noelle\_17, Miramae\_17, Stasia\_18, AvatarAhPeg\_18, Stink\_18
- Track 99 : BubbleTrouble\_17, Connomayer\_17, Palestino\_17
- Track 100 : Backyardigan\_17, Badger\_17, Xena\_17, Datway\_17, Wile\_17, Achebe\_17
- Track 101 : Perplexer\_17, Shygu2\_17, Cindaradix\_16, Bumblebee11\_17, Cici\_17, PetiteSangsue\_17, Katalie136\_17, Morpher26\_17, AbbysRanger\_17
- Track 102 : Mundrea\_17
- Track 103 : Chadwick\_15, Jabiru\_14, PetterN\_15, Naca\_14
- Track 104 : Archetta\_14, SydNat\_14, Jovo\_14, Phlorence\_14, PickleBack\_14, Lev2\_14, Ghoulboy\_14, Bluefalcon\_13, AgentM\_14, Zolita\_13, Aragog\_14
- Track 105 : ForGetIt\_14, Milcery\_14, Cuco\_14, Tarynearal\_13, Midas2\_14, Dublin\_13, HuhtaEnerson15\_14, Theia\_13, Swirley\_14, MarysWell\_13, George\_13, Tiger\_14, Discoknowium\_14, Bonamassa\_14, Conspiracy\_14, Micasa\_13, LittleCherry\_14, Coog\_14
- Track 106 : Benedict\_14, UnionJack\_14, Airmid\_14, ElTiger69\_14
- Track 107 : Scorpia\_15
- Track 108 : Neeharika16\_21, Wiks\_21, Chartreuse\_21, Cookiedough\_21, Isiphiwo\_21, SuperAwesome\_21, JewelBug\_21, CloudWang3\_21, Pmask\_21,

GreedyLawyer\_21, Jordennis\_21, SmellyB\_21, Newrala\_21, Dorothea\_20,  
DaVinci\_21, Yokurt\_21, Helmet\_22, Candra\_21, BABullseye\_21, Kipper29\_21,  
Priamo\_21, WunderPhul\_21, EricB\_21, Kazan\_21, VohminGhazi\_21, Zulu\_21,  
Lilbunny\_20, Hoot\_21, Zaka\_21, ToneTone\_19, McFly\_21, Garak\_22  
• Track 109 : Koko\_21, SuperCallie99\_21, Hammer\_21, Tucker\_21, Gladiator\_21,  
Blue7\_21, Gruunaga\_21, Rifter\_21, Jeffabunny\_21  
• Track 110 : Roksolana\_21, Artemis2UCLA\_21, Indra\_21, Hexamo\_21  
• Track 111 : Blinn1\_21  
• Track 112 : DroogsArmy\_18, Timshel\_18  
• Track 113 : HINdeR\_17  
• Track 114 : PP\_27  
• Track 115 : Sheen\_19  
• Track 116 : Dixon\_14, Danforth\_13, Smeadley\_14, Expelliarmus\_13, Phillis\_14,  
NearlyHeadless\_14, Saintus\_14, Groundhog\_13, Stephig9\_14, Roary\_14, Astro\_14  
• Track 117 : Beemo\_19, Qobbit\_19, Tubs\_19, Phaeder\_19, Priya\_19,  
ExplosioNervosa\_19, Ugenie5\_16, Aliter\_19, Scherzo\_19, Fayely\_19,  
Phonnegut\_19, EmyBug\_17, Pioneer\_19, Eidsmoe\_19, Myxus\_19, HortumSL17\_19,  
Conquerage\_19, Alma\_19, Catalina\_19, Spouty\_18, PackMan\_19  
• Track 118 : Arissanae\_17  
• Track 119 : DreamTeam1\_18, Charm\_18  
• Track 120 : Rahalelujah\_17  
• Track 121 : Keziacharles14\_17  
• Track 122 : LoneWolf\_19  
• Track 123 : Vanisoa\_17  
• Track 124 : Yecey3\_18  
• Track 125 : Maminiaina\_19, BogosyJay\_19  
• Track 126 : Darrell\_20  
• Track 127 : SheaKeira\_18  
• Track 128 : Toaka\_17  
• Track 129 : Elephantoon\_19  
• Track 130 : MidnightRain\_10, Hillester\_10, RadFad\_10  
• Track 131 : Anekin\_10  
• Track 132 : BillyTP\_10  
• Track 133 : Persistence\_9  
• Track 134 : Aikyam\_10, Sakai\_10, Gorpy\_10, BenchScraper\_10, Richie\_10  
• Track 135 : Globfish\_10  
• Track 136 : YoungHarleezy\_10, Phrank15\_10  
• Track 137 : CookieBear\_10, Raphaella\_10, Auxilium\_10  
• Track 138 : Sashimi\_11  
• Track 139 : Faja\_10, EvePickles\_10  
• Track 140 : Seahorse\_11  
• Track 141 : Hestia\_10  
• Track 142 : Isolde\_11  
• Track 143 : Tiff81\_11  
• Track 144 : Espica\_14, UhSalsa\_14, Natosaleda\_14, Gollum\_14, RER2\_7,  
Naiad\_14, Belenaria\_14, Phrankenstein\_14, CosmicSans\_14, TWAMP\_14,  
Swann\_14, Alatin\_14, StCroix\_14, Bradshaw\_14, Lillie\_14, Erik\_14, RexFury\_14,  
Nancinator\_14, Rhodalysa\_14  
• Track 145 : Krishelle\_14, Hiro\_14, Harlequin\_14, PhailMary\_13, AppleCloud\_12,  
Jester\_14  
• Track 146 : RGL3\_7  
• Track 147 : Bryce\_14, Rasputin\_14



- Track 148 : Yoncess\_14, Dinger\_14, AngryOrchard\_13, Takoda\_14, BobbyDazzler\_14, Partridge\_14, Shuman\_14
- Track 149 : Alpacados\_13, Bonanza\_14, Yogi\_14
- Track 150 : Hum25\_8

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

The start number called the most often in the published annotations is 9, it was called in 723 of the 777 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 20ES\_18, 40AC\_21, A6\_15, ACFishhook\_19, AFIS\_17, AN3\_18, AN9\_21, ANI8\_21, AbbyPaige\_20, AbbysRanger\_17, Abbyshoes\_18, Abdiel\_17, Abrogate\_180, Achebe\_17, Acme\_19, Acolyte\_18, Adahisdi\_18, Adzzy\_19, Aeneas\_19, Agaliana\_17, Agape74\_20, Aglet\_19, AgronaGT15\_19, Aikyam\_10, Ajay\_17, Alatin\_14, Albee\_17, Alberto7\_18, Aliter\_19, Alma\_19, Alpacados\_13, Alsfro\_21, Altman\_19, Alvin\_18, Anaysia\_20, Aneem\_18, Anekin\_10, Anglerfish\_18, AngryOrchard\_13, AnnaL29\_21, Annyong\_17, Anon\_18, Anselm\_18, Anthony\_17, Anubis\_21, AppleCloud\_12, Applejack\_17, Arcanine\_18, ArcherNM\_20, Arissanae\_17, Arlo\_16, Artemis2UCLA\_21, Arturo\_16, Ashballer\_16, Atkinbua\_18, AugsMagnumOpus\_21, Auxilium\_10, AvatarAhPeg\_18, Avle17\_17, B1\_15, BABullseye\_21, BK1\_15, BPBiebs31\_18, Baby16\_17, BabyBack\_19, BabyRay\_17, Bachome\_18, Backyardigan\_17, BaconJack\_19, Bactobuster\_19, Badger\_17, Baehexic\_19, BangNhom\_17, Barriga\_17, Bartimeaus\_17, Battleship\_21, Beatrix\_16, Beauxregard13\_19, Beemo\_19, BeesKnees\_18, Belenaria\_14, BellusTerra\_17, BenchScraper\_10, BengiVuitton\_19, Benvolio\_18, Bethlehem\_17, BiancaTri92\_20, Big3\_17, BigMau\_19, BigPaolini\_18, Bigfoot\_16, BillyTP\_10, Blackmoor\_17, Blinn1\_21, Blue7\_21, BlueBird\_18, Blue\_17, Bob3\_16, BobSwaget\_21, BobbyDazzler\_14, BogosyJay\_19, Bombshell\_17, Bonanza\_14, Bones\_17, Boohoo\_20, Bowtie\_18, Bradshaw\_14, BreSam8\_19, Briton15\_19, Broseidon\_17, Bruiser\_17, Bruns\_16, Bryce\_14, BubbleTrouble\_17, Bud\_18, Bugatti\_17, Buggy\_20, Bumblebee11\_17, Burger\_16, Burton\_18, Buttons\_18, BuzzBuzz\_18, Bxz2\_19, C3\_16, CRB1\_18, CactusRose\_16, Caelakin\_17, Camperdownii\_16, Candra\_21, Caraxes\_17, Carlyle\_19, Catalina\_19, Caviar\_18, Centaur\_20, CentreCat\_17, Cerulean\_18, ChampagnePapi\_18, Chanagan\_16, Changeling\_21, Chaph\_17, Chargerpower\_18, Charm\_18, Chartreuse\_21, Che12\_20, ChipMunk\_20, Chupacabra\_17, Ciao\_17, Cici\_17, Cindaradix\_16, Cintron\_17, Citius\_17, Clarenza\_17, CloudWang3\_21, Cocoaberry\_17, Colbster\_19, Colin\_22, Commander\_17, Connomayer\_17, Conquerage\_19, CookieBear\_10, Cookiedough\_21, Corvo\_17, CosmicSans\_14, Crispicous1\_16, Crucio\_18, Cueyllyss\_17, Cullens\_19, D29\_19, D32\_21, DBQu4n\_21, DD5\_18, DaHudson\_19, DaVinci\_21, Daishi\_18, Dalmatian\_18, Darrell\_20, DarthPhader\_19, Datway\_17, Deano\_17, DekHockey33\_20, Deloris\_19, Dexes\_18, Dhanush\_17, Dieselweasel\_19, Dignity\_20, Dinger\_14, DirtyDunning\_17, Doom\_18, Dorothea\_20, Drake55\_20, Drake94\_16, DreamCatcher\_20, DreamTeam1\_18, Dreamboat\_18, DroogsArmy\_18, Druantia\_17, DudeLittle\_18, Dulcie\_16, Duplo\_21, Dussy\_18, Dynamix\_18, EZMoney23\_22, EagleEye\_20, Eagle\_16, Eaglepride\_18, Eapen\_17, Ebony\_18, Echild\_18, Edison31\_16, Edtherson\_18, Eidsmoe\_19, Elephantoon\_19, EmyBug\_17, EpicPhail\_19, Epsocamisio\_20, Equemioh13\_20, EricB\_21, Erik\_14, Eris\_17, Eros\_17, Espica\_14, Espresso\_17, Et2Brutus\_17, Euphoria\_17,

Eurydice\_17, EvePickles\_10, EvilGenius\_20, ExplosioNervosa\_19, Eyeball\_17, Faja\_10, Fajezeel\_19, Fameo\_18, Farber\_19, Fascinus\_16, Fayely\_19, Fenn\_18, Fernando\_19, Fibonacci\_18, FiringLine\_18, First\_0018, Flare16\_18, Flaverint\_18, Florean\_17, Flux\_17, Forsytheast\_16, Francis47\_17, Fred313\_17, Froghopper\_18, Funston\_17, Fushigi\_18, Gadost\_17, GageAP\_19, Gail\_17, Gandalf20\_18, Garak\_22, GaugeLDP\_20, Gemma\_19, Georgie2\_19, Gilberta\_18, GingkoMaracino\_19, Giroux\_17, Gladiator\_21, Globfish\_10, Gollum\_14, Goose\_17, Gorpy\_10, GrecoEtereo\_18, GreedyLawyer\_21, Greg\_19, Grif\_19, Groupthink\_20, Grub\_19, Grum1\_19, Gruunaga\_21, GtownJaz\_19, Gwendoluna\_19, Gyzlar\_19, HINdeR\_17, HamSlice\_16, Hami1\_19, Hammer\_21, HanShotFirst\_17, Happiness\_17, Harlequin\_14, HarryHoudini\_20, HarryOW\_18, HashRod\_20, HaveUMetTed\_20, Heathen\_17, Heffalump\_20, HelDan\_17, Heliosoles\_19, Helmet\_22, Herbertwm\_15, Hercules11\_19, HermioneGrange\_17, Hestia\_10, Hexamo\_21, Hillester\_10, Hiro\_14, Holli\_17, Homines\_17, Hookmount\_18, Hoot\_21, Hope4ever\_17, HortumSL17\_19, Houdini22\_17, Hum25\_8, Hutc2\_18, ICleared\_17, ILeeKay\_19, Iceman\_18, Ichabod\_18, Idleandcovert\_17, Indra\_21, Insomnia\_17, Iracema64\_18, IronMan\_20, Isca\_17, Isiphiwo\_21, Isolde\_11, Iwokeuplikedis\_19, JC27\_19, JF2\_17, JF4\_17, JHC117\_19, JSwag\_20, Jaan\_21, Jabith\_18, JackSparrow\_18, Jasper\_18, Jaykayelowell\_17, Jeeves\_17, Jeffabunny\_21, JenCasNa\_19, JeppNRM\_20, Jerm2\_18, Jerm\_20, Jester\_14, JetBlade\_17, JewelBug\_21, Jobu08\_19, JoongJeon\_17, Jordennis\_21, Jorgensen\_17, Joselito\_18, JoshKayV\_20, Journey13\_16, Jsquared\_17, JuliaChild\_19, KADY\_20, KBG\_18, KFPoly\_17, KSSJEB\_17, Kalb97\_20, Kalnok\_20, Kalpine\_21, Kamy\_17, Kanely\_18, Katalie136\_17, KatherineG\_20, Kazan\_21, Kenmech\_20, Kerberos\_21, Keziacharles14\_17, Killigrew\_15, Kimona\_14, KingCyrus\_20, Kingmustik0402\_17, Kipper29\_21, KittenMittens\_16, Koduck\_18, Koko\_21, Koreni\_16, Kratak\_17, Kremtemulon\_16, Krishelle\_14, Kristoff\_18, KyMonks1A\_19, Kyee\_17, L5\_19, LBerry\_19, LHTSCC\_18, LadyBird\_18, Lambert1\_18, Lamina13\_17, Landor\_19, LappelDuVide\_16, Larenn\_19, LarryKay\_19, LastResort\_20, Lemur\_17, LeoAvram\_17, Leogania\_20, Lesedi\_16, Leviathan\_20, Licorice\_19, LilBib\_18, LilTurb\_20, Lilbunny\_20, Lilith\_19, Lillie\_14, LittleB\_17, LittleGuy\_17, LochMonster\_17, Lockley\_17, Lokk\_21, LoneWolf\_19, Looper\_21, Lopton\_18, Lorenzo\_17, Loser\_21, Louie6\_19, Luchador\_19, Lucivia\_18, Lucyedi\_19, LugYA\_21, Lunsford\_18, MA5\_17, MK4\_17, MPlant7149\_16, MaCh\_18, Mabel\_18, MadMarie\_19, Magnar\_17, Magnito\_16, Mainiac\_19, Makemake\_17, Malec\_19, Malinsilva\_21, Maminiaina\_19, Manatee\_18, Manu\_20, MarQuardt\_19, Marcell\_17, Marchy\_15, Marge\_18, Margo\_18, Marie\_19, Marius\_20, Maroc7\_16, Marsha\_17, MaryBeth\_17, Maverick\_17, Maxo\_17, Mazhar510\_17, McFly\_21, McGuire\_18, Medusa\_17, MeeZee\_17, Melvin\_17, MetalQZJ\_17, Methuselah\_19, Michley\_17, Microwolf\_19, MiculUcigas\_18, MidnightRain\_10, Miko\_21, Millski\_17, MinecraftSteve\_21, Miramae\_17, Misomonster\_21, MissWhite\_18, Molly\_18, Monet\_19, MoneyMay\_19, Moose\_16, Morpher26\_17, Morrow\_17, MrGordo\_17, Mryolo\_16, MuchMore\_21, Mulciber\_18, Mule\_17, Munch\_18, Mundrea\_17, Museum\_19, MyraDee\_15, Myxus\_19, NEHalo\_17, NaSiaTalie\_18, Naiad\_14, Naira\_18, Naji\_21, Nancinator\_14, Natosaleda\_14, Nebs\_17, Nebulosus\_20, Nedarya\_19, Neeharika16\_21, Nemo27\_17, Nerujay\_18, Newrala\_21, Nhonho\_17, NicoleTera\_22, Niza\_19, Noella\_18, Noelle\_17, Norbert\_17, NorthStar\_17, Norz\_19, NotAPhaseMom\_17, NothingSpecial\_20, Nyxis\_17, OKCentral2016\_17, OKaNui\_18, Obama12\_18, Odin\_17, Ohfah\_17, Ohno789\_17, OlanP\_19, Ollie\_19, Oofda\_21, Oogway\_16, Orange\_18, P28Green\_19, PGHhamlin\_21, PP\_27, PSullivan\_18, PackMan\_19, PainterBoy\_19, Palestino\_17, Panamaxus\_18, Papez\_19, Paphu\_16, Paraselene\_16, Pari\_18, Parliament\_16, Partridge\_14, PascalRango\_16, PattyP\_19, Pawn\_20, Payneful\_16, PeaceMeal1\_16, Peaches\_17, Pelly\_18, Pembroke\_19,

Penny1\_19, Pepe\_18, Perplexer\_17, Perseus\_18, Persistence\_9, PeterPeter\_17, Petersenfast\_17, Peterson\_20, PetiteSangsue\_17, Petp2012\_19, Petruchio\_17, Ph8s\_19, Phacado\_17, Phaded\_21, Phaeder\_19, PhailMary\_13, Phantastic\_17, Pharaoh\_18, Phelipe\_17, PherrisBueller\_18, Phighter1804\_17, PhishRPhriends\_18, Phlei\_13, Phoebe\_19, Phonnegut\_19, Phontbonne\_17, Phoxy\_19, Phrankenstien\_14, Phranny\_20, PhrostyMug\_17, PinkPlastic\_16, Pinto\_19, Pioneer\_19, Pipcraft\_17, Pippin\_19, Piro94\_19, Pistachio\_18, Pita2\_19, Pmask\_21, Pocahontas\_18, Polymorphads\_17, Pomar16\_21, Poompha\_16, Popcicle\_18, PotatoSplit\_20, Power\_18, Priamo\_21, Priya\_19, Pukovnik\_20, Pumbaa\_17, Puppy\_18, PurpleHaze\_19, QTRLifeCrisis\_20, Qobbit\_19, QueenB2\_18, QueenBeesly\_18, QuinnKiro\_17, RER2\_7, RGL3\_7, Rachaly\_21, RadFad\_10, Rahalelujah\_17, Rajelicia\_17, Raphaella\_10, Rasputin\_14, ReMo\_20, Reba\_20, Rebeuca\_18, RedRock\_21, Refuge\_21, Relief\_17, Remus\_20, ResDef\_18, Retro23\_18, RexFury\_14, Rhodalysa\_14, RhynO\_18, Rhynn\_17, Richie\_10, RidgeCB\_17, Rifter\_21, Ringer\_17, Rockstar\_17, Rohr\_18, Roksolana\_21, Romney\_17, Roosevelt\_17, Rosalind\_20, Rubeus\_18, Rufus\_18, Ruin\_17, Rummer\_19, Ruotula\_16, Rutherferd\_19, STLscum\_18, Sabertooth\_17, Sabia\_19, Sabinator\_19, Sagefire\_18, Sakai\_10, Salz\_18, Sandaddy\_16, SarFire\_17, Sashimi\_11, SaturnRing\_17, Scamp\_17, Scherzo\_19, Scout\_17, Scowl\_18, Seabiscuit\_19, Seahorse\_11, Seanderson\_18, SemperFi\_20, Serenity\_17, Severus\_16, Shaka\_17, Sham4\_18, ShayRa\_21, SheaKeira\_18, Sheen\_19, SheldonCooper\_18, ShortQueendom\_16, Shuman\_14, Shygu2\_17, Sibs6\_19, SkiPole\_19, Skipitt\_17, Slagathor\_18, Smairt\_18, Smeagan\_20, Smeagol\_19, SmellyB\_21, SnapTap\_18, Snape\_18, Snazzy\_15, Snickers\_19, SoYo\_19, SoilDragon\_19, Solon\_17, Sorpresa\_16, Soshari\_21, Soups\_20, Sparxx\_17, Spike509\_19, SpikeBT\_19, Spino\_17, Spouty\_18, Squee\_18, StCroix\_14, Stagni\_19, StarStuff\_21, Stasia\_18, Steamy\_19, StepMih\_19, StewieG\_16, Stink\_18, Strosahl\_20, Sumter\_16, Sunshine924\_16, SuperAwesome\_21, SuperCallie99\_21, Superchunk\_17, Swann\_14, SweetiePie\_18, SwirlSquare\_20, SwissCheese\_17, Switzer\_18, Switzerland\_20, Swole\_19, TNguyen7\_17, TWAMP\_14, Takoda\_14, Taquarus\_17, TarsusIV\_18, Tasp14\_18, Taurus\_19, Teodoridan\_15, Texage\_17, Thanksgivukkah\_17, TheloniousMonk\_19, Thor\_17, Tiff81\_11, Tiffany\_19, Timothy\_18, Timshel\_18, TinaFeyge\_17, TinyTimmy\_17, Tinybot\_16, TipsytheTRex\_17, TiroTheta9\_17, Toaka\_17, Todacoro\_18, Tomathan\_21, ToneTone\_19, Topanga\_17, Topgun\_17, Tote\_19, Traft412\_19, Treddle\_19, Trike\_15, Trixie\_21, Trooper\_18, Trouble\_17, TroyPia\_17, Tubs\_19, Tucker\_21, Turbido\_20, Turj99\_16, Twister\_17, TwoPeat\_17, TygerBlood\_17, U2\_17, Ugenie5\_16, UhSalsa\_14, Ulysses\_16, Updawg\_20, VA6\_18, VC3\_21, Vanisoa\_17, Veracruz\_17, Violet\_16, Vix\_19, VohminGhazi\_21, Waits\_20, WalterMcMickey\_17, Wander\_17, Watermelon\_19, Watson\_19, WeiHuaDA\_24, Whabigail7\_20, Wheeler\_17, WideWale\_20, Wiks\_21, Wilbur\_17, Wile\_17, Wilkins\_17, Wizard007\_17, Wooldri\_21, WunderPhul\_21, Xena\_17, XianYue\_18, Yecey3\_18, YoSam321\_17, Yogi\_14, Yokurt\_21, Yoncess\_14, Zaka\_21, Zeeculate\_16, Zephyr\_17, Zetzy\_18, Zeuska\_18, Zimmer\_20, Zulu\_21,

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

- Hermia\_19, Phrank15\_10, YoungHarleezy\_10,

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

- AgentM\_14, Airmid\_14, Aragog\_14, Archetta\_14, Astro\_14, Benedict\_14, BillKnuckles\_17, Bluefalcon\_13, Bonamassa\_14, Bxb1\_15, Chadwick\_15, Conspiracy\_14, Coog\_14, Cuco\_14, Danforth\_13, Discoknowium\_14, Dixon\_14, Dublin\_13, EITiger69\_14, Expelliarmus\_13, ForGetIt\_14, George\_13, Ghoulboy\_14,

Groundhog\_13, HuhtaEnerson15\_14, Jabiru\_14, Jovo\_14, Kykar\_14, Lev2\_14, LittleCherry\_14, MarysWell\_13, Micasa\_13, Midas2\_14, Milcery\_14, Naca\_14, NearlyHeadless\_14, PetterN\_15, Phillis\_14, Phlorence\_14, PickleBack\_14, Roary\_14, Saintus\_14, Scorpia\_15, Smeadley\_14, SororFago\_17, Stephig9\_14, Swirley\_14, SydNat\_14, Target\_18, Tarynearal\_13, Theia\_13, Tiger\_14, UnionJack\_14, Zolita\_13,

### Summary by start number:

#### Start 7:

- Found in 5 of 847 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 5 of 777
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BillKnuckles\_17 (A1), Bxb1\_15 (A1), Kykar\_14 (A1), SororFago\_17 (A14), Target\_18 (A1),

#### Start 8:

- Found in 49 of 847 ( 5.8% ) of genes in pham
- Manual Annotations of this start: 48 of 777
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AgentM\_14 (A5), Airmid\_14 (A5), Aragog\_14 (A5), Archetta\_14 (A5), Astro\_14 (A8), Benedict\_14 (A5), Bluefalcon\_13 (A5), Bonamassa\_14 (A5), Chadwick\_15 (A5), Conspiracy\_14 (A5), Coog\_14 (A5), Cuco\_14 (A5), Danforth\_13 (A8), Discoknowium\_14 (A5), Dixon\_14 (A8), Dublin\_13 (A5), EITiger69\_14 (A5), Expelliarmus\_13 (A8), ForGetIt\_14 (A5), George\_13 (A5), Ghoulyboy\_14 (A5), Groundhog\_13 (A8), HuhtaEnerson15\_14 (A5), Jabiru\_14 (A5), Jovo\_14 (A5), Lev2\_14 (A5), LittleCherry\_14 (A5), MarysWell\_13 (A5), Micasa\_13 (A5), Midas2\_14 (A5), Milcery\_14 (A5), Naca\_14 (A5), NearlyHeadless\_14 (A8), PetterN\_15 (A5), Phillis\_14 (A8), Phlorence\_14 (A5), PickleBack\_14 (A5), Roary\_14 (A8), Saintus\_14 (A8), Scorpia\_15 (A5), Smeadley\_14 (A8), Stephig9\_14 (A8), Swirley\_14 (A5), SydNat\_14 (A5), Tarynearal\_13 (A5), Theia\_13 (A5), Tiger\_14 (A5), UnionJack\_14 (A5), Zolita\_13 (A5),

#### Start 9:

- Found in 793 of 847 ( 93.6% ) of genes in pham
- Manual Annotations of this start: 723 of 777
- Called 99.6% of time when present
- Phage (with cluster) where this start called: 20ES\_18 (A2), 40AC\_21 (A17), A6\_15 (A1), ACFishhook\_19 (A3), AFIS\_17 (A1), AN3\_18 (A2), AN9\_21 (A2), ANI8\_21 (A2), AbbyPaige\_20 (A2), AbbysRanger\_17 (A4), Abbysshoes\_18 (A1), Abdiel\_17 (A4), Abrogate\_180 (A1), Achebe\_17 (A4), Acme\_19 (A1), Acolyte\_18 (A2), Adahisdi\_18 (A1), Adzzy\_19 (A2), Aeneas\_19 (A1), Agaliana\_17 (A1), Agape74\_20 (A2), Aglet\_19 (A3), AgronaGT15\_19 (A3), Aikyam\_10 (AY), Ajay\_17 (A1), Alatin\_14 (CA), Albee\_17 (A4), Alberto7\_18 (A4), Aliter\_19 (A9), Alma\_19 (A9), Alpacados\_13 (CA), Alsfro\_21 (A1), Altman\_19 (A1), Alvin\_18 (A1), Anaysia\_20 (A15), Aneem\_18 (A11), Anekin\_10 (AY), Anglerfish\_18 (A1), AngryOrchard\_13 (CA), AnnaL29\_21 (A2), Annyong\_17 (A4), Anon\_18 (A15), Anselm\_18 (A2), Anthony\_17 (A20), Anubis\_21 (A3), AppleCloud\_12 (CA), Applejack\_17 (A1), Arcanine\_18 (A1), ArcherNM\_20 (A2), Arissanae\_17 (A9), Arlo\_16 (A1), Artemis2UCLA\_21 (A6), Arturo\_16 (A4), Ashballer\_16 (A1), Atkinbua\_18 (A1), AugsMagnumOpus\_21 (A3), Auxilium\_10 (AY), AvatarAhPeg\_18 (A4), Avle17\_17 (A4), B1\_15 (A3), BABullseye\_21 (A6), BK1\_15 (A1), BPBiebs31\_18 (A1), Baby16\_17 (A4), BabyBack\_19 (A2), BabyRay\_17 (A3), Bachome\_18 (A11), Backyardigan\_17 (A4), BaconJack\_19 (A1), Bactobuster\_19

(A2), Badger\_17 (A4), Baehexic\_19 (A2), BangNhom\_17 (A4), Barriga\_17 (A1), Bartimeaus\_17 (A4), Battleship\_21 (A15), Beatrix\_16 (A1), Beauxregard13\_19 (A3), Beemo\_19 (A9), BeesKnees\_18 (A1), Belenaria\_14 (CA), BellusTerra\_17 (A4), BenchScraper\_10 (AY), BengiVuitton\_19 (A2), Benvolio\_18 (A2), Bethlehem\_17 (A1), BiancaTri92\_20 (A2), Big3\_17 (A1), BigMau\_19 (A1), BigPaolini\_18 (A1), Bigfoot\_16 (A1), BillyTP\_10 (AY), Blackmoor\_17 (A4), Blinn1\_21 (A6), Blue7\_21 (A6), BlueBird\_18 (A3), Blue\_17 (A1), Bob3\_16 (A1), BobSwaget\_21 (A2), BobbyDazzler\_14 (CA), BogosyJay\_19 (A9), Bombshell\_17 (A4), Bonanza\_14 (CA), Bones\_17 (A1), Boohoo\_20 (A15), Bowtie\_18 (A11), Bradshaw\_14 (CA), BreSam8\_19 (A3), Briton15\_19 (A1), Broseidon\_17 (A4), Bruiser\_17 (A4), Bruns\_16 (A1), Bryce\_14 (CA), BubbleTrouble\_17 (A4), Bud\_18 (A11), Bugatti\_17 (A3), Buggy\_20 (A2), Bumblebee11\_17 (A4), Burger\_16 (A4), Burton\_18 (A1), Buttons\_18 (A1), BuzzBuzz\_18 (A3), Bxz2\_19 (A3), C3\_16 (A2), CRB1\_18 (A2), CactusRose\_16 (A1), Caelakin\_17 (A4), Camperdownii\_16 (A4), Candra\_21 (A6), Caraxes\_17 (A2), Carlyle\_19 (A1), Catalina\_19 (A9), Caviar\_18 (A3), Centaur\_20 (A2), CentreCat\_17 (A4), Cerulean\_18 (A4), ChampagnePapi\_18 (A4), Chanagan\_16 (A1), Changeling\_21 (A2), Chaph\_17 (A4), Chargerpower\_18 (A), Charm\_18 (A9), Chartreuse\_21 (A6), Che12\_20 (A2), ChipMunk\_20 (A2), Chupacabra\_17 (A10), Ciao\_17 (A1), Cici\_17 (A4), Cindaradix\_16 (A4), Cintron\_17 (A4), Citius\_17 (A4), Clarenza\_17 (A4), CloudWang3\_21 (A6), Cocoaberry\_17 (A4), Colbster\_19 (A3), Colin\_22 (A2), Commander\_17 (A4), Connomayer\_17 (A4), Conquerage\_19 (A9), CookieBear\_10 (AY), Cookiedough\_21 (A6), Corvo\_17 (A1), CosmicSans\_14 (CA), Crispicious1\_16 (A1), Crucio\_18 (A2), Cueylyss\_17 (A1), Cullens\_19 (A3), D29\_19 (A2), D32\_21 (A2), DBQu4n\_21 (A2), DD5\_18 (A1), DaHudson\_19 (A3), DaVinci\_21 (A6), Daishi\_18 (A3), Dalmatian\_18 (A2), Darrell\_20 (A9), DarthPhader\_19 (A12), Datway\_17 (A4), Deano\_17 (A4), DekHockey33\_20 (A15), Deloris\_19 (A2), Dexes\_18 (A1), Dhanush\_17 (A4), Dieselweasel\_19 (A3), Dignity\_20 (A2), Dinger\_14 (CA), DirtyDunning\_17 (A4), Doom\_18 (A1), Dorothea\_20 (A6), Drake55\_20 (A2), Drake94\_16 (A10), DreamCatcher\_20 (A1), DreamTeam1\_18 (A9), Dreamboat\_18 (A1), DroogsArmy\_18 (A7), Druantia\_17 (A4), DudeLittle\_18 (A2), Dulcie\_16 (A1), Duplo\_21 (A2), Dussy\_18 (A1), Dynamix\_18 (A1), EZMoney23\_22 (A2), EagleEye\_20 (A16), Eagle\_16 (A4), Eaglepride\_18 (A10), Eapen\_17 (A4), Ebony\_18 (A11), Echild\_18 (A2), Edison31\_16 (A10), Edtherson\_18 (A1), Eidsmoe\_19 (A9), Elephantoon\_19 (A9), EmyBug\_17 (A9), EpicPhail\_19 (A3), Epsocamisio\_20 (A15), Equemioh13\_20 (A2), EricB\_21 (A6), Erik\_14 (CA), Eris\_17 (A4), Eros\_17 (A4), Espica\_14 (CA), Espresso\_17 (A1), Et2Brutus\_17 (A11), Euphoria\_17 (A1), Eurydice\_17 (A4), EvePickles\_10 (AY), EvilGenius\_20 (A2), ExplosioNervosa\_19 (A9), Eyeball\_17 (A1), Faja\_10 (AY), Fajezeel\_19 (A1), Fameo\_18 (A2), Farber\_19 (A3), Fascinus\_16 (A1), Fayely\_19 (A9), Fenn\_18 (A1), Fernando\_19 (A3), Fibonacci\_18 (A11), FiringLine\_18 (A2), First\_0018 (A2), Flare16\_18 (A2), Flaverint\_18 (A11), Florean\_17 (A4), Flux\_17 (A4), Forsytheast\_16 (A1), Francis47\_17 (A1), Fred313\_17 (A3), Froghopper\_18 (A1), Funston\_17 (A4), Fushigi\_18 (A1), Gadost\_17 (A4), GageAP\_19 (A1), Gail\_17 (A14), Gandalf20\_18 (A1), Garak\_22 (A6), GaugeLDP\_20 (A2), Gemma\_19 (A3), Georgie2\_19 (A2), Gilberta\_18 (A11), GingkoMaracino\_19 (A3), Giroux\_17 (A3), Gladiator\_21 (A6), Globfish\_10 (AY), Gollum\_14 (CA), Goose\_17 (A10), Gorpy\_10 (AY), GrecoEtereo\_18 (A1), GreedyLawyer\_21 (A6), Greg\_19 (A1), Grif\_19 (A3), Groupthink\_20 (A3), Grub\_19 (A3), Grum1\_19 (A3), Gruunaga\_21 (A6), GtownJaz\_19 (A3), Gwendoluna\_19 (A1), Gyzlar\_19 (A1), HINdeR\_17 (A7), HamSlice\_16 (A4), Hami1\_19 (A1), Hammer\_21 (A6), HanShotFirst\_17 (A1), Happiness\_17 (A4), Harlequin\_14 (CA), HarryHoudini\_20 (A2), HarryOW\_18 (A1), HashRod\_20 (A3), HaveUMetTed\_20 (A3), Heathen\_17 (A3), Heffalump\_20 (A2), HelDan\_17 (A3), Heliosoles\_19 (A3), Helmet\_22 (A6), Herbertwm\_15 (A2),

Hercules11\_19 (A3), HermioneGrange\_17 (A1), Hestia\_10 (AY), Hexamo\_21 (A6), Hillester\_10 (AY), Hiro\_14 (CA), Holli\_17 (A4), Homines\_17 (A1), Hookmount\_18 (A3), Hoot\_21 (A6), Hope4ever\_17 (A1), HortumSL17\_19 (A9), Houdini22\_17 (A4), Hum25\_8 (FQ), Hutc2\_18 (A11), ICleared\_17 (A4), ILeeKay\_19 (A1), Iceman\_18 (A4), Ichabod\_18 (A1), Idleandcovert\_17 (A3), Indra\_21 (A6), Insomnia\_17 (A11), Iracema64\_18 (A4), IronMan\_20 (A2), Isca\_17 (A3), Isiphiwo\_21 (A6), Isolde\_11 (AY), Iwokeuplikedis\_19 (A2), JC27\_19 (A1), JF2\_17 (A3), JF4\_17 (A3), JHC117\_19 (A3), JSwag\_20 (A15), Jaan\_21 (A2), Jabith\_18 (A11), JackSparrow\_18 (A1), Jasper\_18 (A1), Jaykayelowell\_17 (A4), Jeeves\_17 (A14), Jeffabunny\_21 (A6), JenCasNa\_19 (A3), JeppNRM\_20 (A3), Jerm2\_18 (A1), Jerm\_20 (A2), Jester\_14 (CA), JetBlade\_17 (A4), JewelBug\_21 (A6), Jobu08\_19 (A3), JoongJeon\_17 (A4), Jordennis\_21 (A6), Jorgensen\_17 (A1), Joselito\_18 (A11), JoshKayV\_20 (A2), Journey13\_16 (A2), Jsquared\_17 (A2), JuliaChild\_19 (A1), KADY\_20 (A3), KBG\_18 (A1), KFPoly\_17 (A4), KSSJEB\_17 (A1), Kalb97\_20 (A3), Kalnok\_20 (A3), Kalpine\_21 (A2), Kampy\_17 (A4), Kanely\_18 (A1), Katalie136\_17 (A4), KatherineG\_20 (A15), Kazan\_21 (A6), Kenmech\_20 (A1), Kerberos\_21 (A2), Keziacharles14\_17 (A9), Killigrew\_15 (A1), Kimona\_14 (A19), KingCyrus\_20 (A2), Kingmustik0402\_17 (A4), Kipper29\_21 (A6), KittenMittens\_16 (A10), Koduck\_18 (A2), Koko\_21 (A6), Koreni\_16 (A4), Kratak\_17 (A4), Kremtemulon\_16 (A4), Krishelle\_14 (CA), Kristoff\_18 (A10), KyMonks1A\_19 (A1), Kyee\_17 (A4), L5\_19 (A2), LBerry\_19 (A3), LHTSCC\_18 (A4), LadyBird\_18 (A2), Lambert1\_18 (A3), Lamina13\_17 (A1), Landor\_19 (A2), LappelDuVide\_16 (A4), Larenn\_19 (A2), LarryKay\_19 (A3), LastResort\_20 (A15), Lemur\_17 (A4), LeoAvram\_17 (A4), Leogania\_20 (A2), Lesedi\_16 (A1), Leviathan\_20 (A2), Licorice\_19 (A1), LilBib\_18 (A1), LiiTurb\_20 (A2), Lilbunny\_20 (A6), Lilith\_19 (A3), Lillie\_14 (CA), LittleB\_17 (A4), LittleGuy\_17 (A4), LochMonster\_17 (A4), Lockley\_17 (A1), Lokk\_21 (A2), LoneWolf\_19 (A9), Looper\_21 (A15), Lopton\_18 (A1), Lorenzo\_17 (A4), Loser\_21 (A2), Louie6\_19 (A3), Luchador\_19 (A14), Lucivia\_18 (A11), Lucyedi\_19 (A16), LugYA\_21 (A3), Lunsford\_18 (A4), MA5\_17 (A3), MK4\_17 (A3), MPlant7149\_16 (A1), MaCh\_18 (A11), Mabel\_18 (A11), MadMarie\_19 (A3), Magnar\_17 (A1), Magnito\_16 (A1), Mainiac\_19 (A3), Makemake\_17 (A1), Malec\_19 (A2), Malinsilva\_21 (A3), Maminiaina\_19 (A9), Manatee\_18 (A1), Manu\_20 (A3), MarQuardt\_19 (A3), Marcell\_17 (A1), Marchy\_15 (A1), Marge\_18 (A1), Margo\_18 (A3), Marie\_19 (A3), Marius\_20 (A3), Maroc7\_16 (A1), Marsha\_17 (A1), MaryBeth\_17 (A1), Maverick\_17 (A4), Maxo\_17 (A4), Mazhar510\_17 (A4), McFly\_21 (A6), McGuire\_18 (A1), Medusa\_17 (A4), MeeZee\_17 (A4), Melvin\_17 (A4), MetalQZJ\_17 (A1), Methuselah\_19 (A3), Michley\_17 (A1), Microwolf\_19 (A3), MiculUcigas\_18 (A2), MidnightRain\_10 (AY), Miko\_21 (A2), Millski\_17 (A4), MinecraftSteve\_21 (A15), Miramae\_17 (A4), Misomonster\_21 (A3), MissWhite\_18 (A2), Molly\_18 (A1), Monet\_19 (A1), MoneyMay\_19 (A3), Moose\_16 (A1), Morpher26\_17 (A4), Morrow\_17 (A4), MrGordo\_17 (A1), Mryolo\_16 (A1), MuchMore\_21 (A3), Mulciber\_18 (A11), Mule\_17 (A1), Munch\_18 (A11), Mundrea\_17 (A4), Museum\_19 (A1), MyraDee\_15 (A18), Myxus\_19 (A9), NEHalo\_17 (A1), NaSiaTalie\_18 (A2), Naiad\_14 (CA), Naira\_18 (A1), Naji\_21 (A2), Nancinator\_14 (CA), Natosaleda\_14 (CA), Nebs\_17 (A4), Nebulosus\_20 (A15), Nedarya\_19 (A15), Neeharika16\_21 (A6), Nemo27\_17 (A4), Nerujay\_18 (A1), Newrala\_21 (A6), Nhonho\_17 (A1), NicoleTera\_22 (A2), Niza\_19 (A1), Noella\_18 (A3), Noelle\_17 (A4), Norbert\_17 (A3), NorthStar\_17 (A4), Norz\_19 (A1), NotAPhaseMom\_17 (A4), NothingSpecial\_20 (A2), Nyxis\_17 (A4), OKCentral2016\_17 (A10), OKaNui\_18 (A4), Obama12\_18 (A4), Odin\_17 (A2), Ohfah\_17 (A4), Ohno789\_17 (A1), OlanP\_19 (A3), Ollie\_19 (A3), Oofda\_21 (A15), Oogway\_16 (A1), Orange\_18 (A11), P28Green\_19 (A3), PGHhamlin\_21 (A3), PP\_27 (A7), PSullivan\_18 (A1), PackMan\_19 (A9), PainterBoy\_19 (A16), Palestino\_17 (A4), Panamaxus\_18 (A3), Papez\_19 (A1),

