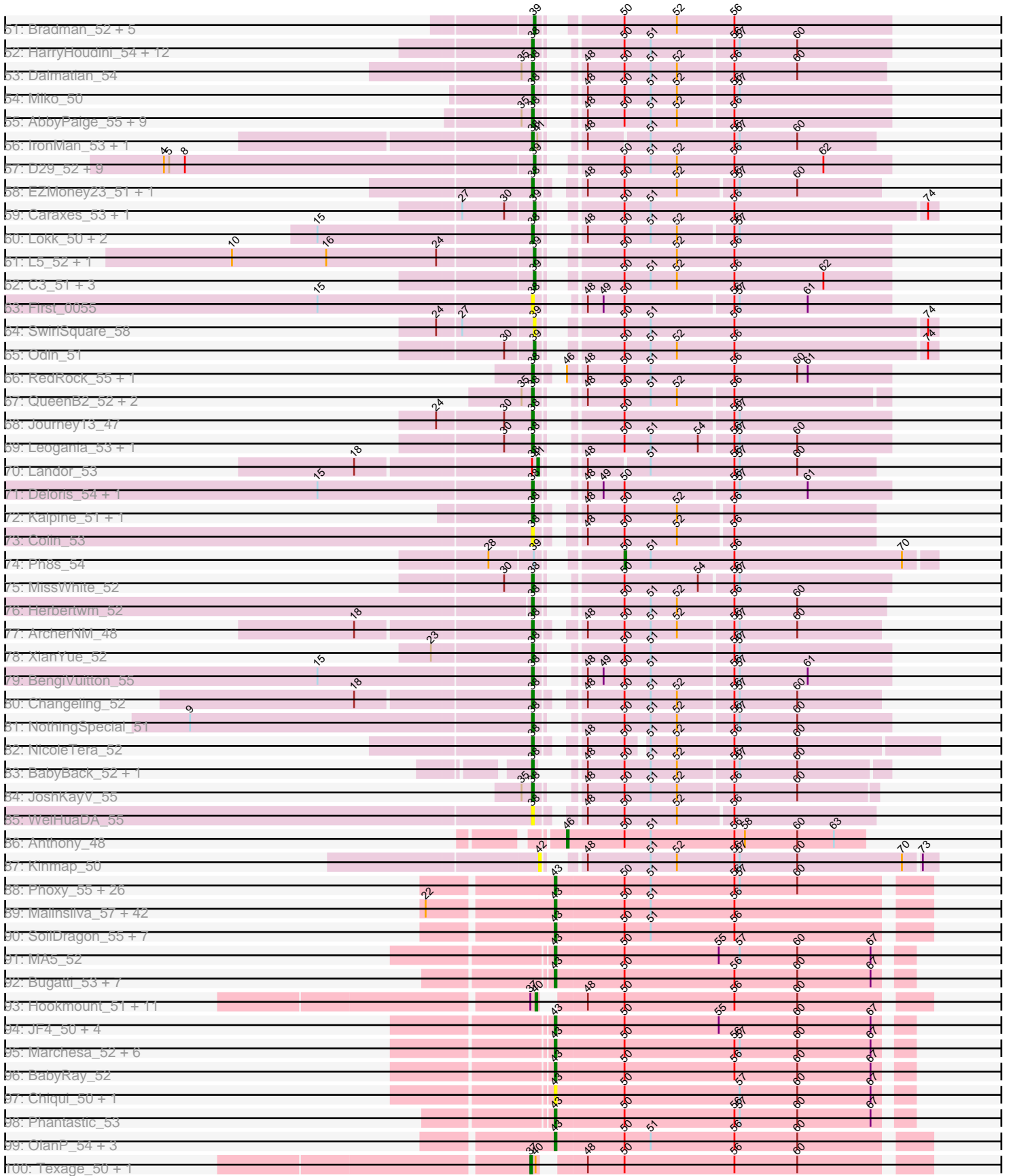
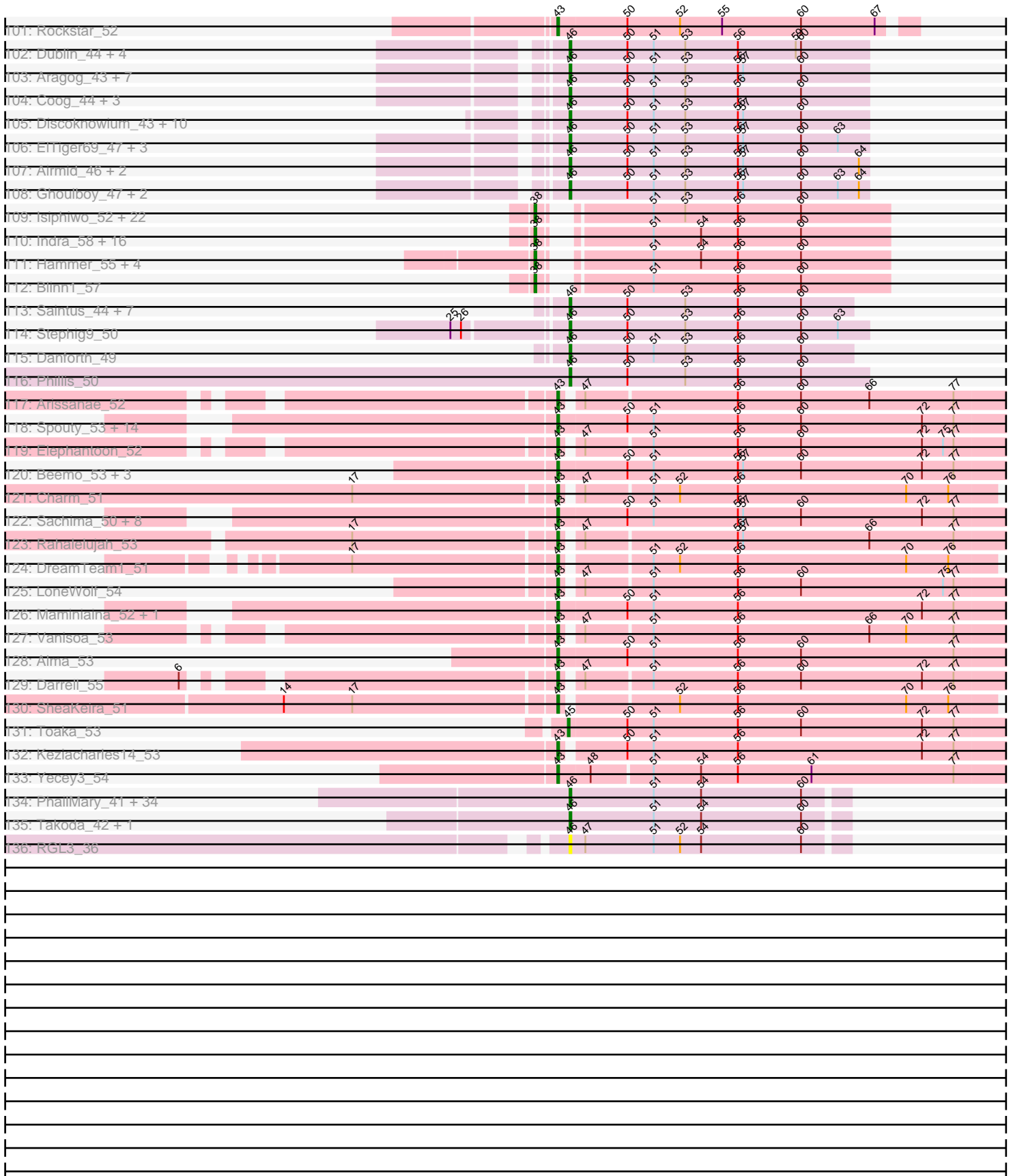




Pham 187767



Pham 187767



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 187767 Report

This analysis was run 11/02/24 on database version 579.

Pham number 187767 has 716 members, 57 are drafts.

Phages represented in each track:

- Track 1 : Chargerpower\_51
- Track 2 : ProMouse\_49, Sibs6\_49, Jorgensen\_50, BillKnuckles\_49, Payneful\_48, BluSpix\_47, Fenn\_51, Big3\_48, Altman\_51, Squee\_49, Molly\_49, Marchy\_43, SkiPole\_53, Buttons\_47, IgnatiusPatJac\_49, Norz\_49, Lamina13\_49, Topgun\_48, Naira\_51, Paphu\_46, Sunshine924\_49, Petp2012\_49, STLscum\_51, Adahisdi\_48, Tasp14\_50, Oogway\_47, Nhonho\_49, Traft412\_51, Ohno789\_50, Wilkins\_48, Barriga\_49, Ajay\_50, Teodoridan\_47, Parliament\_48
- Track 3 : Ruotula\_51, Smairt\_50, Seabiscuit\_51, PattyP\_49, Alvin\_48, Arcanine\_49, Zephyr\_48, JuliaChild\_49, Bob3\_46, Scowl\_49, Abbyshoes\_51, Froghopper\_46, Edtherson\_48, Monet\_51, ShortQueendom\_42, Kenmech\_52, RidgeCB\_48, U2\_48, Pita2\_51, Hermia\_49, Watermelon\_49, Thor\_46, McGuire\_50, Treddle\_49, Sanya\_46, Petruccio\_48, Lesedi\_45, Rohr\_49, Jerm2\_49, Bexan\_47, Solon\_47, Arlo\_46, Sandaddy\_47, Snazzy\_47, KyMonks1A\_50, Rubeus\_48, Seanderson\_50, Sorpresa\_47, PSullivan\_48, Swole\_49, Maroc7\_46, ConceptII\_50, Fascinus\_44, Beatrix\_48, Zeeculate\_46, Dussy\_50, StrongArm\_48, Pinto\_48, KSSJEB\_48, Paraselene\_46, BigMau\_49, Lopton\_49, Bigfoot\_44, MPlant7149\_47, Kanely\_50, Abrogate\_470, DrFeelGood\_46, Target\_49, TwoPeat\_49, Mule\_45, MaryBeth\_48, Zeuska\_47, PhrostyMug\_47, HermioneGrange\_48, Slagathor\_50, SarFire\_46, Wheeler\_49, NEHalo\_46, Marcell\_46, KBG\_50, Tote\_44, Marge\_48, Hami1\_42, Manatee\_50, Sumter\_45, Rufus\_49, Gwendoluna\_52, Makemake\_48, Perseus\_48, Rhynn\_47, Applejack\_43, DD5\_47, PinkPlastic\_48, Bones\_49, Ichabod\_51, GageAP\_49, StewieG\_47, Briton15\_51, Lockley\_47, MetalQZJ\_47, Acme\_50, Cueyllyss\_50
- Track 4 : Greg\_50, Bxb1\_44, Trouble\_51, Jasper\_50, BigPaolini\_48, Kugel\_49, SwissCheese\_50, Doom\_48, LilBib\_48, Niza\_51, BeesKnees\_50, Kykar\_48, Smeagol\_50, Magnar\_48, GrecoEtereo\_49, Mkhuseleli\_47, Ashballer\_50, Graduation\_52, PherrisBueller\_48, Switzer\_50, BK1\_44, Pippin\_50, DreamCatcher\_52, Francis47\_47, Ciao\_48, Gompeii16\_47, HarryOW\_47, A6\_44, Bircsak\_47, Gandalf20\_51, Forsytheast\_48, Inyanga\_45, Corvo\_49, Nerujay\_51, Dreamboat\_50, Alsfro\_52, Sagefire\_51, TheloniousMonk\_49, Pepe\_45, PacerPaul\_48, Atkinbua\_51, Licorice\_51, HanShotFirst\_48, QTRlifeCrisis\_48, CactusRose\_46, ILeeKay\_52, Fajezeel\_50, Gyzzar\_44, Crispicious1\_46, Eyeball\_50, JackSparrow\_49, Tripl3t\_48, Violet\_46, Moose\_48, Agaliana\_44, Marsha\_48, BPBiels31\_49, Bruns\_47, Mryolo\_46
- Track 5 : Blue\_48, Burton\_48, Papez\_51, Bethlehem\_49, Homines\_41, Dexes\_49, Magnito\_47, BaconJack\_51, Pelly\_48, Michley\_48, JC27\_50, Euphoria\_46, AFIS\_46, SpikeBT\_48, PascalRango\_49, Turj99\_47, MrGordo\_48, Fushigi\_47, Museum\_49,

Anglerfish\_50

- Track 6 : Dulcie\_49, Ringer\_49
- Track 7 : Carlyle\_47
- Track 8 : Pari\_50, Hope4ever\_51
- Track 9 : Killigrew\_48
- Track 10 : Rajelicia\_49, Dynamix\_50
- Track 11 : Rutherford\_50
- Track 12 : Aeneas\_50
- Track 13 : Chanagan\_45
- Track 14 : Espresso\_48
- Track 15 : Peterson\_53
- Track 16 : OKCentral2016\_49, Chupacabra\_49, Goose\_50
- Track 17 : WalterMcMickey\_48, Rebeuca\_50, Twister\_48, Kristoff\_50, Eaglepride\_51
- Track 18 : Rowdy\_54, DustyMartin\_54, Shapes\_54
- Track 19 : Trike\_48, Poompha\_49, Severus\_48, KittenMittens\_47, PeaceMeal1\_48
- Track 20 : DontArgue\_49
- Track 21 : Topanga\_48, Edison31\_49
- Track 22 : Drake94\_48
- Track 23 : RhynO\_51
- Track 24 : Bud\_52, Mulciber\_52, Hutc2\_52, MaCh\_53, Jabith\_53, Salz\_51, Orange\_52, Insomnia\_53, TinyTimmy\_52, Et2Brutus\_51, Ebony\_52, Flaverint\_53, Fibonacci\_52, Bowtie\_53, Joselito\_53, Bachome\_54, Snape\_52, Gilberta\_53, Mabel\_52, Munch\_53, Sham4\_52, Timothy\_52, Aneem\_53, Lucivia\_53, Petersenfast\_51
- Track 25 : Steamy\_49
- Track 26 : DarthPhader\_49
- Track 27 : Zimmer\_50
- Track 28 : Refuge\_51
- Track 29 : Pharaoh\_48
- Track 30 : Phlei\_42
- Track 31 : Gail\_57
- Track 32 : Jeeves\_57
- Track 33 : Sunhee\_56
- Track 34 : Luchador\_57
- Track 35 : SororFago\_55
- Track 36 : Anon\_55
- Track 37 : Boohoo\_58, LastResort\_57, JSwag\_58, Nebulosus\_57, Epsocamisio\_56, DekHockey33\_59, Anaysia\_58, ReMo\_57
- Track 38 : Rosalind\_57, Strosahl\_59, Soups\_59, KatherineG\_59, MinecraftSteve\_59, Waits\_59, ShayRa\_59, Looper\_58, Oofda\_60, Remus\_59, Switzerland\_58, Battleship\_60
- Track 39 : Nedarya\_54
- Track 40 : PainterBoy\_54, Lucyedi\_54, EagleEye\_55
- Track 41 : 40AC\_54
- Track 42 : MyraDee\_46
- Track 43 : Adzzy\_54, Che12\_54
- Track 44 : Malec\_53, Larenn\_52
- Track 45 : Benvolio\_50, Echild\_53
- Track 46 : ChipMunk\_55, EvilGenius\_55, KingCyrus\_55, TarsusIV\_52
- Track 47 : Phaded\_54, Jaan\_53, Bactobuster\_52
- Track 48 : Georgie2\_54, FiringLine\_53, Power\_52, SemperFi\_54, SweetiePie\_53, DudeLittle\_52, Retro23\_54, Crucio\_53, SnapTap\_53, QueenBeesly\_53, Anselm\_54

- Track 49 : CRB1\_57, LadyBird\_58
- Track 50 : Acolyte\_48
- Track 51 : Bradman\_52, Quokka\_51, TipsytheTRex\_49, Serenity\_53, MajorMajor\_52, Jsquared\_51
- Track 52 : HarryHoudini\_54, NaSiaTalie\_53, Flare16\_53, Trooper\_54, Updawg\_54, Equemioh13\_54, Iwokeuplikedis\_56, WideWale\_54, MiculUcigas\_53, Centaur\_54, Drake55\_55, Baehexic\_52, Piro94\_53
- Track 53 : Dalmatian\_54
- Track 54 : Miko\_50
- Track 55 : AbbyPaige\_55, Jerm\_55, Buggy\_55, Smeagan\_56, Dignity\_55, Whabigail7\_54, Leviathan\_55, Agape74\_55, LilTurb\_54, Turbido\_54
- Track 56 : IronMan\_53, Pukovnik\_52
- Track 57 : D29\_52, Travvers\_55, StarStuff\_55, Duplo\_55, Kerberos\_55, DBQu4n\_55, Pomar16\_55, Naji\_55, Tomathan\_55, D32\_54
- Track 58 : EZMoney23\_51, Loser\_55
- Track 59 : Caraxes\_53, Superchunk\_51
- Track 60 : Lokk\_50, Rachaly\_52, BobSwaget\_49
- Track 61 : L5\_52, Koduck\_54
- Track 62 : C3\_51, VC3\_56, AN9\_56, ANI8\_56
- Track 63 : First\_0055
- Track 64 : SwirlSquare\_58
- Track 65 : Odin\_51
- Track 66 : RedRock\_55, AnnaL29\_55
- Track 67 : QueenB2\_52, Fameo\_53, Heffalump\_52
- Track 68 : Journey13\_47
- Track 69 : Leogania\_53, BiancaTri92\_53
- Track 70 : Landor\_53
- Track 71 : Deloris\_54, 20ES\_56
- Track 72 : Kalpine\_51, Trixie\_51
- Track 73 : Colin\_53
- Track 74 : Ph8s\_54
- Track 75 : MissWhite\_52
- Track 76 : Herbertwm\_52
- Track 77 : ArcherNM\_48
- Track 78 : XianYue\_52
- Track 79 : BengiVuitton\_55
- Track 80 : Changeling\_52
- Track 81 : NothingSpecial\_51
- Track 82 : NicoleTera\_52
- Track 83 : BabyBack\_52, GaugeLDP\_51
- Track 84 : JoshKayV\_55
- Track 85 : WeiHuaDA\_55
- Track 86 : Anthony\_48
- Track 87 : Kinmap\_50
- Track 88 : Phoxy\_55, Marius\_56, Spike509\_55, Methuselah\_51, ACFishhook\_54, LarryKay\_55, AgronaGT15\_54, Heliosoles\_54, BuzzBuzz\_53, KADY\_55, Manu\_55, HashRod\_56, Kalnoky\_56, Misomonster\_56, Daishi\_54, Farber\_55, PurpleHaze\_55, Kalb97\_56, JeppNRM\_56, Groupthink\_56, Pawn\_55, Soshari\_57, Reba\_55, Phranny\_56, Bxz2\_51, Rummer\_54, Louie6\_54
- Track 89 : Malinsilva\_57, Hercules11\_55, LugYA\_58, Grif\_55, Fernando\_55, Lilith\_56, Wooldri\_57, Snickers\_55, Grub\_55, Beauxregard13\_55, EpicPhail\_56, PGHhamlin\_57, Phoebe\_56, GtownJaz\_55, P28Green\_56, Vix\_55, SoYo\_55, DaHudson\_55, StepMih\_55, MuchMore\_58, BreSam8\_55, MoneyMay\_55, Marie\_55,

Watson\_55, Dieselweasel\_56, PotatoSplit\_57, Microwolf\_55, Taurus\_56, JHC117\_55, Penny1\_56, Colbster\_55, MarQuardt\_55, Mainiac\_55, Pembroke\_55, Aglet\_56, Grum1\_55, AugsMagnumOpus\_58, LBerry\_56, Stagni\_55, JenCasNa\_56, Sabia\_55, Sabinator\_54, Cullens\_55

- Track 90 : SoilDragon\_55, Jobu08\_54, Anubis\_58, Ollie\_55, MadMarie\_55, Zetzy\_54, GingkoMaracino\_55, Tiffany\_55
- Track 91 : MA5\_52
- Track 92 : Bugatti\_53, Giroux\_53, Idleandcovert\_53, Pistachio\_54, Puppy\_54, TNguyen7\_53, SaturnRing\_53, BlueBird\_54
- Track 93 : Hookmount\_51, Pocahontas\_51, Popcicle\_51, Noella\_51, ResDef\_51, Norbert\_50, Veracruz\_50, QuinnKiro\_50, Panamaxus\_49, Lambert1\_51, Caviar\_51, Todacoro\_51
- Track 94 : JF4\_50, JF2\_50, MK4\_52, B1\_47, Isca\_51
- Track 95 : Marchesa\_52, HelDan\_52, Kachowdy\_52, Fred313\_52, Scout\_52, Heathen\_52, DropBear\_52
- Track 96 : BabyRay\_52
- Track 97 : Chiqui\_50, BabyJohn\_50
- Track 98 : Phantastic\_53
- Track 99 : OlanP\_54, HaveUMetTed\_56, PhishRPhriends\_53, Gemma\_54
- Track 100 : Texage\_50, Margo\_51
- Track 101 : Rockstar\_52
- Track 102 : Dublin\_44, MarysWell\_44, Naca\_46, Chadwick\_48, Theia\_43
- Track 103 : Aragog\_43, Conspiracy\_44, Tiger\_43, AgentM\_43, Jovo\_44, PickleBack\_44, Lev2\_44, ForGetIt\_44
- Track 104 : Coog\_44, Midas2\_44, Bluefalcon\_43, Cuco\_44
- Track 105 : Discoknowium\_43, HuhtaEnerson15\_45, Milcery\_45, Tarynearal\_43, George\_44, Micasa\_46, LittleCherry\_45, Phlorence\_43, Bonamassa\_45, Archetta\_44, Swirley\_47
- Track 106 : EITiger69\_47, UnionJack\_46, Jabiru\_46, Benedict\_48
- Track 107 : Airmid\_46, PetterN\_49, Scorpia\_49
- Track 108 : Ghoulboy\_47, SydNat\_47, Zolita\_46
- Track 109 : Isiphiwo\_52, GreedyLawyer\_54, Kipper29\_54, SuperAwesome\_54, SuperCallie99\_53, McFly\_54, VohminGhazi\_54, Pmask\_54, BABullseye\_48, JewelBug\_55, Hoot\_49, Newrala\_54, Dorothea\_54, DaVinci\_53, Jordennis\_54, Candra\_54, SmellyB\_54, Chartreuse\_53, Kazan\_55, EricB\_54, Neeharika16\_53, Priamo\_56, Cookiedough\_54
- Track 110 : Indra\_58, Hexamo\_55, Wiks\_54, Koko\_56, Tucker\_55, CloudWang3\_55, ToneTone\_52, Roksolana\_56, Zulu\_56, Lilbunny\_54, Jeffabunny\_55, Artemis2UCLA\_55, Helmet\_57, Garak\_57, WunderPhul\_55, Zaka\_55, Yokurt\_55
- Track 111 : Hammer\_55, Rifter\_55, Blue7\_56, Gruunaga\_55, Gladiator\_52
- Track 112 : Blinn1\_57
- Track 113 : Saintus\_44, Groundhog\_48, Roary\_50, Astro\_49, NearlyHeadless\_49, Smeadley\_50, Dixon\_49, Expelliarmus\_49
- Track 114 : Stephig9\_50
- Track 115 : Danforth\_49
- Track 116 : Phillis\_50
- Track 117 : Arissanae\_52
- Track 118 : Spouty\_53, Qobbit\_53, Onglai\_51, Phaeder\_53, Eidsmoe\_53, Fayely\_53, Priya\_53, Myxus\_53, HortumSL17\_53, Aliter\_53, Conquerage\_53, Catalina\_54, EmyBug\_52, PackMan\_52, Tubs\_53
- Track 119 : Elephantoon\_52
- Track 120 : Beemo\_53, ExplosioNervosa\_53, Phonnegut\_53, Pioneer\_53

- Track 121 : Charm\_51
- Track 122 : Sachima\_50, RyeScarlet\_54, Scherzo\_53, Lilleskat\_51, Hanray\_51, EdogawaKiddo\_51, Halex\_52, Ugenie5\_50, Jiawan\_51
- Track 123 : Rahalelujah\_53
- Track 124 : DreamTeam1\_51
- Track 125 : LoneWolf\_54
- Track 126 : Maminiaina\_52, BogosyJay\_52
- Track 127 : Vanisoa\_53
- Track 128 : Alma\_53
- Track 129 : Darrell\_55
- Track 130 : SheaKeira\_51
- Track 131 : Toaka\_53
- Track 132 : Keziacharles14\_53
- Track 133 : Yecey3\_54
- Track 134 : PhailMary\_41, BobbyDazzler\_42, Bradshaw\_42, Partridge\_41, Lillie\_42, Krishelle\_42, AppleCloud\_39, Bryce\_41, Natosaleda\_41, Erik\_42, RexFury\_41, Nancinator\_42, Jester\_41, RER2\_35, Gollum\_42, Rasputin\_42, Rhodalysa\_42, Espica\_42, Phrankenstein\_42, Shuman\_42, Naiad\_41, Yogi\_41, Belenaria\_42, UhSalsa\_42, Bonanza\_42, Harlequin\_41, Swann\_42, CosmicSans\_42, Hiro\_42, TWAMP\_42, Yoncess\_41, StCroix\_41, Alpacados\_41, Dinger\_41, Alatin\_41
- Track 135 : Takoda\_42, AngryOrchard\_40
- Track 136 : RGL3\_36

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

The start number called the most often in the published annotations is 46, it was called in 310 of the 659 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- A6\_44, AFIS\_46, Abbyshoes\_51, Abrogate\_470, Acme\_50, Adahisdi\_48, Agaliana\_44, AgentM\_43, Airmid\_46, Ajay\_50, Alatin\_41, Alpacados\_41, Alsfro\_52, Altman\_51, Alvin\_48, Anglerfish\_50, AngryOrchard\_40, Anthony\_48, AppleCloud\_39, Applejack\_43, Aragog\_43, Arcanine\_49, Archetta\_44, Arlo\_46, Ashballer\_50, Astro\_49, Atkinbua\_51, BK1\_44, BPBiebs31\_49, BaconJack\_51, Barriga\_49, Beatrix\_48, BeesKnees\_50, Belenaria\_42, Benedict\_48, Bethlehem\_49, Bexan\_47, Big3\_48, BigMau\_49, BigPaolini\_48, Bigfoot\_44, BillKnuckles\_49, Bircsak\_47, BluSpix\_47, Blue\_48, Bluefalcon\_43, Bob3\_46, BobbyDazzler\_42, Bonamassa\_45, Bonanza\_42, Bones\_49, Bradshaw\_42, Briton15\_51, Bruns\_47, Bryce\_41, Burton\_48, Buttons\_47, Bxb1\_44, CactusRose\_46, Carlyle\_47, Chadwick\_48, Chanagan\_45, Chupacabra\_49, Ciao\_48, Conceptll\_50, Conspiracy\_44, Coog\_44, Corvo\_49, CosmicSans\_42, Crispicous1\_46, Cuco\_44, Cueylyss\_50, DD5\_47, Danforth\_49, Dexes\_49, Dinger\_41, Discoknowium\_43, Dixon\_49, DontArgue\_49, Doom\_48, DrFeelGood\_46, Drake94\_48, DreamCatcher\_52, Dreamboat\_50, Dublin\_44, Dulcie\_49, Dussy\_50, DustyMartin\_54, Dynamix\_50, Eaglepride\_51, Edison31\_49, Edtherson\_48, ElTiger69\_47, Erik\_42, Espica\_42, Euphoria\_46, Expelliarmus\_49, Eyeball\_50, Fajezeel\_50, Fascinus\_44, Fenn\_51, ForGetIt\_44, Forsytheast\_48, Francis47\_47, Froghopper\_46, Fushigi\_47, GageAP\_49, Gandalf20\_51, George\_44, Ghoulboy\_47, Gollum\_42, Gompeii16\_47, Goose\_50, Graduation\_52, GrecoEtereo\_49, Greg\_50, Groundhog\_48, Gwendoluna\_52, Gyzlar\_44, Hami1\_42, HanShotFirst\_48, Harlequin\_41, HarryOW\_47, Hermia\_49,



HermioneGrange\_48, Hiro\_42, Homines\_41, Hope4ever\_51, HuhtaEnerson15\_45, ILeeKay\_52, Ichabod\_51, IgnatiusPatJac\_49, Inyanga\_45, JC27\_50, Jabiru\_46, JackSparrow\_49, Jasper\_50, Jerm2\_49, Jester\_41, Jorgensen\_50, Jovo\_44, JuliaChild\_49, KBG\_50, KSSJEB\_48, Kanely\_50, Kenmech\_52, Killigrew\_48, KittenMittens\_47, Krishelle\_42, Kristoff\_50, Kugel\_49, KyMonks1A\_50, Kykar\_48, Lamina13\_49, Lesedi\_45, Lev2\_44, Licorice\_51, LilBib\_48, Lillie\_42, LittleCherry\_45, Lockley\_47, Lopton\_49, MPlant7149\_47, Magnar\_48, Magnito\_47, Makemake\_48, Manatee\_50, Marcell\_46, Marchy\_43, Marge\_48, Maroc7\_46, Marsha\_48, MaryBeth\_48, MarysWell\_44, McGuire\_50, MetalQZJ\_47, Micasa\_46, Michley\_48, Midas2\_44, Milcery\_45, Mkhuseleli\_47, Molly\_49, Monet\_51, Moose\_48, MrGordo\_48, Mryolo\_46, Mule\_45, Museum\_49, MyraDee\_46, NEHalo\_46, Naca\_46, Naiad\_41, Naira\_51, Nancinator\_42, Natosaleda\_41, NearlyHeadless\_49, Nerujay\_51, Nhonho\_49, Niza\_51, Norz\_49, OKCentral2016\_49, Ohno789\_50, Oogway\_47, PSullivan\_48, PacerPaul\_48, Papez\_51, Paphu\_46, Paraselene\_46, Pari\_50, Parliament\_48, Partridge\_41, PascalRango\_49, PattyP\_49, Payneful\_48, PeaceMeal1\_48, Pelly\_48, Pepe\_45, Perseus\_48, Peterson\_53, Petp2012\_49, Petruccio\_48, PetterN\_49, PhailMary\_41, PherrisBueller\_48, Phillis\_50, Phlei\_42, Phlorence\_43, Phrankenstein\_42, PhrostyMug\_47, PickleBack\_44, PinkPlastic\_48, Pinto\_48, Pippin\_50, Pita2\_51, Poompha\_49, ProMouse\_49, QTRlifeCrisis\_48, RER2\_35, RGL3\_36, Rajelicia\_49, Rasputin\_42, Rebeuca\_50, RexFury\_41, Rhodalysa\_42, RhynO\_51, Rhynn\_47, RidgeCB\_48, Ringer\_49, Roary\_50, Rohr\_49, Rowdy\_54, Rubeus\_48, Rufus\_49, Ruotula\_51, Rutherford\_50, STLscum\_51, Sagefire\_51, Saintus\_44, Sandaddy\_47, Sanya\_46, SarFire\_46, Scorpia\_49, Scowl\_49, Seabiscuit\_51, Seanderson\_50, Severus\_48, Shapes\_54, ShortQueendom\_42, Shuman\_42, Sibs6\_49, SkiPole\_53, Slagathor\_50, Smairt\_50, Smeadley\_50, Smeagol\_50, Snazzy\_47, Solon\_47, Sorpresa\_47, SpikeBT\_48, Squee\_49, StCroix\_41, Stephig9\_50, StewieG\_47, StrongArm\_48, Sumter\_45, Sunshine924\_49, Swann\_42, Swirley\_47, SwissCheese\_50, Switzer\_50, Swole\_49, SydNat\_47, TWAMP\_42, Takoda\_42, Target\_49, Tarynearal\_43, Tasp14\_50, Teodoridan\_47, Theia\_43, TheloniousMonk\_49, Thor\_46, Tiger\_43, Topanga\_48, Topgun\_48, Tote\_44, Traft412\_51, Treddle\_49, Trike\_48, Tripl3t\_48, Trouble\_51, Turj99\_47, Twister\_48, TwoPeat\_49, U2\_48, UhSalsa\_42, UnionJack\_46, Violet\_46, WalterMcMickey\_48, Watermelon\_49, Wheeler\_49, Wilkins\_48, Yogi\_41, Yoncess\_41, Zeeculate\_46, Zephyr\_48, Zeuska\_47, Zolita\_46,

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

- Aeneas\_50, AnnaL29\_55, Espresso\_48, RedRock\_55,

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

- 20ES\_56, 40AC\_54, ACFishhook\_54, AN9\_56, ANI8\_56, AbbyPaige\_55, Acolyte\_48, Adzzy\_54, Agape74\_55, Aglet\_56, AgronaGT15\_54, Aliter\_53, Alma\_53, Anaysia\_58, Aneem\_53, Anon\_55, Anselm\_54, Anubis\_58, ArcherNM\_48, Arissanae\_52, Artemis2UCLA\_55, AugsMagnumOpus\_58, B1\_47, BABullseye\_48, BabyBack\_52, BabyJohn\_50, BabyRay\_52, Bachome\_54, Bactobuster\_52, Baehexic\_52, Battleship\_60, Beauxregard13\_55, Beemo\_53, BengiVuitton\_55, Benvolio\_50, BiancaTri92\_53, Blinn1\_57, Blue7\_56, BlueBird\_54, BobSwaget\_49, BogosyJay\_52, Boohoo\_58, Bowtie\_53, Bradman\_52, BreSam8\_55, Bud\_52, Bugatti\_53, Buggy\_55, BuzzBuzz\_53, Bxz2\_51, C3\_51, CRB1\_57, Candra\_54, Caraxes\_53, Catalina\_54, Caviar\_51, Centaur\_54, Changeling\_52, Chargerpower\_51, Charm\_51, Chartreuse\_53, Che12\_54, ChipMunk\_55, Chiqui\_50, CloudWang3\_55, Colbster\_55, Colin\_53, Conquerage\_53, Cookiedough\_54, Crucio\_53, Cullens\_55, D29\_52, D32\_54, DBQu4n\_55, DaHudson\_55, DaVinci\_53, Daishi\_54, Dalmatian\_54, Darrell\_55, DarthPhader\_49, DekHockey33\_59,

