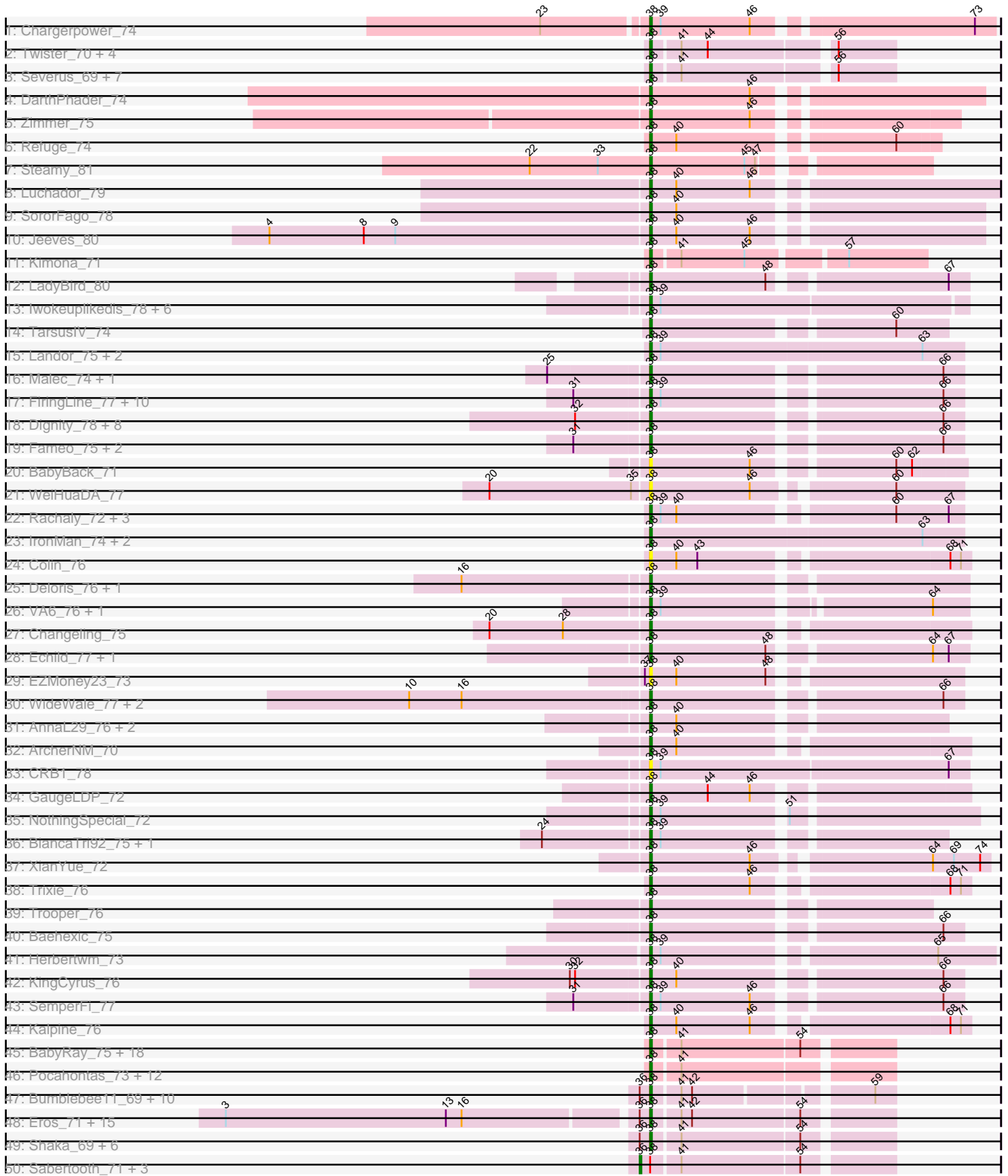
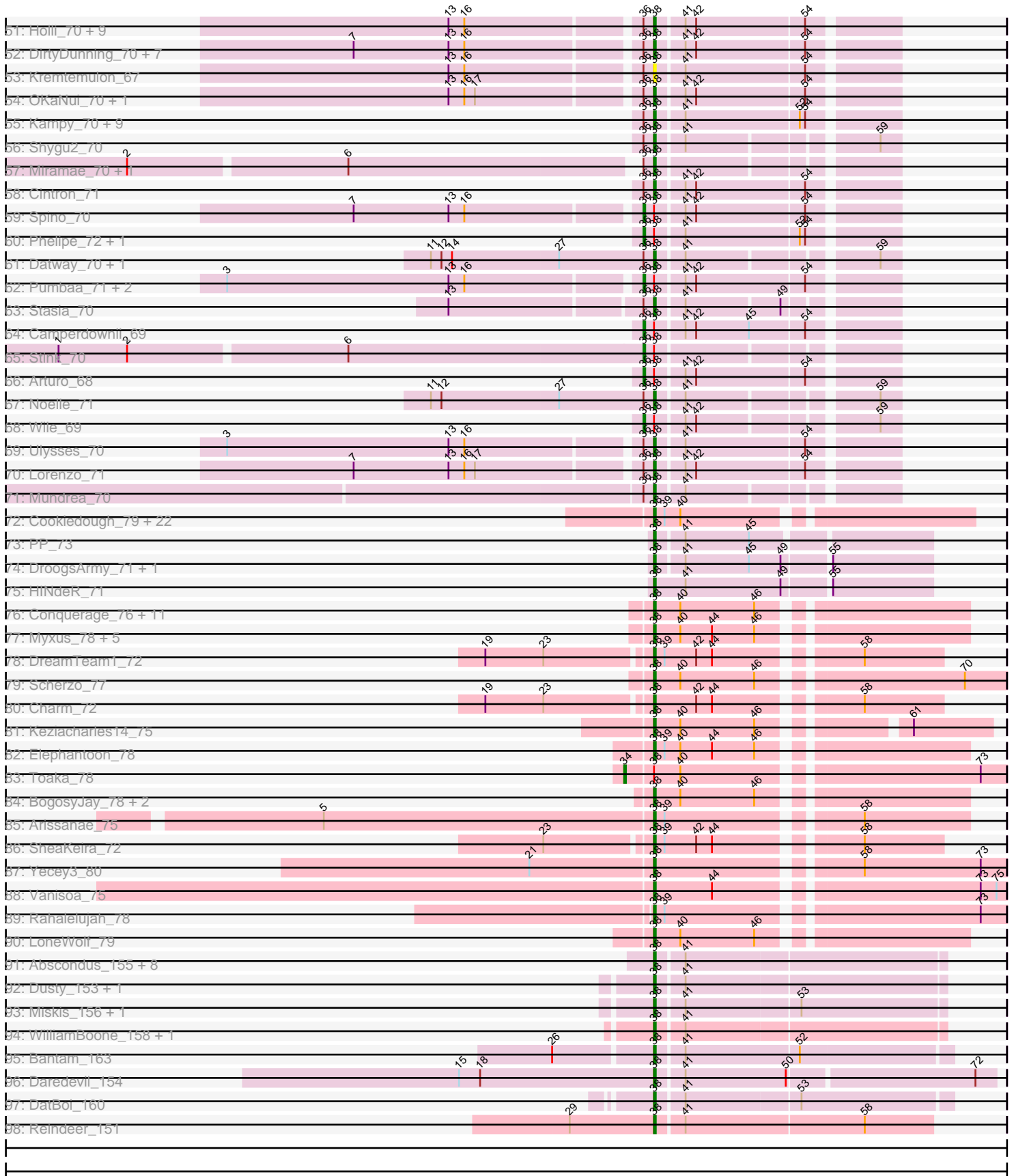


# Pham 161519



Pham 161519



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 161519 Report

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

Pham number 161519 has 298 members, 24 are drafts.

Phages represented in each track:

- Track 1 : Chargerpower\_74
- Track 2 : Twister\_70, Rebeuca\_72, Edison31\_66, WalterMcMickey\_70, Kristoff\_70
- Track 3 : Severus\_69, OKCentral2016\_69, Chupacabra\_69, Drake94\_69, Poompha\_68, KittenMittens\_68, Goose\_72, PeaceMeal1\_69
- Track 4 : DarthPhader\_74
- Track 5 : Zimmer\_75
- Track 6 : Refuge\_74
- Track 7 : Steamy\_81
- Track 8 : Luchador\_79
- Track 9 : SororFago\_78
- Track 10 : Jeeves\_80
- Track 11 : Kimona\_71
- Track 12 : LadyBird\_80
- Track 13 : Iwokeuplikedis\_78, Piro94\_76, First\_0077, 20ES\_78, JoshKayV\_77, HarryHoudini\_77, Drake55\_78
- Track 14 : TarsusIV\_74
- Track 15 : Landor\_75, Bactobuster\_69, Phaded\_72
- Track 16 : Malec\_74, Larenn\_73
- Track 17 : FiringLine\_77, Power\_76, SnapTap\_76, Georgie2\_78, Dalmatian\_77, DudeLittle\_75, SweetiePie\_76, QueenBeesly\_77, Crucio\_77, Retro23\_77, Anselm\_78
- Track 18 : Dignity\_78, Agape74\_78, Jerm\_78, Buggy\_78, Leviathan\_78, Smeagan\_79, AbbyPaige\_78, Turbido\_77, LilTurb\_77
- Track 19 : Fameo\_75, QueenB2\_74, Heffalump\_74
- Track 20 : BabyBack\_71
- Track 21 : WeiHuaDA\_77
- Track 22 : Rachaly\_72, BobSwaget\_69, Lokk\_70, Miko\_70
- Track 23 : IronMan\_74, Pukovnik\_73, Jaan\_75
- Track 24 : Colin\_76
- Track 25 : Deloris\_76, BengiVuitton\_76
- Track 26 : VA6\_76, AN3\_78
- Track 27 : Changeling\_75
- Track 28 : Echild\_77, Benvolio\_74
- Track 29 : EZMoney23\_73
- Track 30 : WideWale\_77, Updawg\_77, Equemioh13\_76
- Track 31 : AnnaL29\_76, RedRock\_75, Loser\_78
- Track 32 : ArcherNM\_70

