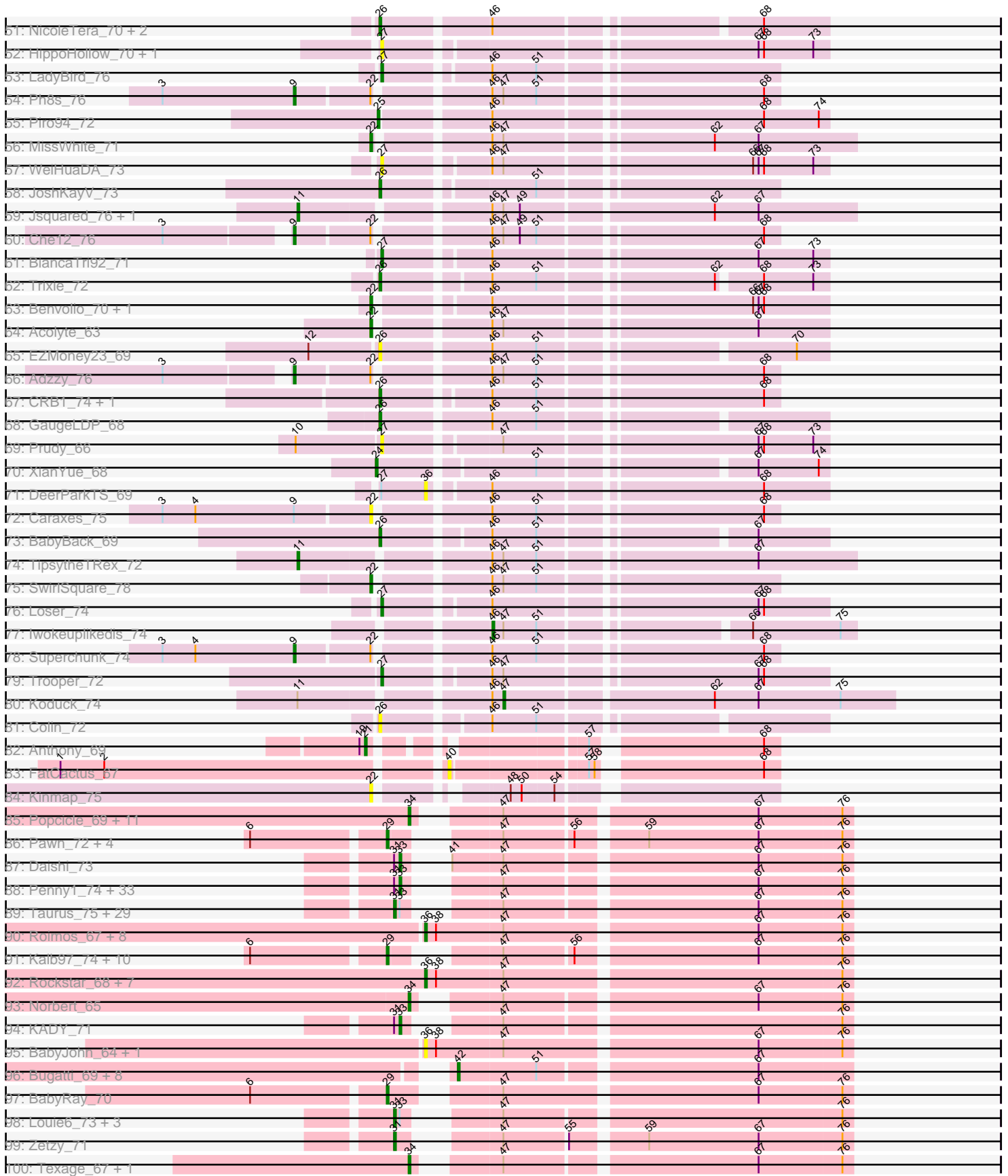


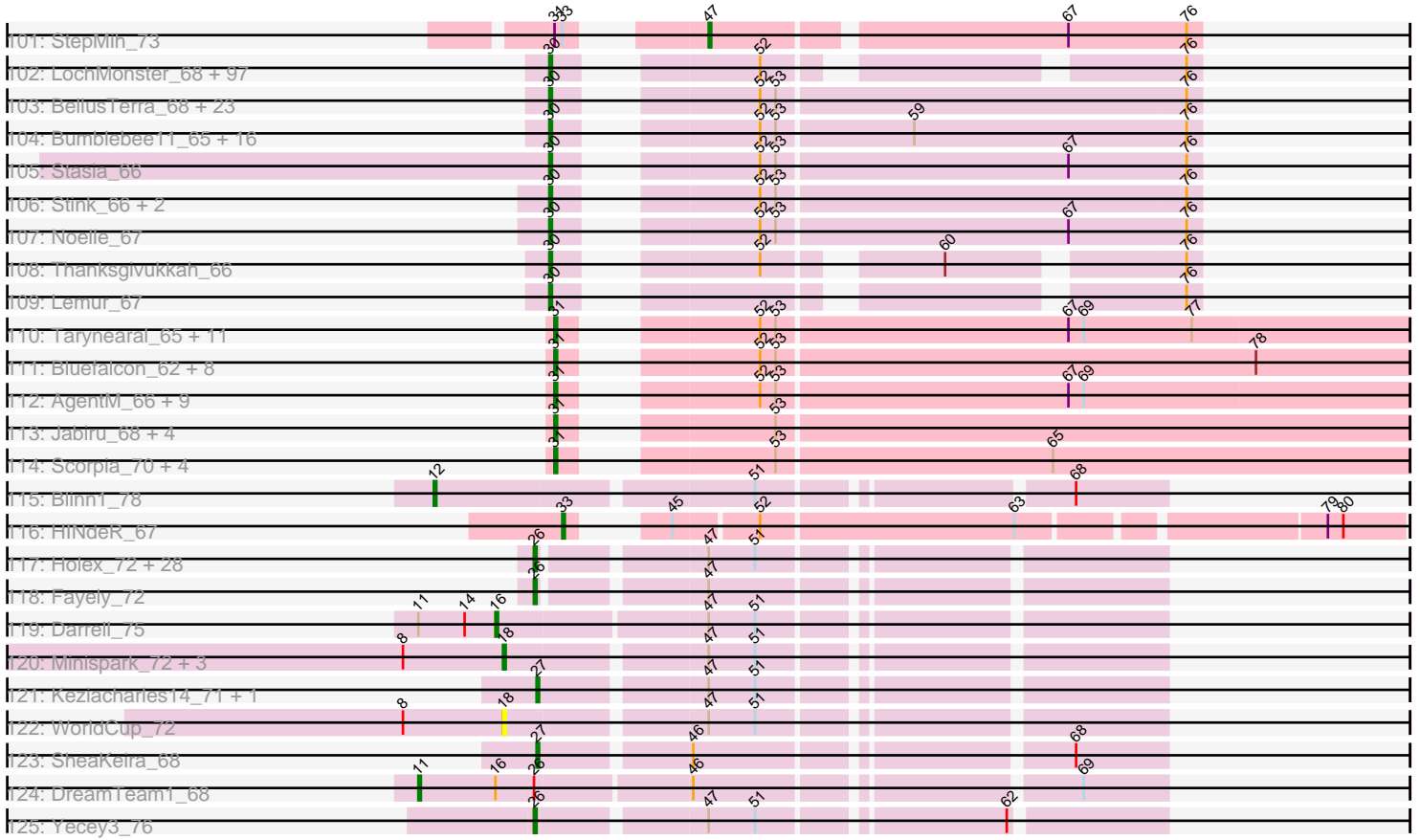
Pham 302958



Pham 302958



Pham 302958



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 302958 Report

This analysis was run 06/08/26 on database version 649.

Pham number 302958 has 547 members, 66 are drafts.

Phages represented in each track:

- Track 1 : Twister\_65, Topanga\_63, Edison31\_63, WalterMcMickey\_65
- Track 2 : Rowdy\_68, Severus\_64, Poompha\_63, KittenMittens\_63, PeaceMeal1\_64, Shapes\_68, DustyMartin\_68, Trike\_63, Drake94\_64
- Track 3 : Eaglepride\_68
- Track 4 : RhynO\_66
- Track 5 : Kristoff\_65, Rebeuca\_67
- Track 6 : OKCentral2016\_65
- Track 7 : DontArgue\_63
- Track 8 : Chupacabra\_64, Goose\_67
- Track 9 : Bowtie\_76, Et2Brutus\_74, Flaverint\_76, Joselito\_74, Fibonacci\_74, Mabel\_75, Timothy\_75, Kimba\_72, Lucivia\_76, Munch\_75, Aneem\_76, MaCh\_75, Jabith\_74, Wolpertinger\_73, Orange\_74, TinyTimmy\_73, Insomnia\_74
- Track 10 : Saskia\_72
- Track 11 : Bachome\_73, Salz\_70, Sham4\_71, Hutc2\_70, Bud\_70, Petersenfast\_69, Gilberta\_72
- Track 12 : Snape\_75, Mulciber\_73
- Track 13 : Ebony\_75
- Track 14 : Refuge\_70
- Track 15 : Pharaoh\_68
- Track 16 : Zimmer\_71
- Track 17 : DarthPhader\_70
- Track 18 : Steamy\_67
- Track 19 : Luchador\_75
- Track 20 : Jeeves\_76, SororFago\_74, Gail\_74
- Track 21 : Sunhee\_74
- Track 22 : PainterBoy\_75, EagleEye\_77, Lucyedi\_76
- Track 23 : 40AC\_71
- Track 24 : Kimona\_66
- Track 25 : Fameo\_71, QueenB2\_70
- Track 26 : Agape74\_74
- Track 27 : Retro23\_73, Dalmatian\_73, DudeLittle\_71, Anselm\_74
- Track 28 : Leogania\_71
- Track 29 : Landor\_71, Tristan\_69, IronMan\_70, Phaded\_68, Jaan\_71
- Track 30 : Quokka\_74, MajorMajor\_74, Bradman\_75
- Track 31 : 20ES\_74, First\_0073
- Track 32 : VC3\_74, AN9\_75, ANI8\_75, C3\_68
- Track 33 : L5\_68.1

- Track 34 : Deloris\_72, BengiVuitton\_72
- Track 35 : SnapTap\_72, Crucio\_73, QueenBeesly\_73, Georgie2\_74, Power\_72, FiringLine\_73, SemperFi\_73, SweetiePie\_72
- Track 36 : Heffalump\_70
- Track 37 : BobSwaget\_65, Rachaly\_68, Lokk\_66, Miko\_66
- Track 38 : Pomar16\_75, Naji\_75, D32\_74, Tomathan\_75, D29\_68.1, StarStuff\_75, Duplo\_75, Kerberos\_75, DBQu4n\_75, Travvers\_74
- Track 39 : ArcherNM\_66
- Track 40 : NothingSpecial\_68
- Track 41 : AnnaL29\_72, RedRock\_71
- Track 42 : LilTurb\_73, Turbido\_73, Bugsy\_74, Dignity\_74, Jerm\_74, Leviathan\_74, Smeagan\_75, Whabigail7\_73
- Track 43 : Odin\_73
- Track 44 : Gratitude\_70, Baehexic\_71, Centaur\_73, WideWale\_73, NaSiaTalie\_73, Terrific\_73, Flare16\_73, Updawg\_73, Equemioh13\_72, Sknot\_73, MiculUcigas\_73
- Track 45 : KingCyrus\_72, ChipMunk\_73, EvilGenius\_72
- Track 46 : Drake55\_74
- Track 47 : Larenn\_69, Malec\_70
- Track 48 : Kalpine\_72
- Track 49 : Pukovnik\_69
- Track 50 : TarsusIV\_70
- Track 51 : NicoleTera\_70, Changeling\_71, ForesterFrank\_68
- Track 52 : HippoHollow\_70, LionsBait\_72
- Track 53 : LadyBird\_76
- Track 54 : Ph8s\_76
- Track 55 : Piro94\_72
- Track 56 : MissWhite\_71
- Track 57 : WeiHuaDA\_73
- Track 58 : JoshKayV\_73
- Track 59 : Jsquared\_76, Serenity\_76
- Track 60 : Che12\_76
- Track 61 : BiancaTri92\_71
- Track 62 : Trixie\_72
- Track 63 : Benvolio\_70, Echild\_73
- Track 64 : Acolyte\_63
- Track 65 : EZMoney23\_69
- Track 66 : Adzzy\_76
- Track 67 : CRB1\_74, HarryHoudini\_73
- Track 68 : GaugeLDP\_68
- Track 69 : Prudy\_66
- Track 70 : XianYue\_68
- Track 71 : DeerParkTS\_69
- Track 72 : Caraxes\_75
- Track 73 : BabyBack\_69
- Track 74 : TipsytheTRex\_72
- Track 75 : SwirlSquare\_78
- Track 76 : Loser\_74
- Track 77 : Iwokeuplikedis\_74
- Track 78 : Superchunk\_74
- Track 79 : Trooper\_72
- Track 80 : Koduck\_74
- Track 81 : Colin\_72
- Track 82 : Anthony\_69

- Track 83 : FatCactus\_67
- Track 84 : Kinmap\_75
- Track 85 : Popcicle\_69, Panamaxus\_67, Veracruz\_66, Hookmount\_69, Caviar\_69, EtoileNova\_67, Lambert1\_69, QuinnKiro\_68, Todacoro\_69, Pocahontas\_68, ResDef\_67, Margo\_69
- Track 86 : Pawn\_72, Kalnoky\_74, ACFishhook\_71, JeppNRM\_74, Marius\_74
- Track 87 : Daishi\_73
- Track 88 : Penny1\_74, Stagni\_71, Dieselweasel\_74, EpicPhail\_75, Montavir\_69, AgronaGT15\_71, Croquant\_71, Aglet\_75, AugsMagnumOpus\_77, Pembroke\_74, GtownJaz\_74, Lilith\_72, Bxz2\_69, Gwennie\_69, Malinsilva\_76, SoYo\_71, Snickers\_74, Marie\_72, MuchMore\_77, SoilDragon\_73, Beauxregard13\_73, Fernando\_74, Grub\_72, MadMarie\_72, LarryKay\_74, PGHhamlin\_76, Lowa\_71, Bigflo\_71, Ollie\_74, BreSam8\_74, HashRod\_75, Grif\_72, Sabinator\_72, Watson\_73
- Track 89 : Taurus\_75, MarQuardt\_74, Vix\_70, Jobu08\_70, GingkoMaracino\_74, Grum1\_73, Mainiac\_73, Soshari\_76, Sabia\_72, Phoxy\_74, Wooldri\_76, Hercules11\_74, LBerry\_75, Rummer\_73, Spike509\_74, JenCasNa\_75, Methuselah\_67, Cullens\_74, LugYA\_77, PotatoSplit\_75, Tiffany\_73, Anubis\_77, JHC117\_70, P28Green\_74, MoneyMay\_73, Microwolf\_70, Colbster\_70, Farber\_74, DaHudson\_73, Phoebe\_75
- Track 90 : Roimos\_67, Fred313\_67, Marchesa\_67, DropBear\_67, Kachowdy\_67, Heathen\_69, Zarafa\_67, HelDan\_69, Scout\_68
- Track 91 : Kalb97\_74, Heliosoles\_71, PurpleHaze\_73, Groupthink\_74, Gemma\_71, OlanP\_72, Calvinny\_71, ClownCar\_71, PhishRPhriends\_70, HaveUMetTed\_74, Manu\_73
- Track 92 : Rockstar\_68, Isca\_67, MK4\_69, B1\_61, MA5\_69, JF4\_67, Phantastic\_71, JF2\_67
- Track 93 : Norbert\_65
- Track 94 : KADY\_71
- Track 95 : BabyJohn\_64, Chiqui\_64
- Track 96 : Bugatti\_69, Clammy\_69, Idleandcovert\_70, TNguyen7\_70, BlueBird\_72, SaturnRing\_69, Puppy\_70, Pistachio\_69, Giroux\_72
- Track 97 : BabyRay\_70
- Track 98 : Louie6\_73, TinyPebbles\_73, BuzzBuzz\_68, Misomonster\_75
- Track 99 : Zetzy\_71
- Track 100 : Texage\_67, Noella\_69
- Track 101 : StepMih\_73
- Track 102 : LochMonster\_68, Kingmustik0402\_67, Mazhar510\_67, JoongJeon\_66, Sparxx\_68, Romney\_66, MeeZee\_66, PeterPeter\_67, Koan\_64, Peaches\_65, NorthStar\_65, Eapen\_67, Deano\_64, Alberto7\_68, Kyee\_67, KFPoly\_66, NotAPhaseMom\_66, Scamp\_67, Camperdownii\_65, LittleB\_67, Ulysses\_66, Arturo\_64, Druantia\_66, Eros\_67, LittleGuy\_67, Phighter1804\_67, Holli\_66, TygerBlood\_67, Citius\_67, Caelakin\_66, Skipitt\_66, Lunsford\_67, Anyyong\_66, Phontbonne\_67, Kampy\_66, Spino\_66, Phacado\_67, Funston\_66, OKaNui\_66, Clarenza\_66, Sabertooth\_67, SeniorClean\_68, Burger\_65, Mayonnaise\_64, Millski\_66, Huxley\_66, Taquarus\_66, Commander\_65, Bartimeaus\_67, Nyxis\_66, Relief\_66, Wander\_67, Albee\_67, Maxo\_68, Flux\_67, RockieBear\_64, Maverick\_66, Eris\_66, Lorenzo\_67, Blackmoor\_66, TiroTheta9\_66, Shaka\_65, Gadost\_67, KekoraPapaka\_64, Melvin\_69, Medusa\_67, HamSlice\_63, Jaykayelowell\_64, YoSam321\_67, Broseidon\_67, Abdiel\_67, Koreni\_66, Cocoaberry\_67, Sultana\_67, Baby16\_67, Tinybot\_66, LappelDuVide\_67, Iracema64\_67, DirtyDunning\_66, Houdini22\_66, Avle17\_67, Iceman\_66, Chaph\_67, Pumbaa\_67, Wilbur\_67, Bruiser\_66, Roosevelt\_65, TinaFeyge\_65, Ruin\_67, SteMason\_63, Florean\_67, Connomayer\_67, Palestino\_66, Nemo27\_66, Bombshell\_67, Dhanush\_67,

Pipcraft\_64, Rosa24\_64

- Track 103 : BellusTerra\_68, Kremtemulon\_66, Obama12\_68, LHTSCC\_69, ICleared\_66, Kratark\_66, Cerulean\_68, Shygu2\_66, Happiness\_66, TroyPia\_68, Cintron\_67, Eurydice\_68, Eagle\_66, Ohfah\_68, BangNhom\_65, Phelipe\_68, SheldonCooper\_67, Nebs\_68, CentreCat\_67, Morrow\_68, ChampagnePapi\_69, JetBlade\_67, LeoAvram\_66, Polymorphads\_67
- Track 104 : Bumblebee11\_65, AbbysRanger\_66, Mundrea\_66, Backyardigan\_64, BubbleTrouble\_66, PetiteSangsue\_66, Wizard007\_66, Morpher26\_66, Katalie136\_66, Cici\_66, Datway\_66, Perplexer\_66, Cindaradix\_63, Xena\_65, Achebe\_65, Wile\_65, Badger\_65
- Track 105 : Stasia\_66
- Track 106 : Stink\_66, Miramae\_66, AvatarAhPeg\_66
- Track 107 : Noelle\_67
- Track 108 : Thanksgivukkah\_66
- Track 109 : Lemur\_67
- Track 110 : Tarynearal\_65, HuhtaEnerson15\_64, Micasa\_66, LittleCherry\_65, Swirley\_66, Bonamassa\_66, Twigg\_65, Florence1\_63, Dublin\_66, Prinash11\_64, MarysWell\_66, Milcery\_66
- Track 111 : Bluefalcon\_62, Theia\_65, Cuco\_65, Ghoulboy\_66, Archetta\_64, Zolita\_65, Coog\_63, Midas2\_63, SydNat\_66
- Track 112 : AgentM\_66, Phlorence\_65, PickleBack\_67, Jovo\_67, Tiger\_66, Lev2\_67, Aragog\_66, ForGetIt\_67, Discoknowium\_64, Conspiracy\_67
- Track 113 : Jabiru\_68, EITiger69\_72, UnionJack\_70, Airmid\_69, MyraDee\_70
- Track 114 : Scorpia\_70, Chadwick\_70, Benedict\_70, PetterN\_74, Naca\_69
- Track 115 : Blinn1\_78
- Track 116 : HINdeR\_67
- Track 117 : Hoxex\_72, Myxus\_74, Priya\_72, Catalina\_76, ExplosioNervosa\_72, EdogawaKiddo\_72, Aliter\_75, EmyBug\_71, Phonnegut\_74, Conquerage\_72, Alma\_72, Ayanochan\_72, HortumSL17\_75, PackMan\_73, Jiawan\_71, Pioneer\_74, Tubs\_74, Spouty\_72, Qobbit\_72, Phaeder\_74, RyeScarlet\_75, Onglai\_72, Sachima\_70, Scherzo\_73, Beemo\_74, Ugenie5\_69, Lilleskat\_71, Hanray\_72, Eidsmoe\_72
- Track 118 : Fayely\_72
- Track 119 : Darrell\_75
- Track 120 : Minispark\_72, Bellris\_72, Rahalelujah\_74, CogOmlette\_72
- Track 121 : Keziacharles14\_71, LoneWolf\_75
- Track 122 : WorldCup\_72
- Track 123 : SheaKeira\_68
- Track 124 : DreamTeam1\_68
- Track 125 : Yecey3\_76

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

The start number called the most often in the published annotations is 30, it was called in 142 of the 481 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AbbysRanger\_66, Abdiel\_67, Achebe\_65, Albee\_67, Alberto7\_68, Annyong\_66, Arturo\_64, AvatarAhPeg\_66, Avle17\_67, Baby16\_67, Backyardigan\_64, Badger\_65, BangNhom\_65, Bartimeaus\_67, BellusTerra\_68, Blackmoor\_66, Bombshell\_67,

Broseidon\_67, Bruiser\_66, BubbleTrouble\_66, Bumblebee11\_65, Burger\_65, Caelakin\_66, Camperdownii\_65, CentreCat\_67, Cerulean\_68, ChampagnePapi\_69, Chaph\_67, Cici\_66, Cindaradix\_63, Cintron\_67, Citius\_67, Clarenza\_66, Cocoaberry\_67, Commander\_65, Connomayer\_67, Datway\_66, Deano\_64, Dhanush\_67, DirtyDunning\_66, Druantia\_66, Eagle\_66, Eapen\_67, Eris\_66, Eros\_67, Eurydice\_68, Florean\_67, Flux\_67, Funston\_66, Gadost\_67, HamSlice\_63, Happiness\_66, Holli\_66, Houdini22\_66, Huxley\_66, ICleared\_66, Iceman\_66, Iracema64\_67, Jaykayelowell\_64, JetBlade\_67, JoongJeon\_66, KFPoly\_66, Kamy\_66, Katalie136\_66, KekoraPapaka\_64, Kingmustik0402\_67, Koan\_64, Koreni\_66, Kratak\_66, Kremtemulon\_66, Kye\_67, LHTSCC\_69, LappelDuVide\_67, Lemur\_67, LeoAvram\_66, LittleB\_67, LittleGuy\_67, LochMonster\_68, Lorenzo\_67, Lunsford\_67, Maverick\_66, Maxo\_68, Mayonnaise\_64, Mazhar510\_67, Medusa\_67, MeeZee\_66, Melvin\_69, Millski\_66, Miramae\_66, Morpher26\_66, Morrow\_68, Mundrea\_66, Nebs\_68, Nemo27\_66, Noelle\_67, NorthStar\_65, NotAPhaseMom\_66, Nyxis\_66, OKaNui\_66, Obama12\_68, Ohfah\_68, Palestino\_66, Peaches\_65, Perplexer\_66, PeterPeter\_67, PetiteSangsue\_66, Phacado\_67, Felipe\_68, Phighter1804\_67, Phontbonne\_67, Pipcraft\_64, Polymorphads\_67, Pumbaa\_67, Relief\_66, RockieBear\_64, Romney\_66, Roosevelt\_65, Rosa24\_64, Ruin\_67, Sabertooth\_67, Scamp\_67, SeniorClean\_68, Shaka\_65, SheldonCooper\_67, Shygu2\_66, Skipitt\_66, Sparxx\_68, Spino\_66, Stasia\_66, SteMason\_63, Stink\_66, Sultana\_67, Taquarus\_66, Thanksgivukkah\_66, TinaFeyge\_65, Tinybot\_66, TiroTheta9\_66, TroyPia\_68, TygerBlood\_67, Ulysses\_66, Wander\_67, Wilbur\_67, Wile\_65, Wizard007\_66, Xena\_65, YoSam321\_67,