Paphu\_16 (A1), Paraselene\_16 (A1), Pari\_18 (A1), Parliament\_16 (A1), Partridge\_14 (CA), PascalRango\_16 (A1), PattyP\_19 (A1), Pawn\_20 (A3), Payneful\_16 (A1), PeaceMeal1\_16 (A10), Peaches\_17 (A4), Pelly\_18 (A1), Pembroke\_19 (A3), Penny1\_19 (A3), Pepe\_18 (A1), Perplexer\_17 (A4), Perseus\_18 (A1), Persistence\_9 (AY), PeterPeter\_17 (A4), Petersenfast\_17 (A11), Peterson\_20 (A1), PetiteSangsue\_17 (A4), Petp2012\_19 (A1), Petruccio\_17 (A1), Ph8s\_19 (A2), Phacado\_17 (A4), Phaded\_21 (A2), Phaeder\_19 (A9), PhailMary\_13 (CA), Phantastic\_17 (A3), Pharaoh\_18 (A12), Phelipe\_17 (A4), PherrisBueller\_18 (A1), Phighter1804\_17 (A4), PhishRPhriends\_18 (A3), Phlei\_13 (A13), Phoebe\_19 (A3), Phonnegut\_19 (A9), Phontbonne\_17 (A4), Phoxy\_19 (A3), Phrankenstein\_14 (CA), Phranny\_20 (A3), PhrostyMug\_17 (A1), PinkPlastic\_16 (A1), Pinto\_19 (A1), Pioneer\_19 (A9), Pipcraft\_17 (A4), Pippin\_19 (A1), Piro94\_19 (A2), Pistachio\_18 (A3), Pita2\_19 (A1), Pmask\_21 (A6), Pocahontas\_18 (A3), Polymorphads\_17 (A4), Pomar16\_21 (A2), Poompha\_16 (A10), Popcicle\_18 (A3), PotatoSplit\_20 (A3), Power\_18 (A2), Priamo\_21 (A6), Priya\_19 (A9), Pukovnik\_20 (A2), Pumbaa\_17 (A4), Puppy\_18 (A3), PurpleHaze\_19 (A3), QTRlifeCrisis\_20 (A1), Qobbit\_19 (A9), QueenB2\_18 (A2), QueenBeesly\_18 (A2), QuinnKiro\_17 (A3), RER2\_7 (CA), RGL3\_7 (CA), Rachaly\_21 (A2), RadFad\_10 (AY), Rahalelujah\_17 (A9), Rajelicia\_17 (A1), Raphaella\_10 (AY), Rasputin\_14 (CA), ReMo\_20 (A15), Reba\_20 (A3), Rebeuca\_18 (A10), RedRock\_21 (A2), Refuge\_21 (A12), Relief\_17 (A4), Remus\_20 (A15), ResDef\_18 (A3), Retro23\_18 (A2), RexFury\_14 (CA), Rhodalysa\_14 (CA), RhynO\_18 (A10), Rhynn\_17 (A1), Richie\_10 (AY), RidgeCB\_17 (A1), Rifter\_21 (A6), Ringer\_17 (A1), Rockstar\_17 (A3), Rohr\_18 (A1), Roksolana\_21 (A6), Romney\_17 (A4), Roosevelt\_17 (A4), Rosalind\_20 (A15), Rubeus\_18 (A1), Rufus\_18 (A1), Ruin\_17 (A4), Rummer\_19 (A3), Ruotula\_16 (A1), Rutherford\_19 (A1), STLscum\_18 (A1), Sabertooth\_17 (A4), Sabia\_19 (A3), Sabinator\_19 (A3), Sagefire\_18 (A1), Sakai\_10 (AY), Salz\_18 (A11), Sandaddy\_16 (A1), SarFire\_17 (A1), Sashimi\_11 (AY), SaturnRing\_17 (A3), Scamp\_17 (A4), Scherzo\_19 (A9), Scout\_17 (A3), Scowl\_18 (A1), Seabiscuit\_19 (A1), Seahorse\_11 (AY), Seanderson\_18 (A1), SemperFi\_20 (A2), Serenity\_17 (A2), Severus\_16 (A10), Shaka\_17 (A4), Sham4\_18 (A11), ShayRa\_21 (A15), SheaKeira\_18 (A9), Sheen\_19 (A7), SheldonCooper\_18 (A4), ShortQueendom\_16 (A1), Shuman\_14 (CA), Shygu2\_17 (A4), Sibs6\_19 (A1), SkiPole\_19 (A1), Skipitt\_17 (A4), Slagathor\_18 (A1), Smairt\_18 (A1), Smeagan\_20 (A2), Smeagol\_19 (A1), SmellyB\_21 (A6), SnapTap\_18 (A2), Snape\_18 (A11), Snazzy\_15 (A1), Snickers\_19 (A3), SoYo\_19 (A3), SoilDragon\_19 (A3), Solon\_17 (A1), Sorpresa\_16 (A1), Soshari\_21 (A3), Soups\_20 (A15), Sparxx\_17 (A4), Spike509\_19 (A3), SpikeBT\_19 (A1), Spino\_17 (A4), Spouty\_18 (A9), Squee\_18 (A1), StCroix\_14 (CA), Stagni\_19 (A3), StarStuff\_21 (A2), Stasia\_18 (A4), Steamy\_19 (A12), StepMih\_19 (A3), StewieG\_16 (A1), Stink\_18 (A4), Strosahl\_20 (A15), Sumter\_16 (A1), Sunshine924\_16 (A1), SuperAwesome\_21 (A6), SuperCallie99\_21 (A6), Superchunk\_17 (A2), Swann\_14 (CA), SweetiePie\_18 (A2), SwirlSquare\_20 (A2), SwissCheese\_17 (A1), Switzer\_18 (A1), Switzerland\_20 (A15), Swole\_19 (A1), TNguyen7\_17 (A3), TWAMP\_14 (CA), Takoda\_14 (CA), Taquarus\_17 (A4), TarsusIV\_18 (A2), Tasp14\_18 (A1), Taurus\_19 (A3), Teodoridan\_15 (A1), Texage\_17 (A3), Thanksgivukkah\_17 (A4), TheloniousMonk\_19 (A1), Thor\_17 (A1), Tiff81\_11 (AY), Tiffany\_19 (A3), Timothy\_18 (A11), Timshel\_18 (A7), TinaFeyge\_17 (A4), TinyTimmy\_17 (A11), Tinybot\_16 (A4), TipsytheTRex\_17 (A2), TiroTheta9\_17 (A4), Toaka\_17 (A9), Todacoro\_18 (A3), Tomathan\_21 (A2), ToneTone\_19 (A6), Topanga\_17 (A10), Topgun\_17 (A1), Tote\_19 (A1), Traft412\_19 (A1), Treddle\_19 (A1), Trike\_15 (A10), Trixie\_21 (A2), Trooper\_18 (A2), Trouble\_17 (A1), TroyPia\_17 (A4), Tubs\_19 (A9), Tucker\_21 (A6), Turbido\_20 (A2), Turj99\_16 (A1), Twister\_17 (A10), TwoPeat\_17 (A1), TygerBlood\_17 (A4), U2\_17 (A1), Ugenie5\_16 (A9), UhSalsa\_14 (CA), Ulysses\_16 (A4), Updawg\_20 (A2), VA6\_18

(A2), VC3\_21 (A2), Vanisoa\_17 (A9), Veracruz\_17 (A3), Violet\_16 (A1), Vix\_19 (A3), VohminGhazi\_21 (A6), Waits\_20 (A15), WalterMcMickey\_17 (A10), Wander\_17 (A4), Watermelon\_19 (A1), Watson\_19 (A3), WeiHuaDA\_24 (A2), Whabigail7\_20 (A2), Wheeler\_17 (A1), WideWale\_20 (A2), Wiks\_21 (A6), Wilbur\_17 (A4), Wile\_17 (A4), Wilkins\_17 (A1), Wizard007\_17 (A4), Wooldri\_21 (A3), WunderPhul\_21 (A6), Xena\_17 (A4), XianYue\_18 (A2), Yecey3\_18 (A9), YoSam321\_17 (A4), Yogi\_14 (CA), Yokurt\_21 (A6), Yoncess\_14 (CA), Zaka\_21 (A6), Zeeculate\_16 (A1), Zephyr\_17 (A1), Zetzy\_18 (A3), Zeuska\_18 (A1), Zimmer\_20 (A12), Zulu\_21 (A6),

Start 13:

- Found in 389 of 847 ( 45.9% ) of genes in pham
- Manual Annotations of this start: 1 of 777
- Called 0.3% of time when present
- Phage (with cluster) where this start called: Hermia\_19 (A1),

Start 19:

- Found in 25 of 847 ( 3.0% ) of genes in pham
- No Manual Annotations of this start.
- Called 8.0% of time when present
- Phage (with cluster) where this start called: Phrank15\_10 (AY), YoungHarleezy\_10 (AY),

### **Summary by clusters:**

There are 24 clusters represented in this pham: FQ, A15, A14, A17, A16, A11, A10, A13, A12, A19, A18, A1, A3, A2, A5, A4, A7, A6, A9, A8, A, CA, AY, A20,

Info for manual annotations of cluster A:

- Start number 9 was manually annotated 1 time for cluster A.

Info for manual annotations of cluster A1:

- Start number 7 was manually annotated 4 times for cluster A1.
- Start number 9 was manually annotated 179 times for cluster A1.
- Start number 13 was manually annotated 1 time for cluster A1.

Info for manual annotations of cluster A10:

- Start number 9 was manually annotated 16 times for cluster A10.

Info for manual annotations of cluster A11:

- Start number 9 was manually annotated 22 times for cluster A11.

Info for manual annotations of cluster A12:

- Start number 9 was manually annotated 5 times for cluster A12.

Info for manual annotations of cluster A14:

- Start number 7 was manually annotated 1 time for cluster A14.
- Start number 9 was manually annotated 3 times for cluster A14.

Info for manual annotations of cluster A15:

- Start number 9 was manually annotated 21 times for cluster A15.

Info for manual annotations of cluster A16:



- Start number 9 was manually annotated 3 times for cluster A16.

Info for manual annotations of cluster A18:

- Start number 9 was manually annotated 1 time for cluster A18.

Info for manual annotations of cluster A19:

- Start number 9 was manually annotated 1 time for cluster A19.

Info for manual annotations of cluster A2:

- Start number 9 was manually annotated 100 times for cluster A2.

Info for manual annotations of cluster A20:

- Start number 9 was manually annotated 1 time for cluster A20.

Info for manual annotations of cluster A3:

- Start number 9 was manually annotated 111 times for cluster A3.

Info for manual annotations of cluster A4:

- Start number 9 was manually annotated 135 times for cluster A4.

Info for manual annotations of cluster A5:

- Start number 8 was manually annotated 37 times for cluster A5.

Info for manual annotations of cluster A6:

- Start number 9 was manually annotated 39 times for cluster A6.

Info for manual annotations of cluster A7:

- Start number 9 was manually annotated 5 times for cluster A7.

Info for manual annotations of cluster A8:

- Start number 8 was manually annotated 11 times for cluster A8.

Info for manual annotations of cluster A9:

- Start number 9 was manually annotated 32 times for cluster A9.

Info for manual annotations of cluster AY:

- Start number 9 was manually annotated 12 times for cluster AY.

Info for manual annotations of cluster CA:

- Start number 9 was manually annotated 36 times for cluster CA.

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

Gene: 20ES\_18 Start: 13386, Stop: 13763, Start Num: 9

Candidate Starts for 20ES\_18:

(Start: 9 @13386 has 723 MA's), (15, 13416), (16, 13419), (18, 13449), (23, 13488), (42, 13590), (61, 13725), (67, 13749), (68, 13752),

Gene: 40AC\_21 Start: 15412, Stop: 15789, Start Num: 9

Candidate Starts for 40AC\_21:

(Start: 9 @15412 has 723 MA's), (14, 15439), (18, 15475), (23, 15514), (42, 15616), (44, 15637), (66, 15772), (67, 15775), (68, 15778),

Gene: A6\_15 Start: 12482, Stop: 12931, Start Num: 9

Candidate Starts for A6\_15:

(Start: 9 @12482 has 723 MA's), (Start: 13 @12506 has 1 MA's), (61, 12818), (69, 12893),

Gene: ACFishhook\_19 Start: 12951, Stop: 13322, Start Num: 9

Candidate Starts for ACFishhook\_19:

(Start: 9 @12951 has 723 MA's), (Start: 13 @12975 has 1 MA's), (21, 13035), (23, 13053), (47, 13203), (61, 13284), (62, 13290), (67, 13308), (68, 13311),

Gene: AFIS\_17 Start: 12820, Stop: 13269, Start Num: 9

Candidate Starts for AFIS\_17:

(Start: 9 @12820 has 723 MA's), (Start: 13 @12844 has 1 MA's), (61, 13156), (69, 13231),

Gene: AN3\_18 Start: 13376, Stop: 13753, Start Num: 9

Candidate Starts for AN3\_18:

(Start: 9 @13376 has 723 MA's), (15, 13406), (16, 13409), (18, 13439), (23, 13478), (61, 13715), (67, 13739), (68, 13742),

Gene: AN9\_21 Start: 13381, Stop: 13758, Start Num: 9

Candidate Starts for AN9\_21:

(Start: 9 @13381 has 723 MA's), (14, 13408), (16, 13414), (18, 13444), (23, 13483), (32, 13540), (42, 13585), (51, 13666), (61, 13720), (66, 13741), (67, 13744), (68, 13747),

Gene: ANI8\_21 Start: 13381, Stop: 13758, Start Num: 9

Candidate Starts for ANI8\_21:

(Start: 9 @13381 has 723 MA's), (14, 13408), (16, 13414), (18, 13444), (23, 13483), (32, 13540), (42, 13585), (51, 13666), (61, 13720), (66, 13741), (67, 13744), (68, 13747),

Gene: AbbyPaige\_20 Start: 13836, Stop: 14213, Start Num: 9

Candidate Starts for AbbyPaige\_20:

(Start: 9 @13836 has 723 MA's), (15, 13866), (16, 13869), (18, 13899), (23, 13938), (52, 14124), (61, 14175), (67, 14199), (68, 14202),

Gene: AbbysRanger\_17 Start: 12708, Stop: 13064, Start Num: 9

Candidate Starts for AbbysRanger\_17:

(Start: 9 @12708 has 723 MA's), (23, 12810), (33, 12858), (39, 12879), (47, 12945), (53, 12981), (64, 13038), (68, 13053),

Gene: Abbysshoes\_18 Start: 13206, Stop: 13655, Start Num: 9

Candidate Starts for Abbysshoes\_18:

(Start: 9 @13206 has 723 MA's), (Start: 13 @13230 has 1 MA's), (61, 13542), (69, 13617),

Gene: Abdiel\_17 Start: 12685, Stop: 13041, Start Num: 9

Candidate Starts for Abdiel\_17:

(Start: 9 @12685 has 723 MA's), (23, 12787), (33, 12835), (39, 12856), (47, 12922), (53, 12958), (61, 13003), (68, 13030),

Gene: Abrogate\_180 Start: 13578, Stop: 14027, Start Num: 9

Candidate Starts for Abrogate\_180:

(Start: 9 @13578 has 723 MA's), (Start: 13 @13602 has 1 MA's), (61, 13914), (69, 13989),

Gene: Achebe\_17 Start: 12687, Stop: 13043, Start Num: 9

Candidate Starts for Achebe\_17:

(Start: 9 @12687 has 723 MA's), (23, 12789), (33, 12837), (39, 12858), (47, 12924), (51, 12954), (53, 12960), (61, 13005), (68, 13032),

Gene: Acme\_19 Start: 13256, Stop: 13705, Start Num: 9

Candidate Starts for Acme\_19:

(Start: 9 @13256 has 723 MA's), (61, 13592), (69, 13667),

Gene: Acolyte\_18 Start: 13504, Stop: 13881, Start Num: 9

Candidate Starts for Acolyte\_18:

(Start: 9 @13504 has 723 MA's), (18, 13567), (23, 13606), (42, 13708), (52, 13792), (61, 13843), (62, 13849), (67, 13867), (68, 13870),

Gene: Adahisdi\_18 Start: 13138, Stop: 13587, Start Num: 9

Candidate Starts for Adahisdi\_18:

(Start: 9 @13138 has 723 MA's), (61, 13474), (69, 13549),

Gene: Adzzy\_19 Start: 12119, Stop: 12496, Start Num: 9

Candidate Starts for Adzzy\_19:

(Start: 9 @12119 has 723 MA's), (14, 12146), (16, 12152), (18, 12182), (23, 12221), (61, 12458), (67, 12482), (68, 12485),

Gene: Aeneas\_19 Start: 13246, Stop: 13695, Start Num: 9

Candidate Starts for Aeneas\_19:

(Start: 9 @13246 has 723 MA's), (Start: 13 @13270 has 1 MA's), (61, 13582), (69, 13657),

Gene: Agaliana\_17 Start: 13198, Stop: 13647, Start Num: 9

Candidate Starts for Agaliana\_17:

(Start: 9 @13198 has 723 MA's), (Start: 13 @13222 has 1 MA's), (61, 13534), (69, 13609),

Gene: Agape74\_20 Start: 13836, Stop: 14213, Start Num: 9

Candidate Starts for Agape74\_20:

(Start: 9 @13836 has 723 MA's), (15, 13866), (16, 13869), (18, 13899), (23, 13938), (52, 14124), (61, 14175), (67, 14199), (68, 14202),

Gene: AgentM\_14 Start: 11878, Stop: 12252, Start Num: 8

Candidate Starts for AgentM\_14:

(Start: 8 @11878 has 48 MA's), (Start: 13 @11902 has 1 MA's), (15, 11908), (40, 12070), (47, 12133), (51, 12163), (57, 12193), (61, 12214), (66, 12235), (67, 12238), (68, 12241),

Gene: Aglet\_19 Start: 12797, Stop: 13168, Start Num: 9

Candidate Starts for Aglet\_19:

(Start: 9 @12797 has 723 MA's), (Start: 13 @12821 has 1 MA's), (21, 12881), (23, 12899), (47, 13049), (61, 13130), (62, 13136), (67, 13154), (68, 13157),

Gene: AgronaGT15\_19 Start: 12704, Stop: 13075, Start Num: 9

Candidate Starts for AgronaGT15\_19:

(Start: 9 @12704 has 723 MA's), (Start: 13 @12728 has 1 MA's), (21, 12788), (23, 12806), (47, 12956), (61, 13037), (62, 13043), (67, 13061), (68, 13064),

Gene: Aikyam\_10 Start: 7296, Stop: 7652, Start Num: 9

Candidate Starts for Aikyam\_10:

(Start: 9 @7296 has 723 MA's), (19, 7365), (23, 7395), (25, 7401), (37, 7458), (39, 7467), (55, 7596), (63, 7638),

Gene: Airmid\_14 Start: 11638, Stop: 12012, Start Num: 8

Candidate Starts for Airmid\_14:

(Start: 8 @11638 has 48 MA's), (Start: 13 @11662 has 1 MA's), (15, 11668), (40, 11830), (47, 11893), (56, 11950), (57, 11953), (61, 11974), (66, 11995), (67, 11998), (68, 12001),

Gene: Ajay\_17 Start: 12970, Stop: 13419, Start Num: 9

Candidate Starts for Ajay\_17:

(Start: 9 @12970 has 723 MA's), (Start: 13 @12994 has 1 MA's), (61, 13306), (69, 13381),

Gene: Alatin\_14 Start: 8916, Stop: 9296, Start Num: 9

Candidate Starts for Alatin\_14:

(Start: 9 @8916 has 723 MA's), (Start: 13 @8940 has 1 MA's), (20, 8988), (33, 9084), (42, 9120), (44, 9141), (47, 9171), (57, 9231), (60, 9249), (61, 9255), (65, 9276),

Gene: Albee\_17 Start: 12688, Stop: 13044, Start Num: 9

Candidate Starts for Albee\_17:

(Start: 9 @12688 has 723 MA's), (23, 12790), (33, 12838), (39, 12859), (47, 12925), (53, 12961), (61, 13006), (68, 13033),

Gene: Alberto7\_18 Start: 12990, Stop: 13346, Start Num: 9

Candidate Starts for Alberto7\_18:

(Start: 9 @12990 has 723 MA's), (23, 13092), (33, 13140), (39, 13161), (47, 13227), (53, 13263), (61, 13308), (68, 13335),

Gene: Aliter\_19 Start: 14068, Stop: 14445, Start Num: 9

Candidate Starts for Aliter\_19:

(Start: 9 @14068 has 723 MA's), (23, 14170), (58, 14389), (61, 14407), (62, 14413),

Gene: Alma\_19 Start: 14147, Stop: 14524, Start Num: 9

Candidate Starts for Alma\_19:

(Start: 9 @14147 has 723 MA's), (23, 14249), (58, 14468), (61, 14486), (62, 14492),

Gene: Alpacados\_13 Start: 8846, Stop: 9226, Start Num: 9

Candidate Starts for Alpacados\_13:

(Start: 9 @8846 has 723 MA's), (Start: 13 @8870 has 1 MA's), (20, 8918), (30, 8987), (42, 9050), (47, 9101), (60, 9179), (61, 9185), (65, 9206),

Gene: Alsfro\_21 Start: 13690, Stop: 14139, Start Num: 9

Candidate Starts for Alsfro\_21:

(Start: 9 @13690 has 723 MA's), (Start: 13 @13714 has 1 MA's), (61, 14026), (69, 14101),

Gene: Altman\_19 Start: 13735, Stop: 14184, Start Num: 9

Candidate Starts for Altman\_19:

(Start: 9 @13735 has 723 MA's), (Start: 13 @13759 has 1 MA's), (61, 14071), (69, 14146),

Gene: Alvin\_18 Start: 13456, Stop: 13905, Start Num: 9

Candidate Starts for Alvin\_18:

(Start: 9 @13456 has 723 MA's), (Start: 13 @13480 has 1 MA's), (61, 13792), (69, 13867),

Gene: Anaysia\_20 Start: 12490, Stop: 12867, Start Num: 9  
Candidate Starts for Anaysia\_20:  
(Start: 9 @12490 has 723 MA's), (23, 12592), (40, 12682), (62, 12835), (67, 12853), (68, 12856),

Gene: Aneem\_18 Start: 13928, Stop: 14305, Start Num: 9  
Candidate Starts for Aneem\_18:  
(Start: 9 @13928 has 723 MA's), (Start: 13 @13952 has 1 MA's), (18, 13991), (23, 14030), (24, 14036), (66, 14288), (67, 14291), (68, 14294),

Gene: Anekin\_10 Start: 7408, Stop: 7764, Start Num: 9  
Candidate Starts for Anekin\_10:  
(Start: 9 @7408 has 723 MA's), (14, 7435), (23, 7507), (33, 7558), (38, 7573), (39, 7579), (42, 7594), (63, 7750),

Gene: Anglerfish\_18 Start: 14118, Stop: 14567, Start Num: 9  
Candidate Starts for Anglerfish\_18:  
(Start: 9 @14118 has 723 MA's), (Start: 13 @14142 has 1 MA's), (61, 14454), (69, 14529),

Gene: AngryOrchard\_13 Start: 8829, Stop: 9209, Start Num: 9  
Candidate Starts for AngryOrchard\_13:  
(Start: 9 @8829 has 723 MA's), (Start: 13 @8853 has 1 MA's), (20, 8901), (30, 8970), (33, 8997), (47, 9084), (60, 9162), (61, 9168), (65, 9189),

Gene: AnnaL29\_21 Start: 15225, Stop: 15602, Start Num: 9  
Candidate Starts for AnnaL29\_21:  
(Start: 9 @15225 has 723 MA's), (Start: 13 @15249 has 1 MA's), (14, 15252), (18, 15288), (23, 15327), (42, 15429), (66, 15585), (67, 15588), (68, 15591),

Gene: Annyong\_17 Start: 12689, Stop: 13045, Start Num: 9  
Candidate Starts for Annyong\_17:  
(Start: 9 @12689 has 723 MA's), (23, 12791), (33, 12839), (39, 12860), (47, 12926), (53, 12962), (61, 13007), (68, 13034),

Gene: Anon\_18 Start: 12836, Stop: 13213, Start Num: 9  
Candidate Starts for Anon\_18:  
(Start: 9 @12836 has 723 MA's), (19, 12905), (23, 12938), (47, 13091), (61, 13175), (66, 13196), (67, 13199), (68, 13202),

Gene: Anselm\_18 Start: 13483, Stop: 13860, Start Num: 9  
Candidate Starts for Anselm\_18:  
(Start: 9 @13483 has 723 MA's), (15, 13513), (16, 13516), (18, 13546), (23, 13585), (42, 13687), (61, 13822), (67, 13846), (68, 13849),

Gene: Anthony\_17 Start: 11598, Stop: 11972, Start Num: 9  
Candidate Starts for Anthony\_17:  
(Start: 9 @11598 has 723 MA's), (Start: 13 @11622 has 1 MA's), (23, 11700), (31, 11751), (47, 11853), (61, 11934), (67, 11958), (68, 11961),

Gene: Anubis\_21 Start: 12682, Stop: 13053, Start Num: 9  
Candidate Starts for Anubis\_21:  
(Start: 9 @12682 has 723 MA's), (Start: 13 @12706 has 1 MA's), (21, 12766), (23, 12784), (47, 12934), (61, 13015), (62, 13021), (67, 13039), (68, 13042),

Gene: AppleCloud\_12 Start: 8569, Stop: 8949, Start Num: 9

Candidate Starts for AppleCloud\_12:

(Start: 9 @8569 has 723 MA's), (Start: 13 @8593 has 1 MA's), (19, 8638), (20, 8641), (30, 8710), (33, 8737), (47, 8824), (60, 8902), (61, 8908), (65, 8929),

Gene: Applejack\_17 Start: 12895, Stop: 13344, Start Num: 9

Candidate Starts for Applejack\_17:

(Start: 9 @12895 has 723 MA's), (Start: 13 @12919 has 1 MA's), (61, 13231), (69, 13306),

Gene: Aragog\_14 Start: 11908, Stop: 12282, Start Num: 8

Candidate Starts for Aragog\_14:

(Start: 8 @11908 has 48 MA's), (Start: 13 @11932 has 1 MA's), (15, 11938), (40, 12100), (47, 12163), (51, 12193), (57, 12223), (61, 12244), (66, 12265), (67, 12268), (68, 12271),

Gene: Arcanine\_18 Start: 13137, Stop: 13586, Start Num: 9

Candidate Starts for Arcanine\_18:

(Start: 9 @13137 has 723 MA's), (Start: 13 @13161 has 1 MA's), (61, 13473), (69, 13548),

Gene: ArcherNM\_20 Start: 15177, Stop: 15554, Start Num: 9

Candidate Starts for ArcherNM\_20:

(Start: 9 @15177 has 723 MA's), (15, 15207), (16, 15210), (18, 15240), (23, 15279), (30, 15318), (61, 15516), (67, 15540),

Gene: Archetta\_14 Start: 11621, Stop: 11995, Start Num: 8

Candidate Starts for Archetta\_14:

(Start: 8 @11621 has 48 MA's), (Start: 13 @11645 has 1 MA's), (15, 11651), (40, 11813), (47, 11876), (51, 11906), (57, 11936), (61, 11957), (66, 11978), (67, 11981), (68, 11984),

Gene: Arissanae\_17 Start: 12240, Stop: 12617, Start Num: 9

Candidate Starts for Arissanae\_17:

(Start: 9 @12240 has 723 MA's), (16, 12273), (23, 12342), (31, 12393), (58, 12561), (61, 12579), (62, 12585), (67, 12603), (68, 12606),

Gene: Arlo\_16 Start: 12516, Stop: 12965, Start Num: 9

Candidate Starts for Arlo\_16:

(Start: 9 @12516 has 723 MA's), (Start: 13 @12540 has 1 MA's), (61, 12852), (69, 12927),

Gene: Artemis2UCLA\_21 Start: 13362, Stop: 13739, Start Num: 9

Candidate Starts for Artemis2UCLA\_21:

(Start: 9 @13362 has 723 MA's), (14, 13389), (16, 13395), (17, 13422), (18, 13425), (23, 13464), (45, 13605), (61, 13701), (67, 13725), (68, 13728),

Gene: Arturo\_16 Start: 12799, Stop: 13155, Start Num: 9

Candidate Starts for Arturo\_16:

(Start: 9 @12799 has 723 MA's), (23, 12901), (33, 12949), (39, 12970), (47, 13036), (53, 13072), (61, 13117), (68, 13144),

Gene: Ashballer\_16 Start: 12899, Stop: 13348, Start Num: 9

Candidate Starts for Ashballer\_16:

(Start: 9 @12899 has 723 MA's), (Start: 13 @12923 has 1 MA's), (61, 13235), (69, 13310),

Gene: Astro\_14 Start: 11398, Stop: 11772, Start Num: 8

Candidate Starts for Astro\_14:

(Start: 8 @11398 has 48 MA's), (33, 11566), (40, 11590), (42, 11602), (47, 11653), (56, 11710), (57, 11713), (61, 11734), (66, 11755), (67, 11758),

Gene: Atkinbua\_18 Start: 12870, Stop: 13319, Start Num: 9

Candidate Starts for Atkinbua\_18:

(Start: 9 @12870 has 723 MA's), (Start: 13 @12894 has 1 MA's), (61, 13206), (69, 13281),

Gene: AugsMagnumOpus\_21 Start: 12788, Stop: 13159, Start Num: 9

Candidate Starts for AugsMagnumOpus\_21:

(Start: 9 @12788 has 723 MA's), (Start: 13 @12812 has 1 MA's), (21, 12872), (23, 12890), (47, 13040), (61, 13121), (62, 13127), (67, 13145), (68, 13148),

Gene: Auxilium\_10 Start: 7295, Stop: 7651, Start Num: 9

Candidate Starts for Auxilium\_10:

(Start: 9 @7295 has 723 MA's), (23, 7394), (25, 7400), (39, 7466), (55, 7595), (58, 7610), (63, 7637),

Gene: AvatarAhPeg\_18 Start: 12972, Stop: 13328, Start Num: 9

Candidate Starts for AvatarAhPeg\_18:

(Start: 9 @12972 has 723 MA's), (23, 13074), (33, 13122), (39, 13143), (47, 13209), (53, 13245), (64, 13302), (68, 13317),

Gene: Avle17\_17 Start: 12688, Stop: 13044, Start Num: 9

Candidate Starts for Avle17\_17:

(Start: 9 @12688 has 723 MA's), (23, 12790), (33, 12838), (39, 12859), (47, 12925), (53, 12961), (61, 13006), (68, 13033),

Gene: B1\_15 Start: 11996, Stop: 12370, Start Num: 9

Candidate Starts for B1\_15:

(Start: 9 @11996 has 723 MA's), (23, 12098), (33, 12164), (39, 12185), (47, 12251), (61, 12332), (62, 12338), (67, 12356),

Gene: BABullseye\_21 Start: 13475, Stop: 13852, Start Num: 9

Candidate Starts for BABullseye\_21:

(Start: 9 @13475 has 723 MA's), (14, 13502), (16, 13508), (17, 13535), (18, 13538), (23, 13577), (61, 13814), (67, 13838), (68, 13841),

Gene: BK1\_15 Start: 12482, Stop: 12931, Start Num: 9

Candidate Starts for BK1\_15:

(Start: 9 @12482 has 723 MA's), (Start: 13 @12506 has 1 MA's), (61, 12818), (69, 12893),

Gene: BPBiebs31\_18 Start: 13162, Stop: 13611, Start Num: 9

Candidate Starts for BPBiebs31\_18:

(Start: 9 @13162 has 723 MA's), (Start: 13 @13186 has 1 MA's), (61, 13498), (69, 13573),

Gene: Baby16\_17 Start: 12697, Stop: 13053, Start Num: 9

Candidate Starts for Baby16\_17:

(Start: 9 @12697 has 723 MA's), (23, 12799), (33, 12847), (39, 12868), (47, 12934), (53, 12970), (61, 13015), (68, 13042),

Gene: BabyBack\_19 Start: 15016, Stop: 15393, Start Num: 9

Candidate Starts for BabyBack\_19:

(Start: 9 @15016 has 723 MA's), (14, 15043), (16, 15049), (18, 15079), (23, 15118), (42, 15220), (52, 15304), (58, 15337), (59, 15346), (61, 15355), (66, 15376), (67, 15379), (68, 15382),

Gene: BabyRay\_17 Start: 12569, Stop: 12943, Start Num: 9

Candidate Starts for BabyRay\_17:

(Start: 9 @12569 has 723 MA's), (23, 12671), (33, 12737), (39, 12758), (47, 12824), (61, 12905), (62, 12911), (67, 12929),

Gene: Bachome\_18 Start: 13925, Stop: 14302, Start Num: 9

Candidate Starts for Bachome\_18:

(Start: 9 @13925 has 723 MA's), (Start: 13 @13949 has 1 MA's), (18, 13988), (23, 14027), (24, 14033), (66, 14285), (67, 14288), (68, 14291),

Gene: Backyardigan\_17 Start: 12699, Stop: 13055, Start Num: 9

Candidate Starts for Backyardigan\_17:

(Start: 9 @12699 has 723 MA's), (23, 12801), (33, 12849), (39, 12870), (47, 12936), (51, 12966), (53, 12972), (61, 13017), (68, 13044),

Gene: BaconJack\_19 Start: 13237, Stop: 13686, Start Num: 9

Candidate Starts for BaconJack\_19:

(Start: 9 @13237 has 723 MA's), (Start: 13 @13261 has 1 MA's), (61, 13573), (69, 13648),

Gene: Bactobuster\_19 Start: 15108, Stop: 15485, Start Num: 9

Candidate Starts for Bactobuster\_19:

(Start: 9 @15108 has 723 MA's), (17, 15168), (18, 15171), (23, 15210), (42, 15312), (54, 15402), (57, 15423), (61, 15447),

Gene: Badger\_17 Start: 12688, Stop: 13044, Start Num: 9

Candidate Starts for Badger\_17:

(Start: 9 @12688 has 723 MA's), (23, 12790), (33, 12838), (39, 12859), (47, 12925), (51, 12955), (53, 12961), (61, 13006), (68, 13033),

Gene: Baehexic\_19 Start: 13883, Stop: 14260, Start Num: 9

Candidate Starts for Baehexic\_19:

(Start: 9 @13883 has 723 MA's), (14, 13910), (16, 13916), (18, 13946), (23, 13985), (28, 14015), (42, 14087), (59, 14213), (61, 14222), (66, 14243), (67, 14246), (68, 14249),

Gene: BangNhom\_17 Start: 13000, Stop: 13356, Start Num: 9

Candidate Starts for BangNhom\_17:

(Start: 9 @13000 has 723 MA's), (23, 13102), (33, 13150), (39, 13171), (47, 13237), (53, 13273), (61, 13318), (68, 13345),

Gene: Barriga\_17 Start: 12765, Stop: 13214, Start Num: 9

Candidate Starts for Barriga\_17:

(Start: 9 @12765 has 723 MA's), (Start: 13 @12789 has 1 MA's), (61, 13101), (69, 13176),

Gene: Bartimeaus\_17 Start: 12688, Stop: 13044, Start Num: 9

Candidate Starts for Bartimeaus\_17:

(Start: 9 @12688 has 723 MA's), (23, 12790), (33, 12838), (39, 12859), (47, 12925), (53, 12961), (61, 13006), (68, 13033),

Gene: Battleship\_21 Start: 12605, Stop: 12982, Start Num: 9

Candidate Starts for Battleship\_21:



(Start: 9 @12605 has 723 MA's), (23, 12707), (40, 12797), (62, 12950), (67, 12968), (68, 12971),

Gene: Beatrix\_16 Start: 13614, Stop: 14063, Start Num: 9

Candidate Starts for Beatrix\_16:

(Start: 9 @13614 has 723 MA's), (Start: 13 @13638 has 1 MA's), (61, 13950), (69, 14025),

Gene: Beauxregard13\_19 Start: 12796, Stop: 13167, Start Num: 9

Candidate Starts for Beauxregard13\_19:

(Start: 9 @12796 has 723 MA's), (Start: 13 @12820 has 1 MA's), (21, 12880), (23, 12898), (47, 13048), (61, 13129), (62, 13135), (67, 13153), (68, 13156),

Gene: Beemo\_19 Start: 14174, Stop: 14551, Start Num: 9

Candidate Starts for Beemo\_19:

(Start: 9 @14174 has 723 MA's), (23, 14276), (58, 14495), (61, 14513), (62, 14519),

Gene: BeesKnees\_18 Start: 12955, Stop: 13404, Start Num: 9

Candidate Starts for BeesKnees\_18:

(Start: 9 @12955 has 723 MA's), (61, 13291), (69, 13366),

Gene: Belenaria\_14 Start: 8916, Stop: 9296, Start Num: 9

Candidate Starts for Belenaria\_14:

(Start: 9 @8916 has 723 MA's), (Start: 13 @8940 has 1 MA's), (20, 8988), (33, 9084), (42, 9120), (44, 9141), (47, 9171), (57, 9231), (60, 9249), (61, 9255), (65, 9276),

Gene: BellusTerra\_17 Start: 12685, Stop: 13041, Start Num: 9

Candidate Starts for BellusTerra\_17:

(Start: 9 @12685 has 723 MA's), (23, 12787), (33, 12835), (39, 12856), (47, 12922), (53, 12958), (61, 13003), (68, 13030),

Gene: BenchScraper\_10 Start: 7310, Stop: 7666, Start Num: 9

Candidate Starts for BenchScraper\_10:

(Start: 9 @7310 has 723 MA's), (19, 7379), (23, 7409), (25, 7415), (37, 7472), (39, 7481), (55, 7610), (63, 7652),

Gene: Benedict\_14 Start: 11640, Stop: 12014, Start Num: 8

Candidate Starts for Benedict\_14:

(Start: 8 @11640 has 48 MA's), (Start: 13 @11664 has 1 MA's), (15, 11670), (40, 11832), (47, 11895), (56, 11952), (57, 11955), (61, 11976), (66, 11997), (67, 12000), (68, 12003),

Gene: BengiVuitton\_19 Start: 13799, Stop: 14176, Start Num: 9

Candidate Starts for BengiVuitton\_19:

(Start: 9 @13799 has 723 MA's), (15, 13829), (16, 13832), (18, 13862), (23, 13901), (61, 14138), (67, 14162), (68, 14165),

Gene: Benvolio\_18 Start: 13473, Stop: 13850, Start Num: 9

Candidate Starts for Benvolio\_18:

(Start: 9 @13473 has 723 MA's), (15, 13503), (16, 13506), (18, 13536), (23, 13575), (40, 13665), (42, 13677), (61, 13812), (67, 13836), (68, 13839),

Gene: Bethlehem\_17 Start: 14192, Stop: 14641, Start Num: 9

Candidate Starts for Bethlehem\_17:

(Start: 9 @14192 has 723 MA's), (Start: 13 @14216 has 1 MA's), (61, 14528), (69, 14603),

Gene: BiancaTri92\_20 Start: 15161, Stop: 15538, Start Num: 9  
Candidate Starts for BiancaTri92\_20:  
(Start: 9 @15161 has 723 MA's), (14, 15188), (16, 15194), (18, 15224), (23, 15263), (28, 15293), (29, 15299), (42, 15365), (61, 15500), (67, 15524), (68, 15527),

Gene: Big3\_17 Start: 13546, Stop: 13995, Start Num: 9  
Candidate Starts for Big3\_17:  
(Start: 9 @13546 has 723 MA's), (Start: 13 @13570 has 1 MA's), (69, 13957),

Gene: BigMau\_19 Start: 13123, Stop: 13572, Start Num: 9  
Candidate Starts for BigMau\_19:  
(Start: 9 @13123 has 723 MA's), (Start: 13 @13147 has 1 MA's), (61, 13459), (69, 13534),

Gene: BigPaolini\_18 Start: 13549, Stop: 13998, Start Num: 9  
Candidate Starts for BigPaolini\_18:  
(Start: 9 @13549 has 723 MA's), (Start: 13 @13573 has 1 MA's), (61, 13885), (69, 13960),

Gene: Bigfoot\_16 Start: 12651, Stop: 13100, Start Num: 9  
Candidate Starts for Bigfoot\_16:  
(Start: 9 @12651 has 723 MA's), (Start: 13 @12675 has 1 MA's), (61, 12987), (69, 13062),

Gene: BillKnuckles\_17 Start: 13547, Stop: 13924, Start Num: 7  
Candidate Starts for BillKnuckles\_17:  
(4, 13502), (Start: 7 @13547 has 5 MA's), (Start: 13 @13574 has 1 MA's), (23, 13652), (33, 13718), (40, 13742), (47, 13805), (51, 13835), (56, 13862), (63, 13895), (66, 13907), (67, 13910), (68, 13913),

Gene: BillyTP\_10 Start: 7295, Stop: 7654, Start Num: 9  
Candidate Starts for BillyTP\_10:  
(Start: 9 @7295 has 723 MA's), (19, 7364), (26, 7412), (39, 7466), (50, 7565), (63, 7640),

Gene: Blackmoor\_17 Start: 12688, Stop: 13044, Start Num: 9  
Candidate Starts for Blackmoor\_17:  
(Start: 9 @12688 has 723 MA's), (23, 12790), (33, 12838), (39, 12859), (47, 12925), (53, 12961), (61, 13006), (68, 13033),

Gene: Blinn1\_21 Start: 13517, Stop: 13894, Start Num: 9  
Candidate Starts for Blinn1\_21:  
(Start: 9 @13517 has 723 MA's), (14, 13544), (16, 13550), (17, 13577), (18, 13580), (23, 13619), (42, 13721), (61, 13856), (67, 13880), (68, 13883),

Gene: Blue\_17 Start: 13014, Stop: 13463, Start Num: 9  
Candidate Starts for Blue\_17:  
(Start: 9 @13014 has 723 MA's), (Start: 13 @13038 has 1 MA's), (61, 13350), (69, 13425),

Gene: Blue7\_21 Start: 13452, Stop: 13829, Start Num: 9  
Candidate Starts for Blue7\_21:  
(Start: 9 @13452 has 723 MA's), (14, 13479), (17, 13512), (18, 13515), (23, 13554), (45, 13695), (61, 13791), (67, 13815), (68, 13818),

Gene: BlueBird\_18 Start: 12343, Stop: 12717, Start Num: 9  
Candidate Starts for BlueBird\_18:  
(Start: 9 @12343 has 723 MA's), (23, 12445), (33, 12511), (39, 12532), (47, 12598), (61, 12679), (62, 12685), (67, 12703),

Gene: Bluefalcon\_13 Start: 11878, Stop: 12252, Start Num: 8

Candidate Starts for Bluefalcon\_13:

(Start: 8 @11878 has 48 MA's), (Start: 13 @11902 has 1 MA's), (15, 11908), (40, 12070), (47, 12133), (51, 12163), (57, 12193), (61, 12214), (66, 12235), (67, 12238), (68, 12241),

Gene: Bob3\_16 Start: 12463, Stop: 12912, Start Num: 9

Candidate Starts for Bob3\_16:

(Start: 9 @12463 has 723 MA's), (Start: 13 @12487 has 1 MA's), (61, 12799), (69, 12874),

Gene: BobSwaget\_21 Start: 15027, Stop: 15404, Start Num: 9

Candidate Starts for BobSwaget\_21:

(Start: 9 @15027 has 723 MA's), (14, 15054), (18, 15090), (23, 15129), (42, 15231), (52, 15315), (61, 15366), (67, 15390), (68, 15393),

Gene: BobbyDazzler\_14 Start: 8955, Stop: 9335, Start Num: 9

Candidate Starts for BobbyDazzler\_14:

(Start: 9 @8955 has 723 MA's), (Start: 13 @8979 has 1 MA's), (20, 9027), (30, 9096), (33, 9123), (47, 9210), (60, 9288), (61, 9294), (65, 9315),

Gene: BogosyJay\_19 Start: 13894, Stop: 14271, Start Num: 9

Candidate Starts for BogosyJay\_19:

(Start: 9 @13894 has 723 MA's), (14, 13921), (18, 13957), (23, 13996), (61, 14233), (62, 14239),

Gene: Bombshell\_17 Start: 12688, Stop: 13044, Start Num: 9

Candidate Starts for Bombshell\_17:

(Start: 9 @12688 has 723 MA's), (23, 12790), (33, 12838), (39, 12859), (47, 12925), (53, 12961), (61, 13006), (68, 13033),

Gene: Bonamassa\_14 Start: 11800, Stop: 12174, Start Num: 8

Candidate Starts for Bonamassa\_14:

(Start: 8 @11800 has 48 MA's), (Start: 13 @11824 has 1 MA's), (15, 11830), (33, 11968), (40, 11992), (47, 12055), (57, 12115), (61, 12136), (66, 12157), (67, 12160), (68, 12163),

Gene: Bonanza\_14 Start: 8884, Stop: 9264, Start Num: 9

Candidate Starts for Bonanza\_14:

(Start: 9 @8884 has 723 MA's), (Start: 13 @8908 has 1 MA's), (20, 8956), (30, 9025), (42, 9088), (47, 9139), (60, 9217), (61, 9223), (65, 9244),

Gene: Bones\_17 Start: 12652, Stop: 13101, Start Num: 9

Candidate Starts for Bones\_17:

(Start: 9 @12652 has 723 MA's), (61, 12988), (69, 13063),

Gene: Boohoo\_20 Start: 12490, Stop: 12867, Start Num: 9

Candidate Starts for Boohoo\_20:

(Start: 9 @12490 has 723 MA's), (23, 12592), (40, 12682), (62, 12835), (67, 12853), (68, 12856),

Gene: Bowtie\_18 Start: 13928, Stop: 14305, Start Num: 9

Candidate Starts for Bowtie\_18:

(Start: 9 @13928 has 723 MA's), (Start: 13 @13952 has 1 MA's), (18, 13991), (23, 14030), (24, 14036), (66, 14288), (67, 14291), (68, 14294),

Gene: Bradshaw\_14 Start: 8916, Stop: 9296, Start Num: 9

Candidate Starts for Bradshaw\_14:

(Start: 9 @8916 has 723 MA's), (Start: 13 @8940 has 1 MA's), (20, 8988), (33, 9084), (42, 9120), (44, 9141), (47, 9171), (57, 9231), (60, 9249), (61, 9255), (65, 9276),

Gene: BreSam8\_19 Start: 12789, Stop: 13160, Start Num: 9

Candidate Starts for BreSam8\_19:

(Start: 9 @12789 has 723 MA's), (Start: 13 @12813 has 1 MA's), (21, 12873), (23, 12891), (47, 13041), (61, 13122), (62, 13128), (67, 13146), (68, 13149),

Gene: Briton15\_19 Start: 13212, Stop: 13661, Start Num: 9

Candidate Starts for Briton15\_19:

(Start: 9 @13212 has 723 MA's), (Start: 13 @13236 has 1 MA's), (61, 13548), (69, 13623),

Gene: Broseidon\_17 Start: 12688, Stop: 13044, Start Num: 9

Candidate Starts for Broseidon\_17:

(Start: 9 @12688 has 723 MA's), (23, 12790), (33, 12838), (39, 12859), (47, 12925), (53, 12961), (61, 13006), (68, 13033),

Gene: Bruiser\_17 Start: 12688, Stop: 13044, Start Num: 9

Candidate Starts for Bruiser\_17:

(Start: 9 @12688 has 723 MA's), (23, 12790), (33, 12838), (39, 12859), (47, 12925), (53, 12961), (61, 13006), (68, 13033),

Gene: Bruns\_16 Start: 12835, Stop: 13284, Start Num: 9

Candidate Starts for Bruns\_16:

(Start: 9 @12835 has 723 MA's), (Start: 13 @12859 has 1 MA's), (61, 13171), (69, 13246),

Gene: Bryce\_14 Start: 8884, Stop: 9264, Start Num: 9

Candidate Starts for Bryce\_14:

(Start: 9 @8884 has 723 MA's), (Start: 13 @8908 has 1 MA's), (20, 8956), (30, 9025), (33, 9052), (42, 9088), (44, 9109), (47, 9139), (60, 9217), (61, 9223), (65, 9244),

Gene: BubbleTrouble\_17 Start: 12688, Stop: 13044, Start Num: 9

Candidate Starts for BubbleTrouble\_17:

(Start: 9 @12688 has 723 MA's), (23, 12790), (33, 12838), (39, 12859), (47, 12925), (51, 12955), (53, 12961), (61, 13006), (68, 13033),

Gene: Bud\_18 Start: 13934, Stop: 14311, Start Num: 9

Candidate Starts for Bud\_18:

(Start: 9 @13934 has 723 MA's), (Start: 13 @13958 has 1 MA's), (18, 13997), (23, 14036), (24, 14042), (66, 14294), (67, 14297), (68, 14300),

Gene: Bugatti\_17 Start: 12343, Stop: 12717, Start Num: 9

Candidate Starts for Bugatti\_17:

(Start: 9 @12343 has 723 MA's), (23, 12445), (33, 12511), (39, 12532), (47, 12598), (61, 12679), (62, 12685), (67, 12703),

Gene: Buggy\_20 Start: 13835, Stop: 14212, Start Num: 9

Candidate Starts for Buggy\_20:

(Start: 9 @13835 has 723 MA's), (15, 13865), (16, 13868), (18, 13898), (23, 13937), (52, 14123), (61, 14174), (67, 14198), (68, 14201),

Gene: Bumblebee11\_17 Start: 12690, Stop: 13046, Start Num: 9

Candidate Starts for Bumblebee11\_17:

(Start: 9 @12690 has 723 MA's), (23, 12792), (33, 12840), (39, 12861), (47, 12927), (53, 12963), (64, 13020), (68, 13035),

Gene: Burger\_16 Start: 12688, Stop: 13044, Start Num: 9

Candidate Starts for Burger\_16:

(Start: 9 @12688 has 723 MA's), (23, 12790), (33, 12838), (39, 12859), (47, 12925), (53, 12961), (61, 13006), (68, 13033),

Gene: Burton\_18 Start: 13033, Stop: 13482, Start Num: 9

Candidate Starts for Burton\_18:

(Start: 9 @13033 has 723 MA's), (Start: 13 @13057 has 1 MA's), (61, 13369), (69, 13444),

Gene: Buttons\_18 Start: 13397, Stop: 13846, Start Num: 9

Candidate Starts for Buttons\_18:

(Start: 9 @13397 has 723 MA's), (Start: 13 @13421 has 1 MA's), (61, 13733), (69, 13808),

Gene: BuzzBuzz\_18 Start: 12880, Stop: 13251, Start Num: 9

Candidate Starts for BuzzBuzz\_18:

(Start: 9 @12880 has 723 MA's), (Start: 13 @12904 has 1 MA's), (21, 12964), (23, 12982), (47, 13132), (61, 13213), (62, 13219), (67, 13237), (68, 13240),

Gene: Bxb1\_15 Start: 12916, Stop: 13293, Start Num: 7

Candidate Starts for Bxb1\_15:

(4, 12871), (Start: 7 @12916 has 5 MA's), (Start: 13 @12943 has 1 MA's), (23, 13021), (33, 13087), (40, 13111), (47, 13174), (56, 13231), (63, 13264), (66, 13276), (67, 13279), (68, 13282),

Gene: Bxz2\_19 Start: 12890, Stop: 13261, Start Num: 9

Candidate Starts for Bxz2\_19:

(Start: 9 @12890 has 723 MA's), (Start: 13 @12914 has 1 MA's), (21, 12974), (23, 12992), (47, 13142), (61, 13223), (62, 13229), (67, 13247), (68, 13250),

Gene: C3\_16 Start: 13381, Stop: 13758, Start Num: 9

Candidate Starts for C3\_16:

(Start: 9 @13381 has 723 MA's), (14, 13408), (16, 13414), (18, 13444), (23, 13483), (32, 13540), (42, 13585), (51, 13666), (61, 13720), (66, 13741), (67, 13744), (68, 13747),

Gene: CRB1\_18 Start: 13355, Stop: 13732, Start Num: 9

Candidate Starts for CRB1\_18:

(Start: 9 @13355 has 723 MA's), (14, 13382), (16, 13388), (18, 13418), (23, 13457), (52, 13643), (61, 13694), (67, 13718), (68, 13721),

Gene: CactusRose\_16 Start: 12650, Stop: 13099, Start Num: 9

Candidate Starts for CactusRose\_16:

(Start: 9 @12650 has 723 MA's), (Start: 13 @12674 has 1 MA's), (61, 12986), (69, 13061),

Gene: Caelakin\_17 Start: 12688, Stop: 13044, Start Num: 9

Candidate Starts for Caelakin\_17:

(Start: 9 @12688 has 723 MA's), (23, 12790), (33, 12838), (39, 12859), (47, 12925), (53, 12961), (61, 13006), (68, 13033),

Gene: Camperdownii\_16 Start: 12307, Stop: 12663, Start Num: 9

Candidate Starts for Camperdownii\_16:

(Start: 9 @12307 has 723 MA's), (23, 12409), (33, 12457), (39, 12478), (47, 12544), (53, 12580), (61, 12625), (68, 12652),

Gene: Candra\_21 Start: 13518, Stop: 13895, Start Num: 9

Candidate Starts for Candra\_21:

(Start: 9 @13518 has 723 MA's), (14, 13545), (16, 13551), (17, 13578), (18, 13581), (23, 13620), (61, 13857), (67, 13881), (68, 13884),

Gene: Caraxes\_17 Start: 12019, Stop: 12396, Start Num: 9

Candidate Starts for Caraxes\_17:

(Start: 9 @12019 has 723 MA's), (14, 12046), (16, 12052), (18, 12082), (23, 12121), (61, 12358), (67, 12382), (68, 12385),

Gene: Carlyle\_19 Start: 13779, Stop: 14228, Start Num: 9

Candidate Starts for Carlyle\_19:

(Start: 9 @13779 has 723 MA's), (Start: 13 @13803 has 1 MA's), (61, 14115), (69, 14190),

Gene: Catalina\_19 Start: 14141, Stop: 14518, Start Num: 9

Candidate Starts for Catalina\_19:

(Start: 9 @14141 has 723 MA's), (23, 14243), (58, 14462), (61, 14480), (62, 14486),

Gene: Caviar\_18 Start: 12884, Stop: 13258, Start Num: 9

Candidate Starts for Caviar\_18:

(Start: 9 @12884 has 723 MA's), (Start: 13 @12908 has 1 MA's), (23, 12986), (33, 13052), (39, 13073), (47, 13139), (61, 13220), (67, 13244),

Gene: Centaur\_20 Start: 13861, Stop: 14238, Start Num: 9

Candidate Starts for Centaur\_20:

(Start: 9 @13861 has 723 MA's), (14, 13888), (16, 13894), (18, 13924), (23, 13963), (28, 13993), (42, 14065), (61, 14200), (66, 14221), (67, 14224), (68, 14227),

Gene: CentreCat\_17 Start: 12689, Stop: 13045, Start Num: 9

Candidate Starts for CentreCat\_17:

(Start: 9 @12689 has 723 MA's), (23, 12791), (33, 12839), (39, 12860), (47, 12926), (53, 12962), (61, 13007), (68, 13034),

Gene: Cerulean\_18 Start: 13001, Stop: 13357, Start Num: 9

Candidate Starts for Cerulean\_18:

(Start: 9 @13001 has 723 MA's), (23, 13103), (33, 13151), (39, 13172), (47, 13238), (53, 13274), (61, 13319), (68, 13346),

Gene: Chadwick\_15 Start: 11608, Stop: 11982, Start Num: 8

Candidate Starts for Chadwick\_15:

(Start: 8 @11608 has 48 MA's), (Start: 13 @11632 has 1 MA's), (15, 11638), (40, 11800), (47, 11863), (57, 11923), (61, 11944), (66, 11965), (67, 11968), (68, 11971),

Gene: ChampagnePapi\_18 Start: 13000, Stop: 13356, Start Num: 9

Candidate Starts for ChampagnePapi\_18:

(Start: 9 @13000 has 723 MA's), (23, 13102), (33, 13150), (39, 13171), (47, 13237), (53, 13273), (61, 13318), (68, 13345),

Gene: Chanagan\_16 Start: 12489, Stop: 12938, Start Num: 9

Candidate Starts for Chanagan\_16:

(Start: 9 @12489 has 723 MA's), (Start: 13 @12513 has 1 MA's), (61, 12825), (69, 12900),

Gene: Changeling\_21 Start: 15226, Stop: 15603, Start Num: 9

Candidate Starts for Changeling\_21:

(Start: 9 @15226 has 723 MA's), (14, 15253), (15, 15256), (18, 15289), (23, 15328), (29, 15364), (42, 15430), (66, 15586), (67, 15589), (68, 15592),

Gene: Chaph\_17 Start: 12697, Stop: 13053, Start Num: 9

Candidate Starts for Chaph\_17:

(Start: 9 @12697 has 723 MA's), (23, 12799), (33, 12847), (39, 12868), (47, 12934), (53, 12970), (61, 13015), (68, 13042),

Gene: Chargerpower\_18 Start: 12591, Stop: 12968, Start Num: 9

Candidate Starts for Chargerpower\_18:

(Start: 9 @12591 has 723 MA's), (15, 12621), (17, 12651), (23, 12693), (42, 12795), (51, 12876), (61, 12930), (66, 12951), (67, 12954), (68, 12957),

Gene: Charm\_18 Start: 12322, Stop: 12699, Start Num: 9

Candidate Starts for Charm\_18:

(Start: 9 @12322 has 723 MA's), (23, 12424), (31, 12475), (52, 12610), (58, 12643), (61, 12661), (67, 12685), (68, 12688),

Gene: Chartreuse\_21 Start: 13431, Stop: 13808, Start Num: 9

Candidate Starts for Chartreuse\_21:

(Start: 9 @13431 has 723 MA's), (14, 13458), (16, 13464), (17, 13491), (18, 13494), (23, 13533), (61, 13770), (67, 13794), (68, 13797),

Gene: Che12\_20 Start: 12285, Stop: 12662, Start Num: 9

Candidate Starts for Che12\_20:

(Start: 9 @12285 has 723 MA's), (14, 12312), (16, 12318), (18, 12348), (23, 12387), (61, 12624), (67, 12648), (68, 12651),

Gene: ChipMunk\_20 Start: 13771, Stop: 14148, Start Num: 9

Candidate Starts for ChipMunk\_20:

(Start: 9 @13771 has 723 MA's), (15, 13801), (16, 13804), (18, 13834), (23, 13873), (42, 13975), (61, 14110), (62, 14116), (67, 14134), (68, 14137),

Gene: Chupacabra\_17 Start: 12449, Stop: 12823, Start Num: 9

Candidate Starts for Chupacabra\_17:

(Start: 9 @12449 has 723 MA's), (23, 12551), (33, 12617), (39, 12638), (47, 12704), (53, 12740), (61, 12785), (62, 12791), (68, 12812),

Gene: Ciao\_17 Start: 12876, Stop: 13325, Start Num: 9

Candidate Starts for Ciao\_17:

(Start: 9 @12876 has 723 MA's), (61, 13212), (69, 13287),

Gene: Cici\_17 Start: 12681, Stop: 13037, Start Num: 9

Candidate Starts for Cici\_17:

(Start: 9 @12681 has 723 MA's), (23, 12783), (33, 12831), (39, 12852), (47, 12918), (53, 12954), (64, 13011), (68, 13026),

Gene: Cindaradix\_16 Start: 12415, Stop: 12771, Start Num: 9

Candidate Starts for Cindaradix\_16:

(Start: 9 @12415 has 723 MA's), (23, 12517), (33, 12565), (39, 12586), (47, 12652), (53, 12688), (64, 12745), (68, 12760),

Gene: Cintron\_17 Start: 12736, Stop: 13092, Start Num: 9

Candidate Starts for Cintron\_17:

(Start: 9 @12736 has 723 MA's), (23, 12838), (33, 12886), (39, 12907), (47, 12973), (53, 13009), (61, 13054), (68, 13081),

Gene: Citius\_17 Start: 12688, Stop: 13044, Start Num: 9

Candidate Starts for Citius\_17:

(Start: 9 @12688 has 723 MA's), (23, 12790), (33, 12838), (39, 12859), (47, 12925), (53, 12961), (61, 13006), (68, 13033),

Gene: Clarenza\_17 Start: 12685, Stop: 13041, Start Num: 9

Candidate Starts for Clarenza\_17:

(Start: 9 @12685 has 723 MA's), (23, 12787), (33, 12835), (39, 12856), (47, 12922), (53, 12958), (61, 13003), (68, 13030),

Gene: CloudWang3\_21 Start: 13462, Stop: 13839, Start Num: 9

Candidate Starts for CloudWang3\_21:

(Start: 9 @13462 has 723 MA's), (14, 13489), (16, 13495), (17, 13522), (18, 13525), (23, 13564), (61, 13801), (67, 13825), (68, 13828),

Gene: Cocoaberry\_17 Start: 12692, Stop: 13048, Start Num: 9

Candidate Starts for Cocoaberry\_17:

(Start: 9 @12692 has 723 MA's), (23, 12794), (33, 12842), (39, 12863), (47, 12929), (53, 12965), (61, 13010), (68, 13037),

Gene: Colbster\_19 Start: 12796, Stop: 13167, Start Num: 9

Candidate Starts for Colbster\_19:

(Start: 9 @12796 has 723 MA's), (Start: 13 @12820 has 1 MA's), (21, 12880), (23, 12898), (47, 13048), (61, 13129), (62, 13135), (67, 13153), (68, 13156),

Gene: Colin\_22 Start: 15065, Stop: 15442, Start Num: 9

Candidate Starts for Colin\_22:

(Start: 9 @15065 has 723 MA's), (Start: 13 @15089 has 1 MA's), (14, 15092), (18, 15128), (23, 15167), (29, 15203), (42, 15269), (61, 15404), (66, 15425), (67, 15428), (68, 15431),

Gene: Commander\_17 Start: 12688, Stop: 13044, Start Num: 9

Candidate Starts for Commander\_17:

(Start: 9 @12688 has 723 MA's), (23, 12790), (33, 12838), (39, 12859), (47, 12925), (53, 12961), (61, 13006), (68, 13033),

Gene: Connomayer\_17 Start: 12688, Stop: 13044, Start Num: 9

Candidate Starts for Connomayer\_17:

(Start: 9 @12688 has 723 MA's), (23, 12790), (33, 12838), (39, 12859), (47, 12925), (51, 12955), (53, 12961), (61, 13006), (68, 13033),

Gene: Conquerage\_19 Start: 14170, Stop: 14547, Start Num: 9

Candidate Starts for Conquerage\_19:

(Start: 9 @14170 has 723 MA's), (23, 14272), (58, 14491), (61, 14509), (62, 14515),

Gene: Conspiracy\_14 Start: 11624, Stop: 11998, Start Num: 8



Candidate Starts for Conspiracy\_14:

(Start: 8 @11624 has 48 MA's), (Start: 13 @11648 has 1 MA's), (15, 11654), (33, 11792), (40, 11816), (47, 11879), (57, 11939), (61, 11960), (66, 11981), (67, 11984), (68, 11987),

Gene: Coog\_14 Start: 11768, Stop: 12142, Start Num: 8

Candidate Starts for Coog\_14:

(Start: 8 @11768 has 48 MA's), (Start: 13 @11792 has 1 MA's), (15, 11798), (33, 11936), (40, 11960), (47, 12023), (57, 12083), (61, 12104), (66, 12125), (67, 12128), (68, 12131),

Gene: CookieBear\_10 Start: 7295, Stop: 7651, Start Num: 9

Candidate Starts for CookieBear\_10:

(Start: 9 @7295 has 723 MA's), (23, 7394), (25, 7400), (39, 7466), (55, 7595), (58, 7610), (63, 7637),

Gene: Cookiedough\_21 Start: 13475, Stop: 13852, Start Num: 9

Candidate Starts for Cookiedough\_21:

(Start: 9 @13475 has 723 MA's), (14, 13502), (16, 13508), (17, 13535), (18, 13538), (23, 13577), (61, 13814), (67, 13838), (68, 13841),

Gene: Corvo\_17 Start: 13368, Stop: 13817, Start Num: 9

Candidate Starts for Corvo\_17:

(Start: 9 @13368 has 723 MA's), (Start: 13 @13392 has 1 MA's), (61, 13704), (69, 13779),

Gene: CosmicSans\_14 Start: 8916, Stop: 9296, Start Num: 9

Candidate Starts for CosmicSans\_14:

(Start: 9 @8916 has 723 MA's), (Start: 13 @8940 has 1 MA's), (20, 8988), (33, 9084), (42, 9120), (44, 9141), (47, 9171), (57, 9231), (60, 9249), (61, 9255), (65, 9276),

Gene: Crispicious1\_16 Start: 12360, Stop: 12809, Start Num: 9

Candidate Starts for Crispicious1\_16:

(Start: 9 @12360 has 723 MA's), (Start: 13 @12384 has 1 MA's), (61, 12696), (69, 12771),

Gene: Crucio\_18 Start: 13318, Stop: 13695, Start Num: 9

Candidate Starts for Crucio\_18:

(Start: 9 @13318 has 723 MA's), (15, 13348), (16, 13351), (18, 13381), (23, 13420), (42, 13522), (61, 13657), (62, 13663), (67, 13681),

Gene: Cuco\_14 Start: 11799, Stop: 12173, Start Num: 8

Candidate Starts for Cuco\_14:

(Start: 8 @11799 has 48 MA's), (Start: 13 @11823 has 1 MA's), (15, 11829), (33, 11967), (40, 11991), (47, 12054), (57, 12114), (61, 12135), (66, 12156), (67, 12159), (68, 12162),

Gene: Cueylyss\_17 Start: 13061, Stop: 13510, Start Num: 9

Candidate Starts for Cueylyss\_17:

(Start: 9 @13061 has 723 MA's), (61, 13397), (69, 13472),

Gene: Cullens\_19 Start: 12794, Stop: 13165, Start Num: 9

Candidate Starts for Cullens\_19:

(Start: 9 @12794 has 723 MA's), (Start: 13 @12818 has 1 MA's), (21, 12878), (23, 12896), (47, 13046), (61, 13127), (62, 13133), (67, 13151), (68, 13154),

Gene: D29\_19 Start: 13272, Stop: 13646, Start Num: 9

Candidate Starts for D29\_19:

(Start: 9 @13272 has 723 MA's), (14, 13299), (16, 13305), (18, 13335), (23, 13374), (29, 13410), (40, 13461), (42, 13473), (57, 13584), (61, 13608), (67, 13632), (68, 13635),

Gene: D32\_21 Start: 13272, Stop: 13646, Start Num: 9

Candidate Starts for D32\_21:

(Start: 9 @13272 has 723 MA's), (14, 13299), (16, 13305), (18, 13335), (23, 13374), (29, 13410), (40, 13461), (42, 13473), (57, 13584), (61, 13608), (67, 13632), (68, 13635),

Gene: DBQu4n\_21 Start: 13272, Stop: 13646, Start Num: 9

Candidate Starts for DBQu4n\_21:

(Start: 9 @13272 has 723 MA's), (14, 13299), (16, 13305), (18, 13335), (23, 13374), (29, 13410), (40, 13461), (42, 13473), (57, 13584), (61, 13608), (67, 13632), (68, 13635),

Gene: DD5\_18 Start: 13610, Stop: 14059, Start Num: 9

Candidate Starts for DD5\_18:

(Start: 9 @13610 has 723 MA's), (Start: 13 @13634 has 1 MA's), (61, 13946), (69, 14021),

Gene: DaHudson\_19 Start: 12788, Stop: 13159, Start Num: 9

Candidate Starts for DaHudson\_19:

(Start: 9 @12788 has 723 MA's), (Start: 13 @12812 has 1 MA's), (21, 12872), (23, 12890), (47, 13040), (61, 13121), (62, 13127), (67, 13145), (68, 13148),

Gene: DaVinci\_21 Start: 13485, Stop: 13862, Start Num: 9

Candidate Starts for DaVinci\_21:

(Start: 9 @13485 has 723 MA's), (14, 13512), (16, 13518), (17, 13545), (18, 13548), (23, 13587), (61, 13824), (67, 13848), (68, 13851),

Gene: Daishi\_18 Start: 11721, Stop: 12092, Start Num: 9

Candidate Starts for Daishi\_18:

(Start: 9 @11721 has 723 MA's), (Start: 13 @11745 has 1 MA's), (21, 11805), (23, 11823), (47, 11973), (61, 12054), (62, 12060), (67, 12078), (68, 12081),

Gene: Dalmatian\_18 Start: 13468, Stop: 13845, Start Num: 9

Candidate Starts for Dalmatian\_18:

(Start: 9 @13468 has 723 MA's), (15, 13498), (16, 13501), (18, 13531), (23, 13570), (42, 13672), (61, 13807), (67, 13831), (68, 13834),

Gene: Danforth\_13 Start: 11377, Stop: 11751, Start Num: 8

Candidate Starts for Danforth\_13:

(Start: 8 @11377 has 48 MA's), (33, 11545), (40, 11569), (42, 11581), (47, 11632), (56, 11689), (57, 11692), (61, 11713), (66, 11734), (67, 11737),

Gene: Darrell\_20 Start: 14332, Stop: 14709, Start Num: 9

Candidate Starts for Darrell\_20:

(Start: 9 @14332 has 723 MA's), (18, 14395), (23, 14434), (28, 14464), (31, 14485), (32, 14491), (52, 14620), (58, 14653), (61, 14671), (62, 14677), (67, 14695), (68, 14698),

Gene: DARTHPhader\_19 Start: 14307, Stop: 14684, Start Num: 9

Candidate Starts for DARTHPhader\_19:

(Start: 9 @14307 has 723 MA's), (15, 14337), (17, 14367), (18, 14370), (23, 14409), (28, 14439), (39, 14496), (42, 14511), (44, 14532), (61, 14646), (62, 14652), (67, 14670),

Gene: Datway\_17 Start: 12699, Stop: 13055, Start Num: 9

Candidate Starts for Datway\_17:

(Start: 9 @12699 has 723 MA's), (23, 12801), (33, 12849), (39, 12870), (47, 12936), (51, 12966), (53, 12972), (61, 13017), (68, 13044),

Gene: Deano\_17 Start: 12696, Stop: 13052, Start Num: 9

Candidate Starts for Deano\_17:

(Start: 9 @12696 has 723 MA's), (23, 12798), (33, 12846), (39, 12867), (47, 12933), (53, 12969), (61, 13014), (68, 13041),

Gene: DekHockey33\_20 Start: 12612, Stop: 12989, Start Num: 9

Candidate Starts for DekHockey33\_20:

(Start: 9 @12612 has 723 MA's), (23, 12714), (40, 12804), (62, 12957), (67, 12975), (68, 12978),

Gene: Deloris\_19 Start: 13799, Stop: 14176, Start Num: 9

Candidate Starts for Deloris\_19:

(Start: 9 @13799 has 723 MA's), (15, 13829), (16, 13832), (18, 13862), (23, 13901), (61, 14138), (67, 14162), (68, 14165),

Gene: Dexes\_18 Start: 13576, Stop: 14025, Start Num: 9

Candidate Starts for Dexes\_18:

(Start: 9 @13576 has 723 MA's), (Start: 13 @13600 has 1 MA's), (61, 13912), (69, 13987),

Gene: Dhanush\_17 Start: 12691, Stop: 13047, Start Num: 9

Candidate Starts for Dhanush\_17:

(Start: 9 @12691 has 723 MA's), (23, 12793), (33, 12841), (39, 12862), (47, 12928), (53, 12964), (61, 13009), (68, 13036),

Gene: Dieselweasel\_19 Start: 12797, Stop: 13168, Start Num: 9

Candidate Starts for Dieselweasel\_19:

(Start: 9 @12797 has 723 MA's), (Start: 13 @12821 has 1 MA's), (21, 12881), (23, 12899), (47, 13049), (61, 13130), (62, 13136), (67, 13154), (68, 13157),

Gene: Dignity\_20 Start: 13780, Stop: 14157, Start Num: 9

Candidate Starts for Dignity\_20:

(Start: 9 @13780 has 723 MA's), (15, 13810), (16, 13813), (18, 13843), (23, 13882), (52, 14068), (61, 14119), (67, 14143), (68, 14146),

Gene: Dinger\_14 Start: 8880, Stop: 9260, Start Num: 9

Candidate Starts for Dinger\_14:

(Start: 9 @8880 has 723 MA's), (Start: 13 @8904 has 1 MA's), (20, 8952), (30, 9021), (33, 9048), (47, 9135), (60, 9213), (61, 9219), (65, 9240),

Gene: DirtyDunning\_17 Start: 12684, Stop: 13040, Start Num: 9

Candidate Starts for DirtyDunning\_17:

(Start: 9 @12684 has 723 MA's), (23, 12786), (33, 12834), (39, 12855), (47, 12921), (53, 12957), (61, 13002), (68, 13029),

Gene: Discoknowium\_14 Start: 11914, Stop: 12288, Start Num: 8

Candidate Starts for Discoknowium\_14:

(Start: 8 @11914 has 48 MA's), (Start: 13 @11938 has 1 MA's), (15, 11944), (33, 12082), (40, 12106), (47, 12169), (57, 12229), (61, 12250), (66, 12271), (67, 12274), (68, 12277),

Gene: Dixon\_14 Start: 11396, Stop: 11770, Start Num: 8

Candidate Starts for Dixon\_14:

(Start: 8 @11396 has 48 MA's), (33, 11564), (40, 11588), (42, 11600), (47, 11651), (56, 11708), (57, 11711), (61, 11732), (66, 11753), (67, 11756),

Gene: Doom\_18 Start: 13634, Stop: 14083, Start Num: 9

Candidate Starts for Doom\_18:

(Start: 9 @13634 has 723 MA's), (Start: 13 @13658 has 1 MA's), (61, 13970), (69, 14045),

Gene: Dorothea\_20 Start: 13486, Stop: 13863, Start Num: 9

Candidate Starts for Dorothea\_20:

(Start: 9 @13486 has 723 MA's), (14, 13513), (16, 13519), (17, 13546), (18, 13549), (23, 13588), (61, 13825), (67, 13849), (68, 13852),

Gene: Drake55\_20 Start: 13879, Stop: 14256, Start Num: 9

Candidate Starts for Drake55\_20:

(Start: 9 @13879 has 723 MA's), (14, 13906), (16, 13912), (18, 13942), (23, 13981), (28, 14011), (42, 14083), (61, 14218), (66, 14239), (67, 14242), (68, 14245),

Gene: Drake94\_16 Start: 10540, Stop: 10914, Start Num: 9

Candidate Starts for Drake94\_16:

(Start: 9 @10540 has 723 MA's), (23, 10642), (33, 10708), (39, 10729), (41, 10735), (47, 10795), (53, 10831), (57, 10855), (68, 10903),

Gene: DreamCatcher\_20 Start: 14343, Stop: 14792, Start Num: 9

Candidate Starts for DreamCatcher\_20:

(Start: 9 @14343 has 723 MA's), (Start: 13 @14367 has 1 MA's), (61, 14679), (69, 14754),

Gene: DreamTeam1\_18 Start: 12322, Stop: 12699, Start Num: 9

Candidate Starts for DreamTeam1\_18:

(Start: 9 @12322 has 723 MA's), (23, 12424), (31, 12475), (52, 12610), (58, 12643), (61, 12661), (67, 12685), (68, 12688),

Gene: Dreamboat\_18 Start: 12810, Stop: 13259, Start Num: 9

Candidate Starts for Dreamboat\_18:

(Start: 9 @12810 has 723 MA's), (Start: 13 @12834 has 1 MA's), (61, 13146), (69, 13221),

Gene: DroogsArmy\_18 Start: 14037, Stop: 14411, Start Num: 9

Candidate Starts for DroogsArmy\_18:

(Start: 9 @14037 has 723 MA's), (23, 14139), (33, 14205), (34, 14208), (39, 14226), (40, 14229), (41, 14232), (47, 14292), (50, 14307), (61, 14373), (64, 14385), (67, 14397), (68, 14400),

Gene: Druantia\_17 Start: 12689, Stop: 13045, Start Num: 9

Candidate Starts for Druantia\_17:

(Start: 9 @12689 has 723 MA's), (23, 12791), (33, 12839), (39, 12860), (47, 12926), (53, 12962), (61, 13007), (68, 13034),

Gene: Dublin\_13 Start: 11767, Stop: 12141, Start Num: 8

Candidate Starts for Dublin\_13:

(Start: 8 @11767 has 48 MA's), (Start: 13 @11791 has 1 MA's), (15, 11797), (33, 11935), (40, 11959), (47, 12022), (57, 12082), (61, 12103), (66, 12124), (67, 12127), (68, 12130),

Gene: DudeLittle\_18 Start: 13470, Stop: 13847, Start Num: 9

Candidate Starts for DudeLittle\_18:

(Start: 9 @13470 has 723 MA's), (15, 13500), (16, 13503), (18, 13533), (23, 13572), (42, 13674), (61, 13809), (67, 13833), (68, 13836),

Gene: Dulcie\_16 Start: 12552, Stop: 13001, Start Num: 9

Candidate Starts for Dulcie\_16:

(Start: 9 @12552 has 723 MA's), (Start: 13 @12576 has 1 MA's), (61, 12888), (69, 12963),

Gene: Duplo\_21 Start: 13313, Stop: 13687, Start Num: 9

Candidate Starts for Duplo\_21:

(Start: 9 @13313 has 723 MA's), (14, 13340), (16, 13346), (18, 13376), (23, 13415), (29, 13451), (40, 13502), (42, 13514), (57, 13625), (61, 13649), (67, 13673), (68, 13676),

Gene: Dussy\_18 Start: 13206, Stop: 13655, Start Num: 9

Candidate Starts for Dussy\_18:

(Start: 9 @13206 has 723 MA's), (Start: 13 @13230 has 1 MA's), (61, 13542), (69, 13617),

Gene: Dynamix\_18 Start: 12962, Stop: 13411, Start Num: 9

Candidate Starts for Dynamix\_18:

(Start: 9 @12962 has 723 MA's), (Start: 13 @12986 has 1 MA's), (61, 13298), (69, 13373),

Gene: EZMoney23\_22 Start: 15354, Stop: 15731, Start Num: 9

Candidate Starts for EZMoney23\_22:

(Start: 9 @15354 has 723 MA's), (14, 15381), (15, 15384), (18, 15417), (23, 15456), (42, 15558), (59, 15684), (61, 15693), (66, 15714), (67, 15717), (68, 15720),

Gene: Eagle\_16 Start: 12688, Stop: 13044, Start Num: 9

Candidate Starts for Eagle\_16:

(Start: 9 @12688 has 723 MA's), (23, 12790), (33, 12838), (39, 12859), (47, 12925), (53, 12961), (61, 13006), (68, 13033),

Gene: EagleEye\_20 Start: 13616, Stop: 13993, Start Num: 9

Candidate Starts for EagleEye\_20:

(2, 13511), (Start: 9 @13616 has 723 MA's), (14, 13643), (18, 13679), (19, 13685), (23, 13718), (48, 13874), (61, 13955), (62, 13961), (66, 13976), (68, 13982),

Gene: Eaglepride\_18 Start: 12459, Stop: 12833, Start Num: 9

Candidate Starts for Eaglepride\_18:

(Start: 9 @12459 has 723 MA's), (23, 12561), (33, 12627), (35, 12633), (39, 12648), (40, 12651), (41, 12654), (47, 12714), (53, 12750), (61, 12795), (62, 12801), (64, 12807), (68, 12822),

Gene: Eapen\_17 Start: 12687, Stop: 13043, Start Num: 9

Candidate Starts for Eapen\_17:

(Start: 9 @12687 has 723 MA's), (23, 12789), (33, 12837), (39, 12858), (47, 12924), (53, 12960), (61, 13005), (68, 13032),

Gene: Ebony\_18 Start: 13977, Stop: 14354, Start Num: 9

Candidate Starts for Ebony\_18:

(Start: 9 @13977 has 723 MA's), (Start: 13 @14001 has 1 MA's), (18, 14040), (23, 14079), (24, 14085), (66, 14337), (67, 14340), (68, 14343),

Gene: Echild\_18 Start: 13473, Stop: 13850, Start Num: 9

Candidate Starts for Echild\_18:

(Start: 9 @13473 has 723 MA's), (15, 13503), (16, 13506), (18, 13536), (23, 13575), (40, 13665), (42, 13677), (61, 13812), (67, 13836), (68, 13839),

Gene: Edison31\_16 Start: 12483, Stop: 12857, Start Num: 9

Candidate Starts for Edison31\_16:

(Start: 9 @12483 has 723 MA's), (23, 12585), (33, 12651), (39, 12672), (47, 12738), (53, 12774), (61, 12819), (68, 12846),

Gene: Edtherson\_18 Start: 13704, Stop: 14153, Start Num: 9

Candidate Starts for Edtherson\_18:

(Start: 9 @13704 has 723 MA's), (Start: 13 @13728 has 1 MA's), (61, 14040), (69, 14115),

Gene: Eidsmoe\_19 Start: 14170, Stop: 14547, Start Num: 9

Candidate Starts for Eidsmoe\_19:

(Start: 9 @14170 has 723 MA's), (23, 14272), (58, 14491), (61, 14509), (62, 14515),

Gene: EITiger69\_14 Start: 11638, Stop: 12012, Start Num: 8

Candidate Starts for EITiger69\_14:

(Start: 8 @11638 has 48 MA's), (Start: 13 @11662 has 1 MA's), (15, 11668), (40, 11830), (47, 11893), (56, 11950), (57, 11953), (61, 11974), (66, 11995), (67, 11998), (68, 12001),

Gene: Elephantoon\_19 Start: 13761, Stop: 14138, Start Num: 9

Candidate Starts for Elephantoon\_19:

(Start: 9 @13761 has 723 MA's), (23, 13863), (31, 13914), (58, 14082), (61, 14100), (62, 14106), (67, 14124), (68, 14127),

Gene: EmyBug\_17 Start: 14170, Stop: 14547, Start Num: 9

Candidate Starts for EmyBug\_17:

(Start: 9 @14170 has 723 MA's), (23, 14272), (58, 14491), (61, 14509), (62, 14515),

Gene: EpicPhail\_19 Start: 12796, Stop: 13167, Start Num: 9

Candidate Starts for EpicPhail\_19:

(Start: 9 @12796 has 723 MA's), (Start: 13 @12820 has 1 MA's), (21, 12880), (23, 12898), (47, 13048), (61, 13129), (62, 13135), (67, 13153), (68, 13156),

Gene: Epsocamisio\_20 Start: 12490, Stop: 12867, Start Num: 9

Candidate Starts for Epsocamisio\_20:

(Start: 9 @12490 has 723 MA's), (23, 12592), (40, 12682), (62, 12835), (67, 12853), (68, 12856),

Gene: Equemioh13\_20 Start: 13864, Stop: 14241, Start Num: 9

Candidate Starts for Equemioh13\_20:

(Start: 9 @13864 has 723 MA's), (14, 13891), (16, 13897), (18, 13927), (23, 13966), (28, 13996), (42, 14068), (61, 14203), (66, 14224), (67, 14227), (68, 14230),

Gene: EricB\_21 Start: 13475, Stop: 13852, Start Num: 9

Candidate Starts for EricB\_21:

(Start: 9 @13475 has 723 MA's), (14, 13502), (16, 13508), (17, 13535), (18, 13538), (23, 13577), (61, 13814), (67, 13838), (68, 13841),

Gene: Erik\_14 Start: 8915, Stop: 9295, Start Num: 9

Candidate Starts for Erik\_14:

(Start: 9 @8915 has 723 MA's), (Start: 13 @8939 has 1 MA's), (20, 8987), (33, 9083), (42, 9119), (44, 9140), (47, 9170), (57, 9230), (60, 9248), (61, 9254), (65, 9275),

Gene: Eris\_17 Start: 12688, Stop: 13044, Start Num: 9

Candidate Starts for Eris\_17:

(Start: 9 @12688 has 723 MA's), (23, 12790), (33, 12838), (39, 12859), (47, 12925), (53, 12961), (61, 13006), (68, 13033),

Gene: Eros\_17 Start: 12688, Stop: 13044, Start Num: 9

Candidate Starts for Eros\_17:

(Start: 9 @12688 has 723 MA's), (23, 12790), (33, 12838), (39, 12859), (47, 12925), (53, 12961), (61, 13006), (68, 13033),

Gene: Espica\_14 Start: 8916, Stop: 9296, Start Num: 9

Candidate Starts for Espica\_14:

(Start: 9 @8916 has 723 MA's), (Start: 13 @8940 has 1 MA's), (20, 8988), (33, 9084), (42, 9120), (44, 9141), (47, 9171), (57, 9231), (60, 9249), (61, 9255), (65, 9276),

Gene: Espresso\_17 Start: 13014, Stop: 13463, Start Num: 9

Candidate Starts for Espresso\_17:

(Start: 9 @13014 has 723 MA's), (Start: 13 @13038 has 1 MA's), (61, 13350), (69, 13425),

Gene: Et2Brutus\_17 Start: 13931, Stop: 14308, Start Num: 9

Candidate Starts for Et2Brutus\_17:

(Start: 9 @13931 has 723 MA's), (Start: 13 @13955 has 1 MA's), (18, 13994), (23, 14033), (24, 14039), (66, 14291), (67, 14294), (68, 14297),

Gene: Euphoria\_17 Start: 12906, Stop: 13355, Start Num: 9

Candidate Starts for Euphoria\_17:

(Start: 9 @12906 has 723 MA's), (Start: 13 @12930 has 1 MA's), (61, 13242), (69, 13317),

Gene: Eurydice\_17 Start: 12685, Stop: 13041, Start Num: 9

Candidate Starts for Eurydice\_17:

(Start: 9 @12685 has 723 MA's), (23, 12787), (33, 12835), (39, 12856), (47, 12922), (53, 12958), (61, 13003), (68, 13030),

Gene: EvePickles\_10 Start: 7351, Stop: 7707, Start Num: 9

Candidate Starts for EvePickles\_10:

(Start: 9 @7351 has 723 MA's), (19, 7420), (25, 7456), (33, 7501), (38, 7516), (39, 7522), (53, 7636), (63, 7693),

Gene: EvilGenius\_20 Start: 13781, Stop: 14158, Start Num: 9

Candidate Starts for EvilGenius\_20:

(Start: 9 @13781 has 723 MA's), (15, 13811), (16, 13814), (18, 13844), (23, 13883), (42, 13985), (61, 14120), (62, 14126), (67, 14144), (68, 14147),

Gene: Expelliarmus\_13 Start: 11363, Stop: 11737, Start Num: 8

Candidate Starts for Expelliarmus\_13:

(Start: 8 @11363 has 48 MA's), (33, 11531), (40, 11555), (42, 11567), (47, 11618), (56, 11675), (57, 11678), (61, 11699), (66, 11720), (67, 11723),

Gene: ExplosioNervosa\_19 Start: 14173, Stop: 14550, Start Num: 9

Candidate Starts for ExplosioNervosa\_19:

(Start: 9 @14173 has 723 MA's), (23, 14275), (58, 14494), (61, 14512), (62, 14518),

Gene: Eyeball\_17 Start: 12645, Stop: 13094, Start Num: 9

Candidate Starts for Eyeball\_17:

(Start: 9 @12645 has 723 MA's), (Start: 13 @12669 has 1 MA's), (61, 12981), (69, 13056),

Gene: Faja\_10 Start: 7295, Stop: 7651, Start Num: 9

Candidate Starts for Faja\_10:

(Start: 9 @7295 has 723 MA's), (19, 7364), (25, 7400), (33, 7445), (38, 7460), (39, 7466), (53, 7580), (63, 7637),

Gene: Fajezeel\_19 Start: 13225, Stop: 13674, Start Num: 9

Candidate Starts for Fajezeel\_19:

(Start: 9 @13225 has 723 MA's), (Start: 13 @13249 has 1 MA's), (61, 13561), (69, 13636),

Gene: Fameo\_18 Start: 13396, Stop: 13773, Start Num: 9

Candidate Starts for Fameo\_18:

(Start: 9 @13396 has 723 MA's), (14, 13423), (16, 13429), (18, 13459), (23, 13498), (27, 13522), (42, 13600), (61, 13735), (67, 13759),

Gene: Farber\_19 Start: 12789, Stop: 13160, Start Num: 9

Candidate Starts for Farber\_19:

(Start: 9 @12789 has 723 MA's), (Start: 13 @12813 has 1 MA's), (21, 12873), (23, 12891), (47, 13041), (61, 13122), (62, 13128), (67, 13146), (68, 13149),

Gene: Fascinus\_16 Start: 12648, Stop: 13097, Start Num: 9

Candidate Starts for Fascinus\_16:

(Start: 9 @12648 has 723 MA's), (Start: 13 @12672 has 1 MA's), (61, 12984), (69, 13059),

Gene: Fayely\_19 Start: 14173, Stop: 14550, Start Num: 9

Candidate Starts for Fayely\_19:

(Start: 9 @14173 has 723 MA's), (23, 14275), (58, 14494), (61, 14512), (62, 14518),

Gene: Fenn\_18 Start: 14453, Stop: 14902, Start Num: 9

Candidate Starts for Fenn\_18:

(Start: 9 @14453 has 723 MA's), (Start: 13 @14477 has 1 MA's), (61, 14789), (69, 14864),

Gene: Fernando\_19 Start: 12794, Stop: 13165, Start Num: 9

Candidate Starts for Fernando\_19:

(Start: 9 @12794 has 723 MA's), (Start: 13 @12818 has 1 MA's), (21, 12878), (23, 12896), (47, 13046), (61, 13127), (62, 13133), (67, 13151), (68, 13154),

Gene: Fibonacci\_18 Start: 13931, Stop: 14308, Start Num: 9

Candidate Starts for Fibonacci\_18:

(Start: 9 @13931 has 723 MA's), (Start: 13 @13955 has 1 MA's), (18, 13994), (23, 14033), (24, 14039), (66, 14291), (67, 14294), (68, 14297),

Gene: FiringLine\_18 Start: 13318, Stop: 13695, Start Num: 9

Candidate Starts for FiringLine\_18:

(Start: 9 @13318 has 723 MA's), (15, 13348), (16, 13351), (18, 13381), (23, 13420), (42, 13522), (61, 13657), (62, 13663), (67, 13681),

Gene: First\_0018 Start: 13386, Stop: 13763, Start Num: 9

Candidate Starts for First\_0018:



(Start: 9 @13386 has 723 MA's), (15, 13416), (16, 13419), (18, 13449), (23, 13488), (42, 13590), (61, 13725), (67, 13749), (68, 13752),

Gene: Flare16\_18 Start: 13422, Stop: 13799, Start Num: 9

Candidate Starts for Flare16\_18:

(Start: 9 @13422 has 723 MA's), (14, 13449), (16, 13455), (18, 13485), (23, 13524), (28, 13554), (42, 13626), (61, 13761), (66, 13782), (67, 13785), (68, 13788),

Gene: Flaverint\_18 Start: 13928, Stop: 14305, Start Num: 9

Candidate Starts for Flaverint\_18:

(Start: 9 @13928 has 723 MA's), (Start: 13 @13952 has 1 MA's), (18, 13991), (23, 14030), (24, 14036), (66, 14288), (67, 14291), (68, 14294),

Gene: Florean\_17 Start: 12685, Stop: 13041, Start Num: 9

Candidate Starts for Florean\_17:

(Start: 9 @12685 has 723 MA's), (23, 12787), (33, 12835), (39, 12856), (47, 12922), (53, 12958), (61, 13003), (68, 13030),

Gene: Flux\_17 Start: 12688, Stop: 13044, Start Num: 9

Candidate Starts for Flux\_17:

(Start: 9 @12688 has 723 MA's), (23, 12790), (33, 12838), (39, 12859), (47, 12925), (53, 12961), (61, 13006), (68, 13033),

Gene: ForGetIt\_14 Start: 11650, Stop: 12024, Start Num: 8

Candidate Starts for ForGetIt\_14:

(Start: 8 @11650 has 48 MA's), (Start: 13 @11674 has 1 MA's), (15, 11680), (33, 11818), (40, 11842), (47, 11905), (57, 11965), (61, 11986), (66, 12007), (67, 12010), (68, 12013),

Gene: Forsytheast\_16 Start: 12915, Stop: 13364, Start Num: 9

Candidate Starts for Forsytheast\_16:

(Start: 9 @12915 has 723 MA's), (Start: 13 @12939 has 1 MA's), (61, 13251), (69, 13326),

Gene: Francis47\_17 Start: 13462, Stop: 13911, Start Num: 9

Candidate Starts for Francis47\_17:

(Start: 9 @13462 has 723 MA's), (Start: 13 @13486 has 1 MA's), (61, 13798), (69, 13873),

Gene: Fred313\_17 Start: 12061, Stop: 12435, Start Num: 9

Candidate Starts for Fred313\_17:

(Start: 9 @12061 has 723 MA's), (23, 12163), (33, 12229), (39, 12250), (47, 12316), (61, 12397), (67, 12421),

Gene: Froghopper\_18 Start: 12878, Stop: 13327, Start Num: 9

Candidate Starts for Froghopper\_18:

(Start: 9 @12878 has 723 MA's), (Start: 13 @12902 has 1 MA's), (61, 13214), (69, 13289),

Gene: Funston\_17 Start: 12688, Stop: 13044, Start Num: 9

Candidate Starts for Funston\_17:

(Start: 9 @12688 has 723 MA's), (23, 12790), (33, 12838), (39, 12859), (47, 12925), (53, 12961), (61, 13006), (68, 13033),

Gene: Fushigi\_18 Start: 13325, Stop: 13774, Start Num: 9

Candidate Starts for Fushigi\_18:

(Start: 9 @13325 has 723 MA's), (Start: 13 @13349 has 1 MA's), (61, 13661), (69, 13736),

Gene: Gadost\_17 Start: 12692, Stop: 13048, Start Num: 9

Candidate Starts for Gadost\_17:

(Start: 9 @12692 has 723 MA's), (23, 12794), (33, 12842), (39, 12863), (47, 12929), (53, 12965), (61, 13010), (68, 13037),

Gene: GageAP\_19 Start: 13642, Stop: 14091, Start Num: 9

Candidate Starts for GageAP\_19:

(Start: 9 @13642 has 723 MA's), (Start: 13 @13666 has 1 MA's), (61, 13978), (69, 14053),

Gene: Gail\_17 Start: 12483, Stop: 12860, Start Num: 9

Candidate Starts for Gail\_17:

(Start: 9 @12483 has 723 MA's), (16, 12516), (17, 12543), (18, 12546), (23, 12585), (44, 12708), (67, 12846), (68, 12849),

Gene: Gandalf20\_18 Start: 13709, Stop: 14158, Start Num: 9

Candidate Starts for Gandalf20\_18:

(Start: 9 @13709 has 723 MA's), (Start: 13 @13733 has 1 MA's), (61, 14045), (69, 14120),

Gene: Garak\_22 Start: 13480, Stop: 13857, Start Num: 9

Candidate Starts for Garak\_22:

(Start: 9 @13480 has 723 MA's), (14, 13507), (16, 13513), (17, 13540), (18, 13543), (23, 13582), (61, 13819), (67, 13843), (68, 13846),

Gene: GaugeLDP\_20 Start: 14689, Stop: 15066, Start Num: 9

Candidate Starts for GaugeLDP\_20:

(Start: 9 @14689 has 723 MA's), (14, 14716), (16, 14722), (18, 14752), (23, 14791), (52, 14977), (59, 15019), (61, 15028), (66, 15049), (67, 15052), (68, 15055),

Gene: Gemma\_19 Start: 12870, Stop: 13241, Start Num: 9

Candidate Starts for Gemma\_19:

(Start: 9 @12870 has 723 MA's), (Start: 13 @12894 has 1 MA's), (21, 12954), (23, 12972), (47, 13122), (61, 13203), (62, 13209), (67, 13227), (68, 13230),

Gene: George\_13 Start: 11800, Stop: 12174, Start Num: 8

Candidate Starts for George\_13:

(Start: 8 @11800 has 48 MA's), (Start: 13 @11824 has 1 MA's), (15, 11830), (33, 11968), (40, 11992), (47, 12055), (57, 12115), (61, 12136), (66, 12157), (67, 12160), (68, 12163),

Gene: Georgie2\_19 Start: 13319, Stop: 13696, Start Num: 9

Candidate Starts for Georgie2\_19:

(Start: 9 @13319 has 723 MA's), (15, 13349), (16, 13352), (18, 13382), (23, 13421), (42, 13523), (61, 13658), (62, 13664), (67, 13682),

Gene: Ghouboy\_14 Start: 11877, Stop: 12251, Start Num: 8

Candidate Starts for Ghouboy\_14:

(Start: 8 @11877 has 48 MA's), (Start: 13 @11901 has 1 MA's), (15, 11907), (40, 12069), (47, 12132), (51, 12162), (57, 12192), (61, 12213), (66, 12234), (67, 12237), (68, 12240),

Gene: Gilberta\_18 Start: 13925, Stop: 14302, Start Num: 9

Candidate Starts for Gilberta\_18:

(Start: 9 @13925 has 723 MA's), (Start: 13 @13949 has 1 MA's), (18, 13988), (23, 14027), (24, 14033), (66, 14285), (67, 14288), (68, 14291),

Gene: GingkoMaracino\_19 Start: 12682, Stop: 13053, Start Num: 9  
Candidate Starts for GingkoMaracino\_19:  
(Start: 9 @12682 has 723 MA's), (Start: 13 @12706 has 1 MA's), (21, 12766), (23, 12784), (47, 12934), (61, 13015), (62, 13021), (67, 13039), (68, 13042),

Gene: Giroux\_17 Start: 12343, Stop: 12717, Start Num: 9  
Candidate Starts for Giroux\_17:  
(Start: 9 @12343 has 723 MA's), (23, 12445), (33, 12511), (39, 12532), (47, 12598), (61, 12679), (62, 12685), (67, 12703),

Gene: Gladiator\_21 Start: 13452, Stop: 13829, Start Num: 9  
Candidate Starts for Gladiator\_21:  
(Start: 9 @13452 has 723 MA's), (14, 13479), (17, 13512), (18, 13515), (23, 13554), (45, 13695), (61, 13791), (67, 13815), (68, 13818),

Gene: Globfish\_10 Start: 7340, Stop: 7696, Start Num: 9  
Candidate Starts for Globfish\_10:  
(Start: 9 @7340 has 723 MA's), (19, 7409), (22, 7436), (23, 7439), (25, 7445), (37, 7502), (39, 7511), (55, 7640), (63, 7682),

Gene: Gollum\_14 Start: 8916, Stop: 9296, Start Num: 9  
Candidate Starts for Gollum\_14:  
(Start: 9 @8916 has 723 MA's), (Start: 13 @8940 has 1 MA's), (20, 8988), (33, 9084), (42, 9120), (44, 9141), (47, 9171), (57, 9231), (60, 9249), (61, 9255), (65, 9276),

Gene: Goose\_17 Start: 12450, Stop: 12824, Start Num: 9  
Candidate Starts for Goose\_17:  
(Start: 9 @12450 has 723 MA's), (23, 12552), (33, 12618), (39, 12639), (47, 12705), (53, 12741), (61, 12786), (62, 12792), (68, 12813),

Gene: Gorpy\_10 Start: 7304, Stop: 7660, Start Num: 9  
Candidate Starts for Gorpy\_10:  
(Start: 9 @7304 has 723 MA's), (19, 7373), (23, 7403), (25, 7409), (37, 7466), (39, 7475), (55, 7604), (63, 7646),

Gene: GrecoEtereo\_18 Start: 13216, Stop: 13665, Start Num: 9  
Candidate Starts for GrecoEtereo\_18:  
(Start: 9 @13216 has 723 MA's), (Start: 13 @13240 has 1 MA's), (61, 13552), (69, 13627),

Gene: GreedyLawyer\_21 Start: 13484, Stop: 13861, Start Num: 9  
Candidate Starts for GreedyLawyer\_21:  
(Start: 9 @13484 has 723 MA's), (14, 13511), (16, 13517), (17, 13544), (18, 13547), (23, 13586), (61, 13823), (67, 13847), (68, 13850),

Gene: Greg\_19 Start: 13225, Stop: 13674, Start Num: 9  
Candidate Starts for Greg\_19:  
(Start: 9 @13225 has 723 MA's), (Start: 13 @13249 has 1 MA's), (61, 13561), (69, 13636),

Gene: Grif\_19 Start: 12879, Stop: 13250, Start Num: 9  
Candidate Starts for Grif\_19:  
(Start: 9 @12879 has 723 MA's), (Start: 13 @12903 has 1 MA's), (21, 12963), (23, 12981), (47, 13131), (61, 13212), (62, 13218), (67, 13236), (68, 13239),

Gene: Groundhog\_13 Start: 11364, Stop: 11738, Start Num: 8

Candidate Starts for Groundhog\_13:

(Start: 8 @11364 has 48 MA's), (33, 11532), (40, 11556), (42, 11568), (47, 11619), (56, 11676), (57, 11679), (61, 11700), (66, 11721), (67, 11724),

Gene: Groupthink\_20 Start: 12870, Stop: 13241, Start Num: 9

Candidate Starts for Groupthink\_20:

(Start: 9 @12870 has 723 MA's), (Start: 13 @12894 has 1 MA's), (21, 12954), (23, 12972), (47, 13122), (61, 13203), (62, 13209), (67, 13227), (68, 13230),

Gene: Grub\_19 Start: 12788, Stop: 13159, Start Num: 9

Candidate Starts for Grub\_19:

(Start: 9 @12788 has 723 MA's), (Start: 13 @12812 has 1 MA's), (21, 12872), (23, 12890), (47, 13040), (61, 13121), (62, 13127), (67, 13145), (68, 13148),

Gene: Grum1\_19 Start: 12789, Stop: 13160, Start Num: 9

Candidate Starts for Grum1\_19:

(Start: 9 @12789 has 723 MA's), (Start: 13 @12813 has 1 MA's), (21, 12873), (23, 12891), (47, 13041), (61, 13122), (62, 13128), (67, 13146), (68, 13149),

Gene: Gruunaga\_21 Start: 13452, Stop: 13829, Start Num: 9

Candidate Starts for Gruunaga\_21:

(Start: 9 @13452 has 723 MA's), (14, 13479), (17, 13512), (18, 13515), (23, 13554), (45, 13695), (61, 13791), (67, 13815), (68, 13818),

Gene: GtownJaz\_19 Start: 12797, Stop: 13168, Start Num: 9

Candidate Starts for GtownJaz\_19:

(Start: 9 @12797 has 723 MA's), (Start: 13 @12821 has 1 MA's), (21, 12881), (23, 12899), (47, 13049), (61, 13130), (62, 13136), (67, 13154), (68, 13157),

Gene: Gwendoluna\_19 Start: 14322, Stop: 14771, Start Num: 9

Candidate Starts for Gwendoluna\_19:

(Start: 9 @14322 has 723 MA's), (Start: 13 @14346 has 1 MA's), (61, 14658), (69, 14733),

Gene: Gyzlar\_19 Start: 14152, Stop: 14601, Start Num: 9

Candidate Starts for Gyzlar\_19:

(Start: 9 @14152 has 723 MA's), (Start: 13 @14176 has 1 MA's), (61, 14488), (69, 14563),

Gene: HINdeR\_17 Start: 14142, Stop: 14516, Start Num: 9

Candidate Starts for HINdeR\_17:

(Start: 9 @14142 has 723 MA's), (23, 14244), (33, 14310), (34, 14313), (39, 14331), (40, 14334), (41, 14337), (47, 14397), (50, 14412), (53, 14433), (61, 14478), (67, 14502), (68, 14505),

Gene: HamSlice\_16 Start: 12686, Stop: 13042, Start Num: 9

Candidate Starts for HamSlice\_16:

(Start: 9 @12686 has 723 MA's), (23, 12788), (33, 12836), (39, 12857), (47, 12923), (53, 12959), (61, 13004), (68, 13031),

Gene: Hami1\_19 Start: 13297, Stop: 13746, Start Num: 9

Candidate Starts for Hami1\_19:

(Start: 9 @13297 has 723 MA's), (Start: 13 @13321 has 1 MA's), (61, 13633), (69, 13708),

Gene: Hammer\_21 Start: 13467, Stop: 13844, Start Num: 9

Candidate Starts for Hammer\_21:

(Start: 9 @13467 has 723 MA's), (14, 13494), (17, 13527), (18, 13530), (23, 13569), (45, 13710), (61, 13806), (67, 13830), (68, 13833),

Gene: HanShotFirst\_17 Start: 12831, Stop: 13280, Start Num: 9

Candidate Starts for HanShotFirst\_17:

(Start: 9 @12831 has 723 MA's), (Start: 13 @12855 has 1 MA's), (61, 13167), (69, 13242),

Gene: Happiness\_17 Start: 12694, Stop: 13050, Start Num: 9

Candidate Starts for Happiness\_17:

(Start: 9 @12694 has 723 MA's), (23, 12796), (33, 12844), (39, 12865), (47, 12931), (53, 12967), (61, 13012), (68, 13039),

Gene: Harlequin\_14 Start: 8860, Stop: 9240, Start Num: 9

Candidate Starts for Harlequin\_14:

(Start: 9 @8860 has 723 MA's), (Start: 13 @8884 has 1 MA's), (19, 8929), (20, 8932), (30, 9001), (33, 9028), (47, 9115), (60, 9193), (61, 9199), (65, 9220),

Gene: HarryHoudini\_20 Start: 13879, Stop: 14256, Start Num: 9

Candidate Starts for HarryHoudini\_20:

(Start: 9 @13879 has 723 MA's), (14, 13906), (16, 13912), (18, 13942), (23, 13981), (28, 14011), (42, 14083), (61, 14218), (66, 14239), (67, 14242), (68, 14245),

Gene: HarryOW\_18 Start: 13216, Stop: 13665, Start Num: 9

Candidate Starts for HarryOW\_18:

(Start: 9 @13216 has 723 MA's), (Start: 13 @13240 has 1 MA's), (61, 13552), (69, 13627),

Gene: HashRod\_20 Start: 12880, Stop: 13251, Start Num: 9

Candidate Starts for HashRod\_20:

(Start: 9 @12880 has 723 MA's), (Start: 13 @12904 has 1 MA's), (21, 12964), (23, 12982), (47, 13132), (61, 13213), (62, 13219), (67, 13237), (68, 13240),

Gene: HaveUMetTed\_20 Start: 12864, Stop: 13235, Start Num: 9

Candidate Starts for HaveUMetTed\_20:

(Start: 9 @12864 has 723 MA's), (Start: 13 @12888 has 1 MA's), (21, 12948), (23, 12966), (47, 13116), (61, 13197), (62, 13203), (67, 13221), (68, 13224),

Gene: Heathen\_17 Start: 12144, Stop: 12518, Start Num: 9

Candidate Starts for Heathen\_17:

(Start: 9 @12144 has 723 MA's), (23, 12246), (33, 12312), (39, 12333), (47, 12399), (61, 12480), (62, 12486), (67, 12504),

Gene: Heffalump\_20 Start: 15198, Stop: 15575, Start Num: 9

Candidate Starts for Heffalump\_20:

(Start: 9 @15198 has 723 MA's), (14, 15225), (16, 15231), (18, 15261), (23, 15300), (27, 15324), (42, 15402), (61, 15537), (62, 15543), (67, 15561),

Gene: HelDan\_17 Start: 12396, Stop: 12770, Start Num: 9

Candidate Starts for HelDan\_17:

(Start: 9 @12396 has 723 MA's), (23, 12498), (33, 12564), (39, 12585), (47, 12651), (61, 12732), (62, 12738), (67, 12756),

Gene: Heliosoles\_19 Start: 12870, Stop: 13241, Start Num: 9

Candidate Starts for Heliosoles\_19:

(Start: 9 @12870 has 723 MA's), (Start: 13 @12894 has 1 MA's), (21, 12954), (23, 12972), (47, 13122), (61, 13203), (62, 13209), (67, 13227), (68, 13230),

Gene: Helmet\_22 Start: 13480, Stop: 13857, Start Num: 9

Candidate Starts for Helmet\_22:

(Start: 9 @13480 has 723 MA's), (14, 13507), (16, 13513), (17, 13540), (18, 13543), (23, 13582), (61, 13819), (67, 13843), (68, 13846),

Gene: Herbertwm\_15 Start: 12076, Stop: 12453, Start Num: 9

Candidate Starts for Herbertwm\_15:

(5, 12052), (Start: 9 @12076 has 723 MA's), (14, 12103), (17, 12136), (18, 12139), (23, 12178), (42, 12280), (44, 12301), (46, 12325), (61, 12415), (62, 12421), (67, 12439),

Gene: Hercules11\_19 Start: 12803, Stop: 13174, Start Num: 9

Candidate Starts for Hercules11\_19:

(Start: 9 @12803 has 723 MA's), (Start: 13 @12827 has 1 MA's), (21, 12887), (23, 12905), (47, 13055), (61, 13136), (62, 13142), (67, 13160), (68, 13163),

Gene: Hermia\_19 Start: 13963, Stop: 14388, Start Num: 13

Candidate Starts for Hermia\_19:

(Start: 9 @13939 has 723 MA's), (Start: 13 @13963 has 1 MA's), (61, 14275), (69, 14350),

Gene: HermioneGrange\_17 Start: 12851, Stop: 13300, Start Num: 9

Candidate Starts for HermioneGrange\_17:

(Start: 9 @12851 has 723 MA's), (Start: 13 @12875 has 1 MA's), (61, 13187), (69, 13262),

Gene: Hestia\_10 Start: 7405, Stop: 7764, Start Num: 9

Candidate Starts for Hestia\_10:

(Start: 9 @7405 has 723 MA's), (14, 7432), (23, 7504), (36, 7564), (39, 7576), (50, 7675), (51, 7690), (63, 7750),

Gene: Hexamo\_21 Start: 13434, Stop: 13811, Start Num: 9

Candidate Starts for Hexamo\_21:

(Start: 9 @13434 has 723 MA's), (14, 13461), (16, 13467), (17, 13494), (18, 13497), (23, 13536), (45, 13677), (61, 13773), (67, 13797), (68, 13800),

Gene: Hillester\_10 Start: 7292, Stop: 7648, Start Num: 9

Candidate Starts for Hillester\_10:

(Start: 9 @7292 has 723 MA's), (10, 7298), (11, 7304), (12, 7307), (19, 7361), (22, 7388), (23, 7391), (36, 7451), (37, 7454), (39, 7463), (55, 7592), (58, 7607), (63, 7634),

Gene: Hiro\_14 Start: 8860, Stop: 9240, Start Num: 9

Candidate Starts for Hiro\_14:

(Start: 9 @8860 has 723 MA's), (Start: 13 @8884 has 1 MA's), (19, 8929), (20, 8932), (30, 9001), (33, 9028), (47, 9115), (60, 9193), (61, 9199), (65, 9220),

Gene: Holli\_17 Start: 12478, Stop: 12834, Start Num: 9

Candidate Starts for Holli\_17:

(Start: 9 @12478 has 723 MA's), (23, 12580), (33, 12628), (39, 12649), (47, 12715), (53, 12751), (61, 12796), (68, 12823),

Gene: Homines\_17 Start: 12941, Stop: 13390, Start Num: 9

Candidate Starts for Homines\_17:

(Start: 9 @12941 has 723 MA's), (Start: 13 @12965 has 1 MA's), (61, 13277), (69, 13352),

Gene: Hookmount\_18 Start: 12884, Stop: 13258, Start Num: 9

Candidate Starts for Hookmount\_18:

(Start: 9 @12884 has 723 MA's), (Start: 13 @12908 has 1 MA's), (23, 12986), (33, 13052), (39, 13073), (47, 13139), (61, 13220), (67, 13244),

Gene: Hoot\_21 Start: 13463, Stop: 13840, Start Num: 9

Candidate Starts for Hoot\_21:

(Start: 9 @13463 has 723 MA's), (14, 13490), (16, 13496), (17, 13523), (18, 13526), (23, 13565), (61, 13802), (67, 13826), (68, 13829),

Gene: Hope4ever\_17 Start: 13327, Stop: 13776, Start Num: 9

Candidate Starts for Hope4ever\_17:

(Start: 9 @13327 has 723 MA's), (Start: 13 @13351 has 1 MA's), (61, 13663), (69, 13738),

Gene: HortumSL17\_19 Start: 14140, Stop: 14517, Start Num: 9

Candidate Starts for HortumSL17\_19:

(Start: 9 @14140 has 723 MA's), (23, 14242), (58, 14461), (61, 14479), (62, 14485),

Gene: Houdini22\_17 Start: 12692, Stop: 13048, Start Num: 9

Candidate Starts for Houdini22\_17:

(Start: 9 @12692 has 723 MA's), (23, 12794), (33, 12842), (39, 12863), (47, 12929), (53, 12965), (61, 13010), (68, 13037),

Gene: HuhtaEnerson15\_14 Start: 11800, Stop: 12174, Start Num: 8

Candidate Starts for HuhtaEnerson15\_14:

(Start: 8 @11800 has 48 MA's), (Start: 13 @11824 has 1 MA's), (15, 11830), (33, 11968), (40, 11992), (47, 12055), (57, 12115), (61, 12136), (66, 12157), (67, 12160), (68, 12163),

Gene: Hum25\_8 Start: 6105, Stop: 6491, Start Num: 9

Candidate Starts for Hum25\_8:

(Start: 9 @6105 has 723 MA's), (15, 6135), (36, 6282), (43, 6327), (53, 6411),

Gene: Hutc2\_18 Start: 13931, Stop: 14308, Start Num: 9

Candidate Starts for Hutc2\_18:

(Start: 9 @13931 has 723 MA's), (Start: 13 @13955 has 1 MA's), (18, 13994), (23, 14033), (24, 14039), (66, 14291), (67, 14294), (68, 14297),

Gene: ICleared\_17 Start: 12686, Stop: 13042, Start Num: 9

Candidate Starts for ICleared\_17:

(Start: 9 @12686 has 723 MA's), (23, 12788), (33, 12836), (39, 12857), (47, 12923), (53, 12959), (61, 13004), (68, 13031),

Gene: ILeeKay\_19 Start: 13086, Stop: 13535, Start Num: 9

Candidate Starts for ILeeKay\_19:

(Start: 9 @13086 has 723 MA's), (Start: 13 @13110 has 1 MA's), (61, 13422), (69, 13497),

Gene: Iceman\_18 Start: 12977, Stop: 13333, Start Num: 9

Candidate Starts for Iceman\_18:

(Start: 9 @12977 has 723 MA's), (23, 13079), (33, 13127), (39, 13148), (47, 13214), (53, 13250), (61, 13295), (68, 13322),

Gene: Ichabod\_18 Start: 12943, Stop: 13392, Start Num: 9

Candidate Starts for Ichabod\_18:

(Start: 9 @12943 has 723 MA's), (Start: 13 @12967 has 1 MA's), (50, 13210), (61, 13279), (69, 13354),

Gene: Idleandcovert\_17 Start: 12343, Stop: 12717, Start Num: 9

Candidate Starts for Idleandcovert\_17:

(Start: 9 @12343 has 723 MA's), (23, 12445), (33, 12511), (39, 12532), (47, 12598), (61, 12679), (62, 12685), (67, 12703),

Gene: Indra\_21 Start: 13479, Stop: 13856, Start Num: 9

Candidate Starts for Indra\_21:

(Start: 9 @13479 has 723 MA's), (14, 13506), (16, 13512), (17, 13539), (18, 13542), (23, 13581), (45, 13722), (61, 13818), (67, 13842), (68, 13845),

Gene: Insomnia\_17 Start: 13980, Stop: 14357, Start Num: 9

Candidate Starts for Insomnia\_17:

(Start: 9 @13980 has 723 MA's), (Start: 13 @14004 has 1 MA's), (18, 14043), (23, 14082), (24, 14088), (66, 14340), (67, 14343), (68, 14346),

Gene: Iracema64\_18 Start: 13000, Stop: 13356, Start Num: 9

Candidate Starts for Iracema64\_18:

(Start: 9 @13000 has 723 MA's), (23, 13102), (33, 13150), (39, 13171), (47, 13237), (53, 13273), (61, 13318), (68, 13345),

Gene: IronMan\_20 Start: 15064, Stop: 15441, Start Num: 9

Candidate Starts for IronMan\_20:

(Start: 9 @15064 has 723 MA's), (17, 15124), (18, 15127), (23, 15166), (42, 15268), (54, 15358), (57, 15379), (61, 15403),

Gene: Isca\_17 Start: 12231, Stop: 12605, Start Num: 9

Candidate Starts for Isca\_17:

(Start: 9 @12231 has 723 MA's), (23, 12333), (33, 12399), (39, 12420), (47, 12486), (61, 12567), (62, 12573), (67, 12591),

Gene: Isiphiwo\_21 Start: 13475, Stop: 13852, Start Num: 9

Candidate Starts for Isiphiwo\_21:

(Start: 9 @13475 has 723 MA's), (14, 13502), (16, 13508), (17, 13535), (18, 13538), (23, 13577), (61, 13814), (67, 13838), (68, 13841),

Gene: Isolde\_11 Start: 7366, Stop: 7722, Start Num: 9

Candidate Starts for Isolde\_11:

(Start: 9 @7366 has 723 MA's), (23, 7465), (25, 7471), (39, 7537), (55, 7666), (63, 7708),

Gene: Iwokeuplikedis\_19 Start: 13349, Stop: 13726, Start Num: 9

Candidate Starts for Iwokeuplikedis\_19:

(Start: 9 @13349 has 723 MA's), (14, 13376), (16, 13382), (18, 13412), (23, 13451), (28, 13481), (42, 13553), (61, 13688), (67, 13712), (68, 13715),

Gene: JC27\_19 Start: 13822, Stop: 14271, Start Num: 9



Candidate Starts for JC27\_19:

(Start: 9 @13822 has 723 MA's), (Start: 13 @13846 has 1 MA's), (61, 14158), (69, 14233),

Gene: JF2\_17 Start: 11996, Stop: 12370, Start Num: 9

Candidate Starts for JF2\_17:

(Start: 9 @11996 has 723 MA's), (23, 12098), (33, 12164), (39, 12185), (47, 12251), (61, 12332), (62, 12338), (67, 12356),

Gene: JF4\_17 Start: 11996, Stop: 12370, Start Num: 9

Candidate Starts for JF4\_17:

(Start: 9 @11996 has 723 MA's), (23, 12098), (33, 12164), (39, 12185), (47, 12251), (61, 12332), (62, 12338), (67, 12356),

Gene: JHC117\_19 Start: 12794, Stop: 13165, Start Num: 9

Candidate Starts for JHC117\_19:

(Start: 9 @12794 has 723 MA's), (Start: 13 @12818 has 1 MA's), (21, 12878), (23, 12896), (47, 13046), (61, 13127), (62, 13133), (67, 13151), (68, 13154),

Gene: JSwag\_20 Start: 12476, Stop: 12853, Start Num: 9

Candidate Starts for JSwag\_20:

(Start: 9 @12476 has 723 MA's), (23, 12578), (40, 12668), (62, 12821), (67, 12839), (68, 12842),

Gene: Jaan\_21 Start: 15462, Stop: 15839, Start Num: 9

Candidate Starts for Jaan\_21:

(Start: 9 @15462 has 723 MA's), (17, 15522), (18, 15525), (23, 15564), (42, 15666), (54, 15756), (57, 15777), (61, 15801),

Gene: Jabiru\_14 Start: 11689, Stop: 12063, Start Num: 8

Candidate Starts for Jabiru\_14:

(Start: 8 @11689 has 48 MA's), (Start: 13 @11713 has 1 MA's), (15, 11719), (40, 11881), (47, 11944), (57, 12004), (61, 12025), (66, 12046), (67, 12049), (68, 12052),

Gene: Jabith\_18 Start: 13980, Stop: 14357, Start Num: 9

Candidate Starts for Jabith\_18:

(Start: 9 @13980 has 723 MA's), (Start: 13 @14004 has 1 MA's), (18, 14043), (23, 14082), (24, 14088), (66, 14340), (67, 14343), (68, 14346),

Gene: JackSparrow\_18 Start: 13253, Stop: 13702, Start Num: 9

Candidate Starts for JackSparrow\_18:

(Start: 9 @13253 has 723 MA's), (Start: 13 @13277 has 1 MA's), (61, 13589), (69, 13664),

Gene: Jasper\_18 Start: 12754, Stop: 13203, Start Num: 9

Candidate Starts for Jasper\_18:

(Start: 9 @12754 has 723 MA's), (Start: 13 @12778 has 1 MA's), (61, 13090), (69, 13165),

Gene: Jaykayelowell\_17 Start: 12684, Stop: 13040, Start Num: 9

Candidate Starts for Jaykayelowell\_17:

(Start: 9 @12684 has 723 MA's), (23, 12786), (33, 12834), (39, 12855), (47, 12921), (53, 12957), (61, 13002), (68, 13029),

Gene: Jeeves\_17 Start: 12526, Stop: 12903, Start Num: 9

Candidate Starts for Jeeves\_17:

(Start: 9 @12526 has 723 MA's), (16, 12559), (18, 12589), (23, 12628), (44, 12751), (66, 12886), (67, 12889), (68, 12892),

Gene: Jeffabunny\_21 Start: 13486, Stop: 13863, Start Num: 9

Candidate Starts for Jeffabunny\_21:

(Start: 9 @13486 has 723 MA's), (14, 13513), (17, 13546), (18, 13549), (23, 13588), (45, 13729), (61, 13825), (67, 13849), (68, 13852),

Gene: JenCasNa\_19 Start: 12794, Stop: 13165, Start Num: 9

Candidate Starts for JenCasNa\_19:

(Start: 9 @12794 has 723 MA's), (Start: 13 @12818 has 1 MA's), (21, 12878), (23, 12896), (47, 13046), (61, 13127), (62, 13133), (67, 13151), (68, 13154),

Gene: JeppNRM\_20 Start: 12868, Stop: 13239, Start Num: 9

Candidate Starts for JeppNRM\_20:

(Start: 9 @12868 has 723 MA's), (Start: 13 @12892 has 1 MA's), (21, 12952), (23, 12970), (47, 13120), (61, 13201), (62, 13207), (67, 13225), (68, 13228),

Gene: Jerm\_20 Start: 13796, Stop: 14173, Start Num: 9

Candidate Starts for Jerm\_20:

(Start: 9 @13796 has 723 MA's), (15, 13826), (16, 13829), (18, 13859), (23, 13898), (52, 14084), (61, 14135), (67, 14159), (68, 14162),

Gene: Jerm2\_18 Start: 13123, Stop: 13572, Start Num: 9

Candidate Starts for Jerm2\_18:

(Start: 9 @13123 has 723 MA's), (Start: 13 @13147 has 1 MA's), (61, 13459), (69, 13534),

Gene: Jester\_14 Start: 8860, Stop: 9240, Start Num: 9

Candidate Starts for Jester\_14:

(Start: 9 @8860 has 723 MA's), (Start: 13 @8884 has 1 MA's), (19, 8929), (20, 8932), (30, 9001), (33, 9028), (47, 9115), (60, 9193), (61, 9199), (65, 9220),

Gene: JetBlade\_17 Start: 12685, Stop: 13041, Start Num: 9

Candidate Starts for JetBlade\_17:

(Start: 9 @12685 has 723 MA's), (23, 12787), (33, 12835), (39, 12856), (47, 12922), (53, 12958), (61, 13003), (68, 13030),

Gene: JewelBug\_21 Start: 13487, Stop: 13864, Start Num: 9

Candidate Starts for JewelBug\_21:

(Start: 9 @13487 has 723 MA's), (14, 13514), (16, 13520), (17, 13547), (18, 13550), (23, 13589), (61, 13826), (67, 13850), (68, 13853),

Gene: Jobu08\_19 Start: 12863, Stop: 13234, Start Num: 9

Candidate Starts for Jobu08\_19:

(Start: 9 @12863 has 723 MA's), (Start: 13 @12887 has 1 MA's), (21, 12947), (23, 12965), (47, 13115), (61, 13196), (62, 13202), (67, 13220), (68, 13223),

Gene: JoongJeon\_17 Start: 12688, Stop: 13044, Start Num: 9

Candidate Starts for JoongJeon\_17:

(Start: 9 @12688 has 723 MA's), (23, 12790), (33, 12838), (39, 12859), (47, 12925), (53, 12961), (61, 13006), (68, 13033),

Gene: Jordennis\_21 Start: 13475, Stop: 13852, Start Num: 9

Candidate Starts for Jordennis\_21:

(Start: 9 @13475 has 723 MA's), (14, 13502), (16, 13508), (17, 13535), (18, 13538), (23, 13577), (61, 13814), (67, 13838), (68, 13841),

Gene: Jorgensen\_17 Start: 12710, Stop: 13159, Start Num: 9

Candidate Starts for Jorgensen\_17:

(Start: 9 @12710 has 723 MA's), (Start: 13 @12734 has 1 MA's), (61, 13046), (69, 13121),

Gene: Joselito\_18 Start: 13928, Stop: 14305, Start Num: 9

Candidate Starts for Joselito\_18:

(Start: 9 @13928 has 723 MA's), (Start: 13 @13952 has 1 MA's), (18, 13991), (23, 14030), (24, 14036), (66, 14288), (67, 14291), (68, 14294),

Gene: JoshKayV\_20 Start: 13800, Stop: 14177, Start Num: 9

Candidate Starts for JoshKayV\_20:

(Start: 9 @13800 has 723 MA's), (15, 13830), (16, 13833), (18, 13863), (23, 13902), (61, 14139), (62, 14145), (67, 14163), (68, 14166),

Gene: Journey13\_16 Start: 12509, Stop: 12886, Start Num: 9

Candidate Starts for Journey13\_16:

(Start: 9 @12509 has 723 MA's), (14, 12536), (16, 12542), (17, 12569), (18, 12572), (23, 12611), (42, 12713), (61, 12848), (66, 12869), (67, 12872), (68, 12875),

Gene: Jovo\_14 Start: 11909, Stop: 12283, Start Num: 8

Candidate Starts for Jovo\_14:

(Start: 8 @11909 has 48 MA's), (Start: 13 @11933 has 1 MA's), (15, 11939), (40, 12101), (47, 12164), (51, 12194), (57, 12224), (61, 12245), (66, 12266), (67, 12269), (68, 12272),

Gene: Jsquared\_17 Start: 12210, Stop: 12587, Start Num: 9

Candidate Starts for Jsquared\_17:

(Start: 9 @12210 has 723 MA's), (14, 12237), (16, 12243), (17, 12270), (18, 12273), (23, 12312), (42, 12414), (61, 12549), (66, 12570), (67, 12573), (68, 12576),

Gene: JuliaChild\_19 Start: 13381, Stop: 13830, Start Num: 9

Candidate Starts for JuliaChild\_19:

(Start: 9 @13381 has 723 MA's), (Start: 13 @13405 has 1 MA's), (61, 13717), (69, 13792),

Gene: KADY\_20 Start: 12880, Stop: 13251, Start Num: 9

Candidate Starts for KADY\_20:

(Start: 9 @12880 has 723 MA's), (Start: 13 @12904 has 1 MA's), (21, 12964), (23, 12982), (47, 13132), (61, 13213), (62, 13219), (67, 13237), (68, 13240),

Gene: KBG\_18 Start: 13831, Stop: 14280, Start Num: 9

Candidate Starts for KBG\_18:

(Start: 9 @13831 has 723 MA's), (Start: 13 @13855 has 1 MA's), (61, 14167), (69, 14242),

Gene: KFPoly\_17 Start: 12688, Stop: 13044, Start Num: 9

Candidate Starts for KFPoly\_17:

(Start: 9 @12688 has 723 MA's), (23, 12790), (33, 12838), (39, 12859), (47, 12925), (53, 12961), (61, 13006), (68, 13033),

Gene: KSSJEB\_17 Start: 12728, Stop: 13177, Start Num: 9

Candidate Starts for KSSJEB\_17:

(Start: 9 @12728 has 723 MA's), (Start: 13 @12752 has 1 MA's), (61, 13064), (69, 13139),

Gene: Kalb97\_20 Start: 12868, Stop: 13239, Start Num: 9

Candidate Starts for Kalb97\_20:

(Start: 9 @12868 has 723 MA's), (Start: 13 @12892 has 1 MA's), (21, 12952), (23, 12970), (47, 13120), (61, 13201), (62, 13207), (67, 13225), (68, 13228),

Gene: Kalnoky\_20 Start: 12870, Stop: 13241, Start Num: 9

Candidate Starts for Kalnoky\_20:

(Start: 9 @12870 has 723 MA's), (Start: 13 @12894 has 1 MA's), (21, 12954), (23, 12972), (47, 13122), (61, 13203), (62, 13209), (67, 13227), (68, 13230),

Gene: Kalpine\_21 Start: 15159, Stop: 15536, Start Num: 9

Candidate Starts for Kalpine\_21:

(Start: 9 @15159 has 723 MA's), (15, 15189), (18, 15222), (23, 15261), (29, 15297), (42, 15363), (61, 15498), (66, 15519), (67, 15522), (68, 15525),

Gene: Kamy\_17 Start: 12686, Stop: 13042, Start Num: 9

Candidate Starts for Kamy\_17:

(Start: 9 @12686 has 723 MA's), (23, 12788), (33, 12836), (39, 12857), (47, 12923), (53, 12959), (61, 13004), (68, 13031),

Gene: Kanely\_18 Start: 13490, Stop: 13939, Start Num: 9

Candidate Starts for Kanely\_18:

(Start: 9 @13490 has 723 MA's), (Start: 13 @13514 has 1 MA's), (61, 13826), (69, 13901),

Gene: Katalie136\_17 Start: 12690, Stop: 13046, Start Num: 9

Candidate Starts for Katalie136\_17:

(Start: 9 @12690 has 723 MA's), (23, 12792), (33, 12840), (39, 12861), (47, 12927), (53, 12963), (64, 13020), (68, 13035),

Gene: KatherineG\_20 Start: 12612, Stop: 12989, Start Num: 9

Candidate Starts for KatherineG\_20:

(Start: 9 @12612 has 723 MA's), (23, 12714), (40, 12804), (62, 12957), (67, 12975), (68, 12978),

Gene: Kazan\_21 Start: 13490, Stop: 13867, Start Num: 9

Candidate Starts for Kazan\_21:

(Start: 9 @13490 has 723 MA's), (14, 13517), (16, 13523), (17, 13550), (18, 13553), (23, 13592), (61, 13829), (67, 13853), (68, 13856),

Gene: Kenmech\_20 Start: 14292, Stop: 14741, Start Num: 9

Candidate Starts for Kenmech\_20:

(Start: 9 @14292 has 723 MA's), (Start: 13 @14316 has 1 MA's), (61, 14628), (69, 14703),

Gene: Kerberos\_21 Start: 13272, Stop: 13646, Start Num: 9

Candidate Starts for Kerberos\_21:

(Start: 9 @13272 has 723 MA's), (14, 13299), (16, 13305), (18, 13335), (23, 13374), (29, 13410), (40, 13461), (42, 13473), (57, 13584), (61, 13608), (67, 13632), (68, 13635),

Gene: Keziacharles14\_17 Start: 12278, Stop: 12655, Start Num: 9

Candidate Starts for Keziacharles14\_17:

(Start: 9 @12278 has 723 MA's), (23, 12380), (28, 12410), (52, 12566), (58, 12599), (61, 12617), (62, 12623), (67, 12641), (68, 12644),

Gene: Killigrew\_15 Start: 12364, Stop: 12813, Start Num: 9  
Candidate Starts for Killigrew\_15:  
(Start: 9 @12364 has 723 MA's), (Start: 13 @12388 has 1 MA's), (61, 12700), (69, 12775),

Gene: Kimona\_14 Start: 10155, Stop: 10529, Start Num: 9  
Candidate Starts for Kimona\_14:  
(Start: 9 @10155 has 723 MA's), (32, 10314), (47, 10410), (62, 10497), (68, 10518),

Gene: KingCyrus\_20 Start: 13771, Stop: 14148, Start Num: 9  
Candidate Starts for KingCyrus\_20:  
(Start: 9 @13771 has 723 MA's), (15, 13801), (16, 13804), (18, 13834), (23, 13873), (42, 13975), (61, 14110), (62, 14116), (67, 14134), (68, 14137),

Gene: Kingmustik0402\_17 Start: 12680, Stop: 13036, Start Num: 9  
Candidate Starts for Kingmustik0402\_17:  
(Start: 9 @12680 has 723 MA's), (23, 12782), (33, 12830), (39, 12851), (47, 12917), (53, 12953), (61, 12998), (68, 13025),

Gene: Kipper29\_21 Start: 13484, Stop: 13861, Start Num: 9  
Candidate Starts for Kipper29\_21:  
(Start: 9 @13484 has 723 MA's), (14, 13511), (16, 13517), (17, 13544), (18, 13547), (23, 13586), (61, 13823), (67, 13847), (68, 13850),

Gene: KittenMittens\_16 Start: 10548, Stop: 10922, Start Num: 9  
Candidate Starts for KittenMittens\_16:  
(Start: 9 @10548 has 723 MA's), (23, 10650), (33, 10716), (39, 10737), (41, 10743), (47, 10803), (53, 10839), (57, 10863), (68, 10911),

Gene: Koduck\_18 Start: 12551, Stop: 12928, Start Num: 9  
Candidate Starts for Koduck\_18:  
(Start: 9 @12551 has 723 MA's), (14, 12578), (16, 12584), (17, 12611), (18, 12614), (23, 12653), (28, 12683), (42, 12755), (61, 12890), (66, 12911), (67, 12914), (68, 12917),

Gene: Koko\_21 Start: 13478, Stop: 13855, Start Num: 9  
Candidate Starts for Koko\_21:  
(Start: 9 @13478 has 723 MA's), (14, 13505), (17, 13538), (18, 13541), (23, 13580), (45, 13721), (61, 13817), (67, 13841), (68, 13844),

Gene: Koreni\_16 Start: 12334, Stop: 12690, Start Num: 9  
Candidate Starts for Koreni\_16:  
(Start: 9 @12334 has 723 MA's), (23, 12436), (33, 12484), (39, 12505), (47, 12571), (53, 12607), (61, 12652), (68, 12679),

Gene: Kratark\_17 Start: 12683, Stop: 13039, Start Num: 9  
Candidate Starts for Kratark\_17:  
(Start: 9 @12683 has 723 MA's), (23, 12785), (33, 12833), (39, 12854), (47, 12920), (53, 12956), (61, 13001), (68, 13028),

Gene: Kremtemulon\_16 Start: 12736, Stop: 13092, Start Num: 9  
Candidate Starts for Kremtemulon\_16:  
(Start: 9 @12736 has 723 MA's), (23, 12838), (33, 12886), (39, 12907), (47, 12973), (53, 13009), (61, 13054), (68, 13081),

Gene: Krishelle\_14 Start: 8875, Stop: 9255, Start Num: 9

Candidate Starts for Krishelle\_14:

(Start: 9 @8875 has 723 MA's), (Start: 13 @8899 has 1 MA's), (19, 8944), (20, 8947), (30, 9016), (33, 9043), (47, 9130), (60, 9208), (61, 9214), (65, 9235),

Gene: Kristoff\_18 Start: 12631, Stop: 13005, Start Num: 9

Candidate Starts for Kristoff\_18:

(Start: 9 @12631 has 723 MA's), (23, 12733), (33, 12799), (39, 12820), (47, 12886), (61, 12967), (62, 12973), (68, 12994),

Gene: KyMonks1A\_19 Start: 13229, Stop: 13678, Start Num: 9

Candidate Starts for KyMonks1A\_19:

(Start: 9 @13229 has 723 MA's), (Start: 13 @13253 has 1 MA's), (61, 13565), (69, 13640),

Gene: Kyee\_17 Start: 12689, Stop: 13045, Start Num: 9

Candidate Starts for Kyee\_17:

(Start: 9 @12689 has 723 MA's), (23, 12791), (33, 12839), (39, 12860), (47, 12926), (53, 12962), (61, 13007), (68, 13034),

Gene: Kykar\_14 Start: 12431, Stop: 12808, Start Num: 7

Candidate Starts for Kykar\_14:

(3, 12377), (4, 12386), (Start: 7 @12431 has 5 MA's), (Start: 13 @12458 has 1 MA's), (23, 12536), (33, 12602), (40, 12626), (47, 12689), (56, 12746), (63, 12779), (66, 12791), (67, 12794), (68, 12797),

Gene: L5\_19 Start: 12559, Stop: 12936, Start Num: 9

Candidate Starts for L5\_19:

(Start: 9 @12559 has 723 MA's), (14, 12586), (16, 12592), (17, 12619), (18, 12622), (23, 12661), (28, 12691), (42, 12763), (61, 12898), (66, 12919), (67, 12922), (68, 12925),

Gene: LBerry\_19 Start: 12796, Stop: 13167, Start Num: 9

Candidate Starts for LBerry\_19:

(Start: 9 @12796 has 723 MA's), (Start: 13 @12820 has 1 MA's), (21, 12880), (23, 12898), (47, 13048), (61, 13129), (62, 13135), (67, 13153), (68, 13156),

Gene: LHTSCC\_18 Start: 13000, Stop: 13356, Start Num: 9

Candidate Starts for LHTSCC\_18:

(Start: 9 @13000 has 723 MA's), (23, 13102), (33, 13150), (39, 13171), (47, 13237), (53, 13273), (61, 13318), (68, 13345),

Gene: LadyBird\_18 Start: 13341, Stop: 13718, Start Num: 9

Candidate Starts for LadyBird\_18:

(Start: 9 @13341 has 723 MA's), (15, 13371), (16, 13374), (18, 13404), (23, 13443), (42, 13545), (52, 13629), (61, 13680), (67, 13704), (68, 13707),

Gene: Lambert1\_18 Start: 12884, Stop: 13258, Start Num: 9

Candidate Starts for Lambert1\_18:

(Start: 9 @12884 has 723 MA's), (Start: 13 @12908 has 1 MA's), (23, 12986), (33, 13052), (39, 13073), (47, 13139), (61, 13220), (67, 13244),

Gene: Lamina13\_17 Start: 12505, Stop: 12954, Start Num: 9

Candidate Starts for Lamina13\_17:

(Start: 9 @12505 has 723 MA's), (Start: 13 @12529 has 1 MA's), (61, 12841), (69, 12916),

Gene: Landor\_19 Start: 15114, Stop: 15491, Start Num: 9

Candidate Starts for Landor\_19:

(Start: 9 @15114 has 723 MA's), (17, 15174), (18, 15177), (23, 15216), (42, 15318), (54, 15408), (57, 15429), (61, 15453),

Gene: LappelDuVide\_16 Start: 12685, Stop: 13041, Start Num: 9

Candidate Starts for LappelDuVide\_16:

(Start: 9 @12685 has 723 MA's), (23, 12787), (33, 12835), (39, 12856), (47, 12922), (53, 12958), (61, 13003), (68, 13030),

Gene: Larenn\_19 Start: 13653, Stop: 14030, Start Num: 9

Candidate Starts for Larenn\_19:

(Start: 9 @13653 has 723 MA's), (14, 13680), (18, 13716), (23, 13755), (28, 13785), (29, 13791), (42, 13857), (61, 13992), (66, 14013), (67, 14016), (68, 14019),

Gene: LarryKay\_19 Start: 12882, Stop: 13253, Start Num: 9

Candidate Starts for LarryKay\_19:

(Start: 9 @12882 has 723 MA's), (Start: 13 @12906 has 1 MA's), (21, 12966), (23, 12984), (47, 13134), (61, 13215), (62, 13221), (67, 13239), (68, 13242),

Gene: LastResort\_20 Start: 12490, Stop: 12867, Start Num: 9

Candidate Starts for LastResort\_20:

(Start: 9 @12490 has 723 MA's), (23, 12592), (40, 12682), (62, 12835), (67, 12853), (68, 12856),

Gene: Lemur\_17 Start: 12685, Stop: 13041, Start Num: 9

Candidate Starts for Lemur\_17:

(Start: 9 @12685 has 723 MA's), (23, 12787), (33, 12835), (39, 12856), (47, 12922), (53, 12958), (61, 13003), (68, 13030),

Gene: LeoAvram\_17 Start: 12685, Stop: 13041, Start Num: 9

Candidate Starts for LeoAvram\_17:

(Start: 9 @12685 has 723 MA's), (23, 12787), (33, 12835), (39, 12856), (47, 12922), (53, 12958), (61, 13003), (68, 13030),

Gene: Leogania\_20 Start: 15518, Stop: 15895, Start Num: 9

Candidate Starts for Leogania\_20:

(Start: 9 @15518 has 723 MA's), (14, 15545), (16, 15551), (18, 15581), (23, 15620), (28, 15650), (29, 15656), (42, 15722), (61, 15857), (67, 15881), (68, 15884),

Gene: Lesedi\_16 Start: 12666, Stop: 13115, Start Num: 9

Candidate Starts for Lesedi\_16:

(Start: 9 @12666 has 723 MA's), (Start: 13 @12690 has 1 MA's), (61, 13002), (69, 13077),

Gene: Lev2\_14 Start: 11621, Stop: 11995, Start Num: 8

Candidate Starts for Lev2\_14:

(Start: 8 @11621 has 48 MA's), (Start: 13 @11645 has 1 MA's), (15, 11651), (40, 11813), (47, 11876), (51, 11906), (57, 11936), (61, 11957), (66, 11978), (67, 11981), (68, 11984),

Gene: Leviathan\_20 Start: 13828, Stop: 14205, Start Num: 9

Candidate Starts for Leviathan\_20:

(Start: 9 @13828 has 723 MA's), (15, 13858), (16, 13861), (18, 13891), (23, 13930), (52, 14116), (61, 14167), (67, 14191), (68, 14194),

Gene: Licorice\_19 Start: 13818, Stop: 14267, Start Num: 9

Candidate Starts for Licorice\_19:

(Start: 9 @13818 has 723 MA's), (Start: 13 @13842 has 1 MA's), (61, 14154), (69, 14229),

Gene: LilBib\_18 Start: 13748, Stop: 14197, Start Num: 9

Candidate Starts for LilBib\_18:

(Start: 9 @13748 has 723 MA's), (Start: 13 @13772 has 1 MA's), (61, 14084), (69, 14159),

Gene: LilTurb\_20 Start: 13855, Stop: 14232, Start Num: 9

Candidate Starts for LilTurb\_20:

(Start: 9 @13855 has 723 MA's), (15, 13885), (16, 13888), (18, 13918), (23, 13957), (52, 14143), (61, 14194), (67, 14218), (68, 14221),

Gene: Lilbunny\_20 Start: 13460, Stop: 13837, Start Num: 9

Candidate Starts for Lilbunny\_20:

(Start: 9 @13460 has 723 MA's), (14, 13487), (16, 13493), (17, 13520), (18, 13523), (23, 13562), (61, 13799), (67, 13823), (68, 13826),

Gene: Lilith\_19 Start: 12789, Stop: 13160, Start Num: 9

Candidate Starts for Lilith\_19:

(Start: 9 @12789 has 723 MA's), (Start: 13 @12813 has 1 MA's), (21, 12873), (23, 12891), (47, 13041), (61, 13122), (62, 13128), (67, 13146), (68, 13149),

Gene: Lillie\_14 Start: 8916, Stop: 9296, Start Num: 9

Candidate Starts for Lillie\_14:

(Start: 9 @8916 has 723 MA's), (Start: 13 @8940 has 1 MA's), (20, 8988), (33, 9084), (42, 9120), (44, 9141), (47, 9171), (57, 9231), (60, 9249), (61, 9255), (65, 9276),

Gene: LittleB\_17 Start: 12688, Stop: 13044, Start Num: 9

Candidate Starts for LittleB\_17:

(Start: 9 @12688 has 723 MA's), (23, 12790), (33, 12838), (39, 12859), (47, 12925), (53, 12961), (61, 13006), (68, 13033),

Gene: LittleCherry\_14 Start: 11801, Stop: 12175, Start Num: 8

Candidate Starts for LittleCherry\_14:

(Start: 8 @11801 has 48 MA's), (Start: 13 @11825 has 1 MA's), (15, 11831), (33, 11969), (40, 11993), (47, 12056), (57, 12116), (61, 12137), (66, 12158), (67, 12161), (68, 12164),

Gene: LittleGuy\_17 Start: 12631, Stop: 12987, Start Num: 9

Candidate Starts for LittleGuy\_17:

(Start: 9 @12631 has 723 MA's), (23, 12733), (33, 12781), (39, 12802), (47, 12868), (53, 12904), (61, 12949), (68, 12976),

Gene: LochMonster\_17 Start: 12663, Stop: 13019, Start Num: 9

Candidate Starts for LochMonster\_17:

(Start: 9 @12663 has 723 MA's), (23, 12765), (33, 12813), (39, 12834), (47, 12900), (53, 12936), (61, 12981), (68, 13008),

Gene: Lockley\_17 Start: 12843, Stop: 13292, Start Num: 9

Candidate Starts for Lockley\_17:

(Start: 9 @12843 has 723 MA's), (Start: 13 @12867 has 1 MA's), (61, 13179), (69, 13254),



Gene: Lokk\_21 Start: 15047, Stop: 15424, Start Num: 9

Candidate Starts for Lokk\_21:

(Start: 9 @15047 has 723 MA's), (14, 15074), (18, 15110), (23, 15149), (42, 15251), (52, 15335), (61, 15386), (62, 15392), (67, 15410), (68, 15413),

Gene: LoneWolf\_19 Start: 13949, Stop: 14326, Start Num: 9

Candidate Starts for LoneWolf\_19:

(Start: 9 @13949 has 723 MA's), (23, 14051), (31, 14102), (58, 14270), (61, 14288), (62, 14294), (67, 14312),

Gene: Looper\_21 Start: 12490, Stop: 12867, Start Num: 9

Candidate Starts for Looper\_21:

(Start: 9 @12490 has 723 MA's), (23, 12592), (40, 12682), (62, 12835), (67, 12853), (68, 12856),

Gene: Lopton\_18 Start: 14267, Stop: 14716, Start Num: 9

Candidate Starts for Lopton\_18:

(Start: 9 @14267 has 723 MA's), (Start: 13 @14291 has 1 MA's), (69, 14678),

Gene: Lorenzo\_17 Start: 12688, Stop: 13044, Start Num: 9

Candidate Starts for Lorenzo\_17:

(Start: 9 @12688 has 723 MA's), (23, 12790), (33, 12838), (39, 12859), (47, 12925), (53, 12961), (61, 13006), (68, 13033),

Gene: Loser\_21 Start: 15149, Stop: 15526, Start Num: 9

Candidate Starts for Loser\_21:

(Start: 9 @15149 has 723 MA's), (Start: 13 @15173 has 1 MA's), (14, 15176), (18, 15212), (23, 15251), (42, 15353), (66, 15509), (67, 15512), (68, 15515),

Gene: Louie6\_19 Start: 12883, Stop: 13254, Start Num: 9

Candidate Starts for Louie6\_19:

(Start: 9 @12883 has 723 MA's), (Start: 13 @12907 has 1 MA's), (21, 12967), (23, 12985), (47, 13135), (61, 13216), (62, 13222), (67, 13240), (68, 13243),

Gene: Luchador\_19 Start: 13710, Stop: 14087, Start Num: 9

Candidate Starts for Luchador\_19:

(Start: 9 @13710 has 723 MA's), (16, 13743), (17, 13770), (18, 13773), (23, 13812), (44, 13935), (66, 14070), (67, 14073), (68, 14076),

Gene: Lucivia\_18 Start: 13977, Stop: 14354, Start Num: 9

Candidate Starts for Lucivia\_18:

(Start: 9 @13977 has 723 MA's), (Start: 13 @14001 has 1 MA's), (18, 14040), (23, 14079), (24, 14085), (66, 14337), (67, 14340), (68, 14343),

Gene: Lucyedi\_19 Start: 13553, Stop: 13930, Start Num: 9

Candidate Starts for Lucyedi\_19:

(2, 13448), (Start: 9 @13553 has 723 MA's), (14, 13580), (18, 13616), (19, 13622), (23, 13655), (48, 13811), (61, 13892), (62, 13898), (66, 13913), (68, 13919),

Gene: LugYA\_21 Start: 12794, Stop: 13165, Start Num: 9

Candidate Starts for LugYA\_21:

(Start: 9 @12794 has 723 MA's), (Start: 13 @12818 has 1 MA's), (21, 12878), (23, 12896), (47, 13046), (61, 13127), (62, 13133), (67, 13151), (68, 13154),

Gene: Lunsford\_18 Start: 12685, Stop: 13041, Start Num: 9

Candidate Starts for Lunsford\_18:

(Start: 9 @12685 has 723 MA's), (23, 12787), (33, 12835), (39, 12856), (47, 12922), (53, 12958), (61, 13003), (68, 13030),

Gene: MA5\_17 Start: 11940, Stop: 12314, Start Num: 9

Candidate Starts for MA5\_17:

(Start: 9 @11940 has 723 MA's), (23, 12042), (33, 12108), (39, 12129), (47, 12195), (57, 12255), (61, 12276), (67, 12300),

Gene: MK4\_17 Start: 12230, Stop: 12604, Start Num: 9

Candidate Starts for MK4\_17:

(Start: 9 @12230 has 723 MA's), (23, 12332), (33, 12398), (39, 12419), (47, 12485), (61, 12566), (62, 12572), (67, 12590),

Gene: MPlant7149\_16 Start: 12477, Stop: 12926, Start Num: 9

Candidate Starts for MPlant7149\_16:

(Start: 9 @12477 has 723 MA's), (Start: 13 @12501 has 1 MA's), (61, 12813), (69, 12888),

Gene: MaCh\_18 Start: 13925, Stop: 14302, Start Num: 9

Candidate Starts for MaCh\_18:

(Start: 9 @13925 has 723 MA's), (Start: 13 @13949 has 1 MA's), (18, 13988), (23, 14027), (24, 14033), (66, 14285), (67, 14288), (68, 14291),

Gene: Mabel\_18 Start: 13992, Stop: 14369, Start Num: 9

Candidate Starts for Mabel\_18:

(Start: 9 @13992 has 723 MA's), (Start: 13 @14016 has 1 MA's), (18, 14055), (23, 14094), (24, 14100), (66, 14352), (67, 14355), (68, 14358),

Gene: MadMarie\_19 Start: 12798, Stop: 13169, Start Num: 9

Candidate Starts for MadMarie\_19:

(Start: 9 @12798 has 723 MA's), (Start: 13 @12822 has 1 MA's), (21, 12882), (23, 12900), (47, 13050), (61, 13131), (62, 13137), (67, 13155), (68, 13158),

Gene: Magnar\_17 Start: 12624, Stop: 13073, Start Num: 9

Candidate Starts for Magnar\_17:

(Start: 9 @12624 has 723 MA's), (Start: 13 @12648 has 1 MA's), (61, 12960), (69, 13035),

Gene: Magnito\_16 Start: 12388, Stop: 12837, Start Num: 9

Candidate Starts for Magnito\_16:

(Start: 9 @12388 has 723 MA's), (Start: 13 @12412 has 1 MA's), (61, 12724), (69, 12799),

Gene: Mainiac\_19 Start: 12789, Stop: 13160, Start Num: 9

Candidate Starts for Mainiac\_19:

(Start: 9 @12789 has 723 MA's), (Start: 13 @12813 has 1 MA's), (21, 12873), (23, 12891), (47, 13041), (61, 13122), (62, 13128), (67, 13146), (68, 13149),

Gene: Makemake\_17 Start: 14117, Stop: 14566, Start Num: 9

Candidate Starts for Makemake\_17:

(Start: 9 @14117 has 723 MA's), (Start: 13 @14141 has 1 MA's), (61, 14453), (69, 14528),

Gene: Malec\_19 Start: 13658, Stop: 14035, Start Num: 9

Candidate Starts for Malec\_19:

(Start: 9 @13658 has 723 MA's), (14, 13685), (18, 13721), (23, 13760), (28, 13790), (29, 13796), (42, 13862), (61, 13997), (66, 14018), (67, 14021), (68, 14024),

Gene: Malinsilva\_21 Start: 12788, Stop: 13159, Start Num: 9

Candidate Starts for Malinsilva\_21:

(Start: 9 @12788 has 723 MA's), (Start: 13 @12812 has 1 MA's), (21, 12872), (23, 12890), (47, 13040), (61, 13121), (62, 13127), (67, 13145), (68, 13148),

Gene: Maminiaina\_19 Start: 13873, Stop: 14250, Start Num: 9

Candidate Starts for Maminiaina\_19:

(Start: 9 @13873 has 723 MA's), (14, 13900), (18, 13936), (23, 13975), (61, 14212), (62, 14218),

Gene: Manatee\_18 Start: 13139, Stop: 13588, Start Num: 9

Candidate Starts for Manatee\_18:

(Start: 9 @13139 has 723 MA's), (Start: 13 @13163 has 1 MA's), (61, 13475), (69, 13550),

Gene: Manu\_20 Start: 12870, Stop: 13241, Start Num: 9

Candidate Starts for Manu\_20:

(Start: 9 @12870 has 723 MA's), (Start: 13 @12894 has 1 MA's), (21, 12954), (23, 12972), (47, 13122), (61, 13203), (62, 13209), (67, 13227), (68, 13230),

Gene: MarQuardt\_19 Start: 12797, Stop: 13168, Start Num: 9

Candidate Starts for MarQuardt\_19:

(Start: 9 @12797 has 723 MA's), (Start: 13 @12821 has 1 MA's), (21, 12881), (23, 12899), (47, 13049), (61, 13130), (62, 13136), (67, 13154), (68, 13157),

Gene: Marcell\_17 Start: 13137, Stop: 13586, Start Num: 9

Candidate Starts for Marcell\_17:

(Start: 9 @13137 has 723 MA's), (Start: 13 @13161 has 1 MA's), (61, 13473), (69, 13548),

Gene: Marchy\_15 Start: 12467, Stop: 12916, Start Num: 9

Candidate Starts for Marchy\_15:

(Start: 9 @12467 has 723 MA's), (Start: 13 @12491 has 1 MA's), (61, 12803), (69, 12878),

Gene: Marge\_18 Start: 13363, Stop: 13812, Start Num: 9

Candidate Starts for Marge\_18:

(Start: 9 @13363 has 723 MA's), (Start: 13 @13387 has 1 MA's), (61, 13699), (69, 13774),

Gene: Margo\_18 Start: 12909, Stop: 13283, Start Num: 9

Candidate Starts for Margo\_18:

(Start: 9 @12909 has 723 MA's), (Start: 13 @12933 has 1 MA's), (23, 13011), (33, 13077), (39, 13098), (47, 13164), (61, 13245), (67, 13269),

Gene: Marie\_19 Start: 12794, Stop: 13165, Start Num: 9

Candidate Starts for Marie\_19:

(Start: 9 @12794 has 723 MA's), (Start: 13 @12818 has 1 MA's), (21, 12878), (23, 12896), (47, 13046), (61, 13127), (62, 13133), (67, 13151), (68, 13154),

Gene: Marius\_20 Start: 12870, Stop: 13241, Start Num: 9

Candidate Starts for Marius\_20:

(Start: 9 @12870 has 723 MA's), (Start: 13 @12894 has 1 MA's), (21, 12954), (23, 12972), (47, 13122), (61, 13203), (62, 13209), (67, 13227), (68, 13230),

Gene: Maroc7\_16 Start: 12649, Stop: 13098, Start Num: 9

Candidate Starts for Maroc7\_16:

(Start: 9 @12649 has 723 MA's), (Start: 13 @12673 has 1 MA's), (61, 12985), (69, 13060),

Gene: Marsha\_17 Start: 13405, Stop: 13854, Start Num: 9

Candidate Starts for Marsha\_17:

(Start: 9 @13405 has 723 MA's), (Start: 13 @13429 has 1 MA's), (61, 13741), (69, 13816),

Gene: MaryBeth\_17 Start: 13071, Stop: 13520, Start Num: 9

Candidate Starts for MaryBeth\_17:

(Start: 9 @13071 has 723 MA's), (Start: 13 @13095 has 1 MA's), (61, 13407), (69, 13482),

Gene: MarysWell\_13 Start: 11768, Stop: 12142, Start Num: 8

Candidate Starts for MarysWell\_13:

(Start: 8 @11768 has 48 MA's), (Start: 13 @11792 has 1 MA's), (15, 11798), (33, 11936), (40, 11960), (47, 12023), (57, 12083), (61, 12104), (66, 12125), (67, 12128), (68, 12131),

Gene: Maverick\_17 Start: 12688, Stop: 13044, Start Num: 9

Candidate Starts for Maverick\_17:

(Start: 9 @12688 has 723 MA's), (23, 12790), (33, 12838), (39, 12859), (47, 12925), (53, 12961), (61, 13006), (68, 13033),

Gene: Maxo\_17 Start: 12686, Stop: 13042, Start Num: 9

Candidate Starts for Maxo\_17:

(Start: 9 @12686 has 723 MA's), (23, 12788), (33, 12836), (39, 12857), (47, 12923), (53, 12959), (61, 13004), (68, 13031),

Gene: Mazhar510\_17 Start: 12689, Stop: 13045, Start Num: 9

Candidate Starts for Mazhar510\_17:

(Start: 9 @12689 has 723 MA's), (23, 12791), (33, 12839), (39, 12860), (47, 12926), (53, 12962), (61, 13007), (68, 13034),

Gene: McFly\_21 Start: 13484, Stop: 13861, Start Num: 9

Candidate Starts for McFly\_21:

(Start: 9 @13484 has 723 MA's), (14, 13511), (16, 13517), (17, 13544), (18, 13547), (23, 13586), (61, 13823), (67, 13847), (68, 13850),

Gene: McGuire\_18 Start: 12958, Stop: 13407, Start Num: 9

Candidate Starts for McGuire\_18:

(Start: 9 @12958 has 723 MA's), (Start: 13 @12982 has 1 MA's), (61, 13294), (69, 13369),

Gene: Medusa\_17 Start: 12689, Stop: 13045, Start Num: 9

Candidate Starts for Medusa\_17:

(Start: 9 @12689 has 723 MA's), (23, 12791), (33, 12839), (39, 12860), (47, 12926), (53, 12962), (61, 13007), (68, 13034),

Gene: MeeZee\_17 Start: 12688, Stop: 13044, Start Num: 9

Candidate Starts for MeeZee\_17:

(Start: 9 @12688 has 723 MA's), (23, 12790), (33, 12838), (39, 12859), (47, 12925), (53, 12961), (61, 13006), (68, 13033),

Gene: Melvin\_17 Start: 12688, Stop: 13044, Start Num: 9

Candidate Starts for Melvin\_17:

(Start: 9 @12688 has 723 MA's), (23, 12790), (33, 12838), (39, 12859), (47, 12925), (53, 12961), (61, 13006), (68, 13033),

Gene: MetalQZJ\_17 Start: 13071, Stop: 13520, Start Num: 9

Candidate Starts for MetalQZJ\_17:

(Start: 9 @13071 has 723 MA's), (Start: 13 @13095 has 1 MA's), (61, 13407), (69, 13482),

Gene: Methuselah\_19 Start: 12879, Stop: 13250, Start Num: 9

Candidate Starts for Methuselah\_19:

(Start: 9 @12879 has 723 MA's), (Start: 13 @12903 has 1 MA's), (21, 12963), (23, 12981), (47, 13131), (61, 13212), (62, 13218), (67, 13236), (68, 13239),

Gene: Micasa\_13 Start: 11769, Stop: 12143, Start Num: 8

Candidate Starts for Micasa\_13:

(Start: 8 @11769 has 48 MA's), (Start: 13 @11793 has 1 MA's), (15, 11799), (33, 11937), (40, 11961), (47, 12024), (57, 12084), (61, 12105), (66, 12126), (67, 12129), (68, 12132),

Gene: Michley\_17 Start: 12818, Stop: 13267, Start Num: 9

Candidate Starts for Michley\_17:

(Start: 9 @12818 has 723 MA's), (Start: 13 @12842 has 1 MA's), (61, 13154), (69, 13229),

Gene: Microwolf\_19 Start: 12797, Stop: 13168, Start Num: 9

Candidate Starts for Microwolf\_19:

(Start: 9 @12797 has 723 MA's), (Start: 13 @12821 has 1 MA's), (21, 12881), (23, 12899), (47, 13049), (61, 13130), (62, 13136), (67, 13154), (68, 13157),

Gene: MiculUcigas\_18 Start: 13422, Stop: 13799, Start Num: 9

Candidate Starts for MiculUcigas\_18:

(Start: 9 @13422 has 723 MA's), (14, 13449), (16, 13455), (18, 13485), (23, 13524), (28, 13554), (42, 13626), (61, 13761), (66, 13782), (67, 13785), (68, 13788),

Gene: Midas2\_14 Start: 11768, Stop: 12142, Start Num: 8

Candidate Starts for Midas2\_14:

(Start: 8 @11768 has 48 MA's), (Start: 13 @11792 has 1 MA's), (15, 11798), (33, 11936), (40, 11960), (47, 12023), (57, 12083), (61, 12104), (66, 12125), (67, 12128), (68, 12131),

Gene: MidnightRain\_10 Start: 7292, Stop: 7648, Start Num: 9

Candidate Starts for MidnightRain\_10:

(Start: 9 @7292 has 723 MA's), (10, 7298), (11, 7304), (12, 7307), (19, 7361), (22, 7388), (23, 7391), (36, 7451), (37, 7454), (39, 7463), (55, 7592), (58, 7607), (63, 7634),

Gene: Miko\_21 Start: 15016, Stop: 15393, Start Num: 9

Candidate Starts for Miko\_21:

(Start: 9 @15016 has 723 MA's), (14, 15043), (18, 15079), (23, 15118), (42, 15220), (52, 15304), (61, 15355), (62, 15361), (67, 15379), (68, 15382),

Gene: Milcery\_14 Start: 11805, Stop: 12179, Start Num: 8

Candidate Starts for Milcery\_14:

(Start: 8 @11805 has 48 MA's), (Start: 13 @11829 has 1 MA's), (15, 11835), (33, 11973), (40, 11997), (47, 12060), (57, 12120), (61, 12141), (66, 12162), (67, 12165), (68, 12168),

Gene: Millski\_17 Start: 12691, Stop: 13047, Start Num: 9

Candidate Starts for Millski\_17:

(Start: 9 @12691 has 723 MA's), (23, 12793), (33, 12841), (39, 12862), (47, 12928), (53, 12964), (61, 13009), (68, 13036),

Gene: MinecraftSteve\_21 Start: 12612, Stop: 12989, Start Num: 9

Candidate Starts for MinecraftSteve\_21:

(Start: 9 @12612 has 723 MA's), (23, 12714), (40, 12804), (62, 12957), (67, 12975), (68, 12978),

Gene: Miramae\_17 Start: 12636, Stop: 12992, Start Num: 9

Candidate Starts for Miramae\_17:

(Start: 9 @12636 has 723 MA's), (23, 12738), (33, 12786), (39, 12807), (47, 12873), (53, 12909), (64, 12966), (68, 12981),

Gene: Misomonster\_21 Start: 12879, Stop: 13250, Start Num: 9

Candidate Starts for Misomonster\_21:

(Start: 9 @12879 has 723 MA's), (Start: 13 @12903 has 1 MA's), (21, 12963), (23, 12981), (47, 13131), (61, 13212), (62, 13218), (67, 13236), (68, 13239),

Gene: MissWhite\_18 Start: 12457, Stop: 12834, Start Num: 9

Candidate Starts for MissWhite\_18:

(Start: 9 @12457 has 723 MA's), (14, 12484), (18, 12520), (23, 12559), (42, 12661), (61, 12796), (66, 12817), (67, 12820), (68, 12823),

Gene: Molly\_18 Start: 12679, Stop: 13128, Start Num: 9

Candidate Starts for Molly\_18:

(Start: 9 @12679 has 723 MA's), (Start: 13 @12703 has 1 MA's), (61, 13015), (69, 13090),

Gene: Monet\_19 Start: 14174, Stop: 14623, Start Num: 9

Candidate Starts for Monet\_19:

(Start: 9 @14174 has 723 MA's), (Start: 13 @14198 has 1 MA's), (61, 14510), (69, 14585),

Gene: MoneyMay\_19 Start: 12794, Stop: 13165, Start Num: 9

Candidate Starts for MoneyMay\_19:

(Start: 9 @12794 has 723 MA's), (Start: 13 @12818 has 1 MA's), (21, 12878), (23, 12896), (47, 13046), (61, 13127), (62, 13133), (67, 13151), (68, 13154),

Gene: Moose\_16 Start: 12915, Stop: 13364, Start Num: 9

Candidate Starts for Moose\_16:

(Start: 9 @12915 has 723 MA's), (Start: 13 @12939 has 1 MA's), (61, 13251), (69, 13326),

Gene: Morpher26\_17 Start: 12690, Stop: 13046, Start Num: 9

Candidate Starts for Morpher26\_17:

(Start: 9 @12690 has 723 MA's), (23, 12792), (33, 12840), (39, 12861), (47, 12927), (53, 12963), (64, 13020), (68, 13035),

Gene: Morrow\_17 Start: 12691, Stop: 13047, Start Num: 9

Candidate Starts for Morrow\_17:

(Start: 9 @12691 has 723 MA's), (23, 12793), (33, 12841), (39, 12862), (47, 12928), (53, 12964), (61, 13009), (68, 13036),

Gene: MrGordo\_17 Start: 12631, Stop: 13080, Start Num: 9

Candidate Starts for MrGordo\_17:

(Start: 9 @12631 has 723 MA's), (Start: 13 @12655 has 1 MA's), (61, 12967), (69, 13042),

Gene: Mryolo\_16 Start: 12665, Stop: 13114, Start Num: 9

Candidate Starts for Mryolo\_16:

(Start: 9 @12665 has 723 MA's), (Start: 13 @12689 has 1 MA's), (61, 13001), (69, 13076),

Gene: MuchMore\_21 Start: 12788, Stop: 13159, Start Num: 9

Candidate Starts for MuchMore\_21:

(Start: 9 @12788 has 723 MA's), (Start: 13 @12812 has 1 MA's), (21, 12872), (23, 12890), (47, 13040), (61, 13121), (62, 13127), (67, 13145), (68, 13148),

Gene: Mulciber\_18 Start: 13928, Stop: 14305, Start Num: 9

Candidate Starts for Mulciber\_18:

(Start: 9 @13928 has 723 MA's), (Start: 13 @13952 has 1 MA's), (18, 13991), (23, 14030), (24, 14036), (66, 14288), (67, 14291), (68, 14294),

Gene: Mule\_17 Start: 12953, Stop: 13402, Start Num: 9

Candidate Starts for Mule\_17:

(Start: 9 @12953 has 723 MA's), (Start: 13 @12977 has 1 MA's), (61, 13289), (69, 13364),

Gene: Munch\_18 Start: 13928, Stop: 14305, Start Num: 9

Candidate Starts for Munch\_18:

(Start: 9 @13928 has 723 MA's), (Start: 13 @13952 has 1 MA's), (18, 13991), (23, 14030), (24, 14036), (66, 14288), (67, 14291), (68, 14294),

Gene: Mundrea\_17 Start: 12656, Stop: 13012, Start Num: 9

Candidate Starts for Mundrea\_17:

(Start: 9 @12656 has 723 MA's), (23, 12758), (33, 12806), (39, 12827), (40, 12830), (47, 12893), (53, 12929), (64, 12986), (68, 13001),

Gene: Museum\_19 Start: 12972, Stop: 13421, Start Num: 9

Candidate Starts for Museum\_19:

(Start: 9 @12972 has 723 MA's), (Start: 13 @12996 has 1 MA's), (61, 13308), (69, 13383),

Gene: MyraDee\_15 Start: 10885, Stop: 11268, Start Num: 9

Candidate Starts for MyraDee\_15:

(Start: 9 @10885 has 723 MA's), (15, 10915), (32, 11053), (33, 11062), (47, 11149), (61, 11230), (66, 11251), (67, 11254), (68, 11257),

Gene: Myxus\_19 Start: 14140, Stop: 14517, Start Num: 9

Candidate Starts for Myxus\_19:

(Start: 9 @14140 has 723 MA's), (23, 14242), (58, 14461), (61, 14479), (62, 14485),

Gene: NEHalo\_17 Start: 12701, Stop: 13150, Start Num: 9

Candidate Starts for NEHalo\_17:

(Start: 9 @12701 has 723 MA's), (Start: 13 @12725 has 1 MA's), (61, 13037), (69, 13112),

Gene: NaSiaTalie\_18 Start: 13419, Stop: 13796, Start Num: 9

Candidate Starts for NaSiaTalie\_18:

(Start: 9 @13419 has 723 MA's), (14, 13446), (16, 13452), (18, 13482), (23, 13521), (28, 13551), (42, 13623), (61, 13758), (66, 13779), (67, 13782), (68, 13785),

Gene: Naca\_14 Start: 11722, Stop: 12096, Start Num: 8

Candidate Starts for Naca\_14:

(Start: 8 @11722 has 48 MA's), (Start: 13 @11746 has 1 MA's), (15, 11752), (40, 11914), (47, 11977), (57, 12037), (61, 12058), (66, 12079), (67, 12082), (68, 12085),

Gene: Naiad\_14 Start: 8916, Stop: 9296, Start Num: 9

Candidate Starts for Naiad\_14:

(Start: 9 @8916 has 723 MA's), (Start: 13 @8940 has 1 MA's), (20, 8988), (33, 9084), (42, 9120), (44, 9141), (47, 9171), (57, 9231), (60, 9249), (61, 9255), (65, 9276),

Gene: Naira\_18 Start: 14453, Stop: 14902, Start Num: 9

Candidate Starts for Naira\_18:

(Start: 9 @14453 has 723 MA's), (Start: 13 @14477 has 1 MA's), (61, 14789), (69, 14864),

Gene: Naji\_21 Start: 13272, Stop: 13646, Start Num: 9

Candidate Starts for Naji\_21:

(Start: 9 @13272 has 723 MA's), (14, 13299), (16, 13305), (18, 13335), (23, 13374), (29, 13410), (40, 13461), (42, 13473), (57, 13584), (61, 13608), (67, 13632), (68, 13635),

Gene: Nancinator\_14 Start: 8916, Stop: 9296, Start Num: 9

Candidate Starts for Nancinator\_14:

(Start: 9 @8916 has 723 MA's), (Start: 13 @8940 has 1 MA's), (20, 8988), (33, 9084), (42, 9120), (44, 9141), (47, 9171), (57, 9231), (60, 9249), (61, 9255), (65, 9276),

Gene: Natosaleda\_14 Start: 8916, Stop: 9296, Start Num: 9

Candidate Starts for Natosaleda\_14:

(Start: 9 @8916 has 723 MA's), (Start: 13 @8940 has 1 MA's), (20, 8988), (33, 9084), (42, 9120), (44, 9141), (47, 9171), (57, 9231), (60, 9249), (61, 9255), (65, 9276),

Gene: NearlyHeadless\_14 Start: 11413, Stop: 11787, Start Num: 8

Candidate Starts for NearlyHeadless\_14:

(Start: 8 @11413 has 48 MA's), (33, 11581), (40, 11605), (42, 11617), (47, 11668), (56, 11725), (57, 11728), (61, 11749), (66, 11770), (67, 11773),

Gene: Nebs\_17 Start: 12685, Stop: 13041, Start Num: 9

Candidate Starts for Nebs\_17:

(Start: 9 @12685 has 723 MA's), (23, 12787), (33, 12835), (39, 12856), (47, 12922), (53, 12958), (61, 13003), (68, 13030),

Gene: Nebulosus\_20 Start: 12490, Stop: 12867, Start Num: 9

Candidate Starts for Nebulosus\_20:

(Start: 9 @12490 has 723 MA's), (23, 12592), (40, 12682), (62, 12835), (67, 12853), (68, 12856),

Gene: Nedarya\_19 Start: 13079, Stop: 13456, Start Num: 9

Candidate Starts for Nedarya\_19:

(Start: 9 @13079 has 723 MA's), (23, 13181), (57, 13394), (62, 13424), (67, 13442), (68, 13445),

Gene: Neeharika16\_21 Start: 13475, Stop: 13852, Start Num: 9

Candidate Starts for Neeharika16\_21:

(Start: 9 @13475 has 723 MA's), (14, 13502), (16, 13508), (17, 13535), (18, 13538), (23, 13577), (61, 13814), (67, 13838), (68, 13841),

Gene: Nemo27\_17 Start: 12687, Stop: 13043, Start Num: 9

Candidate Starts for Nemo27\_17:



(Start: 9 @12687 has 723 MA's), (23, 12789), (33, 12837), (39, 12858), (47, 12924), (53, 12960), (61, 13005), (68, 13032),

Gene: Nerujay\_18 Start: 13377, Stop: 13826, Start Num: 9

Candidate Starts for Nerujay\_18:

(Start: 9 @13377 has 723 MA's), (Start: 13 @13401 has 1 MA's), (61, 13713), (69, 13788),

Gene: Newrala\_21 Start: 13475, Stop: 13852, Start Num: 9

Candidate Starts for Newrala\_21:

(Start: 9 @13475 has 723 MA's), (14, 13502), (16, 13508), (17, 13535), (18, 13538), (23, 13577), (61, 13814), (67, 13838), (68, 13841),

Gene: Nhonho\_17 Start: 13130, Stop: 13579, Start Num: 9

Candidate Starts for Nhonho\_17:

(Start: 9 @13130 has 723 MA's), (Start: 13 @13154 has 1 MA's), (61, 13466), (69, 13541),

Gene: NicoleTera\_22 Start: 15133, Stop: 15510, Start Num: 9

Candidate Starts for NicoleTera\_22:

(Start: 9 @15133 has 723 MA's), (14, 15160), (18, 15196), (23, 15235), (42, 15337), (50, 15403), (61, 15472), (67, 15496), (68, 15499),

Gene: Niza\_19 Start: 13988, Stop: 14437, Start Num: 9

Candidate Starts for Niza\_19:

(Start: 9 @13988 has 723 MA's), (Start: 13 @14012 has 1 MA's), (61, 14324), (69, 14399),

Gene: Noella\_18 Start: 12884, Stop: 13258, Start Num: 9

Candidate Starts for Noella\_18:

(Start: 9 @12884 has 723 MA's), (Start: 13 @12908 has 1 MA's), (23, 12986), (33, 13052), (39, 13073), (47, 13139), (61, 13220), (67, 13244),

Gene: Noelle\_17 Start: 12742, Stop: 13098, Start Num: 9

Candidate Starts for Noelle\_17:

(Start: 9 @12742 has 723 MA's), (23, 12844), (33, 12892), (39, 12913), (47, 12979), (53, 13015), (64, 13072), (68, 13087),

Gene: Norbert\_17 Start: 12884, Stop: 13258, Start Num: 9

Candidate Starts for Norbert\_17:

(Start: 9 @12884 has 723 MA's), (Start: 13 @12908 has 1 MA's), (23, 12986), (33, 13052), (39, 13073), (47, 13139), (61, 13220), (67, 13244),

Gene: NorthStar\_17 Start: 12688, Stop: 13044, Start Num: 9

Candidate Starts for NorthStar\_17:

(Start: 9 @12688 has 723 MA's), (23, 12790), (33, 12838), (39, 12859), (47, 12925), (53, 12961), (61, 13006), (68, 13033),

Gene: Norz\_19 Start: 13624, Stop: 14073, Start Num: 9

Candidate Starts for Norz\_19:

(Start: 9 @13624 has 723 MA's), (Start: 13 @13648 has 1 MA's), (69, 14035),

Gene: NotAPhaseMom\_17 Start: 12692, Stop: 13048, Start Num: 9

Candidate Starts for NotAPhaseMom\_17:

(Start: 9 @12692 has 723 MA's), (23, 12794), (33, 12842), (39, 12863), (47, 12929), (53, 12965), (61, 13010), (68, 13037),

Gene: NothingSpecial\_20 Start: 15386, Stop: 15766, Start Num: 9

Candidate Starts for NothingSpecial\_20:

(Start: 9 @15386 has 723 MA's), (18, 15449), (23, 15488), (42, 15590), (51, 15671), (54, 15680), (57, 15701), (61, 15725), (67, 15749), (68, 15752),

Gene: Nyxis\_17 Start: 12631, Stop: 12987, Start Num: 9

Candidate Starts for Nyxis\_17:

(Start: 9 @12631 has 723 MA's), (23, 12733), (33, 12781), (39, 12802), (47, 12868), (53, 12904), (61, 12949), (68, 12976),

Gene: OKCentral2016\_17 Start: 12150, Stop: 12524, Start Num: 9

Candidate Starts for OKCentral2016\_17:

(Start: 9 @12150 has 723 MA's), (23, 12252), (33, 12318), (39, 12339), (47, 12405), (53, 12441), (61, 12486), (62, 12492), (68, 12513),

Gene: OKaNui\_18 Start: 12741, Stop: 13097, Start Num: 9

Candidate Starts for OKaNui\_18:

(Start: 9 @12741 has 723 MA's), (23, 12843), (33, 12891), (39, 12912), (47, 12978), (53, 13014), (61, 13059), (68, 13086),

Gene: Obama12\_18 Start: 13002, Stop: 13358, Start Num: 9

Candidate Starts for Obama12\_18:

(Start: 9 @13002 has 723 MA's), (23, 13104), (33, 13152), (39, 13173), (47, 13239), (53, 13275), (61, 13320), (68, 13347),

Gene: Odin\_17 Start: 12161, Stop: 12538, Start Num: 9

Candidate Starts for Odin\_17:

(Start: 9 @12161 has 723 MA's), (14, 12188), (16, 12194), (18, 12224), (23, 12263), (61, 12500), (67, 12524), (68, 12527),

Gene: Ohfah\_17 Start: 12685, Stop: 13041, Start Num: 9

Candidate Starts for Ohfah\_17:

(Start: 9 @12685 has 723 MA's), (23, 12787), (33, 12835), (39, 12856), (47, 12922), (53, 12958), (61, 13003), (68, 13030),

Gene: Ohno789\_17 Start: 12771, Stop: 13220, Start Num: 9

Candidate Starts for Ohno789\_17:

(Start: 9 @12771 has 723 MA's), (Start: 13 @12795 has 1 MA's), (61, 13107), (69, 13182),

Gene: OlanP\_19 Start: 13050, Stop: 13421, Start Num: 9

Candidate Starts for OlanP\_19:

(Start: 9 @13050 has 723 MA's), (Start: 13 @13074 has 1 MA's), (21, 13134), (23, 13152), (47, 13302), (61, 13383), (62, 13389), (67, 13407), (68, 13410),

Gene: Ollie\_19 Start: 12667, Stop: 13038, Start Num: 9

Candidate Starts for Ollie\_19:

(Start: 9 @12667 has 723 MA's), (Start: 13 @12691 has 1 MA's), (21, 12751), (23, 12769), (47, 12919), (61, 13000), (62, 13006), (67, 13024), (68, 13027),

Gene: Oofda\_21 Start: 12461, Stop: 12838, Start Num: 9

Candidate Starts for Oofda\_21:

(Start: 9 @12461 has 723 MA's), (23, 12563), (40, 12653), (62, 12806), (67, 12824), (68, 12827),

Gene: Oogway\_16 Start: 12883, Stop: 13332, Start Num: 9

Candidate Starts for Oogway\_16:

(Start: 9 @12883 has 723 MA's), (61, 13219), (69, 13294),

Gene: Orange\_18 Start: 13928, Stop: 14305, Start Num: 9

Candidate Starts for Orange\_18:

(Start: 9 @13928 has 723 MA's), (Start: 13 @13952 has 1 MA's), (18, 13991), (23, 14030), (24, 14036), (66, 14288), (67, 14291), (68, 14294),

Gene: P28Green\_19 Start: 12795, Stop: 13166, Start Num: 9

Candidate Starts for P28Green\_19:

(Start: 9 @12795 has 723 MA's), (Start: 13 @12819 has 1 MA's), (21, 12879), (23, 12897), (47, 13047), (61, 13128), (62, 13134), (67, 13152), (68, 13155),

Gene: PGHhamlin\_21 Start: 12788, Stop: 13159, Start Num: 9

Candidate Starts for PGHhamlin\_21:

(Start: 9 @12788 has 723 MA's), (Start: 13 @12812 has 1 MA's), (21, 12872), (23, 12890), (47, 13040), (61, 13121), (62, 13127), (67, 13145), (68, 13148),

Gene: PP\_27 Start: 18548, Stop: 18922, Start Num: 9

Candidate Starts for PP\_27:

(Start: 9 @18548 has 723 MA's), (23, 18650), (39, 18737), (47, 18803), (57, 18863), (61, 18884), (67, 18908), (68, 18911),

Gene: PSullivan\_18 Start: 13381, Stop: 13830, Start Num: 9

Candidate Starts for PSullivan\_18:

(Start: 9 @13381 has 723 MA's), (Start: 13 @13405 has 1 MA's), (61, 13717), (69, 13792),

Gene: PackMan\_19 Start: 14140, Stop: 14517, Start Num: 9

Candidate Starts for PackMan\_19:

(Start: 9 @14140 has 723 MA's), (23, 14242), (58, 14461), (61, 14479), (62, 14485),

Gene: PainterBoy\_19 Start: 13553, Stop: 13930, Start Num: 9

Candidate Starts for PainterBoy\_19:

(2, 13448), (Start: 9 @13553 has 723 MA's), (14, 13580), (18, 13616), (19, 13622), (23, 13655), (48, 13811), (61, 13892), (62, 13898), (66, 13913), (68, 13919),

Gene: Palestino\_17 Start: 12688, Stop: 13044, Start Num: 9

Candidate Starts for Palestino\_17:

(Start: 9 @12688 has 723 MA's), (23, 12790), (33, 12838), (39, 12859), (47, 12925), (51, 12955), (53, 12961), (61, 13006), (68, 13033),

Gene: Panamaxus\_18 Start: 12884, Stop: 13258, Start Num: 9

Candidate Starts for Panamaxus\_18:

(Start: 9 @12884 has 723 MA's), (Start: 13 @12908 has 1 MA's), (23, 12986), (33, 13052), (39, 13073), (47, 13139), (61, 13220), (67, 13244),

Gene: Papez\_19 Start: 14600, Stop: 15049, Start Num: 9

Candidate Starts for Papez\_19:

(Start: 9 @14600 has 723 MA's), (Start: 13 @14624 has 1 MA's), (61, 14936), (69, 15011),

Gene: Paphu\_16 Start: 12337, Stop: 12786, Start Num: 9

Candidate Starts for Paphu\_16:

(Start: 9 @12337 has 723 MA's), (Start: 13 @12361 has 1 MA's), (61, 12673), (69, 12748),

Gene: Paraselene\_16 Start: 12653, Stop: 13102, Start Num: 9

Candidate Starts for Paraselene\_16:

(Start: 9 @12653 has 723 MA's), (Start: 13 @12677 has 1 MA's), (61, 12989), (69, 13064),

Gene: Pari\_18 Start: 13128, Stop: 13577, Start Num: 9

Candidate Starts for Pari\_18:

(Start: 9 @13128 has 723 MA's), (Start: 13 @13152 has 1 MA's), (61, 13464), (69, 13539),

Gene: Parliament\_16 Start: 13017, Stop: 13466, Start Num: 9

Candidate Starts for Parliament\_16:

(Start: 9 @13017 has 723 MA's), (Start: 13 @13041 has 1 MA's), (61, 13353), (69, 13428),

Gene: Partridge\_14 Start: 8943, Stop: 9323, Start Num: 9

Candidate Starts for Partridge\_14:

(Start: 9 @8943 has 723 MA's), (Start: 13 @8967 has 1 MA's), (20, 9015), (30, 9084), (33, 9111), (47, 9198), (60, 9276), (61, 9282), (65, 9303),

Gene: PascalRango\_16 Start: 12572, Stop: 13021, Start Num: 9

Candidate Starts for PascalRango\_16:

(Start: 9 @12572 has 723 MA's), (61, 12908), (69, 12983),

Gene: PattyP\_19 Start: 13181, Stop: 13630, Start Num: 9

Candidate Starts for PattyP\_19:

(Start: 9 @13181 has 723 MA's), (Start: 13 @13205 has 1 MA's), (61, 13517), (69, 13592),

Gene: Pawn\_20 Start: 12870, Stop: 13241, Start Num: 9

Candidate Starts for Pawn\_20:

(Start: 9 @12870 has 723 MA's), (Start: 13 @12894 has 1 MA's), (21, 12954), (23, 12972), (47, 13122), (61, 13203), (62, 13209), (67, 13227), (68, 13230),

Gene: Payneful\_16 Start: 12467, Stop: 12916, Start Num: 9

Candidate Starts for Payneful\_16:

(Start: 9 @12467 has 723 MA's), (Start: 13 @12491 has 1 MA's), (61, 12803), (69, 12878),

Gene: PeaceMeal1\_16 Start: 10549, Stop: 10923, Start Num: 9

Candidate Starts for PeaceMeal1\_16:

(Start: 9 @10549 has 723 MA's), (23, 10651), (33, 10717), (39, 10738), (41, 10744), (47, 10804), (53, 10840), (57, 10864), (68, 10912),

Gene: Peaches\_17 Start: 12687, Stop: 13043, Start Num: 9

Candidate Starts for Peaches\_17:

(Start: 9 @12687 has 723 MA's), (23, 12789), (33, 12837), (39, 12858), (47, 12924), (53, 12960), (61, 13005), (68, 13032),

Gene: Pelly\_18 Start: 13417, Stop: 13866, Start Num: 9

Candidate Starts for Pelly\_18:

(Start: 9 @13417 has 723 MA's), (Start: 13 @13441 has 1 MA's), (61, 13753), (69, 13828),

Gene: Pembroke\_19 Start: 12797, Stop: 13168, Start Num: 9

Candidate Starts for Pembroke\_19:

(Start: 9 @12797 has 723 MA's), (Start: 13 @12821 has 1 MA's), (21, 12881), (23, 12899), (47, 13049), (61, 13130), (62, 13136), (67, 13154), (68, 13157),

Gene: Penny1\_19 Start: 12796, Stop: 13167, Start Num: 9

Candidate Starts for Penny1\_19:

(Start: 9 @12796 has 723 MA's), (Start: 13 @12820 has 1 MA's), (21, 12880), (23, 12898), (47, 13048), (61, 13129), (62, 13135), (67, 13153), (68, 13156),

Gene: Pepe\_18 Start: 13372, Stop: 13821, Start Num: 9

Candidate Starts for Pepe\_18:

(Start: 9 @13372 has 723 MA's), (Start: 13 @13396 has 1 MA's), (61, 13708), (69, 13783),

Gene: Perplexer\_17 Start: 12684, Stop: 13040, Start Num: 9

Candidate Starts for Perplexer\_17:

(Start: 9 @12684 has 723 MA's), (23, 12786), (33, 12834), (39, 12855), (47, 12921), (53, 12957), (64, 13014), (68, 13029),

Gene: Perseus\_18 Start: 13036, Stop: 13485, Start Num: 9

Candidate Starts for Perseus\_18:

(Start: 9 @13036 has 723 MA's), (Start: 13 @13060 has 1 MA's), (61, 13372), (69, 13447),

Gene: Persistence\_9 Start: 7363, Stop: 7719, Start Num: 9

Candidate Starts for Persistence\_9:

(Start: 9 @7363 has 723 MA's), (10, 7369), (11, 7375), (12, 7378), (22, 7459), (33, 7513), (38, 7528), (39, 7534), (58, 7678), (63, 7705),

Gene: PeterPeter\_17 Start: 12688, Stop: 13044, Start Num: 9

Candidate Starts for PeterPeter\_17:

(Start: 9 @12688 has 723 MA's), (23, 12790), (33, 12838), (39, 12859), (47, 12925), (53, 12961), (61, 13006), (68, 13033),

Gene: Petersenfast\_17 Start: 13931, Stop: 14308, Start Num: 9

Candidate Starts for Petersenfast\_17:

(Start: 9 @13931 has 723 MA's), (Start: 13 @13955 has 1 MA's), (18, 13994), (23, 14033), (24, 14039), (66, 14291), (67, 14294), (68, 14297),

Gene: Peterson\_20 Start: 14627, Stop: 15076, Start Num: 9

Candidate Starts for Peterson\_20:

(Start: 9 @14627 has 723 MA's), (Start: 13 @14651 has 1 MA's), (61, 14963), (69, 15038),

Gene: PetiteSangsue\_17 Start: 12690, Stop: 13046, Start Num: 9

Candidate Starts for PetiteSangsue\_17:

(Start: 9 @12690 has 723 MA's), (23, 12792), (33, 12840), (39, 12861), (47, 12927), (53, 12963), (64, 13020), (68, 13035),

Gene: Petp2012\_19 Start: 13849, Stop: 14298, Start Num: 9

Candidate Starts for Petp2012\_19:

(Start: 9 @13849 has 723 MA's), (Start: 13 @13873 has 1 MA's), (61, 14185), (69, 14260),

Gene: Petruccio\_17 Start: 12878, Stop: 13327, Start Num: 9

Candidate Starts for Petruccio\_17:

(Start: 9 @12878 has 723 MA's), (Start: 13 @12902 has 1 MA's), (61, 13214), (69, 13289),

Gene: PetterN\_15 Start: 11609, Stop: 11983, Start Num: 8

Candidate Starts for PetterN\_15:

(Start: 8 @11609 has 48 MA's), (Start: 13 @11633 has 1 MA's), (15, 11639), (40, 11801), (47, 11864), (57, 11924), (61, 11945), (66, 11966), (67, 11969), (68, 11972),

Gene: Ph8s\_19 Start: 12120, Stop: 12497, Start Num: 9

Candidate Starts for Ph8s\_19:

(Start: 9 @12120 has 723 MA's), (14, 12147), (16, 12153), (18, 12183), (23, 12222), (61, 12459), (67, 12483), (68, 12486),

Gene: Phacado\_17 Start: 12687, Stop: 13043, Start Num: 9

Candidate Starts for Phacado\_17:

(Start: 9 @12687 has 723 MA's), (23, 12789), (33, 12837), (39, 12858), (47, 12924), (53, 12960), (61, 13005), (68, 13032),

Gene: Phaded\_21 Start: 15461, Stop: 15838, Start Num: 9

Candidate Starts for Phaded\_21:

(Start: 9 @15461 has 723 MA's), (17, 15521), (18, 15524), (23, 15563), (42, 15665), (54, 15755), (57, 15776), (61, 15800),

Gene: Phaeder\_19 Start: 14140, Stop: 14517, Start Num: 9

Candidate Starts for Phaeder\_19:

(Start: 9 @14140 has 723 MA's), (23, 14242), (58, 14461), (61, 14479), (62, 14485),

Gene: PhailMary\_13 Start: 8926, Stop: 9306, Start Num: 9

Candidate Starts for PhailMary\_13:

(Start: 9 @8926 has 723 MA's), (Start: 13 @8950 has 1 MA's), (19, 8995), (20, 8998), (30, 9067), (33, 9094), (47, 9181), (60, 9259), (61, 9265), (65, 9286),