Deloris\_54, Dieselweasel\_56, Dignity\_55, Dorothea\_54, Drake55\_55, DreamTeam1\_51, DropBear\_52, DudeLittle\_52, Duplo\_55, EZMoney23\_51, EagleEye\_55, Ebony\_52, Echild\_53, EdogawaKiddo\_51, Eidsmoe\_53, Elephantoon\_52, EmyBug\_52, EpicPhail\_56, Epsocamisio\_56, Equemioh13\_54, EricB\_54, Et2Brutus\_51, EvilGenius\_55, ExplosioNervosa\_53, Fameo\_53, Farber\_55, Fayely\_53, Fernando\_55, Fibonacci\_52, FiringLine\_53, First\_0055, Flare16\_53, Flaverint\_53, Fred313\_52, Gail\_57, Garak\_57, GaugeLDP\_51, Gemma\_54, Georgie2\_54, Gilberta\_53, GingkoMaracino\_55, Giroux\_53, Gladiator\_52, GreedyLawyer\_54, Grif\_55, Groupthink\_56, Grub\_55, Grum1\_55, Gruunaga\_55, GtownJaz\_55, Hammer\_55, Hanray\_51, HarryHoudini\_54, HashRod\_56, HaveUMetTed\_56, Heathen\_52, Heffalump\_52, HelDan\_52, Heliosoles\_54, Helmet\_57, Herbertwm\_52, Hercules11\_55, Hexamo\_55, Holesx\_52, Hookmount\_51, Hoot\_49, HortumSL17\_53, Hutc2\_52, Idleandcovert\_53, Indra\_58, Insomnia\_53, IronMan\_53, Isca\_51, Isiphiwo\_52, Iwokeuplikedis\_56, JF2\_50, JF4\_50, JHC117\_55, JSwag\_58, Jaan\_53, Jabith\_53, Jeeves\_57, Jeffabunny\_55, JenCasNa\_56, JeppNRM\_56, Jerm\_55, JewelBug\_55, Jiawan\_51, Jobu08\_54, Jordennis\_54, Joselito\_53, JoshKayV\_55, Journey13\_47, Jsquared\_51, KADY\_55, Kachowdy\_52, Kalb97\_56, Kalnoky\_56, Kalpine\_51, KatherineG\_59, Kazan\_55, Kerberos\_55, Keziacharles14\_53, KingCyrus\_55, Kinmap\_50, Kipper29\_54, Koduck\_54, Koko\_56, L5\_52, LBerry\_56, LadyBird\_58, Lambert1\_51, Landor\_53, Larenn\_52, LarryKay\_55, LastResort\_57, Leogania\_53, Leviathan\_55, LiITurb\_54, Lilbunny\_54, Lilith\_56, Lilleskat\_51, Lokk\_50, LoneWolf\_54, Looper\_58, Loser\_55, Louie6\_54, Luchador\_57, Lucivia\_53, Lucyedi\_54, LugYA\_58, MA5\_52, MK4\_52, MaCh\_53, Mabel\_52, MadMarie\_55, Mainiac\_55, MajorMajor\_52, Malec\_53, Malinsilva\_57, Maminiaina\_52, Manu\_55, MarQuardt\_55, Marchesa\_52, Margo\_51, Marie\_55, Marius\_56, McFly\_54, Methuselah\_51, Microwolf\_55, MiculUcigas\_53, Miko\_50, MinecraftSteve\_59, Misomonster\_56, MissWhite\_52, MoneyMay\_55, MuchMore\_58, Mulciber\_52, Munch\_53, Myxus\_53, NaSiaTalie\_53, Naji\_55, Nebulosus\_57, Nedarya\_54, Neeharika16\_53, Newrala\_54, NicoleTera\_52, Noella\_51, Norbert\_50, NothingSpecial\_51, Odin\_51, OlanP\_54, Ollie\_55, Onglai\_51, Oofda\_60, Orange\_52, P28Green\_56, PGHhamlin\_57, PackMan\_52, PainterBoy\_54, Panamaxus\_49, Pawn\_55, Pembroke\_55, Penny1\_56, Petersenfast\_51, Ph8s\_54, Phaded\_54, Phaeder\_53, Phantastic\_53, Pharaoh\_48, PhishRPhriends\_53, Phoebe\_56, Phonnegut\_53, Phoxy\_55, Phranny\_56, Pioneer\_53, Piro94\_53, Pistachio\_54, Pmask\_54, Pocahontas\_51, Pomar16\_55, Popcicle\_51, PotatoSplit\_57, Power\_52, Priamo\_56, Priya\_53, Pukovnik\_52, Puppy\_54, PurpleHaze\_55, Qobbit\_53, QueenB2\_52, QueenBeesly\_53, QuinnKiro\_50, Quokka\_51, Rachaly\_52, Rahalelujah\_53, ReMo\_57, Reba\_55, Refuge\_51, Remus\_59, ResDef\_51, Retro23\_54, Rifter\_55, Rockstar\_52, Roksolana\_56, Rosalind\_57, Rummer\_54, RyeScarlet\_54, Sabia\_55, Sabinator\_54, Sachima\_50, Salz\_51, SaturnRing\_53, Scherzo\_53, Scout\_52, SemperFi\_54, Serenity\_53, Sham4\_52, ShayRa\_59, SheaKeira\_51, Smeagan\_56, SmellyB\_54, SnapTap\_53, Snape\_52, Snickers\_55, SoYo\_55, SoilDragon\_55, SororFago\_55, Soshari\_57, Soups\_59, Spike509\_55, Spouty\_53, Stagni\_55, StarStuff\_55, Steamy\_49, StepMih\_55, Strosahl\_59, Sunhee\_56, SuperAwesome\_54, SuperCallie99\_53, Superchunk\_51, SweetiePie\_53, SwirlSquare\_58, Switzerland\_58, TNguyen7\_53, TarsusIV\_52, Taurus\_56, Texage\_50, Tiffany\_55, Timothy\_52, TinyTimmy\_52, TipsytheTRex\_49, Toaka\_53, Todacoro\_51, Tomathan\_55, ToneTone\_52, Travvers\_55, Trixie\_51, Trooper\_54, Tubs\_53, Tucker\_55, Turbido\_54, Ugenie5\_50, Updawg\_54, VC3\_56, Vanisoa\_53, Veracruz\_50, Vix\_55, VohminGhazi\_54, Waits\_59, Watson\_55, WeiHuaDA\_55, Whabigail7\_54, WideWale\_54, Wiks\_54, Wooldri\_57, WunderPhul\_55, XianYue\_52, Yecey3\_54, Yokurt\_55, Zaka\_55, Zetsy\_54, Zimmer\_50, Zulu\_56,

## Summary by start number:

### Start 31:

- Found in 3 of 716 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 3 of 659
- Called 100.0% of time when present
- Phage (with cluster) where this start called: EagleEye\_55 (A16), Lucyedi\_54 (A16), PainterBoy\_54 (A16),

### Start 34:

- Found in 1 of 716 ( 0.1% ) of genes in pham
- Manual Annotations of this start: 1 of 659
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Acolyte\_48 (A2),

### Start 35:

- Found in 163 of 716 ( 22.8% ) of genes in pham
- Manual Annotations of this start: 2 of 659
- Called 1.2% of time when present
- Phage (with cluster) where this start called: Aeneas\_50 (A1), Espresso\_48 (A1),

### Start 36:

- Found in 25 of 716 ( 3.5% ) of genes in pham
- Manual Annotations of this start: 24 of 659
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aneem\_53 (A11), Bachome\_54 (A11), Bowtie\_53 (A11), Bud\_52 (A11), Ebony\_52 (A11), Et2Brutus\_51 (A11), Fibonacci\_52 (A11), Flaverint\_53 (A11), Gilberta\_53 (A11), Hutc2\_52 (A11), Insomnia\_53 (A11), Jabith\_53 (A11), Joselito\_53 (A11), Lucivia\_53 (A11), MaCh\_53 (A11), Mabel\_52 (A11), Mulciber\_52 (A11), Munch\_53 (A11), Orange\_52 (A11), Petersenfast\_51 (A11), Salz\_51 (A11), Sham4\_52 (A11), Snape\_52 (A11), Timothy\_52 (A11), TinyTimmy\_52 (A11),

### Start 37:

- Found in 14 of 716 ( 2.0% ) of genes in pham
- Manual Annotations of this start: 2 of 659
- Called 14.3% of time when present
- Phage (with cluster) where this start called: Margo\_51 (A3), Texage\_50 (A3),

### Start 38:

- Found in 157 of 716 ( 21.9% ) of genes in pham
- Manual Annotations of this start: 144 of 659
- Called 99.4% of time when present
- Phage (with cluster) where this start called: 20ES\_56 (A2), 40AC\_54 (A17), AbbyPaige\_55 (A2), Agape74\_55 (A2), Anaysia\_58 (A15), AnnaL29\_55 (A2), Anselm\_54 (A2), ArcherNM\_48 (A2), Artemis2UCLA\_55 (A6), BABullseye\_48 (A6), BabyBack\_52 (A2), Bactobuster\_52 (A2), Baehexic\_52 (A2), Battleship\_60 (A15), BengiVuitton\_55 (A2), Benvolio\_50 (A2), BiancaTri92\_53 (A2), Blinn1\_57 (A6), Blue7\_56 (A6), BobSwaget\_49 (A2), Boohoo\_58 (A15), Buggy\_55 (A2), CRB1\_57 (A2), Candra\_54 (A6), Centaur\_54 (A2), Changeling\_52 (A2), Chargerpower\_51 (A), Chartreuse\_53 (A6), ChipMunk\_55 (A2), CloudWang3\_55 (A6), Colin\_53 (A2), Cookiedough\_54 (A6), Crucio\_53 (A2), DaVinci\_53 (A6), Dalmatian\_54 (A2),

DarthPhader\_49 (A12), DekHockey33\_59 (A15), Deloris\_54 (A2), Dignity\_55 (A2), Dorothea\_54 (A6), Drake55\_55 (A2), DudeLittle\_52 (A2), EZMoney23\_51 (A2), Echild\_53 (A2), Epsocamisio\_56 (A15), Equemioh13\_54 (A2), EricB\_54 (A6), EvilGenius\_55 (A2), Fameo\_53 (A2), FiringLine\_53 (A2), First\_0055 (A2), Flare16\_53 (A2), Garak\_57 (A6), GaugeLDP\_51 (A2), Georgie2\_54 (A2), Gladiator\_52 (A6), GreedyLawyer\_54 (A6), Gruunaga\_55 (A6), Hammer\_55 (A6), HarryHoudini\_54 (A2), Heffalump\_52 (A2), Helmet\_57 (A6), Herbertwm\_52 (A2), Hexamo\_55 (A6), Hoot\_49 (A6), Indra\_58 (A6), IronMan\_53 (A2), Isiphiwo\_52 (A6), Iwokeuplikedis\_56 (A2), JSwag\_58 (A15), Jaan\_53 (A2), Jeffabunny\_55 (A6), Jerm\_55 (A2), JewelBug\_55 (A6), Jordennis\_54 (A6), JoshKayV\_55 (A2), Journey13\_47 (A2), Kalpine\_51 (A2), KatherineG\_59 (A15), Kazan\_55 (A6), KingCyrus\_55 (A2), Kipper29\_54 (A6), Koko\_56 (A6), LadyBird\_58 (A2), Larenn\_52 (A2), LastResort\_57 (A15), Leogania\_53 (A2), Leviathan\_55 (A2), LiITurb\_54 (A2), Lilbunny\_54 (A6), Lokk\_50 (A2), Looper\_58 (A15), Loser\_55 (A2), Malec\_53 (A2), McFly\_54 (A6), MiculUcigas\_53 (A2), Miko\_50 (A2), MinecraftSteve\_59 (A15), MissWhite\_52 (A2), NaSiaTalie\_53 (A2), Nebulosus\_57 (A15), Nedarya\_54 (A15), Neeharika16\_53 (A6), Newrala\_54 (A6), NicoleTera\_52 (A2), NothingSpecial\_51 (A2), Oofda\_60 (A15), Phaded\_54 (A2), Pharaoh\_48 (A12), Piro94\_53 (A2), Pmask\_54 (A6), Power\_52 (A2), Priamo\_56 (A6), Pukovnik\_52 (A2), QueenB2\_52 (A2), QueenBeesly\_53 (A2), Rachaly\_52 (A2), ReMo\_57 (A15), RedRock\_55 (A2), Refuge\_51 (A12), Remus\_59 (A15), Retro23\_54 (A2), Rifter\_55 (A6), Roksolana\_56 (A6), Rosalind\_57 (A15), SemperFi\_54 (A2), ShayRa\_59 (A15), Smeagan\_56 (A2), SmellyB\_54 (A6), SnapTap\_53 (A2), Soups\_59 (A15), Steamy\_49 (A12), Strosahl\_59 (A15), SuperAwesome\_54 (A6), SuperCallie99\_53 (A6), SweetiePie\_53 (A2), Switzerland\_58 (A15), TarsusIV\_52 (A2), ToneTone\_52 (A6), Trixie\_51 (A2), Trooper\_54 (A2), Tucker\_55 (A6), Turbido\_54 (A2), Updawg\_54 (A2), VohminGhazi\_54 (A6), Waits\_59 (A15), WeiHuaDA\_55 (A2), Whabigail7\_54 (A2), WideWale\_54 (A2), Wiks\_54 (A6), WunderPhul\_55 (A6), XianYue\_52 (A2), Yokurt\_55 (A6), Zaka\_55 (A6), Zimmer\_50 (A12), Zulu\_56 (A6),

#### Start 39:

- Found in 29 of 716 ( 4.1% ) of genes in pham
- Manual Annotations of this start: 21 of 659
- Called 96.6% of time when present
- Phage (with cluster) where this start called: AN9\_56 (A2), ANI8\_56 (A2), Adzzy\_54 (A2), Bradman\_52 (A2), C3\_51 (A2), Caraxes\_53 (A2), Che12\_54 (A2), D29\_52 (A2), D32\_54 (A2), DBQu4n\_55 (A2), Duplo\_55 (A2), Jsquared\_51 (A2), Kerberos\_55 (A2), Koduck\_54 (A2), L5\_52 (A2), MajorMajor\_52 (A2), Naji\_55 (A2), Odin\_51 (A2), Pomar16\_55 (A2), Quokka\_51 (A2), Serenity\_53 (A2), StarStuff\_55 (A2), Superchunk\_51 (A2), SwirlSquare\_58 (A2), TopsytheTRex\_49 (A2), Tomathan\_55 (A2), Travvers\_55 (A2), VC3\_56 (A2),

#### Start 40:

- Found in 14 of 716 ( 2.0% ) of genes in pham
- Manual Annotations of this start: 12 of 659
- Called 85.7% of time when present
- Phage (with cluster) where this start called: Caviar\_51 (A3), Hookmount\_51 (A3), Lambert1\_51 (A3), Noella\_51 (A3), Norbert\_50 (A3), Panamaxus\_49 (A3), Pocahontas\_51 (A3), Popcicle\_51 (A3), QuinnKiro\_50 (A3), ResDef\_51 (A3), Todacoro\_51 (A3), Veracruz\_50 (A3),

#### Start 41:

- Found in 6 of 716 ( 0.8% ) of genes in pham

- Manual Annotations of this start: 1 of 659
- Called 16.7% of time when present
- Phage (with cluster) where this start called: Landor\_53 (A2),

#### Start 42:

- Found in 1 of 716 ( 0.1% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kinmap\_50 (A21),

#### Start 43:

- Found in 155 of 716 ( 21.6% ) of genes in pham
- Manual Annotations of this start: 136 of 659
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ACFishhook\_54 (A3), Aglet\_56 (A3), AgronaGT15\_54 (A3), Aliter\_53 (A9), Alma\_53 (A9), Anubis\_58 (A3), Arissanae\_52 (A9), AugsMagnumOpus\_58 (A3), B1\_47 (A3), BabyJohn\_50 (A3), BabyRay\_52 (A3), Beauxregard13\_55 (A3), Beemo\_53 (A9), BlueBird\_54 (A3), BogosyJay\_52 (A9), BreSam8\_55 (A3), Bugatti\_53 (A3), BuzzBuzz\_53 (A3), Bxz2\_51 (A3), Catalina\_54 (A9), Charm\_51 (A9), Chiqui\_50 (A3), Colbster\_55 (A3), Conquerage\_53 (A9), Cullens\_55 (A3), DaHudson\_55 (A3), Daishi\_54 (A3), Darrell\_55 (A9), Dieselweasel\_56 (A3), DreamTeam1\_51 (A9), DropBear\_52 (A3), EdogawaKiddo\_51 (A9), Eidsmoe\_53 (A9), Elephantoon\_52 (A9), EmyBug\_52 (A9), EpicPhail\_56 (A3), ExplosioNervosa\_53 (A9), Farber\_55 (A3), Fayely\_53 (A9), Fernando\_55 (A3), Fred313\_52 (A3), Gail\_57 (A14), Gemma\_54 (A3), GingkoMaracino\_55 (A3), Giroux\_53 (A3), Grif\_55 (A3), Groupthink\_56 (A3), Grub\_55 (A3), Grum1\_55 (A3), GtownJaz\_55 (A3), Hanray\_51 (A9), HashRod\_56 (A3), HaveUMetTed\_56 (A3), Heathen\_52 (A3), HelDan\_52 (A3), Heliosoles\_54 (A3), Hercules11\_55 (A3), Horex\_52 (A9), HortumSL17\_53 (A9), Idleandcovert\_53 (A3), Isca\_51 (A3), JF2\_50 (A3), JF4\_50 (A3), JHC117\_55 (A3), Jeeves\_57 (A14), JenCasNa\_56 (A3), JeppNRM\_56 (A3), Jiawan\_51 (A9), Jobu08\_54 (A3), KADY\_55 (A3), Kachowdy\_52 (A3), Kalb97\_56 (A3), Kalnoky\_56 (A3), Keziacharles14\_53 (A9), LBerry\_56 (A3), LarryKay\_55 (A3), Lilith\_56 (A3), Lilleskat\_51 (A9), LoneWolf\_54 (A9), Louie6\_54 (A3), Luchador\_57 (A14), LugYA\_58 (A3), MA5\_52 (A3), MK4\_52 (A3), MadMarie\_55 (A3), Mainiac\_55 (A3), Malinsilva\_57 (A3), Maminina\_52 (A9), Manu\_55 (A3), MarQuardt\_55 (A3), Marchesa\_52 (A3), Marie\_55 (A3), Marius\_56 (A3), Methuselah\_51 (A3), Microwolf\_55 (A3), Misomonster\_56 (A3), MoneyMay\_55 (A3), MuchMore\_58 (A3), Myxus\_53 (A9), OlanP\_54 (A3), Ollie\_55 (A3), Onglai\_51 (A9), P28Green\_56 (A3), PGHhamlin\_57 (A3), PackMan\_52 (A9), Pawn\_55 (A3), Pembroke\_55 (A3), Penny1\_56 (A3), Phaeder\_53 (A9), Phantastic\_53 (A3), PhishRPhriends\_53 (A3), Phoebe\_56 (A3), Phonnegut\_53 (A9), Phoxy\_55 (A3), Phranny\_56 (A3), Pioneer\_53 (A9), Pistachio\_54 (A3), PotatoSplit\_57 (A3), Priya\_53 (A9), Puppy\_54 (A3), PurpleHaze\_55 (A3), Qobbit\_53 (A9), Rahalelujah\_53 (A9), Reba\_55 (A3), Rockstar\_52 (A3), Rummer\_54 (A3), RyeScarlet\_54 (A9), Sabia\_55 (A3), Sabinator\_54 (A3), Sachima\_50 (A9), SaturnRing\_53 (A3), Scherzo\_53 (A9), Scout\_52 (A3), SheaKeira\_51 (A9), Snickers\_55 (A3), SoYo\_55 (A3), SoilDragon\_55 (A3), SororFago\_55 (A14), Soshari\_57 (A3), Spike509\_55 (A3), Spouty\_53 (A9), Stagni\_55 (A3), StepMih\_55 (A3), Sunhee\_56 (A14), TNguyen7\_53 (A3), Taurus\_56 (A3), Tiffany\_55 (A3), Tubs\_53 (A9), Ugenie5\_50 (A9), Vanisoa\_53 (A9), Vix\_55 (A3), Watson\_55 (A3), Wooldri\_57 (A3), Yecey3\_54 (A9), Zetzy\_54 (A3),

#### Start 44:

- Found in 1 of 716 ( 0.1% ) of genes in pham

- Manual Annotations of this start: 1 of 659
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Anon\_55 (A15),

#### Start 45:

- Found in 1 of 716 ( 0.1% ) of genes in pham
- Manual Annotations of this start: 1 of 659
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Toaka\_53 (A9),

#### Start 46:

- Found in 331 of 716 ( 46.2% ) of genes in pham
- Manual Annotations of this start: 310 of 659
- Called 98.8% of time when present
- Phage (with cluster) where this start called: A6\_44 (A1), AFIS\_46 (A1), Abbyshoes\_51 (A1), Abrogate\_470 (A1), Acme\_50 (A1), Adahisdi\_48 (A1), Agaliana\_44 (A1), AgentM\_43 (A5), Airmid\_46 (A5), Ajay\_50 (A1), Alatin\_41 (CA), Alpacados\_41 (CA), Alsfro\_52 (A1), Altman\_51 (A1), Alvin\_48 (A1), Anglerfish\_50 (A1), AngryOrchard\_40 (CA), Anthony\_48 (A20), AppleCloud\_39 (CA), Applejack\_43 (A1), Aragog\_43 (A5), Arcanine\_49 (A1), Archetta\_44 (A5), Arlo\_46 (A1), Ashballer\_50 (A1), Astro\_49 (A8), Atkinbua\_51 (A1), BK1\_44 (A1), BPBiebs31\_49 (A1), BaconJack\_51 (A1), Barriga\_49 (A1), Beatrix\_48 (A1), BeesKnees\_50 (A1), Belenaria\_42 (CA), Benedict\_48 (A5), Bethlehem\_49 (A1), Bexan\_47 (A1), Big3\_48 (A1), BigMau\_49 (A1), BigPaolini\_48 (A1), Bigfoot\_44 (A1), BillKnuckles\_49 (A1), Bircsak\_47 (A1), BluSpix\_47 (A1), Blue\_48 (A1), Bluefalcon\_43 (A5), Bob3\_46 (A1), BobbyDazzler\_42 (CA), Bonamassa\_45 (A5), Bonanza\_42 (CA), Bones\_49 (A1), Bradshaw\_42 (CA), Briton15\_51 (A1), Bruns\_47 (A1), Bryce\_41 (CA), Burton\_48 (A1), Buttons\_47 (A1), Bxb1\_44 (A1), CactusRose\_46 (A1), Carlyle\_47 (A1), Chadwick\_48 (A5), Chanagan\_45 (A1), Chupacabra\_49 (A10), Ciao\_48 (A1), ConceptII\_50 (A1), Conspiracy\_44 (A5), Coog\_44 (A5), Corvo\_49 (A1), CosmicSans\_42 (CA), Crispicous1\_46 (A1), Cuco\_44 (A5), Cueyllyss\_50 (A1), DD5\_47 (A1), Danforth\_49 (A8), Dexes\_49 (A1), Dinger\_41 (CA), Discoknowium\_43 (A5), Dixon\_49 (A8), DontArgue\_49 (A10), Doom\_48 (A1), DrFeelGood\_46 (A1), Drake94\_48 (A10), DreamCatcher\_52 (A1), Dreamboat\_50 (A1), Dublin\_44 (A5), Dulcie\_49 (A1), Dussy\_50 (A1), DustyMartin\_54 (A10), Dynamix\_50 (A1), Eaglepride\_51 (A10), Edison31\_49 (A10), Edtherson\_48 (A1), EITiger69\_47 (A5), Erik\_42 (CA), Espica\_42 (CA), Euphoria\_46 (A1), Expelliarmus\_49 (A8), Eyeball\_50 (A1), Fajezeel\_50 (A1), Fascinus\_44 (A1), Fenn\_51 (A1), ForGetIt\_44 (A5), Forsytheast\_48 (A1), Francis47\_47 (A1), Froghopper\_46 (A1), Fushigi\_47 (A1), GageAP\_49 (A1), Gandalf20\_51 (A1), George\_44 (A5), Ghoulboy\_47 (A5), Gollum\_42 (CA), Gompeii16\_47 (A1), Goose\_50 (A10), Graduation\_52 (A1), GrecoEtereo\_49 (A1), Greg\_50 (A1), Groundhog\_48 (A8), Gwendoluna\_52 (A1), Gyzlar\_44 (A1), Hami1\_42 (A1), HanShotFirst\_48 (A1), Harlequin\_41 (CA), HarryOW\_47 (A1), Hermia\_49 (A1), HermioneGrange\_48 (A1), Hiro\_42 (CA), Homines\_41 (A1), Hope4ever\_51 (A1), HuhtaEnerson15\_45 (A5), ILeeKay\_52 (A1), Ichabod\_51 (A1), IgnatiusPatJac\_49 (A1), Inyanga\_45 (A1), JC27\_50 (A1), Jabiru\_46 (A5), JackSparrow\_49 (A1), Jasper\_50 (A1), Jerm2\_49 (A1), Jester\_41 (CA), Jorgensen\_50 (A1), Jovo\_44 (A5), JuliaChild\_49 (A1), KBG\_50 (A1), KSSJEB\_48 (A1), Kanely\_50 (A1), Kenmech\_52 (A1), Killigrew\_48 (A1), KittenMittens\_47 (A10), Krishelle\_42 (CA), Kristoff\_50 (A10), Kugel\_49 (A1), KyMonks1A\_50 (A1), Kykar\_48 (A1), Lamina13\_49 (A1), Lesedi\_45 (A1), Lev2\_44 (A5), Licorice\_51 (A1), LilBib\_48 (A1), Lillie\_42 (CA), LittleCherry\_45 (A5), Lockley\_47 (A1), Lopton\_49 (A1), MPlant7149\_47 (A1), Magnar\_48 (A1), Magnito\_47 (A1), Makemake\_48 (A1),

Manatee\_50 (A1), Marcell\_46 (A1), Marchy\_43 (A1), Marge\_48 (A1), Maroc7\_46 (A1), Marsha\_48 (A1), MaryBeth\_48 (A1), MarysWell\_44 (A5), McGuire\_50 (A1), MetalQZJ\_47 (A1), Micasa\_46 (A5), Michley\_48 (A1), Midas2\_44 (A5), Milcery\_45 (A5), Mkhuseleli\_47 (A1), Molly\_49 (A1), Monet\_51 (A1), Moose\_48 (A1), MrGordo\_48 (A1), Mryolo\_46 (A1), Mule\_45 (A1), Museum\_49 (A1), MyraDee\_46 (A18), NEHalo\_46 (A1), Naca\_46 (A5), Naiad\_41 (CA), Naira\_51 (A1), Nancinator\_42 (CA), Natosaleda\_41 (CA), NearlyHeadless\_49 (A8), Nerujay\_51 (A1), Nhonho\_49 (A1), Niza\_51 (A1), Norz\_49 (A1), OKCentral2016\_49 (A10), Ohno789\_50 (A1), Oogway\_47 (A1), PSullivan\_48 (A1), PacerPaul\_48 (A1), Papez\_51 (A1), Paphu\_46 (A1), Paraselene\_46 (A1), Pari\_50 (A1), Parliament\_48 (A1), Partridge\_41 (CA), PascalRango\_49 (A1), PattyP\_49 (A1), Payneful\_48 (A1), PeaceMeal1\_48 (A10), Pelly\_48 (A1), Pepe\_45 (A1), Perseus\_48 (A1), Peterson\_53 (A1), Petp2012\_49 (A1), Petruccio\_48 (A1), PetterN\_49 (A5), PhailMary\_41 (CA), PherrisBueller\_48 (A1), Phillis\_50 (A8), Phlei\_42 (A13), Phlorence\_43 (A5), Phrankenstein\_42 (CA), PhrostyMug\_47 (A1), PickleBack\_44 (A5), PinkPlastic\_48 (A1), Pinto\_48 (A1), Pippin\_50 (A1), Pita2\_51 (A1), Poompha\_49 (A10), ProMouse\_49 (A1), QTRLifeCrisis\_48 (A1), RER2\_35 (CA), RGL3\_36 (CA), Rajelicia\_49 (A1), Rasputin\_42 (CA), Rebeuca\_50 (A10), RexFury\_41 (CA), Rhodalysa\_42 (CA), RhynO\_51 (A10), Rhynn\_47 (A1), RidgeCB\_48 (A1), Ringer\_49 (A1), Roary\_50 (A8), Rohr\_49 (A1), Rowdy\_54 (A10), Rubeus\_48 (A1), Rufus\_49 (A1), Ruotula\_51 (A1), Rutherford\_50 (A1), STLscum\_51 (A1), Sagefire\_51 (A1), Saintus\_44 (A8), Sandaddy\_47 (A1), Sanya\_46 (A1), SarFire\_46 (A1), Scorpio\_49 (A5), Scowl\_49 (A1), Seabiscuit\_51 (A1), Seanderson\_50 (A1), Severus\_48 (A10), Shapes\_54 (A10), ShortQueendom\_42 (A1), Shuman\_42 (CA), Sibs6\_49 (A1), SkiPole\_53 (A1), Slagathor\_50 (A1), Smairt\_50 (A1), Smeadley\_50 (A8), Smeagol\_50 (A1), Snazzy\_47 (A1), Solon\_47 (A1), Sorpresa\_47 (A1), SpikeBT\_48 (A1), Squee\_49 (A1), StCroix\_41 (CA), Stephig9\_50 (A8), StewieG\_47 (A1), StrongArm\_48 (A1), Sumter\_45 (A1), Sunshine924\_49 (A1), Swann\_42 (CA), Swirley\_47 (A5), SwissCheese\_50 (A1), Switzer\_50 (A1), Swole\_49 (A1), SydNat\_47 (A5), TWAMP\_42 (CA), Takoda\_42 (CA), Target\_49 (A1), Tarynearal\_43 (A5), Tasp14\_50 (A1), Teodoridan\_47 (A1), Theia\_43 (A5), TheloniousMonk\_49 (A1), Thor\_46 (A1), Tiger\_43 (A5), Topanga\_48 (A10), Topgun\_48 (A1), Tote\_44 (A1), Traft412\_51 (A1), Treddle\_49 (A1), Trike\_48 (A10), Tripl3t\_48 (A1), Trouble\_51 (A1), Turj99\_47 (A1), Twister\_48 (A10), TwoPeat\_49 (A1), U2\_48 (A1), UhSalsa\_42 (CA), UnionJack\_46 (A5), Violet\_46 (A1), WalterMcMickey\_48 (A10), Watermelon\_49 (A1), Wheeler\_49 (A1), Wilkins\_48 (A1), Yogi\_41 (CA), Yoncess\_41 (CA), Zeeculate\_46 (A1), Zephyr\_48 (A1), Zeuska\_47 (A1), Zolita\_46 (A5),

Start 50:

- Found in 588 of 716 ( 82.1% ) of genes in pham
- Manual Annotations of this start: 1 of 659
- Called 0.2% of time when present
- Phage (with cluster) where this start called: Ph8s\_54 (A2),

### Summary by clusters:

There are 20 clusters represented in this pham: A15, A14, A17, A16, A11, A10, A13, A12, CA, A18, A21, A1, A20, A3, A2, A5, A6, A9, A8, A,

Info for manual annotations of cluster A:

- Start number 38 was manually annotated 1 time for cluster A.

Info for manual annotations of cluster A1:

- Start number 35 was manually annotated 2 times for cluster A1.
- Start number 46 was manually annotated 206 times for cluster A1.

Info for manual annotations of cluster A10:

- Start number 46 was manually annotated 17 times for cluster A10.

Info for manual annotations of cluster A11:

- Start number 36 was manually annotated 24 times for cluster A11.

Info for manual annotations of cluster A12:

- Start number 38 was manually annotated 5 times for cluster A12.

Info for manual annotations of cluster A14:

- Start number 43 was manually annotated 4 times for cluster A14.

Info for manual annotations of cluster A15:

- Start number 38 was manually annotated 20 times for cluster A15.
- Start number 44 was manually annotated 1 time for cluster A15.

Info for manual annotations of cluster A16:

- Start number 31 was manually annotated 3 times for cluster A16.

Info for manual annotations of cluster A18:

- Start number 46 was manually annotated 1 time for cluster A18.

Info for manual annotations of cluster A2:

- Start number 34 was manually annotated 1 time for cluster A2.
- Start number 38 was manually annotated 76 times for cluster A2.
- Start number 39 was manually annotated 21 times for cluster A2.
- Start number 41 was manually annotated 1 time for cluster A2.
- Start number 50 was manually annotated 1 time for cluster A2.

Info for manual annotations of cluster A20:

- Start number 46 was manually annotated 1 time for cluster A20.

Info for manual annotations of cluster A3:

- Start number 37 was manually annotated 2 times for cluster A3.
- Start number 40 was manually annotated 12 times for cluster A3.
- Start number 43 was manually annotated 98 times for cluster A3.

Info for manual annotations of cluster A5:

- Start number 46 was manually annotated 38 times for cluster A5.

Info for manual annotations of cluster A6:

- Start number 38 was manually annotated 42 times for cluster A6.

Info for manual annotations of cluster A8:

- Start number 46 was manually annotated 11 times for cluster A8.

Info for manual annotations of cluster A9:



- Start number 43 was manually annotated 34 times for cluster A9.
- Start number 45 was manually annotated 1 time for cluster A9.

Info for manual annotations of cluster CA:

- Start number 46 was manually annotated 36 times for cluster CA.