- Track 33 : CRB1\_78
- Track 34 : GaugeLDP\_72
- Track 35 : NothingSpecial\_72
- Track 36 : BiancaTri92\_75, Leogania\_75
- Track 37 : XianYue\_72
- Track 38 : Trixie\_76
- Track 39 : Trooper\_76
- Track 40 : Baehexic\_75
- Track 41 : Herbertwm\_73
- Track 42 : KingCyrus\_76
- Track 43 : SemperFi\_77
- Track 44 : Kalpine\_76
- Track 45 : BabyRay\_75, JF2\_72, Giroux\_73, Fred313\_72, Idleandcovert\_75, BlueBird\_77, HelDan\_74, JF4\_72, TNguyen7\_75, Isca\_72, Phantastic\_76, B1\_66, Bugatti\_74, Puppy\_75, MA5\_74, SaturnRing\_74, Pistachio\_75, Heathen\_74, Scout\_73
- Track 46 : Pocahontas\_73, QuinnKiro\_73, Veracruz\_71, Panamaxus\_72, Noella\_75, ResDef\_72, Norbert\_70, Lambert1\_74, Hookmount\_74, Popcicle\_74, Margo\_74, Texage\_72, Todacoro\_74
- Track 47 : Bumblebee11\_69, AbbysRanger\_70, Perplexer\_70, Achebe\_69, Morpher26\_70, Wizard007\_70, Cici\_70, Badger\_69, PetiteSangsue\_70, Backyardigan\_68, Katalie136\_70
- Track 48 : Eros\_71, Albee\_71, Chaph\_71, Skipitt\_70, Iceman\_70, NorthStar\_69, Connomayer\_71, Taquarus\_70, TygerBlood\_71, Jaykayelowell\_68, Koreni\_70, Pipcraft\_68, Scamp\_71, LittleB\_71, Flux\_71, Lunsford\_71
- Track 49 : Shaka\_69, Obama12\_72, Cindaradix\_67, Happiness\_70, SheldonCooper\_71, JetBlade\_71, Cerulean\_72
- Track 50 : Sabertooth\_71, BangNhom\_69, LHTSCC\_73, ChampagnePapi\_73
- Track 51 : Holli\_70, TiroTheta9\_70, Kingmustik0402\_71, Deano\_68, Roosevelt\_69, Florean\_71, Alberto7\_72, Citius\_71, Baby16\_71, LappelDuVide\_67
- Track 52 : DirtyDunning\_70, LochMonster\_72, Mazhar510\_71, PeterPeter\_71, Kyee\_71, Nemo27\_70, Tinybot\_70, Phighter1804\_71
- Track 53 : Kremtemulon\_67
- Track 54 : OKaNui\_70, Phontbonne\_71
- Track 55 : Kampy\_70, Eagle\_70, Ohfah\_72, TroyPia\_72, LeoAvram\_70, CentreCat\_71, Polymorphads\_71, Maxo\_73, Eurydice\_72, Nebs\_72
- Track 56 : Shygu2\_70
- Track 57 : Miramae\_70, AvatarAhPeg\_70
- Track 58 : Cintron\_71
- Track 59 : Spino\_70
- Track 60 : Phelipe\_72, BellusTerra\_72
- Track 61 : Datway\_70, Xena\_69
- Track 62 : Pumbaa\_71, Relief\_70, YoSam321\_71
- Track 63 : Stasia\_70
- Track 64 : Camperdownii\_69
- Track 65 : Stink\_70
- Track 66 : Arturo\_68
- Track 67 : Noelle\_71
- Track 68 : Wile\_69
- Track 69 : Ulysses\_70
- Track 70 : Lorenzo\_71
- Track 71 : Mundrea\_70

- Track 72 : Cookiedough\_79, DaVinci\_77, SuperAwesome\_79, Hoot\_74, Candra\_77, McFly\_80, Neeharika16\_76, Jordennis\_77, VohminGhazi\_79, Isiphiwo\_76, SmellyB\_79, Blinn1\_83, SuperCallie99\_76, BABullseye\_72, GreedyLawyer\_74, EricB\_78, Priamo\_81, Kazan\_80, Kipper29\_79, Newrala\_78, Dorothea\_76, Pmask\_78, Chartreuse\_76
- Track 73 : PP\_73
- Track 74 : DroogsArmy\_71, Timshel\_72
- Track 75 : HINdeR\_71
- Track 76 : Conquerage\_76, Alma\_76, Fayely\_76, Priya\_76, ExplosioNervosa\_76, Beemo\_78, Phonnegut\_78, Qobbit\_76, Pioneer\_78, Eidsmoe\_76, EmyBug\_72, Spouty\_73
- Track 77 : Myxus\_78, Tubs\_78, HortumSL17\_79, PackMan\_77, Catalina\_80, Phaeder\_78
- Track 78 : DreamTeam1\_72
- Track 79 : Scherzo\_77
- Track 80 : Charm\_72
- Track 81 : Keziacharles14\_75
- Track 82 : Elephantoon\_78
- Track 83 : Toaka\_78
- Track 84 : BogosyJay\_78, Maminiaina\_78, Gail\_78
- Track 85 : Arissanae\_75
- Track 86 : SheaKeira\_72
- Track 87 : Yecey3\_80
- Track 88 : Vanisoa\_75
- Track 89 : Rahalelujah\_78
- Track 90 : LoneWolf\_79
- Track 91 : Abscondus\_155, Cucurbita\_155, Bachita\_159, Toniann\_156, Norvs\_154, Lozinak\_156, PhinkBoden\_154, ClubL\_157, Smoothie\_157
- Track 92 : Dusty\_153, Engineer\_158
- Track 93 : Miskis\_156, Aphelion\_156
- Track 94 : WilliamBoone\_158, Culver\_156
- Track 95 : Bantam\_163
- Track 96 : Daredevil\_154
- Track 97 : DatBoi\_160
- Track 98 : Reindeer\_151

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

The start number called the most often in the published annotations is 38, it was called in 259 of the 274 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 20ES\_78, AN3\_78, AbbyPaige\_78, AbbysRanger\_70, Abscondus\_155, Achebe\_69, Agape74\_78, Albee\_71, Alberto7\_72, Alma\_76, AnnaL29\_76, Anselm\_78, Aphelion\_156, ArcherNM\_70, Arissanae\_75, AvatarAhPeg\_70, B1\_66, BABullseye\_72, Baby16\_71, BabyBack\_71, BabyRay\_75, Bachita\_159, Backyardigan\_68, Bactobuster\_69, Badger\_69, Baehexic\_75, Bantam\_163, Beemo\_78, BengiVuitton\_76, Benvolio\_74, BiancaTri92\_75, Blinn1\_83, BlueBird\_77, BobSwaget\_69, BogosyJay\_78, Bugatti\_74, Buggy\_78, Bumblebee11\_69, CRB1\_78, Candra\_77, Catalina\_80, CentreCat\_71, Cerulean\_72, Changeling\_75, Chaph\_71,