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

- 

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

- 20ES\_74, 40AC\_71, ACFishhook\_71, AN9\_75, ANI8\_75, Acolyte\_63, Adzzy\_76, Agape74\_74, AgentM\_66, Aglet\_75, AgronaGT15\_71, Airmid\_69, Aliter\_75, Alma\_72, Aneem\_76, AnnaL29\_72, Anselm\_74, Anthony\_69, Anubis\_77, Aragog\_66, ArcherNM\_66, Archetta\_64, AugsMagnumOpus\_77, Ayanochan\_72, B1\_61, BabyBack\_69, BabyJohn\_64, BabyRay\_70, Bachome\_73, Baehexic\_71, Beauxregard13\_73, Beemo\_74, Bellris\_72, Benedict\_70, BengiVuitton\_72, Benvolio\_70, BiancaTri92\_71, Bigflo\_71, Blinn1\_78, BlueBird\_72, Bluefalcon\_62, BobSwaget\_65, Bonamassa\_66, Bowtie\_76, Bradman\_75, BreSam8\_74, Bud\_70, Bugatti\_69, Buggy\_74, BuzzBuzz\_68, Bxz2\_69, C3\_68, CRB1\_74, Calvinny\_71, Caraxes\_75, Catalina\_76, Caviar\_69, Centaur\_73, Chadwick\_70, Changeling\_71, Che12\_76, ChipMunk\_73, Chiqui\_64, Chupacabra\_64, Clammy\_69, ClownCar\_71, CogOmlette\_72, Colbster\_70, Colin\_72, Conquerage\_72, Conspiracy\_67, Coog\_63, Croquant\_71, Crucio\_73, Cuco\_65, Cullens\_74, D29\_68.1, D32\_74, DBQu4n\_75, DaHudson\_73, Daishi\_73, Dalmatian\_73, Darrell\_75, DarthPhader\_70, DeerParkTS\_69, Deloris\_72, Dieselweasel\_74, Dignity\_74, Discoknowium\_64, DontArgue\_63, Drake55\_74, Drake94\_64, DreamTeam1\_68, DropBear\_67, Dublin\_66, DudeLittle\_71, Duplo\_75, DustyMartin\_68, EZMoney23\_69, EagleEye\_77, Eaglepride\_68, Ebony\_75, Echild\_73, Edison31\_63, EdogawaKiddo\_72, Eidsmoe\_72, EITiger69\_72, EmyBug\_71, EpicPhail\_75, Equemioh13\_72, Et2Brutus\_74, EtoileNova\_67, EvilGenius\_72, ExplosioNervosa\_72, Fameo\_71, Farber\_74, FatCactus\_67, Fayely\_72, Fernando\_74, Fibonacci\_74, FiringLine\_73, First\_0073, Flare16\_73, Flaverint\_76, Florence1\_63, ForGetIt\_67, ForesterFrank\_68, Fred313\_67, Gail\_74, GaugeLDP\_68, Gemma\_71, Georgie2\_74, Ghoulyboy\_66, Gilberta\_72, GingkoMaracino\_74, Giroux\_72, Goose\_67, Gratitude\_70, Grif\_72, Groupthink\_74, Grub\_72, Grum1\_73, GtownJaz\_74, Gwennie\_69, HINdeR\_67,

Hanray\_72, HarryHoudini\_73, HashRod\_75, HaveUMetTed\_74, Heathen\_69, Heffalump\_70, HelDan\_69, Heliosoles\_71, Hercules11\_74, HippoHollow\_70, Horex\_72, Hookmount\_69, HortumSL17\_75, HuhtaEnerson15\_64, Hutc2\_70, Idleandcovert\_70, Insomnia\_74, IronMan\_70, Isca\_67, Iwokeuplikedis\_74, JF2\_67, JF4\_67, JHC117\_70, Jaan\_71, Jabiru\_68, Jabith\_74, Jeeves\_76, JenCasNa\_75, JeppNRM\_74, Jerm\_74, Jiawan\_71, Jobu08\_70, Joselito\_74, JoshKayV\_73, Jovo\_67, Jsquared\_76, KADY\_71, Kachowdy\_67, Kalb97\_74, Kalnoky\_74, Kalpine\_72, Kerberos\_75, Keziacharles14\_71, Kimba\_72, Kimona\_66, KingCyrus\_72, Kinmap\_75, KittenMittens\_63, Koduck\_74, Kristoff\_65, L5\_68.1, LBerry\_75, LadyBird\_76, Lambert1\_69, Landor\_71, Larenn\_69, LarryKay\_74, Leogania\_71, Lev2\_67, Leviathan\_74, LilTurb\_73, Lilith\_72, Lilleskat\_71, LionsBait\_72, LittleCherry\_65, Lokk\_66, LoneWolf\_75, Loser\_74, Louie6\_73, Lowa\_71, Luchador\_75, Lucivia\_76, Lucyedi\_76, LugYA\_77, MA5\_69, MK4\_69, MaCh\_75, Mabel\_75, MadMarie\_72, Mainiac\_73, MajorMajor\_74, Malec\_70, Malinsilva\_76, Manu\_73, MarQuardt\_74, Marchesa\_67, Margo\_69, Marie\_72, Marius\_74, MarysWell\_66, Methuselah\_67, Micasa\_66, Microwolf\_70, MiculUcigas\_73, Midas2\_63, Miko\_66, Milcery\_66, Minispark\_72, Misomonster\_75, MissWhite\_71, MoneyMay\_73, Montavir\_69, MuchMore\_77, Mulciber\_73, Munch\_75, MyraDee\_70, Myxus\_74, NaSiaTalie\_73, Naca\_69, Naji\_75, NicoleTera\_70, Noella\_69, Norbert\_65, NothingSpecial\_68, OKCentral2016\_65, Odin\_73, OlanP\_72, Ollie\_74, Onglai\_72, Orange\_74, P28Green\_74, PGHhamlin\_76, PackMan\_73, PainterBoy\_75, Panamaxus\_67, Pawn\_72, PeaceMeal1\_64, Pembroke\_74, Penny1\_74, Petersenfast\_69, PetterN\_74, Ph8s\_76, Phaded\_68, Phaeder\_74, Phantastic\_71, Pharaoh\_68, PhishRPhriends\_70, Phlorence\_65, Phoebe\_75, Phonnegut\_74, Phoxy\_74, PickleBack\_67, Pioneer\_74, Piro94\_72, Pistachio\_69, Pocahontas\_68, Pomar16\_75, Poompha\_63, Popcicle\_69, PotatoSplit\_75, Power\_72, Prinash11\_64, Priya\_72, Prudy\_66, Pukovnik\_69, Puppy\_70, PurpleHaze\_73, Qobbit\_72, QueenB2\_70, QueenBeesly\_73, QuinnKiro\_68, Quokka\_74, Rachaly\_68, Rahalelujah\_74, Rebeuca\_67, RedRock\_71, Refuge\_70, ResDef\_67, Retro23\_73, RhynO\_66, Rockstar\_68, Roimos\_67, Rowdy\_68, Rummer\_73, RyeScarlet\_75, Sabia\_72, Sabinator\_72, Sachima\_70, Salz\_70, Saskia\_72, SaturnRing\_69, Scherzo\_73, Scorpia\_70, Scout\_68, SemperFi\_73, Serenity\_76, Severus\_64, Sham4\_71, Shapes\_68, SheaKeira\_68, Sknot\_73, Smeagan\_75, SnapTap\_72, Snape\_75, Snickers\_74, SoYo\_71, SoilDragon\_73, SororFago\_74, Soshari\_76, Spike509\_74, Spouty\_72, Stagni\_71, StarStuff\_75, Steamy\_67, StepMih\_73, Sunhee\_74, Superchunk\_74, SweetiePie\_72, SwirlSquare\_78, Swirley\_66, SydNat\_66, TNguyen7\_70, TarsusIV\_70, Tarynearal\_65, Taurus\_75, Terrific\_73, Texage\_67, Theia\_65, Tiffany\_73, Tiger\_66, Timothy\_75, TinyPebbles\_73, TinyTimmy\_73, TopsytheTRex\_72, Todacoro\_69, Tomathan\_75, Topanga\_63, Travvers\_74, Trike\_63, Tristan\_69, Trixie\_72, Trooper\_72, Tubs\_74, Turbido\_73, Twigg\_65, Twister\_65, Ugenie5\_69, UnionJack\_70, Updawg\_73, VC3\_74, Veracruz\_66, Vix\_70, WalterMcMickey\_65, Watson\_73, WeiHuaDA\_73, Whabigail7\_73, WideWale\_73, Wolpertinger\_73, Wooldri\_76, WorldCup\_72, XianYue\_68, Yecey3\_76, Zarafa\_67, Zetzy\_71, Zimmer\_71, Zolita\_65,

### Summary by start number:

Start 7:

- Found in 1 of 547 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 481
- Called 100.0% of time when present
- Phage (with cluster) where this start called: OKCentral2016\_65 (A10),

Start 9:

- Found in 6 of 547 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 4 of 481
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Adzzy\_76 (A2), Che12\_76 (A2), Ph8s\_76 (A2), Superchunk\_74 (A2),

Start 11:

- Found in 11 of 547 ( 2.0% ) of genes in pham
- Manual Annotations of this start: 6 of 481
- Called 54.5% of time when present
- Phage (with cluster) where this start called: DreamTeam1\_68 (A9), Jsquared\_76 (A2), L5\_68.1 (A2), NothingSpecial\_68 (A2), Serenity\_76 (A2), TipsytheTRex\_72 (A2),

Start 12:

- Found in 2 of 547 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 481
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Blinn1\_78 (A6),

Start 13:

- Found in 1 of 547 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 481
- Called 100.0% of time when present
- Phage (with cluster) where this start called: RhynO\_66 (A10),

Start 16:

- Found in 2 of 547 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 481
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Darrell\_75 (A9),

Start 17:

- Found in 1 of 547 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 481
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kimona\_66 (A19),

Start 18:

- Found in 5 of 547 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 1 of 481
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bellris\_72 (A9), CogOmlette\_72 (A9), Minispark\_72 (A9), Rahalelujah\_74 (A9), WorldCup\_72 (A9),

Start 21:

- Found in 1 of 547 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 481
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Anthony\_69 (A20),

#### Start 22:

- Found in 41 of 547 ( 7.5% ) of genes in pham
- Manual Annotations of this start: 30 of 481
- Called 87.8% of time when present
- Phage (with cluster) where this start called: AN9\_75 (A2), ANI8\_75 (A2), Acolyte\_63 (A2), Benvolio\_70 (A2), Bradman\_75 (A2), C3\_68 (A2), Caraxes\_75 (A2), D29\_68.1 (A2), D32\_74 (A2), DBQu4n\_75 (A2), Duplo\_75 (A2), Echild\_73 (A2), Gail\_74 (A14), IronMan\_70 (A2), Jaan\_71 (A2), Jeeves\_76 (A14), Kerberos\_75 (A2), Kinmap\_75 (A21), Landor\_71 (A2), Luchador\_75 (A14), MajorMajor\_74 (A2), MissWhite\_71 (A2), Naji\_75 (A2), Odin\_73 (A2), Phaded\_68 (A2), Pharaoh\_68 (A12), Pomar16\_75 (A2), Pukovnik\_69 (A2), Quokka\_74 (A2), SororFago\_74 (A14), StarStuff\_75 (A2), SwirlSquare\_78 (A2), Tomathan\_75 (A2), Travvers\_74 (A2), Tristan\_69 (A2), VC3\_74 (A2),

#### Start 23:

- Found in 9 of 547 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 9 of 481
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ChipMunk\_73 (A2), DarthPhader\_70 (A12), EvilGenius\_72 (A2), KingCyrus\_72 (A2), Refuge\_70 (A12), Steamy\_67 (A12), Sunhee\_74 (A14), TarsusIV\_70 (A2), Zimmer\_71 (A12),

#### Start 24:

- Found in 1 of 547 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 481
- Called 100.0% of time when present
- Phage (with cluster) where this start called: XianYue\_68 (A2),

#### Start 25:

- Found in 39 of 547 ( 7.1% ) of genes in pham
- Manual Annotations of this start: 37 of 481
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Anselm\_74 (A2), Baehexic\_71 (A2), BobSwaget\_65 (A2), Buggy\_74 (A2), Centaur\_73 (A2), Crucio\_73 (A2), Dalmatian\_73 (A2), Dignity\_74 (A2), DudeLittle\_71 (A2), Equemioh13\_72 (A2), Fameo\_71 (A2), FiringLine\_73 (A2), Flare16\_73 (A2), Georgie2\_74 (A2), Gratitude\_70 (A2), Heffalump\_70 (A2), Jerm\_74 (A2), Leviathan\_74 (A2), LilTurb\_73 (A2), Lokk\_66 (A2), MiculUcigas\_73 (A2), Miko\_66 (A2), NaSiaTalie\_73 (A2), Piro94\_72 (A2), Power\_72 (A2), QueenB2\_70 (A2), QueenBeesly\_73 (A2), Rachaly\_68 (A2), Retro23\_73 (A2), SemperFi\_73 (A2), Sknot\_73 (A2), Smeagan\_75 (A2), SnapTap\_72 (A2), SweetiePie\_72 (A2), Terrific\_73 (A2), Turbido\_73 (A2), Updawg\_73 (A2), Whabigail7\_73 (A2), WideWale\_73 (A2),

#### Start 26:

- Found in 50 of 547 ( 9.1% ) of genes in pham
- Manual Annotations of this start: 36 of 481
- Called 98.0% of time when present
- Phage (with cluster) where this start called: Agape74\_74 (A2), Aliter\_75 (A9), Alma\_72 (A9), ArcherNM\_66 (A2), Ayanochan\_72 (A9), BabyBack\_69 (A2), Beemo\_74 (A9), CRB1\_74 (A2), Catalina\_76 (A9), Changeling\_71 (A2), Colin\_72 (A2), Conquerage\_72 (A9), Drake55\_74 (A2), EZMoney23\_69 (A2), EagleEye\_77 (A16), EdogawaKiddo\_72 (A9), Eidsmoe\_72 (A9), EmyBug\_71 (A9), ExplosioNervosa\_72 (A9), Fayely\_72 (A9), ForesterFrank\_68 (A2), GaugeLDP\_68

(A2), Hanray\_72 (A9), HarryHoudini\_73 (A2), Horex\_72 (A9), HortumSL17\_75 (A9), Jiawan\_71 (A9), JoshKayV\_73 (A2), Kalpine\_72 (A2), Lilleskat\_71 (A9), Lucyedi\_76 (A16), Myxus\_74 (A9), NicoleTera\_70 (A2), Onglai\_72 (A9), PackMan\_73 (A9), PainterBoy\_75 (A16), Phaeder\_74 (A9), Phonnegut\_74 (A9), Pioneer\_74 (A9), Priya\_72 (A9), Qobbit\_72 (A9), RyeScarlet\_75 (A9), Sachima\_70 (A9), Scherzo\_73 (A9), Spouty\_72 (A9), Trixie\_72 (A2), Tubs\_74 (A9), Ugenie5\_69 (A9), Yecey3\_76 (A9),

#### Start 27:

- Found in 51 of 547 ( 9.3% ) of genes in pham
- Manual Annotations of this start: 38 of 481
- Called 96.1% of time when present
- Phage (with cluster) where this start called: 20ES\_74 (A2), 40AC\_71 (A17), Aneem\_76 (A11), AnnaL29\_72 (A2), Bachome\_73 (A11), BengiVuitton\_72 (A2), BiancaTri92\_71 (A2), Bowtie\_76 (A11), Bud\_70 (A11), Deloris\_72 (A2), Ebony\_75 (A11), Et2Brutus\_74 (A11), Fibonacci\_74 (A11), First\_0073 (A2), Flaverint\_76 (A11), Gilberta\_72 (A11), HippoHollow\_70 (A2), Hutc2\_70 (A11), Insomnia\_74 (A11), Jabith\_74 (A11), Joselito\_74 (A11), Keziacharles14\_71 (A9), Kimba\_72 (A11), LadyBird\_76 (A2), Larenn\_69 (A2), Leogania\_71 (A2), LionsBait\_72 (A2), LoneWolf\_75 (A9), Loser\_74 (A2), Lucivia\_76 (A11), MaCh\_75 (A11), Mabel\_75 (A11), Malec\_70 (A2), Mulciber\_73 (A11), Munch\_75 (A11), Orange\_74 (A11), Petersenfast\_69 (A11), Prudy\_66 (A2), RedRock\_71 (A2), Salz\_70 (A11), Saskia\_72 (A11), Sham4\_71 (A11), SheaKeira\_68 (A9), Snape\_75 (A11), Timothy\_75 (A11), TinyTimmy\_73 (A11), Trooper\_72 (A2), WeiHuaDA\_73 (A2), Wolpertinger\_73 (A11),

#### Start 28:

- Found in 11 of 547 ( 2.0% ) of genes in pham
- Manual Annotations of this start: 8 of 481
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Drake94\_64 (A10), DustyMartin\_68 (A10), KittenMittens\_63 (A10), Kristoff\_65 (A10), PeaceMeal1\_64 (A10), Poompha\_63 (A10), Rebeuca\_67 (A10), Rowdy\_68 (A10), Severus\_64 (A10), Shapes\_68 (A10), Trike\_63 (A10),

#### Start 29:

- Found in 20 of 547 ( 3.7% ) of genes in pham
- Manual Annotations of this start: 15 of 481
- Called 85.0% of time when present
- Phage (with cluster) where this start called: ACFishhook\_71 (A3), BabyRay\_70 (A3), Calvinny\_71 (A3), ClownCar\_71 (A3), Gemma\_71 (A3), Groupthink\_74 (A3), HaveUMetTed\_74 (A3), Heliosoles\_71 (A3), JeppNRM\_74 (A3), Kalb97\_74 (A3), Kalnoky\_74 (A3), Manu\_73 (A3), Marius\_74 (A3), OlanP\_72 (A3), Pawn\_72 (A3), PhishRPhriends\_70 (A3), PurpleHaze\_73 (A3),

#### Start 30:

- Found in 146 of 547 ( 26.7% ) of genes in pham
- Manual Annotations of this start: 142 of 481
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AbbysRanger\_66 (A4), Abdiel\_67 (A4), Achebe\_65 (A4), Albee\_67 (A4), Alberto7\_68 (A4), Annyong\_66 (A4), Arturo\_64 (A4), AvatarAhPeg\_66 (A4), Avle17\_67 (A4), Baby16\_67 (A4), Backyardigan\_64 (A4), Badger\_65 (A4), BangNhom\_65 (A4), Bartimeaus\_67 (A4), BellusTerra\_68 (A4), Blackmoor\_66 (A4), Bombshell\_67 (A4), Broseidon\_67 (A4), Bruiser\_66 (A4),

BubbleTrouble\_66 (A4), Bumblebee11\_65 (A4), Burger\_65 (A4), Caelakin\_66 (A4), Camperdownii\_65 (A4), CentreCat\_67 (A4), Cerulean\_68 (A4), ChampagnePapi\_69 (A4), Chaph\_67 (A4), Cici\_66 (A4), Cindaradix\_63 (A4), Cintron\_67 (A4), Citius\_67 (A4), Clarenza\_66 (A4), Cocoaberry\_67 (A4), Commander\_65 (A4), Connomayer\_67 (A4), Datway\_66 (A4), Deano\_64 (A4), Dhanush\_67 (A4), DirtyDunning\_66 (A4), Druantia\_66 (A4), Eagle\_66 (A4), Eapen\_67 (A4), Eris\_66 (A4), Eros\_67 (A4), Eurydice\_68 (A4), Florean\_67 (A4), Flux\_67 (A4), Funston\_66 (A4), Gadost\_67 (A4), HamSlice\_63 (A4), Happiness\_66 (A4), Holli\_66 (A4), Houdini22\_66 (A4), Huxley\_66 (A4), ICleared\_66 (A4), Iceman\_66 (A4), Iracema64\_67 (A4), Jaykayelowell\_64 (A4), JetBlade\_67 (A4), JoongJeon\_66 (A4), KFPoly\_66 (A4), Kampy\_66 (A4), Katalie136\_66 (A4), KekoraPapaka\_64 (A4), Kingmustik0402\_67 (A4), Koan\_64 (A4), Koreni\_66 (A4), Kratak\_66 (A4), Kremtemulon\_66 (A4), Kyee\_67 (A4), LHTSCC\_69 (A4), LappelDuVide\_67 (A4), Lemur\_67 (A4), LeoAvram\_66 (A4), LittleB\_67 (A4), LittleGuy\_67 (A4), LochMonster\_68 (A4), Lorenzo\_67 (A4), Lunsford\_67 (A4), Maverick\_66 (A4), Maxo\_68 (A4), Mayonnaise\_64 (A4), Mazhar510\_67 (A4), Medusa\_67 (A4), MeeZee\_66 (A4), Melvin\_69 (A4), Millski\_66 (A4), Miramae\_66 (A4), Morpher26\_66 (A4), Morrow\_68 (A4), Mundrea\_66 (A4), Nebs\_68 (A4), Nemo27\_66 (A4), Noelle\_67 (A4), NorthStar\_65 (A4), NotAPhaseMom\_66 (A4), Nyxis\_66 (A4), OKaNui\_66 (A4), Obama12\_68 (A4), Ohfah\_68 (A4), Palestino\_66 (A4), Peaches\_65 (A4), Perplexer\_66 (A4), PeterPeter\_67 (A4), PetiteSangsue\_66 (A4), Phacado\_67 (A4), Phelipe\_68 (A4), Phighter1804\_67 (A4), Phontbonne\_67 (A4), Pipcraft\_64 (A4), Polymorphads\_67 (A4), Pumbaa\_67 (A4), Relief\_66 (A4), RockieBear\_64 (A4), Romney\_66 (A4), Roosevelt\_65 (A4), Rosa24\_64 (A4), Ruin\_67 (A4), Sabertooth\_67 (A4), Scamp\_67 (A4), SeniorClean\_68 (A4), Shaka\_65 (A4), SheldonCooper\_67 (A4), Shygu2\_66 (A4), Skipitt\_66 (A4), Sparxx\_68 (A4), Spino\_66 (A4), Stasia\_66 (A4), SteMason\_63 (A4), Stink\_66 (A4), Sultana\_67 (A4), Taquarus\_66 (A4), Thanksgivukkah\_66 (A4), TinaFeyge\_65 (A4), Tinybot\_66 (A4), TiroTheta9\_66 (A4), TroyPia\_68 (A4), TygerBlood\_67 (A4), Ulysses\_66 (A4), Wander\_67 (A4), Wilbur\_67 (A4), Wile\_65 (A4), Wizard007\_66 (A4), Xena\_65 (A4), YoSam321\_67 (A4),

Start 31:

- Found in 117 of 547 ( 21.4% ) of genes in pham
- Manual Annotations of this start: 77 of 481
- Called 67.5% of time when present
- Phage (with cluster) where this start called: AgentM\_66 (A5), Airmid\_69 (A5), Anubis\_77 (A3), Aragog\_66 (A5), Archetta\_64 (A5), Benedict\_70 (A5), Bluefalcon\_62 (A5), Bonamassa\_66 (A5), BuzzBuzz\_68 (A3), Chadwick\_70 (A5), Chupacabra\_64 (A10), Colbster\_70 (A3), Conspiracy\_67 (A5), Coog\_63 (A5), Cuco\_65 (A5), Cullens\_74 (A3), DaHudson\_73 (A3), Discoknowium\_64 (A5), Dublin\_66 (A5), Eaglepride\_68 (A10), ElTiger69\_72 (A5), Farber\_74 (A3), Florence1\_63 (A5), ForGetIt\_67 (A5), Ghoulboy\_66 (A5), GingkoMaracino\_74 (A3), Goose\_67 (A10), Grum1\_73 (A3), Hercules11\_74 (A3), HuhtaEnerson15\_64 (A5), JHC117\_70 (A3), Jabiru\_68 (A5), JenCasNa\_75 (A3), Jobu08\_70 (A3), Jovo\_67 (A5), LBerry\_75 (A3), Lev2\_67 (A5), LittleCherry\_65 (A5), Louie6\_73 (A3), LugYA\_77 (A3), Mainiac\_73 (A3), MarQuardt\_74 (A3), MarysWell\_66 (A5), Methuselah\_67 (A3), Micasa\_66 (A5), Microwolf\_70 (A3), Midas2\_63 (A5), Milcery\_66 (A5), Misomonster\_75 (A3), MoneyMay\_73 (A3), MyraDee\_70 (A18), Naca\_69 (A5), P28Green\_74 (A3), PetterN\_74 (A5), Phlorence\_65 (A5), Phoebe\_75 (A3), Phoxy\_74 (A3), PickleBack\_67 (A5), PotatoSplit\_75 (A3), Prinash11\_64 (A5), Rummer\_73 (A3), Sabia\_72 (A3), Scorpia\_70 (A5), Soshari\_76 (A3), Spike509\_74 (A3), Swirley\_66 (A5), SydNat\_66 (A5), Tarynearal\_65 (A5), Taurus\_75 (A3), Theia\_65 (A5), Tiffany\_73 (A3), Tiger\_66 (A5), TinyPebbles\_73 (A3), Twigg\_65 (A5), UnionJack\_70