### **Gene Information:**

Gene: 20ES\_56 Start: 36646, Stop: 36464, Start Num: 38

Candidate Starts for 20ES\_56:

(15, 36766), (Start: 38 @36646 has 144 MA's), (48, 36634), (49, 36625), (Start: 50 @36613 has 1 MA's), (56, 36553), (57, 36550), (61, 36511),

Gene: 40AC\_54 Start: 37369, Stop: 37196, Start Num: 38

Candidate Starts for 40AC\_54:

(Start: 35 @37375 has 2 MA's), (Start: 38 @37369 has 144 MA's), (Start: 50 @37336 has 1 MA's), (56, 37276), (57, 37273),

Gene: A6\_44 Start: 34519, Stop: 34337, Start Num: 46

Candidate Starts for A6\_44:

(11, 34708), (20, 34609), (21, 34600), (Start: 46 @34519 has 310 MA's), (Start: 50 @34489 has 1 MA's), (51, 34474), (52, 34459), (60, 34390), (61, 34384),

Gene: ACFishhook\_54 Start: 36071, Stop: 35865, Start Num: 43

Candidate Starts for ACFishhook\_54:

(Start: 43 @36071 has 136 MA's), (Start: 50 @36032 has 1 MA's), (51, 36017), (56, 35969), (57, 35966), (60, 35933),

Gene: AFIS\_46 Start: 35317, Stop: 35132, Start Num: 46

Candidate Starts for AFIS\_46:

(11, 35506), (20, 35407), (21, 35398), (Start: 46 @35317 has 310 MA's), (Start: 50 @35287 has 1 MA's), (51, 35272), (52, 35257), (60, 35188),

Gene: AN9\_56 Start: 36359, Stop: 36174, Start Num: 39

Candidate Starts for AN9\_56:

(Start: 39 @36359 has 21 MA's), (Start: 50 @36326 has 1 MA's), (51, 36311), (52, 36296), (56, 36263), (62, 36212),

Gene: ANI8\_56 Start: 36359, Stop: 36174, Start Num: 39

Candidate Starts for ANI8\_56:

(Start: 39 @36359 has 21 MA's), (Start: 50 @36326 has 1 MA's), (51, 36311), (52, 36296), (56, 36263), (62, 36212),

Gene: AbbyPaige\_55 Start: 36577, Stop: 36395, Start Num: 38

Candidate Starts for AbbyPaige\_55:

(Start: 35 @36583 has 2 MA's), (Start: 38 @36577 has 144 MA's), (48, 36565), (Start: 50 @36544 has 1 MA's), (51, 36529), (52, 36514), (56, 36484),

Gene: Abbysshoes\_51 Start: 35959, Stop: 35777, Start Num: 46

Candidate Starts for Abbysshoes\_51:

(11, 36148), (20, 36049), (21, 36040), (Start: 35 @35983 has 2 MA's), (Start: 46 @35959 has 310 MA's), (Start: 50 @35929 has 1 MA's), (51, 35914), (52, 35899), (60, 35830), (61, 35824),

Gene: Abrogate\_470 Start: 35974, Stop: 35792, Start Num: 46

Candidate Starts for Abrogate\_470:

(11, 36163), (20, 36064), (21, 36055), (Start: 35 @35998 has 2 MA's), (Start: 46 @35974 has 310 MA's), (Start: 50 @35944 has 1 MA's), (51, 35929), (52, 35914), (60, 35845), (61, 35839),

Gene: Acme\_50 Start: 35836, Stop: 35654, Start Num: 46

Candidate Starts for Acme\_50:

(11, 36025), (20, 35926), (21, 35917), (Start: 35 @35860 has 2 MA's), (Start: 46 @35836 has 310 MA's), (Start: 50 @35806 has 1 MA's), (51, 35791), (52, 35776), (60, 35707), (61, 35701),

Gene: Acolyte\_48 Start: 35366, Stop: 35154, Start Num: 34

Candidate Starts for Acolyte\_48:

(Start: 34 @35366 has 1 MA's), (Start: 50 @35333 has 1 MA's), (51, 35318), (52, 35303), (56, 35270), (74, 35159),

Gene: Adahisdi\_48 Start: 35710, Stop: 35549, Start Num: 46

Candidate Starts for Adahisdi\_48:

(11, 35899), (20, 35800), (21, 35791), (Start: 35 @35734 has 2 MA's), (Start: 46 @35710 has 310 MA's), (Start: 50 @35680 has 1 MA's), (51, 35665), (52, 35650), (60, 35581),

Gene: Adzzy\_54 Start: 34885, Stop: 34676, Start Num: 39

Candidate Starts for Adzzy\_54:

(28, 34909), (Start: 39 @34885 has 21 MA's), (Start: 50 @34852 has 1 MA's), (51, 34837), (56, 34789), (70, 34693),

Gene: Aeneas\_50 Start: 35951, Stop: 35745, Start Num: 35

Candidate Starts for Aeneas\_50:

(11, 36116), (20, 36017), (21, 36008), (Start: 35 @35951 has 2 MA's), (Start: 46 @35927 has 310 MA's), (Start: 50 @35897 has 1 MA's), (51, 35882), (52, 35867), (60, 35798), (61, 35792),

Gene: Agaliana\_44 Start: 32574, Stop: 32392, Start Num: 46

Candidate Starts for Agaliana\_44:

(11, 32763), (20, 32664), (21, 32655), (Start: 46 @32574 has 310 MA's), (Start: 50 @32544 has 1 MA's), (51, 32529), (52, 32514), (60, 32445), (61, 32439),

Gene: Agape74\_55 Start: 36571, Stop: 36389, Start Num: 38

Candidate Starts for Agape74\_55:

(Start: 35 @36577 has 2 MA's), (Start: 38 @36571 has 144 MA's), (48, 36559), (Start: 50 @36538 has 1 MA's), (51, 36523), (52, 36508), (56, 36478),

Gene: AgentM\_43 Start: 34327, Stop: 34157, Start Num: 46

Candidate Starts for AgentM\_43:

(Start: 46 @34327 has 310 MA's), (Start: 50 @34294 has 1 MA's), (51, 34279), (53, 34261), (56, 34231), (57, 34228), (60, 34195),

Gene: Aglet\_56 Start: 36110, Stop: 35904, Start Num: 43

Candidate Starts for Aglet\_56:

(22, 36170), (Start: 43 @36110 has 136 MA's), (Start: 50 @36071 has 1 MA's), (51, 36056), (56, 36008),

Gene: AgronaGT15\_54 Start: 35958, Stop: 35752, Start Num: 43  
Candidate Starts for AgronaGT15\_54:  
(Start: 43 @35958 has 136 MA's), (Start: 50 @35919 has 1 MA's), (51, 35904), (56, 35856), (57, 35853), (60, 35820),

Gene: Airmid\_46 Start: 34489, Stop: 34319, Start Num: 46  
Candidate Starts for Airmid\_46:  
(Start: 46 @34489 has 310 MA's), (Start: 50 @34456 has 1 MA's), (51, 34441), (53, 34423), (56, 34393), (57, 34390), (60, 34357), (64, 34324),

Gene: Ajay\_50 Start: 36028, Stop: 35867, Start Num: 46  
Candidate Starts for Ajay\_50:  
(11, 36217), (20, 36118), (21, 36109), (Start: 35 @36052 has 2 MA's), (Start: 46 @36028 has 310 MA's), (Start: 50 @35998 has 1 MA's), (51, 35983), (52, 35968), (60, 35899),

Gene: Alatin\_41 Start: 32306, Stop: 32151, Start Num: 46  
Candidate Starts for Alatin\_41:  
(Start: 46 @32306 has 310 MA's), (51, 32258), (54, 32231), (60, 32174),

Gene: Aliter\_53 Start: 36036, Stop: 35773, Start Num: 43  
Candidate Starts for Aliter\_53:  
(Start: 43 @36036 has 136 MA's), (Start: 50 @35997 has 1 MA's), (51, 35982), (56, 35934), (60, 35898), (72, 35829), (77, 35811),

Gene: Alma\_53 Start: 36216, Stop: 35953, Start Num: 43  
Candidate Starts for Alma\_53:  
(Start: 43 @36216 has 136 MA's), (Start: 50 @36177 has 1 MA's), (51, 36162), (56, 36114), (60, 36078), (77, 35991),

Gene: Alpacados\_41 Start: 32211, Stop: 32056, Start Num: 46  
Candidate Starts for Alpacados\_41:  
(Start: 46 @32211 has 310 MA's), (51, 32163), (54, 32136), (60, 32079),

Gene: Alsfro\_52 Start: 36034, Stop: 35852, Start Num: 46  
Candidate Starts for Alsfro\_52:  
(11, 36223), (20, 36124), (21, 36115), (Start: 46 @36034 has 310 MA's), (Start: 50 @36004 has 1 MA's), (51, 35989), (52, 35974), (60, 35905), (61, 35899),

Gene: Altman\_51 Start: 36632, Stop: 36450, Start Num: 46  
Candidate Starts for Altman\_51:  
(11, 36821), (20, 36722), (21, 36713), (Start: 35 @36656 has 2 MA's), (Start: 46 @36632 has 310 MA's), (Start: 50 @36602 has 1 MA's), (51, 36587), (52, 36572), (60, 36503),

Gene: Alvin\_48 Start: 36286, Stop: 36104, Start Num: 46  
Candidate Starts for Alvin\_48:  
(11, 36475), (20, 36376), (21, 36367), (Start: 35 @36310 has 2 MA's), (Start: 46 @36286 has 310 MA's), (Start: 50 @36256 has 1 MA's), (51, 36241), (52, 36226), (60, 36157), (61, 36151),

Gene: Anaysia\_58 Start: 35351, Stop: 35169, Start Num: 38  
Candidate Starts for Anaysia\_58:  
(Start: 38 @35351 has 144 MA's), (Start: 50 @35318 has 1 MA's), (56, 35255), (57, 35252), (60, 35219), (62, 35204),

Gene: Aneem\_53 Start: 35524, Stop: 35300, Start Num: 36  
Candidate Starts for Aneem\_53:  
(Start: 36 @35524 has 24 MA's), (48, 35506), (56, 35425), (57, 35422), (60, 35389), (70, 35329), (73, 35320),

Gene: Anglerfish\_50 Start: 36182, Stop: 36000, Start Num: 46  
Candidate Starts for Anglerfish\_50:  
(11, 36371), (20, 36272), (21, 36263), (Start: 46 @36182 has 310 MA's), (Start: 50 @36152 has 1 MA's), (51, 36137), (52, 36122), (60, 36053),

Gene: AngryOrchard\_40 Start: 32104, Stop: 31949, Start Num: 46  
Candidate Starts for AngryOrchard\_40:  
(Start: 46 @32104 has 310 MA's), (51, 32056), (54, 32029), (60, 31972),

Gene: AnnaL29\_55 Start: 37135, Stop: 36944, Start Num: 38  
Candidate Starts for AnnaL29\_55:  
(Start: 38 @37135 has 144 MA's), (Start: 46 @37126 has 310 MA's), (48, 37117), (Start: 50 @37096 has 1 MA's), (51, 37081), (56, 37033), (60, 36997), (61, 36991),

Gene: Anon\_55 Start: 34751, Stop: 34566, Start Num: 44  
Candidate Starts for Anon\_55:  
(Start: 44 @34751 has 1 MA's), (47, 34742), (Start: 50 @34718 has 1 MA's), (56, 34655), (57, 34652), (60, 34619), (68, 34574),

Gene: Anselm\_54 Start: 36496, Stop: 36317, Start Num: 38  
Candidate Starts for Anselm\_54:  
(Start: 35 @36502 has 2 MA's), (Start: 38 @36496 has 144 MA's), (48, 36484), (Start: 50 @36463 has 1 MA's), (51, 36448), (52, 36433), (56, 36403), (60, 36367),

Gene: Anthony\_48 Start: 33785, Stop: 33615, Start Num: 46  
Candidate Starts for Anthony\_48:  
(Start: 46 @33785 has 310 MA's), (Start: 50 @33752 has 1 MA's), (51, 33737), (56, 33689), (58, 33683), (60, 33653), (63, 33632),

Gene: Anubis\_58 Start: 35996, Stop: 35790, Start Num: 43  
Candidate Starts for Anubis\_58:  
(Start: 43 @35996 has 136 MA's), (Start: 50 @35957 has 1 MA's), (51, 35942), (56, 35894),

Gene: AppleCloud\_39 Start: 32036, Stop: 31881, Start Num: 46  
Candidate Starts for AppleCloud\_39:  
(Start: 46 @32036 has 310 MA's), (51, 31988), (54, 31961), (60, 31904),

Gene: Applejack\_43 Start: 32196, Stop: 32014, Start Num: 46  
Candidate Starts for Applejack\_43:  
(11, 32385), (20, 32286), (21, 32277), (Start: 35 @32220 has 2 MA's), (Start: 46 @32196 has 310 MA's), (Start: 50 @32166 has 1 MA's), (51, 32151), (52, 32136), (60, 32067), (61, 32061),

Gene: Aragog\_43 Start: 34347, Stop: 34177, Start Num: 46  
Candidate Starts for Aragog\_43:  
(Start: 46 @34347 has 310 MA's), (Start: 50 @34314 has 1 MA's), (51, 34299), (53, 34281), (56, 34251), (57, 34248), (60, 34215),

Gene: Arcanine\_49 Start: 35506, Stop: 35324, Start Num: 46

Candidate Starts for Arcanine\_49:

(11, 35695), (20, 35596), (21, 35587), (Start: 35 @35530 has 2 MA's), (Start: 46 @35506 has 310 MA's), (Start: 50 @35476 has 1 MA's), (51, 35461), (52, 35446), (60, 35377), (61, 35371),

Gene: ArcherNM\_48 Start: 36088, Stop: 35906, Start Num: 38

Candidate Starts for ArcherNM\_48:

(18, 36184), (Start: 38 @36088 has 144 MA's), (48, 36070), (Start: 50 @36049 has 1 MA's), (51, 36034), (52, 36019), (56, 35989), (57, 35986), (60, 35953),

Gene: Archetta\_44 Start: 34937, Stop: 34767, Start Num: 46

Candidate Starts for Archetta\_44:

(Start: 46 @34937 has 310 MA's), (Start: 50 @34904 has 1 MA's), (51, 34889), (53, 34871), (56, 34841), (57, 34838), (60, 34805),

Gene: Arissanae\_52 Start: 36731, Stop: 36477, Start Num: 43

Candidate Starts for Arissanae\_52:

(Start: 43 @36731 has 136 MA's), (47, 36722), (56, 36638), (60, 36602), (66, 36563), (77, 36515),

Gene: Arlo\_46 Start: 35163, Stop: 34981, Start Num: 46

Candidate Starts for Arlo\_46:

(11, 35352), (20, 35253), (21, 35244), (Start: 35 @35187 has 2 MA's), (Start: 46 @35163 has 310 MA's), (Start: 50 @35133 has 1 MA's), (51, 35118), (52, 35103), (60, 35034), (61, 35028),

Gene: Artemis2UCLA\_55 Start: 35089, Stop: 34907, Start Num: 38

Candidate Starts for Artemis2UCLA\_55:

(Start: 38 @35089 has 144 MA's), (51, 35041), (54, 35014), (56, 34993), (60, 34957),

Gene: Ashballer\_50 Start: 36659, Stop: 36477, Start Num: 46

Candidate Starts for Ashballer\_50:

(11, 36848), (20, 36749), (21, 36740), (Start: 46 @36659 has 310 MA's), (Start: 50 @36629 has 1 MA's), (51, 36614), (52, 36599), (60, 36530), (61, 36524),

Gene: Astro\_49 Start: 34301, Stop: 34140, Start Num: 46

Candidate Starts for Astro\_49:

(Start: 46 @34301 has 310 MA's), (Start: 50 @34268 has 1 MA's), (53, 34235), (56, 34205), (60, 34169),

Gene: Atkinbua\_51 Start: 36286, Stop: 36080, Start Num: 46

Candidate Starts for Atkinbua\_51:

(11, 36475), (20, 36376), (21, 36367), (Start: 46 @36286 has 310 MA's), (Start: 50 @36256 has 1 MA's), (51, 36241), (52, 36226), (60, 36157), (61, 36151),

Gene: AugsMagnumOpus\_58 Start: 36101, Stop: 35895, Start Num: 43

Candidate Starts for AugsMagnumOpus\_58:

(22, 36161), (Start: 43 @36101 has 136 MA's), (Start: 50 @36062 has 1 MA's), (51, 36047), (56, 35999),

Gene: B1\_47 Start: 34107, Stop: 33910, Start Num: 43

Candidate Starts for B1\_47:

(Start: 43 @34107 has 136 MA's), (Start: 50 @34068 has 1 MA's), (55, 34014), (60, 33969), (67, 33927),

Gene: BABullseye\_48 Start: 32671, Stop: 32489, Start Num: 38

Candidate Starts for BABullseye\_48:

(Start: 38 @32671 has 144 MA's), (51, 32623), (53, 32605), (56, 32575), (60, 32539),

Gene: BK1\_44 Start: 34519, Stop: 34337, Start Num: 46

Candidate Starts for BK1\_44:

(11, 34708), (20, 34609), (21, 34600), (Start: 46 @34519 has 310 MA's), (Start: 50 @34489 has 1 MA's), (51, 34474), (52, 34459), (60, 34390), (61, 34384),

Gene: BPBiebs31\_49 Start: 35878, Stop: 35696, Start Num: 46

Candidate Starts for BPBiebs31\_49:

(11, 36067), (20, 35968), (21, 35959), (Start: 46 @35878 has 310 MA's), (Start: 50 @35848 has 1 MA's), (51, 35833), (52, 35818), (60, 35749), (61, 35743),

Gene: BabyBack\_52 Start: 36801, Stop: 36625, Start Num: 38

Candidate Starts for BabyBack\_52:

(Start: 38 @36801 has 144 MA's), (48, 36792), (Start: 50 @36771 has 1 MA's), (51, 36756), (52, 36741), (56, 36711), (57, 36708), (60, 36675),

Gene: BabyJohn\_50 Start: 35931, Stop: 35734, Start Num: 43

Candidate Starts for BabyJohn\_50:

(Start: 43 @35931 has 136 MA's), (Start: 50 @35892 has 1 MA's), (57, 35826), (60, 35793), (67, 35751),

Gene: BabyRay\_52 Start: 35904, Stop: 35707, Start Num: 43

Candidate Starts for BabyRay\_52:

(Start: 43 @35904 has 136 MA's), (Start: 50 @35865 has 1 MA's), (56, 35802), (60, 35766), (67, 35724),

Gene: Bachome\_54 Start: 35504, Stop: 35280, Start Num: 36

Candidate Starts for Bachome\_54:

(Start: 36 @35504 has 24 MA's), (48, 35486), (56, 35405), (57, 35402), (60, 35369), (70, 35309), (73, 35300),

Gene: BaconJack\_51 Start: 36586, Stop: 36401, Start Num: 46

Candidate Starts for BaconJack\_51:

(11, 36775), (20, 36676), (21, 36667), (Start: 46 @36586 has 310 MA's), (Start: 50 @36556 has 1 MA's), (51, 36541), (52, 36526), (60, 36457),

Gene: Bactobuster\_52 Start: 37040, Stop: 36867, Start Num: 38

Candidate Starts for Bactobuster\_52:

(18, 37136), (Start: 38 @37040 has 144 MA's), (Start: 41 @37037 has 1 MA's), (48, 37028), (51, 36995), (56, 36947), (57, 36944), (60, 36911),

Gene: Baehexic\_52 Start: 36255, Stop: 36073, Start Num: 38

Candidate Starts for Baehexic\_52:

(Start: 38 @36255 has 144 MA's), (Start: 50 @36222 has 1 MA's), (51, 36207), (56, 36162), (57, 36159), (60, 36126),

Gene: Barriga\_49 Start: 35424, Stop: 35239, Start Num: 46

Candidate Starts for Barriga\_49:

(11, 35613), (20, 35514), (21, 35505), (Start: 35 @35448 has 2 MA's), (Start: 46 @35424 has 310 MA's), (Start: 50 @35394 has 1 MA's), (51, 35379), (52, 35364), (60, 35295),

Gene: Battleship\_60 Start: 35557, Stop: 35375, Start Num: 38

Candidate Starts for Battleship\_60:

(Start: 38 @35557 has 144 MA's), (Start: 50 @35524 has 1 MA's), (56, 35461), (57, 35458), (60, 35425),

Gene: Beatrix\_48 Start: 37134, Stop: 36952, Start Num: 46

Candidate Starts for Beatrix\_48:

(11, 37323), (20, 37224), (21, 37215), (Start: 35 @37158 has 2 MA's), (Start: 46 @37134 has 310 MA's), (Start: 50 @37104 has 1 MA's), (51, 37089), (52, 37074), (60, 37005), (61, 36999),

Gene: Beauxregard13\_55 Start: 36113, Stop: 35907, Start Num: 43

Candidate Starts for Beauxregard13\_55:

(22, 36173), (Start: 43 @36113 has 136 MA's), (Start: 50 @36074 has 1 MA's), (51, 36059), (56, 36011),

Gene: Beemo\_53 Start: 36206, Stop: 35943, Start Num: 43

Candidate Starts for Beemo\_53:

(Start: 43 @36206 has 136 MA's), (Start: 50 @36167 has 1 MA's), (51, 36152), (56, 36104), (57, 36101), (60, 36068), (72, 35999), (77, 35981),

Gene: BeesKnees\_50 Start: 35994, Stop: 35788, Start Num: 46

Candidate Starts for BeesKnees\_50:

(11, 36183), (20, 36084), (21, 36075), (Start: 46 @35994 has 310 MA's), (Start: 50 @35964 has 1 MA's), (51, 35949), (52, 35934), (60, 35865), (61, 35859),

Gene: Belenaria\_42 Start: 32172, Stop: 32017, Start Num: 46

Candidate Starts for Belenaria\_42:

(Start: 46 @32172 has 310 MA's), (51, 32124), (54, 32097), (60, 32040),

Gene: Benedict\_48 Start: 34716, Stop: 34546, Start Num: 46

Candidate Starts for Benedict\_48:

(Start: 46 @34716 has 310 MA's), (Start: 50 @34683 has 1 MA's), (51, 34668), (53, 34650), (56, 34620), (57, 34617), (60, 34584), (63, 34563),

Gene: BengiVuitton\_55 Start: 36614, Stop: 36432, Start Num: 38

Candidate Starts for BengiVuitton\_55:

(15, 36734), (Start: 38 @36614 has 144 MA's), (48, 36602), (49, 36593), (Start: 50 @36581 has 1 MA's), (51, 36566), (56, 36521), (57, 36518), (61, 36479),

Gene: Benvolio\_50 Start: 35521, Stop: 35342, Start Num: 38

Candidate Starts for Benvolio\_50:

(Start: 38 @35521 has 144 MA's), (Start: 50 @35488 has 1 MA's), (51, 35473), (52, 35458), (56, 35428), (60, 35392),

Gene: Bethlehem\_49 Start: 36651, Stop: 36469, Start Num: 46

Candidate Starts for Bethlehem\_49:

(11, 36840), (20, 36741), (21, 36732), (Start: 46 @36651 has 310 MA's), (Start: 50 @36621 has 1 MA's), (51, 36606), (52, 36591), (60, 36522),

Gene: Bexan\_47 Start: 36812, Stop: 36630, Start Num: 46

Candidate Starts for Bexan\_47:

(11, 37001), (20, 36902), (21, 36893), (Start: 35 @36836 has 2 MA's), (Start: 46 @36812 has 310 MA's), (Start: 50 @36782 has 1 MA's), (51, 36767), (52, 36752), (60, 36683), (61, 36677),

Gene: BiancaTri92\_53 Start: 36904, Stop: 36722, Start Num: 38

Candidate Starts for BiancaTri92\_53:

(30, 36919), (Start: 38 @36904 has 144 MA's), (Start: 50 @36871 has 1 MA's), (51, 36856), (54, 36829), (56, 36811), (57, 36808), (60, 36775),

Gene: Big3\_48 Start: 36051, Stop: 35893, Start Num: 46

Candidate Starts for Big3\_48:

(11, 36240), (20, 36141), (21, 36132), (Start: 35 @36075 has 2 MA's), (Start: 46 @36051 has 310 MA's), (Start: 50 @36021 has 1 MA's), (51, 36006), (52, 35991), (60, 35922),

Gene: BigMau\_49 Start: 35393, Stop: 35211, Start Num: 46

Candidate Starts for BigMau\_49:

(11, 35582), (20, 35483), (21, 35474), (Start: 35 @35417 has 2 MA's), (Start: 46 @35393 has 310 MA's), (Start: 50 @35363 has 1 MA's), (51, 35348), (52, 35333), (60, 35264), (61, 35258),

Gene: BigPaolini\_48 Start: 34576, Stop: 34394, Start Num: 46

Candidate Starts for BigPaolini\_48:

(11, 34765), (20, 34666), (21, 34657), (Start: 46 @34576 has 310 MA's), (Start: 50 @34546 has 1 MA's), (51, 34531), (52, 34516), (60, 34447), (61, 34441),

Gene: Bigfoot\_44 Start: 34797, Stop: 34615, Start Num: 46

Candidate Starts for Bigfoot\_44:

(11, 34986), (20, 34887), (21, 34878), (Start: 35 @34821 has 2 MA's), (Start: 46 @34797 has 310 MA's), (Start: 50 @34767 has 1 MA's), (51, 34752), (52, 34737), (60, 34668), (61, 34662),

Gene: BillKnuckles\_49 Start: 36703, Stop: 36521, Start Num: 46

Candidate Starts for BillKnuckles\_49:

(11, 36892), (20, 36793), (21, 36784), (Start: 35 @36727 has 2 MA's), (Start: 46 @36703 has 310 MA's), (Start: 50 @36673 has 1 MA's), (51, 36658), (52, 36643), (60, 36574),

Gene: Bircsak\_47 Start: 36150, Stop: 35968, Start Num: 46

Candidate Starts for Bircsak\_47:

(11, 36339), (20, 36240), (21, 36231), (Start: 46 @36150 has 310 MA's), (Start: 50 @36120 has 1 MA's), (51, 36105), (52, 36090), (60, 36021), (61, 36015),

Gene: Blinn1\_57 Start: 35107, Stop: 34925, Start Num: 38

Candidate Starts for Blinn1\_57:

(Start: 38 @35107 has 144 MA's), (51, 35059), (56, 35011), (60, 34975),

Gene: BluSpix\_47 Start: 32362, Stop: 32180, Start Num: 46

Candidate Starts for BluSpix\_47:

(11, 32551), (20, 32452), (21, 32443), (Start: 35 @32386 has 2 MA's), (Start: 46 @32362 has 310 MA's), (Start: 50 @32332 has 1 MA's), (51, 32317), (52, 32302), (60, 32233),

Gene: Blue\_48 Start: 36063, Stop: 35878, Start Num: 46

Candidate Starts for Blue\_48:

(11, 36252), (20, 36153), (21, 36144), (Start: 46 @36063 has 310 MA's), (Start: 50 @36033 has 1 MA's), (51, 36018), (52, 36003), (60, 35934),

Gene: Blue7\_56 Start: 35159, Stop: 34977, Start Num: 38

Candidate Starts for Blue7\_56:

(Start: 38 @35159 has 144 MA's), (51, 35111), (54, 35084), (56, 35063), (60, 35027),



Gene: BlueBird\_54 Start: 35963, Stop: 35766, Start Num: 43

Candidate Starts for BlueBird\_54:

(Start: 43 @35963 has 136 MA's), (Start: 50 @35924 has 1 MA's), (56, 35861), (60, 35825), (67, 35783),

Gene: Bluefalcon\_43 Start: 34902, Stop: 34732, Start Num: 46

Candidate Starts for Bluefalcon\_43:

(Start: 46 @34902 has 310 MA's), (Start: 50 @34869 has 1 MA's), (51, 34854), (53, 34836), (56, 34806), (60, 34770),

Gene: Bob3\_46 Start: 34743, Stop: 34561, Start Num: 46

Candidate Starts for Bob3\_46:

(11, 34932), (20, 34833), (21, 34824), (Start: 35 @34767 has 2 MA's), (Start: 46 @34743 has 310 MA's), (Start: 50 @34713 has 1 MA's), (51, 34698), (52, 34683), (60, 34614), (61, 34608),

Gene: BobSwaget\_49 Start: 34927, Stop: 34745, Start Num: 38

Candidate Starts for BobSwaget\_49:

(15, 35047), (Start: 38 @34927 has 144 MA's), (48, 34915), (Start: 50 @34894 has 1 MA's), (51, 34879), (52, 34864), (56, 34834), (57, 34831),

Gene: BobbyDazzler\_42 Start: 32285, Stop: 32130, Start Num: 46

Candidate Starts for BobbyDazzler\_42:

(Start: 46 @32285 has 310 MA's), (51, 32237), (54, 32210), (60, 32153),

Gene: BogosyJay\_52 Start: 35921, Stop: 35658, Start Num: 43

Candidate Starts for BogosyJay\_52:

(Start: 43 @35921 has 136 MA's), (Start: 50 @35882 has 1 MA's), (51, 35867), (56, 35819), (72, 35714), (77, 35696),

Gene: Bonamassa\_45 Start: 34926, Stop: 34756, Start Num: 46

Candidate Starts for Bonamassa\_45:

(Start: 46 @34926 has 310 MA's), (Start: 50 @34893 has 1 MA's), (51, 34878), (53, 34860), (56, 34830), (57, 34827), (60, 34794),

Gene: Bonanza\_42 Start: 32213, Stop: 32058, Start Num: 46

Candidate Starts for Bonanza\_42:

(Start: 46 @32213 has 310 MA's), (51, 32165), (54, 32138), (60, 32081),

Gene: Bones\_49 Start: 36439, Stop: 36233, Start Num: 46

Candidate Starts for Bones\_49:

(11, 36628), (20, 36529), (21, 36520), (Start: 35 @36463 has 2 MA's), (Start: 46 @36439 has 310 MA's), (Start: 50 @36409 has 1 MA's), (51, 36394), (52, 36379), (60, 36310), (61, 36304),

Gene: Boohoo\_58 Start: 35351, Stop: 35169, Start Num: 38

Candidate Starts for Boohoo\_58:

(Start: 38 @35351 has 144 MA's), (Start: 50 @35318 has 1 MA's), (56, 35255), (57, 35252), (60, 35219), (62, 35204),

Gene: Bowtie\_53 Start: 35531, Stop: 35307, Start Num: 36

Candidate Starts for Bowtie\_53:

(Start: 36 @35531 has 24 MA's), (48, 35513), (56, 35432), (57, 35429), (60, 35396), (70, 35336), (73, 35327),

Gene: Bradman\_52 Start: 35098, Stop: 34913, Start Num: 39  
Candidate Starts for Bradman\_52:  
(Start: 39 @35098 has 21 MA's), (Start: 50 @35065 has 1 MA's), (52, 35035), (56, 35002),

Gene: Bradshaw\_42 Start: 32239, Stop: 32084, Start Num: 46  
Candidate Starts for Bradshaw\_42:  
(Start: 46 @32239 has 310 MA's), (51, 32191), (54, 32164), (60, 32107),

Gene: BreSam8\_55 Start: 36103, Stop: 35897, Start Num: 43  
Candidate Starts for BreSam8\_55:  
(22, 36163), (Start: 43 @36103 has 136 MA's), (Start: 50 @36064 has 1 MA's), (51, 36049), (56, 36001),

Gene: Briton15\_51 Start: 36220, Stop: 36014, Start Num: 46  
Candidate Starts for Briton15\_51:  
(11, 36409), (20, 36310), (21, 36301), (Start: 35 @36244 has 2 MA's), (Start: 46 @36220 has 310 MA's), (Start: 50 @36190 has 1 MA's), (51, 36175), (52, 36160), (60, 36091), (61, 36085),

Gene: Bruns\_47 Start: 35355, Stop: 35173, Start Num: 46  
Candidate Starts for Bruns\_47:  
(11, 35544), (20, 35445), (21, 35436), (Start: 46 @35355 has 310 MA's), (Start: 50 @35325 has 1 MA's), (51, 35310), (52, 35295), (60, 35226), (61, 35220),

Gene: Bryce\_41 Start: 31993, Stop: 31838, Start Num: 46  
Candidate Starts for Bryce\_41:  
(Start: 46 @31993 has 310 MA's), (51, 31945), (54, 31918), (60, 31861),

Gene: Bud\_52 Start: 35078, Stop: 34854, Start Num: 36  
Candidate Starts for Bud\_52:  
(Start: 36 @35078 has 24 MA's), (48, 35060), (56, 34979), (57, 34976), (60, 34943), (70, 34883), (73, 34874),

Gene: Bugatti\_53 Start: 35963, Stop: 35766, Start Num: 43  
Candidate Starts for Bugatti\_53:  
(Start: 43 @35963 has 136 MA's), (Start: 50 @35924 has 1 MA's), (56, 35861), (60, 35825), (67, 35783),

Gene: Buggy\_55 Start: 36628, Stop: 36446, Start Num: 38  
Candidate Starts for Buggy\_55:  
(Start: 35 @36634 has 2 MA's), (Start: 38 @36628 has 144 MA's), (48, 36616), (Start: 50 @36595 has 1 MA's), (51, 36580), (52, 36565), (56, 36535),

Gene: Burton\_48 Start: 35291, Stop: 35106, Start Num: 46  
Candidate Starts for Burton\_48:  
(11, 35480), (20, 35381), (21, 35372), (Start: 46 @35291 has 310 MA's), (Start: 50 @35261 has 1 MA's), (51, 35246), (52, 35231), (60, 35162),

Gene: Buttons\_47 Start: 34285, Stop: 34124, Start Num: 46  
Candidate Starts for Buttons\_47:  
(11, 34474), (20, 34375), (21, 34366), (Start: 35 @34309 has 2 MA's), (Start: 46 @34285 has 310 MA's), (Start: 50 @34255 has 1 MA's), (51, 34240), (52, 34225), (60, 34156),

Gene: BuzzBuzz\_53 Start: 36137, Stop: 35931, Start Num: 43

Candidate Starts for BuzzBuzz\_53:

(Start: 43 @36137 has 136 MA's), (Start: 50 @36098 has 1 MA's), (51, 36083), (56, 36035), (57, 36032), (60, 35999),

Gene: Bxb1\_44 Start: 35100, Stop: 34918, Start Num: 46

Candidate Starts for Bxb1\_44:

(11, 35289), (20, 35190), (21, 35181), (Start: 46 @35100 has 310 MA's), (Start: 50 @35070 has 1 MA's), (51, 35055), (52, 35040), (60, 34971), (61, 34965),

Gene: Bxz2\_51 Start: 36144, Stop: 35938, Start Num: 43

Candidate Starts for Bxz2\_51:

(Start: 43 @36144 has 136 MA's), (Start: 50 @36105 has 1 MA's), (51, 36090), (56, 36042), (57, 36039), (60, 36006),

Gene: C3\_51 Start: 36359, Stop: 36174, Start Num: 39

Candidate Starts for C3\_51:

(Start: 39 @36359 has 21 MA's), (Start: 50 @36326 has 1 MA's), (51, 36311), (52, 36296), (56, 36263), (62, 36212),

Gene: CRB1\_57 Start: 36989, Stop: 36807, Start Num: 38

Candidate Starts for CRB1\_57:

(15, 37109), (Start: 38 @36989 has 144 MA's), (48, 36977), (Start: 50 @36956 has 1 MA's), (56, 36896), (57, 36893), (61, 36854),

Gene: CactusRose\_46 Start: 35292, Stop: 35086, Start Num: 46

Candidate Starts for CactusRose\_46:

(11, 35481), (20, 35382), (21, 35373), (Start: 46 @35292 has 310 MA's), (Start: 50 @35262 has 1 MA's), (51, 35247), (52, 35232), (60, 35163), (61, 35157),

Gene: Candra\_54 Start: 35029, Stop: 34847, Start Num: 38

Candidate Starts for Candra\_54:

(Start: 38 @35029 has 144 MA's), (51, 34981), (53, 34963), (56, 34933), (60, 34897),

Gene: Caraxes\_53 Start: 34594, Stop: 34385, Start Num: 39

Candidate Starts for Caraxes\_53:

(27, 34633), (30, 34609), (Start: 39 @34594 has 21 MA's), (Start: 50 @34561 has 1 MA's), (51, 34546), (56, 34498), (74, 34390),

Gene: Carlyle\_47 Start: 33789, Stop: 33604, Start Num: 46

Candidate Starts for Carlyle\_47:

(20, 33879), (21, 33870), (Start: 46 @33789 has 310 MA's), (Start: 50 @33759 has 1 MA's), (51, 33744), (52, 33729), (60, 33660),

Gene: Catalina\_54 Start: 36109, Stop: 35846, Start Num: 43

Candidate Starts for Catalina\_54:

(Start: 43 @36109 has 136 MA's), (Start: 50 @36070 has 1 MA's), (51, 36055), (56, 36007), (60, 35971), (72, 35902), (77, 35884),

Gene: Caviar\_51 Start: 35913, Stop: 35707, Start Num: 40

Candidate Starts for Caviar\_51:

(Start: 37 @35916 has 2 MA's), (Start: 40 @35913 has 12 MA's), (48, 35895), (Start: 50 @35874 has 1 MA's), (56, 35811), (60, 35775),

Gene: Centaur\_54 Start: 36472, Stop: 36290, Start Num: 38

Candidate Starts for Centaur\_54:

(Start: 38 @36472 has 144 MA's), (Start: 50 @36439 has 1 MA's), (51, 36424), (56, 36379), (57, 36376), (60, 36343),

Gene: Chadwick\_48 Start: 34527, Stop: 34357, Start Num: 46

Candidate Starts for Chadwick\_48:

(Start: 46 @34527 has 310 MA's), (Start: 50 @34494 has 1 MA's), (51, 34479), (53, 34461), (56, 34431), (59, 34398), (60, 34395),

Gene: Chanagan\_45 Start: 34592, Stop: 34410, Start Num: 46

Candidate Starts for Chanagan\_45:

(20, 34682), (21, 34673), (Start: 35 @34616 has 2 MA's), (Start: 46 @34592 has 310 MA's), (Start: 50 @34562 has 1 MA's), (51, 34547), (52, 34532), (60, 34463), (61, 34457),

Gene: Changeling\_52 Start: 36683, Stop: 36501, Start Num: 38

Candidate Starts for Changeling\_52:

(18, 36779), (Start: 38 @36683 has 144 MA's), (48, 36665), (Start: 50 @36644 has 1 MA's), (51, 36629), (52, 36614), (56, 36584), (57, 36581), (60, 36548),

Gene: Chargerpower\_51 Start: 34850, Stop: 34668, Start Num: 38

Candidate Starts for Chargerpower\_51:

(29, 34871), (32, 34862), (Start: 38 @34850 has 144 MA's), (48, 34838), (Start: 50 @34817 has 1 MA's), (51, 34802), (52, 34787), (56, 34754), (57, 34751), (60, 34718),

Gene: Charm\_51 Start: 35781, Stop: 35542, Start Num: 43

Candidate Starts for Charm\_51:

(17, 35892), (Start: 43 @35781 has 136 MA's), (47, 35772), (51, 35736), (52, 35721), (56, 35688), (70, 35592), (76, 35568),

Gene: Chartreuse\_53 Start: 34389, Stop: 34207, Start Num: 38

Candidate Starts for Chartreuse\_53:

(Start: 38 @34389 has 144 MA's), (51, 34341), (53, 34323), (56, 34293), (60, 34257),

Gene: Che12\_54 Start: 35026, Stop: 34817, Start Num: 39

Candidate Starts for Che12\_54:

(28, 35050), (Start: 39 @35026 has 21 MA's), (Start: 50 @34993 has 1 MA's), (51, 34978), (56, 34930), (70, 34834),

Gene: ChipMunk\_55 Start: 37846, Stop: 37664, Start Num: 38

Candidate Starts for ChipMunk\_55:

(Start: 35 @37852 has 2 MA's), (Start: 38 @37846 has 144 MA's), (48, 37834), (Start: 50 @37813 has 1 MA's), (51, 37798), (54, 37771), (56, 37753), (57, 37750), (60, 37717),

Gene: Chiqui\_50 Start: 35940, Stop: 35743, Start Num: 43

Candidate Starts for Chiqui\_50:

(Start: 43 @35940 has 136 MA's), (Start: 50 @35901 has 1 MA's), (57, 35835), (60, 35802), (67, 35760),

Gene: Chupacabra\_49 Start: 35379, Stop: 35179, Start Num: 46

Candidate Starts for Chupacabra\_49:

(7, 35589), (Start: 46 @35379 has 310 MA's), (Start: 50 @35346 has 1 MA's), (51, 35331), (56, 35283), (60, 35247),

Gene: Ciao\_48 Start: 35743, Stop: 35561, Start Num: 46

Candidate Starts for Ciao\_48:

(11, 35932), (20, 35833), (21, 35824), (Start: 46 @35743 has 310 MA's), (Start: 50 @35713 has 1 MA's), (51, 35698), (52, 35683), (60, 35614), (61, 35608),

Gene: CloudWang3\_55 Start: 35177, Stop: 34995, Start Num: 38

Candidate Starts for CloudWang3\_55:

(Start: 38 @35177 has 144 MA's), (51, 35129), (54, 35102), (56, 35081), (60, 35045),

Gene: Colbster\_55 Start: 36113, Stop: 35907, Start Num: 43

Candidate Starts for Colbster\_55:

(22, 36173), (Start: 43 @36113 has 136 MA's), (Start: 50 @36074 has 1 MA's), (51, 36059), (56, 36011),

Gene: Colin\_53 Start: 36470, Stop: 36291, Start Num: 38

Candidate Starts for Colin\_53:

(Start: 38 @36470 has 144 MA's), (48, 36452), (Start: 50 @36431 has 1 MA's), (52, 36401), (56, 36371),