Chargerpower\_74, Charm\_72, Chartreuse\_76, Chupacabra\_69, Cici\_70, Cindaradix\_67, Cintron\_71, Citius\_71, ClubL\_157, Colin\_76, Connomayer\_71, Conquerage\_76, Cookiedough\_79, Crucio\_77, Cucurbita\_155, Culver\_156, DaVinci\_77, Dalmatian\_77, Daredevil\_154, DarthPhader\_74, DatBoi\_160, Datway\_70, Deano\_68, Deloris\_76, Dignity\_78, DirtyDunning\_70, Dorothea\_76, Drake55\_78, Drake94\_69, DreamTeam1\_72, DroogsArmy\_71, DudeLittle\_75, Dusty\_153, EZMoney23\_73, Eagle\_70, Echid\_77, Edison31\_66, Eidsmoe\_76, Elephantoon\_78, EmyBug\_72, Engineer\_158, Equemioh13\_76, EricB\_78, Eros\_71, Eurydice\_72, ExplosioNervosa\_76, Fameo\_75, Fayely\_76, FiringLine\_77, First\_0077, Florean\_71, Flux\_71, Fred313\_72, Gail\_78, GaugeLDP\_72, Georgie2\_78, Giroux\_73, Goose\_72, GreedyLawyer\_74, HINdeR\_71, Happiness\_70, HarryHoudini\_77, Heathen\_74, Heffalump\_74, HelDan\_74, Herbertwm\_73, Holli\_70, Hookmount\_74, Hoot\_74, HortumSL17\_79, Iceman\_70, Idleandcovert\_75, IronMan\_74, Isca\_72, Isiphiwo\_76, Iwokeuplikedis\_78, JF2\_72, JF4\_72, Jaan\_75, Jaykayelowell\_68, Jeeves\_80, Jerm\_78, JetBlade\_71, Jordennis\_77, JoshKayV\_77, Kalpine\_76, Kamy\_70, Katalie136\_70, Kazan\_80, Keziacharles14\_75, Kimona\_71, KingCyrus\_76, Kingmustik0402\_71, Kipper29\_79, KittenMittens\_68, Koreni\_70, Kremtemulon\_67, Kristoff\_70, Kyee\_71, LadyBird\_80, Lambert1\_74, Landor\_75, LappelDuVide\_67, Larenn\_73, LeoAvram\_70, Leogania\_75, Leviathan\_78, LilTurb\_77, LittleB\_71, LochMonster\_72, Lökk\_70, LoneWolf\_79, Lorenzo\_71, Loser\_78, Lozinak\_156, Luchador\_79, Lunsford\_71, MA5\_74, Malec\_74, Maminiaina\_78, Margo\_74, Maxo\_73, Mazhar510\_71, McFly\_80, Miko\_70, Miramae\_70, Miskis\_156, Morpher26\_70, Mundrea\_70, Myxus\_78, Nebs\_72, Neeharika16\_76, Nemo27\_70, Newrala\_78, Noella\_75, Noelle\_71, Norbert\_70, NorthStar\_69, Norvs\_154, NothingSpecial\_72, OKCentral2016\_69, OKaNui\_70, Obama12\_72, Ohfah\_72, PP\_73, PackMan\_77, Panamaxus\_72, PeaceMeal1\_69, Perplexer\_70, PeterPeter\_71, PetiteSangsue\_70, Phaded\_72, Phaeder\_78, Phantastic\_76, Phighter1804\_71, PhinkBoden\_154, Phonnegut\_78, Phontbonne\_71, Pioneer\_78, Pipcraft\_68, Piro94\_76, Pistachio\_75, Pmask\_78, Pocahontas\_73, Polymorphads\_71, Poompha\_68, Popcicle\_74, Power\_76, Priamo\_81, Priya\_76, Pukovnik\_73, Puppy\_75, Qobbit\_76, QueenB2\_74, QueenBeesly\_77, QuinnKiro\_73, Rachaly\_72, Rahalelujah\_78, Rebeuca\_72, RedRock\_75, Refuge\_74, Reindeer\_151, ResDef\_72, Retro23\_77, Roosevelt\_69, SaturnRing\_74, Scamp\_71, Scherzo\_77, Scout\_73, SemperFi\_77, Severus\_69, Shaka\_69, SheaKeira\_72, SheldonCooper\_71, Shygu2\_70, Skipitt\_70, Smeagan\_79, SmellyB\_79, Smoothie\_157, SnapTap\_76, SororFago\_78, Spouty\_73, Stasia\_70, Steamy\_81, SuperAwesome\_79, SuperCallie99\_76, SweetiePie\_76, TNguyen7\_75, Taquarus\_70, TarsusIV\_74, Texage\_72, Timshel\_72, Tinybot\_70, TiroTheta9\_70, Todacoro\_74, Toniann\_156, Trixie\_76, Trooper\_76, TroyPia\_72, Tubs\_78, Turbido\_77, Twister\_70, TygerBlood\_71, Ulysses\_70, Updawg\_77, VA6\_76, Vanisoa\_75, Veracruz\_71, VohminGhazi\_79, WalterMcMickey\_70, WeiHuaDA\_77, WideWale\_77, WilliamBoone\_158, Wizard007\_70, Xena\_69, XianYue\_72, Yecey3\_80, Zimmer\_75,

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

- Arturo\_68, BangNhom\_69, BellusTerra\_72, Camperdownii\_69, ChampagnePapi\_73, LHTSCC\_73, Phelipe\_72, Pumbaa\_71, Relief\_70, Sabertooth\_71, Spino\_70, Stink\_70, Toaka\_78, Wile\_69, YoSam321\_71,

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

- 

**Summary by start number:**

Start 34:

- Found in 1 of 298 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 274
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Toaka\_78 (A9),

Start 36:

- Found in 90 of 298 ( 30.2% ) of genes in pham
- Manual Annotations of this start: 14 of 274
- Called 15.6% of time when present
- Phage (with cluster) where this start called: Arturo\_68 (A4), BangNhom\_69 (A4), BellusTerra\_72 (A4), Camperdownii\_69 (A4), ChampagnePapi\_73 (A4), LHTSCC\_73 (A4), Phelipe\_72 (A4), Pumbaa\_71 (A4), Relief\_70 (A4), Sabertooth\_71 (A4), Spino\_70 (A4), Stink\_70 (A4), Wile\_69 (A4), YoSam321\_71 (A4),

Start 38:

- Found in 298 of 298 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 259 of 274
- Called 95.0% of time when present
- Phage (with cluster) where this start called: 20ES\_78 (A2), AN3\_78 (A2), AbbyPaige\_78 (A2), AbbysRanger\_70 (A4), Abscondus\_155 (CQ), Achebe\_69 (A4), Agape74\_78 (A2), Albee\_71 (A4), Alberto7\_72 (A4), Alma\_76 (A9), AnnaL29\_76 (A2), Anselm\_78 (A2), Aphelion\_156 (CQ1), ArcherNM\_70 (A2), Arissanae\_75 (A9), AvatarAhPeg\_70 (A4), B1\_66 (A3), BABullseye\_72 (A6), Baby16\_71 (A4), BabyBack\_71 (A2), BabyRay\_75 (A3), Bachita\_159 (CQ1), Backyardigan\_68 (A4), Bactobuster\_69 (A2), Badger\_69 (A4), Baehexic\_75 (A2), Bantam\_163 (DL), Beemo\_78 (A9), BengiVuitton\_76 (A2), Benvolio\_74 (A2), BiancaTri92\_75 (A2), Blinn1\_83 (A6), BlueBird\_77 (A3), BobSwaget\_69 (A2), BogosyJay\_78 (A9), Bugatti\_74 (A3), Buggy\_78 (A2), Bumblebee11\_69 (A4), CRB1\_78 (A2), Candra\_77 (A6), Catalina\_80 (A9), CentreCat\_71 (A4), Cerulean\_72 (A4), Changeling\_75 (A2), Chaph\_71 (A4), Chargerpower\_74 (A), Charm\_72 (A9), Chartreuse\_76 (A6), Chupacabra\_69 (A10), Cici\_70 (A4), Cindaradix\_67 (A4), Cintron\_71 (A4), Citius\_71 (A4), ClubL\_157 (CQ1), Colin\_76 (A2), Connomayer\_71 (A4), Conquerage\_76 (A9), Cookiedough\_79 (A6), Crucio\_77 (A2), Cucurbita\_155 (CQ1), Culver\_156 (CQ1), DaVinci\_77 (A6), Dalmatian\_77 (A2), Daredevil\_154 (DL), DarthPhader\_74 (A12), DatBoi\_160 (DL), Datway\_70 (A4), Deano\_68 (A4), Deloris\_76 (A2), Dignity\_78 (A2), DirtyDunning\_70 (A4), Dorothea\_76 (A6), Drake55\_78 (A2), Drake94\_69 (A10), DreamTeam1\_72 (A9), DroogsArmy\_71 (A7), DudeLittle\_75 (A2), Dusty\_153 (CQ), EZMoney23\_73 (A2), Eagle\_70 (A4), Echid\_77 (A2), Edison31\_66 (A10), Eidsmoe\_76 (A9), Elephantoon\_78 (A9), EmyBug\_72 (A9), Engineer\_158 (CQ1), Equemioh13\_76 (A2), EricB\_78 (A6), Eros\_71 (A4), Eurydice\_72 (A4), ExplosioNervosa\_76 (A9), Fameo\_75 (A2), Fayely\_76 (A9), FiringLine\_77 (A2), First\_0077 (A2), Florean\_71 (A4), Flux\_71 (A4), Fred313\_72 (A3), Gail\_78 (A14), GaugeLDP\_72 (A2), Georgie2\_78 (A2), Giroux\_73 (A3), Goose\_72 (A10), GreedyLawyer\_74 (A6), HINdeR\_71 (A7), Happiness\_70 (A4), HarryHoudini\_77 (A2), Heathen\_74 (A3), Heffalump\_74 (A2), HelDan\_74 (A3), Herbertwm\_73 (A2), Holli\_70 (A4), Hookmount\_74 (A3), Hoot\_74 (A6), HortumSL17\_79 (A9), Iceman\_70 (A4), Idleandcovert\_75 (A3), IronMan\_74 (A2), Isca\_72 (A3), Isiphiwo\_76 (A6), Iwokeuplikedis\_78 (A2), JF2\_72 (A3), JF4\_72 (A3), Jaan\_75 (A2), Jaykayelowell\_68 (A4), Jeeves\_80 (A14), Jerm\_78 (A2), JetBlade\_71 (A4), Jordennis\_77 (A6), JoshKayV\_77 (A2), Kalpine\_76 (A2), Kamy\_70 (A4), Katalie136\_70 (A4), Kazan\_80 (A6), Keziacharles14\_75 (A9), Kimona\_71 (A19), KingCyrus\_76 (A2),