Gene: Phantastic\_17 Start: 12309, Stop: 12683, Start Num: 9

Candidate Starts for Phantastic\_17:

(Start: 9 @12309 has 723 MA's), (23, 12411), (33, 12477), (39, 12498), (47, 12564), (61, 12645), (62, 12651), (67, 12669),

Gene: Pharaoh\_18 Start: 13887, Stop: 14264, Start Num: 9

Candidate Starts for Pharaoh\_18:

(Start: 9 @13887 has 723 MA's), (18, 13950), (23, 13989), (39, 14076), (42, 14091), (44, 14112), (61, 14226), (67, 14250),

Gene: Phelipe\_17 Start: 12688, Stop: 13044, Start Num: 9

Candidate Starts for Phelipe\_17:

(Start: 9 @12688 has 723 MA's), (23, 12790), (33, 12838), (39, 12859), (47, 12925), (53, 12961), (61, 13006), (68, 13033),

Gene: PherrisBueller\_18 Start: 12801, Stop: 13250, Start Num: 9

Candidate Starts for PherrisBueller\_18:

(Start: 9 @12801 has 723 MA's), (Start: 13 @12825 has 1 MA's), (69, 13212),

Gene: Phighter1804\_17 Start: 12666, Stop: 13022, Start Num: 9

Candidate Starts for Phighter1804\_17:

(Start: 9 @12666 has 723 MA's), (23, 12768), (33, 12816), (39, 12837), (47, 12903), (53, 12939), (61, 12984), (68, 13011),

Gene: Phillis\_14 Start: 11371, Stop: 11745, Start Num: 8

Candidate Starts for Phillis\_14:

(Start: 8 @11371 has 48 MA's), (33, 11539), (40, 11563), (42, 11575), (47, 11626), (56, 11683), (57, 11686), (61, 11707), (66, 11728), (67, 11731),

Gene: PhishRPhriends\_18 Start: 12055, Stop: 12426, Start Num: 9

Candidate Starts for PhishRPhriends\_18:

(Start: 9 @12055 has 723 MA's), (Start: 13 @12079 has 1 MA's), (21, 12139), (23, 12157), (47, 12307), (61, 12388), (62, 12394), (67, 12412), (68, 12415),

Gene: Phlei\_13 Start: 13995, Stop: 14369, Start Num: 9

Candidate Starts for Phlei\_13:

(6, 13974), (Start: 9 @13995 has 723 MA's), (23, 14097), (39, 14181), (40, 14184), (61, 14331), (66, 14352), (68, 14358),

Gene: Phlorence\_14 Start: 11908, Stop: 12282, Start Num: 8

Candidate Starts for Phlorence\_14:

(Start: 8 @11908 has 48 MA's), (Start: 13 @11932 has 1 MA's), (15, 11938), (40, 12100), (47, 12163), (51, 12193), (57, 12223), (61, 12244), (66, 12265), (67, 12268), (68, 12271),

Gene: Phoebe\_19 Start: 12794, Stop: 13165, Start Num: 9

Candidate Starts for Phoebe\_19:

(Start: 9 @12794 has 723 MA's), (Start: 13 @12818 has 1 MA's), (21, 12878), (23, 12896), (47, 13046), (61, 13127), (62, 13133), (67, 13151), (68, 13154),

Gene: Phonnegut\_19 Start: 14173, Stop: 14550, Start Num: 9

Candidate Starts for Phonnegut\_19:

(Start: 9 @14173 has 723 MA's), (23, 14275), (58, 14494), (61, 14512), (62, 14518),

Gene: Phontbonne\_17 Start: 12632, Stop: 12988, Start Num: 9

Candidate Starts for Phontbonne\_17:

(Start: 9 @12632 has 723 MA's), (23, 12734), (33, 12782), (39, 12803), (47, 12869), (53, 12905), (61, 12950), (68, 12977),

Gene: Phoxy\_19 Start: 12880, Stop: 13251, Start Num: 9

Candidate Starts for Phoxy\_19:

(Start: 9 @12880 has 723 MA's), (Start: 13 @12904 has 1 MA's), (21, 12964), (23, 12982), (47, 13132), (61, 13213), (62, 13219), (67, 13237), (68, 13240),

Gene: Phrank15\_10 Start: 7517, Stop: 7804, Start Num: 19

Candidate Starts for Phrank15\_10:

(Start: 9 @7448 has 723 MA's), (19, 7517), (23, 7547), (25, 7553), (37, 7610), (39, 7619), (55, 7748), (63, 7790),

Gene: Phrankenstein\_14 Start: 8916, Stop: 9296, Start Num: 9

Candidate Starts for Phrankenstein\_14:

(Start: 9 @8916 has 723 MA's), (Start: 13 @8940 has 1 MA's), (20, 8988), (33, 9084), (42, 9120), (44, 9141), (47, 9171), (57, 9231), (60, 9249), (61, 9255), (65, 9276),

Gene: Phranny\_20 Start: 12862, Stop: 13233, Start Num: 9

Candidate Starts for Phranny\_20:

(Start: 9 @12862 has 723 MA's), (Start: 13 @12886 has 1 MA's), (21, 12946), (23, 12964), (47, 13114), (61, 13195), (62, 13201), (67, 13219), (68, 13222),

Gene: PhrostyMug\_17 Start: 12950, Stop: 13399, Start Num: 9

Candidate Starts for PhrostyMug\_17:

(Start: 9 @12950 has 723 MA's), (Start: 13 @12974 has 1 MA's), (61, 13286), (69, 13361),

Gene: PickleBack\_14 Start: 11622, Stop: 11996, Start Num: 8

Candidate Starts for PickleBack\_14:

(Start: 8 @11622 has 48 MA's), (Start: 13 @11646 has 1 MA's), (15, 11652), (40, 11814), (47, 11877), (51, 11907), (57, 11937), (61, 11958), (66, 11979), (67, 11982), (68, 11985),

Gene: PinkPlastic\_16 Start: 12715, Stop: 13164, Start Num: 9

Candidate Starts for PinkPlastic\_16:

(Start: 9 @12715 has 723 MA's), (Start: 13 @12739 has 1 MA's), (61, 13051), (69, 13126),

Gene: Pinto\_19 Start: 13032, Stop: 13481, Start Num: 9

Candidate Starts for Pinto\_19:

(Start: 9 @13032 has 723 MA's), (Start: 13 @13056 has 1 MA's), (61, 13368), (69, 13443),

Gene: Pioneer\_19 Start: 14173, Stop: 14550, Start Num: 9

Candidate Starts for Pioneer\_19:

(Start: 9 @14173 has 723 MA's), (23, 14275), (58, 14494), (61, 14512), (62, 14518),

Gene: Pipcraft\_17 Start: 12688, Stop: 13044, Start Num: 9

Candidate Starts for Pipcraft\_17:

(Start: 9 @12688 has 723 MA's), (23, 12790), (33, 12838), (39, 12859), (47, 12925), (53, 12961), (61, 13006), (68, 13033),

Gene: Pippin\_19 Start: 13284, Stop: 13733, Start Num: 9

Candidate Starts for Pippin\_19:

(Start: 9 @13284 has 723 MA's), (61, 13620), (69, 13695),

Gene: Piro94\_19 Start: 13880, Stop: 14257, Start Num: 9

Candidate Starts for Piro94\_19:

(Start: 9 @13880 has 723 MA's), (14, 13907), (16, 13913), (18, 13943), (23, 13982), (28, 14012), (42, 14084), (61, 14219), (66, 14240), (67, 14243), (68, 14246),

Gene: Pistachio\_18 Start: 11890, Stop: 12264, Start Num: 9

Candidate Starts for Pistachio\_18:

(Start: 9 @11890 has 723 MA's), (23, 11992), (33, 12058), (39, 12079), (47, 12145), (61, 12226), (62, 12232), (67, 12250),

Gene: Pita2\_19 Start: 13381, Stop: 13830, Start Num: 9

Candidate Starts for Pita2\_19:

(Start: 9 @13381 has 723 MA's), (Start: 13 @13405 has 1 MA's), (61, 13717), (69, 13792),

Gene: Pmask\_21 Start: 13476, Stop: 13853, Start Num: 9

Candidate Starts for Pmask\_21:

(Start: 9 @13476 has 723 MA's), (14, 13503), (16, 13509), (17, 13536), (18, 13539), (23, 13578), (61, 13815), (67, 13839), (68, 13842),

Gene: Pocahontas\_18 Start: 12881, Stop: 13255, Start Num: 9

Candidate Starts for Pocahontas\_18:



(Start: 9 @12881 has 723 MA's), (Start: 13 @12905 has 1 MA's), (23, 12983), (33, 13049), (39, 13070), (47, 13136), (61, 13217), (67, 13241),

Gene: Polymorphads\_17 Start: 12685, Stop: 13041, Start Num: 9

Candidate Starts for Polymorphads\_17:

(Start: 9 @12685 has 723 MA's), (23, 12787), (33, 12835), (39, 12856), (47, 12922), (53, 12958), (61, 13003), (68, 13030),

Gene: Pomar16\_21 Start: 13313, Stop: 13687, Start Num: 9

Candidate Starts for Pomar16\_21:

(Start: 9 @13313 has 723 MA's), (14, 13340), (16, 13346), (18, 13376), (23, 13415), (29, 13451), (40, 13502), (42, 13514), (57, 13625), (61, 13649), (67, 13673), (68, 13676),

Gene: Poompha\_16 Start: 10547, Stop: 10921, Start Num: 9

Candidate Starts for Poompha\_16:

(Start: 9 @10547 has 723 MA's), (23, 10649), (33, 10715), (39, 10736), (41, 10742), (47, 10802), (53, 10838), (57, 10862), (68, 10910),

Gene: Popcicle\_18 Start: 12881, Stop: 13255, Start Num: 9

Candidate Starts for Popcicle\_18:

(Start: 9 @12881 has 723 MA's), (Start: 13 @12905 has 1 MA's), (23, 12983), (33, 13049), (39, 13070), (47, 13136), (61, 13217), (67, 13241),

Gene: PotatoSplit\_20 Start: 12796, Stop: 13167, Start Num: 9

Candidate Starts for PotatoSplit\_20:

(Start: 9 @12796 has 723 MA's), (Start: 13 @12820 has 1 MA's), (21, 12880), (23, 12898), (47, 13048), (61, 13129), (62, 13135), (67, 13153), (68, 13156),

Gene: Power\_18 Start: 13318, Stop: 13695, Start Num: 9

Candidate Starts for Power\_18:

(Start: 9 @13318 has 723 MA's), (15, 13348), (16, 13351), (18, 13381), (23, 13420), (42, 13522), (61, 13657), (62, 13663), (67, 13681),

Gene: Priamo\_21 Start: 13503, Stop: 13880, Start Num: 9

Candidate Starts for Priamo\_21:

(Start: 9 @13503 has 723 MA's), (14, 13530), (16, 13536), (17, 13563), (18, 13566), (23, 13605), (61, 13842), (67, 13866), (68, 13869),

Gene: Priya\_19 Start: 14171, Stop: 14548, Start Num: 9

Candidate Starts for Priya\_19:

(Start: 9 @14171 has 723 MA's), (23, 14273), (58, 14492), (61, 14510), (62, 14516),

Gene: Pukovnik\_20 Start: 15014, Stop: 15391, Start Num: 9

Candidate Starts for Pukovnik\_20:

(Start: 9 @15014 has 723 MA's), (14, 15041), (18, 15077), (23, 15116), (54, 15308), (57, 15329), (61, 15353), (67, 15377), (68, 15380),

Gene: Pumbaa\_17 Start: 12663, Stop: 13019, Start Num: 9

Candidate Starts for Pumbaa\_17:

(Start: 9 @12663 has 723 MA's), (23, 12765), (33, 12813), (39, 12834), (47, 12900), (53, 12936), (61, 12981), (68, 13008),

Gene: Puppy\_18 Start: 11962, Stop: 12336, Start Num: 9

Candidate Starts for Puppy\_18:

(Start: 9 @11962 has 723 MA's), (23, 12064), (33, 12130), (39, 12151), (47, 12217), (61, 12298), (62, 12304), (67, 12322),

Gene: PurpleHaze\_19 Start: 12869, Stop: 13240, Start Num: 9

Candidate Starts for PurpleHaze\_19:

(Start: 9 @12869 has 723 MA's), (Start: 13 @12893 has 1 MA's), (21, 12953), (23, 12971), (47, 13121), (61, 13202), (62, 13208), (67, 13226), (68, 13229),

Gene: QTRlifeCrisis\_20 Start: 13358, Stop: 13807, Start Num: 9

Candidate Starts for QTRlifeCrisis\_20:

(Start: 9 @13358 has 723 MA's), (Start: 13 @13382 has 1 MA's), (61, 13694), (69, 13769),

Gene: Qobbit\_19 Start: 14170, Stop: 14547, Start Num: 9

Candidate Starts for Qobbit\_19:

(Start: 9 @14170 has 723 MA's), (23, 14272), (58, 14491), (61, 14509), (62, 14515),

Gene: QueenB2\_18 Start: 13396, Stop: 13773, Start Num: 9

Candidate Starts for QueenB2\_18:

(Start: 9 @13396 has 723 MA's), (14, 13423), (16, 13429), (18, 13459), (23, 13498), (27, 13522), (42, 13600), (61, 13735), (67, 13759),

Gene: QueenBeesly\_18 Start: 13318, Stop: 13695, Start Num: 9

Candidate Starts for QueenBeesly\_18:

(Start: 9 @13318 has 723 MA's), (15, 13348), (16, 13351), (18, 13381), (23, 13420), (42, 13522), (61, 13657), (62, 13663), (67, 13681),

Gene: QuinnKiro\_17 Start: 12884, Stop: 13258, Start Num: 9

Candidate Starts for QuinnKiro\_17:

(Start: 9 @12884 has 723 MA's), (Start: 13 @12908 has 1 MA's), (23, 12986), (33, 13052), (39, 13073), (47, 13139), (61, 13220), (67, 13244),

Gene: RER2\_7 Start: 5788, Stop: 6168, Start Num: 9

Candidate Starts for RER2\_7:

(Start: 9 @5788 has 723 MA's), (Start: 13 @5812 has 1 MA's), (20, 5860), (33, 5956), (42, 5992), (44, 6013), (47, 6043), (57, 6103), (60, 6121), (61, 6127), (65, 6148),

Gene: RGL3\_7 Start: 5752, Stop: 6132, Start Num: 9

Candidate Starts for RGL3\_7:

(Start: 9 @5752 has 723 MA's), (20, 5824), (36, 5929), (44, 5977), (47, 6007), (61, 6091),

Gene: Rachaly\_21 Start: 15044, Stop: 15421, Start Num: 9

Candidate Starts for Rachaly\_21:

(Start: 9 @15044 has 723 MA's), (14, 15071), (18, 15107), (23, 15146), (42, 15248), (52, 15332), (61, 15383), (62, 15389), (67, 15407), (68, 15410),

Gene: RadFad\_10 Start: 7292, Stop: 7648, Start Num: 9

Candidate Starts for RadFad\_10:

(Start: 9 @7292 has 723 MA's), (10, 7298), (11, 7304), (12, 7307), (19, 7361), (22, 7388), (23, 7391), (36, 7451), (37, 7454), (39, 7463), (55, 7592), (58, 7607), (63, 7634),

Gene: Rahalelujah\_17 Start: 12210, Stop: 12587, Start Num: 9

Candidate Starts for Rahalelujah\_17:

(Start: 9 @12210 has 723 MA's), (23, 12312), (58, 12531), (61, 12549), (62, 12555), (67, 12573), (68, 12576),

Gene: Rajelicia\_17 Start: 13166, Stop: 13615, Start Num: 9

Candidate Starts for Rajelicia\_17:

(Start: 9 @13166 has 723 MA's), (Start: 13 @13190 has 1 MA's), (61, 13502), (69, 13577),

Gene: Raphaella\_10 Start: 7295, Stop: 7651, Start Num: 9

Candidate Starts for Raphaella\_10:

(Start: 9 @7295 has 723 MA's), (23, 7394), (25, 7400), (39, 7466), (55, 7595), (58, 7610), (63, 7637),

Gene: Rasputin\_14 Start: 8884, Stop: 9264, Start Num: 9

Candidate Starts for Rasputin\_14:

(Start: 9 @8884 has 723 MA's), (Start: 13 @8908 has 1 MA's), (20, 8956), (30, 9025), (33, 9052), (42, 9088), (44, 9109), (47, 9139), (60, 9217), (61, 9223), (65, 9244),

Gene: ReMo\_20 Start: 12490, Stop: 12867, Start Num: 9

Candidate Starts for ReMo\_20:

(Start: 9 @12490 has 723 MA's), (23, 12592), (40, 12682), (62, 12835), (67, 12853), (68, 12856),

Gene: Reba\_20 Start: 12535, Stop: 12906, Start Num: 9

Candidate Starts for Reba\_20:

(Start: 9 @12535 has 723 MA's), (Start: 13 @12559 has 1 MA's), (21, 12619), (23, 12637), (47, 12787), (61, 12868), (62, 12874), (67, 12892), (68, 12895),

Gene: Rebeuca\_18 Start: 12632, Stop: 13006, Start Num: 9

Candidate Starts for Rebeuca\_18:

(Start: 9 @12632 has 723 MA's), (23, 12734), (33, 12800), (39, 12821), (47, 12887), (61, 12968), (62, 12974), (68, 12995),

Gene: RedRock\_21 Start: 15306, Stop: 15683, Start Num: 9

Candidate Starts for RedRock\_21:

(Start: 9 @15306 has 723 MA's), (14, 15333), (18, 15369), (23, 15408), (42, 15510), (66, 15666), (67, 15669), (68, 15672),

Gene: Refuge\_21 Start: 15689, Stop: 16066, Start Num: 9

Candidate Starts for Refuge\_21:

(Start: 9 @15689 has 723 MA's), (15, 15719), (17, 15749), (18, 15752), (23, 15791), (28, 15821), (42, 15893), (44, 15914), (58, 16010), (61, 16028), (67, 16052),

Gene: Relief\_17 Start: 12686, Stop: 13042, Start Num: 9

Candidate Starts for Relief\_17:

(Start: 9 @12686 has 723 MA's), (23, 12788), (33, 12836), (39, 12857), (47, 12923), (53, 12959), (61, 13004), (68, 13031),

Gene: Remus\_20 Start: 12451, Stop: 12828, Start Num: 9

Candidate Starts for Remus\_20:

(Start: 9 @12451 has 723 MA's), (23, 12553), (40, 12643), (62, 12796), (67, 12814), (68, 12817),

Gene: ResDef\_18 Start: 12884, Stop: 13258, Start Num: 9

Candidate Starts for ResDef\_18:

(Start: 9 @12884 has 723 MA's), (Start: 13 @12908 has 1 MA's), (23, 12986), (33, 13052), (39, 13073), (47, 13139), (61, 13220), (67, 13244),

Gene: Retro23\_18 Start: 13469, Stop: 13846, Start Num: 9

Candidate Starts for Retro23\_18:

(Start: 9 @13469 has 723 MA's), (15, 13499), (16, 13502), (18, 13532), (23, 13571), (42, 13673), (61, 13808), (67, 13832), (68, 13835),

Gene: RexFury\_14 Start: 8947, Stop: 9327, Start Num: 9

Candidate Starts for RexFury\_14:

(Start: 9 @8947 has 723 MA's), (Start: 13 @8971 has 1 MA's), (20, 9019), (33, 9115), (42, 9151), (44, 9172), (47, 9202), (57, 9262), (60, 9280), (61, 9286), (65, 9307),

Gene: Rhodalysa\_14 Start: 8916, Stop: 9296, Start Num: 9

Candidate Starts for Rhodalysa\_14:

(Start: 9 @8916 has 723 MA's), (Start: 13 @8940 has 1 MA's), (20, 8988), (33, 9084), (42, 9120), (44, 9141), (47, 9171), (57, 9231), (60, 9249), (61, 9255), (65, 9276),

Gene: RhynO\_18 Start: 12608, Stop: 12982, Start Num: 9

Candidate Starts for RhynO\_18:

(Start: 9 @12608 has 723 MA's), (19, 12677), (23, 12710), (39, 12797), (47, 12863), (61, 12944), (64, 12956), (68, 12971),

Gene: Rhynn\_17 Start: 12959, Stop: 13408, Start Num: 9

Candidate Starts for Rhynn\_17:

(Start: 9 @12959 has 723 MA's), (Start: 13 @12983 has 1 MA's), (61, 13295), (69, 13370),

Gene: Richie\_10 Start: 7310, Stop: 7666, Start Num: 9

Candidate Starts for Richie\_10:

(Start: 9 @7310 has 723 MA's), (19, 7379), (23, 7409), (25, 7415), (37, 7472), (39, 7481), (55, 7610), (63, 7652),

Gene: RidgeCB\_17 Start: 12733, Stop: 13182, Start Num: 9

Candidate Starts for RidgeCB\_17:

(Start: 9 @12733 has 723 MA's), (Start: 13 @12757 has 1 MA's), (61, 13069), (69, 13144),

Gene: Rifter\_21 Start: 13451, Stop: 13828, Start Num: 9

Candidate Starts for Rifter\_21:

(Start: 9 @13451 has 723 MA's), (14, 13478), (17, 13511), (18, 13514), (23, 13553), (45, 13694), (61, 13790), (67, 13814), (68, 13817),

Gene: Ringer\_17 Start: 13217, Stop: 13666, Start Num: 9

Candidate Starts for Ringer\_17:

(Start: 9 @13217 has 723 MA's), (Start: 13 @13241 has 1 MA's), (61, 13553), (69, 13628),

Gene: Roary\_14 Start: 11362, Stop: 11736, Start Num: 8

Candidate Starts for Roary\_14:

(Start: 8 @11362 has 48 MA's), (33, 11530), (40, 11554), (42, 11566), (47, 11617), (56, 11674), (57, 11677), (61, 11698), (66, 11719), (67, 11722),

Gene: Rockstar\_17 Start: 12236, Stop: 12610, Start Num: 9

Candidate Starts for Rockstar\_17:

(Start: 9 @12236 has 723 MA's), (23, 12338), (33, 12404), (39, 12425), (47, 12491), (61, 12572), (62, 12578), (67, 12596),

Gene: Rohr\_18 Start: 13156, Stop: 13605, Start Num: 9

Candidate Starts for Rohr\_18:

(Start: 9 @13156 has 723 MA's), (Start: 13 @13180 has 1 MA's), (61, 13492), (69, 13567),

Gene: Roksolana\_21 Start: 13479, Stop: 13856, Start Num: 9

Candidate Starts for Roksolana\_21:

(Start: 9 @13479 has 723 MA's), (14, 13506), (16, 13512), (17, 13539), (18, 13542), (23, 13581), (45, 13722), (61, 13818), (67, 13842), (68, 13845),

Gene: Romney\_17 Start: 12688, Stop: 13044, Start Num: 9

Candidate Starts for Romney\_17:

(Start: 9 @12688 has 723 MA's), (23, 12790), (33, 12838), (39, 12859), (47, 12925), (53, 12961), (61, 13006), (68, 13033),

Gene: Roosevelt\_17 Start: 12688, Stop: 13044, Start Num: 9

Candidate Starts for Roosevelt\_17:

(Start: 9 @12688 has 723 MA's), (23, 12790), (33, 12838), (39, 12859), (47, 12925), (53, 12961), (61, 13006), (68, 13033),

Gene: Rosalind\_20 Start: 12612, Stop: 12989, Start Num: 9

Candidate Starts for Rosalind\_20:

(Start: 9 @12612 has 723 MA's), (23, 12714), (40, 12804), (62, 12957), (67, 12975), (68, 12978),

Gene: Rubeus\_18 Start: 12991, Stop: 13440, Start Num: 9

Candidate Starts for Rubeus\_18:

(Start: 9 @12991 has 723 MA's), (Start: 13 @13015 has 1 MA's), (61, 13327), (69, 13402),

Gene: Rufus\_18 Start: 13324, Stop: 13773, Start Num: 9

Candidate Starts for Rufus\_18:

(Start: 9 @13324 has 723 MA's), (Start: 13 @13348 has 1 MA's), (61, 13660), (69, 13735),

Gene: Ruin\_17 Start: 12684, Stop: 13040, Start Num: 9

Candidate Starts for Ruin\_17:

(Start: 9 @12684 has 723 MA's), (23, 12786), (33, 12834), (39, 12855), (47, 12921), (53, 12957), (61, 13002), (68, 13029),

Gene: Rummer\_19 Start: 12880, Stop: 13251, Start Num: 9

Candidate Starts for Rummer\_19:

(Start: 9 @12880 has 723 MA's), (Start: 13 @12904 has 1 MA's), (21, 12964), (23, 12982), (47, 13132), (61, 13213), (62, 13219), (67, 13237), (68, 13240),

Gene: Ruotula\_16 Start: 13164, Stop: 13610, Start Num: 9

Candidate Starts for Ruotula\_16:

(Start: 9 @13164 has 723 MA's), (Start: 13 @13188 has 1 MA's), (61, 13497), (69, 13572),

Gene: Rutherferd\_19 Start: 13504, Stop: 13953, Start Num: 9

Candidate Starts for Rutherferd\_19:

(Start: 9 @13504 has 723 MA's), (Start: 13 @13528 has 1 MA's), (61, 13840), (69, 13915),

Gene: STLscum\_18 Start: 13367, Stop: 13816, Start Num: 9

Candidate Starts for STLscum\_18:

(Start: 9 @13367 has 723 MA's), (Start: 13 @13391 has 1 MA's), (61, 13703), (69, 13778),

Gene: Sabertooth\_17 Start: 12685, Stop: 13041, Start Num: 9

Candidate Starts for Sabertooth\_17:

(Start: 9 @12685 has 723 MA's), (23, 12787), (33, 12835), (39, 12856), (47, 12922), (53, 12958), (61, 13003), (68, 13030),

Gene: Sabia\_19 Start: 12789, Stop: 13160, Start Num: 9

Candidate Starts for Sabia\_19:

(Start: 9 @12789 has 723 MA's), (Start: 13 @12813 has 1 MA's), (21, 12873), (23, 12891), (47, 13041), (61, 13122), (62, 13128), (67, 13146), (68, 13149),

Gene: Sabinator\_19 Start: 12794, Stop: 13165, Start Num: 9

Candidate Starts for Sabinator\_19:

(Start: 9 @12794 has 723 MA's), (Start: 13 @12818 has 1 MA's), (21, 12878), (23, 12896), (47, 13046), (61, 13127), (62, 13133), (67, 13151), (68, 13154),

Gene: Sagefire\_18 Start: 13764, Stop: 14213, Start Num: 9

Candidate Starts for Sagefire\_18:

(Start: 9 @13764 has 723 MA's), (Start: 13 @13788 has 1 MA's), (61, 14100), (69, 14175),

Gene: Saintus\_14 Start: 11377, Stop: 11751, Start Num: 8

Candidate Starts for Saintus\_14:

(Start: 8 @11377 has 48 MA's), (33, 11545), (40, 11569), (42, 11581), (47, 11632), (56, 11689), (57, 11692), (61, 11713), (66, 11734), (67, 11737),

Gene: Sakai\_10 Start: 7304, Stop: 7660, Start Num: 9

Candidate Starts for Sakai\_10:

(Start: 9 @7304 has 723 MA's), (19, 7373), (23, 7403), (25, 7409), (37, 7466), (39, 7475), (55, 7604), (63, 7646),

Gene: Salz\_18 Start: 13925, Stop: 14302, Start Num: 9

Candidate Starts for Salz\_18:

(Start: 9 @13925 has 723 MA's), (Start: 13 @13949 has 1 MA's), (18, 13988), (23, 14027), (24, 14033), (66, 14285), (67, 14288), (68, 14291),

Gene: Sandaddy\_16 Start: 12879, Stop: 13328, Start Num: 9

Candidate Starts for Sandaddy\_16:

(Start: 9 @12879 has 723 MA's), (Start: 13 @12903 has 1 MA's), (61, 13215), (69, 13290),

Gene: SarFire\_17 Start: 13033, Stop: 13482, Start Num: 9

Candidate Starts for SarFire\_17:

(Start: 9 @13033 has 723 MA's), (Start: 13 @13057 has 1 MA's), (61, 13369), (69, 13444),

Gene: Sashimi\_11 Start: 7410, Stop: 7766, Start Num: 9

Candidate Starts for Sashimi\_11:

(Start: 9 @7410 has 723 MA's), (14, 7437), (25, 7515), (37, 7572), (39, 7581), (49, 7662), (55, 7710), (56, 7716), (58, 7725), (63, 7752),

Gene: SaturnRing\_17 Start: 12343, Stop: 12717, Start Num: 9

Candidate Starts for SaturnRing\_17:

(Start: 9 @12343 has 723 MA's), (23, 12445), (33, 12511), (39, 12532), (47, 12598), (61, 12679), (62, 12685), (67, 12703),

Gene: Scamp\_17 Start: 12688, Stop: 13044, Start Num: 9

Candidate Starts for Scamp\_17:

(Start: 9 @12688 has 723 MA's), (23, 12790), (33, 12838), (39, 12859), (47, 12925), (53, 12961), (61, 13006), (68, 13033),

Gene: Scherzo\_19 Start: 14173, Stop: 14550, Start Num: 9

Candidate Starts for Scherzo\_19:

(Start: 9 @14173 has 723 MA's), (23, 14275), (58, 14494), (61, 14512), (62, 14518),

Gene: Scorpia\_15 Start: 11610, Stop: 11984, Start Num: 8

Candidate Starts for Scorpia\_15:

(Start: 8 @11610 has 48 MA's), (Start: 13 @11634 has 1 MA's), (15, 11640), (40, 11802), (47, 11865), (56, 11922), (57, 11925), (66, 11967), (67, 11970), (68, 11973),

Gene: Scout\_17 Start: 11643, Stop: 12017, Start Num: 9

Candidate Starts for Scout\_17:

(Start: 9 @11643 has 723 MA's), (23, 11745), (33, 11811), (39, 11832), (47, 11898), (61, 11979), (62, 11985), (67, 12003),

Gene: Scowl\_18 Start: 13430, Stop: 13879, Start Num: 9

Candidate Starts for Scowl\_18:

(Start: 9 @13430 has 723 MA's), (Start: 13 @13454 has 1 MA's), (69, 13841),

Gene: Seabiscuit\_19 Start: 12965, Stop: 13414, Start Num: 9

Candidate Starts for Seabiscuit\_19:

(Start: 9 @12965 has 723 MA's), (Start: 13 @12989 has 1 MA's), (61, 13301), (69, 13376),

Gene: Seahorse\_11 Start: 7514, Stop: 7873, Start Num: 9

Candidate Starts for Seahorse\_11:

(Start: 9 @7514 has 723 MA's), (14, 7541), (23, 7613), (36, 7673), (39, 7685), (50, 7784), (51, 7799), (63, 7859),

Gene: Seanderson\_18 Start: 13400, Stop: 13849, Start Num: 9

Candidate Starts for Seanderson\_18:

(Start: 9 @13400 has 723 MA's), (Start: 13 @13424 has 1 MA's), (61, 13736), (69, 13811),

Gene: SemperFi\_20 Start: 13746, Stop: 14123, Start Num: 9

Candidate Starts for SemperFi\_20:

(Start: 9 @13746 has 723 MA's), (15, 13776), (16, 13779), (18, 13809), (23, 13848), (42, 13950), (61, 14085), (62, 14091), (67, 14109),

Gene: Serenity\_17 Start: 12293, Stop: 12670, Start Num: 9

Candidate Starts for Serenity\_17:

(Start: 9 @12293 has 723 MA's), (14, 12320), (16, 12326), (17, 12353), (18, 12356), (23, 12395), (42, 12497), (61, 12632), (66, 12653), (67, 12656), (68, 12659),

Gene: Severus\_16 Start: 10547, Stop: 10921, Start Num: 9

Candidate Starts for Severus\_16:

(Start: 9 @10547 has 723 MA's), (23, 10649), (33, 10715), (39, 10736), (41, 10742), (47, 10802), (53, 10838), (57, 10862), (68, 10910),

Gene: Shaka\_17 Start: 12688, Stop: 13044, Start Num: 9

Candidate Starts for Shaka\_17:

(Start: 9 @12688 has 723 MA's), (23, 12790), (33, 12838), (39, 12859), (47, 12925), (53, 12961), (61, 13006), (68, 13033),

Gene: Sham4\_18 Start: 13931, Stop: 14308, Start Num: 9

Candidate Starts for Sham4\_18:

(Start: 9 @13931 has 723 MA's), (Start: 13 @13955 has 1 MA's), (18, 13994), (23, 14033), (24, 14039), (66, 14291), (67, 14294), (68, 14297),

Gene: ShayRa\_21 Start: 12612, Stop: 12989, Start Num: 9

Candidate Starts for ShayRa\_21:

(Start: 9 @12612 has 723 MA's), (23, 12714), (40, 12804), (62, 12957), (67, 12975), (68, 12978),

Gene: SheaKeira\_18 Start: 12349, Stop: 12726, Start Num: 9

Candidate Starts for SheaKeira\_18:

(Start: 9 @12349 has 723 MA's), (23, 12451), (28, 12481), (52, 12637), (58, 12670), (61, 12688), (67, 12712), (68, 12715),

Gene: Sheen\_19 Start: 14394, Stop: 14768, Start Num: 9

Candidate Starts for Sheen\_19:

(Start: 9 @14394 has 723 MA's), (23, 14496), (33, 14562), (35, 14568), (39, 14583), (47, 14649), (53, 14685), (61, 14730), (62, 14736), (67, 14754),

Gene: SheldonCooper\_18 Start: 13001, Stop: 13357, Start Num: 9

Candidate Starts for SheldonCooper\_18:

(Start: 9 @13001 has 723 MA's), (23, 13103), (33, 13151), (39, 13172), (47, 13238), (53, 13274), (61, 13319), (68, 13346),

Gene: ShortQueendom\_16 Start: 12839, Stop: 13288, Start Num: 9

Candidate Starts for ShortQueendom\_16:

(Start: 9 @12839 has 723 MA's), (Start: 13 @12863 has 1 MA's), (61, 13175), (69, 13250),

Gene: Shuman\_14 Start: 8916, Stop: 9296, Start Num: 9

Candidate Starts for Shuman\_14:

(Start: 9 @8916 has 723 MA's), (Start: 13 @8940 has 1 MA's), (20, 8988), (30, 9057), (33, 9084), (47, 9171), (60, 9249), (61, 9255), (65, 9276),

Gene: Shygu2\_17 Start: 12685, Stop: 13041, Start Num: 9

Candidate Starts for Shygu2\_17:

(Start: 9 @12685 has 723 MA's), (23, 12787), (33, 12835), (39, 12856), (47, 12922), (53, 12958), (64, 13015), (68, 13030),

Gene: Sibs6\_19 Start: 13476, Stop: 13925, Start Num: 9

Candidate Starts for Sibs6\_19:

(Start: 9 @13476 has 723 MA's), (Start: 13 @13500 has 1 MA's), (61, 13812), (69, 13887),

Gene: SkiPole\_19 Start: 13053, Stop: 13502, Start Num: 9

Candidate Starts for SkiPole\_19:

(Start: 9 @13053 has 723 MA's), (Start: 13 @13077 has 1 MA's), (61, 13389), (69, 13464),

Gene: Skipitt\_17 Start: 12685, Stop: 13041, Start Num: 9

Candidate Starts for Skipitt\_17:

(Start: 9 @12685 has 723 MA's), (23, 12787), (33, 12835), (39, 12856), (47, 12922), (53, 12958), (61, 13003), (68, 13030),



Gene: Slagathor\_18 Start: 12828, Stop: 13277, Start Num: 9

Candidate Starts for Slagathor\_18:

(Start: 9 @12828 has 723 MA's), (Start: 13 @12852 has 1 MA's), (61, 13164), (69, 13239),

Gene: Smairt\_18 Start: 13659, Stop: 14108, Start Num: 9

Candidate Starts for Smairt\_18:

(Start: 9 @13659 has 723 MA's), (Start: 13 @13683 has 1 MA's), (61, 13995), (69, 14070),

Gene: Smeadley\_14 Start: 11395, Stop: 11769, Start Num: 8

Candidate Starts for Smeadley\_14:

(Start: 8 @11395 has 48 MA's), (33, 11563), (40, 11587), (42, 11599), (47, 11650), (56, 11707), (57, 11710), (61, 11731), (66, 11752), (67, 11755),

Gene: Smeagan\_20 Start: 13831, Stop: 14208, Start Num: 9

Candidate Starts for Smeagan\_20:

(Start: 9 @13831 has 723 MA's), (15, 13861), (16, 13864), (18, 13894), (23, 13933), (52, 14119), (61, 14170), (67, 14194), (68, 14197),

Gene: Smeagol\_19 Start: 14248, Stop: 14697, Start Num: 9

Candidate Starts for Smeagol\_19:

(Start: 9 @14248 has 723 MA's), (Start: 13 @14272 has 1 MA's), (61, 14584), (69, 14659),

Gene: SmellyB\_21 Start: 13484, Stop: 13861, Start Num: 9

Candidate Starts for SmellyB\_21:

(Start: 9 @13484 has 723 MA's), (14, 13511), (16, 13517), (17, 13544), (18, 13547), (23, 13586), (61, 13823), (67, 13847), (68, 13850),

Gene: SnapTap\_18 Start: 13318, Stop: 13695, Start Num: 9

Candidate Starts for SnapTap\_18:

(Start: 9 @13318 has 723 MA's), (15, 13348), (16, 13351), (18, 13381), (23, 13420), (42, 13522), (61, 13657), (62, 13663), (67, 13681),

Gene: Snape\_18 Start: 13931, Stop: 14308, Start Num: 9

Candidate Starts for Snape\_18:

(Start: 9 @13931 has 723 MA's), (Start: 13 @13955 has 1 MA's), (18, 13994), (23, 14033), (24, 14039), (66, 14291), (67, 14294), (68, 14297),

Gene: Snazzy\_15 Start: 12348, Stop: 12797, Start Num: 9

Candidate Starts for Snazzy\_15:

(Start: 9 @12348 has 723 MA's), (Start: 13 @12372 has 1 MA's), (61, 12684), (69, 12759),

Gene: Snickers\_19 Start: 12770, Stop: 13141, Start Num: 9

Candidate Starts for Snickers\_19:

(Start: 9 @12770 has 723 MA's), (Start: 13 @12794 has 1 MA's), (21, 12854), (23, 12872), (47, 13022), (61, 13103), (62, 13109), (67, 13127), (68, 13130),

Gene: SoYo\_19 Start: 12707, Stop: 13078, Start Num: 9

Candidate Starts for SoYo\_19:

(Start: 9 @12707 has 723 MA's), (Start: 13 @12731 has 1 MA's), (21, 12791), (23, 12809), (47, 12959), (61, 13040), (62, 13046), (67, 13064), (68, 13067),