Gene: Conceptll\_50 Start: 36435, Stop: 36253, Start Num: 46

Candidate Starts for Conceptll\_50:

(11, 36624), (20, 36525), (21, 36516), (Start: 35 @36459 has 2 MA's), (Start: 46 @36435 has 310 MA's), (Start: 50 @36405 has 1 MA's), (51, 36390), (52, 36375), (60, 36306), (61, 36300),

Gene: Conquerage\_53 Start: 36180, Stop: 35917, Start Num: 43

Candidate Starts for Conquerage\_53:

(Start: 43 @36180 has 136 MA's), (Start: 50 @36141 has 1 MA's), (51, 36126), (56, 36078), (60, 36042), (72, 35973), (77, 35955),

Gene: Conspiracy\_44 Start: 34569, Stop: 34399, Start Num: 46

Candidate Starts for Conspiracy\_44:

(Start: 46 @34569 has 310 MA's), (Start: 50 @34536 has 1 MA's), (51, 34521), (53, 34503), (56, 34473), (57, 34470), (60, 34437),

Gene: Coog\_44 Start: 34730, Stop: 34560, Start Num: 46

Candidate Starts for Coog\_44:

(Start: 46 @34730 has 310 MA's), (Start: 50 @34697 has 1 MA's), (51, 34682), (53, 34664), (56, 34634), (60, 34598),

Gene: Cookiedough\_54 Start: 35008, Stop: 34826, Start Num: 38

Candidate Starts for Cookiedough\_54:

(Start: 38 @35008 has 144 MA's), (51, 34960), (53, 34942), (56, 34912), (60, 34876),

Gene: Corvo\_49 Start: 36295, Stop: 36113, Start Num: 46

Candidate Starts for Corvo\_49:

(11, 36484), (20, 36385), (21, 36376), (Start: 46 @36295 has 310 MA's), (Start: 50 @36265 has 1 MA's), (51, 36250), (52, 36235), (60, 36166), (61, 36160),

Gene: CosmicSans\_42 Start: 32239, Stop: 32084, Start Num: 46

Candidate Starts for CosmicSans\_42:

(Start: 46 @32239 has 310 MA's), (51, 32191), (54, 32164), (60, 32107),

Gene: Crispicous1\_46 Start: 34918, Stop: 34736, Start Num: 46

Candidate Starts for Crispicous1\_46:

(11, 35107), (20, 35008), (21, 34999), (Start: 46 @34918 has 310 MA's), (Start: 50 @34888 has 1 MA's), (51, 34873), (52, 34858), (60, 34789), (61, 34783),

Gene: Crucio\_53 Start: 36071, Stop: 35898, Start Num: 38

Candidate Starts for Crucio\_53:

(Start: 35 @36077 has 2 MA's), (Start: 38 @36071 has 144 MA's), (48, 36059), (Start: 50 @36038 has 1 MA's), (51, 36023), (52, 36008), (56, 35978), (60, 35942),

Gene: Cuco\_44 Start: 34602, Stop: 34432, Start Num: 46

Candidate Starts for Cuco\_44:

(Start: 46 @34602 has 310 MA's), (Start: 50 @34569 has 1 MA's), (51, 34554), (53, 34536), (56, 34506), (60, 34470),

Gene: Cueyllyss\_50 Start: 37572, Stop: 37366, Start Num: 46

Candidate Starts for Cueyllyss\_50:

(11, 37761), (20, 37662), (21, 37653), (Start: 35 @37596 has 2 MA's), (Start: 46 @37572 has 310 MA's), (Start: 50 @37542 has 1 MA's), (51, 37527), (52, 37512), (60, 37443), (61, 37437),

Gene: Cullens\_55 Start: 36109, Stop: 35903, Start Num: 43

Candidate Starts for Cullens\_55:

(22, 36169), (Start: 43 @36109 has 136 MA's), (Start: 50 @36070 has 1 MA's), (51, 36055), (56, 36007),

Gene: D29\_52 Start: 35941, Stop: 35756, Start Num: 39

Candidate Starts for D29\_52:

(4, 36148), (5, 36145), (8, 36136), (Start: 39 @35941 has 21 MA's), (Start: 50 @35908 has 1 MA's), (51, 35893), (52, 35878), (56, 35845), (62, 35794),

Gene: D32\_54 Start: 35941, Stop: 35756, Start Num: 39

Candidate Starts for D32\_54:

(4, 36148), (5, 36145), (8, 36136), (Start: 39 @35941 has 21 MA's), (Start: 50 @35908 has 1 MA's), (51, 35893), (52, 35878), (56, 35845), (62, 35794),

Gene: DBQu4n\_55 Start: 35922, Stop: 35737, Start Num: 39

Candidate Starts for DBQu4n\_55:

(4, 36129), (5, 36126), (8, 36117), (Start: 39 @35922 has 21 MA's), (Start: 50 @35889 has 1 MA's), (51, 35874), (52, 35859), (56, 35826), (62, 35775),

Gene: DD5\_47 Start: 36301, Stop: 36119, Start Num: 46

Candidate Starts for DD5\_47:

(11, 36490), (20, 36391), (21, 36382), (Start: 35 @36325 has 2 MA's), (Start: 46 @36301 has 310 MA's), (Start: 50 @36271 has 1 MA's), (51, 36256), (52, 36241), (60, 36172), (61, 36166),

Gene: DaHudson\_55 Start: 36102, Stop: 35896, Start Num: 43

Candidate Starts for DaHudson\_55:

(22, 36162), (Start: 43 @36102 has 136 MA's), (Start: 50 @36063 has 1 MA's), (51, 36048), (56, 36000),

Gene: DaVinci\_53 Start: 34443, Stop: 34261, Start Num: 38

Candidate Starts for DaVinci\_53:

(Start: 38 @34443 has 144 MA's), (51, 34395), (53, 34377), (56, 34347), (60, 34311),

Gene: Daishi\_54 Start: 34978, Stop: 34772, Start Num: 43

Candidate Starts for Daishi\_54:

(Start: 43 @34978 has 136 MA's), (Start: 50 @34939 has 1 MA's), (51, 34924), (56, 34876), (57, 34873), (60, 34840),

Gene: Dalmatian\_54 Start: 36469, Stop: 36290, Start Num: 38

Candidate Starts for Dalmatian\_54:

(Start: 35 @36475 has 2 MA's), (Start: 38 @36469 has 144 MA's), (48, 36457), (Start: 50 @36436 has 1 MA's), (51, 36421), (52, 36406), (56, 36376), (60, 36340),

Gene: Danforth\_49 Start: 34330, Stop: 34169, Start Num: 46

Candidate Starts for Danforth\_49:

(Start: 46 @34330 has 310 MA's), (Start: 50 @34297 has 1 MA's), (51, 34282), (53, 34264), (56, 34234), (60, 34198),

Gene: Darrell\_55 Start: 36800, Stop: 36546, Start Num: 43

Candidate Starts for Darrell\_55:

(6, 36980), (Start: 43 @36800 has 136 MA's), (47, 36791), (51, 36755), (56, 36707), (60, 36671), (72, 36602), (77, 36584),

Gene: DarthPhader\_49 Start: 36772, Stop: 36545, Start Num: 38

Candidate Starts for DarthPhader\_49:

(Start: 38 @36772 has 144 MA's), (48, 36745), (Start: 50 @36724 has 1 MA's), (51, 36715), (52, 36700), (56, 36667), (60, 36631), (61, 36625), (65, 36595), (69, 36574), (71, 36568),

Gene: DekHockey33\_59 Start: 35643, Stop: 35461, Start Num: 38

Candidate Starts for DekHockey33\_59:

(Start: 38 @35643 has 144 MA's), (Start: 50 @35610 has 1 MA's), (56, 35547), (57, 35544), (60, 35511), (62, 35496),

Gene: Deloris\_54 Start: 36283, Stop: 36101, Start Num: 38

Candidate Starts for Deloris\_54:

(15, 36403), (Start: 38 @36283 has 144 MA's), (48, 36271), (49, 36262), (Start: 50 @36250 has 1 MA's), (56, 36190), (57, 36187), (61, 36148),

Gene: Dexes\_49 Start: 36648, Stop: 36490, Start Num: 46

Candidate Starts for Dexes\_49:

(11, 36837), (20, 36738), (21, 36729), (Start: 46 @36648 has 310 MA's), (Start: 50 @36618 has 1 MA's), (51, 36603), (52, 36588), (60, 36519),

Gene: Dieselweasel\_56 Start: 36112, Stop: 35906, Start Num: 43

Candidate Starts for Dieselweasel\_56:

(22, 36172), (Start: 43 @36112 has 136 MA's), (Start: 50 @36073 has 1 MA's), (51, 36058), (56, 36010),

Gene: Dignity\_55 Start: 36651, Stop: 36469, Start Num: 38

Candidate Starts for Dignity\_55:

(Start: 35 @36657 has 2 MA's), (Start: 38 @36651 has 144 MA's), (48, 36639), (Start: 50 @36618 has 1 MA's), (51, 36603), (52, 36588), (56, 36558),

Gene: Dinger\_41 Start: 32108, Stop: 31953, Start Num: 46  
Candidate Starts for Dinger\_41:  
(Start: 46 @32108 has 310 MA's), (51, 32060), (54, 32033), (60, 31976),

Gene: Discoknowium\_43 Start: 34416, Stop: 34246, Start Num: 46  
Candidate Starts for Discoknowium\_43:  
(Start: 46 @34416 has 310 MA's), (Start: 50 @34383 has 1 MA's), (51, 34368), (53, 34350), (56, 34320), (57, 34317), (60, 34284),

Gene: Dixon\_49 Start: 34125, Stop: 33964, Start Num: 46  
Candidate Starts for Dixon\_49:  
(Start: 46 @34125 has 310 MA's), (Start: 50 @34092 has 1 MA's), (53, 34059), (56, 34029), (60, 33993),

Gene: DontArgue\_49 Start: 34535, Stop: 34335, Start Num: 46  
Candidate Starts for DontArgue\_49:  
(24, 34595), (Start: 46 @34535 has 310 MA's), (Start: 50 @34502 has 1 MA's), (56, 34439), (60, 34403),

Gene: Doom\_48 Start: 36079, Stop: 35897, Start Num: 46  
Candidate Starts for Doom\_48:  
(11, 36268), (20, 36169), (21, 36160), (Start: 46 @36079 has 310 MA's), (Start: 50 @36049 has 1 MA's), (51, 36034), (52, 36019), (60, 35950), (61, 35944),

Gene: Dorothea\_54 Start: 35012, Stop: 34830, Start Num: 38  
Candidate Starts for Dorothea\_54:  
(Start: 38 @35012 has 144 MA's), (51, 34964), (53, 34946), (56, 34916), (60, 34880),

Gene: DrFeelGood\_46 Start: 35763, Stop: 35581, Start Num: 46  
Candidate Starts for DrFeelGood\_46:  
(11, 35952), (20, 35853), (21, 35844), (Start: 35 @35787 has 2 MA's), (Start: 46 @35763 has 310 MA's), (Start: 50 @35733 has 1 MA's), (51, 35718), (52, 35703), (60, 35634), (61, 35628),

Gene: Drake55\_55 Start: 36551, Stop: 36369, Start Num: 38  
Candidate Starts for Drake55\_55:  
(Start: 38 @36551 has 144 MA's), (Start: 50 @36518 has 1 MA's), (51, 36503), (56, 36458), (57, 36455), (60, 36422),

Gene: Drake94\_48 Start: 34596, Stop: 34396, Start Num: 46  
Candidate Starts for Drake94\_48:  
(2, 34869), (3, 34836), (12, 34761), (Start: 46 @34596 has 310 MA's), (Start: 50 @34563 has 1 MA's), (51, 34548), (56, 34500), (60, 34464),

Gene: DreamCatcher\_52 Start: 37169, Stop: 36963, Start Num: 46  
Candidate Starts for DreamCatcher\_52:  
(11, 37358), (20, 37259), (21, 37250), (Start: 46 @37169 has 310 MA's), (Start: 50 @37139 has 1 MA's), (51, 37124), (52, 37109), (60, 37040), (61, 37034),

Gene: DreamTeam1\_51 Start: 35637, Stop: 35398, Start Num: 43  
Candidate Starts for DreamTeam1\_51:  
(17, 35748), (Start: 43 @35637 has 136 MA's), (51, 35592), (52, 35577), (56, 35544), (70, 35448), (76, 35424),



Gene: Dreamboat\_50 Start: 35519, Stop: 35337, Start Num: 46  
Candidate Starts for Dreamboat\_50:  
(11, 35708), (20, 35609), (21, 35600), (Start: 46 @35519 has 310 MA's), (Start: 50 @35489 has 1 MA's), (51, 35474), (52, 35459), (60, 35390), (61, 35384),

Gene: DropBear\_52 Start: 35835, Stop: 35638, Start Num: 43  
Candidate Starts for DropBear\_52:  
(Start: 43 @35835 has 136 MA's), (Start: 50 @35796 has 1 MA's), (56, 35733), (57, 35730), (60, 35697), (67, 35655),

Gene: Dublin\_44 Start: 34738, Stop: 34568, Start Num: 46  
Candidate Starts for Dublin\_44:  
(Start: 46 @34738 has 310 MA's), (Start: 50 @34705 has 1 MA's), (51, 34690), (53, 34672), (56, 34642), (59, 34609), (60, 34606),

Gene: DudeLittle\_52 Start: 36235, Stop: 36056, Start Num: 38  
Candidate Starts for DudeLittle\_52:  
(Start: 35 @36241 has 2 MA's), (Start: 38 @36235 has 144 MA's), (48, 36223), (Start: 50 @36202 has 1 MA's), (51, 36187), (52, 36172), (56, 36142), (60, 36106),

Gene: Dulcie\_49 Start: 35967, Stop: 35761, Start Num: 46  
Candidate Starts for Dulcie\_49:  
(20, 36057), (21, 36048), (Start: 46 @35967 has 310 MA's), (Start: 50 @35937 has 1 MA's), (51, 35922), (52, 35907), (60, 35838), (61, 35832),

Gene: Duplo\_55 Start: 35978, Stop: 35793, Start Num: 39  
Candidate Starts for Duplo\_55:  
(4, 36185), (5, 36182), (8, 36173), (Start: 39 @35978 has 21 MA's), (Start: 50 @35945 has 1 MA's), (51, 35930), (52, 35915), (56, 35882), (62, 35831),

Gene: Dussy\_50 Start: 35979, Stop: 35797, Start Num: 46  
Candidate Starts for Dussy\_50:  
(11, 36168), (20, 36069), (21, 36060), (Start: 35 @36003 has 2 MA's), (Start: 46 @35979 has 310 MA's), (Start: 50 @35949 has 1 MA's), (51, 35934), (52, 35919), (60, 35850), (61, 35844),

Gene: DustyMartin\_54 Start: 35457, Stop: 35257, Start Num: 46  
Candidate Starts for DustyMartin\_54:  
(7, 35661), (Start: 46 @35457 has 310 MA's), (Start: 50 @35424 has 1 MA's), (51, 35409), (56, 35361), (60, 35325),

Gene: Dynamix\_50 Start: 35965, Stop: 35759, Start Num: 46  
Candidate Starts for Dynamix\_50:  
(20, 36055), (21, 36046), (Start: 35 @35989 has 2 MA's), (Start: 46 @35965 has 310 MA's), (Start: 50 @35935 has 1 MA's), (51, 35920), (52, 35905), (60, 35836), (61, 35830),

Gene: EZMoney23\_51 Start: 35996, Stop: 35814, Start Num: 38  
Candidate Starts for EZMoney23\_51:  
(Start: 38 @35996 has 144 MA's), (48, 35978), (Start: 50 @35957 has 1 MA's), (52, 35927), (56, 35897), (57, 35894), (60, 35861),

Gene: EagleEye\_55 Start: 35749, Stop: 35528, Start Num: 31  
Candidate Starts for EagleEye\_55:

(Start: 31 @35749 has 3 MA's), (47, 35728), (Start: 50 @35704 has 1 MA's), (52, 35674), (56, 35641), (57, 35638), (60, 35605),

Gene: Eaglepride\_51 Start: 35449, Stop: 35240, Start Num: 46

Candidate Starts for Eaglepride\_51:

(7, 35653), (Start: 46 @35449 has 310 MA's), (Start: 50 @35416 has 1 MA's), (51, 35401), (56, 35353), (60, 35317),

Gene: Ebony\_52 Start: 35095, Stop: 34871, Start Num: 36

Candidate Starts for Ebony\_52:

(Start: 36 @35095 has 24 MA's), (48, 35077), (56, 34996), (57, 34993), (60, 34960), (70, 34900), (73, 34891),

Gene: Echild\_53 Start: 35545, Stop: 35366, Start Num: 38

Candidate Starts for Echild\_53:

(Start: 38 @35545 has 144 MA's), (Start: 50 @35512 has 1 MA's), (51, 35497), (52, 35482), (56, 35452), (60, 35416),

Gene: Edison31\_49 Start: 35388, Stop: 35188, Start Num: 46

Candidate Starts for Edison31\_49:

(1, 35664), (3, 35628), (Start: 46 @35388 has 310 MA's), (Start: 50 @35355 has 1 MA's), (56, 35292), (60, 35256),

Gene: EdogawaKiddo\_51 Start: 36157, Stop: 35894, Start Num: 43

Candidate Starts for EdogawaKiddo\_51:

(Start: 43 @36157 has 136 MA's), (Start: 50 @36118 has 1 MA's), (51, 36103), (56, 36055), (57, 36052), (60, 36019), (72, 35950), (77, 35932),

Gene: Edtherson\_48 Start: 36243, Stop: 36061, Start Num: 46

Candidate Starts for Edtherson\_48:

(11, 36432), (20, 36333), (21, 36324), (Start: 35 @36267 has 2 MA's), (Start: 46 @36243 has 310 MA's), (Start: 50 @36213 has 1 MA's), (51, 36198), (52, 36183), (60, 36114), (61, 36108),

Gene: Eidsmoe\_53 Start: 36172, Stop: 35909, Start Num: 43

Candidate Starts for Eidsmoe\_53:

(Start: 43 @36172 has 136 MA's), (Start: 50 @36133 has 1 MA's), (51, 36118), (56, 36070), (60, 36034), (72, 35965), (77, 35947),

Gene: EITiger69\_47 Start: 34698, Stop: 34528, Start Num: 46

Candidate Starts for EITiger69\_47:

(Start: 46 @34698 has 310 MA's), (Start: 50 @34665 has 1 MA's), (51, 34650), (53, 34632), (56, 34602), (57, 34599), (60, 34566), (63, 34545),

Gene: Elephantoon\_52 Start: 35545, Stop: 35291, Start Num: 43

Candidate Starts for Elephantoon\_52:

(Start: 43 @35545 has 136 MA's), (47, 35536), (51, 35500), (56, 35452), (60, 35416), (72, 35347), (75, 35335), (77, 35329),

Gene: EmyBug\_52 Start: 36174, Stop: 35911, Start Num: 43

Candidate Starts for EmyBug\_52:

(Start: 43 @36174 has 136 MA's), (Start: 50 @36135 has 1 MA's), (51, 36120), (56, 36072), (60, 36036), (72, 35967), (77, 35949),

Gene: EpicPhail\_56 Start: 36113, Stop: 35907, Start Num: 43  
Candidate Starts for EpicPhail\_56:  
(22, 36173), (Start: 43 @36113 has 136 MA's), (Start: 50 @36074 has 1 MA's), (51, 36059), (56, 36011),

Gene: Epsocamisio\_56 Start: 34886, Stop: 34704, Start Num: 38  
Candidate Starts for Epsocamisio\_56:  
(Start: 38 @34886 has 144 MA's), (Start: 50 @34853 has 1 MA's), (56, 34790), (57, 34787), (60, 34754), (62, 34739),

Gene: Equemioh13\_54 Start: 36374, Stop: 36192, Start Num: 38  
Candidate Starts for Equemioh13\_54:  
(Start: 38 @36374 has 144 MA's), (Start: 50 @36341 has 1 MA's), (51, 36326), (56, 36281), (57, 36278), (60, 36245),

Gene: EricB\_54 Start: 34986, Stop: 34804, Start Num: 38  
Candidate Starts for EricB\_54:  
(Start: 38 @34986 has 144 MA's), (51, 34938), (53, 34920), (56, 34890), (60, 34854),

Gene: Erik\_42 Start: 32171, Stop: 32016, Start Num: 46  
Candidate Starts for Erik\_42:  
(Start: 46 @32171 has 310 MA's), (51, 32123), (54, 32096), (60, 32039),

Gene: Espica\_42 Start: 32172, Stop: 32017, Start Num: 46  
Candidate Starts for Espica\_42:  
(Start: 46 @32172 has 310 MA's), (51, 32124), (54, 32097), (60, 32040),

Gene: Espresso\_48 Start: 35872, Stop: 35663, Start Num: 35  
Candidate Starts for Espresso\_48:  
(11, 36037), (20, 35938), (21, 35929), (Start: 35 @35872 has 2 MA's), (Start: 46 @35848 has 310 MA's), (Start: 50 @35818 has 1 MA's), (51, 35803), (52, 35788), (60, 35719),

Gene: Et2Brutus\_51 Start: 35058, Stop: 34834, Start Num: 36  
Candidate Starts for Et2Brutus\_51:  
(Start: 36 @35058 has 24 MA's), (48, 35040), (56, 34959), (57, 34956), (60, 34923), (70, 34863), (73, 34854),

Gene: Euphoria\_46 Start: 35099, Stop: 34914, Start Num: 46  
Candidate Starts for Euphoria\_46:  
(11, 35288), (20, 35189), (21, 35180), (Start: 46 @35099 has 310 MA's), (Start: 50 @35069 has 1 MA's), (51, 35054), (52, 35039), (60, 34970),

Gene: EvilGenius\_55 Start: 37847, Stop: 37665, Start Num: 38  
Candidate Starts for EvilGenius\_55:  
(Start: 35 @37853 has 2 MA's), (Start: 38 @37847 has 144 MA's), (48, 37835), (Start: 50 @37814 has 1 MA's), (51, 37799), (54, 37772), (56, 37754), (57, 37751), (60, 37718),

Gene: Expelliarmus\_49 Start: 34359, Stop: 34198, Start Num: 46  
Candidate Starts for Expelliarmus\_49:  
(Start: 46 @34359 has 310 MA's), (Start: 50 @34326 has 1 MA's), (53, 34293), (56, 34263), (60, 34227),

Gene: ExplosioNervosa\_53 Start: 36240, Stop: 35977, Start Num: 43

Candidate Starts for ExplosioNervosa\_53:

(Start: 43 @36240 has 136 MA's), (Start: 50 @36201 has 1 MA's), (51, 36186), (56, 36138), (57, 36135), (60, 36102), (72, 36033), (77, 36015),

Gene: Eyeball\_50 Start: 36349, Stop: 36143, Start Num: 46

Candidate Starts for Eyeball\_50:

(11, 36538), (20, 36439), (21, 36430), (Start: 46 @36349 has 310 MA's), (Start: 50 @36319 has 1 MA's), (51, 36304), (52, 36289), (60, 36220), (61, 36214),

Gene: Fajezeel\_50 Start: 36092, Stop: 35910, Start Num: 46

Candidate Starts for Fajezeel\_50:

(11, 36281), (20, 36182), (21, 36173), (Start: 46 @36092 has 310 MA's), (Start: 50 @36062 has 1 MA's), (51, 36047), (52, 36032), (60, 35963), (61, 35957),

Gene: Fameo\_53 Start: 36408, Stop: 36226, Start Num: 38

Candidate Starts for Fameo\_53:

(Start: 35 @36414 has 2 MA's), (Start: 38 @36408 has 144 MA's), (48, 36396), (Start: 50 @36375 has 1 MA's), (51, 36360), (52, 36345), (56, 36315),

Gene: Farber\_55 Start: 36099, Stop: 35893, Start Num: 43

Candidate Starts for Farber\_55:

(Start: 43 @36099 has 136 MA's), (Start: 50 @36060 has 1 MA's), (51, 36045), (56, 35997), (57, 35994), (60, 35961),

Gene: Fascinus\_44 Start: 34994, Stop: 34812, Start Num: 46

Candidate Starts for Fascinus\_44:

(11, 35183), (20, 35084), (21, 35075), (Start: 35 @35018 has 2 MA's), (Start: 46 @34994 has 310 MA's), (Start: 50 @34964 has 1 MA's), (51, 34949), (52, 34934), (60, 34865), (61, 34859),

Gene: Fayely\_53 Start: 36141, Stop: 35878, Start Num: 43

Candidate Starts for Fayely\_53:

(Start: 43 @36141 has 136 MA's), (Start: 50 @36102 has 1 MA's), (51, 36087), (56, 36039), (60, 36003), (72, 35934), (77, 35916),

Gene: Fenn\_51 Start: 37920, Stop: 37738, Start Num: 46

Candidate Starts for Fenn\_51:

(11, 38109), (20, 38010), (21, 38001), (Start: 35 @37944 has 2 MA's), (Start: 46 @37920 has 310 MA's), (Start: 50 @37890 has 1 MA's), (51, 37875), (52, 37860), (60, 37791),

Gene: Fernando\_55 Start: 36109, Stop: 35903, Start Num: 43

Candidate Starts for Fernando\_55:

(22, 36169), (Start: 43 @36109 has 136 MA's), (Start: 50 @36070 has 1 MA's), (51, 36055), (56, 36007),

Gene: Fibonacci\_52 Start: 35064, Stop: 34840, Start Num: 36

Candidate Starts for Fibonacci\_52:

(Start: 36 @35064 has 24 MA's), (48, 35046), (56, 34965), (57, 34962), (60, 34929), (70, 34869), (73, 34860),

Gene: FiringLine\_53 Start: 36052, Stop: 35879, Start Num: 38

Candidate Starts for FiringLine\_53:

(Start: 35 @36058 has 2 MA's), (Start: 38 @36052 has 144 MA's), (48, 36040), (Start: 50 @36019 has 1 MA's), (51, 36004), (52, 35989), (56, 35959), (60, 35923),

Gene: First\_0055 Start: 36546, Stop: 36364, Start Num: 38

Candidate Starts for First\_0055:

(15, 36666), (Start: 38 @36546 has 144 MA's), (48, 36534), (49, 36525), (Start: 50 @36513 has 1 MA's), (56, 36453), (57, 36450), (61, 36411),

Gene: Flare16\_53 Start: 36133, Stop: 35951, Start Num: 38

Candidate Starts for Flare16\_53:

(Start: 38 @36133 has 144 MA's), (Start: 50 @36100 has 1 MA's), (51, 36085), (56, 36040), (57, 36037), (60, 36004),

Gene: Flaverint\_53 Start: 35522, Stop: 35298, Start Num: 36

Candidate Starts for Flaverint\_53:

(Start: 36 @35522 has 24 MA's), (48, 35504), (56, 35423), (57, 35420), (60, 35387), (70, 35327), (73, 35318),

Gene: ForGetIt\_44 Start: 34594, Stop: 34424, Start Num: 46

Candidate Starts for ForGetIt\_44:

(Start: 46 @34594 has 310 MA's), (Start: 50 @34561 has 1 MA's), (51, 34546), (53, 34528), (56, 34498), (57, 34495), (60, 34462),

Gene: Forsytheast\_48 Start: 35573, Stop: 35391, Start Num: 46

Candidate Starts for Forsytheast\_48:

(11, 35762), (20, 35663), (21, 35654), (Start: 46 @35573 has 310 MA's), (Start: 50 @35543 has 1 MA's), (51, 35528), (52, 35513), (60, 35444), (61, 35438),

Gene: Francis47\_47 Start: 36418, Stop: 36236, Start Num: 46

Candidate Starts for Francis47\_47:

(11, 36607), (20, 36508), (21, 36499), (Start: 46 @36418 has 310 MA's), (Start: 50 @36388 has 1 MA's), (51, 36373), (52, 36358), (60, 36289), (61, 36283),

Gene: Fred313\_52 Start: 35526, Stop: 35329, Start Num: 43

Candidate Starts for Fred313\_52:

(Start: 43 @35526 has 136 MA's), (Start: 50 @35487 has 1 MA's), (56, 35424), (57, 35421), (60, 35388), (67, 35346),

Gene: Froghopper\_46 Start: 35088, Stop: 34906, Start Num: 46

Candidate Starts for Froghopper\_46:

(11, 35277), (20, 35178), (21, 35169), (Start: 35 @35112 has 2 MA's), (Start: 46 @35088 has 310 MA's), (Start: 50 @35058 has 1 MA's), (51, 35043), (52, 35028), (60, 34959), (61, 34953),

Gene: Fushigi\_47 Start: 34049, Stop: 33891, Start Num: 46

Candidate Starts for Fushigi\_47:

(11, 34238), (20, 34139), (21, 34130), (Start: 46 @34049 has 310 MA's), (Start: 50 @34019 has 1 MA's), (51, 34004), (52, 33989), (60, 33920),

Gene: GageAP\_49 Start: 35888, Stop: 35706, Start Num: 46

Candidate Starts for GageAP\_49:

(11, 36077), (20, 35978), (21, 35969), (Start: 35 @35912 has 2 MA's), (Start: 46 @35888 has 310 MA's), (Start: 50 @35858 has 1 MA's), (51, 35843), (52, 35828), (60, 35759), (61, 35753),

Gene: Gail\_57 Start: 37210, Stop: 36971, Start Num: 43

Candidate Starts for Gail\_57:

(19, 37312), (Start: 43 @37210 has 136 MA's), (48, 37192), (49, 37183), (Start: 50 @37171 has 1 MA's), (51, 37156), (56, 37108), (77, 36985),

Gene: Gandalf20\_51 Start: 36941, Stop: 36735, Start Num: 46

Candidate Starts for Gandalf20\_51:

(11, 37130), (20, 37031), (21, 37022), (Start: 46 @36941 has 310 MA's), (Start: 50 @36911 has 1 MA's), (51, 36896), (52, 36881), (60, 36812), (61, 36806),

Gene: Garak\_57 Start: 35456, Stop: 35274, Start Num: 38

Candidate Starts for Garak\_57:

(Start: 38 @35456 has 144 MA's), (51, 35408), (54, 35381), (56, 35360), (60, 35324),

Gene: GaugeLDP\_51 Start: 36399, Stop: 36220, Start Num: 38

Candidate Starts for GaugeLDP\_51:

(Start: 38 @36399 has 144 MA's), (48, 36390), (Start: 50 @36369 has 1 MA's), (51, 36354), (52, 36339), (56, 36309), (57, 36306), (60, 36273),

Gene: Gemma\_54 Start: 35995, Stop: 35789, Start Num: 43

Candidate Starts for Gemma\_54:

(Start: 43 @35995 has 136 MA's), (Start: 50 @35956 has 1 MA's), (51, 35941), (56, 35893), (60, 35857),

Gene: George\_44 Start: 34829, Stop: 34659, Start Num: 46

Candidate Starts for George\_44:

(Start: 46 @34829 has 310 MA's), (Start: 50 @34796 has 1 MA's), (51, 34781), (53, 34763), (56, 34733), (57, 34730), (60, 34697),

Gene: Georgie2\_54 Start: 36097, Stop: 35924, Start Num: 38

Candidate Starts for Georgie2\_54:

(Start: 35 @36103 has 2 MA's), (Start: 38 @36097 has 144 MA's), (48, 36085), (Start: 50 @36064 has 1 MA's), (51, 36049), (52, 36034), (56, 36004), (60, 35968),

Gene: Ghoulboy\_47 Start: 35473, Stop: 35303, Start Num: 46

Candidate Starts for Ghoulboy\_47:

(Start: 46 @35473 has 310 MA's), (Start: 50 @35440 has 1 MA's), (51, 35425), (53, 35407), (56, 35377), (57, 35374), (60, 35341), (63, 35320), (64, 35308),

Gene: Gilberta\_53 Start: 35515, Stop: 35291, Start Num: 36

Candidate Starts for Gilberta\_53:

(Start: 36 @35515 has 24 MA's), (48, 35497), (56, 35416), (57, 35413), (60, 35380), (70, 35320), (73, 35311),

Gene: GingkoMaracino\_55 Start: 35995, Stop: 35789, Start Num: 43

Candidate Starts for GingkoMaracino\_55:

(Start: 43 @35995 has 136 MA's), (Start: 50 @35956 has 1 MA's), (51, 35941), (56, 35893),

Gene: Giroux\_53 Start: 35962, Stop: 35765, Start Num: 43

Candidate Starts for Giroux\_53:

(Start: 43 @35962 has 136 MA's), (Start: 50 @35923 has 1 MA's), (56, 35860), (60, 35824), (67, 35782),

Gene: Gladiator\_52 Start: 34681, Stop: 34499, Start Num: 38

Candidate Starts for Gladiator\_52:

(Start: 38 @34681 has 144 MA's), (51, 34633), (54, 34606), (56, 34585), (60, 34549),

Gene: Gollum\_42 Start: 32237, Stop: 32082, Start Num: 46

Candidate Starts for Gollum\_42:

(Start: 46 @32237 has 310 MA's), (51, 32189), (54, 32162), (60, 32105),

Gene: Gompeii16\_47 Start: 36151, Stop: 35969, Start Num: 46

Candidate Starts for Gompeii16\_47:

(11, 36340), (20, 36241), (21, 36232), (Start: 46 @36151 has 310 MA's), (Start: 50 @36121 has 1 MA's), (51, 36106), (52, 36091), (60, 36022), (61, 36016),

Gene: Goose\_50 Start: 35192, Stop: 34992, Start Num: 46

Candidate Starts for Goose\_50:

(7, 35402), (Start: 46 @35192 has 310 MA's), (Start: 50 @35159 has 1 MA's), (51, 35144), (56, 35096), (60, 35060),

Gene: Graduation\_52 Start: 37668, Stop: 37486, Start Num: 46

Candidate Starts for Graduation\_52:

(11, 37857), (20, 37758), (21, 37749), (Start: 46 @37668 has 310 MA's), (Start: 50 @37638 has 1 MA's), (51, 37623), (52, 37608), (60, 37539), (61, 37533),

Gene: GrecoEtereo\_49 Start: 35900, Stop: 35718, Start Num: 46

Candidate Starts for GrecoEtereo\_49:

(11, 36089), (20, 35990), (21, 35981), (Start: 46 @35900 has 310 MA's), (Start: 50 @35870 has 1 MA's), (51, 35855), (52, 35840), (60, 35771), (61, 35765),

Gene: GreedyLawyer\_54 Start: 34993, Stop: 34811, Start Num: 38

Candidate Starts for GreedyLawyer\_54:

(Start: 38 @34993 has 144 MA's), (51, 34945), (53, 34927), (56, 34897), (60, 34861),

Gene: Greg\_50 Start: 36092, Stop: 35910, Start Num: 46

Candidate Starts for Greg\_50:

(11, 36281), (20, 36182), (21, 36173), (Start: 46 @36092 has 310 MA's), (Start: 50 @36062 has 1 MA's), (51, 36047), (52, 36032), (60, 35963), (61, 35957),

Gene: Grif\_55 Start: 36184, Stop: 35978, Start Num: 43

Candidate Starts for Grif\_55:

(22, 36244), (Start: 43 @36184 has 136 MA's), (Start: 50 @36145 has 1 MA's), (51, 36130), (56, 36082),

Gene: Groundhog\_48 Start: 34257, Stop: 34096, Start Num: 46

Candidate Starts for Groundhog\_48:

(Start: 46 @34257 has 310 MA's), (Start: 50 @34224 has 1 MA's), (53, 34191), (56, 34161), (60, 34125),

Gene: Groupthink\_56 Start: 35999, Stop: 35793, Start Num: 43

Candidate Starts for Groupthink\_56:

(Start: 43 @35999 has 136 MA's), (Start: 50 @35960 has 1 MA's), (51, 35945), (56, 35897), (57, 35894), (60, 35861),

Gene: Grub\_55 Start: 36101, Stop: 35895, Start Num: 43

Candidate Starts for Grub\_55:

(22, 36161), (Start: 43 @36101 has 136 MA's), (Start: 50 @36062 has 1 MA's), (51, 36047), (56, 35999),

Gene: Grum1\_55 Start: 36109, Stop: 35903, Start Num: 43

Candidate Starts for Grum1\_55:

(22, 36169), (Start: 43 @36109 has 136 MA's), (Start: 50 @36070 has 1 MA's), (51, 36055), (56, 36007),

Gene: Gruunaga\_55 Start: 35380, Stop: 35198, Start Num: 38

Candidate Starts for Gruunaga\_55:

(Start: 38 @35380 has 144 MA's), (51, 35332), (54, 35305), (56, 35284), (60, 35248),