Kingmustik0402\_71 (A4), Kipper29\_79 (A6), KittenMittens\_68 (A10), Koreni\_70 (A4), Kremtemulon\_67 (A4), Kristoff\_70 (A10), Kyee\_71 (A4), LadyBird\_80 (A2), Lambert1\_74 (A3), Landor\_75 (A2), LappelDuVide\_67 (A4), Larenn\_73 (A2), LeoAvram\_70 (A4), Leogania\_75 (A2), Leviathan\_78 (A2), LilTurb\_77 (A2), LittleB\_71 (A4), LochMonster\_72 (A4), Lokk\_70 (A2), LoneWolf\_79 (A9), Lorenzo\_71 (A4), Loser\_78 (A2), Lozinak\_156 (CQ1), Luchador\_79 (A14), Lunsford\_71 (A4), MA5\_74 (A3), Malec\_74 (A2), Maminaiaina\_78 (A9), Margo\_74 (A3), Maxo\_73 (A4), Mazhar510\_71 (A4), McFly\_80 (A6), Miko\_70 (A2), Miramae\_70 (A4), Miskis\_156 (CQ), Morpher26\_70 (A4), Mundrea\_70 (A4), Myxus\_78 (A9), Nebs\_72 (A4), Neeharika16\_76 (A6), Nemo27\_70 (A4), Newrala\_78 (A6), Noella\_75 (A3), Noelle\_71 (A4), Norbert\_70 (A3), NorthStar\_69 (A4), Norvs\_154 (CQ), NothingSpecial\_72 (A2), OKCentral2016\_69 (A10), OKaNui\_70 (A4), Obama12\_72 (A4), Ohfah\_72 (A4), PP\_73 (A7), PackMan\_77 (A9), Panamaxus\_72 (A3), PeaceMeal1\_69 (A10), Perplexer\_70 (A4), PeterPeter\_71 (A4), PetiteSangsue\_70 (A4), Phaded\_72 (A2), Phaeder\_78 (A9), Phantastic\_76 (A3), Phighter1804\_71 (A4), PhinkBoden\_154 (CQ1), Phonnegut\_78 (A9), Phontbonne\_71 (A4), Pioneer\_78 (A9), Pipcraft\_68 (A4), Piro94\_76 (A2), Pistachio\_75 (A3), Pmask\_78 (A6), Pocahontas\_73 (A3), Polymorphads\_71 (A4), Poompha\_68 (A10), Popcicle\_74 (A3), Power\_76 (A2), Priamo\_81 (A6), Priya\_76 (A9), Pukovnik\_73 (A2), Puppy\_75 (A3), Qobbit\_76 (A9), QueenB2\_74 (A2), QueenBeesly\_77 (A2), QuinnKiro\_73 (A3), Rachaly\_72 (A2), Rahalelujah\_78 (A9), Rebeuca\_72 (A10), RedRock\_75 (A2), Refuge\_74 (A12), Reindeer\_151 (M1), ResDef\_72 (A3), Retro23\_77 (A2), Roosevelt\_69 (A4), SaturnRing\_74 (A3), Scamp\_71 (A4), Scherzo\_77 (A9), Scout\_73 (A3), SemperFi\_77 (A2), Severus\_69 (A10), Shaka\_69 (A4), SheaKeira\_72 (A9), SheldonCooper\_71 (A4), Shygu2\_70 (A4), Skipitt\_70 (A4), Smeagan\_79 (A2), SmellyB\_79 (A6), Smoothie\_157 (CQ1), SnapTap\_76 (A2), SororFago\_78 (A14), Spouty\_73 (A9), Stasia\_70 (A4), Steamy\_81 (A12), SuperAwesome\_79 (A6), SuperCallie99\_76 (A6), SweetiePie\_76 (A2), TNguyen7\_75 (A3), Taquarus\_70 (A4), TarsusIV\_74 (A2), Texage\_72 (A3), Timshel\_72 (A7), Tinybot\_70 (A4), TiroTheta9\_70 (A4), Todacoro\_74 (A3), Toniann\_156 (CQ1), Trixie\_76 (A2), Trooper\_76 (A2), TroyPia\_72 (A4), Tubs\_78 (A9), Turbido\_77 (A2), Twister\_70 (A10), TygerBlood\_71 (A4), Ulysses\_70 (A4), Updawg\_77 (A2), VA6\_76 (A2), Vanisoa\_75 (A9), Veracruz\_71 (A3), VohminGhazi\_79 (A6), WalterMcMickey\_70 (A10), WeiHuaDA\_77 (A2), WideWale\_77 (A2), WilliamBoone\_158 (CQ1), Wizard007\_70 (A4), Xena\_69 (A4), XianYue\_72 (A2), Yecey3\_80 (A9), Zimmer\_75 (A12),

### Summary by clusters:

There are 15 clusters represented in this pham: A, A14, DL, A10, A12, A19, A3, A2, M1, A4, A7, A6, A9, CQ1, CQ,

Info for manual annotations of cluster A:

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

Info for manual annotations of cluster A10:

- Start number 38 was manually annotated 12 times for cluster A10.

Info for manual annotations of cluster A12:

- Start number 38 was manually annotated 4 times for cluster A12.

Info for manual annotations of cluster A14:

- Start number 38 was manually annotated 4 times for cluster A14.



Info for manual annotations of cluster A19:

- Start number 38 was manually annotated 1 time for cluster A19.

Info for manual annotations of cluster A2:

- Start number 38 was manually annotated 67 times for cluster A2.

Info for manual annotations of cluster A3:

- Start number 38 was manually annotated 28 times for cluster A3.

Info for manual annotations of cluster A4:

- Start number 36 was manually annotated 14 times for cluster A4.
- Start number 38 was manually annotated 74 times for cluster A4.

Info for manual annotations of cluster A6:

- Start number 38 was manually annotated 19 times for cluster A6.

Info for manual annotations of cluster A7:

- Start number 38 was manually annotated 4 times for cluster A7.

Info for manual annotations of cluster A9:

- Start number 34 was manually annotated 1 time for cluster A9.
- Start number 38 was manually annotated 29 times for cluster A9.

Info for manual annotations of cluster CQ:

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

Info for manual annotations of cluster CQ1:

- Start number 38 was manually annotated 11 times for cluster CQ1.

Info for manual annotations of cluster DL:

- Start number 38 was manually annotated 3 times for cluster DL.

Info for manual annotations of cluster M1:

- Start number 38 was manually annotated 1 time for cluster M1.

**Gene Information:**

Gene: 20ES\_78 Start: 45905, Stop: 45738, Start Num: 38

Candidate Starts for 20ES\_78:

(Start: 38 @45905 has 259 MA's), (39, 45899),

Gene: AN3\_78 Start: 44672, Stop: 44505, Start Num: 38

Candidate Starts for AN3\_78:

(Start: 38 @44672 has 259 MA's), (39, 44666), (64, 44525),

Gene: AbbyPaige\_78 Start: 46176, Stop: 46012, Start Num: 38

Candidate Starts for AbbyPaige\_78:

(32, 46215), (Start: 38 @46176 has 259 MA's), (66, 46023),

Gene: AbbysRanger\_70 Start: 44685, Stop: 44563, Start Num: 38

Candidate Starts for AbbysRanger\_70:

(Start: 36 @44691 has 14 MA's), (Start: 38 @44685 has 259 MA's), (41, 44670), (42, 44664), (59, 44574),

Gene: Abscondus\_155 Start: 82793, Stop: 82635, Start Num: 38  
Candidate Starts for Abscondus\_155:  
(Start: 38 @82793 has 259 MA's), (41, 82778),

Gene: Achebe\_69 Start: 44668, Stop: 44546, Start Num: 38  
Candidate Starts for Achebe\_69:  
(Start: 36 @44674 has 14 MA's), (Start: 38 @44668 has 259 MA's), (41, 44653), (42, 44647), (59, 44557),

Gene: Agape74\_78 Start: 46171, Stop: 46007, Start Num: 38  
Candidate Starts for Agape74\_78:  
(32, 46210), (Start: 38 @46171 has 259 MA's), (66, 46018),

Gene: Albee\_71 Start: 44510, Stop: 44382, Start Num: 38  
Candidate Starts for Albee\_71:  
(3, 44744), (13, 44618), (16, 44609), (Start: 36 @44516 has 14 MA's), (Start: 38 @44510 has 259 MA's), (41, 44495), (42, 44489), (54, 44429),

Gene: Alberto7\_72 Start: 44847, Stop: 44719, Start Num: 38  
Candidate Starts for Alberto7\_72:  
(13, 44955), (16, 44946), (Start: 36 @44853 has 14 MA's), (Start: 38 @44847 has 259 MA's), (41, 44832), (42, 44826), (54, 44766),

Gene: Alma\_76 Start: 45089, Stop: 44925, Start Num: 38  
Candidate Starts for Alma\_76:  
(Start: 38 @45089 has 259 MA's), (40, 45074), (46, 45032),

Gene: AnnaL29\_76 Start: 46109, Stop: 45954, Start Num: 38  
Candidate Starts for AnnaL29\_76:  
(Start: 38 @46109 has 259 MA's), (40, 46094),

Gene: Anselm\_78 Start: 46243, Stop: 46079, Start Num: 38  
Candidate Starts for Anselm\_78:  
(31, 46282), (Start: 38 @46243 has 259 MA's), (39, 46237), (66, 46090),