(A5), Vix\_70 (A3), Wooldri\_76 (A3), Zetzy\_71 (A3), Zolita\_65 (A5),

Start 32:

- Found in 4 of 547 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 4 of 481
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Edison31\_63 (A10), Topanga\_63 (A10), Twister\_65 (A10), WalterMcMickey\_65 (A10),

Start 33:

- Found in 72 of 547 ( 13.2% ) of genes in pham
- Manual Annotations of this start: 32 of 481
- Called 51.4% of time when present
- Phage (with cluster) where this start called: Aglet\_75 (A3), AgronaGT15\_71 (A3), AugsMagnumOpus\_77 (A3), Beauxregard13\_73 (A3), Bigflo\_71 (A3), BreSam8\_74 (A3), Bxz2\_69 (A3), Croquant\_71 (A3), Daishi\_73 (A3), Dieselweasel\_74 (A3), EpicPhail\_75 (A3), Fernando\_74 (A3), Grif\_72 (A3), Grub\_72 (A3), GtownJaz\_74 (A3), Gwennie\_69 (A3), HINdeR\_67 (A7), HashRod\_75 (A3), KADY\_71 (A3), LarryKay\_74 (A3), Lilith\_72 (A3), Lowa\_71 (A3), MadMarie\_72 (A3), Malinsilva\_76 (A3), Marie\_72 (A3), Montavir\_69 (A3), MuchMore\_77 (A3), Ollie\_74 (A3), PGHhamlin\_76 (A3), Pembroke\_74 (A3), Penny1\_74 (A3), Sabinator\_72 (A3), Snickers\_74 (A3), SoYo\_71 (A3), SoilDragon\_73 (A3), Stagni\_71 (A3), Watson\_73 (A3),

Start 34:

- Found in 15 of 547 ( 2.7% ) of genes in pham
- Manual Annotations of this start: 14 of 481
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Caviar\_69 (A3), EtoileNova\_67 (A3), Hookmount\_69 (A3), Lambert1\_69 (A3), Margo\_69 (A3), Noella\_69 (A3), Norbert\_65 (A3), Panamaxus\_67 (A3), Pocahontas\_68 (A3), Popcicle\_69 (A3), QuinnKiro\_68 (A3), ResDef\_67 (A3), Texage\_67 (A3), Todacoro\_69 (A3), Veracruz\_66 (A3),

Start 36:

- Found in 20 of 547 ( 3.7% ) of genes in pham
- Manual Annotations of this start: 12 of 481
- Called 100.0% of time when present
- Phage (with cluster) where this start called: B1\_61 (A3), BabyJohn\_64 (A3), Chiqui\_64 (A3), DeerParkTS\_69 (A2), DropBear\_67 (A3), Fred313\_67 (A3), Heathen\_69 (A3), HelDan\_69 (A3), Isca\_67 (A3), JF2\_67 (A3), JF4\_67 (A3), Kachowdy\_67 (A3), MA5\_69 (A3), MK4\_69 (A3), Marchesa\_67 (A3), Phantastic\_71 (A3), Rockstar\_68 (A3), Roimos\_67 (A3), Scout\_68 (A3), Zarafa\_67 (A3),

Start 40:

- Found in 1 of 547 ( 0.2% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: FatCactus\_67 (A20),

Start 42:

- Found in 9 of 547 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 6 of 481
- Called 100.0% of time when present

- Phage (with cluster) where this start called: BlueBird\_72 (A3), Bugatti\_69 (A3), Clammy\_69 (A3), Giroux\_72 (A3), Idleandcovert\_70 (A3), Pistachio\_69 (A3), Puppy\_70 (A3), SaturnRing\_69 (A3), TNguyen7\_70 (A3),

Start 44:

- Found in 1 of 547 ( 0.2% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DontArgue\_63 (A10),

Start 46:

- Found in 131 of 547 ( 23.9% ) of genes in pham
- Manual Annotations of this start: 1 of 481
- Called 0.8% of time when present
- Phage (with cluster) where this start called: Iwokeuplikedis\_74 (A2),

Start 47:

- Found in 241 of 547 ( 44.1% ) of genes in pham
- Manual Annotations of this start: 2 of 481
- Called 0.8% of time when present
- Phage (with cluster) where this start called: Koduck\_74 (A2), StepMih\_73 (A3),

### **Summary by clusters:**

There are 17 clusters represented in this pham: A20, A14, A17, A16, A11, A10, A12, A19, A18, A21, A3, A2, A5, A4, A7, A6, A9,

Info for manual annotations of cluster A10:

- Start number 7 was manually annotated 1 time for cluster A10.
- Start number 13 was manually annotated 1 time for cluster A10.
- Start number 28 was manually annotated 8 times for cluster A10.
- Start number 31 was manually annotated 3 times for cluster A10.
- Start number 32 was manually annotated 4 times for cluster A10.

Info for manual annotations of cluster A11:

- Start number 27 was manually annotated 24 times for cluster A11.

Info for manual annotations of cluster A12:

- Start number 22 was manually annotated 1 time for cluster A12.
- Start number 23 was manually annotated 4 times for cluster A12.

Info for manual annotations of cluster A14:

- Start number 22 was manually annotated 4 times for cluster A14.
- Start number 23 was manually annotated 1 time for cluster A14.

Info for manual annotations of cluster A16:

- Start number 26 was manually annotated 3 times for cluster A16.

Info for manual annotations of cluster A18:

- Start number 31 was manually annotated 1 time for cluster A18.

Info for manual annotations of cluster A19:

- Start number 17 was manually annotated 1 time for cluster A19.

Info for manual annotations of cluster A2:

- Start number 9 was manually annotated 4 times for cluster A2.
- Start number 11 was manually annotated 5 times for cluster A2.
- Start number 22 was manually annotated 25 times for cluster A2.
- Start number 23 was manually annotated 4 times for cluster A2.
- Start number 24 was manually annotated 1 time for cluster A2.
- Start number 25 was manually annotated 37 times for cluster A2.
- Start number 26 was manually annotated 11 times for cluster A2.
- Start number 27 was manually annotated 11 times for cluster A2.
- Start number 46 was manually annotated 1 time for cluster A2.
- Start number 47 was manually annotated 1 time for cluster A2.

Info for manual annotations of cluster A20:

- Start number 21 was manually annotated 1 time for cluster A20.

Info for manual annotations of cluster A3:

- Start number 29 was manually annotated 15 times for cluster A3.
- Start number 31 was manually annotated 35 times for cluster A3.
- Start number 33 was manually annotated 31 times for cluster A3.
- Start number 34 was manually annotated 14 times for cluster A3.
- Start number 36 was manually annotated 12 times for cluster A3.
- Start number 42 was manually annotated 6 times for cluster A3.
- Start number 47 was manually annotated 1 time for cluster A3.

Info for manual annotations of cluster A4:

- Start number 30 was manually annotated 142 times for cluster A4.

Info for manual annotations of cluster A5:

- Start number 31 was manually annotated 38 times for cluster A5.

Info for manual annotations of cluster A6:

- Start number 12 was manually annotated 1 time for cluster A6.

Info for manual annotations of cluster A7:

- Start number 33 was manually annotated 1 time for cluster A7.

Info for manual annotations of cluster A9:

- Start number 11 was manually annotated 1 time for cluster A9.
- Start number 16 was manually annotated 1 time for cluster A9.
- Start number 18 was manually annotated 1 time for cluster A9.
- Start number 26 was manually annotated 22 times for cluster A9.
- Start number 27 was manually annotated 3 times for cluster A9.

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

Gene: 20ES\_74 Start: 43517, Stop: 43293, Start Num: 27

Candidate Starts for 20ES\_74:

(Start: 27 @43517 has 38 MA's), (Start: 46 @43466 has 1 MA's), (67, 43331), (68, 43328), (73, 43301),

Gene: 40AC\_71 Start: 44020, Stop: 43796, Start Num: 27  
Candidate Starts for 40AC\_71:  
(Start: 27 @44020 has 38 MA's), (67, 43834), (68, 43831),

Gene: ACFishhook\_71 Start: 42736, Stop: 42518, Start Num: 29  
Candidate Starts for ACFishhook\_71:  
(6, 42805), (Start: 29 @42736 has 15 MA's), (Start: 47 @42697 has 2 MA's), (56, 42661), (59, 42628),  
(67, 42568), (76, 42523),

Gene: AN9\_75 Start: 43459, Stop: 43217, Start Num: 22  
Candidate Starts for AN9\_75:  
(Start: 22 @43459 has 30 MA's), (Start: 46 @43405 has 1 MA's), (51, 43381), (66, 43273),

Gene: ANI8\_75 Start: 43459, Stop: 43217, Start Num: 22  
Candidate Starts for ANI8\_75:  
(Start: 22 @43459 has 30 MA's), (Start: 46 @43405 has 1 MA's), (51, 43381), (66, 43273),

Gene: AbbysRanger\_66 Start: 42647, Stop: 42423, Start Num: 30  
Candidate Starts for AbbysRanger\_66:  
(Start: 30 @42647 has 142 MA's), (52, 42590), (53, 42584), (59, 42533), (76, 42428),

Gene: Abdiel\_67 Start: 42370, Stop: 42173, Start Num: 30  
Candidate Starts for Abdiel\_67:  
(Start: 30 @42370 has 142 MA's), (52, 42313), (76, 42178),

Gene: Achebe\_65 Start: 42630, Stop: 42406, Start Num: 30  
Candidate Starts for Achebe\_65:  
(Start: 30 @42630 has 142 MA's), (52, 42573), (53, 42567), (59, 42516), (76, 42411),

Gene: Acolyte\_63 Start: 41528, Stop: 41301, Start Num: 22  
Candidate Starts for Acolyte\_63:  
(Start: 22 @41528 has 30 MA's), (Start: 46 @41474 has 1 MA's), (Start: 47 @41468 has 2 MA's), (67,  
41339),

Gene: Adzzy\_76 Start: 42404, Stop: 42165, Start Num: 9  
Candidate Starts for Adzzy\_76:  
(3, 42464), (Start: 9 @42404 has 4 MA's), (Start: 22 @42365 has 30 MA's), (Start: 46 @42311 has 1  
MA's), (Start: 47 @42305 has 2 MA's), (51, 42287), (68, 42173),

Gene: Agape74\_74 Start: 43761, Stop: 43537, Start Num: 26  
Candidate Starts for Agape74\_74:  
(Start: 26 @43761 has 36 MA's), (66, 43578), (67, 43575), (68, 43572),

Gene: AgentM\_66 Start: 41898, Stop: 41596, Start Num: 31  
Candidate Starts for AgentM\_66:  
(Start: 31 @41898 has 77 MA's), (52, 41844), (53, 41838), (67, 41727), (69, 41721),

Gene: Aglet\_75 Start: 42842, Stop: 42630, Start Num: 33  
Candidate Starts for Aglet\_75:  
(Start: 31 @42845 has 77 MA's), (Start: 33 @42842 has 32 MA's), (Start: 47 @42809 has 2 MA's), (67,  
42680), (76, 42635),

Gene: AgronaGT15\_71 Start: 42690, Stop: 42478, Start Num: 33  
Candidate Starts for AgronaGT15\_71:  
(Start: 31 @42693 has 77 MA's), (Start: 33 @42690 has 32 MA's), (Start: 47 @42657 has 2 MA's), (67, 42528), (76, 42483),

Gene: Airmid\_69 Start: 42731, Stop: 42429, Start Num: 31  
Candidate Starts for Airmid\_69:  
(Start: 31 @42731 has 77 MA's), (53, 42671),

Gene: Albee\_67 Start: 42357, Stop: 42160, Start Num: 30  
Candidate Starts for Albee\_67:  
(Start: 30 @42357 has 142 MA's), (52, 42300), (76, 42165),

Gene: Alberto7\_68 Start: 42694, Stop: 42497, Start Num: 30  
Candidate Starts for Alberto7\_68:  
(Start: 30 @42694 has 142 MA's), (52, 42637), (76, 42502),

Gene: Aliter\_75 Start: 42851, Stop: 42633, Start Num: 26  
Candidate Starts for Aliter\_75:  
(Start: 26 @42851 has 36 MA's), (Start: 47 @42794 has 2 MA's), (51, 42776),

Gene: Alma\_72 Start: 42828, Stop: 42610, Start Num: 26  
Candidate Starts for Alma\_72:  
(Start: 26 @42828 has 36 MA's), (Start: 47 @42771 has 2 MA's), (51, 42753),

Gene: Aneem\_76 Start: 43515, Stop: 43288, Start Num: 27  
Candidate Starts for Aneem\_76:  
(Start: 27 @43515 has 38 MA's), (Start: 46 @43461 has 1 MA's), (Start: 47 @43455 has 2 MA's), (59, 43383),

Gene: AnnaL29\_72 Start: 43717, Stop: 43493, Start Num: 27  
Candidate Starts for AnnaL29\_72:  
(Start: 27 @43717 has 38 MA's), (Start: 29 @43714 has 15 MA's), (Start: 46 @43666 has 1 MA's), (67, 43531), (68, 43528),

Gene: Annyong\_66 Start: 42402, Stop: 42205, Start Num: 30  
Candidate Starts for Annyong\_66:  
(Start: 30 @42402 has 142 MA's), (52, 42345), (76, 42210),

Gene: Anselm\_74 Start: 43911, Stop: 43687, Start Num: 25  
Candidate Starts for Anselm\_74:  
(Start: 25 @43911 has 37 MA's), (66, 43728), (67, 43725), (68, 43722),

Gene: Anthony\_69 Start: 41982, Stop: 41797, Start Num: 21  
Candidate Starts for Anthony\_69:  
(19, 41985), (Start: 21 @41982 has 1 MA's), (57, 41889), (68, 41805),

Gene: Anubis\_77 Start: 42731, Stop: 42516, Start Num: 31  
Candidate Starts for Anubis\_77:  
(Start: 31 @42731 has 77 MA's), (Start: 33 @42728 has 32 MA's), (Start: 47 @42695 has 2 MA's), (67, 42566), (76, 42521),

Gene: Aragog\_66 Start: 41918, Stop: 41616, Start Num: 31

Candidate Starts for Aragog\_66:  
(Start: 31 @41918 has 77 MA's), (52, 41864), (53, 41858), (67, 41747), (69, 41741),

Gene: ArcherNM\_66 Start: 42985, Stop: 42764, Start Num: 26  
Candidate Starts for ArcherNM\_66:  
(Start: 26 @42985 has 36 MA's), (Start: 46 @42931 has 1 MA's), (68, 42799),

Gene: Archetta\_64 Start: 41864, Stop: 41562, Start Num: 31  
Candidate Starts for Archetta\_64:  
(Start: 31 @41864 has 77 MA's), (52, 41810), (53, 41804), (78, 41621),

Gene: Arturo\_64 Start: 42484, Stop: 42287, Start Num: 30  
Candidate Starts for Arturo\_64:  
(Start: 30 @42484 has 142 MA's), (52, 42427), (76, 42292),

Gene: AugsMagnumOpus\_77 Start: 42833, Stop: 42621, Start Num: 33  
Candidate Starts for AugsMagnumOpus\_77:  
(Start: 31 @42836 has 77 MA's), (Start: 33 @42833 has 32 MA's), (Start: 47 @42800 has 2 MA's), (67, 42671), (76, 42626),

Gene: AvatarAhPeg\_66 Start: 42517, Stop: 42293, Start Num: 30  
Candidate Starts for AvatarAhPeg\_66:  
(Start: 30 @42517 has 142 MA's), (52, 42460), (53, 42454), (76, 42298),

Gene: Avle17\_67 Start: 42354, Stop: 42157, Start Num: 30  
Candidate Starts for Avle17\_67:  
(Start: 30 @42354 has 142 MA's), (52, 42297), (76, 42162),

Gene: Ayanochan\_72 Start: 42614, Stop: 42396, Start Num: 26  
Candidate Starts for Ayanochan\_72:  
(Start: 26 @42614 has 36 MA's), (Start: 47 @42557 has 2 MA's), (51, 42539),

Gene: B1\_61 Start: 40764, Stop: 40540, Start Num: 36  
Candidate Starts for B1\_61:  
(Start: 36 @40764 has 12 MA's), (38, 40758), (Start: 47 @40722 has 2 MA's), (76, 40545),

Gene: Baby16\_67 Start: 42368, Stop: 42171, Start Num: 30  
Candidate Starts for Baby16\_67:  
(Start: 30 @42368 has 142 MA's), (52, 42311), (76, 42176),

Gene: BabyBack\_69 Start: 43490, Stop: 43272, Start Num: 26  
Candidate Starts for BabyBack\_69:  
(Start: 26 @43490 has 36 MA's), (Start: 46 @43439 has 1 MA's), (51, 43415), (67, 43310),

Gene: BabyJohn\_64 Start: 42591, Stop: 42367, Start Num: 36  
Candidate Starts for BabyJohn\_64:  
(Start: 36 @42591 has 12 MA's), (38, 42585), (Start: 47 @42549 has 2 MA's), (67, 42417), (76, 42372),

Gene: BabyRay\_70 Start: 42572, Stop: 42345, Start Num: 29  
Candidate Starts for BabyRay\_70:  
(6, 42641), (Start: 29 @42572 has 15 MA's), (Start: 47 @42527 has 2 MA's), (67, 42395), (76, 42350),

Gene: Bachome\_73 Start: 42394, Stop: 42131, Start Num: 27

Candidate Starts for Bachome\_73:

(Start: 27 @42394 has 38 MA's), (Start: 46 @42340 has 1 MA's), (Start: 47 @42334 has 2 MA's), (59, 42262), (72, 42175),

Gene: Backyardigan\_64 Start: 42663, Stop: 42439, Start Num: 30

Candidate Starts for Backyardigan\_64:

(Start: 30 @42663 has 142 MA's), (52, 42606), (53, 42600), (59, 42549), (76, 42444),

Gene: Badger\_65 Start: 42631, Stop: 42407, Start Num: 30

Candidate Starts for Badger\_65:

(Start: 30 @42631 has 142 MA's), (52, 42574), (53, 42568), (59, 42517), (76, 42412),

Gene: Baehexic\_71 Start: 43242, Stop: 43015, Start Num: 25

Candidate Starts for Baehexic\_71:

(Start: 25 @43242 has 37 MA's), (Start: 46 @43188 has 1 MA's), (68, 43050),

Gene: BangNhom\_65 Start: 42796, Stop: 42572, Start Num: 30

Candidate Starts for BangNhom\_65:

(Start: 30 @42796 has 142 MA's), (52, 42739), (53, 42733), (76, 42577),

Gene: Bartimeaus\_67 Start: 42359, Stop: 42162, Start Num: 30

Candidate Starts for Bartimeaus\_67:

(Start: 30 @42359 has 142 MA's), (52, 42302), (76, 42167),

Gene: Beauxregard13\_73 Start: 42845, Stop: 42633, Start Num: 33

Candidate Starts for Beauxregard13\_73:

(Start: 31 @42848 has 77 MA's), (Start: 33 @42845 has 32 MA's), (Start: 47 @42812 has 2 MA's), (67, 42683), (76, 42638),

Gene: Beemo\_74 Start: 42869, Stop: 42651, Start Num: 26

Candidate Starts for Beemo\_74:

(Start: 26 @42869 has 36 MA's), (Start: 47 @42812 has 2 MA's), (51, 42794),

Gene: Bellris\_72 Start: 42751, Stop: 42518, Start Num: 18

Candidate Starts for Bellris\_72:

(8, 42790), (Start: 18 @42751 has 1 MA's), (Start: 47 @42679 has 2 MA's), (51, 42661),

Gene: BellusTerra\_68 Start: 42397, Stop: 42173, Start Num: 30

Candidate Starts for BellusTerra\_68:

(Start: 30 @42397 has 142 MA's), (52, 42340), (53, 42334), (76, 42178),

Gene: Benedict\_70 Start: 42463, Stop: 42161, Start Num: 31

Candidate Starts for Benedict\_70:

(Start: 31 @42463 has 77 MA's), (53, 42403), (65, 42298),

Gene: BengiVuitton\_72 Start: 43467, Stop: 43270, Start Num: 27

Candidate Starts for BengiVuitton\_72:

(Start: 27 @43467 has 38 MA's), (Start: 46 @43416 has 1 MA's), (Start: 47 @43410 has 2 MA's), (51, 43392),

Gene: Benvolio\_70 Start: 43151, Stop: 42927, Start Num: 22

Candidate Starts for Benvolio\_70:

(Start: 22 @43151 has 30 MA's), (Start: 46 @43100 has 1 MA's), (66, 42968), (67, 42965), (68, 42962),

Gene: BiancaTri92\_71 Start: 43505, Stop: 43281, Start Num: 27

Candidate Starts for BiancaTri92\_71:

(Start: 27 @43505 has 38 MA's), (Start: 46 @43454 has 1 MA's), (67, 43319), (73, 43289),

Gene: Bigflo\_71 Start: 42841, Stop: 42629, Start Num: 33

Candidate Starts for Bigflo\_71:

(Start: 31 @42844 has 77 MA's), (Start: 33 @42841 has 32 MA's), (Start: 47 @42808 has 2 MA's), (67, 42679), (76, 42634),

Gene: Blackmoor\_66 Start: 42359, Stop: 42162, Start Num: 30

Candidate Starts for Blackmoor\_66:

(Start: 30 @42359 has 142 MA's), (52, 42302), (76, 42167),

Gene: Blinn1\_78 Start: 42893, Stop: 42633, Start Num: 12

Candidate Starts for Blinn1\_78:

(Start: 12 @42893 has 1 MA's), (51, 42776), (68, 42668),

Gene: BlueBird\_72 Start: 42595, Stop: 42392, Start Num: 42

Candidate Starts for BlueBird\_72:

(Start: 42 @42595 has 6 MA's), (51, 42553), (67, 42442),

Gene: Bluefalcon\_62 Start: 41884, Stop: 41582, Start Num: 31

Candidate Starts for Bluefalcon\_62:

(Start: 31 @41884 has 77 MA's), (52, 41830), (53, 41824), (78, 41641),

Gene: BobSwaget\_65 Start: 41376, Stop: 41158, Start Num: 25

Candidate Starts for BobSwaget\_65:

(Start: 25 @41376 has 37 MA's), (51, 41301), (67, 41196), (68, 41193),

Gene: Bombshell\_67 Start: 42354, Stop: 42157, Start Num: 30

Candidate Starts for Bombshell\_67:

(Start: 30 @42354 has 142 MA's), (52, 42297), (76, 42162),

Gene: Bonamassa\_66 Start: 42093, Stop: 41791, Start Num: 31

Candidate Starts for Bonamassa\_66:

(Start: 31 @42093 has 77 MA's), (52, 42039), (53, 42033), (67, 41922), (69, 41916), (77, 41874),

Gene: Bowtie\_76 Start: 43522, Stop: 43295, Start Num: 27

Candidate Starts for Bowtie\_76:

(Start: 27 @43522 has 38 MA's), (Start: 46 @43468 has 1 MA's), (Start: 47 @43462 has 2 MA's), (59, 43390),

Gene: Bradman\_75 Start: 42863, Stop: 42621, Start Num: 22

Candidate Starts for Bradman\_75:

(Start: 11 @42902 has 6 MA's), (Start: 22 @42863 has 30 MA's), (Start: 46 @42809 has 1 MA's), (Start: 47 @42803 has 2 MA's), (51, 42785), (67, 42674),

Gene: BreSam8\_74 Start: 42835, Stop: 42623, Start Num: 33

Candidate Starts for BreSam8\_74:

(Start: 31 @42838 has 77 MA's), (Start: 33 @42835 has 32 MA's), (Start: 47 @42802 has 2 MA's), (67, 42673), (76, 42628),

Gene: Broseidon\_67 Start: 42359, Stop: 42162, Start Num: 30  
Candidate Starts for Broseidon\_67:  
(Start: 30 @42359 has 142 MA's), (52, 42302), (76, 42167),

Gene: Bruiser\_66 Start: 42357, Stop: 42160, Start Num: 30  
Candidate Starts for Bruiser\_66:  
(Start: 30 @42357 has 142 MA's), (52, 42300), (76, 42165),

Gene: BubbleTrouble\_66 Start: 42384, Stop: 42160, Start Num: 30  
Candidate Starts for BubbleTrouble\_66:  
(Start: 30 @42384 has 142 MA's), (52, 42327), (53, 42321), (59, 42270), (76, 42165),

Gene: Bud\_70 Start: 41952, Stop: 41689, Start Num: 27  
Candidate Starts for Bud\_70:  
(Start: 27 @41952 has 38 MA's), (Start: 46 @41898 has 1 MA's), (Start: 47 @41892 has 2 MA's), (59, 41820), (72, 41733),