Gene: GtownJaz\_55 Start: 36111, Stop: 35905, Start Num: 43

Candidate Starts for GtownJaz\_55:

(22, 36171), (Start: 43 @36111 has 136 MA's), (Start: 50 @36072 has 1 MA's), (51, 36057), (56, 36009),

Gene: Gwendoluna\_52 Start: 38104, Stop: 37922, Start Num: 46

Candidate Starts for Gwendoluna\_52:

(11, 38293), (20, 38194), (21, 38185), (Start: 35 @38128 has 2 MA's), (Start: 46 @38104 has 310 MA's), (Start: 50 @38074 has 1 MA's), (51, 38059), (52, 38044), (60, 37975), (61, 37969),

Gene: Gyzlar\_44 Start: 33814, Stop: 33632, Start Num: 46

Candidate Starts for Gyzlar\_44:

(11, 34003), (20, 33904), (21, 33895), (Start: 46 @33814 has 310 MA's), (Start: 50 @33784 has 1 MA's), (51, 33769), (52, 33754), (60, 33685), (61, 33679),

Gene: Hami1\_42 Start: 30195, Stop: 30013, Start Num: 46

Candidate Starts for Hami1\_42:

(11, 30384), (20, 30285), (21, 30276), (Start: 35 @30219 has 2 MA's), (Start: 46 @30195 has 310 MA's), (Start: 50 @30165 has 1 MA's), (51, 30150), (52, 30135), (60, 30066), (61, 30060),

Gene: Hammer\_55 Start: 34963, Stop: 34781, Start Num: 38

Candidate Starts for Hammer\_55:

(Start: 38 @34963 has 144 MA's), (51, 34915), (54, 34888), (56, 34867), (60, 34831),

Gene: HanShotFirst\_48 Start: 35292, Stop: 35086, Start Num: 46

Candidate Starts for HanShotFirst\_48:

(11, 35481), (20, 35382), (21, 35373), (Start: 46 @35292 has 310 MA's), (Start: 50 @35262 has 1 MA's), (51, 35247), (52, 35232), (60, 35163), (61, 35157),

Gene: Hanray\_51 Start: 36161, Stop: 35898, Start Num: 43

Candidate Starts for Hanray\_51:

(Start: 43 @36161 has 136 MA's), (Start: 50 @36122 has 1 MA's), (51, 36107), (56, 36059), (57, 36056), (60, 36023), (72, 35954), (77, 35936),

Gene: Harlequin\_41 Start: 32023, Stop: 31868, Start Num: 46

Candidate Starts for Harlequin\_41:

(Start: 46 @32023 has 310 MA's), (51, 31975), (54, 31948), (60, 31891),

Gene: HarryHoudini\_54 Start: 36560, Stop: 36378, Start Num: 38

Candidate Starts for HarryHoudini\_54:



(Start: 38 @36560 has 144 MA's), (Start: 50 @36527 has 1 MA's), (51, 36512), (56, 36467), (57, 36464), (60, 36431),

Gene: HarryOW\_47 Start: 35072, Stop: 34890, Start Num: 46

Candidate Starts for HarryOW\_47:

(11, 35261), (20, 35162), (21, 35153), (Start: 46 @35072 has 310 MA's), (Start: 50 @35042 has 1 MA's), (51, 35027), (52, 35012), (60, 34943), (61, 34937),

Gene: HashRod\_56 Start: 36137, Stop: 35931, Start Num: 43

Candidate Starts for HashRod\_56:

(Start: 43 @36137 has 136 MA's), (Start: 50 @36098 has 1 MA's), (51, 36083), (56, 36035), (57, 36032), (60, 35999),

Gene: HaveUMetTed\_56 Start: 35984, Stop: 35778, Start Num: 43

Candidate Starts for HaveUMetTed\_56:

(Start: 43 @35984 has 136 MA's), (Start: 50 @35945 has 1 MA's), (51, 35930), (56, 35882), (60, 35846),

Gene: Heathen\_52 Start: 35624, Stop: 35427, Start Num: 43

Candidate Starts for Heathen\_52:

(Start: 43 @35624 has 136 MA's), (Start: 50 @35585 has 1 MA's), (56, 35522), (57, 35519), (60, 35486), (67, 35444),

Gene: Heffalump\_52 Start: 36876, Stop: 36697, Start Num: 38

Candidate Starts for Heffalump\_52:

(Start: 35 @36882 has 2 MA's), (Start: 38 @36876 has 144 MA's), (48, 36864), (Start: 50 @36843 has 1 MA's), (51, 36828), (52, 36813), (56, 36783),

Gene: HelDan\_52 Start: 35840, Stop: 35643, Start Num: 43

Candidate Starts for HelDan\_52:

(Start: 43 @35840 has 136 MA's), (Start: 50 @35801 has 1 MA's), (56, 35738), (57, 35735), (60, 35702), (67, 35660),

Gene: Heliosoles\_54 Start: 36002, Stop: 35796, Start Num: 43

Candidate Starts for Heliosoles\_54:

(Start: 43 @36002 has 136 MA's), (Start: 50 @35963 has 1 MA's), (51, 35948), (56, 35900), (57, 35897), (60, 35864),

Gene: Helmet\_57 Start: 35456, Stop: 35274, Start Num: 38

Candidate Starts for Helmet\_57:

(Start: 38 @35456 has 144 MA's), (51, 35408), (54, 35381), (56, 35360), (60, 35324),

Gene: Herbertwm\_52 Start: 35802, Stop: 35620, Start Num: 38

Candidate Starts for Herbertwm\_52:

(Start: 38 @35802 has 144 MA's), (Start: 50 @35769 has 1 MA's), (51, 35754), (52, 35739), (56, 35706), (60, 35670),

Gene: Hercules11\_55 Start: 36118, Stop: 35912, Start Num: 43

Candidate Starts for Hercules11\_55:

(22, 36178), (Start: 43 @36118 has 136 MA's), (Start: 50 @36079 has 1 MA's), (51, 36064), (56, 36016),

Gene: Hermia\_49 Start: 36519, Stop: 36337, Start Num: 46

Candidate Starts for Hermia\_49:

(11, 36708), (20, 36609), (21, 36600), (Start: 35 @36543 has 2 MA's), (Start: 46 @36519 has 310 MA's), (Start: 50 @36489 has 1 MA's), (51, 36474), (52, 36459), (60, 36390), (61, 36384),

Gene: HermioneGrange\_48 Start: 35887, Stop: 35705, Start Num: 46

Candidate Starts for HermioneGrange\_48:

(11, 36076), (20, 35977), (21, 35968), (Start: 35 @35911 has 2 MA's), (Start: 46 @35887 has 310 MA's), (Start: 50 @35857 has 1 MA's), (51, 35842), (52, 35827), (60, 35758), (61, 35752),

Gene: Hexamo\_55 Start: 35086, Stop: 34904, Start Num: 38

Candidate Starts for Hexamo\_55:

(Start: 38 @35086 has 144 MA's), (51, 35038), (54, 35011), (56, 34990), (60, 34954),

Gene: Hiro\_42 Start: 32499, Stop: 32344, Start Num: 46

Candidate Starts for Hiro\_42:

(Start: 46 @32499 has 310 MA's), (51, 32451), (54, 32424), (60, 32367),

Gene: Horex\_52 Start: 36177, Stop: 35914, Start Num: 43

Candidate Starts for Horex\_52:

(Start: 43 @36177 has 136 MA's), (Start: 50 @36138 has 1 MA's), (51, 36123), (56, 36075), (57, 36072), (60, 36039), (72, 35970), (77, 35952),

Gene: Homines\_41 Start: 32091, Stop: 31909, Start Num: 46

Candidate Starts for Homines\_41:

(11, 32280), (20, 32181), (21, 32172), (Start: 46 @32091 has 310 MA's), (Start: 50 @32061 has 1 MA's), (51, 32046), (52, 32031), (60, 31962),

Gene: Hookmount\_51 Start: 35914, Stop: 35708, Start Num: 40

Candidate Starts for Hookmount\_51:

(Start: 37 @35917 has 2 MA's), (Start: 40 @35914 has 12 MA's), (48, 35896), (Start: 50 @35875 has 1 MA's), (56, 35812), (60, 35776),

Gene: Hoot\_49 Start: 32844, Stop: 32662, Start Num: 38

Candidate Starts for Hoot\_49:

(Start: 38 @32844 has 144 MA's), (51, 32796), (53, 32778), (56, 32748), (60, 32712),

Gene: Hope4ever\_51 Start: 36704, Stop: 36522, Start Num: 46

Candidate Starts for Hope4ever\_51:

(20, 36794), (21, 36785), (Start: 46 @36704 has 310 MA's), (Start: 50 @36674 has 1 MA's), (51, 36659), (52, 36644), (60, 36575),

Gene: HortumSL17\_53 Start: 36108, Stop: 35845, Start Num: 43

Candidate Starts for HortumSL17\_53:

(Start: 43 @36108 has 136 MA's), (Start: 50 @36069 has 1 MA's), (51, 36054), (56, 36006), (60, 35970), (72, 35901), (77, 35883),

Gene: HuhtaEnerson15\_45 Start: 34820, Stop: 34650, Start Num: 46

Candidate Starts for HuhtaEnerson15\_45:

(Start: 46 @34820 has 310 MA's), (Start: 50 @34787 has 1 MA's), (51, 34772), (53, 34754), (56, 34724), (57, 34721), (60, 34688),

Gene: Hutc2\_52 Start: 35064, Stop: 34840, Start Num: 36

Candidate Starts for Hutc2\_52:

(Start: 36 @35064 has 24 MA's), (48, 35046), (56, 34965), (57, 34962), (60, 34929), (70, 34869), (73, 34860),

Gene: ILeeKay\_52 Start: 36681, Stop: 36499, Start Num: 46

Candidate Starts for ILeeKay\_52:

(11, 36870), (20, 36771), (21, 36762), (Start: 46 @36681 has 310 MA's), (Start: 50 @36651 has 1 MA's), (51, 36636), (52, 36621), (60, 36552), (61, 36546),

Gene: Ichabod\_51 Start: 36310, Stop: 36104, Start Num: 46

Candidate Starts for Ichabod\_51:

(11, 36499), (20, 36400), (21, 36391), (Start: 35 @36334 has 2 MA's), (Start: 46 @36310 has 310 MA's), (Start: 50 @36280 has 1 MA's), (51, 36265), (52, 36250), (60, 36181), (61, 36175),

Gene: Idleandcovert\_53 Start: 35963, Stop: 35766, Start Num: 43

Candidate Starts for Idleandcovert\_53:

(Start: 43 @35963 has 136 MA's), (Start: 50 @35924 has 1 MA's), (56, 35861), (60, 35825), (67, 35783),

Gene: IgnatiusPatJac\_49 Start: 36307, Stop: 36125, Start Num: 46

Candidate Starts for IgnatiusPatJac\_49:

(11, 36496), (20, 36397), (21, 36388), (Start: 35 @36331 has 2 MA's), (Start: 46 @36307 has 310 MA's), (Start: 50 @36277 has 1 MA's), (51, 36262), (52, 36247), (60, 36178),

Gene: Indra\_58 Start: 35457, Stop: 35275, Start Num: 38

Candidate Starts for Indra\_58:

(Start: 38 @35457 has 144 MA's), (51, 35409), (54, 35382), (56, 35361), (60, 35325),

Gene: Insomnia\_53 Start: 35575, Stop: 35351, Start Num: 36

Candidate Starts for Insomnia\_53:

(Start: 36 @35575 has 24 MA's), (48, 35557), (56, 35476), (57, 35473), (60, 35440), (70, 35380), (73, 35371),

Gene: Inyanga\_45 Start: 34541, Stop: 34359, Start Num: 46

Candidate Starts for Inyanga\_45:

(11, 34730), (20, 34631), (21, 34622), (Start: 46 @34541 has 310 MA's), (Start: 50 @34511 has 1 MA's), (51, 34496), (52, 34481), (60, 34412), (61, 34406),

Gene: IronMan\_53 Start: 37223, Stop: 37050, Start Num: 38

Candidate Starts for IronMan\_53:

(Start: 38 @37223 has 144 MA's), (Start: 41 @37220 has 1 MA's), (48, 37211), (51, 37178), (56, 37130), (57, 37127), (60, 37094),

Gene: Isca\_51 Start: 35406, Stop: 35209, Start Num: 43

Candidate Starts for Isca\_51:

(Start: 43 @35406 has 136 MA's), (Start: 50 @35367 has 1 MA's), (55, 35313), (60, 35268), (67, 35226),

Gene: Isiphiwo\_52 Start: 34569, Stop: 34387, Start Num: 38

Candidate Starts for Isiphiwo\_52:

(Start: 38 @34569 has 144 MA's), (51, 34521), (53, 34503), (56, 34473), (60, 34437),

Gene: Iwokeuplikedis\_56 Start: 36186, Stop: 36007, Start Num: 38

Candidate Starts for Iwokeuplikedis\_56:

(Start: 38 @36186 has 144 MA's), (Start: 50 @36153 has 1 MA's), (51, 36138), (56, 36093), (57, 36090), (60, 36057),

Gene: JC27\_50 Start: 36348, Stop: 36166, Start Num: 46

Candidate Starts for JC27\_50:

(11, 36537), (20, 36438), (21, 36429), (Start: 46 @36348 has 310 MA's), (Start: 50 @36318 has 1 MA's), (51, 36303), (52, 36288), (60, 36219),

Gene: JF2\_50 Start: 34107, Stop: 33910, Start Num: 43

Candidate Starts for JF2\_50:

(Start: 43 @34107 has 136 MA's), (Start: 50 @34068 has 1 MA's), (55, 34014), (60, 33969), (67, 33927),

Gene: JF4\_50 Start: 34107, Stop: 33910, Start Num: 43

Candidate Starts for JF4\_50:

(Start: 43 @34107 has 136 MA's), (Start: 50 @34068 has 1 MA's), (55, 34014), (60, 33969), (67, 33927),

Gene: JHC117\_55 Start: 36108, Stop: 35902, Start Num: 43

Candidate Starts for JHC117\_55:

(22, 36168), (Start: 43 @36108 has 136 MA's), (Start: 50 @36069 has 1 MA's), (51, 36054), (56, 36006),

Gene: JSwag\_58 Start: 35075, Stop: 34893, Start Num: 38

Candidate Starts for JSwag\_58:

(Start: 38 @35075 has 144 MA's), (Start: 50 @35042 has 1 MA's), (56, 34979), (57, 34976), (60, 34943), (62, 34928),

Gene: Jaan\_53 Start: 37395, Stop: 37222, Start Num: 38

Candidate Starts for Jaan\_53:

(18, 37491), (Start: 38 @37395 has 144 MA's), (Start: 41 @37392 has 1 MA's), (48, 37383), (51, 37350), (56, 37302), (57, 37299), (60, 37266),

Gene: Jabiru\_46 Start: 34571, Stop: 34401, Start Num: 46

Candidate Starts for Jabiru\_46:

(Start: 46 @34571 has 310 MA's), (Start: 50 @34538 has 1 MA's), (51, 34523), (53, 34505), (56, 34475), (57, 34472), (60, 34439), (63, 34418),

Gene: Jabith\_53 Start: 35576, Stop: 35352, Start Num: 36

Candidate Starts for Jabith\_53:

(Start: 36 @35576 has 24 MA's), (48, 35558), (56, 35477), (57, 35474), (60, 35441), (70, 35381), (73, 35372),

Gene: JackSparrow\_49 Start: 36123, Stop: 35941, Start Num: 46

Candidate Starts for JackSparrow\_49:

(11, 36312), (20, 36213), (21, 36204), (Start: 46 @36123 has 310 MA's), (Start: 50 @36093 has 1 MA's), (51, 36078), (52, 36063), (60, 35994), (61, 35988),

Gene: Jasper\_50 Start: 35405, Stop: 35223, Start Num: 46

Candidate Starts for Jasper\_50:

(11, 35594), (20, 35495), (21, 35486), (Start: 46 @35405 has 310 MA's), (Start: 50 @35375 has 1 MA's), (51, 35360), (52, 35345), (60, 35276), (61, 35270),

Gene: Jeeves\_57 Start: 35982, Stop: 35743, Start Num: 43

Candidate Starts for Jeeves\_57:

(Start: 43 @35982 has 136 MA's), (48, 35964), (49, 35955), (Start: 50 @35943 has 1 MA's), (51, 35928), (52, 35913), (56, 35880), (77, 35757),

Gene: Jeffabunny\_55 Start: 35083, Stop: 34901, Start Num: 38

Candidate Starts for Jeffabunny\_55:

(Start: 38 @35083 has 144 MA's), (51, 35035), (54, 35008), (56, 34987), (60, 34951),

Gene: JenCasNa\_56 Start: 36109, Stop: 35903, Start Num: 43

Candidate Starts for JenCasNa\_56:

(22, 36169), (Start: 43 @36109 has 136 MA's), (Start: 50 @36070 has 1 MA's), (51, 36055), (56, 36007),

Gene: JeppNRM\_56 Start: 36000, Stop: 35794, Start Num: 43

Candidate Starts for JeppNRM\_56:

(Start: 43 @36000 has 136 MA's), (Start: 50 @35961 has 1 MA's), (51, 35946), (56, 35898), (57, 35895), (60, 35862),

Gene: Jerm\_55 Start: 36643, Stop: 36461, Start Num: 38

Candidate Starts for Jerm\_55:

(Start: 35 @36649 has 2 MA's), (Start: 38 @36643 has 144 MA's), (48, 36631), (Start: 50 @36610 has 1 MA's), (51, 36595), (52, 36580), (56, 36550),

Gene: Jerm2\_49 Start: 36142, Stop: 35960, Start Num: 46

Candidate Starts for Jerm2\_49:

(11, 36331), (20, 36232), (21, 36223), (Start: 35 @36166 has 2 MA's), (Start: 46 @36142 has 310 MA's), (Start: 50 @36112 has 1 MA's), (51, 36097), (52, 36082), (60, 36013), (61, 36007),

Gene: Jester\_41 Start: 31954, Stop: 31799, Start Num: 46

Candidate Starts for Jester\_41:

(Start: 46 @31954 has 310 MA's), (51, 31906), (54, 31879), (60, 31822),

Gene: JewelBug\_55 Start: 35199, Stop: 35017, Start Num: 38

Candidate Starts for JewelBug\_55:

(Start: 38 @35199 has 144 MA's), (51, 35151), (53, 35133), (56, 35103), (60, 35067),

Gene: Jiawan\_51 Start: 36193, Stop: 35930, Start Num: 43

Candidate Starts for Jiawan\_51:

(Start: 43 @36193 has 136 MA's), (Start: 50 @36154 has 1 MA's), (51, 36139), (56, 36091), (57, 36088), (60, 36055), (72, 35986), (77, 35968),

Gene: Jobu08\_54 Start: 35941, Stop: 35735, Start Num: 43

Candidate Starts for Jobu08\_54:

(Start: 43 @35941 has 136 MA's), (Start: 50 @35902 has 1 MA's), (51, 35887), (56, 35839),

Gene: Jordennis\_54 Start: 34689, Stop: 34507, Start Num: 38

Candidate Starts for Jordennis\_54:

(Start: 38 @34689 has 144 MA's), (51, 34641), (53, 34623), (56, 34593), (60, 34557),

Gene: Jorgensen\_50 Start: 36048, Stop: 35866, Start Num: 46

Candidate Starts for Jorgensen\_50:

(11, 36237), (20, 36138), (21, 36129), (Start: 35 @36072 has 2 MA's), (Start: 46 @36048 has 310 MA's), (Start: 50 @36018 has 1 MA's), (51, 36003), (52, 35988), (60, 35919),

Gene: Joselito\_53 Start: 35524, Stop: 35300, Start Num: 36

Candidate Starts for Joselito\_53:

(Start: 36 @35524 has 24 MA's), (48, 35506), (56, 35425), (57, 35422), (60, 35389), (70, 35329), (73, 35320),

Gene: JoshKayV\_55 Start: 36737, Stop: 36564, Start Num: 38

Candidate Starts for JoshKayV\_55:

(Start: 35 @36743 has 2 MA's), (Start: 38 @36737 has 144 MA's), (48, 36725), (Start: 50 @36704 has 1 MA's), (51, 36689), (52, 36674), (56, 36644), (60, 36608),

Gene: Journey13\_47 Start: 34459, Stop: 34277, Start Num: 38

Candidate Starts for Journey13\_47:

(24, 34510), (30, 34474), (Start: 38 @34459 has 144 MA's), (Start: 50 @34426 has 1 MA's), (56, 34366), (57, 34363),

Gene: Jovo\_44 Start: 34850, Stop: 34680, Start Num: 46

Candidate Starts for Jovo\_44:

(Start: 46 @34850 has 310 MA's), (Start: 50 @34817 has 1 MA's), (51, 34802), (53, 34784), (56, 34754), (57, 34751), (60, 34718),

Gene: Jsquared\_51 Start: 35067, Stop: 34882, Start Num: 39

Candidate Starts for Jsquared\_51:

(Start: 39 @35067 has 21 MA's), (Start: 50 @35034 has 1 MA's), (52, 35004), (56, 34971),

Gene: JuliaChild\_49 Start: 35767, Stop: 35585, Start Num: 46

Candidate Starts for JuliaChild\_49:

(11, 35956), (20, 35857), (21, 35848), (Start: 35 @35791 has 2 MA's), (Start: 46 @35767 has 310 MA's), (Start: 50 @35737 has 1 MA's), (51, 35722), (52, 35707), (60, 35638), (61, 35632),

Gene: KADY\_55 Start: 36137, Stop: 35931, Start Num: 43

Candidate Starts for KADY\_55:

(Start: 43 @36137 has 136 MA's), (Start: 50 @36098 has 1 MA's), (51, 36083), (56, 36035), (57, 36032), (60, 35999),

Gene: KBG\_50 Start: 37088, Stop: 36906, Start Num: 46

Candidate Starts for KBG\_50:

(11, 37277), (20, 37178), (21, 37169), (Start: 35 @37112 has 2 MA's), (Start: 46 @37088 has 310 MA's), (Start: 50 @37058 has 1 MA's), (51, 37043), (52, 37028), (60, 36959), (61, 36953),

Gene: KSSJEB\_48 Start: 35754, Stop: 35548, Start Num: 46

Candidate Starts for KSSJEB\_48:

(11, 35943), (20, 35844), (21, 35835), (Start: 35 @35778 has 2 MA's), (Start: 46 @35754 has 310 MA's), (Start: 50 @35724 has 1 MA's), (51, 35709), (52, 35694), (60, 35625), (61, 35619),

Gene: Kachowdy\_52 Start: 35876, Stop: 35679, Start Num: 43

Candidate Starts for Kachowdy\_52:

(Start: 43 @35876 has 136 MA's), (Start: 50 @35837 has 1 MA's), (56, 35774), (57, 35771), (60, 35738), (67, 35696),

Gene: Kalb97\_56 Start: 35998, Stop: 35792, Start Num: 43

Candidate Starts for Kalb97\_56:

(Start: 43 @35998 has 136 MA's), (Start: 50 @35959 has 1 MA's), (51, 35944), (56, 35896), (57, 35893), (60, 35860),

Gene: Kalnoky\_56 Start: 35996, Stop: 35790, Start Num: 43

Candidate Starts for Kalnoky\_56:

(Start: 43 @35996 has 136 MA's), (Start: 50 @35957 has 1 MA's), (51, 35942), (56, 35894), (57, 35891), (60, 35858),

Gene: Kalpine\_51 Start: 36341, Stop: 36162, Start Num: 38

Candidate Starts for Kalpine\_51:

(Start: 38 @36341 has 144 MA's), (48, 36323), (Start: 50 @36302 has 1 MA's), (52, 36272), (56, 36242),

Gene: Kanely\_50 Start: 36409, Stop: 36227, Start Num: 46

Candidate Starts for Kanely\_50:

(11, 36598), (20, 36499), (21, 36490), (Start: 35 @36433 has 2 MA's), (Start: 46 @36409 has 310 MA's), (Start: 50 @36379 has 1 MA's), (51, 36364), (52, 36349), (60, 36280), (61, 36274),

Gene: KatherineG\_59 Start: 35548, Stop: 35366, Start Num: 38

Candidate Starts for KatherineG\_59:

(Start: 38 @35548 has 144 MA's), (Start: 50 @35515 has 1 MA's), (56, 35452), (57, 35449), (60, 35416),

Gene: Kazan\_55 Start: 34999, Stop: 34817, Start Num: 38

Candidate Starts for Kazan\_55:

(Start: 38 @34999 has 144 MA's), (51, 34951), (53, 34933), (56, 34903), (60, 34867),

Gene: Kenmech\_52 Start: 37105, Stop: 36923, Start Num: 46

Candidate Starts for Kenmech\_52:

(11, 37294), (20, 37195), (21, 37186), (Start: 35 @37129 has 2 MA's), (Start: 46 @37105 has 310 MA's), (Start: 50 @37075 has 1 MA's), (51, 37060), (52, 37045), (60, 36976), (61, 36970),

Gene: Kerberos\_55 Start: 35940, Stop: 35755, Start Num: 39

Candidate Starts for Kerberos\_55:

(4, 36147), (5, 36144), (8, 36135), (Start: 39 @35940 has 21 MA's), (Start: 50 @35907 has 1 MA's), (51, 35892), (52, 35877), (56, 35844), (62, 35793),

Gene: Keziacharles14\_53 Start: 37226, Stop: 36969, Start Num: 43

Candidate Starts for Keziacharles14\_53:

(Start: 43 @37226 has 136 MA's), (Start: 50 @37193 has 1 MA's), (51, 37178), (56, 37130), (72, 37025), (77, 37007),

Gene: Killigrew\_48 Start: 35821, Stop: 35639, Start Num: 46

Candidate Starts for Killigrew\_48:

(11, 36010), (20, 35911), (21, 35902), (Start: 35 @35845 has 2 MA's), (Start: 46 @35821 has 310 MA's), (Start: 50 @35791 has 1 MA's), (51, 35776), (52, 35761), (60, 35692), (61, 35686),

Gene: KingCyrus\_55 Start: 37842, Stop: 37660, Start Num: 38

Candidate Starts for KingCyrus\_55:

(Start: 35 @37848 has 2 MA's), (Start: 38 @37842 has 144 MA's), (48, 37830), (Start: 50 @37809 has 1 MA's), (51, 37794), (54, 37767), (56, 37749), (57, 37746), (60, 37713),

Gene: Kinmap\_50 Start: 34460, Stop: 34254, Start Num: 42  
Candidate Starts for Kinmap\_50:  
(42, 34460), (48, 34451), (51, 34415), (52, 34400), (56, 34367), (57, 34364), (60, 34331), (70, 34271),  
(73, 34262),

Gene: Kipper29\_54 Start: 35012, Stop: 34830, Start Num: 38  
Candidate Starts for Kipper29\_54:  
(Start: 38 @35012 has 144 MA's), (51, 34964), (53, 34946), (56, 34916), (60, 34880),

Gene: KittenMittens\_47 Start: 34604, Stop: 34404, Start Num: 46  
Candidate Starts for KittenMittens\_47:  
(2, 34877), (3, 34844), (Start: 46 @34604 has 310 MA's), (Start: 50 @34571 has 1 MA's), (51, 34556),  
(56, 34508), (60, 34472),

Gene: Koduck\_54 Start: 35352, Stop: 35167, Start Num: 39  
Candidate Starts for Koduck\_54:  
(10, 35520), (16, 35466), (24, 35403), (Start: 39 @35352 has 21 MA's), (Start: 50 @35319 has 1  
MA's), (52, 35289), (56, 35256),

Gene: Koko\_56 Start: 35517, Stop: 35335, Start Num: 38  
Candidate Starts for Koko\_56:  
(Start: 38 @35517 has 144 MA's), (51, 35469), (54, 35442), (56, 35421), (60, 35385),

Gene: Krishelle\_42 Start: 32599, Stop: 32444, Start Num: 46  
Candidate Starts for Krishelle\_42:  
(Start: 46 @32599 has 310 MA's), (51, 32551), (54, 32524), (60, 32467),

Gene: Kristoff\_50 Start: 35746, Stop: 35546, Start Num: 46  
Candidate Starts for Kristoff\_50:  
(7, 35950), (Start: 46 @35746 has 310 MA's), (Start: 50 @35713 has 1 MA's), (51, 35698), (56,  
35650), (60, 35614),

Gene: Kugel\_49 Start: 36062, Stop: 35880, Start Num: 46  
Candidate Starts for Kugel\_49:  
(11, 36251), (20, 36152), (21, 36143), (Start: 46 @36062 has 310 MA's), (Start: 50 @36032 has 1  
MA's), (51, 36017), (52, 36002), (60, 35933), (61, 35927),

Gene: KyMonks1A\_50 Start: 35961, Stop: 35779, Start Num: 46  
Candidate Starts for KyMonks1A\_50:  
(11, 36150), (20, 36051), (21, 36042), (Start: 35 @35985 has 2 MA's), (Start: 46 @35961 has 310  
MA's), (Start: 50 @35931 has 1 MA's), (51, 35916), (52, 35901), (60, 35832), (61, 35826),

Gene: Kykar\_48 Start: 35744, Stop: 35562, Start Num: 46  
Candidate Starts for Kykar\_48:  
(11, 35933), (20, 35834), (21, 35825), (Start: 46 @35744 has 310 MA's), (Start: 50 @35714 has 1  
MA's), (51, 35699), (52, 35684), (60, 35615), (61, 35609),

Gene: L5\_52 Start: 35427, Stop: 35242, Start Num: 39  
Candidate Starts for L5\_52:  
(10, 35595), (16, 35541), (24, 35478), (Start: 39 @35427 has 21 MA's), (Start: 50 @35394 has 1  
MA's), (52, 35364), (56, 35331),

Gene: LBerry\_56 Start: 36113, Stop: 35907, Start Num: 43



Candidate Starts for LBerry\_56:

(22, 36173), (Start: 43 @36113 has 136 MA's), (Start: 50 @36074 has 1 MA's), (51, 36059), (56, 36011),

Gene: LadyBird\_58 Start: 36975, Stop: 36793, Start Num: 38

Candidate Starts for LadyBird\_58:

(15, 37095), (Start: 38 @36975 has 144 MA's), (48, 36963), (Start: 50 @36942 has 1 MA's), (56, 36882), (57, 36879), (61, 36840),

Gene: Lambert1\_51 Start: 35913, Stop: 35707, Start Num: 40

Candidate Starts for Lambert1\_51:

(Start: 37 @35916 has 2 MA's), (Start: 40 @35913 has 12 MA's), (48, 35895), (Start: 50 @35874 has 1 MA's), (56, 35811), (60, 35775),

Gene: Lamina13\_49 Start: 35715, Stop: 35533, Start Num: 46

Candidate Starts for Lamina13\_49:

(11, 35904), (20, 35805), (21, 35796), (Start: 35 @35739 has 2 MA's), (Start: 46 @35715 has 310 MA's), (Start: 50 @35685 has 1 MA's), (51, 35670), (52, 35655), (60, 35586),

Gene: Landor\_53 Start: 37298, Stop: 37128, Start Num: 41

Candidate Starts for Landor\_53:

(18, 37397), (Start: 38 @37301 has 144 MA's), (Start: 41 @37298 has 1 MA's), (48, 37289), (51, 37256), (56, 37208), (57, 37205), (60, 37172),

Gene: Larenn\_52 Start: 36234, Stop: 36055, Start Num: 38

Candidate Starts for Larenn\_52:

(30, 36249), (Start: 38 @36234 has 144 MA's), (Start: 50 @36201 has 1 MA's), (51, 36186), (56, 36141),

Gene: LarryKay\_55 Start: 36139, Stop: 35933, Start Num: 43

Candidate Starts for LarryKay\_55:

(Start: 43 @36139 has 136 MA's), (Start: 50 @36100 has 1 MA's), (51, 36085), (56, 36037), (57, 36034), (60, 36001),

Gene: LastResort\_57 Start: 35127, Stop: 34945, Start Num: 38

Candidate Starts for LastResort\_57:

(Start: 38 @35127 has 144 MA's), (Start: 50 @35094 has 1 MA's), (56, 35031), (57, 35028), (60, 34995), (62, 34980),

Gene: Leogania\_53 Start: 37282, Stop: 37100, Start Num: 38

Candidate Starts for Leogania\_53:

(30, 37297), (Start: 38 @37282 has 144 MA's), (Start: 50 @37249 has 1 MA's), (51, 37234), (54, 37207), (56, 37189), (57, 37186), (60, 37153),

Gene: Lesedi\_45 Start: 34939, Stop: 34757, Start Num: 46

Candidate Starts for Lesedi\_45:

(11, 35128), (20, 35029), (21, 35020), (Start: 35 @34963 has 2 MA's), (Start: 46 @34939 has 310 MA's), (Start: 50 @34909 has 1 MA's), (51, 34894), (52, 34879), (60, 34810), (61, 34804),

Gene: Lev2\_44 Start: 34482, Stop: 34312, Start Num: 46

Candidate Starts for Lev2\_44:

(Start: 46 @34482 has 310 MA's), (Start: 50 @34449 has 1 MA's), (51, 34434), (53, 34416), (56, 34386), (57, 34383), (60, 34350),

Gene: Leviathan\_55 Start: 36700, Stop: 36518, Start Num: 38

Candidate Starts for Leviathan\_55:

(Start: 35 @36706 has 2 MA's), (Start: 38 @36700 has 144 MA's), (48, 36688), (Start: 50 @36667 has 1 MA's), (51, 36652), (52, 36637), (56, 36607),

Gene: Licorice\_51 Start: 37178, Stop: 36996, Start Num: 46

Candidate Starts for Licorice\_51:

(11, 37367), (20, 37268), (21, 37259), (Start: 46 @37178 has 310 MA's), (Start: 50 @37148 has 1 MA's), (51, 37133), (52, 37118), (60, 37049), (61, 37043),

Gene: LilBib\_48 Start: 36236, Stop: 36054, Start Num: 46

Candidate Starts for LilBib\_48:

(11, 36425), (20, 36326), (21, 36317), (Start: 46 @36236 has 310 MA's), (Start: 50 @36206 has 1 MA's), (51, 36191), (52, 36176), (60, 36107), (61, 36101),

Gene: LilTurb\_54 Start: 36524, Stop: 36342, Start Num: 38

Candidate Starts for LilTurb\_54:

(Start: 35 @36530 has 2 MA's), (Start: 38 @36524 has 144 MA's), (48, 36512), (Start: 50 @36491 has 1 MA's), (51, 36476), (52, 36461), (56, 36431),

Gene: Lilbunny\_54 Start: 35087, Stop: 34905, Start Num: 38

Candidate Starts for Lilbunny\_54:

(Start: 38 @35087 has 144 MA's), (51, 35039), (54, 35012), (56, 34991), (60, 34955),

Gene: Lilith\_56 Start: 36102, Stop: 35896, Start Num: 43

Candidate Starts for Lilith\_56:

(22, 36162), (Start: 43 @36102 has 136 MA's), (Start: 50 @36063 has 1 MA's), (51, 36048), (56, 36000),

Gene: Lilleskat\_51 Start: 36110, Stop: 35847, Start Num: 43

Candidate Starts for Lilleskat\_51:

(Start: 43 @36110 has 136 MA's), (Start: 50 @36071 has 1 MA's), (51, 36056), (56, 36008), (57, 36005), (60, 35972), (72, 35903), (77, 35885),

Gene: Lillie\_42 Start: 32239, Stop: 32084, Start Num: 46

Candidate Starts for Lillie\_42:

(Start: 46 @32239 has 310 MA's), (51, 32191), (54, 32164), (60, 32107),

Gene: LittleCherry\_45 Start: 34840, Stop: 34670, Start Num: 46

Candidate Starts for LittleCherry\_45:

(Start: 46 @34840 has 310 MA's), (Start: 50 @34807 has 1 MA's), (51, 34792), (53, 34774), (56, 34744), (57, 34741), (60, 34708),

Gene: Lockley\_47 Start: 35463, Stop: 35281, Start Num: 46

Candidate Starts for Lockley\_47:

(11, 35652), (20, 35553), (21, 35544), (Start: 35 @35487 has 2 MA's), (Start: 46 @35463 has 310 MA's), (Start: 50 @35433 has 1 MA's), (51, 35418), (52, 35403), (60, 35334), (61, 35328),

Gene: Lokk\_50 Start: 35467, Stop: 35285, Start Num: 38

Candidate Starts for Lokk\_50:

(15, 35587), (Start: 38 @35467 has 144 MA's), (48, 35455), (Start: 50 @35434 has 1 MA's), (51, 35419), (52, 35404), (56, 35374), (57, 35371),

Gene: LoneWolf\_54 Start: 36139, Stop: 35885, Start Num: 43

Candidate Starts for LoneWolf\_54:

(Start: 43 @36139 has 136 MA's), (47, 36130), (51, 36094), (56, 36046), (60, 36010), (75, 35929), (77, 35923),

Gene: Looper\_58 Start: 35039, Stop: 34857, Start Num: 38

Candidate Starts for Looper\_58:

(Start: 38 @35039 has 144 MA's), (Start: 50 @35006 has 1 MA's), (56, 34943), (57, 34940), (60, 34907),

Gene: Lopton\_49 Start: 37063, Stop: 36881, Start Num: 46

Candidate Starts for Lopton\_49:

(11, 37252), (20, 37153), (21, 37144), (Start: 35 @37087 has 2 MA's), (Start: 46 @37063 has 310 MA's), (Start: 50 @37033 has 1 MA's), (51, 37018), (52, 37003), (60, 36934), (61, 36928),

Gene: Loser\_55 Start: 37094, Stop: 36915, Start Num: 38

Candidate Starts for Loser\_55:

(Start: 38 @37094 has 144 MA's), (48, 37076), (Start: 50 @37055 has 1 MA's), (52, 37025), (56, 36995), (57, 36992), (60, 36959),

Gene: Louie6\_54 Start: 36138, Stop: 35932, Start Num: 43

Candidate Starts for Louie6\_54:

(Start: 43 @36138 has 136 MA's), (Start: 50 @36099 has 1 MA's), (51, 36084), (56, 36036), (57, 36033), (60, 36000),

Gene: Luchador\_57 Start: 37767, Stop: 37528, Start Num: 43

Candidate Starts for Luchador\_57:

(Start: 43 @37767 has 136 MA's), (48, 37749), (49, 37740), (Start: 50 @37728 has 1 MA's), (51, 37713), (52, 37698), (56, 37665), (77, 37542),

Gene: Lucivia\_53 Start: 35573, Stop: 35349, Start Num: 36

Candidate Starts for Lucivia\_53:

(Start: 36 @35573 has 24 MA's), (48, 35555), (56, 35474), (57, 35471), (60, 35438), (70, 35378), (73, 35369),

Gene: Lucyedi\_54 Start: 35945, Stop: 35724, Start Num: 31

Candidate Starts for Lucyedi\_54:

(Start: 31 @35945 has 3 MA's), (47, 35924), (Start: 50 @35900 has 1 MA's), (52, 35870), (56, 35837), (57, 35834), (60, 35801),

Gene: LugYA\_58 Start: 36110, Stop: 35904, Start Num: 43

Candidate Starts for LugYA\_58:

(22, 36170), (Start: 43 @36110 has 136 MA's), (Start: 50 @36071 has 1 MA's), (51, 36056), (56, 36008),

Gene: MA5\_52 Start: 35292, Stop: 35095, Start Num: 43

Candidate Starts for MA5\_52:

(Start: 43 @35292 has 136 MA's), (Start: 50 @35253 has 1 MA's), (55, 35199), (57, 35187), (60, 35154), (67, 35112),

Gene: MK4\_52 Start: 35391, Stop: 35194, Start Num: 43

Candidate Starts for MK4\_52:

(Start: 43 @35391 has 136 MA's), (Start: 50 @35352 has 1 MA's), (55, 35298), (60, 35253), (67, 35211),

Gene: MPlant7149\_47 Start: 35005, Stop: 34823, Start Num: 46

Candidate Starts for MPlant7149\_47:

(11, 35194), (20, 35095), (21, 35086), (Start: 35 @35029 has 2 MA's), (Start: 46 @35005 has 310 MA's), (Start: 50 @34975 has 1 MA's), (51, 34960), (52, 34945), (60, 34876), (61, 34870),

Gene: MaCh\_53 Start: 35503, Stop: 35279, Start Num: 36

Candidate Starts for MaCh\_53:

(Start: 36 @35503 has 24 MA's), (48, 35485), (56, 35404), (57, 35401), (60, 35368), (70, 35308), (73, 35299),

Gene: Mabel\_52 Start: 35105, Stop: 34881, Start Num: 36

Candidate Starts for Mabel\_52:

(Start: 36 @35105 has 24 MA's), (48, 35087), (56, 35006), (57, 35003), (60, 34970), (70, 34910), (73, 34901),

Gene: MadMarie\_55 Start: 36111, Stop: 35905, Start Num: 43

Candidate Starts for MadMarie\_55:

(Start: 43 @36111 has 136 MA's), (Start: 50 @36072 has 1 MA's), (51, 36057), (56, 36009),

Gene: Magnar\_48 Start: 36479, Stop: 36273, Start Num: 46

Candidate Starts for Magnar\_48:

(11, 36668), (20, 36569), (21, 36560), (Start: 46 @36479 has 310 MA's), (Start: 50 @36449 has 1 MA's), (51, 36434), (52, 36419), (60, 36350), (61, 36344),

Gene: Magnito\_47 Start: 35083, Stop: 34922, Start Num: 46

Candidate Starts for Magnito\_47:

(11, 35272), (20, 35173), (21, 35164), (Start: 46 @35083 has 310 MA's), (Start: 50 @35053 has 1 MA's), (51, 35038), (52, 35023), (60, 34954),

Gene: Mainiac\_55 Start: 36103, Stop: 35897, Start Num: 43

Candidate Starts for Mainiac\_55:

(22, 36163), (Start: 43 @36103 has 136 MA's), (Start: 50 @36064 has 1 MA's), (51, 36049), (56, 36001),

Gene: MajorMajor\_52 Start: 35098, Stop: 34913, Start Num: 39

Candidate Starts for MajorMajor\_52:

(Start: 39 @35098 has 21 MA's), (Start: 50 @35065 has 1 MA's), (52, 35035), (56, 35002),

Gene: Makemake\_48 Start: 36533, Stop: 36351, Start Num: 46

Candidate Starts for Makemake\_48:

(11, 36722), (20, 36623), (21, 36614), (Start: 35 @36557 has 2 MA's), (Start: 46 @36533 has 310 MA's), (Start: 50 @36503 has 1 MA's), (51, 36488), (52, 36473), (60, 36404), (61, 36398),

Gene: Malec\_53 Start: 36801, Stop: 36622, Start Num: 38

Candidate Starts for Malec\_53:

(30, 36816), (Start: 38 @36801 has 144 MA's), (Start: 50 @36768 has 1 MA's), (51, 36753), (56, 36708),

Gene: Malinsilva\_57 Start: 36101, Stop: 35895, Start Num: 43

Candidate Starts for Malinsilva\_57:

(22, 36161), (Start: 43 @36101 has 136 MA's), (Start: 50 @36062 has 1 MA's), (51, 36047), (56, 35999),

Gene: Maminiaina\_52 Start: 35903, Stop: 35640, Start Num: 43

Candidate Starts for Maminiaina\_52:

(Start: 43 @35903 has 136 MA's), (Start: 50 @35864 has 1 MA's), (51, 35849), (56, 35801), (72, 35696), (77, 35678),

Gene: Manatee\_50 Start: 35609, Stop: 35427, Start Num: 46

Candidate Starts for Manatee\_50:

(11, 35798), (20, 35699), (21, 35690), (Start: 35 @35633 has 2 MA's), (Start: 46 @35609 has 310 MA's), (Start: 50 @35579 has 1 MA's), (51, 35564), (52, 35549), (60, 35480), (61, 35474),

Gene: Manu\_55 Start: 35999, Stop: 35793, Start Num: 43

Candidate Starts for Manu\_55:

(Start: 43 @35999 has 136 MA's), (Start: 50 @35960 has 1 MA's), (51, 35945), (56, 35897), (57, 35894), (60, 35861),

Gene: MarQuardt\_55 Start: 36111, Stop: 35905, Start Num: 43

Candidate Starts for MarQuardt\_55:

(22, 36171), (Start: 43 @36111 has 136 MA's), (Start: 50 @36072 has 1 MA's), (51, 36057), (56, 36009),

Gene: Marcell\_46 Start: 35399, Stop: 35217, Start Num: 46

Candidate Starts for Marcell\_46:

(11, 35588), (20, 35489), (21, 35480), (Start: 35 @35423 has 2 MA's), (Start: 46 @35399 has 310 MA's), (Start: 50 @35369 has 1 MA's), (51, 35354), (52, 35339), (60, 35270), (61, 35264),

Gene: Marchesa\_52 Start: 35826, Stop: 35629, Start Num: 43

Candidate Starts for Marchesa\_52:

(Start: 43 @35826 has 136 MA's), (Start: 50 @35787 has 1 MA's), (56, 35724), (57, 35721), (60, 35688), (67, 35646),

Gene: Marchy\_43 Start: 32513, Stop: 32331, Start Num: 46

Candidate Starts for Marchy\_43:

(11, 32702), (20, 32603), (21, 32594), (Start: 35 @32537 has 2 MA's), (Start: 46 @32513 has 310 MA's), (Start: 50 @32483 has 1 MA's), (51, 32468), (52, 32453), (60, 32384),

Gene: Marge\_48 Start: 36210, Stop: 36028, Start Num: 46

Candidate Starts for Marge\_48:

(11, 36399), (20, 36300), (21, 36291), (Start: 35 @36234 has 2 MA's), (Start: 46 @36210 has 310 MA's), (Start: 50 @36180 has 1 MA's), (51, 36165), (52, 36150), (60, 36081), (61, 36075),

Gene: Margo\_51 Start: 35942, Stop: 35733, Start Num: 37

Candidate Starts for Margo\_51:

(Start: 37 @35942 has 2 MA's), (Start: 40 @35939 has 12 MA's), (48, 35921), (Start: 50 @35900 has 1 MA's), (56, 35837), (60, 35801),

Gene: Marie\_55 Start: 36109, Stop: 35903, Start Num: 43

Candidate Starts for Marie\_55:

(22, 36169), (Start: 43 @36109 has 136 MA's), (Start: 50 @36070 has 1 MA's), (51, 36055), (56, 36007),

Gene: Marius\_56 Start: 35996, Stop: 35790, Start Num: 43

Candidate Starts for Marius\_56:

(Start: 43 @35996 has 136 MA's), (Start: 50 @35957 has 1 MA's), (51, 35942), (56, 35894), (57, 35891), (60, 35858),

Gene: Maroc7\_46 Start: 35303, Stop: 35121, Start Num: 46

Candidate Starts for Maroc7\_46:

(11, 35492), (20, 35393), (21, 35384), (Start: 35 @35327 has 2 MA's), (Start: 46 @35303 has 310 MA's), (Start: 50 @35273 has 1 MA's), (51, 35258), (52, 35243), (60, 35174), (61, 35168),

Gene: Marsha\_48 Start: 36766, Stop: 36584, Start Num: 46

Candidate Starts for Marsha\_48:

(11, 36955), (20, 36856), (21, 36847), (Start: 46 @36766 has 310 MA's), (Start: 50 @36736 has 1 MA's), (51, 36721), (52, 36706), (60, 36637), (61, 36631),

Gene: MaryBeth\_48 Start: 35672, Stop: 35490, Start Num: 46

Candidate Starts for MaryBeth\_48:

(11, 35861), (20, 35762), (21, 35753), (Start: 35 @35696 has 2 MA's), (Start: 46 @35672 has 310 MA's), (Start: 50 @35642 has 1 MA's), (51, 35627), (52, 35612), (60, 35543), (61, 35537),

Gene: MarysWell\_44 Start: 34981, Stop: 34811, Start Num: 46

Candidate Starts for MarysWell\_44:

(Start: 46 @34981 has 310 MA's), (Start: 50 @34948 has 1 MA's), (51, 34933), (53, 34915), (56, 34885), (59, 34852), (60, 34849),

Gene: McFly\_54 Start: 34993, Stop: 34811, Start Num: 38

Candidate Starts for McFly\_54:

(Start: 38 @34993 has 144 MA's), (51, 34945), (53, 34927), (56, 34897), (60, 34861),

Gene: McGuire\_50 Start: 35858, Stop: 35652, Start Num: 46

Candidate Starts for McGuire\_50:

(11, 36047), (20, 35948), (21, 35939), (Start: 35 @35882 has 2 MA's), (Start: 46 @35858 has 310 MA's), (Start: 50 @35828 has 1 MA's), (51, 35813), (52, 35798), (60, 35729), (61, 35723),

Gene: MetalQZJ\_47 Start: 35672, Stop: 35490, Start Num: 46

Candidate Starts for MetalQZJ\_47:

(11, 35861), (20, 35762), (21, 35753), (Start: 35 @35696 has 2 MA's), (Start: 46 @35672 has 310 MA's), (Start: 50 @35642 has 1 MA's), (51, 35627), (52, 35612), (60, 35543), (61, 35537),

Gene: Methuselah\_51 Start: 36133, Stop: 35927, Start Num: 43

Candidate Starts for Methuselah\_51:

(Start: 43 @36133 has 136 MA's), (Start: 50 @36094 has 1 MA's), (51, 36079), (56, 36031), (57, 36028), (60, 35995),

Gene: Micasa\_46 Start: 35008, Stop: 34838, Start Num: 46

Candidate Starts for Micasa\_46:

(Start: 46 @35008 has 310 MA's), (Start: 50 @34975 has 1 MA's), (51, 34960), (53, 34942), (56, 34912), (57, 34909), (60, 34876),

Gene: Michley\_48 Start: 35503, Stop: 35345, Start Num: 46

Candidate Starts for Michley\_48:

(11, 35692), (20, 35593), (21, 35584), (Start: 46 @35503 has 310 MA's), (Start: 50 @35473 has 1 MA's), (51, 35458), (52, 35443), (60, 35374),

Gene: Microwolf\_55 Start: 36125, Stop: 35919, Start Num: 43

Candidate Starts for Microwolf\_55:

(22, 36185), (Start: 43 @36125 has 136 MA's), (Start: 50 @36086 has 1 MA's), (51, 36071), (56, 36023),

Gene: MiculUcigas\_53 Start: 36036, Stop: 35854, Start Num: 38

Candidate Starts for MiculUcigas\_53:

(Start: 38 @36036 has 144 MA's), (Start: 50 @36003 has 1 MA's), (51, 35988), (56, 35943), (57, 35940), (60, 35907),

Gene: Midas2\_44 Start: 34730, Stop: 34560, Start Num: 46

Candidate Starts for Midas2\_44:

(Start: 46 @34730 has 310 MA's), (Start: 50 @34697 has 1 MA's), (51, 34682), (53, 34664), (56, 34634), (60, 34598),

Gene: Miko\_50 Start: 36245, Stop: 36063, Start Num: 38

Candidate Starts for Miko\_50:

(Start: 38 @36245 has 144 MA's), (48, 36233), (Start: 50 @36212 has 1 MA's), (51, 36197), (52, 36182), (56, 36152), (57, 36149),

Gene: Milcery\_45 Start: 34797, Stop: 34627, Start Num: 46

Candidate Starts for Milcery\_45:

(Start: 46 @34797 has 310 MA's), (Start: 50 @34764 has 1 MA's), (51, 34749), (53, 34731), (56, 34701), (57, 34698), (60, 34665),

Gene: MinecraftSteve\_59 Start: 35348, Stop: 35166, Start Num: 38

Candidate Starts for MinecraftSteve\_59:

(Start: 38 @35348 has 144 MA's), (Start: 50 @35315 has 1 MA's), (56, 35252), (57, 35249), (60, 35216),

Gene: Misomonster\_56 Start: 36136, Stop: 35930, Start Num: 43

Candidate Starts for Misomonster\_56:

(Start: 43 @36136 has 136 MA's), (Start: 50 @36097 has 1 MA's), (51, 36082), (56, 36034), (57, 36031), (60, 35998),

Gene: MissWhite\_52 Start: 34610, Stop: 34428, Start Num: 38

Candidate Starts for MissWhite\_52:

(30, 34625), (Start: 38 @34610 has 144 MA's), (Start: 50 @34577 has 1 MA's), (54, 34535), (56, 34517), (57, 34514),

Gene: Mkhuseleli\_47 Start: 35075, Stop: 34893, Start Num: 46

Candidate Starts for Mkhuseleli\_47:

(11, 35264), (20, 35165), (21, 35156), (Start: 46 @35075 has 310 MA's), (Start: 50 @35045 has 1 MA's), (51, 35030), (52, 35015), (60, 34946), (61, 34940),

Gene: Molly\_49 Start: 35079, Stop: 34894, Start Num: 46

Candidate Starts for Molly\_49:

(11, 35268), (20, 35169), (21, 35160), (Start: 35 @35103 has 2 MA's), (Start: 46 @35079 has 310 MA's), (Start: 50 @35049 has 1 MA's), (51, 35034), (52, 35019), (60, 34950),

Gene: Monet\_51 Start: 37202, Stop: 37020, Start Num: 46

Candidate Starts for Monet\_51:

(11, 37391), (20, 37292), (21, 37283), (Start: 35 @37226 has 2 MA's), (Start: 46 @37202 has 310 MA's), (Start: 50 @37172 has 1 MA's), (51, 37157), (52, 37142), (60, 37073), (61, 37067),

Gene: MoneyMay\_55 Start: 36109, Stop: 35903, Start Num: 43

Candidate Starts for MoneyMay\_55:

(22, 36169), (Start: 43 @36109 has 136 MA's), (Start: 50 @36070 has 1 MA's), (51, 36055), (56, 36007),

Gene: Moose\_48 Start: 35573, Stop: 35391, Start Num: 46

Candidate Starts for Moose\_48:

(11, 35762), (20, 35663), (21, 35654), (Start: 46 @35573 has 310 MA's), (Start: 50 @35543 has 1 MA's), (51, 35528), (52, 35513), (60, 35444), (61, 35438),

Gene: MrGordo\_48 Start: 35297, Stop: 35139, Start Num: 46

Candidate Starts for MrGordo\_48:

(11, 35486), (20, 35387), (21, 35378), (Start: 46 @35297 has 310 MA's), (Start: 50 @35267 has 1 MA's), (51, 35252), (52, 35237), (60, 35168),

Gene: Mryolo\_46 Start: 35051, Stop: 34869, Start Num: 46

Candidate Starts for Mryolo\_46:

(11, 35240), (20, 35141), (21, 35132), (Start: 46 @35051 has 310 MA's), (Start: 50 @35021 has 1 MA's), (51, 35006), (52, 34991), (60, 34922), (61, 34916),

Gene: MuchMore\_58 Start: 36101, Stop: 35895, Start Num: 43

Candidate Starts for MuchMore\_58:

(22, 36161), (Start: 43 @36101 has 136 MA's), (Start: 50 @36062 has 1 MA's), (51, 36047), (56, 35999),

Gene: Mulciber\_52 Start: 35061, Stop: 34837, Start Num: 36

Candidate Starts for Mulciber\_52:

(Start: 36 @35061 has 24 MA's), (48, 35043), (56, 34962), (57, 34959), (60, 34926), (70, 34866), (73, 34857),

Gene: Mule\_45 Start: 33222, Stop: 33040, Start Num: 46

Candidate Starts for Mule\_45:

(11, 33411), (20, 33312), (21, 33303), (Start: 35 @33246 has 2 MA's), (Start: 46 @33222 has 310 MA's), (Start: 50 @33192 has 1 MA's), (51, 33177), (52, 33162), (60, 33093), (61, 33087),

Gene: Munch\_53 Start: 35524, Stop: 35300, Start Num: 36

Candidate Starts for Munch\_53:

(Start: 36 @35524 has 24 MA's), (48, 35506), (56, 35425), (57, 35422), (60, 35389), (70, 35329), (73, 35320),

Gene: Museum\_49 Start: 35230, Stop: 35045, Start Num: 46

Candidate Starts for Museum\_49:

(11, 35419), (20, 35320), (21, 35311), (Start: 46 @35230 has 310 MA's), (Start: 50 @35200 has 1 MA's), (51, 35185), (52, 35170), (60, 35101),

Gene: MyraDee\_46 Start: 32384, Stop: 32187, Start Num: 46

Candidate Starts for MyraDee\_46:

(13, 32546), (33, 32411), (Start: 46 @32384 has 310 MA's), (51, 32336), (56, 32288),

Gene: Myxus\_53 Start: 36108, Stop: 35845, Start Num: 43



Candidate Starts for Myxus\_53:

(Start: 43 @36108 has 136 MA's), (Start: 50 @36069 has 1 MA's), (51, 36054), (56, 36006), (60, 35970), (72, 35901), (77, 35883),

Gene: NEHalo\_46 Start: 34997, Stop: 34815, Start Num: 46

Candidate Starts for NEHalo\_46:

(11, 35186), (20, 35087), (21, 35078), (Start: 35 @35021 has 2 MA's), (Start: 46 @34997 has 310 MA's), (Start: 50 @34967 has 1 MA's), (51, 34952), (52, 34937), (60, 34868), (61, 34862),

Gene: NaSiaTalie\_53 Start: 36130, Stop: 35948, Start Num: 38

Candidate Starts for NaSiaTalie\_53:

(Start: 38 @36130 has 144 MA's), (Start: 50 @36097 has 1 MA's), (51, 36082), (56, 36037), (57, 36034), (60, 36001),

Gene: Naca\_46 Start: 35107, Stop: 34937, Start Num: 46

Candidate Starts for Naca\_46:

(Start: 46 @35107 has 310 MA's), (Start: 50 @35074 has 1 MA's), (51, 35059), (53, 35041), (56, 35011), (59, 34978), (60, 34975),

Gene: Naiad\_41 Start: 32252, Stop: 32097, Start Num: 46

Candidate Starts for Naiad\_41:

(Start: 46 @32252 has 310 MA's), (51, 32204), (54, 32177), (60, 32120),

Gene: Naira\_51 Start: 37967, Stop: 37785, Start Num: 46

Candidate Starts for Naira\_51:

(11, 38156), (20, 38057), (21, 38048), (Start: 35 @37991 has 2 MA's), (Start: 46 @37967 has 310 MA's), (Start: 50 @37937 has 1 MA's), (51, 37922), (52, 37907), (60, 37838),

Gene: Naji\_55 Start: 35941, Stop: 35756, Start Num: 39

Candidate Starts for Naji\_55:

(4, 36148), (5, 36145), (8, 36136), (Start: 39 @35941 has 21 MA's), (Start: 50 @35908 has 1 MA's), (51, 35893), (52, 35878), (56, 35845), (62, 35794),

Gene: Nancinator\_42 Start: 32172, Stop: 32017, Start Num: 46

Candidate Starts for Nancinator\_42:

(Start: 46 @32172 has 310 MA's), (51, 32124), (54, 32097), (60, 32040),

Gene: Natosaleda\_41 Start: 32171, Stop: 32016, Start Num: 46

Candidate Starts for Natosaleda\_41:

(Start: 46 @32171 has 310 MA's), (51, 32123), (54, 32096), (60, 32039),

Gene: NearlyHeadless\_49 Start: 34096, Stop: 33935, Start Num: 46

Candidate Starts for NearlyHeadless\_49:

(Start: 46 @34096 has 310 MA's), (Start: 50 @34063 has 1 MA's), (53, 34030), (56, 34000), (60, 33964),

Gene: Nebulosus\_57 Start: 35123, Stop: 34941, Start Num: 38

Candidate Starts for Nebulosus\_57:

(Start: 38 @35123 has 144 MA's), (Start: 50 @35090 has 1 MA's), (56, 35027), (57, 35024), (60, 34991), (62, 34976),

Gene: Nedarya\_54 Start: 34671, Stop: 34489, Start Num: 38

Candidate Starts for Nedarya\_54:

(Start: 38 @34671 has 144 MA's), (Start: 50 @34638 has 1 MA's), (51, 34623), (56, 34575), (57, 34572), (60, 34539),

Gene: Neeharika16\_53 Start: 34453, Stop: 34271, Start Num: 38

Candidate Starts for Neeharika16\_53:

(Start: 38 @34453 has 144 MA's), (51, 34405), (53, 34387), (56, 34357), (60, 34321),

Gene: Nerujay\_51 Start: 36662, Stop: 36456, Start Num: 46

Candidate Starts for Nerujay\_51:

(11, 36851), (20, 36752), (21, 36743), (Start: 46 @36662 has 310 MA's), (Start: 50 @36632 has 1 MA's), (51, 36617), (52, 36602), (60, 36533), (61, 36527),

Gene: Newrala\_54 Start: 34995, Stop: 34813, Start Num: 38

Candidate Starts for Newrala\_54:

(Start: 38 @34995 has 144 MA's), (51, 34947), (53, 34929), (56, 34899), (60, 34863),

Gene: Nhonho\_49 Start: 36168, Stop: 35983, Start Num: 46

Candidate Starts for Nhonho\_49:

(11, 36357), (20, 36258), (21, 36249), (Start: 35 @36192 has 2 MA's), (Start: 46 @36168 has 310 MA's), (Start: 50 @36138 has 1 MA's), (51, 36123), (52, 36108), (60, 36039),

Gene: NicoleTera\_52 Start: 36428, Stop: 36219, Start Num: 38

Candidate Starts for NicoleTera\_52:

(Start: 38 @36428 has 144 MA's), (48, 36410), (Start: 50 @36389 has 1 MA's), (51, 36380), (52, 36365), (56, 36332), (60, 36296),

Gene: Niza\_51 Start: 37074, Stop: 36892, Start Num: 46

Candidate Starts for Niza\_51:

(11, 37263), (20, 37164), (21, 37155), (Start: 46 @37074 has 310 MA's), (Start: 50 @37044 has 1 MA's), (51, 37029), (52, 37014), (60, 36945), (61, 36939),

Gene: Noella\_51 Start: 35914, Stop: 35708, Start Num: 40

Candidate Starts for Noella\_51:

(Start: 37 @35917 has 2 MA's), (Start: 40 @35914 has 12 MA's), (48, 35896), (Start: 50 @35875 has 1 MA's), (56, 35812), (60, 35776),

Gene: Norbert\_50 Start: 35913, Stop: 35707, Start Num: 40

Candidate Starts for Norbert\_50:

(Start: 37 @35916 has 2 MA's), (Start: 40 @35913 has 12 MA's), (48, 35895), (Start: 50 @35874 has 1 MA's), (56, 35811), (60, 35775),

Gene: Norz\_49 Start: 36249, Stop: 36067, Start Num: 46

Candidate Starts for Norz\_49:

(11, 36438), (20, 36339), (21, 36330), (Start: 35 @36273 has 2 MA's), (Start: 46 @36249 has 310 MA's), (Start: 50 @36219 has 1 MA's), (51, 36204), (52, 36189), (60, 36120),

Gene: NothingSpecial\_51 Start: 36652, Stop: 36470, Start Num: 38

Candidate Starts for NothingSpecial\_51:

(9, 36844), (Start: 38 @36652 has 144 MA's), (Start: 50 @36619 has 1 MA's), (51, 36604), (52, 36589), (56, 36559), (57, 36556), (60, 36523),

Gene: OKCentral2016\_49 Start: 35095, Stop: 34895, Start Num: 46

Candidate Starts for OKCentral2016\_49:

(7, 35305), (Start: 46 @35095 has 310 MA's), (Start: 50 @35062 has 1 MA's), (51, 35047), (56, 34999), (60, 34963),

Gene: Odin\_51 Start: 34966, Stop: 34757, Start Num: 39

Candidate Starts for Odin\_51:

(30, 34981), (Start: 39 @34966 has 21 MA's), (Start: 50 @34933 has 1 MA's), (51, 34918), (52, 34903), (56, 34870), (74, 34762),

Gene: Ohno789\_50 Start: 36764, Stop: 36582, Start Num: 46

Candidate Starts for Ohno789\_50:

(11, 36953), (20, 36854), (21, 36845), (Start: 35 @36788 has 2 MA's), (Start: 46 @36764 has 310 MA's), (Start: 50 @36734 has 1 MA's), (51, 36719), (52, 36704), (60, 36635),

Gene: OlanP\_54 Start: 36172, Stop: 35966, Start Num: 43

Candidate Starts for OlanP\_54:

(Start: 43 @36172 has 136 MA's), (Start: 50 @36133 has 1 MA's), (51, 36118), (56, 36070), (60, 36034),

Gene: Ollie\_55 Start: 35980, Stop: 35774, Start Num: 43

Candidate Starts for Ollie\_55:

(Start: 43 @35980 has 136 MA's), (Start: 50 @35941 has 1 MA's), (51, 35926), (56, 35878),

Gene: Onglai\_51 Start: 34449, Stop: 34186, Start Num: 43

Candidate Starts for Onglai\_51:

(Start: 43 @34449 has 136 MA's), (Start: 50 @34410 has 1 MA's), (51, 34395), (56, 34347), (60, 34311), (72, 34242), (77, 34224),

Gene: Oofda\_60 Start: 35341, Stop: 35159, Start Num: 38

Candidate Starts for Oofda\_60:

(Start: 38 @35341 has 144 MA's), (Start: 50 @35308 has 1 MA's), (56, 35245), (57, 35242), (60, 35209),

Gene: Oogway\_47 Start: 34925, Stop: 34764, Start Num: 46

Candidate Starts for Oogway\_47:

(11, 35114), (20, 35015), (21, 35006), (Start: 35 @34949 has 2 MA's), (Start: 46 @34925 has 310 MA's), (Start: 50 @34895 has 1 MA's), (51, 34880), (52, 34865), (60, 34796),

Gene: Orange\_52 Start: 35073, Stop: 34849, Start Num: 36

Candidate Starts for Orange\_52:

(Start: 36 @35073 has 24 MA's), (48, 35055), (56, 34974), (57, 34971), (60, 34938), (70, 34878), (73, 34869),

Gene: P28Green\_56 Start: 36112, Stop: 35906, Start Num: 43

Candidate Starts for P28Green\_56:

(22, 36172), (Start: 43 @36112 has 136 MA's), (Start: 50 @36073 has 1 MA's), (51, 36058), (56, 36010),

Gene: PGHhamlin\_57 Start: 36101, Stop: 35895, Start Num: 43

Candidate Starts for PGHhamlin\_57:

(22, 36161), (Start: 43 @36101 has 136 MA's), (Start: 50 @36062 has 1 MA's), (51, 36047), (56, 35999),

Gene: PSullivan\_48 Start: 35041, Stop: 34859, Start Num: 46

Candidate Starts for PSullivan\_48:

(11, 35230), (20, 35131), (21, 35122), (Start: 35 @35065 has 2 MA's), (Start: 46 @35041 has 310 MA's), (Start: 50 @35011 has 1 MA's), (51, 34996), (52, 34981), (60, 34912), (61, 34906),

Gene: PacerPaul\_48 Start: 35785, Stop: 35603, Start Num: 46

Candidate Starts for PacerPaul\_48:

(11, 35974), (20, 35875), (21, 35866), (Start: 46 @35785 has 310 MA's), (Start: 50 @35755 has 1 MA's), (51, 35740), (52, 35725), (60, 35656), (61, 35650),

Gene: PackMan\_52 Start: 36108, Stop: 35845, Start Num: 43

Candidate Starts for PackMan\_52:

(Start: 43 @36108 has 136 MA's), (Start: 50 @36069 has 1 MA's), (51, 36054), (56, 36006), (60, 35970), (72, 35901), (77, 35883),

Gene: PainterBoy\_54 Start: 35882, Stop: 35661, Start Num: 31

Candidate Starts for PainterBoy\_54:

(Start: 31 @35882 has 3 MA's), (47, 35861), (Start: 50 @35837 has 1 MA's), (52, 35807), (56, 35774), (57, 35771), (60, 35738),

Gene: Panamaxus\_49 Start: 35913, Stop: 35707, Start Num: 40

Candidate Starts for Panamaxus\_49:

(Start: 37 @35916 has 2 MA's), (Start: 40 @35913 has 12 MA's), (48, 35895), (Start: 50 @35874 has 1 MA's), (56, 35811), (60, 35775),

Gene: Papez\_51 Start: 38165, Stop: 37980, Start Num: 46

Candidate Starts for Papez\_51:

(11, 38354), (20, 38255), (21, 38246), (Start: 46 @38165 has 310 MA's), (Start: 50 @38135 has 1 MA's), (51, 38120), (52, 38105), (60, 38036),

Gene: Paphu\_46 Start: 35299, Stop: 35114, Start Num: 46

Candidate Starts for Paphu\_46:

(11, 35488), (20, 35389), (21, 35380), (Start: 35 @35323 has 2 MA's), (Start: 46 @35299 has 310 MA's), (Start: 50 @35269 has 1 MA's), (51, 35254), (52, 35239), (60, 35170),

Gene: Paraselene\_46 Start: 35663, Stop: 35481, Start Num: 46

Candidate Starts for Paraselene\_46:

(11, 35852), (20, 35753), (21, 35744), (Start: 35 @35687 has 2 MA's), (Start: 46 @35663 has 310 MA's), (Start: 50 @35633 has 1 MA's), (51, 35618), (52, 35603), (60, 35534), (61, 35528),

Gene: Pari\_50 Start: 35676, Stop: 35494, Start Num: 46

Candidate Starts for Pari\_50:

(20, 35766), (21, 35757), (Start: 46 @35676 has 310 MA's), (Start: 50 @35646 has 1 MA's), (51, 35631), (52, 35616), (60, 35547),

Gene: Parliament\_48 Start: 36213, Stop: 36031, Start Num: 46

Candidate Starts for Parliament\_48:

(11, 36402), (20, 36303), (21, 36294), (Start: 35 @36237 has 2 MA's), (Start: 46 @36213 has 310 MA's), (Start: 50 @36183 has 1 MA's), (51, 36168), (52, 36153), (60, 36084),

Gene: Partridge\_41 Start: 32399, Stop: 32244, Start Num: 46

Candidate Starts for Partridge\_41:

(Start: 46 @32399 has 310 MA's), (51, 32351), (54, 32324), (60, 32267),

Gene: PascalRango\_49 Start: 35558, Stop: 35373, Start Num: 46  
Candidate Starts for PascalRango\_49:  
(11, 35747), (20, 35648), (21, 35639), (Start: 46 @35558 has 310 MA's), (Start: 50 @35528 has 1 MA's), (51, 35513), (52, 35498), (60, 35429),

Gene: PattyP\_49 Start: 35423, Stop: 35241, Start Num: 46  
Candidate Starts for PattyP\_49:  
(11, 35612), (20, 35513), (21, 35504), (Start: 35 @35447 has 2 MA's), (Start: 46 @35423 has 310 MA's), (Start: 50 @35393 has 1 MA's), (51, 35378), (52, 35363), (60, 35294), (61, 35288),

Gene: Pawn\_55 Start: 36003, Stop: 35797, Start Num: 43  
Candidate Starts for Pawn\_55:  
(Start: 43 @36003 has 136 MA's), (Start: 50 @35964 has 1 MA's), (51, 35949), (56, 35901), (57, 35898), (60, 35865),

Gene: Payneful\_48 Start: 35230, Stop: 35048, Start Num: 46  
Candidate Starts for Payneful\_48:  
(11, 35419), (20, 35320), (21, 35311), (Start: 35 @35254 has 2 MA's), (Start: 46 @35230 has 310 MA's), (Start: 50 @35200 has 1 MA's), (51, 35185), (52, 35170), (60, 35101),

Gene: PeaceMeal1\_48 Start: 34605, Stop: 34405, Start Num: 46  
Candidate Starts for PeaceMeal1\_48:  
(2, 34878), (3, 34845), (Start: 46 @34605 has 310 MA's), (Start: 50 @34572 has 1 MA's), (51, 34557), (56, 34509), (60, 34473),

Gene: Pelly\_48 Start: 36137, Stop: 35979, Start Num: 46  
Candidate Starts for Pelly\_48:  
(11, 36326), (20, 36227), (21, 36218), (Start: 46 @36137 has 310 MA's), (Start: 50 @36107 has 1 MA's), (51, 36092), (52, 36077), (60, 36008),

Gene: Pembroke\_55 Start: 36110, Stop: 35904, Start Num: 43  
Candidate Starts for Pembroke\_55:  
(22, 36170), (Start: 43 @36110 has 136 MA's), (Start: 50 @36071 has 1 MA's), (51, 36056), (56, 36008),

Gene: Penny1\_56 Start: 36113, Stop: 35907, Start Num: 43  
Candidate Starts for Penny1\_56:  
(22, 36173), (Start: 43 @36113 has 136 MA's), (Start: 50 @36074 has 1 MA's), (51, 36059), (56, 36011),