Gene: Aphelion\_156 Start: 83954, Stop: 83796, Start Num: 38  
Candidate Starts for Aphelion\_156:  
(Start: 38 @83954 has 259 MA's), (41, 83939), (53, 83876),

Gene: ArcherNM\_70 Start: 45375, Stop: 45208, Start Num: 38  
Candidate Starts for ArcherNM\_70:  
(Start: 38 @45375 has 259 MA's), (40, 45360),

Gene: Arissanae\_75 Start: 45413, Stop: 45249, Start Num: 38  
Candidate Starts for Arissanae\_75:  
(5, 45599), (Start: 38 @45413 has 259 MA's), (39, 45407), (58, 45308),

Gene: Arturo\_68 Start: 44641, Stop: 44507, Start Num: 36  
Candidate Starts for Arturo\_68:

(Start: 36 @44641 has 14 MA's), (Start: 38 @44635 has 259 MA's), (41, 44620), (42, 44614), (54, 44554),

Gene: AvatarAhPeg\_70 Start: 44568, Stop: 44446, Start Num: 38

Candidate Starts for AvatarAhPeg\_70:

(2, 44850), (6, 44730), (Start: 36 @44574 has 14 MA's), (Start: 38 @44568 has 259 MA's),

Gene: B1\_66 Start: 43265, Stop: 43137, Start Num: 38

Candidate Starts for B1\_66:

(Start: 38 @43265 has 259 MA's), (41, 43250), (54, 43184),

Gene: BABullseye\_72 Start: 42895, Stop: 42728, Start Num: 38

Candidate Starts for BABullseye\_72:

(Start: 38 @42895 has 259 MA's), (39, 42889), (40, 42880),

Gene: Baby16\_71 Start: 44521, Stop: 44393, Start Num: 38

Candidate Starts for Baby16\_71:

(13, 44629), (16, 44620), (Start: 36 @44527 has 14 MA's), (Start: 38 @44521 has 259 MA's), (41, 44506), (42, 44500), (54, 44440),

Gene: BabyBack\_71 Start: 45797, Stop: 45633, Start Num: 38

Candidate Starts for BabyBack\_71:

(Start: 38 @45797 has 259 MA's), (46, 45740), (60, 45671), (62, 45662),

Gene: BabyRay\_75 Start: 45018, Stop: 44890, Start Num: 38

Candidate Starts for BabyRay\_75:

(Start: 38 @45018 has 259 MA's), (41, 45003), (54, 44937),

Gene: Bachita\_159 Start: 83833, Stop: 83675, Start Num: 38

Candidate Starts for Bachita\_159:

(Start: 38 @83833 has 259 MA's), (41, 83818),

Gene: Backyardigan\_68 Start: 44701, Stop: 44579, Start Num: 38

Candidate Starts for Backyardigan\_68:

(Start: 36 @44707 has 14 MA's), (Start: 38 @44701 has 259 MA's), (41, 44686), (42, 44680), (59, 44590),

Gene: Bactobuster\_69 Start: 45446, Stop: 45270, Start Num: 38

Candidate Starts for Bactobuster\_69:

(Start: 38 @45446 has 259 MA's), (39, 45440), (63, 45293),

Gene: Badger\_69 Start: 44669, Stop: 44547, Start Num: 38

Candidate Starts for Badger\_69:

(Start: 36 @44675 has 14 MA's), (Start: 38 @44669 has 259 MA's), (41, 44654), (42, 44648), (59, 44558),

Gene: Baehexic\_75 Start: 45567, Stop: 45403, Start Num: 38

Candidate Starts for Baehexic\_75:

(Start: 38 @45567 has 259 MA's), (66, 45414),

Gene: BangNhom\_69 Start: 44950, Stop: 44816, Start Num: 36

Candidate Starts for BangNhom\_69:

(Start: 36 @44950 has 14 MA's), (Start: 38 @44944 has 259 MA's), (41, 44929), (54, 44863),

Gene: Bantam\_163 Start: 88026, Stop: 87865, Start Num: 38  
Candidate Starts for Bantam\_163:  
(26, 88080), (Start: 38 @88026 has 259 MA's), (41, 88011), (52, 87948),

Gene: Beemo\_78 Start: 45129, Stop: 44965, Start Num: 38  
Candidate Starts for Beemo\_78:  
(Start: 38 @45129 has 259 MA's), (40, 45114), (46, 45072),

Gene: BellusTerra\_72 Start: 44554, Stop: 44420, Start Num: 36  
Candidate Starts for BellusTerra\_72:  
(Start: 36 @44554 has 14 MA's), (Start: 38 @44548 has 259 MA's), (41, 44533), (52, 44470), (54, 44467),

Gene: BengiVuitton\_76 Start: 45866, Stop: 45699, Start Num: 38  
Candidate Starts for BengiVuitton\_76:  
(16, 45968), (Start: 38 @45866 has 259 MA's),

Gene: Benvolio\_74 Start: 45472, Stop: 45305, Start Num: 38  
Candidate Starts for Benvolio\_74:  
(Start: 38 @45472 has 259 MA's), (48, 45406), (64, 45325), (67, 45316),

Gene: BiancaTri92\_75 Start: 45806, Stop: 45651, Start Num: 38  
Candidate Starts for BiancaTri92\_75:  
(24, 45863), (Start: 38 @45806 has 259 MA's), (39, 45800),

Gene: Blinn1\_83 Start: 45509, Stop: 45342, Start Num: 38  
Candidate Starts for Blinn1\_83:  
(Start: 38 @45509 has 259 MA's), (39, 45503), (40, 45494),

Gene: BlueBird\_77 Start: 45089, Stop: 44961, Start Num: 38  
Candidate Starts for BlueBird\_77:  
(Start: 38 @45089 has 259 MA's), (41, 45074), (54, 45008),

Gene: BobSwaget\_69 Start: 43679, Stop: 43515, Start Num: 38  
Candidate Starts for BobSwaget\_69:  
(Start: 38 @43679 has 259 MA's), (39, 43673), (40, 43664), (60, 43553), (67, 43523),

Gene: BogosyJay\_78 Start: 45362, Stop: 45198, Start Num: 38  
Candidate Starts for BogosyJay\_78:  
(Start: 38 @45362 has 259 MA's), (40, 45347), (46, 45305),

Gene: Bugatti\_74 Start: 45089, Stop: 44961, Start Num: 38  
Candidate Starts for Bugatti\_74:  
(Start: 38 @45089 has 259 MA's), (41, 45074), (54, 45008),

Gene: Buggy\_78 Start: 46221, Stop: 46057, Start Num: 38  
Candidate Starts for Buggy\_78:  
(32, 46260), (Start: 38 @46221 has 259 MA's), (66, 46068),

Gene: Bumblebee11\_69 Start: 44671, Stop: 44549, Start Num: 38  
Candidate Starts for Bumblebee11\_69:

(Start: 36 @44677 has 14 MA's), (Start: 38 @44671 has 259 MA's), (41, 44656), (42, 44650), (59, 44560),

Gene: CRB1\_78 Start: 46424, Stop: 46245, Start Num: 38  
Candidate Starts for CRB1\_78:  
(Start: 38 @46424 has 259 MA's), (39, 46418), (67, 46256),

Gene: Camperdownii\_69 Start: 44185, Stop: 44051, Start Num: 36  
Candidate Starts for Camperdownii\_69:  
(Start: 36 @44185 has 14 MA's), (Start: 38 @44179 has 259 MA's), (41, 44164), (42, 44158), (45, 44128), (54, 44098),

Gene: Candra\_77 Start: 44590, Stop: 44423, Start Num: 38  
Candidate Starts for Candra\_77:  
(Start: 38 @44590 has 259 MA's), (39, 44584), (40, 44575),

Gene: Catalina\_80 Start: 45183, Stop: 45019, Start Num: 38  
Candidate Starts for Catalina\_80:  
(Start: 38 @45183 has 259 MA's), (40, 45168), (44, 45150), (46, 45126),

Gene: CentreCat\_71 Start: 44547, Stop: 44419, Start Num: 38  
Candidate Starts for CentreCat\_71:  
(Start: 36 @44553 has 14 MA's), (Start: 38 @44547 has 259 MA's), (41, 44532), (52, 44469), (54, 44466),

Gene: Cerulean\_72 Start: 44945, Stop: 44817, Start Num: 38  
Candidate Starts for Cerulean\_72:  
(Start: 36 @44951 has 14 MA's), (Start: 38 @44945 has 259 MA's), (41, 44930), (54, 44864),

Gene: ChampagnePapi\_73 Start: 44950, Stop: 44816, Start Num: 36  
Candidate Starts for ChampagnePapi\_73:  
(Start: 36 @44950 has 14 MA's), (Start: 38 @44944 has 259 MA's), (41, 44929), (54, 44863),

Gene: Changeling\_75 Start: 46099, Stop: 45932, Start Num: 38  
Candidate Starts for Changeling\_75:  
(20, 46189), (28, 46147), (Start: 38 @46099 has 259 MA's),

Gene: Chaph\_71 Start: 44521, Stop: 44393, Start Num: 38  
Candidate Starts for Chaph\_71:  
(3, 44755), (13, 44629), (16, 44620), (Start: 36 @44527 has 14 MA's), (Start: 38 @44521 has 259 MA's), (41, 44506), (42, 44500), (54, 44440),