Gene: Bugatti\_69 Start: 42595, Stop: 42392, Start Num: 42  
Candidate Starts for Bugatti\_69:  
(Start: 42 @42595 has 6 MA's), (51, 42553), (67, 42442),

Gene: Buggy\_74 Start: 43814, Stop: 43590, Start Num: 25  
Candidate Starts for Buggy\_74:  
(Start: 25 @43814 has 37 MA's), (Start: 46 @43763 has 1 MA's), (66, 43631), (67, 43628), (68, 43625),

Gene: Bumblebee11\_65 Start: 42633, Stop: 42409, Start Num: 30  
Candidate Starts for Bumblebee11\_65:  
(Start: 30 @42633 has 142 MA's), (52, 42576), (53, 42570), (59, 42519), (76, 42414),

Gene: Burger\_65 Start: 42357, Stop: 42160, Start Num: 30  
Candidate Starts for Burger\_65:  
(Start: 30 @42357 has 142 MA's), (52, 42300), (76, 42165),

Gene: BuzzBuzz\_68 Start: 42872, Stop: 42657, Start Num: 31  
Candidate Starts for BuzzBuzz\_68:  
(Start: 31 @42872 has 77 MA's), (Start: 33 @42869 has 32 MA's), (Start: 47 @42836 has 2 MA's), (76, 42662),

Gene: Bxz2\_69 Start: 42876, Stop: 42664, Start Num: 33  
Candidate Starts for Bxz2\_69:  
(Start: 31 @42879 has 77 MA's), (Start: 33 @42876 has 32 MA's), (Start: 47 @42843 has 2 MA's), (67, 42714), (76, 42669),

Gene: C3\_68 Start: 43459, Stop: 43217, Start Num: 22  
Candidate Starts for C3\_68:  
(Start: 22 @43459 has 30 MA's), (Start: 46 @43405 has 1 MA's), (51, 43381), (66, 43273),

Gene: CRB1\_74 Start: 44013, Stop: 43816, Start Num: 26  
Candidate Starts for CRB1\_74:  
(Start: 26 @44013 has 36 MA's), (Start: 46 @43962 has 1 MA's), (51, 43938), (68, 43824),

Gene: Caelakin\_66 Start: 42357, Stop: 42160, Start Num: 30  
Candidate Starts for Caelakin\_66:

(Start: 30 @42357 has 142 MA's), (52, 42300), (76, 42165),

Gene: Calvinny\_71 Start: 42664, Stop: 42446, Start Num: 29

Candidate Starts for Calvinny\_71:

(6, 42733), (Start: 29 @42664 has 15 MA's), (Start: 47 @42625 has 2 MA's), (56, 42589), (67, 42496), (76, 42451),

Gene: Camperdownii\_65 Start: 42031, Stop: 41834, Start Num: 30

Candidate Starts for Camperdownii\_65:

(Start: 30 @42031 has 142 MA's), (52, 41974), (76, 41839),

Gene: Caraxes\_75 Start: 42129, Stop: 41929, Start Num: 22

Candidate Starts for Caraxes\_75:

(3, 42240), (4, 42222), (Start: 9 @42168 has 4 MA's), (Start: 22 @42129 has 30 MA's), (Start: 46 @42075 has 1 MA's), (51, 42051), (68, 41937),

Gene: Catalina\_76 Start: 42925, Stop: 42707, Start Num: 26

Candidate Starts for Catalina\_76:

(Start: 26 @42925 has 36 MA's), (Start: 47 @42868 has 2 MA's), (51, 42850),

Gene: Caviar\_69 Start: 42560, Stop: 42348, Start Num: 34

Candidate Starts for Caviar\_69:

(Start: 34 @42560 has 14 MA's), (Start: 47 @42527 has 2 MA's), (67, 42398), (76, 42353),

Gene: Centaur\_73 Start: 43457, Stop: 43230, Start Num: 25

Candidate Starts for Centaur\_73:

(Start: 25 @43457 has 37 MA's), (Start: 46 @43403 has 1 MA's), (68, 43265),

Gene: CentreCat\_67 Start: 42396, Stop: 42172, Start Num: 30

Candidate Starts for CentreCat\_67:

(Start: 30 @42396 has 142 MA's), (52, 42339), (53, 42333), (76, 42177),

Gene: Cerulean\_68 Start: 42797, Stop: 42573, Start Num: 30

Candidate Starts for Cerulean\_68:

(Start: 30 @42797 has 142 MA's), (52, 42740), (53, 42734), (76, 42578),

Gene: Chadwick\_70 Start: 42207, Stop: 41905, Start Num: 31

Candidate Starts for Chadwick\_70:

(Start: 31 @42207 has 77 MA's), (53, 42147), (65, 42042),

Gene: ChampagnePapi\_69 Start: 42796, Stop: 42572, Start Num: 30

Candidate Starts for ChampagnePapi\_69:

(Start: 30 @42796 has 142 MA's), (52, 42739), (53, 42733), (76, 42577),

Gene: Changeling\_71 Start: 43693, Stop: 43472, Start Num: 26

Candidate Starts for Changeling\_71:

(Start: 26 @43693 has 36 MA's), (Start: 46 @43639 has 1 MA's), (68, 43507),

Gene: Chaph\_67 Start: 42368, Stop: 42171, Start Num: 30

Candidate Starts for Chaph\_67:

(Start: 30 @42368 has 142 MA's), (52, 42311), (76, 42176),

Gene: Che12\_76 Start: 42288, Stop: 42049, Start Num: 9

Candidate Starts for Che12\_76:

(3, 42348), (Start: 9 @42288 has 4 MA's), (Start: 22 @42249 has 30 MA's), (Start: 46 @42195 has 1 MA's), (Start: 47 @42189 has 2 MA's), (49, 42180), (51, 42171), (68, 42057),

Gene: ChipMunk\_73 Start: 44854, Stop: 44630, Start Num: 23

Candidate Starts for ChipMunk\_73:

(Start: 23 @44854 has 9 MA's), (Start: 46 @44803 has 1 MA's), (66, 44671), (67, 44668), (68, 44665), (73, 44638),

Gene: Chiqui\_64 Start: 42600, Stop: 42376, Start Num: 36

Candidate Starts for Chiqui\_64:

(Start: 36 @42600 has 12 MA's), (38, 42594), (Start: 47 @42558 has 2 MA's), (67, 42426), (76, 42381),

Gene: Chupacabra\_64 Start: 41694, Stop: 41500, Start Num: 31

Candidate Starts for Chupacabra\_64:

(Start: 31 @41694 has 77 MA's), (59, 41598), (64, 41550),

Gene: Cici\_66 Start: 42648, Stop: 42424, Start Num: 30

Candidate Starts for Cici\_66:

(Start: 30 @42648 has 142 MA's), (52, 42591), (53, 42585), (59, 42534), (76, 42429),

Gene: Cindaradix\_63 Start: 42259, Stop: 42035, Start Num: 30

Candidate Starts for Cindaradix\_63:

(Start: 30 @42259 has 142 MA's), (52, 42202), (53, 42196), (59, 42145), (76, 42040),

Gene: Cintron\_67 Start: 42507, Stop: 42283, Start Num: 30

Candidate Starts for Cintron\_67:

(Start: 30 @42507 has 142 MA's), (52, 42450), (53, 42444), (76, 42288),

Gene: Citius\_67 Start: 42378, Stop: 42181, Start Num: 30

Candidate Starts for Citius\_67:

(Start: 30 @42378 has 142 MA's), (52, 42321), (76, 42186),

Gene: Clammy\_69 Start: 42595, Stop: 42392, Start Num: 42

Candidate Starts for Clammy\_69:

(Start: 42 @42595 has 6 MA's), (51, 42553), (67, 42442),

Gene: Clarenza\_66 Start: 42354, Stop: 42157, Start Num: 30

Candidate Starts for Clarenza\_66:

(Start: 30 @42354 has 142 MA's), (52, 42297), (76, 42162),

Gene: ClownCar\_71 Start: 42657, Stop: 42439, Start Num: 29

Candidate Starts for ClownCar\_71:

(6, 42726), (Start: 29 @42657 has 15 MA's), (Start: 47 @42618 has 2 MA's), (56, 42582), (67, 42489), (76, 42444),

Gene: Cocoaberry\_67 Start: 42361, Stop: 42164, Start Num: 30

Candidate Starts for Cocoaberry\_67:

(Start: 30 @42361 has 142 MA's), (52, 42304), (76, 42169),

Gene: CogOmlette\_72 Start: 42748, Stop: 42515, Start Num: 18

Candidate Starts for CogOmlette\_72:

(8, 42787), (Start: 18 @42748 has 1 MA's), (Start: 47 @42676 has 2 MA's), (51, 42658),

Gene: Colbster\_70 Start: 42848, Stop: 42633, Start Num: 31

Candidate Starts for Colbster\_70:

(Start: 31 @42848 has 77 MA's), (Start: 33 @42845 has 32 MA's), (Start: 47 @42812 has 2 MA's), (67, 42683), (76, 42638),

Gene: Colin\_72 Start: 44437, Stop: 44219, Start Num: 26

Candidate Starts for Colin\_72:

(Start: 26 @44437 has 36 MA's), (Start: 46 @44386 has 1 MA's), (51, 44362),

Gene: Commander\_65 Start: 42356, Stop: 42159, Start Num: 30

Candidate Starts for Commander\_65:

(Start: 30 @42356 has 142 MA's), (52, 42299), (76, 42164),

Gene: Connomayer\_67 Start: 42357, Stop: 42160, Start Num: 30

Candidate Starts for Connomayer\_67:

(Start: 30 @42357 has 142 MA's), (52, 42300), (76, 42165),

Gene: Conquerage\_72 Start: 42600, Stop: 42382, Start Num: 26

Candidate Starts for Conquerage\_72:

(Start: 26 @42600 has 36 MA's), (Start: 47 @42543 has 2 MA's), (51, 42525),

Gene: Conspiracy\_67 Start: 42140, Stop: 41838, Start Num: 31

Candidate Starts for Conspiracy\_67:

(Start: 31 @42140 has 77 MA's), (52, 42086), (53, 42080), (67, 41969), (69, 41963),

Gene: Coog\_63 Start: 41911, Stop: 41609, Start Num: 31

Candidate Starts for Coog\_63:

(Start: 31 @41911 has 77 MA's), (52, 41857), (53, 41851), (78, 41668),

Gene: Croquant\_71 Start: 42839, Stop: 42627, Start Num: 33

Candidate Starts for Croquant\_71:

(Start: 31 @42842 has 77 MA's), (Start: 33 @42839 has 32 MA's), (Start: 47 @42806 has 2 MA's), (67, 42677), (76, 42632),

Gene: Crucio\_73 Start: 43811, Stop: 43587, Start Num: 25

Candidate Starts for Crucio\_73:

(Start: 25 @43811 has 37 MA's), (66, 43628), (67, 43625), (68, 43622),

Gene: Cuco\_65 Start: 41771, Stop: 41469, Start Num: 31

Candidate Starts for Cuco\_65:

(Start: 31 @41771 has 77 MA's), (52, 41717), (53, 41711), (78, 41528),

Gene: Cullens\_74 Start: 42844, Stop: 42629, Start Num: 31

Candidate Starts for Cullens\_74:

(Start: 31 @42844 has 77 MA's), (Start: 33 @42841 has 32 MA's), (Start: 47 @42808 has 2 MA's), (67, 42679), (76, 42634),

Gene: D29\_68.1 Start: 44004, Stop: 43762, Start Num: 22

Candidate Starts for D29\_68.1:

(Start: 22 @44004 has 30 MA's), (Start: 46 @43950 has 1 MA's), (51, 43926),

Gene: D32\_74 Start: 44004, Stop: 43762, Start Num: 22

Candidate Starts for D32\_74:

(Start: 22 @44004 has 30 MA's), (Start: 46 @43950 has 1 MA's), (51, 43926),

Gene: DBQu4n\_75 Start: 43984, Stop: 43742, Start Num: 22

Candidate Starts for DBQu4n\_75:

(Start: 22 @43984 has 30 MA's), (Start: 46 @43930 has 1 MA's), (51, 43906),

Gene: DaHudson\_73 Start: 42837, Stop: 42622, Start Num: 31

Candidate Starts for DaHudson\_73:

(Start: 31 @42837 has 77 MA's), (Start: 33 @42834 has 32 MA's), (Start: 47 @42801 has 2 MA's), (67, 42672), (76, 42627),

Gene: Daishi\_73 Start: 41709, Stop: 41497, Start Num: 33

Candidate Starts for Daishi\_73:

(Start: 31 @41712 has 77 MA's), (Start: 33 @41709 has 32 MA's), (41, 41703), (Start: 47 @41676 has 2 MA's), (67, 41547), (76, 41502),

Gene: Dalmatian\_73 Start: 43630, Stop: 43406, Start Num: 25

Candidate Starts for Dalmatian\_73:

(Start: 25 @43630 has 37 MA's), (66, 43447), (67, 43444), (68, 43441),

Gene: Darrell\_75 Start: 43432, Stop: 43193, Start Num: 16

Candidate Starts for Darrell\_75:

(Start: 11 @43462 has 6 MA's), (14, 43444), (Start: 16 @43432 has 1 MA's), (Start: 47 @43354 has 2 MA's), (51, 43336),

Gene: DARTHPhader\_70 Start: 44013, Stop: 43786, Start Num: 23

Candidate Starts for DARTHPhader\_70:

(Start: 23 @44013 has 9 MA's), (Start: 46 @43959 has 1 MA's), (49, 43944), (67, 43824), (68, 43821),

Gene: Datway\_66 Start: 42619, Stop: 42395, Start Num: 30

Candidate Starts for Datway\_66:

(Start: 30 @42619 has 142 MA's), (52, 42562), (53, 42556), (59, 42505), (76, 42400),

Gene: Deano\_64 Start: 42365, Stop: 42168, Start Num: 30

Candidate Starts for Deano\_64:

(Start: 30 @42365 has 142 MA's), (52, 42308), (76, 42173),

Gene: DeerParkTS\_69 Start: 42438, Stop: 42238, Start Num: 36

Candidate Starts for DeerParkTS\_69:

(Start: 27 @42462 has 38 MA's), (Start: 36 @42438 has 12 MA's), (Start: 46 @42411 has 1 MA's), (68, 42273),

Gene: Deloris\_72 Start: 43163, Stop: 42966, Start Num: 27

Candidate Starts for Deloris\_72:

(Start: 27 @43163 has 38 MA's), (Start: 46 @43112 has 1 MA's), (Start: 47 @43106 has 2 MA's), (51, 43088),

Gene: Dhanush\_67 Start: 42360, Stop: 42163, Start Num: 30

Candidate Starts for Dhanush\_67:

(Start: 30 @42360 has 142 MA's), (52, 42303), (76, 42168),

Gene: Dieselweasel\_74 Start: 42843, Stop: 42631, Start Num: 33

Candidate Starts for Dieselweasel\_74:

(Start: 31 @42846 has 77 MA's), (Start: 33 @42843 has 32 MA's), (Start: 47 @42810 has 2 MA's), (67, 42681), (76, 42636),

Gene: Dignity\_74 Start: 43852, Stop: 43628, Start Num: 25

Candidate Starts for Dignity\_74:

(Start: 25 @43852 has 37 MA's), (Start: 46 @43801 has 1 MA's), (66, 43669), (67, 43666), (68, 43663),

Gene: DirtyDunning\_66 Start: 42372, Stop: 42175, Start Num: 30

Candidate Starts for DirtyDunning\_66:

(Start: 30 @42372 has 142 MA's), (52, 42315), (76, 42180),

Gene: Discoknowium\_64 Start: 41657, Stop: 41355, Start Num: 31

Candidate Starts for Discoknowium\_64:

(Start: 31 @41657 has 77 MA's), (52, 41603), (53, 41597), (67, 41486), (69, 41480),

Gene: DontArgue\_63 Start: 40833, Stop: 40633, Start Num: 44

Candidate Starts for DontArgue\_63:

(44, 40833), (Start: 47 @40812 has 2 MA's), (55, 40779), (67, 40683), (76, 40638),

Gene: Drake55\_74 Start: 43531, Stop: 43331, Start Num: 26

Candidate Starts for Drake55\_74:

(Start: 26 @43531 has 36 MA's), (Start: 46 @43477 has 1 MA's), (Start: 47 @43471 has 2 MA's), (51, 43453), (68, 43339),

Gene: Drake94\_64 Start: 40814, Stop: 40575, Start Num: 28

Candidate Starts for Drake94\_64:

(Start: 28 @40814 has 8 MA's), (Start: 47 @40754 has 2 MA's), (76, 40580),

Gene: DreamTeam1\_68 Start: 41822, Stop: 41553, Start Num: 11

Candidate Starts for DreamTeam1\_68:

(Start: 11 @41822 has 6 MA's), (Start: 16 @41792 has 1 MA's), (Start: 26 @41777 has 36 MA's), (Start: 46 @41720 has 1 MA's), (69, 41585),

Gene: DropBear\_67 Start: 42515, Stop: 42291, Start Num: 36

Candidate Starts for DropBear\_67:

(Start: 36 @42515 has 12 MA's), (38, 42509), (Start: 47 @42473 has 2 MA's), (67, 42341), (76, 42296),

Gene: Druantia\_66 Start: 42360, Stop: 42163, Start Num: 30

Candidate Starts for Druantia\_66:

(Start: 30 @42360 has 142 MA's), (52, 42303), (76, 42168),

Gene: Dublin\_66 Start: 42050, Stop: 41748, Start Num: 31

Candidate Starts for Dublin\_66:

(Start: 31 @42050 has 77 MA's), (52, 41996), (53, 41990), (67, 41879), (69, 41873), (77, 41831),

Gene: DudeLittle\_71 Start: 43396, Stop: 43172, Start Num: 25

Candidate Starts for DudeLittle\_71:

(Start: 25 @43396 has 37 MA's), (66, 43213), (67, 43210), (68, 43207),

Gene: Duplo\_75 Start: 44041, Stop: 43799, Start Num: 22

Candidate Starts for Duplo\_75:

(Start: 22 @44041 has 30 MA's), (Start: 46 @43987 has 1 MA's), (51, 43963),

Gene: DustyMartin\_68 Start: 41850, Stop: 41611, Start Num: 28  
Candidate Starts for DustyMartin\_68:  
(Start: 28 @41850 has 8 MA's), (Start: 47 @41790 has 2 MA's), (76, 41616),

Gene: EZMoney23\_69 Start: 43235, Stop: 43014, Start Num: 26  
Candidate Starts for EZMoney23\_69:  
(Start: 12 @43271 has 1 MA's), (Start: 26 @43235 has 36 MA's), (Start: 46 @43181 has 1 MA's), (51, 43157), (70, 43031),

Gene: Eagle\_66 Start: 42418, Stop: 42194, Start Num: 30  
Candidate Starts for Eagle\_66:  
(Start: 30 @42418 has 142 MA's), (52, 42361), (53, 42355), (76, 42199),

Gene: EagleEye\_77 Start: 43527, Stop: 43327, Start Num: 26  
Candidate Starts for EagleEye\_77:  
(14, 43551), (20, 43533), (Start: 26 @43527 has 36 MA's), (61, 43368),

Gene: Eaglepride\_68 Start: 41798, Stop: 41607, Start Num: 31  
Candidate Starts for Eaglepride\_68:  
(Start: 31 @41798 has 77 MA's), (64, 41657),

Gene: Eapen\_67 Start: 42352, Stop: 42155, Start Num: 30  
Candidate Starts for Eapen\_67:  
(Start: 30 @42352 has 142 MA's), (52, 42295), (76, 42160),

Gene: Ebony\_75 Start: 43086, Stop: 42859, Start Num: 27  
Candidate Starts for Ebony\_75:  
(Start: 27 @43086 has 38 MA's), (Start: 47 @43026 has 2 MA's), (59, 42954),

Gene: Echild\_73 Start: 43175, Stop: 42951, Start Num: 22  
Candidate Starts for Echild\_73:  
(Start: 22 @43175 has 30 MA's), (Start: 46 @43124 has 1 MA's), (66, 42992), (67, 42989), (68, 42986),

Gene: Edison31\_63 Start: 41608, Stop: 41375, Start Num: 32  
Candidate Starts for Edison31\_63:  
(Start: 32 @41608 has 4 MA's), (Start: 46 @41560 has 1 MA's), (Start: 47 @41554 has 2 MA's), (76, 41380),

Gene: EdogawaKiddo\_72 Start: 42891, Stop: 42673, Start Num: 26  
Candidate Starts for EdogawaKiddo\_72:  
(Start: 26 @42891 has 36 MA's), (Start: 47 @42834 has 2 MA's), (51, 42816),

Gene: Eidsmoe\_72 Start: 42592, Stop: 42374, Start Num: 26  
Candidate Starts for Eidsmoe\_72:  
(Start: 26 @42592 has 36 MA's), (Start: 47 @42535 has 2 MA's), (51, 42517),

Gene: EITiger69\_72 Start: 43134, Stop: 42832, Start Num: 31  
Candidate Starts for EITiger69\_72:  
(Start: 31 @43134 has 77 MA's), (53, 43074),

Gene: EmyBug\_71 Start: 42594, Stop: 42376, Start Num: 26  
Candidate Starts for EmyBug\_71:

(Start: 26 @42594 has 36 MA's), (Start: 47 @42537 has 2 MA's), (51, 42519),

Gene: EpicPhail\_75 Start: 42845, Stop: 42633, Start Num: 33

Candidate Starts for EpicPhail\_75:

(Start: 31 @42848 has 77 MA's), (Start: 33 @42845 has 32 MA's), (Start: 47 @42812 has 2 MA's), (67, 42683), (76, 42638),

Gene: Equemioh13\_72 Start: 43362, Stop: 43135, Start Num: 25

Candidate Starts for Equemioh13\_72:

(Start: 25 @43362 has 37 MA's), (Start: 46 @43308 has 1 MA's), (68, 43170),

Gene: Eris\_66 Start: 42372, Stop: 42175, Start Num: 30

Candidate Starts for Eris\_66:

(Start: 30 @42372 has 142 MA's), (52, 42315), (76, 42180),

Gene: Eros\_67 Start: 42359, Stop: 42162, Start Num: 30

Candidate Starts for Eros\_67:

(Start: 30 @42359 has 142 MA's), (52, 42302), (76, 42167),

Gene: Et2Brutus\_74 Start: 43049, Stop: 42822, Start Num: 27

Candidate Starts for Et2Brutus\_74:

(Start: 27 @43049 has 38 MA's), (Start: 46 @42995 has 1 MA's), (Start: 47 @42989 has 2 MA's), (59, 42917),

Gene: EtoileNova\_67 Start: 42564, Stop: 42352, Start Num: 34

Candidate Starts for EtoileNova\_67:

(Start: 34 @42564 has 14 MA's), (Start: 47 @42531 has 2 MA's), (67, 42402), (76, 42357),

Gene: Eurydice\_68 Start: 42393, Stop: 42169, Start Num: 30

Candidate Starts for Eurydice\_68:

(Start: 30 @42393 has 142 MA's), (52, 42336), (53, 42330), (76, 42174),

Gene: EvilGenius\_72 Start: 44855, Stop: 44631, Start Num: 23

Candidate Starts for EvilGenius\_72:

(Start: 23 @44855 has 9 MA's), (Start: 46 @44804 has 1 MA's), (66, 44672), (67, 44669), (68, 44666), (73, 44639),

Gene: ExplosioNervosa\_72 Start: 42660, Stop: 42442, Start Num: 26

Candidate Starts for ExplosioNervosa\_72:

(Start: 26 @42660 has 36 MA's), (Start: 47 @42603 has 2 MA's), (51, 42585),

Gene: Fameo\_71 Start: 43438, Stop: 43214, Start Num: 25

Candidate Starts for Fameo\_71:

(Start: 25 @43438 has 37 MA's), (Start: 46 @43387 has 1 MA's), (66, 43255), (68, 43249), (73, 43222),

Gene: Farber\_74 Start: 42834, Stop: 42619, Start Num: 31

Candidate Starts for Farber\_74:

(Start: 31 @42834 has 77 MA's), (Start: 33 @42831 has 32 MA's), (Start: 47 @42798 has 2 MA's), (67, 42669), (76, 42624),

Gene: FatCactus\_67 Start: 41591, Stop: 41430, Start Num: 40

Candidate Starts for FatCactus\_67:

(1, 41792), (2, 41768), (40, 41591), (57, 41522), (58, 41519), (68, 41438),

Gene: Fayely\_72 Start: 42561, Stop: 42343, Start Num: 26  
Candidate Starts for Fayely\_72:  
(Start: 26 @42561 has 36 MA's), (Start: 47 @42504 has 2 MA's),