Gene: Pepe\_45 Start: 33984, Stop: 33802, Start Num: 46  
Candidate Starts for Pepe\_45:  
(11, 34173), (20, 34074), (21, 34065), (Start: 46 @33984 has 310 MA's), (Start: 50 @33954 has 1 MA's), (51, 33939), (52, 33924), (60, 33855), (61, 33849),

Gene: Perseus\_48 Start: 36108, Stop: 35926, Start Num: 46  
Candidate Starts for Perseus\_48:  
(11, 36297), (20, 36198), (21, 36189), (Start: 35 @36132 has 2 MA's), (Start: 46 @36108 has 310 MA's), (Start: 50 @36078 has 1 MA's), (51, 36063), (52, 36048), (60, 35979), (61, 35973),

Gene: Petersenfast\_51 Start: 35072, Stop: 34848, Start Num: 36  
Candidate Starts for Petersenfast\_51:

(Start: 36 @35072 has 24 MA's), (48, 35054), (56, 34973), (57, 34970), (60, 34937), (70, 34877), (73, 34868),

Gene: Peterson\_53 Start: 38406, Stop: 38245, Start Num: 46

Candidate Starts for Peterson\_53:

(20, 38496), (21, 38487), (Start: 46 @38406 has 310 MA's), (Start: 50 @38376 has 1 MA's), (51, 38361), (52, 38346), (60, 38277),

Gene: Petp2012\_49 Start: 36038, Stop: 35853, Start Num: 46

Candidate Starts for Petp2012\_49:

(11, 36227), (20, 36128), (21, 36119), (Start: 35 @36062 has 2 MA's), (Start: 46 @36038 has 310 MA's), (Start: 50 @36008 has 1 MA's), (51, 35993), (52, 35978), (60, 35909),

Gene: Petruccio\_48 Start: 35769, Stop: 35587, Start Num: 46

Candidate Starts for Petruccio\_48:

(11, 35958), (20, 35859), (21, 35850), (Start: 35 @35793 has 2 MA's), (Start: 46 @35769 has 310 MA's), (Start: 50 @35739 has 1 MA's), (51, 35724), (52, 35709), (60, 35640), (61, 35634),

Gene: PetterN\_49 Start: 34695, Stop: 34525, Start Num: 46

Candidate Starts for PetterN\_49:

(Start: 46 @34695 has 310 MA's), (Start: 50 @34662 has 1 MA's), (51, 34647), (53, 34629), (56, 34599), (57, 34596), (60, 34563), (64, 34530),

Gene: Ph8s\_54 Start: 35290, Stop: 35114, Start Num: 50

Candidate Starts for Ph8s\_54:

(28, 35347), (Start: 39 @35323 has 21 MA's), (Start: 50 @35290 has 1 MA's), (51, 35275), (56, 35227), (70, 35131),

Gene: Phaded\_54 Start: 37280, Stop: 37107, Start Num: 38

Candidate Starts for Phaded\_54:

(18, 37376), (Start: 38 @37280 has 144 MA's), (Start: 41 @37277 has 1 MA's), (48, 37268), (51, 37235), (56, 37187), (57, 37184), (60, 37151),

Gene: Phaeder\_53 Start: 36108, Stop: 35845, Start Num: 43

Candidate Starts for Phaeder\_53:

(Start: 43 @36108 has 136 MA's), (Start: 50 @36069 has 1 MA's), (51, 36054), (56, 36006), (60, 35970), (72, 35901), (77, 35883),

Gene: PhailMary\_41 Start: 32561, Stop: 32406, Start Num: 46

Candidate Starts for PhailMary\_41:

(Start: 46 @32561 has 310 MA's), (51, 32513), (54, 32486), (60, 32429),

Gene: Phantastic\_53 Start: 35592, Stop: 35395, Start Num: 43

Candidate Starts for Phantastic\_53:

(Start: 43 @35592 has 136 MA's), (Start: 50 @35553 has 1 MA's), (56, 35490), (57, 35487), (60, 35454), (67, 35412),

Gene: Pharaoh\_48 Start: 35902, Stop: 35687, Start Num: 38

Candidate Starts for Pharaoh\_48:

(Start: 38 @35902 has 144 MA's), (48, 35884), (Start: 50 @35863 has 1 MA's), (51, 35848), (52, 35833), (56, 35800), (65, 35731),

Gene: PherrisBueller\_48 Start: 35038, Stop: 34856, Start Num: 46

Candidate Starts for PherrisBueller\_48:  
(11, 35227), (20, 35128), (21, 35119), (Start: 46 @35038 has 310 MA's), (Start: 50 @35008 has 1 MA's), (51, 34993), (52, 34978), (60, 34909), (61, 34903),

Gene: Phillis\_50 Start: 34482, Stop: 34312, Start Num: 46  
Candidate Starts for Phillis\_50:  
(Start: 46 @34482 has 310 MA's), (Start: 50 @34449 has 1 MA's), (53, 34416), (56, 34386), (60, 34350),

Gene: PhishRPhriends\_53 Start: 35180, Stop: 34974, Start Num: 43  
Candidate Starts for PhishRPhriends\_53:  
(Start: 43 @35180 has 136 MA's), (Start: 50 @35141 has 1 MA's), (51, 35126), (56, 35078), (60, 35042),

Gene: Phlei\_42 Start: 35571, Stop: 35410, Start Num: 46  
Candidate Starts for Phlei\_42:  
(Start: 46 @35571 has 310 MA's), (51, 35526), (56, 35478), (60, 35442),

Gene: Phlorence\_43 Start: 34407, Stop: 34237, Start Num: 46  
Candidate Starts for Phlorence\_43:  
(Start: 46 @34407 has 310 MA's), (Start: 50 @34374 has 1 MA's), (51, 34359), (53, 34341), (56, 34311), (57, 34308), (60, 34275),

Gene: Phoebe\_56 Start: 36102, Stop: 35896, Start Num: 43  
Candidate Starts for Phoebe\_56:  
(22, 36162), (Start: 43 @36102 has 136 MA's), (Start: 50 @36063 has 1 MA's), (51, 36048), (56, 36000),

Gene: Phonnegut\_53 Start: 36205, Stop: 35942, Start Num: 43  
Candidate Starts for Phonnegut\_53:  
(Start: 43 @36205 has 136 MA's), (Start: 50 @36166 has 1 MA's), (51, 36151), (56, 36103), (57, 36100), (60, 36067), (72, 35998), (77, 35980),

Gene: Phoxy\_55 Start: 36134, Stop: 35928, Start Num: 43  
Candidate Starts for Phoxy\_55:  
(Start: 43 @36134 has 136 MA's), (Start: 50 @36095 has 1 MA's), (51, 36080), (56, 36032), (57, 36029), (60, 35996),

Gene: Phrankenstein\_42 Start: 32185, Stop: 32030, Start Num: 46  
Candidate Starts for Phrankenstein\_42:  
(Start: 46 @32185 has 310 MA's), (51, 32137), (54, 32110), (60, 32053),

Gene: Phranny\_56 Start: 35985, Stop: 35779, Start Num: 43  
Candidate Starts for Phranny\_56:  
(Start: 43 @35985 has 136 MA's), (Start: 50 @35946 has 1 MA's), (51, 35931), (56, 35883), (57, 35880), (60, 35847),

Gene: PhrostyMug\_47 Start: 35387, Stop: 35205, Start Num: 46  
Candidate Starts for PhrostyMug\_47:  
(11, 35576), (20, 35477), (21, 35468), (Start: 35 @35411 has 2 MA's), (Start: 46 @35387 has 310 MA's), (Start: 50 @35357 has 1 MA's), (51, 35342), (52, 35327), (60, 35258), (61, 35252),

Gene: PickleBack\_44 Start: 34474, Stop: 34304, Start Num: 46

Candidate Starts for PickleBack\_44:

(Start: 46 @34474 has 310 MA's), (Start: 50 @34441 has 1 MA's), (51, 34426), (53, 34408), (56, 34378), (57, 34375), (60, 34342),

Gene: PinkPlastic\_48 Start: 35612, Stop: 35406, Start Num: 46

Candidate Starts for PinkPlastic\_48:

(11, 35801), (20, 35702), (21, 35693), (Start: 35 @35636 has 2 MA's), (Start: 46 @35612 has 310 MA's), (Start: 50 @35582 has 1 MA's), (51, 35567), (52, 35552), (60, 35483), (61, 35477),

Gene: Pinto\_48 Start: 35226, Stop: 35044, Start Num: 46

Candidate Starts for Pinto\_48:

(11, 35415), (20, 35316), (21, 35307), (Start: 35 @35250 has 2 MA's), (Start: 46 @35226 has 310 MA's), (Start: 50 @35196 has 1 MA's), (51, 35181), (52, 35166), (60, 35097), (61, 35091),

Gene: Pioneer\_53 Start: 36205, Stop: 35942, Start Num: 43

Candidate Starts for Pioneer\_53:

(Start: 43 @36205 has 136 MA's), (Start: 50 @36166 has 1 MA's), (51, 36151), (56, 36103), (57, 36100), (60, 36067), (72, 35998), (77, 35980),

Gene: Pippin\_50 Start: 36136, Stop: 35954, Start Num: 46

Candidate Starts for Pippin\_50:

(11, 36325), (20, 36226), (21, 36217), (Start: 46 @36136 has 310 MA's), (Start: 50 @36106 has 1 MA's), (51, 36091), (52, 36076), (60, 36007), (61, 36001),

Gene: Piro94\_53 Start: 36477, Stop: 36295, Start Num: 38

Candidate Starts for Piro94\_53:

(Start: 38 @36477 has 144 MA's), (Start: 50 @36444 has 1 MA's), (51, 36429), (56, 36384), (57, 36381), (60, 36348),

Gene: Pistachio\_54 Start: 35510, Stop: 35313, Start Num: 43

Candidate Starts for Pistachio\_54:

(Start: 43 @35510 has 136 MA's), (Start: 50 @35471 has 1 MA's), (56, 35408), (60, 35372), (67, 35330),

Gene: Pita2\_51 Start: 36538, Stop: 36356, Start Num: 46

Candidate Starts for Pita2\_51:

(11, 36727), (20, 36628), (21, 36619), (Start: 35 @36562 has 2 MA's), (Start: 46 @36538 has 310 MA's), (Start: 50 @36508 has 1 MA's), (51, 36493), (52, 36478), (60, 36409), (61, 36403),

Gene: Pmask\_54 Start: 34996, Stop: 34814, Start Num: 38

Candidate Starts for Pmask\_54:

(Start: 38 @34996 has 144 MA's), (51, 34948), (53, 34930), (56, 34900), (60, 34864),

Gene: Pocahontas\_51 Start: 35910, Stop: 35704, Start Num: 40

Candidate Starts for Pocahontas\_51:

(Start: 37 @35913 has 2 MA's), (Start: 40 @35910 has 12 MA's), (48, 35892), (Start: 50 @35871 has 1 MA's), (56, 35808), (60, 35772),

Gene: Pomar16\_55 Start: 35981, Stop: 35796, Start Num: 39

Candidate Starts for Pomar16\_55:

(4, 36188), (5, 36185), (8, 36176), (Start: 39 @35981 has 21 MA's), (Start: 50 @35948 has 1 MA's), (51, 35933), (52, 35918), (56, 35885), (62, 35834),



Gene: Poompha\_49 Start: 34603, Stop: 34403, Start Num: 46  
Candidate Starts for Poompha\_49:  
(2, 34876), (3, 34843), (Start: 46 @34603 has 310 MA's), (Start: 50 @34570 has 1 MA's), (51, 34555),  
(56, 34507), (60, 34471),

Gene: Popcicle\_51 Start: 35910, Stop: 35704, Start Num: 40  
Candidate Starts for Popcicle\_51:  
(Start: 37 @35913 has 2 MA's), (Start: 40 @35910 has 12 MA's), (48, 35892), (Start: 50 @35871 has  
1 MA's), (56, 35808), (60, 35772),

Gene: PotatoSplit\_57 Start: 36113, Stop: 35907, Start Num: 43  
Candidate Starts for PotatoSplit\_57:  
(22, 36173), (Start: 43 @36113 has 136 MA's), (Start: 50 @36074 has 1 MA's), (51, 36059), (56,  
36011),

Gene: Power\_52 Start: 36105, Stop: 35932, Start Num: 38  
Candidate Starts for Power\_52:  
(Start: 35 @36111 has 2 MA's), (Start: 38 @36105 has 144 MA's), (48, 36093), (Start: 50 @36072 has  
1 MA's), (51, 36057), (52, 36042), (56, 36012), (60, 35976),

Gene: Priamo\_56 Start: 34755, Stop: 34573, Start Num: 38  
Candidate Starts for Priamo\_56:  
(Start: 38 @34755 has 144 MA's), (51, 34707), (53, 34689), (56, 34659), (60, 34623),

Gene: Priya\_53 Start: 36175, Stop: 35912, Start Num: 43  
Candidate Starts for Priya\_53:  
(Start: 43 @36175 has 136 MA's), (Start: 50 @36136 has 1 MA's), (51, 36121), (56, 36073), (60,  
36037), (72, 35968), (77, 35950),

Gene: ProMouse\_49 Start: 36249, Stop: 36064, Start Num: 46  
Candidate Starts for ProMouse\_49:  
(11, 36438), (20, 36339), (21, 36330), (Start: 35 @36273 has 2 MA's), (Start: 46 @36249 has 310  
MA's), (Start: 50 @36219 has 1 MA's), (51, 36204), (52, 36189), (60, 36120),

Gene: Pukovnik\_52 Start: 36937, Stop: 36755, Start Num: 38  
Candidate Starts for Pukovnik\_52:  
(Start: 38 @36937 has 144 MA's), (Start: 41 @36934 has 1 MA's), (48, 36925), (51, 36892), (56,  
36844), (57, 36841), (60, 36808),

Gene: Puppy\_54 Start: 35582, Stop: 35385, Start Num: 43  
Candidate Starts for Puppy\_54:  
(Start: 43 @35582 has 136 MA's), (Start: 50 @35543 has 1 MA's), (56, 35480), (60, 35444), (67,  
35402),

Gene: PurpleHaze\_55 Start: 35998, Stop: 35792, Start Num: 43  
Candidate Starts for PurpleHaze\_55:  
(Start: 43 @35998 has 136 MA's), (Start: 50 @35959 has 1 MA's), (51, 35944), (56, 35896), (57,  
35893), (60, 35860),

Gene: QTRlifeCrisis\_48 Start: 36234, Stop: 36052, Start Num: 46  
Candidate Starts for QTRlifeCrisis\_48:  
(11, 36423), (20, 36324), (21, 36315), (Start: 46 @36234 has 310 MA's), (Start: 50 @36204 has 1  
MA's), (51, 36189), (52, 36174), (60, 36105), (61, 36099),

Gene: Qobbit\_53 Start: 36137, Stop: 35874, Start Num: 43

Candidate Starts for Qobbit\_53:

(Start: 43 @36137 has 136 MA's), (Start: 50 @36098 has 1 MA's), (51, 36083), (56, 36035), (60, 35999), (72, 35930), (77, 35912),

Gene: QueenB2\_52 Start: 36089, Stop: 35910, Start Num: 38

Candidate Starts for QueenB2\_52:

(Start: 35 @36095 has 2 MA's), (Start: 38 @36089 has 144 MA's), (48, 36077), (Start: 50 @36056 has 1 MA's), (51, 36041), (52, 36026), (56, 35996),

Gene: QueenBeesly\_53 Start: 36052, Stop: 35879, Start Num: 38

Candidate Starts for QueenBeesly\_53:

(Start: 35 @36058 has 2 MA's), (Start: 38 @36052 has 144 MA's), (48, 36040), (Start: 50 @36019 has 1 MA's), (51, 36004), (52, 35989), (56, 35959), (60, 35923),

Gene: QuinnKiro\_50 Start: 35913, Stop: 35707, Start Num: 40

Candidate Starts for QuinnKiro\_50:

(Start: 37 @35916 has 2 MA's), (Start: 40 @35913 has 12 MA's), (48, 35895), (Start: 50 @35874 has 1 MA's), (56, 35811), (60, 35775),

Gene: Quokka\_51 Start: 35098, Stop: 34913, Start Num: 39

Candidate Starts for Quokka\_51:

(Start: 39 @35098 has 21 MA's), (Start: 50 @35065 has 1 MA's), (52, 35035), (56, 35002),

Gene: RER2\_35 Start: 29111, Stop: 28956, Start Num: 46

Candidate Starts for RER2\_35:

(Start: 46 @29111 has 310 MA's), (51, 29063), (54, 29036), (60, 28979),

Gene: RGL3\_36 Start: 29776, Stop: 29621, Start Num: 46

Candidate Starts for RGL3\_36:

(Start: 46 @29776 has 310 MA's), (47, 29767), (51, 29728), (52, 29713), (54, 29701), (60, 29644),

Gene: Rachaly\_52 Start: 36390, Stop: 36208, Start Num: 38

Candidate Starts for Rachaly\_52:

(15, 36510), (Start: 38 @36390 has 144 MA's), (48, 36378), (Start: 50 @36357 has 1 MA's), (51, 36342), (52, 36327), (56, 36297), (57, 36294),

Gene: Rahalelujah\_53 Start: 35677, Stop: 35423, Start Num: 43

Candidate Starts for Rahalelujah\_53:

(17, 35788), (Start: 43 @35677 has 136 MA's), (47, 35668), (56, 35584), (57, 35581), (66, 35509), (77, 35461),

Gene: Rajelicia\_49 Start: 36168, Stop: 35986, Start Num: 46

Candidate Starts for Rajelicia\_49:

(20, 36258), (21, 36249), (Start: 35 @36192 has 2 MA's), (Start: 46 @36168 has 310 MA's), (Start: 50 @36138 has 1 MA's), (51, 36123), (52, 36108), (60, 36039), (61, 36033),

Gene: Rasputin\_42 Start: 32209, Stop: 32054, Start Num: 46

Candidate Starts for Rasputin\_42:

(Start: 46 @32209 has 310 MA's), (51, 32161), (54, 32134), (60, 32077),

Gene: ReMo\_57 Start: 35124, Stop: 34942, Start Num: 38

Candidate Starts for ReMo\_57:

(Start: 38 @35124 has 144 MA's), (Start: 50 @35091 has 1 MA's), (56, 35028), (57, 35025), (60, 34992), (62, 34977),

Gene: Reba\_55 Start: 35658, Stop: 35452, Start Num: 43

Candidate Starts for Reba\_55:

(Start: 43 @35658 has 136 MA's), (Start: 50 @35619 has 1 MA's), (51, 35604), (56, 35556), (57, 35553), (60, 35520),

Gene: Rebeuca\_50 Start: 35747, Stop: 35547, Start Num: 46

Candidate Starts for Rebeuca\_50:

(7, 35951), (Start: 46 @35747 has 310 MA's), (Start: 50 @35714 has 1 MA's), (51, 35699), (56, 35651), (60, 35615),

Gene: RedRock\_55 Start: 37315, Stop: 37124, Start Num: 38

Candidate Starts for RedRock\_55:

(Start: 38 @37315 has 144 MA's), (Start: 46 @37306 has 310 MA's), (48, 37297), (Start: 50 @37276 has 1 MA's), (51, 37261), (56, 37213), (60, 37177), (61, 37171),

Gene: Refuge\_51 Start: 37134, Stop: 36907, Start Num: 38

Candidate Starts for Refuge\_51:

(Start: 38 @37134 has 144 MA's), (48, 37107), (Start: 50 @37086 has 1 MA's), (51, 37077), (52, 37062), (56, 37029), (60, 36993), (61, 36987), (65, 36957), (69, 36936), (71, 36930),

Gene: Remus\_59 Start: 35130, Stop: 34948, Start Num: 38

Candidate Starts for Remus\_59:

(Start: 38 @35130 has 144 MA's), (Start: 50 @35097 has 1 MA's), (56, 35034), (57, 35031), (60, 34998),

Gene: ResDef\_51 Start: 35913, Stop: 35707, Start Num: 40

Candidate Starts for ResDef\_51:

(Start: 37 @35916 has 2 MA's), (Start: 40 @35913 has 12 MA's), (48, 35895), (Start: 50 @35874 has 1 MA's), (56, 35811), (60, 35775),

Gene: Retro23\_54 Start: 36489, Stop: 36310, Start Num: 38

Candidate Starts for Retro23\_54:

(Start: 35 @36495 has 2 MA's), (Start: 38 @36489 has 144 MA's), (48, 36477), (Start: 50 @36456 has 1 MA's), (51, 36441), (52, 36426), (56, 36396), (60, 36360),

Gene: RexFury\_41 Start: 32270, Stop: 32115, Start Num: 46

Candidate Starts for RexFury\_41:

(Start: 46 @32270 has 310 MA's), (51, 32222), (54, 32195), (60, 32138),

Gene: Rhodalysa\_42 Start: 32239, Stop: 32084, Start Num: 46

Candidate Starts for Rhodalysa\_42:

(Start: 46 @32239 has 310 MA's), (51, 32191), (54, 32164), (60, 32107),

Gene: RhynO\_51 Start: 35549, Stop: 35349, Start Num: 46

Candidate Starts for RhynO\_51:

(3, 35789), (24, 35609), (Start: 46 @35549 has 310 MA's), (Start: 50 @35516 has 1 MA's), (56, 35453), (60, 35417),

Gene: Rhynn\_47 Start: 35469, Stop: 35287, Start Num: 46

Candidate Starts for Rhynn\_47:

(11, 35658), (20, 35559), (21, 35550), (Start: 35 @35493 has 2 MA's), (Start: 46 @35469 has 310 MA's), (Start: 50 @35439 has 1 MA's), (51, 35424), (52, 35409), (60, 35340), (61, 35334),

Gene: RidgeCB\_48 Start: 35384, Stop: 35202, Start Num: 46

Candidate Starts for RidgeCB\_48:

(11, 35573), (20, 35474), (21, 35465), (Start: 35 @35408 has 2 MA's), (Start: 46 @35384 has 310 MA's), (Start: 50 @35354 has 1 MA's), (51, 35339), (52, 35324), (60, 35255), (61, 35249),

Gene: Rifter\_55 Start: 34559, Stop: 34377, Start Num: 38

Candidate Starts for Rifter\_55:

(Start: 38 @34559 has 144 MA's), (51, 34511), (54, 34484), (56, 34463), (60, 34427),

Gene: Ringer\_49 Start: 36500, Stop: 36318, Start Num: 46

Candidate Starts for Ringer\_49:

(20, 36590), (21, 36581), (Start: 46 @36500 has 310 MA's), (Start: 50 @36470 has 1 MA's), (51, 36455), (52, 36440), (60, 36371), (61, 36365),

Gene: Roary\_50 Start: 34315, Stop: 34154, Start Num: 46

Candidate Starts for Roary\_50:

(Start: 46 @34315 has 310 MA's), (Start: 50 @34282 has 1 MA's), (53, 34249), (56, 34219), (60, 34183),

Gene: Rockstar\_52 Start: 35400, Stop: 35203, Start Num: 43

Candidate Starts for Rockstar\_52:

(Start: 43 @35400 has 136 MA's), (Start: 50 @35361 has 1 MA's), (52, 35331), (55, 35307), (60, 35262), (67, 35220),

Gene: Rohr\_49 Start: 36188, Stop: 36006, Start Num: 46

Candidate Starts for Rohr\_49:

(11, 36377), (20, 36278), (21, 36269), (Start: 35 @36212 has 2 MA's), (Start: 46 @36188 has 310 MA's), (Start: 50 @36158 has 1 MA's), (51, 36143), (52, 36128), (60, 36059), (61, 36053),

Gene: Roksolana\_56 Start: 35423, Stop: 35241, Start Num: 38

Candidate Starts for Roksolana\_56:

(Start: 38 @35423 has 144 MA's), (51, 35375), (54, 35348), (56, 35327), (60, 35291),

Gene: Rosalind\_57 Start: 35267, Stop: 35085, Start Num: 38

Candidate Starts for Rosalind\_57:

(Start: 38 @35267 has 144 MA's), (Start: 50 @35234 has 1 MA's), (56, 35171), (57, 35168), (60, 35135),

Gene: Rowdy\_54 Start: 35457, Stop: 35257, Start Num: 46

Candidate Starts for Rowdy\_54:

(7, 35661), (Start: 46 @35457 has 310 MA's), (Start: 50 @35424 has 1 MA's), (51, 35409), (56, 35361), (60, 35325),

Gene: Rubeus\_48 Start: 34045, Stop: 33863, Start Num: 46

Candidate Starts for Rubeus\_48:

(11, 34234), (20, 34135), (21, 34126), (Start: 35 @34069 has 2 MA's), (Start: 46 @34045 has 310 MA's), (Start: 50 @34015 has 1 MA's), (51, 34000), (52, 33985), (60, 33916), (61, 33910),

Gene: Rufus\_49 Start: 35815, Stop: 35633, Start Num: 46

Candidate Starts for Rufus\_49:

(11, 36004), (20, 35905), (21, 35896), (Start: 35 @35839 has 2 MA's), (Start: 46 @35815 has 310 MA's), (Start: 50 @35785 has 1 MA's), (51, 35770), (52, 35755), (60, 35686), (61, 35680),

Gene: Rummer\_54 Start: 36137, Stop: 35931, Start Num: 43

Candidate Starts for Rummer\_54:

(Start: 43 @36137 has 136 MA's), (Start: 50 @36098 has 1 MA's), (51, 36083), (56, 36035), (57, 36032), (60, 35999),

Gene: Ruotula\_51 Start: 37305, Stop: 37123, Start Num: 46

Candidate Starts for Ruotula\_51:

(11, 37494), (20, 37395), (21, 37386), (Start: 35 @37329 has 2 MA's), (Start: 46 @37305 has 310 MA's), (Start: 50 @37275 has 1 MA's), (51, 37260), (52, 37245), (60, 37176), (61, 37170),

Gene: Rutherferd\_50 Start: 36685, Stop: 36500, Start Num: 46

Candidate Starts for Rutherferd\_50:

(20, 36775), (21, 36766), (Start: 46 @36685 has 310 MA's), (Start: 50 @36655 has 1 MA's), (51, 36640), (52, 36625), (60, 36556),

Gene: RyeScarlet\_54 Start: 36180, Stop: 35917, Start Num: 43

Candidate Starts for RyeScarlet\_54:

(Start: 43 @36180 has 136 MA's), (Start: 50 @36141 has 1 MA's), (51, 36126), (56, 36078), (57, 36075), (60, 36042), (72, 35973), (77, 35955),

Gene: STLscum\_51 Start: 37081, Stop: 36920, Start Num: 46

Candidate Starts for STLscum\_51:

(11, 37270), (20, 37171), (21, 37162), (Start: 35 @37105 has 2 MA's), (Start: 46 @37081 has 310 MA's), (Start: 50 @37051 has 1 MA's), (51, 37036), (52, 37021), (60, 36952),

Gene: Sabia\_55 Start: 36118, Stop: 35912, Start Num: 43

Candidate Starts for Sabia\_55:

(22, 36178), (Start: 43 @36118 has 136 MA's), (Start: 50 @36079 has 1 MA's), (51, 36064), (56, 36016),

Gene: Sabinator\_54 Start: 36108, Stop: 35902, Start Num: 43

Candidate Starts for Sabinator\_54:

(22, 36168), (Start: 43 @36108 has 136 MA's), (Start: 50 @36069 has 1 MA's), (51, 36054), (56, 36006),

Gene: Sachima\_50 Start: 36090, Stop: 35827, Start Num: 43

Candidate Starts for Sachima\_50:

(Start: 43 @36090 has 136 MA's), (Start: 50 @36051 has 1 MA's), (51, 36036), (56, 35988), (57, 35985), (60, 35952), (72, 35883), (77, 35865),

Gene: Sagefire\_51 Start: 37054, Stop: 36872, Start Num: 46

Candidate Starts for Sagefire\_51:

(11, 37243), (20, 37144), (21, 37135), (Start: 46 @37054 has 310 MA's), (Start: 50 @37024 has 1 MA's), (51, 37009), (52, 36994), (60, 36925), (61, 36919),

Gene: Saintus\_44 Start: 31031, Stop: 30870, Start Num: 46

Candidate Starts for Saintus\_44:

(Start: 46 @31031 has 310 MA's), (Start: 50 @30998 has 1 MA's), (53, 30965), (56, 30935), (60, 30899),

Gene: Salz\_51 Start: 35043, Stop: 34819, Start Num: 36

Candidate Starts for Salz\_51:

(Start: 36 @35043 has 24 MA's), (48, 35025), (56, 34944), (57, 34941), (60, 34908), (70, 34848), (73, 34839),

Gene: Sandaddy\_47 Start: 35855, Stop: 35673, Start Num: 46

Candidate Starts for Sandaddy\_47:

(11, 36044), (20, 35945), (21, 35936), (Start: 35 @35879 has 2 MA's), (Start: 46 @35855 has 310 MA's), (Start: 50 @35825 has 1 MA's), (51, 35810), (52, 35795), (60, 35726), (61, 35720),

Gene: Sanya\_46 Start: 36154, Stop: 35972, Start Num: 46

Candidate Starts for Sanya\_46:

(11, 36343), (20, 36244), (21, 36235), (Start: 35 @36178 has 2 MA's), (Start: 46 @36154 has 310 MA's), (Start: 50 @36124 has 1 MA's), (51, 36109), (52, 36094), (60, 36025), (61, 36019),

Gene: SarFire\_46 Start: 35406, Stop: 35224, Start Num: 46

Candidate Starts for SarFire\_46:

(11, 35595), (20, 35496), (21, 35487), (Start: 35 @35430 has 2 MA's), (Start: 46 @35406 has 310 MA's), (Start: 50 @35376 has 1 MA's), (51, 35361), (52, 35346), (60, 35277), (61, 35271),

Gene: SaturnRing\_53 Start: 35963, Stop: 35766, Start Num: 43

Candidate Starts for SaturnRing\_53:

(Start: 43 @35963 has 136 MA's), (Start: 50 @35924 has 1 MA's), (56, 35861), (60, 35825), (67, 35783),

Gene: Scherzo\_53 Start: 36394, Stop: 36131, Start Num: 43

Candidate Starts for Scherzo\_53:

(Start: 43 @36394 has 136 MA's), (Start: 50 @36355 has 1 MA's), (51, 36340), (56, 36292), (57, 36289), (60, 36256), (72, 36187), (77, 36169),

Gene: Scorpia\_49 Start: 34781, Stop: 34611, Start Num: 46

Candidate Starts for Scorpia\_49:

(Start: 46 @34781 has 310 MA's), (Start: 50 @34748 has 1 MA's), (51, 34733), (53, 34715), (56, 34685), (57, 34682), (60, 34649), (64, 34616),

Gene: Scout\_52 Start: 35087, Stop: 34890, Start Num: 43

Candidate Starts for Scout\_52:

(Start: 43 @35087 has 136 MA's), (Start: 50 @35048 has 1 MA's), (56, 34985), (57, 34982), (60, 34949), (67, 34907),

Gene: Scowl\_49 Start: 36342, Stop: 36160, Start Num: 46

Candidate Starts for Scowl\_49:

(11, 36531), (20, 36432), (21, 36423), (Start: 35 @36366 has 2 MA's), (Start: 46 @36342 has 310 MA's), (Start: 50 @36312 has 1 MA's), (51, 36297), (52, 36282), (60, 36213), (61, 36207),

Gene: Seabiscuit\_51 Start: 35945, Stop: 35739, Start Num: 46

Candidate Starts for Seabiscuit\_51:

(11, 36134), (20, 36035), (21, 36026), (Start: 35 @35969 has 2 MA's), (Start: 46 @35945 has 310 MA's), (Start: 50 @35915 has 1 MA's), (51, 35900), (52, 35885), (60, 35816), (61, 35810),

Gene: Seanderson\_50 Start: 36745, Stop: 36563, Start Num: 46

Candidate Starts for Seanderson\_50:

(11, 36934), (20, 36835), (21, 36826), (Start: 35 @36769 has 2 MA's), (Start: 46 @36745 has 310 MA's), (Start: 50 @36715 has 1 MA's), (51, 36700), (52, 36685), (60, 36616), (61, 36610),

Gene: SemperFi\_54 Start: 36320, Stop: 36147, Start Num: 38

Candidate Starts for SemperFi\_54:

(Start: 35 @36326 has 2 MA's), (Start: 38 @36320 has 144 MA's), (48, 36308), (Start: 50 @36287 has 1 MA's), (51, 36272), (52, 36257), (56, 36227), (60, 36191),

Gene: Serenity\_53 Start: 35288, Stop: 35103, Start Num: 39

Candidate Starts for Serenity\_53:

(Start: 39 @35288 has 21 MA's), (Start: 50 @35255 has 1 MA's), (52, 35225), (56, 35192),

Gene: Severus\_48 Start: 34603, Stop: 34403, Start Num: 46

Candidate Starts for Severus\_48:

(2, 34876), (3, 34843), (Start: 46 @34603 has 310 MA's), (Start: 50 @34570 has 1 MA's), (51, 34555), (56, 34507), (60, 34471),

Gene: Sham4\_52 Start: 35071, Stop: 34847, Start Num: 36

Candidate Starts for Sham4\_52:

(Start: 36 @35071 has 24 MA's), (48, 35053), (56, 34972), (57, 34969), (60, 34936), (70, 34876), (73, 34867),

Gene: Shapes\_54 Start: 35457, Stop: 35257, Start Num: 46

Candidate Starts for Shapes\_54:

(7, 35661), (Start: 46 @35457 has 310 MA's), (Start: 50 @35424 has 1 MA's), (51, 35409), (56, 35361), (60, 35325),

Gene: ShayRa\_59 Start: 35311, Stop: 35129, Start Num: 38

Candidate Starts for ShayRa\_59:

(Start: 38 @35311 has 144 MA's), (Start: 50 @35278 has 1 MA's), (56, 35215), (57, 35212), (60, 35179),

Gene: SheaKeira\_51 Start: 35582, Stop: 35343, Start Num: 43

Candidate Starts for SheaKeira\_51:

(14, 35732), (17, 35693), (Start: 43 @35582 has 136 MA's), (52, 35522), (56, 35489), (70, 35393), (76, 35369),

Gene: ShortQueendom\_42 Start: 31919, Stop: 31737, Start Num: 46

Candidate Starts for ShortQueendom\_42:

(11, 32108), (20, 32009), (21, 32000), (Start: 35 @31943 has 2 MA's), (Start: 46 @31919 has 310 MA's), (Start: 50 @31889 has 1 MA's), (51, 31874), (52, 31859), (60, 31790), (61, 31784),

Gene: Shuman\_42 Start: 32184, Stop: 32029, Start Num: 46

Candidate Starts for Shuman\_42:

(Start: 46 @32184 has 310 MA's), (51, 32136), (54, 32109), (60, 32052),

Gene: Sibs6\_49 Start: 34676, Stop: 34491, Start Num: 46

Candidate Starts for Sibs6\_49:

(11, 34865), (20, 34766), (21, 34757), (Start: 35 @34700 has 2 MA's), (Start: 46 @34676 has 310 MA's), (Start: 50 @34646 has 1 MA's), (51, 34631), (52, 34616), (60, 34547),

Gene: SkiPole\_53 Start: 36802, Stop: 36641, Start Num: 46

Candidate Starts for SkiPole\_53:

(11, 36991), (20, 36892), (21, 36883), (Start: 35 @36826 has 2 MA's), (Start: 46 @36802 has 310 MA's), (Start: 50 @36772 has 1 MA's), (51, 36757), (52, 36742), (60, 36673),

Gene: Slagathor\_50 Start: 36093, Stop: 35911, Start Num: 46

Candidate Starts for Slagathor\_50:

(11, 36282), (20, 36183), (21, 36174), (Start: 35 @36117 has 2 MA's), (Start: 46 @36093 has 310 MA's), (Start: 50 @36063 has 1 MA's), (51, 36048), (52, 36033), (60, 35964), (61, 35958),

Gene: Smairt\_50 Start: 36380, Stop: 36198, Start Num: 46

Candidate Starts for Smairt\_50:

(11, 36569), (20, 36470), (21, 36461), (Start: 35 @36404 has 2 MA's), (Start: 46 @36380 has 310 MA's), (Start: 50 @36350 has 1 MA's), (51, 36335), (52, 36320), (60, 36251), (61, 36245),

Gene: Smeadley\_50 Start: 34481, Stop: 34320, Start Num: 46

Candidate Starts for Smeadley\_50:

(Start: 46 @34481 has 310 MA's), (Start: 50 @34448 has 1 MA's), (53, 34415), (56, 34385), (60, 34349),

Gene: Smeagan\_56 Start: 36787, Stop: 36605, Start Num: 38

Candidate Starts for Smeagan\_56:

(Start: 35 @36793 has 2 MA's), (Start: 38 @36787 has 144 MA's), (48, 36775), (Start: 50 @36754 has 1 MA's), (51, 36739), (52, 36724), (56, 36694),

Gene: Smeagol\_50 Start: 37279, Stop: 37097, Start Num: 46

Candidate Starts for Smeagol\_50:

(11, 37468), (20, 37369), (21, 37360), (Start: 46 @37279 has 310 MA's), (Start: 50 @37249 has 1 MA's), (51, 37234), (52, 37219), (60, 37150), (61, 37144),

Gene: SmellyB\_54 Start: 34993, Stop: 34811, Start Num: 38

Candidate Starts for SmellyB\_54:

(Start: 38 @34993 has 144 MA's), (51, 34945), (53, 34927), (56, 34897), (60, 34861),

Gene: SnapTap\_53 Start: 36131, Stop: 35958, Start Num: 38

Candidate Starts for SnapTap\_53:

(Start: 35 @36137 has 2 MA's), (Start: 38 @36131 has 144 MA's), (48, 36119), (Start: 50 @36098 has 1 MA's), (51, 36083), (52, 36068), (56, 36038), (60, 36002),

Gene: Snape\_52 Start: 35063, Stop: 34839, Start Num: 36

Candidate Starts for Snape\_52:

(Start: 36 @35063 has 24 MA's), (48, 35045), (56, 34964), (57, 34961), (60, 34928), (70, 34868), (73, 34859),

Gene: Snazzy\_47 Start: 35479, Stop: 35273, Start Num: 46

Candidate Starts for Snazzy\_47:

(11, 35668), (20, 35569), (21, 35560), (Start: 35 @35503 has 2 MA's), (Start: 46 @35479 has 310 MA's), (Start: 50 @35449 has 1 MA's), (51, 35434), (52, 35419), (60, 35350), (61, 35344),

Gene: Snickers\_55 Start: 36083, Stop: 35877, Start Num: 43

Candidate Starts for Snickers\_55:

(22, 36143), (Start: 43 @36083 has 136 MA's), (Start: 50 @36044 has 1 MA's), (51, 36029), (56, 35981),

Gene: SoYo\_55 Start: 36021, Stop: 35815, Start Num: 43



Candidate Starts for SoYo\_55:

(22, 36081), (Start: 43 @36021 has 136 MA's), (Start: 50 @35982 has 1 MA's), (51, 35967), (56, 35919),

Gene: SoilDragon\_55 Start: 35557, Stop: 35351, Start Num: 43

Candidate Starts for SoilDragon\_55:

(Start: 43 @35557 has 136 MA's), (Start: 50 @35518 has 1 MA's), (51, 35503), (56, 35455),

Gene: Solon\_47 Start: 35737, Stop: 35555, Start Num: 46

Candidate Starts for Solon\_47:

(11, 35926), (20, 35827), (21, 35818), (Start: 35 @35761 has 2 MA's), (Start: 46 @35737 has 310 MA's), (Start: 50 @35707 has 1 MA's), (51, 35692), (52, 35677), (60, 35608), (61, 35602),

Gene: SororFago\_55 Start: 37097, Stop: 36858, Start Num: 43

Candidate Starts for SororFago\_55:

(19, 37199), (Start: 43 @37097 has 136 MA's), (48, 37079), (49, 37070), (Start: 50 @37058 has 1 MA's), (56, 36995), (77, 36872),

Gene: Sorpresa\_47 Start: 35857, Stop: 35675, Start Num: 46

Candidate Starts for Sorpresa\_47:

(11, 36046), (20, 35947), (21, 35938), (Start: 35 @35881 has 2 MA's), (Start: 46 @35857 has 310 MA's), (Start: 50 @35827 has 1 MA's), (51, 35812), (52, 35797), (60, 35728), (61, 35722),

Gene: Soshari\_57 Start: 36133, Stop: 35927, Start Num: 43

Candidate Starts for Soshari\_57:

(Start: 43 @36133 has 136 MA's), (Start: 50 @36094 has 1 MA's), (51, 36079), (56, 36031), (57, 36028), (60, 35995),

Gene: Soups\_59 Start: 35550, Stop: 35368, Start Num: 38

Candidate Starts for Soups\_59:

(Start: 38 @35550 has 144 MA's), (Start: 50 @35517 has 1 MA's), (56, 35454), (57, 35451), (60, 35418),

Gene: Spike509\_55 Start: 36134, Stop: 35928, Start Num: 43

Candidate Starts for Spike509\_55:

(Start: 43 @36134 has 136 MA's), (Start: 50 @36095 has 1 MA's), (51, 36080), (56, 36032), (57, 36029), (60, 35996),

Gene: SpikeBT\_48 Start: 36097, Stop: 35912, Start Num: 46

Candidate Starts for SpikeBT\_48:

(11, 36286), (20, 36187), (21, 36178), (Start: 46 @36097 has 310 MA's), (Start: 50 @36067 has 1 MA's), (51, 36052), (52, 36037), (60, 35968),

Gene: Spouty\_53 Start: 36174, Stop: 35911, Start Num: 43

Candidate Starts for Spouty\_53:

(Start: 43 @36174 has 136 MA's), (Start: 50 @36135 has 1 MA's), (51, 36120), (56, 36072), (60, 36036), (72, 35967), (77, 35949),

Gene: Squee\_49 Start: 36434, Stop: 36252, Start Num: 46

Candidate Starts for Squee\_49:

(11, 36623), (20, 36524), (21, 36515), (Start: 35 @36458 has 2 MA's), (Start: 46 @36434 has 310 MA's), (Start: 50 @36404 has 1 MA's), (51, 36389), (52, 36374), (60, 36305),

Gene: StCroix\_41 Start: 32252, Stop: 32097, Start Num: 46  
Candidate Starts for StCroix\_41:  
(Start: 46 @32252 has 310 MA's), (51, 32204), (54, 32177), (60, 32120),

Gene: Stagni\_55 Start: 36112, Stop: 35906, Start Num: 43  
Candidate Starts for Stagni\_55:  
(22, 36172), (Start: 43 @36112 has 136 MA's), (Start: 50 @36073 has 1 MA's), (51, 36058), (56, 36010),

Gene: StarStuff\_55 Start: 35943, Stop: 35758, Start Num: 39  
Candidate Starts for StarStuff\_55:  
(4, 36150), (5, 36147), (8, 36138), (Start: 39 @35943 has 21 MA's), (Start: 50 @35910 has 1 MA's), (51, 35895), (52, 35880), (56, 35847), (62, 35796),

Gene: Steamy\_49 Start: 35646, Stop: 35422, Start Num: 38  
Candidate Starts for Steamy\_49:  
(Start: 38 @35646 has 144 MA's), (48, 35619), (Start: 50 @35598 has 1 MA's), (52, 35568), (56, 35535), (65, 35466),

Gene: StepMih\_55 Start: 36103, Stop: 35897, Start Num: 43  
Candidate Starts for StepMih\_55:  
(22, 36163), (Start: 43 @36103 has 136 MA's), (Start: 50 @36064 has 1 MA's), (51, 36049), (56, 36001),

Gene: Stephig9\_50 Start: 34514, Stop: 34344, Start Num: 46  
Candidate Starts for Stephig9\_50:  
(25, 34574), (26, 34568), (Start: 46 @34514 has 310 MA's), (Start: 50 @34481 has 1 MA's), (53, 34448), (56, 34418), (60, 34382), (63, 34361),

Gene: StewieG\_47 Start: 33257, Stop: 33075, Start Num: 46  
Candidate Starts for StewieG\_47:  
(11, 33446), (20, 33347), (21, 33338), (Start: 35 @33281 has 2 MA's), (Start: 46 @33257 has 310 MA's), (Start: 50 @33227 has 1 MA's), (51, 33212), (52, 33197), (60, 33128), (61, 33122),

Gene: StrongArm\_48 Start: 36940, Stop: 36758, Start Num: 46  
Candidate Starts for StrongArm\_48:  
(11, 37129), (20, 37030), (21, 37021), (Start: 35 @36964 has 2 MA's), (Start: 46 @36940 has 310 MA's), (Start: 50 @36910 has 1 MA's), (51, 36895), (52, 36880), (60, 36811), (61, 36805),

Gene: Strosahl\_59 Start: 35130, Stop: 34948, Start Num: 38  
Candidate Starts for Strosahl\_59:  
(Start: 38 @35130 has 144 MA's), (Start: 50 @35097 has 1 MA's), (56, 35034), (57, 35031), (60, 34998),

Gene: Sumter\_45 Start: 35442, Stop: 35260, Start Num: 46  
Candidate Starts for Sumter\_45:  
(11, 35631), (20, 35532), (21, 35523), (Start: 35 @35466 has 2 MA's), (Start: 46 @35442 has 310 MA's), (Start: 50 @35412 has 1 MA's), (51, 35397), (52, 35382), (60, 35313), (61, 35307),

Gene: Sunhee\_56 Start: 35518, Stop: 35279, Start Num: 43  
Candidate Starts for Sunhee\_56:  
(Start: 43 @35518 has 136 MA's), (48, 35500), (Start: 50 @35479 has 1 MA's), (51, 35464), (56, 35416), (77, 35293),

Gene: Sunshine924\_49 Start: 35360, Stop: 35175, Start Num: 46  
Candidate Starts for Sunshine924\_49:  
(11, 35549), (20, 35450), (21, 35441), (Start: 35 @35384 has 2 MA's), (Start: 46 @35360 has 310 MA's), (Start: 50 @35330 has 1 MA's), (51, 35315), (52, 35300), (60, 35231),

Gene: SuperAwesome\_54 Start: 35007, Stop: 34825, Start Num: 38  
Candidate Starts for SuperAwesome\_54:  
(Start: 38 @35007 has 144 MA's), (51, 34959), (53, 34941), (56, 34911), (60, 34875),

Gene: SuperCallie99\_53 Start: 34880, Stop: 34698, Start Num: 38  
Candidate Starts for SuperCallie99\_53:  
(Start: 38 @34880 has 144 MA's), (51, 34832), (53, 34814), (56, 34784), (60, 34748),

Gene: Superchunk\_51 Start: 34594, Stop: 34385, Start Num: 39  
Candidate Starts for Superchunk\_51:  
(27, 34633), (30, 34609), (Start: 39 @34594 has 21 MA's), (Start: 50 @34561 has 1 MA's), (51, 34546), (56, 34498), (74, 34390),

Gene: Swann\_42 Start: 32237, Stop: 32082, Start Num: 46  
Candidate Starts for Swann\_42:  
(Start: 46 @32237 has 310 MA's), (51, 32189), (54, 32162), (60, 32105),

Gene: SweetiePie\_53 Start: 36263, Stop: 36090, Start Num: 38  
Candidate Starts for SweetiePie\_53:  
(Start: 35 @36269 has 2 MA's), (Start: 38 @36263 has 144 MA's), (48, 36251), (Start: 50 @36230 has 1 MA's), (51, 36215), (52, 36200), (56, 36170), (60, 36134),

Gene: SwirlSquare\_58 Start: 35459, Stop: 35250, Start Num: 39  
Candidate Starts for SwirlSquare\_58:  
(24, 35510), (27, 35498), (Start: 39 @35459 has 21 MA's), (Start: 50 @35426 has 1 MA's), (51, 35411), (56, 35363), (74, 35255),

Gene: Swirley\_47 Start: 35140, Stop: 34970, Start Num: 46  
Candidate Starts for Swirley\_47:  
(Start: 46 @35140 has 310 MA's), (Start: 50 @35107 has 1 MA's), (51, 35092), (53, 35074), (56, 35044), (57, 35041), (60, 35008),

Gene: SwissCheese\_50 Start: 36073, Stop: 35891, Start Num: 46  
Candidate Starts for SwissCheese\_50:  
(11, 36262), (20, 36163), (21, 36154), (Start: 46 @36073 has 310 MA's), (Start: 50 @36043 has 1 MA's), (51, 36028), (52, 36013), (60, 35944), (61, 35938),

Gene: Switzer\_50 Start: 36014, Stop: 35832, Start Num: 46  
Candidate Starts for Switzer\_50:  
(11, 36203), (20, 36104), (21, 36095), (Start: 46 @36014 has 310 MA's), (Start: 50 @35984 has 1 MA's), (51, 35969), (52, 35954), (60, 35885), (61, 35879),

Gene: Switzerland\_58 Start: 35450, Stop: 35268, Start Num: 38  
Candidate Starts for Switzerland\_58:  
(Start: 38 @35450 has 144 MA's), (Start: 50 @35417 has 1 MA's), (56, 35354), (57, 35351), (60, 35318),

Gene: Swole\_49 Start: 35242, Stop: 35060, Start Num: 46  
Candidate Starts for Swole\_49:  
(11, 35431), (20, 35332), (21, 35323), (Start: 35 @35266 has 2 MA's), (Start: 46 @35242 has 310 MA's), (Start: 50 @35212 has 1 MA's), (51, 35197), (52, 35182), (60, 35113), (61, 35107),

Gene: SydNat\_47 Start: 35482, Stop: 35312, Start Num: 46  
Candidate Starts for SydNat\_47:  
(Start: 46 @35482 has 310 MA's), (Start: 50 @35449 has 1 MA's), (51, 35434), (53, 35416), (56, 35386), (57, 35383), (60, 35350), (63, 35329), (64, 35317),

Gene: TNguyen7\_53 Start: 35929, Stop: 35732, Start Num: 43  
Candidate Starts for TNguyen7\_53:  
(Start: 43 @35929 has 136 MA's), (Start: 50 @35890 has 1 MA's), (56, 35827), (60, 35791), (67, 35749),

Gene: TWAMP\_42 Start: 32239, Stop: 32084, Start Num: 46  
Candidate Starts for TWAMP\_42:  
(Start: 46 @32239 has 310 MA's), (51, 32191), (54, 32164), (60, 32107),

Gene: Takoda\_42 Start: 32146, Stop: 31991, Start Num: 46  
Candidate Starts for Takoda\_42:  
(Start: 46 @32146 has 310 MA's), (51, 32098), (54, 32071), (60, 32014),

Gene: Target\_49 Start: 34646, Stop: 34464, Start Num: 46  
Candidate Starts for Target\_49:  
(11, 34835), (20, 34736), (21, 34727), (Start: 35 @34670 has 2 MA's), (Start: 46 @34646 has 310 MA's), (Start: 50 @34616 has 1 MA's), (51, 34601), (52, 34586), (60, 34517), (61, 34511),

Gene: TarsusIV\_52 Start: 36112, Stop: 35930, Start Num: 38  
Candidate Starts for TarsusIV\_52:  
(Start: 35 @36118 has 2 MA's), (Start: 38 @36112 has 144 MA's), (48, 36100), (Start: 50 @36079 has 1 MA's), (51, 36064), (54, 36037), (56, 36019), (57, 36016), (60, 35983),

Gene: Tarynearal\_43 Start: 34582, Stop: 34412, Start Num: 46  
Candidate Starts for Tarynearal\_43:  
(Start: 46 @34582 has 310 MA's), (Start: 50 @34549 has 1 MA's), (51, 34534), (53, 34516), (56, 34486), (57, 34483), (60, 34450),

Gene: Tasp14\_50 Start: 36339, Stop: 36157, Start Num: 46  
Candidate Starts for Tasp14\_50:  
(11, 36528), (20, 36429), (21, 36420), (Start: 35 @36363 has 2 MA's), (Start: 46 @36339 has 310 MA's), (Start: 50 @36309 has 1 MA's), (51, 36294), (52, 36279), (60, 36210),

Gene: Taurus\_56 Start: 36109, Stop: 35903, Start Num: 43  
Candidate Starts for Taurus\_56:  
(22, 36169), (Start: 43 @36109 has 136 MA's), (Start: 50 @36070 has 1 MA's), (51, 36055), (56, 36007),

Gene: Teodoridan\_47 Start: 35533, Stop: 35351, Start Num: 46  
Candidate Starts for Teodoridan\_47:  
(11, 35722), (20, 35623), (21, 35614), (Start: 35 @35557 has 2 MA's), (Start: 46 @35533 has 310 MA's), (Start: 50 @35503 has 1 MA's), (51, 35488), (52, 35473), (60, 35404),

Gene: Texage\_50 Start: 35917, Stop: 35708, Start Num: 37  
Candidate Starts for Texage\_50:  
(Start: 37 @35917 has 2 MA's), (Start: 40 @35914 has 12 MA's), (48, 35896), (Start: 50 @35875 has 1 MA's), (56, 35812), (60, 35776),

Gene: Theia\_43 Start: 34959, Stop: 34789, Start Num: 46  
Candidate Starts for Theia\_43:  
(Start: 46 @34959 has 310 MA's), (Start: 50 @34926 has 1 MA's), (51, 34911), (53, 34893), (56, 34863), (59, 34830), (60, 34827),

Gene: TheloniousMonk\_49 Start: 37101, Stop: 36919, Start Num: 46  
Candidate Starts for TheloniousMonk\_49:  
(11, 37290), (20, 37191), (21, 37182), (Start: 46 @37101 has 310 MA's), (Start: 50 @37071 has 1 MA's), (51, 37056), (52, 37041), (60, 36972), (61, 36966),

Gene: Thor\_46 Start: 34764, Stop: 34582, Start Num: 46  
Candidate Starts for Thor\_46:  
(11, 34953), (20, 34854), (21, 34845), (Start: 35 @34788 has 2 MA's), (Start: 46 @34764 has 310 MA's), (Start: 50 @34734 has 1 MA's), (51, 34719), (52, 34704), (60, 34635), (61, 34629),

Gene: Tiffany\_55 Start: 35995, Stop: 35789, Start Num: 43  
Candidate Starts for Tiffany\_55:  
(Start: 43 @35995 has 136 MA's), (Start: 50 @35956 has 1 MA's), (51, 35941), (56, 35893),

Gene: Tiger\_43 Start: 34148, Stop: 33978, Start Num: 46  
Candidate Starts for Tiger\_43:  
(Start: 46 @34148 has 310 MA's), (Start: 50 @34115 has 1 MA's), (51, 34100), (53, 34082), (56, 34052), (57, 34049), (60, 34016),

Gene: Timothy\_52 Start: 35040, Stop: 34816, Start Num: 36  
Candidate Starts for Timothy\_52:  
(Start: 36 @35040 has 24 MA's), (48, 35022), (56, 34941), (57, 34938), (60, 34905), (70, 34845), (73, 34836),

Gene: TinyTimmy\_52 Start: 35089, Stop: 34865, Start Num: 36  
Candidate Starts for TinyTimmy\_52:  
(Start: 36 @35089 has 24 MA's), (48, 35071), (56, 34990), (57, 34987), (60, 34954), (70, 34894), (73, 34885),

Gene: TopsytheTRex\_49 Start: 35358, Stop: 35173, Start Num: 39  
Candidate Starts for TopsytheTRex\_49:  
(Start: 39 @35358 has 21 MA's), (Start: 50 @35325 has 1 MA's), (52, 35295), (56, 35262),

Gene: Toaka\_53 Start: 35993, Stop: 35736, Start Num: 45  
Candidate Starts for Toaka\_53:  
(Start: 45 @35993 has 1 MA's), (Start: 50 @35960 has 1 MA's), (51, 35945), (56, 35897), (60, 35861), (72, 35792), (77, 35774),

Gene: Todacoro\_51 Start: 35913, Stop: 35707, Start Num: 40  
Candidate Starts for Todacoro\_51:  
(Start: 37 @35916 has 2 MA's), (Start: 40 @35913 has 12 MA's), (48, 35895), (Start: 50 @35874 has 1 MA's), (56, 35811), (60, 35775),

Gene: Tomathan\_55 Start: 35940, Stop: 35755, Start Num: 39

Candidate Starts for Tomathan\_55:

(4, 36147), (5, 36144), (8, 36135), (Start: 39 @35940 has 21 MA's), (Start: 50 @35907 has 1 MA's), (51, 35892), (52, 35877), (56, 35844), (62, 35793),

Gene: ToneTone\_52 Start: 35016, Stop: 34834, Start Num: 38

Candidate Starts for ToneTone\_52:

(Start: 38 @35016 has 144 MA's), (51, 34968), (54, 34941), (56, 34920), (60, 34884),

Gene: Topanga\_48 Start: 35391, Stop: 35191, Start Num: 46

Candidate Starts for Topanga\_48:

(1, 35667), (3, 35631), (Start: 46 @35391 has 310 MA's), (Start: 50 @35358 has 1 MA's), (56, 35295), (60, 35259),

Gene: Topgun\_48 Start: 35625, Stop: 35443, Start Num: 46

Candidate Starts for Topgun\_48:

(11, 35814), (20, 35715), (21, 35706), (Start: 35 @35649 has 2 MA's), (Start: 46 @35625 has 310 MA's), (Start: 50 @35595 has 1 MA's), (51, 35580), (52, 35565), (60, 35496),

Gene: Tote\_44 Start: 32509, Stop: 32327, Start Num: 46

Candidate Starts for Tote\_44:

(11, 32698), (20, 32599), (21, 32590), (Start: 35 @32533 has 2 MA's), (Start: 46 @32509 has 310 MA's), (Start: 50 @32479 has 1 MA's), (51, 32464), (52, 32449), (60, 32380), (61, 32374),

Gene: Traft412\_51 Start: 36936, Stop: 36778, Start Num: 46

Candidate Starts for Traft412\_51:

(11, 37125), (20, 37026), (21, 37017), (Start: 35 @36960 has 2 MA's), (Start: 46 @36936 has 310 MA's), (Start: 50 @36906 has 1 MA's), (51, 36891), (52, 36876), (60, 36807),

Gene: Travvers\_55 Start: 35940, Stop: 35755, Start Num: 39

Candidate Starts for Travvers\_55:

(4, 36147), (5, 36144), (8, 36135), (Start: 39 @35940 has 21 MA's), (Start: 50 @35907 has 1 MA's), (51, 35892), (52, 35877), (56, 35844), (62, 35793),

Gene: Treddle\_49 Start: 36714, Stop: 36532, Start Num: 46

Candidate Starts for Treddle\_49:

(11, 36903), (20, 36804), (21, 36795), (Start: 35 @36738 has 2 MA's), (Start: 46 @36714 has 310 MA's), (Start: 50 @36684 has 1 MA's), (51, 36669), (52, 36654), (60, 36585), (61, 36579),

Gene: Trike\_48 Start: 34612, Stop: 34412, Start Num: 46

Candidate Starts for Trike\_48:

(2, 34885), (3, 34852), (Start: 46 @34612 has 310 MA's), (Start: 50 @34579 has 1 MA's), (51, 34564), (56, 34516), (60, 34480),

Gene: Tripl3t\_48 Start: 36385, Stop: 36203, Start Num: 46

Candidate Starts for Tripl3t\_48:

(11, 36574), (20, 36475), (21, 36466), (Start: 46 @36385 has 310 MA's), (Start: 50 @36355 has 1 MA's), (51, 36340), (52, 36325), (60, 36256), (61, 36250),

Gene: Trixie\_51 Start: 36209, Stop: 36030, Start Num: 38

Candidate Starts for Trixie\_51:

(Start: 38 @36209 has 144 MA's), (48, 36191), (Start: 50 @36170 has 1 MA's), (52, 36140), (56, 36110),

Gene: Trooper\_54 Start: 36492, Stop: 36310, Start Num: 38

Candidate Starts for Trooper\_54:

(Start: 38 @36492 has 144 MA's), (Start: 50 @36459 has 1 MA's), (51, 36444), (56, 36399), (57, 36396), (60, 36363),

Gene: Trouble\_51 Start: 37462, Stop: 37256, Start Num: 46

Candidate Starts for Trouble\_51:

(11, 37651), (20, 37552), (21, 37543), (Start: 46 @37462 has 310 MA's), (Start: 50 @37432 has 1 MA's), (51, 37417), (52, 37402), (60, 37333), (61, 37327),

Gene: Tubs\_53 Start: 36108, Stop: 35845, Start Num: 43

Candidate Starts for Tubs\_53:

(Start: 43 @36108 has 136 MA's), (Start: 50 @36069 has 1 MA's), (51, 36054), (56, 36006), (60, 35970), (72, 35901), (77, 35883),

Gene: Tucker\_55 Start: 35185, Stop: 35003, Start Num: 38

Candidate Starts for Tucker\_55:

(Start: 38 @35185 has 144 MA's), (51, 35137), (54, 35110), (56, 35089), (60, 35053),

Gene: Turbido\_54 Start: 36521, Stop: 36339, Start Num: 38

Candidate Starts for Turbido\_54:

(Start: 35 @36527 has 2 MA's), (Start: 38 @36521 has 144 MA's), (48, 36509), (Start: 50 @36488 has 1 MA's), (51, 36473), (52, 36458), (56, 36428),

Gene: Turj99\_47 Start: 35353, Stop: 35192, Start Num: 46

Candidate Starts for Turj99\_47:

(11, 35542), (20, 35443), (21, 35434), (Start: 46 @35353 has 310 MA's), (Start: 50 @35323 has 1 MA's), (51, 35308), (52, 35293), (60, 35224),

Gene: Twister\_48 Start: 35308, Stop: 35108, Start Num: 46

Candidate Starts for Twister\_48:

(7, 35512), (Start: 46 @35308 has 310 MA's), (Start: 50 @35275 has 1 MA's), (51, 35260), (56, 35212), (60, 35176),

Gene: TwoPeat\_49 Start: 35833, Stop: 35651, Start Num: 46

Candidate Starts for TwoPeat\_49:

(11, 36022), (20, 35923), (21, 35914), (Start: 35 @35857 has 2 MA's), (Start: 46 @35833 has 310 MA's), (Start: 50 @35803 has 1 MA's), (51, 35788), (52, 35773), (60, 35704), (61, 35698),

Gene: U2\_48 Start: 35994, Stop: 35812, Start Num: 46

Candidate Starts for U2\_48:

(11, 36183), (20, 36084), (21, 36075), (Start: 35 @36018 has 2 MA's), (Start: 46 @35994 has 310 MA's), (Start: 50 @35964 has 1 MA's), (51, 35949), (52, 35934), (60, 35865), (61, 35859),

Gene: Ugenie5\_50 Start: 36393, Stop: 36130, Start Num: 43

Candidate Starts for Ugenie5\_50:

(Start: 43 @36393 has 136 MA's), (Start: 50 @36354 has 1 MA's), (51, 36339), (56, 36291), (57, 36288), (60, 36255), (72, 36186), (77, 36168),

Gene: UhSalsa\_42 Start: 32172, Stop: 32017, Start Num: 46

Candidate Starts for UhSalsa\_42:

(Start: 46 @32172 has 310 MA's), (51, 32124), (54, 32097), (60, 32040),

Gene: UnionJack\_46 Start: 34271, Stop: 34101, Start Num: 46

Candidate Starts for UnionJack\_46:

(Start: 46 @34271 has 310 MA's), (Start: 50 @34238 has 1 MA's), (51, 34223), (53, 34205), (56, 34175), (57, 34172), (60, 34139), (63, 34118),

Gene: Updawg\_54 Start: 36374, Stop: 36192, Start Num: 38

Candidate Starts for Updawg\_54:

(Start: 38 @36374 has 144 MA's), (Start: 50 @36341 has 1 MA's), (51, 36326), (56, 36281), (57, 36278), (60, 36245),

Gene: VC3\_56 Start: 36359, Stop: 36174, Start Num: 39

Candidate Starts for VC3\_56:

(Start: 39 @36359 has 21 MA's), (Start: 50 @36326 has 1 MA's), (51, 36311), (52, 36296), (56, 36263), (62, 36212),

Gene: Vanisoa\_53 Start: 37020, Stop: 36766, Start Num: 43

Candidate Starts for Vanisoa\_53:

(Start: 43 @37020 has 136 MA's), (47, 37011), (51, 36975), (56, 36927), (66, 36852), (70, 36831), (77, 36804),

Gene: Veracruz\_50 Start: 35913, Stop: 35707, Start Num: 40

Candidate Starts for Veracruz\_50:

(Start: 37 @35916 has 2 MA's), (Start: 40 @35913 has 12 MA's), (48, 35895), (Start: 50 @35874 has 1 MA's), (56, 35811), (60, 35775),

Gene: Violet\_46 Start: 35771, Stop: 35589, Start Num: 46

Candidate Starts for Violet\_46:

(11, 35960), (20, 35861), (21, 35852), (Start: 46 @35771 has 310 MA's), (Start: 50 @35741 has 1 MA's), (51, 35726), (52, 35711), (60, 35642), (61, 35636),

Gene: Vix\_55 Start: 36192, Stop: 35986, Start Num: 43

Candidate Starts for Vix\_55:

(22, 36252), (Start: 43 @36192 has 136 MA's), (Start: 50 @36153 has 1 MA's), (51, 36138), (56, 36090),

Gene: VohminGhazi\_54 Start: 34994, Stop: 34812, Start Num: 38

Candidate Starts for VohminGhazi\_54:

(Start: 38 @34994 has 144 MA's), (51, 34946), (53, 34928), (56, 34898), (60, 34862),

Gene: Waits\_59 Start: 35332, Stop: 35150, Start Num: 38

Candidate Starts for Waits\_59:

(Start: 38 @35332 has 144 MA's), (Start: 50 @35299 has 1 MA's), (56, 35236), (57, 35233), (60, 35200),

Gene: WalterMcMickey\_48 Start: 35308, Stop: 35108, Start Num: 46

Candidate Starts for WalterMcMickey\_48:

(7, 35512), (Start: 46 @35308 has 310 MA's), (Start: 50 @35275 has 1 MA's), (51, 35260), (56, 35212), (60, 35176),

Gene: Watermelon\_49 Start: 36163, Stop: 35981, Start Num: 46

Candidate Starts for Watermelon\_49:



(11, 36352), (20, 36253), (21, 36244), (Start: 35 @36187 has 2 MA's), (Start: 46 @36163 has 310 MA's), (Start: 50 @36133 has 1 MA's), (51, 36118), (52, 36103), (60, 36034), (61, 36028),

Gene: Watson\_55 Start: 36101, Stop: 35895, Start Num: 43

Candidate Starts for Watson\_55:

(22, 36161), (Start: 43 @36101 has 136 MA's), (Start: 50 @36062 has 1 MA's), (51, 36047), (56, 35999),

Gene: WeiHuaDA\_55 Start: 37014, Stop: 36835, Start Num: 38

Candidate Starts for WeiHuaDA\_55:

(Start: 38 @37014 has 144 MA's), (48, 36996), (Start: 50 @36975 has 1 MA's), (52, 36945), (56, 36915),

Gene: Whabigail7\_54 Start: 36506, Stop: 36324, Start Num: 38

Candidate Starts for Whabigail7\_54:

(Start: 35 @36512 has 2 MA's), (Start: 38 @36506 has 144 MA's), (48, 36494), (Start: 50 @36473 has 1 MA's), (51, 36458), (52, 36443), (56, 36413),

Gene: Wheeler\_49 Start: 36207, Stop: 36022, Start Num: 46

Candidate Starts for Wheeler\_49:

(11, 36396), (20, 36297), (21, 36288), (Start: 35 @36231 has 2 MA's), (Start: 46 @36207 has 310 MA's), (Start: 50 @36177 has 1 MA's), (51, 36162), (52, 36147), (60, 36078), (61, 36072),

Gene: WideWale\_54 Start: 36374, Stop: 36192, Start Num: 38

Candidate Starts for WideWale\_54:

(Start: 38 @36374 has 144 MA's), (Start: 50 @36341 has 1 MA's), (51, 36326), (56, 36281), (57, 36278), (60, 36245),

Gene: Wiks\_54 Start: 35087, Stop: 34905, Start Num: 38

Candidate Starts for Wiks\_54:

(Start: 38 @35087 has 144 MA's), (51, 35039), (54, 35012), (56, 34991), (60, 34955),

Gene: Wilkins\_48 Start: 35555, Stop: 35373, Start Num: 46

Candidate Starts for Wilkins\_48:

(11, 35744), (20, 35645), (21, 35636), (Start: 35 @35579 has 2 MA's), (Start: 46 @35555 has 310 MA's), (Start: 50 @35525 has 1 MA's), (51, 35510), (52, 35495), (60, 35426),

Gene: Wooldri\_57 Start: 36021, Stop: 35815, Start Num: 43

Candidate Starts for Wooldri\_57:

(22, 36081), (Start: 43 @36021 has 136 MA's), (Start: 50 @35982 has 1 MA's), (51, 35967), (56, 35919),

Gene: WunderPhul\_55 Start: 35085, Stop: 34903, Start Num: 38

Candidate Starts for WunderPhul\_55:

(Start: 38 @35085 has 144 MA's), (51, 35037), (54, 35010), (56, 34989), (60, 34953),

Gene: XianYue\_52 Start: 35878, Stop: 35696, Start Num: 38

Candidate Starts for XianYue\_52:

(23, 35932), (Start: 38 @35878 has 144 MA's), (Start: 50 @35845 has 1 MA's), (51, 35830), (56, 35785), (57, 35782),

Gene: Yecey3\_54 Start: 35682, Stop: 35422, Start Num: 43

Candidate Starts for Yecey3\_54:

(Start: 43 @35682 has 136 MA's), (48, 35664), (51, 35631), (54, 35604), (56, 35583), (61, 35541), (77, 35460),

Gene: Yogi\_41 Start: 32213, Stop: 32058, Start Num: 46

Candidate Starts for Yogi\_41:

(Start: 46 @32213 has 310 MA's), (51, 32165), (54, 32138), (60, 32081),

Gene: Yokurt\_55 Start: 35087, Stop: 34905, Start Num: 38

Candidate Starts for Yokurt\_55:

(Start: 38 @35087 has 144 MA's), (51, 35039), (54, 35012), (56, 34991), (60, 34955),

Gene: Yoncess\_41 Start: 31993, Stop: 31838, Start Num: 46

Candidate Starts for Yoncess\_41:

(Start: 46 @31993 has 310 MA's), (51, 31945), (54, 31918), (60, 31861),

Gene: Zaka\_55 Start: 35087, Stop: 34905, Start Num: 38

Candidate Starts for Zaka\_55:

(Start: 38 @35087 has 144 MA's), (51, 35039), (54, 35012), (56, 34991), (60, 34955),

Gene: Zeeculate\_46 Start: 35816, Stop: 35634, Start Num: 46

Candidate Starts for Zeeculate\_46:

(11, 36005), (20, 35906), (21, 35897), (Start: 35 @35840 has 2 MA's), (Start: 46 @35816 has 310 MA's), (Start: 50 @35786 has 1 MA's), (51, 35771), (52, 35756), (60, 35687), (61, 35681),

Gene: Zephyr\_48 Start: 35656, Stop: 35474, Start Num: 46

Candidate Starts for Zephyr\_48:

(11, 35845), (20, 35746), (21, 35737), (Start: 35 @35680 has 2 MA's), (Start: 46 @35656 has 310 MA's), (Start: 50 @35626 has 1 MA's), (51, 35611), (52, 35596), (60, 35527), (61, 35521),

Gene: Zetzy\_54 Start: 35672, Stop: 35466, Start Num: 43

Candidate Starts for Zetzy\_54:

(Start: 43 @35672 has 136 MA's), (Start: 50 @35633 has 1 MA's), (51, 35618), (56, 35570),

Gene: Zeuska\_47 Start: 35747, Stop: 35565, Start Num: 46

Candidate Starts for Zeuska\_47:

(11, 35936), (20, 35837), (21, 35828), (Start: 35 @35771 has 2 MA's), (Start: 46 @35747 has 310 MA's), (Start: 50 @35717 has 1 MA's), (51, 35702), (52, 35687), (60, 35618), (61, 35612),

Gene: Zimmer\_50 Start: 36824, Stop: 36612, Start Num: 38

Candidate Starts for Zimmer\_50:

(Start: 38 @36824 has 144 MA's), (48, 36806), (Start: 50 @36785 has 1 MA's), (51, 36776), (52, 36761), (56, 36728), (60, 36692), (61, 36686), (65, 36656), (70, 36632),

Gene: Zolita\_46 Start: 35486, Stop: 35316, Start Num: 46

Candidate Starts for Zolita\_46:

(Start: 46 @35486 has 310 MA's), (Start: 50 @35453 has 1 MA's), (51, 35438), (53, 35420), (56, 35390), (57, 35387), (60, 35354), (63, 35333), (64, 35321),

Gene: Zulu\_56 Start: 35465, Stop: 35283, Start Num: 38

Candidate Starts for Zulu\_56:

(Start: 38 @35465 has 144 MA's), (51, 35417), (54, 35390), (56, 35369), (60, 35333),