Gene: Chargerpower\_74 Start: 44306, Stop: 44124, Start Num: 38  
Candidate Starts for Chargerpower\_74:  
(23, 44363), (Start: 38 @44306 has 259 MA's), (39, 44300), (46, 44249), (73, 44135),

Gene: Charm\_72 Start: 44293, Stop: 44144, Start Num: 38  
Candidate Starts for Charm\_72:  
(19, 44383), (23, 44350), (Start: 38 @44293 has 259 MA's), (42, 44269), (44, 44260), (58, 44188),

Gene: Chartreuse\_76 Start: 43901, Stop: 43734, Start Num: 38  
Candidate Starts for Chartreuse\_76:  
(Start: 38 @43901 has 259 MA's), (39, 43895), (40, 43886),

Gene: Chupacabra\_69 Start: 44351, Stop: 44223, Start Num: 38

Candidate Starts for Chupacabra\_69:

(Start: 38 @44351 has 259 MA's), (41, 44336), (56, 44255),

Gene: Cici\_70 Start: 44686, Stop: 44564, Start Num: 38

Candidate Starts for Cici\_70:

(Start: 36 @44692 has 14 MA's), (Start: 38 @44686 has 259 MA's), (41, 44671), (42, 44665), (59, 44575),

Gene: Cindaradix\_67 Start: 44408, Stop: 44280, Start Num: 38

Candidate Starts for Cindaradix\_67:

(Start: 36 @44414 has 14 MA's), (Start: 38 @44408 has 259 MA's), (41, 44393), (54, 44327),

Gene: Cintron\_71 Start: 44658, Stop: 44530, Start Num: 38

Candidate Starts for Cintron\_71:

(Start: 36 @44664 has 14 MA's), (Start: 38 @44658 has 259 MA's), (41, 44643), (42, 44637), (54, 44577),

Gene: Citius\_71 Start: 44531, Stop: 44403, Start Num: 38

Candidate Starts for Citius\_71:

(13, 44639), (16, 44630), (Start: 36 @44537 has 14 MA's), (Start: 38 @44531 has 259 MA's), (41, 44516), (42, 44510), (54, 44450),

Gene: ClubL\_157 Start: 83085, Stop: 82927, Start Num: 38

Candidate Starts for ClubL\_157:

(Start: 38 @83085 has 259 MA's), (41, 83070),

Gene: Colin\_76 Start: 46817, Stop: 46650, Start Num: 38

Candidate Starts for Colin\_76:

(Start: 38 @46817 has 259 MA's), (40, 46802), (43, 46790), (68, 46661), (71, 46655),

Gene: Connomayer\_71 Start: 44510, Stop: 44382, Start Num: 38

Candidate Starts for Connomayer\_71:

(3, 44744), (13, 44618), (16, 44609), (Start: 36 @44516 has 14 MA's), (Start: 38 @44510 has 259 MA's), (41, 44495), (42, 44489), (54, 44429),

Gene: Conquerage\_76 Start: 44858, Stop: 44694, Start Num: 38

Candidate Starts for Conquerage\_76:

(Start: 38 @44858 has 259 MA's), (40, 44843), (46, 44801),

Gene: Cookiedough\_79 Start: 45205, Stop: 45038, Start Num: 38

Candidate Starts for Cookiedough\_79:

(Start: 38 @45205 has 259 MA's), (39, 45199), (40, 45190),

Gene: Crucio\_77 Start: 46142, Stop: 45978, Start Num: 38

Candidate Starts for Crucio\_77:

(31, 46181), (Start: 38 @46142 has 259 MA's), (39, 46136), (66, 45989),

Gene: Cucurbita\_155 Start: 84146, Stop: 83988, Start Num: 38

Candidate Starts for Cucurbita\_155:

(Start: 38 @84146 has 259 MA's), (41, 84131),

Gene: Culver\_156 Start: 82350, Stop: 82192, Start Num: 38  
Candidate Starts for Culver\_156:  
(Start: 38 @82350 has 259 MA's), (41, 82335),

Gene: DaVinci\_77 Start: 43955, Stop: 43788, Start Num: 38  
Candidate Starts for DaVinci\_77:  
(Start: 38 @43955 has 259 MA's), (39, 43949), (40, 43940),

Gene: Dalmatian\_77 Start: 45962, Stop: 45798, Start Num: 38  
Candidate Starts for Dalmatian\_77:  
(31, 46001), (Start: 38 @45962 has 259 MA's), (39, 45956), (66, 45809),

Gene: Daredevil\_154 Start: 84151, Stop: 83966, Start Num: 38  
Candidate Starts for Daredevil\_154:  
(15, 84262), (18, 84250), (Start: 38 @84151 has 259 MA's), (41, 84136), (50, 84079), (72, 83977),

Gene: DarthPhader\_74 Start: 46216, Stop: 46040, Start Num: 38  
Candidate Starts for DarthPhader\_74:  
(Start: 38 @46216 has 259 MA's), (46, 46159),

Gene: DatBoi\_160 Start: 87295, Stop: 87134, Start Num: 38  
Candidate Starts for DatBoi\_160:  
(Start: 38 @87295 has 259 MA's), (41, 87280), (53, 87217),

Gene: Datway\_70 Start: 44680, Stop: 44558, Start Num: 38  
Candidate Starts for Datway\_70:  
(11, 44806), (12, 44800), (14, 44794), (27, 44734), (Start: 36 @44686 has 14 MA's), (Start: 38 @44680 has 259 MA's), (41, 44665), (59, 44569),

Gene: Deano\_68 Start: 44518, Stop: 44390, Start Num: 38  
Candidate Starts for Deano\_68:  
(13, 44626), (16, 44617), (Start: 36 @44524 has 14 MA's), (Start: 38 @44518 has 259 MA's), (41, 44503), (42, 44497), (54, 44437),

Gene: Deloris\_76 Start: 45562, Stop: 45395, Start Num: 38  
Candidate Starts for Deloris\_76:  
(16, 45664), (Start: 38 @45562 has 259 MA's),

Gene: Dignity\_78 Start: 46259, Stop: 46095, Start Num: 38  
Candidate Starts for Dignity\_78:  
(32, 46298), (Start: 38 @46259 has 259 MA's), (66, 46106),

Gene: DirtyDunning\_70 Start: 44522, Stop: 44394, Start Num: 38  
Candidate Starts for DirtyDunning\_70:  
(7, 44684), (13, 44630), (16, 44621), (Start: 36 @44528 has 14 MA's), (Start: 38 @44522 has 259 MA's), (41, 44507), (42, 44501), (54, 44441),

Gene: Dorothea\_76 Start: 45201, Stop: 45034, Start Num: 38  
Candidate Starts for Dorothea\_76:  
(Start: 38 @45201 has 259 MA's), (39, 45195), (40, 45186),

Gene: Drake55\_78 Start: 45846, Stop: 45691, Start Num: 38  
Candidate Starts for Drake55\_78:

(Start: 38 @45846 has 259 MA's), (39, 45840),

Gene: Drake94\_69 Start: 43482, Stop: 43354, Start Num: 38

Candidate Starts for Drake94\_69:

(Start: 38 @43482 has 259 MA's), (41, 43467), (56, 43386),

Gene: DreamTeam1\_72 Start: 44140, Stop: 43991, Start Num: 38

Candidate Starts for DreamTeam1\_72:

(19, 44230), (23, 44197), (Start: 38 @44140 has 259 MA's), (39, 44134), (42, 44116), (44, 44107), (58, 44035),

Gene: DroogsArmy\_71 Start: 47818, Stop: 47669, Start Num: 38

Candidate Starts for DroogsArmy\_71:

(Start: 38 @47818 has 259 MA's), (41, 47803), (45, 47767), (49, 47749), (55, 47725),

Gene: DudeLittle\_75 Start: 45728, Stop: 45564, Start Num: 38

Candidate Starts for DudeLittle\_75:

(31, 45767), (Start: 38 @45728 has 259 MA's), (39, 45722), (66, 45575),

Gene: Dusty\_153 Start: 82822, Stop: 82664, Start Num: 38

Candidate Starts for Dusty\_153:

(Start: 38 @82822 has 259 MA's), (41, 82807),

Gene: EZMoney23\_73 Start: 45628, Stop: 45464, Start Num: 38

Candidate Starts for EZMoney23\_73:

(37, 45631), (Start: 38 @45628 has 259 MA's), (40, 45613), (48, 45562),

Gene: Eagle\_70 Start: 44569, Stop: 44441, Start Num: 38

Candidate Starts for Eagle\_70:

(Start: 36 @44575 has 14 MA's), (Start: 38 @44569 has 259 MA's), (41, 44554), (52, 44491), (54, 44488),

Gene: Echild\_77 Start: 45496, Stop: 45329, Start Num: 38

Candidate Starts for Echild\_77:

(Start: 38 @45496 has 259 MA's), (48, 45430), (64, 45349), (67, 45340),

Gene: Edison31\_66 Start: 44218, Stop: 44090, Start Num: 38

Candidate Starts for Edison31\_66:

(Start: 38 @44218 has 259 MA's), (41, 44203), (44, 44188), (56, 44122),

Gene: Eidsmoe\_76 Start: 44850, Stop: 44686, Start Num: 38

Candidate Starts for Eidsmoe\_76:

(Start: 38 @44850 has 259 MA's), (40, 44835), (46, 44793),

Gene: Elephantoon\_78 Start: 45016, Stop: 44852, Start Num: 38

Candidate Starts for Elephantoon\_78:

(Start: 38 @45016 has 259 MA's), (39, 45010), (40, 45001), (44, 44983), (46, 44959),

Gene: EmyBug\_72 Start: 44852, Stop: 44688, Start Num: 38

Candidate Starts for EmyBug\_72:

(Start: 38 @44852 has 259 MA's), (40, 44837), (46, 44795),

Gene: Engineer\_158 Start: 83672, Stop: 83514, Start Num: 38



Candidate Starts for Engineer\_158:  
(Start: 38 @83672 has 259 MA's), (41, 83657),

Gene: Equemioh13\_76 Start: 45675, Stop: 45511, Start Num: 38  
Candidate Starts for Equemioh13\_76:  
(10, 45807), (16, 45777), (Start: 38 @45675 has 259 MA's), (66, 45522),

Gene: EricB\_78 Start: 44547, Stop: 44380, Start Num: 38  
Candidate Starts for EricB\_78:  
(Start: 38 @44547 has 259 MA's), (39, 44541), (40, 44532),

Gene: Eros\_71 Start: 44512, Stop: 44384, Start Num: 38  
Candidate Starts for Eros\_71:  
(3, 44746), (13, 44620), (16, 44611), (Start: 36 @44518 has 14 MA's), (Start: 38 @44512 has 259 MA's), (41, 44497), (42, 44491), (54, 44431),

Gene: Eurydice\_72 Start: 44544, Stop: 44416, Start Num: 38  
Candidate Starts for Eurydice\_72:  
(Start: 36 @44550 has 14 MA's), (Start: 38 @44544 has 259 MA's), (41, 44529), (52, 44466), (54, 44463),

Gene: ExplosioNervosa\_76 Start: 44918, Stop: 44754, Start Num: 38  
Candidate Starts for ExplosioNervosa\_76:  
(Start: 38 @44918 has 259 MA's), (40, 44903), (46, 44861),

Gene: Fameo\_75 Start: 45770, Stop: 45606, Start Num: 38  
Candidate Starts for Fameo\_75:  
(31, 45809), (Start: 38 @45770 has 259 MA's), (66, 45617),

Gene: Fayely\_76 Start: 44819, Stop: 44655, Start Num: 38  
Candidate Starts for Fayely\_76:  
(Start: 38 @44819 has 259 MA's), (40, 44804), (46, 44762),

Gene: FiringLine\_77 Start: 46124, Stop: 45960, Start Num: 38  
Candidate Starts for FiringLine\_77:  
(31, 46163), (Start: 38 @46124 has 259 MA's), (39, 46118), (66, 45971),

Gene: First\_0077 Start: 45805, Stop: 45638, Start Num: 38  
Candidate Starts for First\_0077:  
(Start: 38 @45805 has 259 MA's), (39, 45799),

Gene: Florean\_71 Start: 44509, Stop: 44381, Start Num: 38  
Candidate Starts for Florean\_71:  
(13, 44617), (16, 44608), (Start: 36 @44515 has 14 MA's), (Start: 38 @44509 has 259 MA's), (41, 44494), (42, 44488), (54, 44428),

Gene: Flux\_71 Start: 44508, Stop: 44380, Start Num: 38  
Candidate Starts for Flux\_71:  
(3, 44742), (13, 44616), (16, 44607), (Start: 36 @44514 has 14 MA's), (Start: 38 @44508 has 259 MA's), (41, 44493), (42, 44487), (54, 44427),

Gene: Fred313\_72 Start: 44707, Stop: 44579, Start Num: 38  
Candidate Starts for Fred313\_72:

(Start: 38 @44707 has 259 MA's), (41, 44692), (54, 44626),

Gene: Gail\_78 Start: 46233, Stop: 46051, Start Num: 38

Candidate Starts for Gail\_78:

(Start: 38 @46233 has 259 MA's), (40, 46218), (46, 46176),

Gene: GaugeLDP\_72 Start: 45357, Stop: 45190, Start Num: 38

Candidate Starts for GaugeLDP\_72:

(Start: 38 @45357 has 259 MA's), (44, 45324), (46, 45300),

Gene: Georgie2\_78 Start: 46168, Stop: 46004, Start Num: 38

Candidate Starts for Georgie2\_78:

(31, 46207), (Start: 38 @46168 has 259 MA's), (39, 46162), (66, 46015),

Gene: Giroux\_73 Start: 45088, Stop: 44960, Start Num: 38

Candidate Starts for Giroux\_73:

(Start: 38 @45088 has 259 MA's), (41, 45073), (54, 45007),

Gene: Goose\_72 Start: 44162, Stop: 44034, Start Num: 38

Candidate Starts for Goose\_72:

(Start: 38 @44162 has 259 MA's), (41, 44147), (56, 44066),

Gene: GreedyLawyer\_74 Start: 44520, Stop: 44353, Start Num: 38

Candidate Starts for GreedyLawyer\_74:

(Start: 38 @44520 has 259 MA's), (39, 44514), (40, 44505),

Gene: HINdeR\_71 Start: 47193, Stop: 47041, Start Num: 38

Candidate Starts for HINdeR\_71:

(Start: 38 @47193 has 259 MA's), (41, 47175), (49, 47121), (55, 47097),

Gene: Happiness\_70 Start: 44527, Stop: 44399, Start Num: 38

Candidate Starts for Happiness\_70:

(Start: 36 @44533 has 14 MA's), (Start: 38 @44527 has 259 MA's), (41, 44512), (54, 44446),

Gene: HarryHoudini\_77 Start: 45843, Stop: 45688, Start Num: 38

Candidate Starts for HarryHoudini\_77:

(Start: 38 @45843 has 259 MA's), (39, 45837),

Gene: Heathen\_74 Start: 44802, Stop: 44674, Start Num: 38

Candidate Starts for Heathen\_74:

(Start: 38 @44802 has 259 MA's), (41, 44787), (54, 44721),

Gene: Heffalump\_74 Start: 46238, Stop: 46074, Start Num: 38

Candidate Starts for Heffalump\_74:

(31, 46277), (Start: 38 @46238 has 259 MA's), (66, 46085),

Gene: HelDan\_74 Start: 45018, Stop: 44890, Start Num: 38

Candidate Starts for HelDan\_74:

(Start: 38 @45018 has 259 MA's), (41, 45003), (54, 44937),

Gene: Herbertwm\_73 Start: 45474, Stop: 45292, Start Num: 38

Candidate Starts for Herbertwm\_73:

(Start: 38 @45474 has 259 MA's), (39, 45468), (65, 45324),

Gene: Holli\_70 Start: 44300, Stop: 44172, Start Num: 38  
Candidate Starts for Holli\_70:  
(13, 44408), (16, 44399), (Start: 36 @44306 has 14 MA's), (Start: 38 @44300 has 259 MA's), (41, 44285), (42, 44279), (54, 44219),

Gene: Hookmount\_74 Start: 45042, Stop: 44914, Start Num: 38  
Candidate Starts for Hookmount\_74:  
(Start: 38 @45042 has 259 MA's), (41, 45027),

Gene: Hoot\_74 Start: 42405, Stop: 42238, Start Num: 38  
Candidate Starts for Hoot\_74:  
(Start: 38 @42405 has 259 MA's), (39, 42399), (40, 42390),

Gene: HortumSL17\_79 Start: 45181, Stop: 45017, Start Num: 38  
Candidate Starts for HortumSL17\_79:  
(Start: 38 @45181 has 259 MA's), (40, 45166), (44, 45148), (46, 45124),

Gene: Iceman\_70 Start: 44800, Stop: 44672, Start Num: 38  
Candidate Starts for Iceman\_70:  
(3, 45034), (13, 44908), (16, 44899), (Start: 36 @44806 has 14 MA's), (Start: 38 @44800 has 259 MA's), (41, 44785), (42, 44779), (54, 44719),

Gene: Idleandcovert\_75 Start: 45089, Stop: 44961, Start Num: 38  
Candidate Starts for Idleandcovert\_75:  
(Start: 38 @45089 has 259 MA's), (41, 45074), (54, 45008),

Gene: IronMan\_74 Start: 46915, Stop: 46739, Start Num: 38  
Candidate Starts for IronMan\_74:  
(Start: 38 @46915 has 259 MA's), (63, 46762),

Gene: Isca\_72 Start: 44569, Stop: 44441, Start Num: 38  
Candidate Starts for Isca\_72:  
(Start: 38 @44569 has 259 MA's), (41, 44554), (54, 44488),

Gene: Isiphiwo\_76 Start: 44572, Stop: 44405, Start Num: 38  
Candidate Starts for Isiphiwo\_76:  
(Start: 38 @44572 has 259 MA's), (39, 44566), (40, 44557),

Gene: Iwokeuplikedis\_78 Start: 46300, Stop: 46124, Start Num: 38  
Candidate Starts for Iwokeuplikedis\_78:  
(Start: 38 @46300 has 259 MA's), (39, 46294),

Gene: JF2\_72 Start: 43265, Stop: 43137, Start Num: 38  
Candidate Starts for JF2\_72:  
(Start: 38 @43265 has 259 MA's), (41, 43250), (54, 43184),