Gene: Fernando\_74 Start: 42841, Stop: 42629, Start Num: 33  
Candidate Starts for Fernando\_74:  
(Start: 31 @42844 has 77 MA's), (Start: 33 @42841 has 32 MA's), (Start: 47 @42808 has 2 MA's), (67, 42679), (76, 42634),

Gene: Fibonacci\_74 Start: 43055, Stop: 42828, Start Num: 27  
Candidate Starts for Fibonacci\_74:  
(Start: 27 @43055 has 38 MA's), (Start: 46 @43001 has 1 MA's), (Start: 47 @42995 has 2 MA's), (59, 42923),

Gene: FiringLine\_73 Start: 43793, Stop: 43569, Start Num: 25  
Candidate Starts for FiringLine\_73:  
(Start: 25 @43793 has 37 MA's), (66, 43610), (67, 43607), (68, 43604),

Gene: First\_0073 Start: 43417, Stop: 43193, Start Num: 27  
Candidate Starts for First\_0073:  
(Start: 27 @43417 has 38 MA's), (Start: 46 @43366 has 1 MA's), (67, 43231), (68, 43228), (73, 43201),

Gene: Flare16\_73 Start: 43501, Stop: 43274, Start Num: 25  
Candidate Starts for Flare16\_73:  
(Start: 25 @43501 has 37 MA's), (Start: 46 @43447 has 1 MA's), (68, 43309),

Gene: Flaverint\_76 Start: 43513, Stop: 43286, Start Num: 27  
Candidate Starts for Flaverint\_76:  
(Start: 27 @43513 has 38 MA's), (Start: 46 @43459 has 1 MA's), (Start: 47 @43453 has 2 MA's), (59, 43381),

Gene: Florean\_67 Start: 42356, Stop: 42159, Start Num: 30  
Candidate Starts for Florean\_67:  
(Start: 30 @42356 has 142 MA's), (52, 42299), (76, 42164),

Gene: Florence1\_63 Start: 41605, Stop: 41303, Start Num: 31  
Candidate Starts for Florence1\_63:  
(Start: 31 @41605 has 77 MA's), (52, 41551), (53, 41545), (67, 41434), (69, 41428), (77, 41386),

Gene: Flux\_67 Start: 42356, Stop: 42159, Start Num: 30  
Candidate Starts for Flux\_67:  
(Start: 30 @42356 has 142 MA's), (52, 42299), (76, 42164),

Gene: ForGetIt\_67 Start: 42165, Stop: 41863, Start Num: 31  
Candidate Starts for ForGetIt\_67:  
(Start: 31 @42165 has 77 MA's), (52, 42111), (53, 42105), (67, 41994), (69, 41988),

Gene: ForesterFrank\_68 Start: 43507, Stop: 43286, Start Num: 26  
Candidate Starts for ForesterFrank\_68:  
(Start: 26 @43507 has 36 MA's), (Start: 46 @43453 has 1 MA's), (68, 43321),

Gene: Fred313\_67 Start: 42209, Stop: 41985, Start Num: 36

Candidate Starts for Fred313\_67:

(Start: 36 @42209 has 12 MA's), (38, 42203), (Start: 47 @42167 has 2 MA's), (67, 42035), (76, 41990),

Gene: Funston\_66 Start: 42357, Stop: 42160, Start Num: 30

Candidate Starts for Funston\_66:

(Start: 30 @42357 has 142 MA's), (52, 42300), (76, 42165),

Gene: Gadost\_67 Start: 42361, Stop: 42164, Start Num: 30

Candidate Starts for Gadost\_67:

(Start: 30 @42361 has 142 MA's), (52, 42304), (76, 42169),

Gene: Gail\_74 Start: 43840, Stop: 43619, Start Num: 22

Candidate Starts for Gail\_74:

(Start: 22 @43840 has 30 MA's), (Start: 46 @43786 has 1 MA's), (Start: 47 @43780 has 2 MA's), (51, 43762), (68, 43654),

Gene: GaugeLDP\_68 Start: 43061, Stop: 42840, Start Num: 26

Candidate Starts for GaugeLDP\_68:

(Start: 26 @43061 has 36 MA's), (Start: 46 @43007 has 1 MA's), (51, 42983),

Gene: Gemma\_71 Start: 42660, Stop: 42442, Start Num: 29

Candidate Starts for Gemma\_71:

(6, 42729), (Start: 29 @42660 has 15 MA's), (Start: 47 @42621 has 2 MA's), (56, 42585), (67, 42492), (76, 42447),

Gene: Georgie2\_74 Start: 43838, Stop: 43614, Start Num: 25

Candidate Starts for Georgie2\_74:

(Start: 25 @43838 has 37 MA's), (66, 43655), (67, 43652), (68, 43649),

Gene: Ghouboy\_66 Start: 42138, Stop: 41836, Start Num: 31

Candidate Starts for Ghouboy\_66:

(Start: 31 @42138 has 77 MA's), (52, 42084), (53, 42078), (78, 41895),

Gene: Gilberta\_72 Start: 42389, Stop: 42126, Start Num: 27

Candidate Starts for Gilberta\_72:

(Start: 27 @42389 has 38 MA's), (Start: 46 @42335 has 1 MA's), (Start: 47 @42329 has 2 MA's), (59, 42257), (72, 42170),

Gene: GingkoMaracino\_74 Start: 42730, Stop: 42515, Start Num: 31

Candidate Starts for GingkoMaracino\_74:

(Start: 31 @42730 has 77 MA's), (Start: 33 @42727 has 32 MA's), (Start: 47 @42694 has 2 MA's), (67, 42565), (76, 42520),

Gene: Giroux\_72 Start: 42594, Stop: 42391, Start Num: 42

Candidate Starts for Giroux\_72:

(Start: 42 @42594 has 6 MA's), (51, 42552), (67, 42441),

Gene: Goose\_67 Start: 41510, Stop: 41316, Start Num: 31

Candidate Starts for Goose\_67:

(Start: 31 @41510 has 77 MA's), (59, 41414), (64, 41366),

Gene: Gratitude\_70 Start: 43362, Stop: 43135, Start Num: 25

Candidate Starts for Gratitude\_70:

(Start: 25 @43362 has 37 MA's), (Start: 46 @43308 has 1 MA's), (68, 43170),

Gene: Grif\_72 Start: 42915, Stop: 42703, Start Num: 33

Candidate Starts for Grif\_72:

(Start: 31 @42918 has 77 MA's), (Start: 33 @42915 has 32 MA's), (Start: 47 @42882 has 2 MA's), (67, 42753), (76, 42708),

Gene: Groupthink\_74 Start: 42664, Stop: 42446, Start Num: 29

Candidate Starts for Groupthink\_74:

(6, 42733), (Start: 29 @42664 has 15 MA's), (Start: 47 @42625 has 2 MA's), (56, 42589), (67, 42496), (76, 42451),

Gene: Grub\_72 Start: 42833, Stop: 42621, Start Num: 33

Candidate Starts for Grub\_72:

(Start: 31 @42836 has 77 MA's), (Start: 33 @42833 has 32 MA's), (Start: 47 @42800 has 2 MA's), (67, 42671), (76, 42626),

Gene: Grum1\_73 Start: 42844, Stop: 42629, Start Num: 31

Candidate Starts for Grum1\_73:

(Start: 31 @42844 has 77 MA's), (Start: 33 @42841 has 32 MA's), (Start: 47 @42808 has 2 MA's), (67, 42679), (76, 42634),

Gene: GtownJaz\_74 Start: 42842, Stop: 42630, Start Num: 33

Candidate Starts for GtownJaz\_74:

(Start: 31 @42845 has 77 MA's), (Start: 33 @42842 has 32 MA's), (Start: 47 @42809 has 2 MA's), (67, 42680), (76, 42635),

Gene: Gwennie\_69 Start: 42845, Stop: 42633, Start Num: 33

Candidate Starts for Gwennie\_69:

(Start: 31 @42848 has 77 MA's), (Start: 33 @42845 has 32 MA's), (Start: 47 @42812 has 2 MA's), (67, 42683), (76, 42638),

Gene: HINdeR\_67 Start: 45176, Stop: 44895, Start Num: 33

Candidate Starts for HINdeR\_67:

(Start: 33 @45176 has 32 MA's), (45, 45158), (52, 45128), (63, 45032), (79, 44924), (80, 44918),

Gene: HamSlice\_63 Start: 42355, Stop: 42158, Start Num: 30

Candidate Starts for HamSlice\_63:

(Start: 30 @42355 has 142 MA's), (52, 42298), (76, 42163),

Gene: Hanray\_72 Start: 42923, Stop: 42705, Start Num: 26

Candidate Starts for Hanray\_72:

(Start: 26 @42923 has 36 MA's), (Start: 47 @42866 has 2 MA's), (51, 42848),

Gene: Happiness\_66 Start: 42379, Stop: 42155, Start Num: 30

Candidate Starts for Happiness\_66:

(Start: 30 @42379 has 142 MA's), (52, 42322), (53, 42316), (76, 42160),

Gene: HarryHoudini\_73 Start: 43532, Stop: 43332, Start Num: 26

Candidate Starts for HarryHoudini\_73:

(Start: 26 @43532 has 36 MA's), (Start: 46 @43478 has 1 MA's), (51, 43454), (68, 43340),

Gene: HashRod\_75 Start: 42869, Stop: 42657, Start Num: 33

Candidate Starts for HashRod\_75:

(Start: 31 @42872 has 77 MA's), (Start: 33 @42869 has 32 MA's), (Start: 47 @42836 has 2 MA's), (67, 42707), (76, 42662),

Gene: HaveUMetTed\_74 Start: 42649, Stop: 42431, Start Num: 29

Candidate Starts for HaveUMetTed\_74:

(6, 42718), (Start: 29 @42649 has 15 MA's), (Start: 47 @42610 has 2 MA's), (56, 42574), (67, 42481), (76, 42436),

Gene: Heathen\_69 Start: 42304, Stop: 42080, Start Num: 36

Candidate Starts for Heathen\_69:

(Start: 36 @42304 has 12 MA's), (38, 42298), (Start: 47 @42262 has 2 MA's), (67, 42130), (76, 42085),

Gene: Heffalump\_70 Start: 43906, Stop: 43682, Start Num: 25

Candidate Starts for Heffalump\_70:

(Start: 25 @43906 has 37 MA's), (Start: 46 @43855 has 1 MA's), (66, 43723), (68, 43717), (73, 43690), (74, 43687),

Gene: HelDan\_69 Start: 42520, Stop: 42296, Start Num: 36

Candidate Starts for HelDan\_69:

(Start: 36 @42520 has 12 MA's), (38, 42514), (Start: 47 @42478 has 2 MA's), (67, 42346), (76, 42301),

Gene: Heliosoles\_71 Start: 42667, Stop: 42449, Start Num: 29

Candidate Starts for Heliosoles\_71:

(6, 42736), (Start: 29 @42667 has 15 MA's), (Start: 47 @42628 has 2 MA's), (56, 42592), (67, 42499), (76, 42454),

Gene: Hercules11\_74 Start: 42853, Stop: 42638, Start Num: 31

Candidate Starts for Hercules11\_74:

(Start: 31 @42853 has 77 MA's), (Start: 33 @42850 has 32 MA's), (Start: 47 @42817 has 2 MA's), (67, 42688), (76, 42643),

Gene: HippoHollow\_70 Start: 44531, Stop: 44307, Start Num: 27

Candidate Starts for HippoHollow\_70:

(Start: 27 @44531 has 38 MA's), (67, 44345), (68, 44342), (73, 44315),

Gene: Horex\_72 Start: 42939, Stop: 42721, Start Num: 26

Candidate Starts for Horex\_72:

(Start: 26 @42939 has 36 MA's), (Start: 47 @42882 has 2 MA's), (51, 42864),

Gene: Holli\_66 Start: 42147, Stop: 41950, Start Num: 30

Candidate Starts for Holli\_66:

(Start: 30 @42147 has 142 MA's), (52, 42090), (76, 41955),

Gene: Hookmount\_69 Start: 42561, Stop: 42349, Start Num: 34

Candidate Starts for Hookmount\_69:

(Start: 34 @42561 has 14 MA's), (Start: 47 @42528 has 2 MA's), (67, 42399), (76, 42354),

Gene: HortumSL17\_75 Start: 42923, Stop: 42705, Start Num: 26

Candidate Starts for HortumSL17\_75:

(Start: 26 @42923 has 36 MA's), (Start: 47 @42866 has 2 MA's), (51, 42848),

Gene: Houdini22\_66 Start: 42361, Stop: 42164, Start Num: 30

Candidate Starts for Houdini22\_66:

(Start: 30 @42361 has 142 MA's), (52, 42304), (76, 42169),

Gene: HuhtaEnerson15\_64 Start: 41746, Stop: 41444, Start Num: 31

Candidate Starts for HuhtaEnerson15\_64:

(Start: 31 @41746 has 77 MA's), (52, 41692), (53, 41686), (67, 41575), (69, 41569), (77, 41527),

Gene: Hutc2\_70 Start: 41938, Stop: 41675, Start Num: 27

Candidate Starts for Hutc2\_70:

(Start: 27 @41938 has 38 MA's), (Start: 46 @41884 has 1 MA's), (Start: 47 @41878 has 2 MA's), (59, 41806), (72, 41719),

Gene: Huxley\_66 Start: 42421, Stop: 42224, Start Num: 30

Candidate Starts for Huxley\_66:

(Start: 30 @42421 has 142 MA's), (52, 42364), (76, 42229),

Gene: ICleared\_66 Start: 42425, Stop: 42201, Start Num: 30

Candidate Starts for ICleared\_66:

(Start: 30 @42425 has 142 MA's), (52, 42368), (53, 42362), (76, 42206),

Gene: Iceman\_66 Start: 42646, Stop: 42449, Start Num: 30

Candidate Starts for Iceman\_66:

(Start: 30 @42646 has 142 MA's), (52, 42589), (76, 42454),

Gene: Idleandcovert\_70 Start: 42595, Stop: 42392, Start Num: 42

Candidate Starts for Idleandcovert\_70:

(Start: 42 @42595 has 6 MA's), (51, 42553), (67, 42442),

Gene: Insomnia\_74 Start: 43230, Stop: 43003, Start Num: 27

Candidate Starts for Insomnia\_74:

(Start: 27 @43230 has 38 MA's), (Start: 46 @43176 has 1 MA's), (Start: 47 @43170 has 2 MA's), (59, 43098),

Gene: Iracema64\_67 Start: 42624, Stop: 42427, Start Num: 30

Candidate Starts for Iracema64\_67:

(Start: 30 @42624 has 142 MA's), (52, 42567), (76, 42432),

Gene: IronMan\_70 Start: 44663, Stop: 44424, Start Num: 22

Candidate Starts for IronMan\_70:

(Start: 22 @44663 has 30 MA's), (Start: 47 @44600 has 2 MA's), (51, 44582), (67, 44477),

Gene: Isca\_67 Start: 42069, Stop: 41845, Start Num: 36

Candidate Starts for Isca\_67:

(Start: 36 @42069 has 12 MA's), (38, 42063), (Start: 47 @42027 has 2 MA's), (76, 41850),

Gene: Iwokeuplikedis\_74 Start: 43821, Stop: 43639, Start Num: 46

Candidate Starts for Iwokeuplikedis\_74:

(Start: 46 @43821 has 1 MA's), (Start: 47 @43815 has 2 MA's), (51, 43797), (66, 43695), (75, 43647),

Gene: JF2\_67 Start: 40764, Stop: 40540, Start Num: 36

Candidate Starts for JF2\_67:

(Start: 36 @40764 has 12 MA's), (38, 40758), (Start: 47 @40722 has 2 MA's), (76, 40545),

Gene: JF4\_67 Start: 40764, Stop: 40540, Start Num: 36  
Candidate Starts for JF4\_67:  
(Start: 36 @40764 has 12 MA's), (38, 40758), (Start: 47 @40722 has 2 MA's), (76, 40545),

Gene: JHC117\_70 Start: 42842, Stop: 42627, Start Num: 31  
Candidate Starts for JHC117\_70:  
(Start: 31 @42842 has 77 MA's), (Start: 33 @42839 has 32 MA's), (Start: 47 @42806 has 2 MA's), (67, 42677), (76, 42632),

Gene: Jaan\_71 Start: 44833, Stop: 44594, Start Num: 22  
Candidate Starts for Jaan\_71:  
(Start: 22 @44833 has 30 MA's), (Start: 47 @44770 has 2 MA's), (51, 44752), (67, 44647),

Gene: Jabiru\_68 Start: 42318, Stop: 42016, Start Num: 31  
Candidate Starts for Jabiru\_68:  
(Start: 31 @42318 has 77 MA's), (53, 42258),

Gene: Jabith\_74 Start: 43247, Stop: 43020, Start Num: 27  
Candidate Starts for Jabith\_74:  
(Start: 27 @43247 has 38 MA's), (Start: 46 @43193 has 1 MA's), (Start: 47 @43187 has 2 MA's), (59, 43115),

Gene: Jaykayelowell\_64 Start: 42350, Stop: 42153, Start Num: 30  
Candidate Starts for Jaykayelowell\_64:  
(Start: 30 @42350 has 142 MA's), (52, 42293), (76, 42158),

Gene: Jeeves\_76 Start: 42825, Stop: 42604, Start Num: 22  
Candidate Starts for Jeeves\_76:  
(Start: 22 @42825 has 30 MA's), (Start: 46 @42771 has 1 MA's), (Start: 47 @42765 has 2 MA's), (51, 42747), (68, 42639),

Gene: JenCasNa\_75 Start: 42844, Stop: 42629, Start Num: 31  
Candidate Starts for JenCasNa\_75:  
(Start: 31 @42844 has 77 MA's), (Start: 33 @42841 has 32 MA's), (Start: 47 @42808 has 2 MA's), (67, 42679), (76, 42634),

Gene: JeppNRM\_74 Start: 42665, Stop: 42447, Start Num: 29  
Candidate Starts for JeppNRM\_74:  
(6, 42734), (Start: 29 @42665 has 15 MA's), (Start: 47 @42626 has 2 MA's), (56, 42590), (59, 42557), (67, 42497), (76, 42452),

Gene: Jerm\_74 Start: 43834, Stop: 43610, Start Num: 25  
Candidate Starts for Jerm\_74:  
(Start: 25 @43834 has 37 MA's), (Start: 46 @43783 has 1 MA's), (66, 43651), (67, 43648), (68, 43645),

Gene: JetBlade\_67 Start: 42387, Stop: 42163, Start Num: 30  
Candidate Starts for JetBlade\_67:  
(Start: 30 @42387 has 142 MA's), (52, 42330), (53, 42324), (76, 42168),

Gene: Jiawan\_71 Start: 42955, Stop: 42737, Start Num: 26  
Candidate Starts for Jiawan\_71:  
(Start: 26 @42955 has 36 MA's), (Start: 47 @42898 has 2 MA's), (51, 42880),

Gene: Jobu08\_70 Start: 42676, Stop: 42461, Start Num: 31  
Candidate Starts for Jobu08\_70:  
(Start: 31 @42676 has 77 MA's), (Start: 33 @42673 has 32 MA's), (Start: 47 @42640 has 2 MA's), (67, 42511), (76, 42466),

Gene: JoongJeon\_66 Start: 42354, Stop: 42157, Start Num: 30  
Candidate Starts for JoongJeon\_66:  
(Start: 30 @42354 has 142 MA's), (52, 42297), (76, 42162),

Gene: Joselito\_74 Start: 43267, Stop: 43040, Start Num: 27  
Candidate Starts for Joselito\_74:  
(Start: 27 @43267 has 38 MA's), (Start: 46 @43213 has 1 MA's), (Start: 47 @43207 has 2 MA's), (59, 43135),

Gene: JoshKayV\_73 Start: 43858, Stop: 43661, Start Num: 26  
Candidate Starts for JoshKayV\_73:  
(Start: 26 @43858 has 36 MA's), (51, 43783),

Gene: Jovo\_67 Start: 42421, Stop: 42119, Start Num: 31  
Candidate Starts for Jovo\_67:  
(Start: 31 @42421 has 77 MA's), (52, 42367), (53, 42361), (67, 42250), (69, 42244),

Gene: Jsquared\_76 Start: 43035, Stop: 42751, Start Num: 11  
Candidate Starts for Jsquared\_76:  
(Start: 11 @43035 has 6 MA's), (Start: 46 @42942 has 1 MA's), (Start: 47 @42936 has 2 MA's), (49, 42927), (62, 42828), (67, 42804),

Gene: KADY\_71 Start: 42869, Stop: 42657, Start Num: 33  
Candidate Starts for KADY\_71:  
(Start: 31 @42872 has 77 MA's), (Start: 33 @42869 has 32 MA's), (Start: 47 @42836 has 2 MA's), (76, 42662),

Gene: KFPoly\_66 Start: 42351, Stop: 42154, Start Num: 30  
Candidate Starts for KFPoly\_66:  
(Start: 30 @42351 has 142 MA's), (52, 42294), (76, 42159),

Gene: Kachowdy\_67 Start: 42556, Stop: 42332, Start Num: 36  
Candidate Starts for Kachowdy\_67:  
(Start: 36 @42556 has 12 MA's), (38, 42550), (Start: 47 @42514 has 2 MA's), (67, 42382), (76, 42337),

Gene: Kalb97\_74 Start: 42663, Stop: 42445, Start Num: 29  
Candidate Starts for Kalb97\_74:  
(6, 42732), (Start: 29 @42663 has 15 MA's), (Start: 47 @42624 has 2 MA's), (56, 42588), (67, 42495), (76, 42450),

Gene: Kalnoky\_74 Start: 42661, Stop: 42443, Start Num: 29  
Candidate Starts for Kalnoky\_74:  
(6, 42730), (Start: 29 @42661 has 15 MA's), (Start: 47 @42622 has 2 MA's), (56, 42586), (59, 42553), (67, 42493), (76, 42448),

Gene: Kalpine\_72 Start: 43855, Stop: 43637, Start Num: 26  
Candidate Starts for Kalpine\_72:  
(Start: 26 @43855 has 36 MA's), (Start: 46 @43804 has 1 MA's), (51, 43780), (73, 43645),

Gene: Kamy\_66 Start: 42359, Stop: 42162, Start Num: 30

Candidate Starts for Kamy\_66:

(Start: 30 @42359 has 142 MA's), (52, 42302), (76, 42167),

Gene: Katalie136\_66 Start: 42633, Stop: 42409, Start Num: 30

Candidate Starts for Katalie136\_66:

(Start: 30 @42633 has 142 MA's), (52, 42576), (53, 42570), (59, 42519), (76, 42414),

Gene: KekoraPapaka\_64 Start: 42357, Stop: 42160, Start Num: 30

Candidate Starts for KekoraPapaka\_64:

(Start: 30 @42357 has 142 MA's), (52, 42300), (76, 42165),

Gene: Kerberos\_75 Start: 44003, Stop: 43761, Start Num: 22

Candidate Starts for Kerberos\_75:

(Start: 22 @44003 has 30 MA's), (Start: 46 @43949 has 1 MA's), (51, 43925),

Gene: Keziacharles14\_71 Start: 43500, Stop: 43279, Start Num: 27

Candidate Starts for Keziacharles14\_71:

(Start: 27 @43500 has 38 MA's), (Start: 47 @43440 has 2 MA's), (51, 43422),

Gene: Kimba\_72 Start: 42767, Stop: 42540, Start Num: 27

Candidate Starts for Kimba\_72:

(Start: 27 @42767 has 38 MA's), (Start: 46 @42713 has 1 MA's), (Start: 47 @42707 has 2 MA's), (59, 42635),

Gene: Kimona\_66 Start: 41475, Stop: 41236, Start Num: 17

Candidate Starts for Kimona\_66:

(Start: 17 @41475 has 1 MA's), (Start: 29 @41457 has 15 MA's), (Start: 46 @41424 has 1 MA's), (Start: 47 @41418 has 2 MA's),

Gene: KingCyrus\_72 Start: 44850, Stop: 44626, Start Num: 23

Candidate Starts for KingCyrus\_72:

(Start: 23 @44850 has 9 MA's), (Start: 46 @44799 has 1 MA's), (66, 44667), (67, 44664), (68, 44661), (73, 44634),

Gene: Kingmustik0402\_67 Start: 42346, Stop: 42149, Start Num: 30

Candidate Starts for Kingmustik0402\_67:

(Start: 30 @42346 has 142 MA's), (52, 42289), (76, 42154),

Gene: Kinmap\_75 Start: 42177, Stop: 41995, Start Num: 22

Candidate Starts for Kinmap\_75:

(Start: 22 @42177 has 30 MA's), (48, 42123), (50, 42117), (54, 42102),

Gene: KittenMittens\_63 Start: 40822, Stop: 40583, Start Num: 28

Candidate Starts for KittenMittens\_63:

(Start: 28 @40822 has 8 MA's), (Start: 47 @40762 has 2 MA's), (76, 40588),

Gene: Koan\_64 Start: 42357, Stop: 42160, Start Num: 30

Candidate Starts for Koan\_64:

(Start: 30 @42357 has 142 MA's), (52, 42300), (76, 42165),

Gene: Koduck\_74 Start: 42710, Stop: 42504, Start Num: 47

Candidate Starts for Koduck\_74:

(Start: 11 @42809 has 6 MA's), (Start: 46 @42716 has 1 MA's), (Start: 47 @42710 has 2 MA's), (62, 42602), (67, 42578), (75, 42533),

Gene: Koreni\_66 Start: 42038, Stop: 41841, Start Num: 30

Candidate Starts for Koreni\_66:

(Start: 30 @42038 has 142 MA's), (52, 41981), (76, 41846),

Gene: Kratark\_66 Start: 42394, Stop: 42170, Start Num: 30

Candidate Starts for Kratark\_66:

(Start: 30 @42394 has 142 MA's), (52, 42337), (53, 42331), (76, 42175),

Gene: Kremtemulon\_66 Start: 42490, Stop: 42266, Start Num: 30

Candidate Starts for Kremtemulon\_66:

(Start: 30 @42490 has 142 MA's), (52, 42433), (53, 42427), (76, 42271),

Gene: Kristoff\_65 Start: 42136, Stop: 41897, Start Num: 28

Candidate Starts for Kristoff\_65:

(Start: 28 @42136 has 8 MA's), (Start: 47 @42076 has 2 MA's), (67, 41947), (76, 41902),

Gene: Kyee\_67 Start: 42355, Stop: 42158, Start Num: 30

Candidate Starts for Kyee\_67:

(Start: 30 @42355 has 142 MA's), (52, 42298), (76, 42163),

Gene: L5\_68.1 Start: 42962, Stop: 42657, Start Num: 11

Candidate Starts for L5\_68.1:

(Start: 11 @42962 has 6 MA's), (Start: 46 @42869 has 1 MA's), (Start: 47 @42863 has 2 MA's), (62, 42755), (67, 42731), (75, 42686),

Gene: LBerry\_75 Start: 42848, Stop: 42633, Start Num: 31

Candidate Starts for LBerry\_75:

(Start: 31 @42848 has 77 MA's), (Start: 33 @42845 has 32 MA's), (Start: 47 @42812 has 2 MA's), (67, 42683), (76, 42638),

Gene: LHTSCC\_69 Start: 42796, Stop: 42572, Start Num: 30

Candidate Starts for LHTSCC\_69:

(Start: 30 @42796 has 142 MA's), (52, 42739), (53, 42733), (76, 42577),

Gene: LadyBird\_76 Start: 44079, Stop: 43882, Start Num: 27

Candidate Starts for LadyBird\_76:

(Start: 27 @44079 has 38 MA's), (Start: 46 @44028 has 1 MA's), (51, 44004),

Gene: Lambert1\_69 Start: 42560, Stop: 42348, Start Num: 34

Candidate Starts for Lambert1\_69:

(Start: 34 @42560 has 14 MA's), (Start: 47 @42527 has 2 MA's), (67, 42398), (76, 42353),

Gene: Landor\_71 Start: 44756, Stop: 44517, Start Num: 22

Candidate Starts for Landor\_71:

(Start: 22 @44756 has 30 MA's), (Start: 47 @44693 has 2 MA's), (51, 44675), (67, 44570),

Gene: LappelDuVide\_67 Start: 42356, Stop: 42159, Start Num: 30

Candidate Starts for LappelDuVide\_67:

(Start: 30 @42356 has 142 MA's), (52, 42299), (76, 42164),

Gene: Larenn\_69 Start: 43196, Stop: 42972, Start Num: 27

Candidate Starts for Larenn\_69:

(Start: 27 @43196 has 38 MA's), (Start: 46 @43145 has 1 MA's), (Start: 47 @43139 has 2 MA's), (66, 43013), (67, 43010), (68, 43007), (73, 42980),

Gene: LarryKay\_74 Start: 42870, Stop: 42658, Start Num: 33

Candidate Starts for LarryKay\_74:

(Start: 31 @42873 has 77 MA's), (Start: 33 @42870 has 32 MA's), (Start: 47 @42837 has 2 MA's), (67, 42708), (76, 42663),

Gene: Lemur\_67 Start: 42354, Stop: 42157, Start Num: 30

Candidate Starts for Lemur\_67:

(Start: 30 @42354 has 142 MA's), (76, 42162),

Gene: LeoAvram\_66 Start: 42387, Stop: 42163, Start Num: 30

Candidate Starts for LeoAvram\_66:

(Start: 30 @42387 has 142 MA's), (52, 42330), (53, 42324), (76, 42168),

Gene: Leogania\_71 Start: 43883, Stop: 43659, Start Num: 27

Candidate Starts for Leogania\_71:

(Start: 27 @43883 has 38 MA's), (Start: 46 @43832 has 1 MA's), (67, 43697), (68, 43694), (73, 43667),

Gene: Lev2\_67 Start: 42053, Stop: 41751, Start Num: 31

Candidate Starts for Lev2\_67:

(Start: 31 @42053 has 77 MA's), (52, 41999), (53, 41993), (67, 41882), (69, 41876),

Gene: Leviathan\_74 Start: 43901, Stop: 43677, Start Num: 25

Candidate Starts for Leviathan\_74:

(Start: 25 @43901 has 37 MA's), (Start: 46 @43850 has 1 MA's), (66, 43718), (67, 43715), (68, 43712),

Gene: LilTurb\_73 Start: 43715, Stop: 43491, Start Num: 25

Candidate Starts for LilTurb\_73:

(Start: 25 @43715 has 37 MA's), (Start: 46 @43664 has 1 MA's), (66, 43532), (67, 43529), (68, 43526),

Gene: Lilith\_72 Start: 42834, Stop: 42622, Start Num: 33

Candidate Starts for Lilith\_72:

(Start: 31 @42837 has 77 MA's), (Start: 33 @42834 has 32 MA's), (Start: 47 @42801 has 2 MA's), (67, 42672), (76, 42627),

Gene: Lilleskat\_71 Start: 42880, Stop: 42662, Start Num: 26

Candidate Starts for Lilleskat\_71:

(Start: 26 @42880 has 36 MA's), (Start: 47 @42823 has 2 MA's), (51, 42805),

Gene: LionsBait\_72 Start: 44532, Stop: 44308, Start Num: 27

Candidate Starts for LionsBait\_72:

(Start: 27 @44532 has 38 MA's), (67, 44346), (68, 44343), (73, 44316),

Gene: LittleB\_67 Start: 42358, Stop: 42161, Start Num: 30

Candidate Starts for LittleB\_67:

(Start: 30 @42358 has 142 MA's), (52, 42301), (76, 42166),

Gene: LittleCherry\_65 Start: 41616, Stop: 41314, Start Num: 31

Candidate Starts for LittleCherry\_65:  
(Start: 31 @41616 has 77 MA's), (52, 41562), (53, 41556), (67, 41445), (69, 41439), (77, 41397),

Gene: LittleGuy\_67 Start: 42253, Stop: 42056, Start Num: 30  
Candidate Starts for LittleGuy\_67:  
(Start: 30 @42253 has 142 MA's), (52, 42196), (76, 42061),

Gene: LochMonster\_68 Start: 42596, Stop: 42399, Start Num: 30  
Candidate Starts for LochMonster\_68:  
(Start: 30 @42596 has 142 MA's), (52, 42539), (76, 42404),

Gene: Lokk\_66 Start: 42000, Stop: 41782, Start Num: 25  
Candidate Starts for Lokk\_66:  
(Start: 25 @42000 has 37 MA's), (51, 41925), (67, 41820), (68, 41817),

Gene: LoneWolf\_75 Start: 43122, Stop: 42901, Start Num: 27  
Candidate Starts for LoneWolf\_75:  
(Start: 27 @43122 has 38 MA's), (Start: 47 @43062 has 2 MA's), (51, 43044),

Gene: Lorenzo\_67 Start: 42357, Stop: 42160, Start Num: 30  
Candidate Starts for Lorenzo\_67:  
(Start: 30 @42357 has 142 MA's), (52, 42300), (76, 42165),

Gene: Loser\_74 Start: 43958, Stop: 43734, Start Num: 27  
Candidate Starts for Loser\_74:  
(Start: 27 @43958 has 38 MA's), (Start: 46 @43907 has 1 MA's), (67, 43772), (68, 43769),

Gene: Louie6\_73 Start: 42874, Stop: 42659, Start Num: 31  
Candidate Starts for Louie6\_73:  
(Start: 31 @42874 has 77 MA's), (Start: 33 @42871 has 32 MA's), (Start: 47 @42838 has 2 MA's), (76, 42664),

Gene: Lowa\_71 Start: 42833, Stop: 42621, Start Num: 33  
Candidate Starts for Lowa\_71:  
(Start: 31 @42836 has 77 MA's), (Start: 33 @42833 has 32 MA's), (Start: 47 @42800 has 2 MA's), (67, 42671), (76, 42626),

Gene: Luchador\_75 Start: 44307, Stop: 44086, Start Num: 22  
Candidate Starts for Luchador\_75:  
(Start: 22 @44307 has 30 MA's), (Start: 46 @44253 has 1 MA's), (Start: 47 @44247 has 2 MA's), (51, 44229), (68, 44121),

Gene: Lucivia\_76 Start: 43546, Stop: 43319, Start Num: 27  
Candidate Starts for Lucivia\_76:  
(Start: 27 @43546 has 38 MA's), (Start: 46 @43492 has 1 MA's), (Start: 47 @43486 has 2 MA's), (59, 43414),

Gene: Lucyedi\_76 Start: 43723, Stop: 43523, Start Num: 26  
Candidate Starts for Lucyedi\_76:  
(14, 43747), (20, 43729), (Start: 26 @43723 has 36 MA's), (61, 43564),

Gene: LugYA\_77 Start: 42845, Stop: 42630, Start Num: 31  
Candidate Starts for LugYA\_77:

(Start: 31 @42845 has 77 MA's), (Start: 33 @42842 has 32 MA's), (Start: 47 @42809 has 2 MA's), (67, 42680), (76, 42635),

Gene: Lunsford\_67 Start: 42351, Stop: 42154, Start Num: 30

Candidate Starts for Lunsford\_67:

(Start: 30 @42351 has 142 MA's), (52, 42294), (76, 42159),

Gene: MA5\_69 Start: 41973, Stop: 41749, Start Num: 36

Candidate Starts for MA5\_69:

(Start: 36 @41973 has 12 MA's), (38, 41967), (Start: 47 @41931 has 2 MA's), (76, 41754),

Gene: MK4\_69 Start: 42048, Stop: 41824, Start Num: 36

Candidate Starts for MK4\_69:

(Start: 36 @42048 has 12 MA's), (38, 42042), (Start: 47 @42006 has 2 MA's), (76, 41829),

Gene: MaCh\_75 Start: 43510, Stop: 43283, Start Num: 27

Candidate Starts for MaCh\_75:

(Start: 27 @43510 has 38 MA's), (Start: 46 @43456 has 1 MA's), (Start: 47 @43450 has 2 MA's), (59, 43378),

Gene: Mabel\_75 Start: 43511, Stop: 43284, Start Num: 27

Candidate Starts for Mabel\_75:

(Start: 27 @43511 has 38 MA's), (Start: 46 @43457 has 1 MA's), (Start: 47 @43451 has 2 MA's), (59, 43379),

Gene: MadMarie\_72 Start: 42842, Stop: 42630, Start Num: 33

Candidate Starts for MadMarie\_72:

(Start: 31 @42845 has 77 MA's), (Start: 33 @42842 has 32 MA's), (Start: 47 @42809 has 2 MA's), (67, 42680), (76, 42635),

Gene: Mainiac\_73 Start: 42837, Stop: 42622, Start Num: 31

Candidate Starts for Mainiac\_73:

(Start: 31 @42837 has 77 MA's), (Start: 33 @42834 has 32 MA's), (Start: 47 @42801 has 2 MA's), (67, 42672), (76, 42627),

Gene: MajorMajor\_74 Start: 42863, Stop: 42621, Start Num: 22

Candidate Starts for MajorMajor\_74:

(Start: 11 @42902 has 6 MA's), (Start: 22 @42863 has 30 MA's), (Start: 46 @42809 has 1 MA's), (Start: 47 @42803 has 2 MA's), (51, 42785), (67, 42674),

Gene: Malec\_70 Start: 43763, Stop: 43539, Start Num: 27

Candidate Starts for Malec\_70:

(Start: 27 @43763 has 38 MA's), (Start: 46 @43712 has 1 MA's), (Start: 47 @43706 has 2 MA's), (66, 43580), (67, 43577), (68, 43574), (73, 43547),

Gene: Malinsilva\_76 Start: 42833, Stop: 42621, Start Num: 33

Candidate Starts for Malinsilva\_76:

(Start: 31 @42836 has 77 MA's), (Start: 33 @42833 has 32 MA's), (Start: 47 @42800 has 2 MA's), (67, 42671), (76, 42626),

Gene: Manu\_73 Start: 42664, Stop: 42446, Start Num: 29

Candidate Starts for Manu\_73:

(6, 42733), (Start: 29 @42664 has 15 MA's), (Start: 47 @42625 has 2 MA's), (56, 42589), (67, 42496), (76, 42451),

Gene: MarQuardt\_74 Start: 42846, Stop: 42631, Start Num: 31

Candidate Starts for MarQuardt\_74:

(Start: 31 @42846 has 77 MA's), (Start: 33 @42843 has 32 MA's), (Start: 47 @42810 has 2 MA's), (67, 42681), (76, 42636),

Gene: Marchesa\_67 Start: 42506, Stop: 42282, Start Num: 36

Candidate Starts for Marchesa\_67:

(Start: 36 @42506 has 12 MA's), (38, 42500), (Start: 47 @42464 has 2 MA's), (67, 42332), (76, 42287),

Gene: Margo\_69 Start: 42586, Stop: 42374, Start Num: 34

Candidate Starts for Margo\_69:

(Start: 34 @42586 has 14 MA's), (Start: 47 @42553 has 2 MA's), (67, 42424), (76, 42379),

Gene: Marie\_72 Start: 42841, Stop: 42629, Start Num: 33

Candidate Starts for Marie\_72:

(Start: 31 @42844 has 77 MA's), (Start: 33 @42841 has 32 MA's), (Start: 47 @42808 has 2 MA's), (67, 42679), (76, 42634),

Gene: Marius\_74 Start: 42661, Stop: 42443, Start Num: 29

Candidate Starts for Marius\_74:

(6, 42730), (Start: 29 @42661 has 15 MA's), (Start: 47 @42622 has 2 MA's), (56, 42586), (59, 42553), (67, 42493), (76, 42448),

Gene: MarysWell\_66 Start: 42293, Stop: 41991, Start Num: 31

Candidate Starts for MarysWell\_66:

(Start: 31 @42293 has 77 MA's), (52, 42239), (53, 42233), (67, 42122), (69, 42116), (77, 42074),

Gene: Maverick\_66 Start: 42357, Stop: 42160, Start Num: 30

Candidate Starts for Maverick\_66:

(Start: 30 @42357 has 142 MA's), (52, 42300), (76, 42165),

Gene: Maxo\_68 Start: 42359, Stop: 42162, Start Num: 30

Candidate Starts for Maxo\_68:

(Start: 30 @42359 has 142 MA's), (52, 42302), (76, 42167),

Gene: Mayonnaise\_64 Start: 42357, Stop: 42160, Start Num: 30

Candidate Starts for Mayonnaise\_64:

(Start: 30 @42357 has 142 MA's), (52, 42300), (76, 42165),

Gene: Mazhar510\_67 Start: 42358, Stop: 42161, Start Num: 30

Candidate Starts for Mazhar510\_67:

(Start: 30 @42358 has 142 MA's), (52, 42301), (76, 42166),

Gene: Medusa\_67 Start: 42371, Stop: 42174, Start Num: 30

Candidate Starts for Medusa\_67:

(Start: 30 @42371 has 142 MA's), (52, 42314), (76, 42179),

Gene: MeeZee\_66 Start: 42354, Stop: 42157, Start Num: 30

Candidate Starts for MeeZee\_66:

(Start: 30 @42354 has 142 MA's), (52, 42297), (76, 42162),

Gene: Melvin\_69 Start: 42352, Stop: 42155, Start Num: 30  
Candidate Starts for Melvin\_69:  
(Start: 30 @42352 has 142 MA's), (52, 42295), (76, 42160),

Gene: Methuselah\_67 Start: 42868, Stop: 42653, Start Num: 31  
Candidate Starts for Methuselah\_67:  
(Start: 31 @42868 has 77 MA's), (Start: 33 @42865 has 32 MA's), (Start: 47 @42832 has 2 MA's), (67, 42703), (76, 42658),

Gene: Micasa\_66 Start: 42015, Stop: 41713, Start Num: 31  
Candidate Starts for Micasa\_66:  
(Start: 31 @42015 has 77 MA's), (52, 41961), (53, 41955), (67, 41844), (69, 41838), (77, 41796),

Gene: Microwolf\_70 Start: 42860, Stop: 42645, Start Num: 31  
Candidate Starts for Microwolf\_70:  
(Start: 31 @42860 has 77 MA's), (Start: 33 @42857 has 32 MA's), (Start: 47 @42824 has 2 MA's), (67, 42695), (76, 42650),

Gene: MiculUcigas\_73 Start: 43404, Stop: 43177, Start Num: 25  
Candidate Starts for MiculUcigas\_73:  
(Start: 25 @43404 has 37 MA's), (Start: 46 @43350 has 1 MA's), (68, 43212),

Gene: Midas2\_63 Start: 41911, Stop: 41609, Start Num: 31  
Candidate Starts for Midas2\_63:  
(Start: 31 @41911 has 77 MA's), (52, 41857), (53, 41851), (78, 41668),

Gene: Miko\_66 Start: 42778, Stop: 42560, Start Num: 25  
Candidate Starts for Miko\_66:  
(Start: 25 @42778 has 37 MA's), (51, 42703), (67, 42598), (68, 42595),

Gene: Milcery\_66 Start: 41805, Stop: 41503, Start Num: 31  
Candidate Starts for Milcery\_66:  
(Start: 31 @41805 has 77 MA's), (52, 41751), (53, 41745), (67, 41634), (69, 41628), (77, 41586),

Gene: Millski\_66 Start: 42358, Stop: 42161, Start Num: 30  
Candidate Starts for Millski\_66:  
(Start: 30 @42358 has 142 MA's), (52, 42301), (76, 42166),

Gene: Minispark\_72 Start: 42745, Stop: 42512, Start Num: 18  
Candidate Starts for Minispark\_72:  
(8, 42784), (Start: 18 @42745 has 1 MA's), (Start: 47 @42673 has 2 MA's), (51, 42655),

Gene: Miramae\_66 Start: 42179, Stop: 41955, Start Num: 30  
Candidate Starts for Miramae\_66:  
(Start: 30 @42179 has 142 MA's), (52, 42122), (53, 42116), (76, 41960),

Gene: Misomonster\_75 Start: 42871, Stop: 42656, Start Num: 31  
Candidate Starts for Misomonster\_75:  
(Start: 31 @42871 has 77 MA's), (Start: 33 @42868 has 32 MA's), (Start: 47 @42835 has 2 MA's), (76, 42661),

Gene: MissWhite\_71 Start: 41889, Stop: 41647, Start Num: 22

Candidate Starts for MissWhite\_71:

(Start: 22 @41889 has 30 MA's), (Start: 46 @41835 has 1 MA's), (Start: 47 @41829 has 2 MA's), (62, 41724), (67, 41700),

Gene: MoneyMay\_73 Start: 42844, Stop: 42629, Start Num: 31

Candidate Starts for MoneyMay\_73:

(Start: 31 @42844 has 77 MA's), (Start: 33 @42841 has 32 MA's), (Start: 47 @42808 has 2 MA's), (67, 42679), (76, 42634),

Gene: Montavir\_69 Start: 42841, Stop: 42629, Start Num: 33

Candidate Starts for Montavir\_69:

(Start: 31 @42844 has 77 MA's), (Start: 33 @42841 has 32 MA's), (Start: 47 @42808 has 2 MA's), (67, 42679), (76, 42634),

Gene: Morpher26\_66 Start: 42654, Stop: 42430, Start Num: 30

Candidate Starts for Morpher26\_66:

(Start: 30 @42654 has 142 MA's), (52, 42597), (53, 42591), (59, 42540), (76, 42435),

Gene: Morrow\_68 Start: 42399, Stop: 42175, Start Num: 30

Candidate Starts for Morrow\_68:

(Start: 30 @42399 has 142 MA's), (52, 42342), (53, 42336), (76, 42180),

Gene: MuchMore\_77 Start: 42833, Stop: 42621, Start Num: 33

Candidate Starts for MuchMore\_77:

(Start: 31 @42836 has 77 MA's), (Start: 33 @42833 has 32 MA's), (Start: 47 @42800 has 2 MA's), (67, 42671), (76, 42626),

Gene: Mulciber\_73 Start: 43052, Stop: 42825, Start Num: 27

Candidate Starts for Mulciber\_73:

(Start: 27 @43052 has 38 MA's), (Start: 46 @42998 has 1 MA's), (59, 42920),

Gene: Munch\_75 Start: 43515, Stop: 43288, Start Num: 27

Candidate Starts for Munch\_75:

(Start: 27 @43515 has 38 MA's), (Start: 46 @43461 has 1 MA's), (Start: 47 @43455 has 2 MA's), (59, 43383),

Gene: Mundrea\_66 Start: 42647, Stop: 42423, Start Num: 30

Candidate Starts for Mundrea\_66:

(Start: 30 @42647 has 142 MA's), (52, 42590), (53, 42584), (59, 42533), (76, 42428),

Gene: MyraDee\_70 Start: 40654, Stop: 40406, Start Num: 31

Candidate Starts for MyraDee\_70:

(Start: 31 @40654 has 77 MA's), (53, 40594),

Gene: Myxus\_74 Start: 42923, Stop: 42705, Start Num: 26

Candidate Starts for Myxus\_74:

(Start: 26 @42923 has 36 MA's), (Start: 47 @42866 has 2 MA's), (51, 42848),

Gene: NaSiaTalie\_73 Start: 43498, Stop: 43271, Start Num: 25

Candidate Starts for NaSiaTalie\_73:

(Start: 25 @43498 has 37 MA's), (Start: 46 @43444 has 1 MA's), (68, 43306),

Gene: Naca\_69 Start: 43206, Stop: 42904, Start Num: 31

Candidate Starts for Naca\_69:

(Start: 31 @43206 has 77 MA's), (53, 43146), (65, 43041),

Gene: Naji\_75 Start: 44004, Stop: 43762, Start Num: 22

Candidate Starts for Naji\_75:

(Start: 22 @44004 has 30 MA's), (Start: 46 @43950 has 1 MA's), (51, 43926),

Gene: Nebs\_68 Start: 42396, Stop: 42172, Start Num: 30

Candidate Starts for Nebs\_68:

(Start: 30 @42396 has 142 MA's), (52, 42339), (53, 42333), (76, 42177),

Gene: Nemo27\_66 Start: 42356, Stop: 42159, Start Num: 30

Candidate Starts for Nemo27\_66:

(Start: 30 @42356 has 142 MA's), (52, 42299), (76, 42164),

Gene: NicoleTera\_70 Start: 43518, Stop: 43297, Start Num: 26

Candidate Starts for NicoleTera\_70:

(Start: 26 @43518 has 36 MA's), (Start: 46 @43464 has 1 MA's), (68, 43332),

Gene: Noella\_69 Start: 42561, Stop: 42349, Start Num: 34

Candidate Starts for Noella\_69:

(Start: 34 @42561 has 14 MA's), (Start: 47 @42528 has 2 MA's), (67, 42399), (76, 42354),

Gene: Noelle\_67 Start: 42962, Stop: 42738, Start Num: 30

Candidate Starts for Noelle\_67:

(Start: 30 @42962 has 142 MA's), (52, 42905), (53, 42899), (67, 42788), (76, 42743),

Gene: Norbert\_65 Start: 42560, Stop: 42348, Start Num: 34

Candidate Starts for Norbert\_65:

(Start: 34 @42560 has 14 MA's), (Start: 47 @42527 has 2 MA's), (67, 42398), (76, 42353),

Gene: NorthStar\_65 Start: 42357, Stop: 42160, Start Num: 30

Candidate Starts for NorthStar\_65:

(Start: 30 @42357 has 142 MA's), (52, 42300), (76, 42165),

Gene: NotAPhaseMom\_66 Start: 42361, Stop: 42164, Start Num: 30

Candidate Starts for NotAPhaseMom\_66:

(Start: 30 @42361 has 142 MA's), (52, 42304), (76, 42169),

Gene: NothingSpecial\_68 Start: 43574, Stop: 43308, Start Num: 11

Candidate Starts for NothingSpecial\_68:

(Start: 11 @43574 has 6 MA's), (Start: 22 @43535 has 30 MA's), (Start: 46 @43481 has 1 MA's),

(Start: 47 @43475 has 2 MA's), (66, 43349), (67, 43346), (68, 43343),

Gene: Nyxis\_66 Start: 42247, Stop: 42050, Start Num: 30

Candidate Starts for Nyxis\_66:

(Start: 30 @42247 has 142 MA's), (52, 42190), (76, 42055),

Gene: OKCentral2016\_65 Start: 41306, Stop: 41055, Start Num: 7

Candidate Starts for OKCentral2016\_65:

(Start: 7 @41306 has 1 MA's), (15, 41273), (Start: 31 @41249 has 77 MA's), (59, 41153), (64, 41105),

Gene: OKaNui\_66 Start: 42407, Stop: 42210, Start Num: 30

Candidate Starts for OKaNui\_66:  
(Start: 30 @42407 has 142 MA's), (52, 42350), (76, 42215),

Gene: Obama12\_68 Start: 42780, Stop: 42556, Start Num: 30  
Candidate Starts for Obama12\_68:  
(Start: 30 @42780 has 142 MA's), (52, 42723), (53, 42717), (76, 42561),

Gene: Odin\_73 Start: 42517, Stop: 42317, Start Num: 22  
Candidate Starts for Odin\_73:  
(5, 42586), (Start: 9 @42556 has 4 MA's), (Start: 22 @42517 has 30 MA's), (Start: 46 @42463 has 1 MA's), (51, 42439), (68, 42325),

Gene: Ohfah\_68 Start: 42396, Stop: 42172, Start Num: 30  
Candidate Starts for Ohfah\_68:  
(Start: 30 @42396 has 142 MA's), (52, 42339), (53, 42333), (76, 42177),

Gene: OlanP\_72 Start: 42837, Stop: 42619, Start Num: 29  
Candidate Starts for OlanP\_72:  
(6, 42906), (Start: 29 @42837 has 15 MA's), (Start: 47 @42798 has 2 MA's), (56, 42762), (67, 42669), (76, 42624),

Gene: Ollie\_74 Start: 42712, Stop: 42500, Start Num: 33  
Candidate Starts for Ollie\_74:  
(Start: 31 @42715 has 77 MA's), (Start: 33 @42712 has 32 MA's), (Start: 47 @42679 has 2 MA's), (67, 42550), (76, 42505),

Gene: Onglai\_72 Start: 41127, Stop: 40909, Start Num: 26  
Candidate Starts for Onglai\_72:  
(Start: 26 @41127 has 36 MA's), (Start: 47 @41070 has 2 MA's), (51, 41052),

Gene: Orange\_74 Start: 43064, Stop: 42837, Start Num: 27  
Candidate Starts for Orange\_74:  
(Start: 27 @43064 has 38 MA's), (Start: 46 @43010 has 1 MA's), (Start: 47 @43004 has 2 MA's), (59, 42932),

Gene: P28Green\_74 Start: 42847, Stop: 42632, Start Num: 31  
Candidate Starts for P28Green\_74:  
(Start: 31 @42847 has 77 MA's), (Start: 33 @42844 has 32 MA's), (Start: 47 @42811 has 2 MA's), (67, 42682), (76, 42637),

Gene: PGHhamlin\_76 Start: 42833, Stop: 42621, Start Num: 33  
Candidate Starts for PGHhamlin\_76:  
(Start: 31 @42836 has 77 MA's), (Start: 33 @42833 has 32 MA's), (Start: 47 @42800 has 2 MA's), (67, 42671), (76, 42626),

Gene: PackMan\_73 Start: 42798, Stop: 42580, Start Num: 26  
Candidate Starts for PackMan\_73:  
(Start: 26 @42798 has 36 MA's), (Start: 47 @42741 has 2 MA's), (51, 42723),

Gene: PainterBoy\_75 Start: 43432, Stop: 43232, Start Num: 26  
Candidate Starts for PainterBoy\_75:  
(14, 43456), (20, 43438), (Start: 26 @43432 has 36 MA's), (61, 43273),

Gene: Palestino\_66 Start: 42357, Stop: 42160, Start Num: 30

Candidate Starts for Palestino\_66:

(Start: 30 @42357 has 142 MA's), (52, 42300), (76, 42165),

Gene: Panamaxus\_67 Start: 42560, Stop: 42348, Start Num: 34

Candidate Starts for Panamaxus\_67:

(Start: 34 @42560 has 14 MA's), (Start: 47 @42527 has 2 MA's), (67, 42398), (76, 42353),

Gene: Pawn\_72 Start: 42668, Stop: 42450, Start Num: 29

Candidate Starts for Pawn\_72:

(6, 42737), (Start: 29 @42668 has 15 MA's), (Start: 47 @42629 has 2 MA's), (56, 42593), (59, 42560), (67, 42500), (76, 42455),

Gene: PeaceMeal1\_64 Start: 40823, Stop: 40584, Start Num: 28

Candidate Starts for PeaceMeal1\_64:

(Start: 28 @40823 has 8 MA's), (Start: 47 @40763 has 2 MA's), (76, 40589),

Gene: Peaches\_65 Start: 42356, Stop: 42159, Start Num: 30

Candidate Starts for Peaches\_65:

(Start: 30 @42356 has 142 MA's), (52, 42299), (76, 42164),

Gene: Pembroke\_74 Start: 42842, Stop: 42630, Start Num: 33

Candidate Starts for Pembroke\_74:

(Start: 31 @42845 has 77 MA's), (Start: 33 @42842 has 32 MA's), (Start: 47 @42809 has 2 MA's), (67, 42680), (76, 42635),

Gene: Penny1\_74 Start: 42845, Stop: 42633, Start Num: 33

Candidate Starts for Penny1\_74:

(Start: 31 @42848 has 77 MA's), (Start: 33 @42845 has 32 MA's), (Start: 47 @42812 has 2 MA's), (67, 42683), (76, 42638),

Gene: Perplexer\_66 Start: 42630, Stop: 42406, Start Num: 30

Candidate Starts for Perplexer\_66:

(Start: 30 @42630 has 142 MA's), (52, 42573), (53, 42567), (59, 42516), (76, 42411),

Gene: PeterPeter\_67 Start: 42354, Stop: 42157, Start Num: 30

Candidate Starts for PeterPeter\_67:

(Start: 30 @42354 has 142 MA's), (52, 42297), (76, 42162),

Gene: Petersenfast\_69 Start: 41946, Stop: 41683, Start Num: 27

Candidate Starts for Petersenfast\_69:

(Start: 27 @41946 has 38 MA's), (Start: 46 @41892 has 1 MA's), (Start: 47 @41886 has 2 MA's), (59, 41814), (72, 41727),

Gene: PetiteSangsue\_66 Start: 42633, Stop: 42409, Start Num: 30

Candidate Starts for PetiteSangsue\_66:

(Start: 30 @42633 has 142 MA's), (52, 42576), (53, 42570), (59, 42519), (76, 42414),

Gene: PetterN\_74 Start: 42993, Stop: 42691, Start Num: 31

Candidate Starts for PetterN\_74:

(Start: 31 @42993 has 77 MA's), (53, 42933), (65, 42828),

Gene: Ph8s\_76 Start: 42621, Stop: 42382, Start Num: 9

Candidate Starts for Ph8s\_76:

(3, 42693), (Start: 9 @42621 has 4 MA's), (Start: 22 @42582 has 30 MA's), (Start: 46 @42528 has 1 MA's), (Start: 47 @42522 has 2 MA's), (51, 42504), (68, 42390),

Gene: Phacado\_67 Start: 42356, Stop: 42159, Start Num: 30

Candidate Starts for Phacado\_67:

(Start: 30 @42356 has 142 MA's), (52, 42299), (76, 42164),

Gene: Phaded\_68 Start: 44715, Stop: 44476, Start Num: 22

Candidate Starts for Phaded\_68:

(Start: 22 @44715 has 30 MA's), (Start: 47 @44652 has 2 MA's), (51, 44634), (67, 44529),

Gene: Phaeder\_74 Start: 42798, Stop: 42580, Start Num: 26

Candidate Starts for Phaeder\_74:

(Start: 26 @42798 has 36 MA's), (Start: 47 @42741 has 2 MA's), (51, 42723),

Gene: Phantastic\_71 Start: 42234, Stop: 42010, Start Num: 36

Candidate Starts for Phantastic\_71:

(Start: 36 @42234 has 12 MA's), (38, 42228), (Start: 47 @42192 has 2 MA's), (76, 42015),

Gene: Pharaoh\_68 Start: 42838, Stop: 42611, Start Num: 22

Candidate Starts for Pharaoh\_68:

(Start: 22 @42838 has 30 MA's), (71, 42625), (72, 42622),

Gene: Phelipe\_68 Start: 42396, Stop: 42172, Start Num: 30

Candidate Starts for Phelipe\_68:

(Start: 30 @42396 has 142 MA's), (52, 42339), (53, 42333), (76, 42177),

Gene: Phighter1804\_67 Start: 42421, Stop: 42224, Start Num: 30

Candidate Starts for Phighter1804\_67:

(Start: 30 @42421 has 142 MA's), (52, 42364), (76, 42229),

Gene: PhishRPhriends\_70 Start: 41845, Stop: 41627, Start Num: 29

Candidate Starts for PhishRPhriends\_70:

(6, 41914), (Start: 29 @41845 has 15 MA's), (Start: 47 @41806 has 2 MA's), (56, 41770), (67, 41677), (76, 41632),

Gene: Phlorence\_65 Start: 41798, Stop: 41496, Start Num: 31

Candidate Starts for Phlorence\_65:

(Start: 31 @41798 has 77 MA's), (52, 41744), (53, 41738), (67, 41627), (69, 41621),

Gene: Phoebe\_75 Start: 42837, Stop: 42622, Start Num: 31

Candidate Starts for Phoebe\_75:

(Start: 31 @42837 has 77 MA's), (Start: 33 @42834 has 32 MA's), (Start: 47 @42801 has 2 MA's), (67, 42672), (76, 42627),

Gene: Phonnegut\_74 Start: 42868, Stop: 42650, Start Num: 26

Candidate Starts for Phonnegut\_74:

(Start: 26 @42868 has 36 MA's), (Start: 47 @42811 has 2 MA's), (51, 42793),

Gene: Phontbonne\_67 Start: 42263, Stop: 42066, Start Num: 30

Candidate Starts for Phontbonne\_67:

(Start: 30 @42263 has 142 MA's), (52, 42206), (76, 42071),

Gene: Phoxy\_74 Start: 42869, Stop: 42654, Start Num: 31

Candidate Starts for Phoxy\_74:

(Start: 31 @42869 has 77 MA's), (Start: 33 @42866 has 32 MA's), (Start: 47 @42833 has 2 MA's), (67, 42704), (76, 42659),

Gene: PickleBack\_67 Start: 41975, Stop: 41673, Start Num: 31

Candidate Starts for PickleBack\_67:

(Start: 31 @41975 has 77 MA's), (52, 41921), (53, 41915), (67, 41804), (69, 41798),

Gene: Pioneer\_74 Start: 42868, Stop: 42650, Start Num: 26

Candidate Starts for Pioneer\_74:

(Start: 26 @42868 has 36 MA's), (Start: 47 @42811 has 2 MA's), (51, 42793),

Gene: Pipcraft\_64 Start: 42357, Stop: 42160, Start Num: 30

Candidate Starts for Pipcraft\_64:

(Start: 30 @42357 has 142 MA's), (52, 42300), (76, 42165),

Gene: Piro94\_72 Start: 43466, Stop: 43239, Start Num: 25

Candidate Starts for Piro94\_72:

(Start: 25 @43466 has 37 MA's), (Start: 46 @43412 has 1 MA's), (68, 43274), (74, 43244),

Gene: Pistachio\_69 Start: 42142, Stop: 41939, Start Num: 42

Candidate Starts for Pistachio\_69:

(Start: 42 @42142 has 6 MA's), (51, 42100), (67, 41989),

Gene: Pocahontas\_68 Start: 42557, Stop: 42345, Start Num: 34

Candidate Starts for Pocahontas\_68:

(Start: 34 @42557 has 14 MA's), (Start: 47 @42524 has 2 MA's), (67, 42395), (76, 42350),

Gene: Polymorphads\_67 Start: 42377, Stop: 42153, Start Num: 30

Candidate Starts for Polymorphads\_67:

(Start: 30 @42377 has 142 MA's), (52, 42320), (53, 42314), (76, 42158),

Gene: Pomar16\_75 Start: 44044, Stop: 43802, Start Num: 22

Candidate Starts for Pomar16\_75:

(Start: 22 @44044 has 30 MA's), (Start: 46 @43990 has 1 MA's), (51, 43966),

Gene: Poompha\_63 Start: 40821, Stop: 40582, Start Num: 28

Candidate Starts for Poompha\_63:

(Start: 28 @40821 has 8 MA's), (Start: 47 @40761 has 2 MA's), (76, 40587),

Gene: Popcicle\_69 Start: 42557, Stop: 42345, Start Num: 34

Candidate Starts for Popcicle\_69:

(Start: 34 @42557 has 14 MA's), (Start: 47 @42524 has 2 MA's), (67, 42395), (76, 42350),

Gene: PotatoSplit\_75 Start: 42848, Stop: 42633, Start Num: 31

Candidate Starts for PotatoSplit\_75:

(Start: 31 @42848 has 77 MA's), (Start: 33 @42845 has 32 MA's), (Start: 47 @42812 has 2 MA's), (67, 42683), (76, 42638),

Gene: Power\_72 Start: 43836, Stop: 43612, Start Num: 25

Candidate Starts for Power\_72:

(Start: 25 @43836 has 37 MA's), (66, 43653), (67, 43650), (68, 43647),

Gene: Prinashe11\_64 Start: 41625, Stop: 41323, Start Num: 31

Candidate Starts for Prinashe11\_64:

(Start: 31 @41625 has 77 MA's), (52, 41571), (53, 41565), (67, 41454), (69, 41448), (77, 41406),

Gene: Priya\_72 Start: 42595, Stop: 42377, Start Num: 26

Candidate Starts for Priya\_72:

(Start: 26 @42595 has 36 MA's), (Start: 47 @42538 has 2 MA's), (51, 42520),

Gene: Prudy\_66 Start: 43483, Stop: 43259, Start Num: 27

Candidate Starts for Prudy\_66:

(10, 43528), (Start: 27 @43483 has 38 MA's), (Start: 47 @43426 has 2 MA's), (67, 43297), (68, 43294), (73, 43267),

Gene: Pukovnik\_69 Start: 44363, Stop: 44136, Start Num: 22

Candidate Starts for Pukovnik\_69:

(Start: 22 @44363 has 30 MA's), (Start: 46 @44309 has 1 MA's), (68, 44171), (74, 44141),

Gene: Pumbaa\_67 Start: 42302, Stop: 42105, Start Num: 30

Candidate Starts for Pumbaa\_67:

(Start: 30 @42302 has 142 MA's), (52, 42245), (76, 42110),

Gene: Puppy\_70 Start: 42214, Stop: 42011, Start Num: 42

Candidate Starts for Puppy\_70:

(Start: 42 @42214 has 6 MA's), (51, 42172), (67, 42061),

Gene: PurpleHaze\_73 Start: 42663, Stop: 42445, Start Num: 29

Candidate Starts for PurpleHaze\_73:

(6, 42732), (Start: 29 @42663 has 15 MA's), (Start: 47 @42624 has 2 MA's), (56, 42588), (67, 42495), (76, 42450),

Gene: Qobbit\_72 Start: 42557, Stop: 42339, Start Num: 26

Candidate Starts for Qobbit\_72:

(Start: 26 @42557 has 36 MA's), (Start: 47 @42500 has 2 MA's), (51, 42482),

Gene: QueenB2\_70 Start: 43119, Stop: 42895, Start Num: 25

Candidate Starts for QueenB2\_70:

(Start: 25 @43119 has 37 MA's), (Start: 46 @43068 has 1 MA's), (66, 42936), (68, 42930), (73, 42903),

Gene: QueenBeesly\_73 Start: 43793, Stop: 43569, Start Num: 25

Candidate Starts for QueenBeesly\_73:

(Start: 25 @43793 has 37 MA's), (66, 43610), (67, 43607), (68, 43604),

Gene: QuinnKiro\_68 Start: 42560, Stop: 42348, Start Num: 34

Candidate Starts for QuinnKiro\_68:

(Start: 34 @42560 has 14 MA's), (Start: 47 @42527 has 2 MA's), (67, 42398), (76, 42353),

Gene: Quokka\_74 Start: 42863, Stop: 42621, Start Num: 22

Candidate Starts for Quokka\_74:

(Start: 11 @42902 has 6 MA's), (Start: 22 @42863 has 30 MA's), (Start: 46 @42809 has 1 MA's), (Start: 47 @42803 has 2 MA's), (51, 42785), (67, 42674),

Gene: Rachaly\_68 Start: 42923, Stop: 42705, Start Num: 25  
Candidate Starts for Rachaly\_68:  
(Start: 25 @42923 has 37 MA's), (51, 42848), (67, 42743), (68, 42740),

Gene: Rahalelujah\_74 Start: 42760, Stop: 42527, Start Num: 18  
Candidate Starts for Rahalelujah\_74:  
(8, 42799), (Start: 18 @42760 has 1 MA's), (Start: 47 @42688 has 2 MA's), (51, 42670),

Gene: Rebeuca\_67 Start: 42137, Stop: 41898, Start Num: 28  
Candidate Starts for Rebeuca\_67:  
(Start: 28 @42137 has 8 MA's), (Start: 47 @42077 has 2 MA's), (67, 41948), (76, 41903),

Gene: RedRock\_71 Start: 43761, Stop: 43537, Start Num: 27  
Candidate Starts for RedRock\_71:  
(Start: 27 @43761 has 38 MA's), (Start: 29 @43758 has 15 MA's), (Start: 46 @43710 has 1 MA's), (67, 43575), (68, 43572),

Gene: Refuge\_70 Start: 44062, Stop: 43841, Start Num: 23  
Candidate Starts for Refuge\_70:  
(Start: 23 @44062 has 9 MA's), (39, 44032),

Gene: Relief\_66 Start: 42354, Stop: 42157, Start Num: 30  
Candidate Starts for Relief\_66:  
(Start: 30 @42354 has 142 MA's), (52, 42297), (76, 42162),

Gene: ResDef\_67 Start: 42560, Stop: 42348, Start Num: 34  
Candidate Starts for ResDef\_67:  
(Start: 34 @42560 has 14 MA's), (Start: 47 @42527 has 2 MA's), (67, 42398), (76, 42353),

Gene: Retro23\_73 Start: 43524, Stop: 43300, Start Num: 25  
Candidate Starts for Retro23\_73:  
(Start: 25 @43524 has 37 MA's), (66, 43341), (67, 43338), (68, 43335),

Gene: RhynO\_66 Start: 41808, Stop: 41539, Start Num: 13  
Candidate Starts for RhynO\_66:  
(Start: 13 @41808 has 1 MA's), (Start: 27 @41775 has 38 MA's), (35, 41757), (53, 41700), (67, 41589),

Gene: RockieBear\_64 Start: 42357, Stop: 42160, Start Num: 30  
Candidate Starts for RockieBear\_64:  
(Start: 30 @42357 has 142 MA's), (52, 42300), (76, 42165),

Gene: Rockstar\_68 Start: 42057, Stop: 41833, Start Num: 36  
Candidate Starts for Rockstar\_68:  
(Start: 36 @42057 has 12 MA's), (38, 42051), (Start: 47 @42015 has 2 MA's), (76, 41838),

Gene: Roimos\_67 Start: 42436, Stop: 42212, Start Num: 36  
Candidate Starts for Roimos\_67:  
(Start: 36 @42436 has 12 MA's), (38, 42430), (Start: 47 @42394 has 2 MA's), (67, 42262), (76, 42217),

Gene: Romney\_66 Start: 42354, Stop: 42157, Start Num: 30  
Candidate Starts for Romney\_66:  
(Start: 30 @42354 has 142 MA's), (52, 42297), (76, 42162),

Gene: Roosevelt\_65 Start: 42359, Stop: 42162, Start Num: 30  
Candidate Starts for Roosevelt\_65:  
(Start: 30 @42359 has 142 MA's), (52, 42302), (76, 42167),

Gene: Rosa24\_64 Start: 42388, Stop: 42191, Start Num: 30  
Candidate Starts for Rosa24\_64:  
(Start: 30 @42388 has 142 MA's), (52, 42331), (76, 42196),

Gene: Rowdy\_68 Start: 41850, Stop: 41611, Start Num: 28  
Candidate Starts for Rowdy\_68:  
(Start: 28 @41850 has 8 MA's), (Start: 47 @41790 has 2 MA's), (76, 41616),

Gene: Ruin\_67 Start: 42350, Stop: 42153, Start Num: 30  
Candidate Starts for Ruin\_67:  
(Start: 30 @42350 has 142 MA's), (52, 42293), (76, 42158),

Gene: Rummer\_73 Start: 42872, Stop: 42657, Start Num: 31  
Candidate Starts for Rummer\_73:  
(Start: 31 @42872 has 77 MA's), (Start: 33 @42869 has 32 MA's), (Start: 47 @42836 has 2 MA's), (67, 42707), (76, 42662),

Gene: RyeScarlet\_75 Start: 42843, Stop: 42625, Start Num: 26  
Candidate Starts for RyeScarlet\_75:  
(Start: 26 @42843 has 36 MA's), (Start: 47 @42786 has 2 MA's), (51, 42768),

Gene: Sabertooth\_67 Start: 42359, Stop: 42162, Start Num: 30  
Candidate Starts for Sabertooth\_67:  
(Start: 30 @42359 has 142 MA's), (52, 42302), (76, 42167),

Gene: Sabia\_72 Start: 42852, Stop: 42637, Start Num: 31  
Candidate Starts for Sabia\_72:  
(Start: 31 @42852 has 77 MA's), (Start: 33 @42849 has 32 MA's), (Start: 47 @42816 has 2 MA's), (67, 42687), (76, 42642),

Gene: Sabinator\_72 Start: 42840, Stop: 42628, Start Num: 33  
Candidate Starts for Sabinator\_72:  
(Start: 31 @42843 has 77 MA's), (Start: 33 @42840 has 32 MA's), (Start: 47 @42807 has 2 MA's), (67, 42678), (76, 42633),

Gene: Sachima\_70 Start: 42824, Stop: 42606, Start Num: 26  
Candidate Starts for Sachima\_70:  
(Start: 26 @42824 has 36 MA's), (Start: 47 @42767 has 2 MA's), (51, 42749),

Gene: Salz\_70 Start: 41861, Stop: 41598, Start Num: 27  
Candidate Starts for Salz\_70:  
(Start: 27 @41861 has 38 MA's), (Start: 46 @41807 has 1 MA's), (Start: 47 @41801 has 2 MA's), (59, 41729), (72, 41642),

Gene: Saskia\_72 Start: 42409, Stop: 42146, Start Num: 27  
Candidate Starts for Saskia\_72:  
(Start: 27 @42409 has 38 MA's), (Start: 47 @42349 has 2 MA's), (72, 42190),

Gene: SaturnRing\_69 Start: 42595, Stop: 42392, Start Num: 42

Candidate Starts for SaturnRing\_69:

(Start: 42 @42595 has 6 MA's), (51, 42553), (67, 42442),

Gene: Scamp\_67 Start: 42359, Stop: 42162, Start Num: 30

Candidate Starts for Scamp\_67:

(Start: 30 @42359 has 142 MA's), (52, 42302), (76, 42167),

Gene: Scherzo\_73 Start: 43087, Stop: 42869, Start Num: 26

Candidate Starts for Scherzo\_73:

(Start: 26 @43087 has 36 MA's), (Start: 47 @43030 has 2 MA's), (51, 43012),

Gene: Scorpio\_70 Start: 42564, Stop: 42262, Start Num: 31

Candidate Starts for Scorpio\_70:

(Start: 31 @42564 has 77 MA's), (53, 42504), (65, 42399),

Gene: Scout\_68 Start: 41767, Stop: 41543, Start Num: 36

Candidate Starts for Scout\_68:

(Start: 36 @41767 has 12 MA's), (38, 41761), (Start: 47 @41725 has 2 MA's), (67, 41593), (76, 41548),

Gene: SemperFi\_73 Start: 43681, Stop: 43457, Start Num: 25

Candidate Starts for SemperFi\_73:

(Start: 25 @43681 has 37 MA's), (66, 43498), (67, 43495), (68, 43492),

Gene: SenorClean\_68 Start: 42357, Stop: 42160, Start Num: 30

Candidate Starts for SenorClean\_68:

(Start: 30 @42357 has 142 MA's), (52, 42300), (76, 42165),

Gene: Serenity\_76 Start: 43102, Stop: 42818, Start Num: 11

Candidate Starts for Serenity\_76:

(Start: 11 @43102 has 6 MA's), (Start: 46 @43009 has 1 MA's), (Start: 47 @43003 has 2 MA's), (49, 42994), (62, 42895), (67, 42871),

Gene: Severus\_64 Start: 40821, Stop: 40582, Start Num: 28

Candidate Starts for Severus\_64:

(Start: 28 @40821 has 8 MA's), (Start: 47 @40761 has 2 MA's), (76, 40587),

Gene: Shaka\_65 Start: 42354, Stop: 42157, Start Num: 30

Candidate Starts for Shaka\_65:

(Start: 30 @42354 has 142 MA's), (52, 42297), (76, 42162),

Gene: Sham4\_71 Start: 41945, Stop: 41682, Start Num: 27

Candidate Starts for Sham4\_71:

(Start: 27 @41945 has 38 MA's), (Start: 46 @41891 has 1 MA's), (Start: 47 @41885 has 2 MA's), (59, 41813), (72, 41726),

Gene: Shapes\_68 Start: 41850, Stop: 41611, Start Num: 28

Candidate Starts for Shapes\_68:

(Start: 28 @41850 has 8 MA's), (Start: 47 @41790 has 2 MA's), (76, 41616),

Gene: SheaKeira\_68 Start: 41846, Stop: 41625, Start Num: 27

Candidate Starts for SheaKeira\_68:

(Start: 27 @41846 has 38 MA's), (Start: 46 @41792 has 1 MA's), (68, 41660),

Gene: SheldonCooper\_67 Start: 42797, Stop: 42573, Start Num: 30  
Candidate Starts for SheldonCooper\_67:  
(Start: 30 @42797 has 142 MA's), (52, 42740), (53, 42734), (76, 42578),

Gene: Shygu2\_66 Start: 42684, Stop: 42460, Start Num: 30  
Candidate Starts for Shygu2\_66:  
(Start: 30 @42684 has 142 MA's), (52, 42627), (53, 42621), (76, 42465),

Gene: Skipitt\_66 Start: 42351, Stop: 42154, Start Num: 30  
Candidate Starts for Skipitt\_66:  
(Start: 30 @42351 has 142 MA's), (52, 42294), (76, 42159),

Gene: Sknot\_73 Start: 43498, Stop: 43271, Start Num: 25  
Candidate Starts for Sknot\_73:  
(Start: 25 @43498 has 37 MA's), (Start: 46 @43444 has 1 MA's), (68, 43306),

Gene: Smeagan\_75 Start: 43992, Stop: 43768, Start Num: 25  
Candidate Starts for Smeagan\_75:  
(Start: 25 @43992 has 37 MA's), (Start: 46 @43941 has 1 MA's), (66, 43809), (67, 43806), (68, 43803),

Gene: SnapTap\_72 Start: 43492, Stop: 43268, Start Num: 25  
Candidate Starts for SnapTap\_72:  
(Start: 25 @43492 has 37 MA's), (66, 43309), (67, 43306), (68, 43303),

Gene: Snape\_75 Start: 43054, Stop: 42827, Start Num: 27  
Candidate Starts for Snape\_75:  
(Start: 27 @43054 has 38 MA's), (Start: 46 @43000 has 1 MA's), (59, 42922),

Gene: Snickers\_74 Start: 42814, Stop: 42602, Start Num: 33  
Candidate Starts for Snickers\_74:  
(Start: 31 @42817 has 77 MA's), (Start: 33 @42814 has 32 MA's), (Start: 47 @42781 has 2 MA's), (67, 42652), (76, 42607),

Gene: SoYo\_71 Start: 42753, Stop: 42541, Start Num: 33  
Candidate Starts for SoYo\_71:  
(Start: 31 @42756 has 77 MA's), (Start: 33 @42753 has 32 MA's), (Start: 47 @42720 has 2 MA's), (67, 42591), (76, 42546),

Gene: SoilDragon\_73 Start: 42289, Stop: 42077, Start Num: 33  
Candidate Starts for SoilDragon\_73:  
(Start: 31 @42292 has 77 MA's), (Start: 33 @42289 has 32 MA's), (Start: 47 @42256 has 2 MA's), (67, 42127), (76, 42082),

Gene: SororFago\_74 Start: 44027, Stop: 43806, Start Num: 22  
Candidate Starts for SororFago\_74:  
(Start: 22 @44027 has 30 MA's), (Start: 46 @43973 has 1 MA's), (Start: 47 @43967 has 2 MA's), (51, 43949), (68, 43841),

Gene: Soshari\_76 Start: 42868, Stop: 42653, Start Num: 31  
Candidate Starts for Soshari\_76:  
(Start: 31 @42868 has 77 MA's), (Start: 33 @42865 has 32 MA's), (Start: 47 @42832 has 2 MA's), (67, 42703), (76, 42658),

Gene: Sparxx\_68 Start: 42352, Stop: 42155, Start Num: 30  
Candidate Starts for Sparxx\_68:  
(Start: 30 @42352 has 142 MA's), (52, 42295), (76, 42160),

Gene: Spike509\_74 Start: 42869, Stop: 42654, Start Num: 31  
Candidate Starts for Spike509\_74:  
(Start: 31 @42869 has 77 MA's), (Start: 33 @42866 has 32 MA's), (Start: 47 @42833 has 2 MA's), (67, 42704), (76, 42659),

Gene: Spino\_66 Start: 42360, Stop: 42163, Start Num: 30  
Candidate Starts for Spino\_66:  
(Start: 30 @42360 has 142 MA's), (52, 42303), (76, 42168),

Gene: Spouty\_72 Start: 42594, Stop: 42376, Start Num: 26  
Candidate Starts for Spouty\_72:  
(Start: 26 @42594 has 36 MA's), (Start: 47 @42537 has 2 MA's), (51, 42519),

Gene: Stagni\_71 Start: 42844, Stop: 42632, Start Num: 33  
Candidate Starts for Stagni\_71:  
(Start: 31 @42847 has 77 MA's), (Start: 33 @42844 has 32 MA's), (Start: 47 @42811 has 2 MA's), (67, 42682), (76, 42637),

Gene: StarStuff\_75 Start: 44006, Stop: 43764, Start Num: 22  
Candidate Starts for StarStuff\_75:  
(Start: 22 @44006 has 30 MA's), (Start: 46 @43952 has 1 MA's), (51, 43928),

Gene: Stasia\_66 Start: 42567, Stop: 42343, Start Num: 30  
Candidate Starts for Stasia\_66:  
(Start: 30 @42567 has 142 MA's), (52, 42510), (53, 42504), (67, 42393), (76, 42348),

Gene: SteMason\_63 Start: 42354, Stop: 42157, Start Num: 30  
Candidate Starts for SteMason\_63:  
(Start: 30 @42354 has 142 MA's), (52, 42297), (76, 42162),

Gene: Steamy\_67 Start: 42288, Stop: 42067, Start Num: 23  
Candidate Starts for Steamy\_67:  
(Start: 23 @42288 has 9 MA's), (43, 42258), (66, 42108),

Gene: StepMih\_73 Start: 42802, Stop: 42623, Start Num: 47  
Candidate Starts for StepMih\_73:  
(Start: 31 @42838 has 77 MA's), (Start: 33 @42835 has 32 MA's), (Start: 47 @42802 has 2 MA's), (67, 42673), (76, 42628),

Gene: Stink\_66 Start: 42459, Stop: 42235, Start Num: 30  
Candidate Starts for Stink\_66:  
(Start: 30 @42459 has 142 MA's), (52, 42402), (53, 42396), (76, 42240),

Gene: Sultana\_67 Start: 42357, Stop: 42160, Start Num: 30  
Candidate Starts for Sultana\_67:  
(Start: 30 @42357 has 142 MA's), (52, 42300), (76, 42165),

Gene: Sunhee\_74 Start: 42079, Stop: 41858, Start Num: 23  
Candidate Starts for Sunhee\_74:

(Start: 23 @42079 has 9 MA's), (37, 42052), (Start: 46 @42025 has 1 MA's), (Start: 47 @42019 has 2 MA's), (51, 42001), (68, 41893),

Gene: Superchunk\_74 Start: 42168, Stop: 41929, Start Num: 9

Candidate Starts for Superchunk\_74:

(3, 42240), (4, 42222), (Start: 9 @42168 has 4 MA's), (Start: 22 @42129 has 30 MA's), (Start: 46 @42075 has 1 MA's), (51, 42051), (68, 41937),

Gene: SweetiePie\_72 Start: 43624, Stop: 43400, Start Num: 25

Candidate Starts for SweetiePie\_72:

(Start: 25 @43624 has 37 MA's), (66, 43441), (67, 43438), (68, 43435),

Gene: SwirlSquare\_78 Start: 42851, Stop: 42651, Start Num: 22

Candidate Starts for SwirlSquare\_78:

(Start: 22 @42851 has 30 MA's), (Start: 46 @42797 has 1 MA's), (Start: 47 @42791 has 2 MA's), (51, 42773),

Gene: Swirley\_66 Start: 41955, Stop: 41653, Start Num: 31

Candidate Starts for Swirley\_66:

(Start: 31 @41955 has 77 MA's), (52, 41901), (53, 41895), (67, 41784), (69, 41778), (77, 41736),

Gene: SydNat\_66 Start: 42147, Stop: 41845, Start Num: 31

Candidate Starts for SydNat\_66:

(Start: 31 @42147 has 77 MA's), (52, 42093), (53, 42087), (78, 41904),

Gene: TNguyen7\_70 Start: 42555, Stop: 42352, Start Num: 42

Candidate Starts for TNguyen7\_70:

(Start: 42 @42555 has 6 MA's), (51, 42513), (67, 42402),

Gene: Taquarus\_66 Start: 42360, Stop: 42163, Start Num: 30

Candidate Starts for Taquarus\_66:

(Start: 30 @42360 has 142 MA's), (52, 42303), (76, 42168),

Gene: TarsusIV\_70 Start: 43465, Stop: 43244, Start Num: 23

Candidate Starts for TarsusIV\_70:

(Start: 23 @43465 has 9 MA's), (Start: 46 @43411 has 1 MA's), (Start: 47 @43405 has 2 MA's), (51, 43387), (68, 43279),

Gene: Tarynearal\_65 Start: 41791, Stop: 41489, Start Num: 31

Candidate Starts for Tarynearal\_65:

(Start: 31 @41791 has 77 MA's), (52, 41737), (53, 41731), (67, 41620), (69, 41614), (77, 41572),

Gene: Taurus\_75 Start: 42844, Stop: 42629, Start Num: 31

Candidate Starts for Taurus\_75:

(Start: 31 @42844 has 77 MA's), (Start: 33 @42841 has 32 MA's), (Start: 47 @42808 has 2 MA's), (67, 42679), (76, 42634),

Gene: Terrific\_73 Start: 43472, Stop: 43245, Start Num: 25

Candidate Starts for Terrific\_73:

(Start: 25 @43472 has 37 MA's), (Start: 46 @43418 has 1 MA's), (68, 43280),

Gene: Texage\_67 Start: 42561, Stop: 42349, Start Num: 34

Candidate Starts for Texage\_67:

(Start: 34 @42561 has 14 MA's), (Start: 47 @42528 has 2 MA's), (67, 42399), (76, 42354),

Gene: Thanksgivukkah\_66 Start: 42355, Stop: 42158, Start Num: 30

Candidate Starts for Thanksgivukkah\_66:

(Start: 30 @42355 has 142 MA's), (52, 42298), (60, 42244), (76, 42163),

Gene: Theia\_65 Start: 42277, Stop: 41975, Start Num: 31

Candidate Starts for Theia\_65:

(Start: 31 @42277 has 77 MA's), (52, 42223), (53, 42217), (78, 42034),

Gene: Tiffany\_73 Start: 42729, Stop: 42514, Start Num: 31

Candidate Starts for Tiffany\_73:

(Start: 31 @42729 has 77 MA's), (Start: 33 @42726 has 32 MA's), (Start: 47 @42693 has 2 MA's), (67, 42564), (76, 42519),

Gene: Tiger\_66 Start: 41719, Stop: 41417, Start Num: 31

Candidate Starts for Tiger\_66:

(Start: 31 @41719 has 77 MA's), (52, 41665), (53, 41659), (67, 41548), (69, 41542),

Gene: Timothy\_75 Start: 43031, Stop: 42804, Start Num: 27

Candidate Starts for Timothy\_75:

(Start: 27 @43031 has 38 MA's), (Start: 46 @42977 has 1 MA's), (Start: 47 @42971 has 2 MA's), (59, 42899),

Gene: TinaFeyge\_65 Start: 42352, Stop: 42155, Start Num: 30

Candidate Starts for TinaFeyge\_65:

(Start: 30 @42352 has 142 MA's), (52, 42295), (76, 42160),

Gene: TinyPebbles\_73 Start: 42874, Stop: 42659, Start Num: 31

Candidate Starts for TinyPebbles\_73:

(Start: 31 @42874 has 77 MA's), (Start: 33 @42871 has 32 MA's), (Start: 47 @42838 has 2 MA's), (76, 42664),

Gene: TinyTimmy\_73 Start: 42760, Stop: 42533, Start Num: 27

Candidate Starts for TinyTimmy\_73:

(Start: 27 @42760 has 38 MA's), (Start: 46 @42706 has 1 MA's), (Start: 47 @42700 has 2 MA's), (59, 42628),

Gene: Tinybot\_66 Start: 42387, Stop: 42190, Start Num: 30

Candidate Starts for Tinybot\_66:

(Start: 30 @42387 has 142 MA's), (52, 42330), (76, 42195),

Gene: TipsytheTRex\_72 Start: 43101, Stop: 42820, Start Num: 11

Candidate Starts for TipsytheTRex\_72:

(Start: 11 @43101 has 6 MA's), (Start: 46 @43008 has 1 MA's), (Start: 47 @43002 has 2 MA's), (51, 42984), (67, 42873),

Gene: TiroTheta9\_66 Start: 42351, Stop: 42154, Start Num: 30

Candidate Starts for TiroTheta9\_66:

(Start: 30 @42351 has 142 MA's), (52, 42294), (76, 42159),

Gene: Todacoro\_69 Start: 42560, Stop: 42348, Start Num: 34

Candidate Starts for Todacoro\_69:

(Start: 34 @42560 has 14 MA's), (Start: 47 @42527 has 2 MA's), (67, 42398), (76, 42353),

Gene: Tomathan\_75 Start: 44117, Stop: 43875, Start Num: 22

Candidate Starts for Tomathan\_75:

(Start: 22 @44117 has 30 MA's), (Start: 46 @44063 has 1 MA's), (51, 44039),

Gene: Topanga\_63 Start: 41611, Stop: 41378, Start Num: 32

Candidate Starts for Topanga\_63:

(Start: 32 @41611 has 4 MA's), (Start: 46 @41563 has 1 MA's), (Start: 47 @41557 has 2 MA's), (76, 41383),

Gene: Travvers\_74 Start: 44003, Stop: 43761, Start Num: 22

Candidate Starts for Travvers\_74:

(Start: 22 @44003 has 30 MA's), (Start: 46 @43949 has 1 MA's), (51, 43925),

Gene: Trike\_63 Start: 40825, Stop: 40589, Start Num: 28

Candidate Starts for Trike\_63:

(Start: 28 @40825 has 8 MA's), (Start: 47 @40768 has 2 MA's), (76, 40594),

Gene: Tristan\_69 Start: 44578, Stop: 44339, Start Num: 22

Candidate Starts for Tristan\_69:

(Start: 22 @44578 has 30 MA's), (Start: 47 @44515 has 2 MA's), (51, 44497), (67, 44392),

Gene: Trixie\_72 Start: 44253, Stop: 44035, Start Num: 26

Candidate Starts for Trixie\_72:

(Start: 26 @44253 has 36 MA's), (Start: 46 @44202 has 1 MA's), (51, 44178), (62, 44091), (68, 44070), (73, 44043),

Gene: Trooper\_72 Start: 43427, Stop: 43203, Start Num: 27

Candidate Starts for Trooper\_72:

(Start: 27 @43427 has 38 MA's), (Start: 46 @43376 has 1 MA's), (Start: 47 @43370 has 2 MA's), (67, 43241), (68, 43238),

Gene: TroyPia\_68 Start: 42391, Stop: 42167, Start Num: 30

Candidate Starts for TroyPia\_68:

(Start: 30 @42391 has 142 MA's), (52, 42334), (53, 42328), (76, 42172),

Gene: Tubs\_74 Start: 42798, Stop: 42580, Start Num: 26

Candidate Starts for Tubs\_74:

(Start: 26 @42798 has 36 MA's), (Start: 47 @42741 has 2 MA's), (51, 42723),

Gene: Turbido\_73 Start: 43711, Stop: 43487, Start Num: 25

Candidate Starts for Turbido\_73:

(Start: 25 @43711 has 37 MA's), (Start: 46 @43660 has 1 MA's), (66, 43528), (67, 43525), (68, 43522),

Gene: Twigg\_65 Start: 41603, Stop: 41301, Start Num: 31

Candidate Starts for Twigg\_65:

(Start: 31 @41603 has 77 MA's), (52, 41549), (53, 41543), (67, 41432), (69, 41426), (77, 41384),

Gene: Twister\_65 Start: 41732, Stop: 41499, Start Num: 32

Candidate Starts for Twister\_65:

(Start: 32 @41732 has 4 MA's), (Start: 46 @41684 has 1 MA's), (Start: 47 @41678 has 2 MA's), (76, 41504),

Gene: TygerBlood\_67 Start: 42357, Stop: 42160, Start Num: 30

Candidate Starts for TygerBlood\_67:

(Start: 30 @42357 has 142 MA's), (52, 42300), (76, 42165),

Gene: Ugenie5\_69 Start: 43086, Stop: 42868, Start Num: 26

Candidate Starts for Ugenie5\_69:

(Start: 26 @43086 has 36 MA's), (Start: 47 @43029 has 2 MA's), (51, 43011),

Gene: Ulysses\_66 Start: 42043, Stop: 41846, Start Num: 30

Candidate Starts for Ulysses\_66:

(Start: 30 @42043 has 142 MA's), (52, 41986), (76, 41851),

Gene: UnionJack\_70 Start: 42228, Stop: 41926, Start Num: 31

Candidate Starts for UnionJack\_70:

(Start: 31 @42228 has 77 MA's), (53, 42168),

Gene: Updawg\_73 Start: 43362, Stop: 43135, Start Num: 25

Candidate Starts for Updawg\_73:

(Start: 25 @43362 has 37 MA's), (Start: 46 @43308 has 1 MA's), (68, 43170),

Gene: VC3\_74 Start: 43459, Stop: 43217, Start Num: 22

Candidate Starts for VC3\_74:

(Start: 22 @43459 has 30 MA's), (Start: 46 @43405 has 1 MA's), (51, 43381), (66, 43273),

Gene: Veracruz\_66 Start: 42560, Stop: 42348, Start Num: 34

Candidate Starts for Veracruz\_66:

(Start: 34 @42560 has 14 MA's), (Start: 47 @42527 has 2 MA's), (67, 42398), (76, 42353),

Gene: Vix\_70 Start: 42927, Stop: 42712, Start Num: 31

Candidate Starts for Vix\_70:

(Start: 31 @42927 has 77 MA's), (Start: 33 @42924 has 32 MA's), (Start: 47 @42891 has 2 MA's), (67, 42762), (76, 42717),

Gene: WalterMcMickey\_65 Start: 41732, Stop: 41499, Start Num: 32

Candidate Starts for WalterMcMickey\_65:

(Start: 32 @41732 has 4 MA's), (Start: 46 @41684 has 1 MA's), (Start: 47 @41678 has 2 MA's), (76, 41504),

Gene: Wander\_67 Start: 42354, Stop: 42157, Start Num: 30

Candidate Starts for Wander\_67:

(Start: 30 @42354 has 142 MA's), (52, 42297), (76, 42162),

Gene: Watson\_73 Start: 42833, Stop: 42621, Start Num: 33

Candidate Starts for Watson\_73:

(Start: 31 @42836 has 77 MA's), (Start: 33 @42833 has 32 MA's), (Start: 47 @42800 has 2 MA's), (67, 42671), (76, 42626),

Gene: WeiHuaDA\_73 Start: 44299, Stop: 44075, Start Num: 27

Candidate Starts for WeiHuaDA\_73:

(Start: 27 @44299 has 38 MA's), (Start: 46 @44248 has 1 MA's), (Start: 47 @44242 has 2 MA's), (66, 44116), (67, 44113), (68, 44110), (73, 44083),

Gene: Whabigail7\_73 Start: 43711, Stop: 43487, Start Num: 25  
Candidate Starts for Whabigail7\_73:  
(Start: 25 @43711 has 37 MA's), (Start: 46 @43660 has 1 MA's), (66, 43528), (67, 43525), (68, 43522),

Gene: WideWale\_73 Start: 43362, Stop: 43135, Start Num: 25  
Candidate Starts for WideWale\_73:  
(Start: 25 @43362 has 37 MA's), (Start: 46 @43308 has 1 MA's), (68, 43170),

Gene: Wilbur\_67 Start: 42354, Stop: 42157, Start Num: 30  
Candidate Starts for Wilbur\_67:  
(Start: 30 @42354 has 142 MA's), (52, 42297), (76, 42162),

Gene: Wile\_65 Start: 42663, Stop: 42439, Start Num: 30  
Candidate Starts for Wile\_65:  
(Start: 30 @42663 has 142 MA's), (52, 42606), (53, 42600), (59, 42549), (76, 42444),

Gene: Wizard007\_66 Start: 42389, Stop: 42165, Start Num: 30  
Candidate Starts for Wizard007\_66:  
(Start: 30 @42389 has 142 MA's), (52, 42332), (53, 42326), (59, 42275), (76, 42170),

Gene: Wolpertinger\_73 Start: 43063, Stop: 42836, Start Num: 27  
Candidate Starts for Wolpertinger\_73:  
(Start: 27 @43063 has 38 MA's), (Start: 46 @43009 has 1 MA's), (Start: 47 @43003 has 2 MA's), (59, 42931),

Gene: Wooldri\_76 Start: 42756, Stop: 42541, Start Num: 31  
Candidate Starts for Wooldri\_76:  
(Start: 31 @42756 has 77 MA's), (Start: 33 @42753 has 32 MA's), (Start: 47 @42720 has 2 MA's), (67, 42591), (76, 42546),

Gene: WorldCup\_72 Start: 42754, Stop: 42521, Start Num: 18  
Candidate Starts for WorldCup\_72:  
(8, 42793), (Start: 18 @42754 has 1 MA's), (Start: 47 @42682 has 2 MA's), (51, 42664),

Gene: Xena\_65 Start: 42630, Stop: 42406, Start Num: 30  
Candidate Starts for Xena\_65:  
(Start: 30 @42630 has 142 MA's), (52, 42573), (53, 42567), (59, 42516), (76, 42411),

Gene: XianYue\_68 Start: 43295, Stop: 43074, Start Num: 24  
Candidate Starts for XianYue\_68:  
(Start: 24 @43295 has 1 MA's), (51, 43217), (67, 43112), (74, 43079),

Gene: Yecey3\_76 Start: 42829, Stop: 42608, Start Num: 26  
Candidate Starts for Yecey3\_76:  
(Start: 26 @42829 has 36 MA's), (Start: 47 @42769 has 2 MA's), (51, 42751), (62, 42664),

Gene: YoSam321\_67 Start: 42351, Stop: 42154, Start Num: 30  
Candidate Starts for YoSam321\_67:  
(Start: 30 @42351 has 142 MA's), (52, 42294), (76, 42159),

Gene: Zarafa\_67 Start: 42529, Stop: 42305, Start Num: 36  
Candidate Starts for Zarafa\_67:  
(Start: 36 @42529 has 12 MA's), (38, 42523), (Start: 47 @42487 has 2 MA's), (67, 42355), (76, 42310),

Gene: Zetzy\_71 Start: 42407, Stop: 42192, Start Num: 31

Candidate Starts for Zetzy\_71:

(Start: 31 @42407 has 77 MA's), (Start: 47 @42371 has 2 MA's), (55, 42338), (59, 42302), (67, 42242), (76, 42197),

Gene: Zimmer\_71 Start: 43934, Stop: 43707, Start Num: 23

Candidate Starts for Zimmer\_71:

(Start: 23 @43934 has 9 MA's), (Start: 46 @43880 has 1 MA's), (Start: 47 @43874 has 2 MA's), (51, 43856), (66, 43748), (68, 43742),

Gene: Zolita\_65 Start: 42151, Stop: 41849, Start Num: 31

Candidate Starts for Zolita\_65:

(Start: 31 @42151 has 77 MA's), (52, 42097), (53, 42091), (78, 41908),