Gene: SoilDragon\_19 Start: 12479, Stop: 12850, Start Num: 9

Candidate Starts for SoilDragon\_19:

(Start: 9 @12479 has 723 MA's), (Start: 13 @12503 has 1 MA's), (21, 12563), (23, 12581), (47, 12731), (61, 12812), (62, 12818), (67, 12836), (68, 12839),

Gene: Solon\_17 Start: 13511, Stop: 13960, Start Num: 9

Candidate Starts for Solon\_17:

(Start: 9 @13511 has 723 MA's), (Start: 13 @13535 has 1 MA's), (61, 13847),

Gene: SororFago\_17 Start: 12501, Stop: 12881, Start Num: 7

Candidate Starts for SororFago\_17:

(Start: 7 @12501 has 5 MA's), (16, 12537), (17, 12564), (18, 12567), (23, 12606), (44, 12729), (67, 12867), (68, 12870),

Gene: Sorpresa\_16 Start: 12879, Stop: 13328, Start Num: 9

Candidate Starts for Sorpresa\_16:

(Start: 9 @12879 has 723 MA's), (Start: 13 @12903 has 1 MA's), (61, 13215), (69, 13290),

Gene: Soshari\_21 Start: 12879, Stop: 13250, Start Num: 9

Candidate Starts for Soshari\_21:

(Start: 9 @12879 has 723 MA's), (Start: 13 @12903 has 1 MA's), (21, 12963), (23, 12981), (47, 13131), (61, 13212), (62, 13218), (67, 13236), (68, 13239),

Gene: Soups\_20 Start: 12612, Stop: 12989, Start Num: 9

Candidate Starts for Soups\_20:

(Start: 9 @12612 has 723 MA's), (23, 12714), (40, 12804), (62, 12957), (67, 12975), (68, 12978),

Gene: Sparxx\_17 Start: 12685, Stop: 13041, Start Num: 9

Candidate Starts for Sparxx\_17:

(Start: 9 @12685 has 723 MA's), (23, 12787), (33, 12835), (39, 12856), (47, 12922), (53, 12958), (61, 13003), (68, 13030),

Gene: Spike509\_19 Start: 12880, Stop: 13251, Start Num: 9

Candidate Starts for Spike509\_19:

(Start: 9 @12880 has 723 MA's), (Start: 13 @12904 has 1 MA's), (21, 12964), (23, 12982), (47, 13132), (61, 13213), (62, 13219), (67, 13237), (68, 13240),

Gene: SpikeBT\_19 Start: 13815, Stop: 14264, Start Num: 9

Candidate Starts for SpikeBT\_19:

(Start: 9 @13815 has 723 MA's), (Start: 13 @13839 has 1 MA's), (61, 14151), (69, 14226),

Gene: Spino\_17 Start: 12688, Stop: 13044, Start Num: 9

Candidate Starts for Spino\_17:

(Start: 9 @12688 has 723 MA's), (23, 12790), (33, 12838), (39, 12859), (47, 12925), (53, 12961), (61, 13006), (68, 13033),

Gene: Spouty\_18 Start: 14170, Stop: 14547, Start Num: 9

Candidate Starts for Spouty\_18:

(Start: 9 @14170 has 723 MA's), (23, 14272), (58, 14491), (61, 14509), (62, 14515),

Gene: Squee\_18 Start: 13649, Stop: 14098, Start Num: 9

Candidate Starts for Squee\_18:

(Start: 9 @13649 has 723 MA's), (Start: 13 @13673 has 1 MA's), (61, 13985), (69, 14060),

Gene: StCroix\_14 Start: 8916, Stop: 9296, Start Num: 9

Candidate Starts for StCroix\_14:

(Start: 9 @8916 has 723 MA's), (Start: 13 @8940 has 1 MA's), (20, 8988), (33, 9084), (42, 9120), (44, 9141), (47, 9171), (57, 9231), (60, 9249), (61, 9255), (65, 9276),

Gene: Stagni\_19 Start: 12798, Stop: 13169, Start Num: 9

Candidate Starts for Stagni\_19:

(Start: 9 @12798 has 723 MA's), (Start: 13 @12822 has 1 MA's), (21, 12882), (23, 12900), (47, 13050), (61, 13131), (62, 13137), (67, 13155), (68, 13158),

Gene: StarStuff\_21 Start: 13272, Stop: 13646, Start Num: 9

Candidate Starts for StarStuff\_21:

(Start: 9 @13272 has 723 MA's), (14, 13299), (16, 13305), (18, 13335), (23, 13374), (29, 13410), (40, 13461), (42, 13473), (57, 13584), (61, 13608), (67, 13632), (68, 13635),

Gene: Stasia\_18 Start: 13124, Stop: 13480, Start Num: 9

Candidate Starts for Stasia\_18:

(Start: 9 @13124 has 723 MA's), (23, 13226), (33, 13274), (39, 13295), (47, 13361), (53, 13397), (64, 13454), (68, 13469),

Gene: Steamy\_19 Start: 13919, Stop: 14296, Start Num: 9

Candidate Starts for Steamy\_19:

(Start: 9 @13919 has 723 MA's), (15, 13949), (17, 13979), (18, 13982), (23, 14021), (28, 14051), (39, 14108), (42, 14123), (58, 14240), (61, 14258), (62, 14264), (67, 14282), (68, 14285),

Gene: StepMih\_19 Start: 12789, Stop: 13160, Start Num: 9

Candidate Starts for StepMih\_19:

(Start: 9 @12789 has 723 MA's), (Start: 13 @12813 has 1 MA's), (21, 12873), (23, 12891), (47, 13041), (61, 13122), (62, 13128), (67, 13146), (68, 13149),

Gene: Stephig9\_14 Start: 11376, Stop: 11750, Start Num: 8

Candidate Starts for Stephig9\_14:

(Start: 8 @11376 has 48 MA's), (33, 11544), (40, 11568), (42, 11580), (47, 11631), (56, 11688), (57, 11691), (61, 11712), (66, 11733), (67, 11736),

Gene: StewieG\_16 Start: 12723, Stop: 13172, Start Num: 9

Candidate Starts for StewieG\_16:

(Start: 9 @12723 has 723 MA's), (Start: 13 @12747 has 1 MA's), (61, 13059), (69, 13134),

Gene: Stink\_18 Start: 12973, Stop: 13329, Start Num: 9

Candidate Starts for Stink\_18:

(Start: 9 @12973 has 723 MA's), (23, 13075), (33, 13123), (39, 13144), (47, 13210), (53, 13246), (64, 13303), (68, 13318),

Gene: Strosahl\_20 Start: 12451, Stop: 12828, Start Num: 9

Candidate Starts for Strosahl\_20:

(Start: 9 @12451 has 723 MA's), (23, 12553), (40, 12643), (62, 12796), (67, 12814), (68, 12817),

Gene: Sumter\_16 Start: 12470, Stop: 12919, Start Num: 9

Candidate Starts for Sumter\_16:

(Start: 9 @12470 has 723 MA's), (Start: 13 @12494 has 1 MA's), (61, 12806), (69, 12881),

Gene: Sunshine924\_16 Start: 12454, Stop: 12903, Start Num: 9

Candidate Starts for Sunshine924\_16:

(Start: 9 @12454 has 723 MA's), (Start: 13 @12478 has 1 MA's), (61, 12790), (69, 12865),

Gene: SuperAwesome\_21 Start: 13475, Stop: 13852, Start Num: 9

Candidate Starts for SuperAwesome\_21:

(Start: 9 @13475 has 723 MA's), (14, 13502), (16, 13508), (17, 13535), (18, 13538), (23, 13577), (61, 13814), (67, 13838), (68, 13841),

Gene: SuperCallie99\_21 Start: 13474, Stop: 13851, Start Num: 9

Candidate Starts for SuperCallie99\_21:

(Start: 9 @13474 has 723 MA's), (14, 13501), (17, 13534), (18, 13537), (23, 13576), (45, 13717), (61, 13813), (67, 13837), (68, 13840),

Gene: Superchunk\_17 Start: 12019, Stop: 12396, Start Num: 9

Candidate Starts for Superchunk\_17:

(Start: 9 @12019 has 723 MA's), (14, 12046), (16, 12052), (18, 12082), (23, 12121), (61, 12358), (67, 12382), (68, 12385),

Gene: Swann\_14 Start: 8916, Stop: 9296, Start Num: 9

Candidate Starts for Swann\_14:

(Start: 9 @8916 has 723 MA's), (Start: 13 @8940 has 1 MA's), (20, 8988), (33, 9084), (42, 9120), (44, 9141), (47, 9171), (57, 9231), (60, 9249), (61, 9255), (65, 9276),

Gene: SweetiePie\_18 Start: 13318, Stop: 13695, Start Num: 9

Candidate Starts for SweetiePie\_18:

(Start: 9 @13318 has 723 MA's), (15, 13348), (16, 13351), (18, 13381), (23, 13420), (42, 13522), (61, 13657), (62, 13663), (67, 13681),

Gene: SwirlSquare\_20 Start: 12198, Stop: 12575, Start Num: 9

Candidate Starts for SwirlSquare\_20:

(Start: 9 @12198 has 723 MA's), (14, 12225), (18, 12261), (23, 12300), (42, 12402), (57, 12513), (61, 12537), (67, 12561), (68, 12564),

Gene: Swirley\_14 Start: 11770, Stop: 12144, Start Num: 8

Candidate Starts for Swirley\_14:

(Start: 8 @11770 has 48 MA's), (Start: 13 @11794 has 1 MA's), (15, 11800), (33, 11938), (40, 11962), (47, 12025), (57, 12085), (61, 12106), (66, 12127), (67, 12130), (68, 12133),

Gene: SwissCheese\_17 Start: 12915, Stop: 13364, Start Num: 9

Candidate Starts for SwissCheese\_17:

(Start: 9 @12915 has 723 MA's), (Start: 13 @12939 has 1 MA's), (61, 13251), (69, 13326),

Gene: Switzer\_18 Start: 13071, Stop: 13520, Start Num: 9

Candidate Starts for Switzer\_18:

(Start: 9 @13071 has 723 MA's), (Start: 13 @13095 has 1 MA's), (61, 13407), (69, 13482),

Gene: Switzerland\_20 Start: 12605, Stop: 12982, Start Num: 9

Candidate Starts for Switzerland\_20:

(Start: 9 @12605 has 723 MA's), (23, 12707), (40, 12797), (62, 12950), (67, 12968), (68, 12971),

Gene: Swole\_19 Start: 13381, Stop: 13830, Start Num: 9

Candidate Starts for Swole\_19:

(Start: 9 @13381 has 723 MA's), (Start: 13 @13405 has 1 MA's), (61, 13717), (69, 13792),

Gene: SydNat\_14 Start: 11877, Stop: 12251, Start Num: 8

Candidate Starts for SydNat\_14:

(Start: 8 @11877 has 48 MA's), (Start: 13 @11901 has 1 MA's), (15, 11907), (40, 12069), (47, 12132), (51, 12162), (57, 12192), (61, 12213), (66, 12234), (67, 12237), (68, 12240),

Gene: TNguyen7\_17 Start: 12313, Stop: 12687, Start Num: 9

Candidate Starts for TNguyen7\_17:

(Start: 9 @12313 has 723 MA's), (23, 12415), (33, 12481), (39, 12502), (47, 12568), (61, 12649), (62, 12655), (67, 12673),

Gene: TWAMP\_14 Start: 8916, Stop: 9296, Start Num: 9

Candidate Starts for TWAMP\_14:

(Start: 9 @8916 has 723 MA's), (Start: 13 @8940 has 1 MA's), (20, 8988), (33, 9084), (42, 9120), (44, 9141), (47, 9171), (57, 9231), (60, 9249), (61, 9255), (65, 9276),

Gene: Takoda\_14 Start: 8876, Stop: 9256, Start Num: 9

Candidate Starts for Takoda\_14:

(Start: 9 @8876 has 723 MA's), (Start: 13 @8900 has 1 MA's), (20, 8948), (30, 9017), (33, 9044), (47, 9131), (60, 9209), (61, 9215), (65, 9236),

Gene: Taquarus\_17 Start: 12691, Stop: 13047, Start Num: 9

Candidate Starts for Taquarus\_17:

(Start: 9 @12691 has 723 MA's), (23, 12793), (33, 12841), (39, 12862), (47, 12928), (53, 12964), (61, 13009), (68, 13036),

Gene: Target\_18 Start: 13654, Stop: 14031, Start Num: 7

Candidate Starts for Target\_18:

(4, 13609), (Start: 7 @13654 has 5 MA's), (Start: 13 @13681 has 1 MA's), (23, 13759), (33, 13825), (40, 13849), (47, 13912), (56, 13969), (63, 14002), (66, 14014), (67, 14017), (68, 14020),

Gene: TarsusIV\_18 Start: 13418, Stop: 13795, Start Num: 9

Candidate Starts for TarsusIV\_18:

(Start: 9 @13418 has 723 MA's), (14, 13445), (18, 13481), (23, 13520), (42, 13622), (52, 13706), (58, 13739), (61, 13757), (67, 13781), (68, 13784),

Gene: Tarynearal\_13 Start: 11797, Stop: 12171, Start Num: 8

Candidate Starts for Tarynearal\_13:

(Start: 8 @11797 has 48 MA's), (Start: 13 @11821 has 1 MA's), (15, 11827), (33, 11965), (40, 11989), (47, 12052), (57, 12112), (61, 12133), (66, 12154), (67, 12157), (68, 12160),

Gene: Tasp14\_18 Start: 13160, Stop: 13609, Start Num: 9

Candidate Starts for Tasp14\_18:

(Start: 9 @13160 has 723 MA's), (Start: 13 @13184 has 1 MA's), (61, 13496), (69, 13571),

Gene: Taurus\_19 Start: 12794, Stop: 13165, Start Num: 9

Candidate Starts for Taurus\_19:

(Start: 9 @12794 has 723 MA's), (Start: 13 @12818 has 1 MA's), (21, 12878), (23, 12896), (47, 13046), (61, 13127), (62, 13133), (67, 13151), (68, 13154),

Gene: Teodoridan\_15 Start: 12287, Stop: 12736, Start Num: 9

Candidate Starts for Teodoridan\_15:

(Start: 9 @12287 has 723 MA's), (Start: 13 @12311 has 1 MA's), (61, 12623), (69, 12698),

Gene: Texage\_17 Start: 12884, Stop: 13258, Start Num: 9

Candidate Starts for Texage\_17:

(Start: 9 @12884 has 723 MA's), (Start: 13 @12908 has 1 MA's), (23, 12986), (33, 13052), (39, 13073), (47, 13139), (61, 13220), (67, 13244),

Gene: Thanksgivukkah\_17 Start: 12692, Stop: 13048, Start Num: 9

Candidate Starts for Thanksgivukkah\_17:

(Start: 9 @12692 has 723 MA's), (23, 12794), (33, 12842), (39, 12863), (47, 12929), (53, 12965), (61, 13010), (68, 13037),

Gene: Theia\_13 Start: 11736, Stop: 12110, Start Num: 8

Candidate Starts for Theia\_13:

(Start: 8 @11736 has 48 MA's), (Start: 13 @11760 has 1 MA's), (15, 11766), (33, 11904), (40, 11928), (47, 11991), (57, 12051), (61, 12072), (66, 12093), (67, 12096), (68, 12099),

Gene: TheloniousMonk\_19 Start: 14195, Stop: 14644, Start Num: 9

Candidate Starts for TheloniousMonk\_19:

(Start: 9 @14195 has 723 MA's), (Start: 13 @14219 has 1 MA's), (61, 14531), (69, 14606),

Gene: Thor\_17 Start: 13033, Stop: 13482, Start Num: 9

Candidate Starts for Thor\_17:

(Start: 9 @13033 has 723 MA's), (Start: 13 @13057 has 1 MA's), (61, 13369), (69, 13444),

Gene: Tiff81\_11 Start: 7472, Stop: 7831, Start Num: 9

Candidate Starts for Tiff81\_11:

(Start: 9 @7472 has 723 MA's), (11, 7484), (12, 7487), (14, 7499), (36, 7631), (39, 7643), (50, 7742), (51, 7757), (56, 7784), (63, 7817),

Gene: Tiffany\_19 Start: 12690, Stop: 13061, Start Num: 9

Candidate Starts for Tiffany\_19:

(Start: 9 @12690 has 723 MA's), (Start: 13 @12714 has 1 MA's), (21, 12774), (23, 12792), (47, 12942), (61, 13023), (62, 13029), (67, 13047), (68, 13050),

Gene: Tiger\_14 Start: 11623, Stop: 11997, Start Num: 8

Candidate Starts for Tiger\_14:

(Start: 8 @11623 has 48 MA's), (Start: 13 @11647 has 1 MA's), (15, 11653), (33, 11791), (40, 11815), (47, 11878), (57, 11938), (61, 11959), (66, 11980), (67, 11983), (68, 11986),

Gene: Timothy\_18 Start: 13928, Stop: 14305, Start Num: 9

Candidate Starts for Timothy\_18:

(Start: 9 @13928 has 723 MA's), (Start: 13 @13952 has 1 MA's), (18, 13991), (23, 14030), (24, 14036), (66, 14288), (67, 14291), (68, 14294),

Gene: Timshel\_18 Start: 14276, Stop: 14650, Start Num: 9

Candidate Starts for Timshel\_18:

(Start: 9 @14276 has 723 MA's), (23, 14378), (33, 14444), (34, 14447), (39, 14465), (40, 14468), (41, 14471), (47, 14531), (50, 14546), (61, 14612), (64, 14624), (67, 14636), (68, 14639),

Gene: TinaFeyge\_17 Start: 12685, Stop: 13041, Start Num: 9

Candidate Starts for TinaFeyge\_17:

(Start: 9 @12685 has 723 MA's), (23, 12787), (33, 12835), (39, 12856), (47, 12922), (53, 12958), (61, 13003), (68, 13030),

Gene: TinyTimmy\_17 Start: 13971, Stop: 14348, Start Num: 9

Candidate Starts for TinyTimmy\_17:

(Start: 9 @13971 has 723 MA's), (Start: 13 @13995 has 1 MA's), (18, 14034), (23, 14073), (24, 14079), (66, 14331), (67, 14334), (68, 14337),

Gene: Tinybot\_16 Start: 12666, Stop: 13022, Start Num: 9

Candidate Starts for Tinybot\_16:

(Start: 9 @12666 has 723 MA's), (23, 12768), (33, 12816), (39, 12837), (47, 12903), (53, 12939), (61, 12984), (68, 13011),

Gene: TipsytheTRex\_17 Start: 12428, Stop: 12805, Start Num: 9

Candidate Starts for TipsytheTRex\_17:

(Start: 9 @12428 has 723 MA's), (14, 12455), (16, 12461), (17, 12488), (18, 12491), (23, 12530), (42, 12632), (61, 12767), (66, 12788), (67, 12791), (68, 12794),

Gene: TiroTheta9\_17 Start: 12685, Stop: 13041, Start Num: 9

Candidate Starts for TiroTheta9\_17:

(Start: 9 @12685 has 723 MA's), (23, 12787), (33, 12835), (39, 12856), (47, 12922), (53, 12958), (61, 13003), (68, 13030),

Gene: Toaka\_17 Start: 12502, Stop: 12879, Start Num: 9

Candidate Starts for Toaka\_17:

(Start: 9 @12502 has 723 MA's), (14, 12529), (18, 12565), (23, 12604), (61, 12841), (68, 12868),

Gene: Todacoro\_18 Start: 12884, Stop: 13258, Start Num: 9

Candidate Starts for Todacoro\_18:

(Start: 9 @12884 has 723 MA's), (Start: 13 @12908 has 1 MA's), (23, 12986), (33, 13052), (39, 13073), (47, 13139), (61, 13220), (67, 13244),

Gene: Tomathan\_21 Start: 13272, Stop: 13646, Start Num: 9

Candidate Starts for Tomathan\_21:

(Start: 9 @13272 has 723 MA's), (14, 13299), (16, 13305), (18, 13335), (23, 13374), (29, 13410), (40, 13461), (42, 13473), (57, 13584), (61, 13608), (67, 13632), (68, 13635),

Gene: ToneTone\_19 Start: 13392, Stop: 13769, Start Num: 9

Candidate Starts for ToneTone\_19:

(Start: 9 @13392 has 723 MA's), (14, 13419), (16, 13425), (17, 13452), (18, 13455), (23, 13494), (61, 13731), (67, 13755), (68, 13758),

Gene: Topanga\_17 Start: 12585, Stop: 12959, Start Num: 9

Candidate Starts for Topanga\_17:

(Start: 9 @12585 has 723 MA's), (23, 12687), (33, 12753), (39, 12774), (47, 12840), (53, 12876), (61, 12921), (68, 12948),

Gene: Topgun\_17 Start: 12635, Stop: 13084, Start Num: 9

Candidate Starts for Topgun\_17:

(Start: 9 @12635 has 723 MA's), (61, 12971), (69, 13046),

Gene: Tote\_19 Start: 13381, Stop: 13830, Start Num: 9

Candidate Starts for Tote\_19:

(Start: 9 @13381 has 723 MA's), (Start: 13 @13405 has 1 MA's), (61, 13717), (69, 13792),

Gene: Traft412\_19 Start: 13862, Stop: 14311, Start Num: 9  
Candidate Starts for Traft412\_19:  
(Start: 9 @13862 has 723 MA's), (Start: 13 @13886 has 1 MA's), (61, 14198), (69, 14273),

Gene: Treddle\_19 Start: 14175, Stop: 14624, Start Num: 9  
Candidate Starts for Treddle\_19:  
(Start: 9 @14175 has 723 MA's), (Start: 13 @14199 has 1 MA's), (61, 14511), (69, 14586),

Gene: Trike\_15 Start: 10555, Stop: 10929, Start Num: 9  
Candidate Starts for Trike\_15:  
(Start: 9 @10555 has 723 MA's), (23, 10657), (33, 10723), (39, 10744), (41, 10750), (47, 10810), (53, 10846), (57, 10870), (61, 10891), (68, 10918),

Gene: Trixie\_21 Start: 15031, Stop: 15408, Start Num: 9  
Candidate Starts for Trixie\_21:  
(Start: 9 @15031 has 723 MA's), (14, 15058), (15, 15061), (16, 15064), (18, 15094), (23, 15133), (29, 15169), (42, 15235), (52, 15319), (61, 15370), (62, 15376), (67, 15394),

Gene: Trooper\_18 Start: 13209, Stop: 13586, Start Num: 9  
Candidate Starts for Trooper\_18:  
(Start: 9 @13209 has 723 MA's), (14, 13236), (16, 13242), (18, 13272), (23, 13311), (28, 13341), (33, 13377), (42, 13413), (52, 13497), (61, 13548), (67, 13572), (68, 13575),

Gene: Trouble\_17 Start: 13221, Stop: 13670, Start Num: 9  
Candidate Starts for Trouble\_17:  
(Start: 9 @13221 has 723 MA's), (Start: 13 @13245 has 1 MA's), (61, 13557), (69, 13632),

Gene: TroyPia\_17 Start: 12688, Stop: 13044, Start Num: 9  
Candidate Starts for TroyPia\_17:  
(Start: 9 @12688 has 723 MA's), (23, 12790), (33, 12838), (39, 12859), (47, 12925), (53, 12961), (61, 13006), (68, 13033),

Gene: Tubs\_19 Start: 14140, Stop: 14517, Start Num: 9  
Candidate Starts for Tubs\_19:  
(Start: 9 @14140 has 723 MA's), (23, 14242), (58, 14461), (61, 14479), (62, 14485),

Gene: Tucker\_21 Start: 13478, Stop: 13855, Start Num: 9  
Candidate Starts for Tucker\_21:  
(Start: 9 @13478 has 723 MA's), (14, 13505), (17, 13538), (18, 13541), (23, 13580), (45, 13721), (61, 13817), (67, 13841), (68, 13844),

Gene: Turbido\_20 Start: 13858, Stop: 14235, Start Num: 9  
Candidate Starts for Turbido\_20:  
(Start: 9 @13858 has 723 MA's), (15, 13888), (16, 13891), (18, 13921), (23, 13960), (52, 14146), (61, 14197), (67, 14221), (68, 14224),

Gene: Turj99\_16 Start: 12659, Stop: 13108, Start Num: 9  
Candidate Starts for Turj99\_16:  
(Start: 9 @12659 has 723 MA's), (69, 13070),

Gene: Twister\_17 Start: 12484, Stop: 12858, Start Num: 9  
Candidate Starts for Twister\_17:



(Start: 9 @12484 has 723 MA's), (23, 12586), (33, 12652), (39, 12673), (47, 12739), (53, 12775), (61, 12820), (62, 12826), (68, 12847),

Gene: TwoPeat\_17 Start: 13174, Stop: 13623, Start Num: 9

Candidate Starts for TwoPeat\_17:

(Start: 9 @13174 has 723 MA's), (Start: 13 @13198 has 1 MA's), (61, 13510), (69, 13585),

Gene: TygerBlood\_17 Start: 12687, Stop: 13043, Start Num: 9

Candidate Starts for TygerBlood\_17:

(Start: 9 @12687 has 723 MA's), (23, 12789), (33, 12837), (39, 12858), (47, 12924), (53, 12960), (61, 13005), (68, 13032),

Gene: U2\_17 Start: 13077, Stop: 13526, Start Num: 9

Candidate Starts for U2\_17:

(Start: 9 @13077 has 723 MA's), (Start: 13 @13101 has 1 MA's), (61, 13413), (69, 13488),

Gene: Ugenie5\_16 Start: 14173, Stop: 14550, Start Num: 9

Candidate Starts for Ugenie5\_16:

(Start: 9 @14173 has 723 MA's), (23, 14275), (58, 14494), (61, 14512), (62, 14518),

Gene: UhSalsa\_14 Start: 8916, Stop: 9296, Start Num: 9

Candidate Starts for UhSalsa\_14:

(Start: 9 @8916 has 723 MA's), (Start: 13 @8940 has 1 MA's), (20, 8988), (33, 9084), (42, 9120), (44, 9141), (47, 9171), (57, 9231), (60, 9249), (61, 9255), (65, 9276),

Gene: Ulysses\_16 Start: 12409, Stop: 12765, Start Num: 9

Candidate Starts for Ulysses\_16:

(Start: 9 @12409 has 723 MA's), (23, 12511), (33, 12559), (39, 12580), (47, 12646), (53, 12682), (61, 12727), (68, 12754),

Gene: UnionJack\_14 Start: 11349, Stop: 11723, Start Num: 8

Candidate Starts for UnionJack\_14:

(Start: 8 @11349 has 48 MA's), (Start: 13 @11373 has 1 MA's), (15, 11379), (40, 11541), (47, 11604), (56, 11661), (57, 11664), (61, 11685), (66, 11706), (67, 11709), (68, 11712),

Gene: Updawg\_20 Start: 13864, Stop: 14241, Start Num: 9

Candidate Starts for Updawg\_20:

(Start: 9 @13864 has 723 MA's), (14, 13891), (16, 13897), (18, 13927), (23, 13966), (28, 13996), (42, 14068), (61, 14203), (66, 14224), (67, 14227), (68, 14230),

Gene: VA6\_18 Start: 13376, Stop: 13753, Start Num: 9

Candidate Starts for VA6\_18:

(Start: 9 @13376 has 723 MA's), (15, 13406), (16, 13409), (18, 13439), (23, 13478), (61, 13715), (67, 13739), (68, 13742),

Gene: VC3\_21 Start: 13381, Stop: 13758, Start Num: 9

Candidate Starts for VC3\_21:

(Start: 9 @13381 has 723 MA's), (14, 13408), (16, 13414), (18, 13444), (23, 13483), (32, 13540), (42, 13585), (45, 13624), (51, 13666), (61, 13720), (66, 13741), (67, 13744), (68, 13747),

Gene: Vanisoa\_17 Start: 12228, Stop: 12605, Start Num: 9

Candidate Starts for Vanisoa\_17:

(Start: 9 @12228 has 723 MA's), (17, 12288), (23, 12330), (58, 12549), (61, 12567), (62, 12573), (67, 12591), (68, 12594),

Gene: Veracruz\_17 Start: 12884, Stop: 13258, Start Num: 9

Candidate Starts for Veracruz\_17:

(Start: 9 @12884 has 723 MA's), (Start: 13 @12908 has 1 MA's), (23, 12986), (33, 13052), (39, 13073), (47, 13139), (61, 13220), (67, 13244),

Gene: Violet\_16 Start: 13466, Stop: 13915, Start Num: 9

Candidate Starts for Violet\_16:

(Start: 9 @13466 has 723 MA's), (61, 13802), (69, 13877),

Gene: Vix\_19 Start: 12878, Stop: 13249, Start Num: 9

Candidate Starts for Vix\_19:

(Start: 9 @12878 has 723 MA's), (Start: 13 @12902 has 1 MA's), (21, 12962), (23, 12980), (47, 13130), (61, 13211), (62, 13217), (67, 13235), (68, 13238),

Gene: VohminGhazi\_21 Start: 13484, Stop: 13861, Start Num: 9

Candidate Starts for VohminGhazi\_21:

(Start: 9 @13484 has 723 MA's), (14, 13511), (16, 13517), (17, 13544), (18, 13547), (23, 13586), (61, 13823), (67, 13847), (68, 13850),

Gene: Waits\_20 Start: 12457, Stop: 12834, Start Num: 9

Candidate Starts for Waits\_20:

(Start: 9 @12457 has 723 MA's), (23, 12559), (40, 12649), (62, 12802), (67, 12820), (68, 12823),

Gene: WalterMcMickey\_17 Start: 12484, Stop: 12858, Start Num: 9

Candidate Starts for WalterMcMickey\_17:

(Start: 9 @12484 has 723 MA's), (23, 12586), (33, 12652), (39, 12673), (47, 12739), (53, 12775), (61, 12820), (62, 12826), (68, 12847),

Gene: Wander\_17 Start: 12688, Stop: 13044, Start Num: 9

Candidate Starts for Wander\_17:

(Start: 9 @12688 has 723 MA's), (23, 12790), (33, 12838), (39, 12859), (47, 12925), (53, 12961), (61, 13006), (68, 13033),

Gene: Watermelon\_19 Start: 13772, Stop: 14221, Start Num: 9

Candidate Starts for Watermelon\_19:

(Start: 9 @13772 has 723 MA's), (Start: 13 @13796 has 1 MA's), (61, 14108), (69, 14183),

Gene: Watson\_19 Start: 12788, Stop: 13159, Start Num: 9

Candidate Starts for Watson\_19:

(Start: 9 @12788 has 723 MA's), (Start: 13 @12812 has 1 MA's), (21, 12872), (23, 12890), (47, 13040), (61, 13121), (62, 13127), (67, 13145), (68, 13148),

Gene: WeiHuaDA\_24 Start: 15633, Stop: 16010, Start Num: 9

Candidate Starts for WeiHuaDA\_24:

(Start: 9 @15633 has 723 MA's), (14, 15660), (15, 15663), (18, 15696), (23, 15735), (42, 15837), (61, 15972), (66, 15993), (67, 15996), (68, 15999),

Gene: Whabigail7\_20 Start: 13846, Stop: 14223, Start Num: 9

Candidate Starts for Whabigail7\_20:

(Start: 9 @13846 has 723 MA's), (15, 13876), (16, 13879), (18, 13909), (23, 13948), (52, 14134), (61, 14185), (67, 14209), (68, 14212),

Gene: Wheeler\_17 Start: 13227, Stop: 13676, Start Num: 9

Candidate Starts for Wheeler\_17:

(Start: 9 @13227 has 723 MA's), (Start: 13 @13251 has 1 MA's), (61, 13563), (69, 13638),

Gene: WideWale\_20 Start: 13864, Stop: 14241, Start Num: 9

Candidate Starts for WideWale\_20:

(Start: 9 @13864 has 723 MA's), (14, 13891), (16, 13897), (18, 13927), (23, 13966), (28, 13996), (42, 14068), (61, 14203), (66, 14224), (67, 14227), (68, 14230),

Gene: Wiks\_21 Start: 13460, Stop: 13837, Start Num: 9

Candidate Starts for Wiks\_21:

(Start: 9 @13460 has 723 MA's), (14, 13487), (16, 13493), (17, 13520), (18, 13523), (23, 13562), (61, 13799), (67, 13823), (68, 13826),

Gene: Wilbur\_17 Start: 12688, Stop: 13044, Start Num: 9

Candidate Starts for Wilbur\_17:

(Start: 9 @12688 has 723 MA's), (23, 12790), (33, 12838), (39, 12859), (47, 12925), (53, 12961), (61, 13006), (68, 13033),

Gene: Wile\_17 Start: 12700, Stop: 13056, Start Num: 9

Candidate Starts for Wile\_17:

(Start: 9 @12700 has 723 MA's), (23, 12802), (33, 12850), (39, 12871), (47, 12937), (51, 12967), (53, 12973), (61, 13018), (68, 13045),

Gene: Wilkins\_17 Start: 12635, Stop: 13084, Start Num: 9

Candidate Starts for Wilkins\_17:

(Start: 9 @12635 has 723 MA's), (61, 12971), (69, 13046),

Gene: Wizard007\_17 Start: 12690, Stop: 13046, Start Num: 9

Candidate Starts for Wizard007\_17:

(Start: 9 @12690 has 723 MA's), (23, 12792), (33, 12840), (39, 12861), (47, 12927), (53, 12963), (61, 13008), (68, 13035),

Gene: Wooldri\_21 Start: 12707, Stop: 13078, Start Num: 9

Candidate Starts for Wooldri\_21:

(Start: 9 @12707 has 723 MA's), (Start: 13 @12731 has 1 MA's), (21, 12791), (23, 12809), (47, 12959), (61, 13040), (62, 13046), (67, 13064), (68, 13067),

Gene: WunderPhul\_21 Start: 13460, Stop: 13837, Start Num: 9

Candidate Starts for WunderPhul\_21:

(Start: 9 @13460 has 723 MA's), (14, 13487), (16, 13493), (17, 13520), (18, 13523), (23, 13562), (61, 13799), (67, 13823), (68, 13826),

Gene: Xena\_17 Start: 12687, Stop: 13043, Start Num: 9

Candidate Starts for Xena\_17:

(Start: 9 @12687 has 723 MA's), (23, 12789), (33, 12837), (39, 12858), (47, 12924), (51, 12954), (53, 12960), (61, 13005), (68, 13032),

Gene: XianYue\_18 Start: 13337, Stop: 13714, Start Num: 9

Candidate Starts for XianYue\_18:

(1, 13130), (Start: 9 @13337 has 723 MA's), (15, 13367), (16, 13370), (18, 13400), (23, 13439), (30, 13478), (61, 13676), (62, 13682), (67, 13700), (68, 13703),

Gene: Yecey3\_18 Start: 12264, Stop: 12641, Start Num: 9

Candidate Starts for Yecey3\_18:

(Start: 9 @12264 has 723 MA's), (14, 12291), (18, 12327), (23, 12366), (61, 12603), (67, 12627), (68, 12630),

Gene: YoSam321\_17 Start: 12685, Stop: 13041, Start Num: 9

Candidate Starts for YoSam321\_17:

(Start: 9 @12685 has 723 MA's), (23, 12787), (33, 12835), (39, 12856), (47, 12922), (53, 12958), (61, 13003), (68, 13030),

Gene: Yogi\_14 Start: 8884, Stop: 9264, Start Num: 9

Candidate Starts for Yogi\_14:

(Start: 9 @8884 has 723 MA's), (Start: 13 @8908 has 1 MA's), (20, 8956), (30, 9025), (42, 9088), (47, 9139), (60, 9217), (61, 9223), (65, 9244),

Gene: Yokurt\_21 Start: 13460, Stop: 13837, Start Num: 9

Candidate Starts for Yokurt\_21:

(Start: 9 @13460 has 723 MA's), (14, 13487), (16, 13493), (17, 13520), (18, 13523), (23, 13562), (61, 13799), (67, 13823), (68, 13826),

Gene: Yoncess\_14 Start: 8884, Stop: 9264, Start Num: 9

Candidate Starts for Yoncess\_14:

(Start: 9 @8884 has 723 MA's), (Start: 13 @8908 has 1 MA's), (20, 8956), (30, 9025), (33, 9052), (47, 9139), (60, 9217), (61, 9223), (65, 9244),

Gene: YoungHarleezy\_10 Start: 7377, Stop: 7664, Start Num: 19

Candidate Starts for YoungHarleezy\_10:

(Start: 9 @7308 has 723 MA's), (19, 7377), (23, 7407), (25, 7413), (37, 7470), (39, 7479), (55, 7608), (63, 7650),

Gene: Zaka\_21 Start: 13460, Stop: 13837, Start Num: 9

Candidate Starts for Zaka\_21:

(Start: 9 @13460 has 723 MA's), (14, 13487), (16, 13493), (17, 13520), (18, 13523), (23, 13562), (61, 13799), (67, 13823), (68, 13826),

Gene: Zeeculate\_16 Start: 12913, Stop: 13362, Start Num: 9

Candidate Starts for Zeeculate\_16:

(Start: 9 @12913 has 723 MA's), (Start: 13 @12937 has 1 MA's), (61, 13249), (69, 13324),

Gene: Zephyr\_17 Start: 13005, Stop: 13454, Start Num: 9

Candidate Starts for Zephyr\_17:

(Start: 9 @13005 has 723 MA's), (Start: 13 @13029 has 1 MA's), (61, 13341), (69, 13416),

Gene: Zetzy\_18 Start: 12328, Stop: 12699, Start Num: 9

Candidate Starts for Zetzy\_18:

(Start: 9 @12328 has 723 MA's), (Start: 13 @12352 has 1 MA's), (21, 12412), (23, 12430), (47, 12580), (61, 12661), (67, 12685), (68, 12688),

Gene: Zeuska\_18 Start: 13447, Stop: 13896, Start Num: 9

Candidate Starts for Zeuska\_18:

(Start: 9 @13447 has 723 MA's), (Start: 13 @13471 has 1 MA's), (61, 13783), (69, 13858),

Gene: Zimmer\_20 Start: 14945, Stop: 15322, Start Num: 9

Candidate Starts for Zimmer\_20:

(Start: 9 @14945 has 723 MA's), (14, 14972), (15, 14975), (18, 15008), (23, 15047), (28, 15077), (39, 15134), (42, 15149), (44, 15170), (61, 15284), (67, 15308), (68, 15311),

Gene: Zolita\_13 Start: 11878, Stop: 12252, Start Num: 8

Candidate Starts for Zolita\_13:

(Start: 8 @11878 has 48 MA's), (Start: 13 @11902 has 1 MA's), (15, 11908), (40, 12070), (47, 12133), (51, 12163), (57, 12193), (61, 12214), (66, 12235), (67, 12238), (68, 12241),

Gene: Zulu\_21 Start: 13459, Stop: 13836, Start Num: 9

Candidate Starts for Zulu\_21:

(Start: 9 @13459 has 723 MA's), (14, 13486), (16, 13492), (17, 13519), (18, 13522), (23, 13561), (61, 13798), (67, 13822), (68, 13825),