Gene: JF4\_72 Start: 43265, Stop: 43137, Start Num: 38  
Candidate Starts for JF4\_72:  
(Start: 38 @43265 has 259 MA's), (41, 43250), (54, 43184),

Gene: Jaan\_75 Start: 47076, Stop: 46900, Start Num: 38  
Candidate Starts for Jaan\_75:

(Start: 38 @47076 has 259 MA's), (63, 46923),

Gene: Jaykayelowell\_68 Start: 44503, Stop: 44375, Start Num: 38

Candidate Starts for Jaykayelowell\_68:

(3, 44737), (13, 44611), (16, 44602), (Start: 36 @44509 has 14 MA's), (Start: 38 @44503 has 259 MA's), (41, 44488), (42, 44482), (54, 44422),

Gene: Jeeves\_80 Start: 45143, Stop: 44967, Start Num: 38

Candidate Starts for Jeeves\_80:

(4, 45359), (8, 45305), (9, 45287), (Start: 38 @45143 has 259 MA's), (40, 45128), (46, 45086),

Gene: Jerm\_78 Start: 46242, Stop: 46078, Start Num: 38

Candidate Starts for Jerm\_78:

(32, 46281), (Start: 38 @46242 has 259 MA's), (66, 46089),

Gene: JetBlade\_71 Start: 44535, Stop: 44407, Start Num: 38

Candidate Starts for JetBlade\_71:

(Start: 36 @44541 has 14 MA's), (Start: 38 @44535 has 259 MA's), (41, 44520), (54, 44454),

Gene: Jordennis\_77 Start: 44787, Stop: 44620, Start Num: 38

Candidate Starts for Jordennis\_77:

(Start: 38 @44787 has 259 MA's), (39, 44781), (40, 44772),

Gene: JoshKayV\_77 Start: 46282, Stop: 46115, Start Num: 38

Candidate Starts for JoshKayV\_77:

(Start: 38 @46282 has 259 MA's), (39, 46276),

Gene: Kalpine\_76 Start: 46163, Stop: 45996, Start Num: 38

Candidate Starts for Kalpine\_76:

(Start: 38 @46163 has 259 MA's), (40, 46148), (46, 46106), (68, 46007), (71, 46001),

Gene: Kamy\_70 Start: 44510, Stop: 44382, Start Num: 38

Candidate Starts for Kamy\_70:

(Start: 36 @44516 has 14 MA's), (Start: 38 @44510 has 259 MA's), (41, 44495), (52, 44432), (54, 44429),

Gene: Katalie136\_70 Start: 44671, Stop: 44549, Start Num: 38

Candidate Starts for Katalie136\_70:

(Start: 36 @44677 has 14 MA's), (Start: 38 @44671 has 259 MA's), (41, 44656), (42, 44650), (59, 44560),

Gene: Kazan\_80 Start: 44560, Stop: 44393, Start Num: 38

Candidate Starts for Kazan\_80:

(Start: 38 @44560 has 259 MA's), (39, 44554), (40, 44545),

Gene: Keziacharles14\_75 Start: 45797, Stop: 45627, Start Num: 38

Candidate Starts for Keziacharles14\_75:

(Start: 38 @45797 has 259 MA's), (40, 45782), (46, 45740), (61, 45671),

Gene: Kimona\_71 Start: 43589, Stop: 43443, Start Num: 38

Candidate Starts for Kimona\_71:

(Start: 38 @43589 has 259 MA's), (41, 43574), (45, 43538), (57, 43487),

Gene: KingCyrus\_76 Start: 47256, Stop: 47092, Start Num: 38  
Candidate Starts for KingCyrus\_76:  
(30, 47298), (32, 47295), (Start: 38 @47256 has 259 MA's), (40, 47241), (66, 47103),

Gene: Kingmustik0402\_71 Start: 44499, Stop: 44371, Start Num: 38  
Candidate Starts for Kingmustik0402\_71:  
(13, 44607), (16, 44598), (Start: 36 @44505 has 14 MA's), (Start: 38 @44499 has 259 MA's), (41, 44484), (42, 44478), (54, 44418),

Gene: Kipper29\_79 Start: 44573, Stop: 44406, Start Num: 38  
Candidate Starts for Kipper29\_79:  
(Start: 38 @44573 has 259 MA's), (39, 44567), (40, 44558),

Gene: KittenMittens\_68 Start: 43490, Stop: 43362, Start Num: 38  
Candidate Starts for KittenMittens\_68:  
(Start: 38 @43490 has 259 MA's), (41, 43475), (56, 43394),

Gene: Koreni\_70 Start: 44191, Stop: 44063, Start Num: 38  
Candidate Starts for Koreni\_70:  
(3, 44425), (13, 44299), (16, 44290), (Start: 36 @44197 has 14 MA's), (Start: 38 @44191 has 259 MA's), (41, 44176), (42, 44170), (54, 44110),

Gene: Kremtemulon\_67 Start: 44643, Stop: 44515, Start Num: 38  
Candidate Starts for Kremtemulon\_67:  
(13, 44751), (16, 44742), (Start: 36 @44649 has 14 MA's), (Start: 38 @44643 has 259 MA's), (41, 44628), (54, 44562),

Gene: Kristoff\_70 Start: 44796, Stop: 44668, Start Num: 38  
Candidate Starts for Kristoff\_70:  
(Start: 38 @44796 has 259 MA's), (41, 44781), (44, 44766), (56, 44700),

Gene: Kyee\_71 Start: 44505, Stop: 44377, Start Num: 38  
Candidate Starts for Kyee\_71:  
(7, 44667), (13, 44613), (16, 44604), (Start: 36 @44511 has 14 MA's), (Start: 38 @44505 has 259 MA's), (41, 44490), (42, 44484), (54, 44424),

Gene: LHTSCC\_73 Start: 44950, Stop: 44816, Start Num: 36  
Candidate Starts for LHTSCC\_73:  
(Start: 36 @44950 has 14 MA's), (Start: 38 @44944 has 259 MA's), (41, 44929), (54, 44863),

Gene: LadyBird\_80 Start: 46485, Stop: 46318, Start Num: 38  
Candidate Starts for LadyBird\_80:  
(Start: 38 @46485 has 259 MA's), (48, 46419), (67, 46329),

Gene: Lambert1\_74 Start: 45043, Stop: 44915, Start Num: 38  
Candidate Starts for Lambert1\_74:  
(Start: 38 @45043 has 259 MA's), (41, 45028),

Gene: Landor\_75 Start: 47003, Stop: 46827, Start Num: 38  
Candidate Starts for Landor\_75:  
(Start: 38 @47003 has 259 MA's), (39, 46997), (63, 46850),

Gene: LappelDuVide\_67 Start: 44509, Stop: 44381, Start Num: 38

Candidate Starts for LappelDuVide\_67:

(13, 44617), (16, 44608), (Start: 36 @44515 has 14 MA's), (Start: 38 @44509 has 259 MA's), (41, 44494), (42, 44488), (54, 44428),

Gene: Larenn\_73 Start: 45502, Stop: 45338, Start Num: 38

Candidate Starts for Larenn\_73:

(25, 45556), (Start: 38 @45502 has 259 MA's), (66, 45349),

Gene: LeoAvram\_70 Start: 44538, Stop: 44410, Start Num: 38

Candidate Starts for LeoAvram\_70:

(Start: 36 @44544 has 14 MA's), (Start: 38 @44538 has 259 MA's), (41, 44523), (52, 44460), (54, 44457),

Gene: Leogania\_75 Start: 46184, Stop: 46029, Start Num: 38

Candidate Starts for Leogania\_75:

(24, 46241), (Start: 38 @46184 has 259 MA's), (39, 46178),

Gene: Leviathan\_78 Start: 46308, Stop: 46144, Start Num: 38

Candidate Starts for Leviathan\_78:

(32, 46347), (Start: 38 @46308 has 259 MA's), (66, 46155),

Gene: LilTurb\_77 Start: 46122, Stop: 45958, Start Num: 38

Candidate Starts for LilTurb\_77:

(32, 46161), (Start: 38 @46122 has 259 MA's), (66, 45969),

Gene: LittleB\_71 Start: 44511, Stop: 44383, Start Num: 38

Candidate Starts for LittleB\_71:

(3, 44745), (13, 44619), (16, 44610), (Start: 36 @44517 has 14 MA's), (Start: 38 @44511 has 259 MA's), (41, 44496), (42, 44490), (54, 44430),

Gene: LochMonster\_72 Start: 44746, Stop: 44618, Start Num: 38

Candidate Starts for LochMonster\_72:

(7, 44908), (13, 44854), (16, 44845), (Start: 36 @44752 has 14 MA's), (Start: 38 @44746 has 259 MA's), (41, 44731), (42, 44725), (54, 44665),

Gene: Lokk\_70 Start: 44303, Stop: 44139, Start Num: 38

Candidate Starts for Lokk\_70:

(Start: 38 @44303 has 259 MA's), (39, 44297), (40, 44288), (60, 44177), (67, 44147),

Gene: LoneWolf\_79 Start: 45428, Stop: 45264, Start Num: 38

Candidate Starts for LoneWolf\_79:

(Start: 38 @45428 has 259 MA's), (40, 45413), (46, 45371),

Gene: Lorenzo\_71 Start: 44508, Stop: 44380, Start Num: 38

Candidate Starts for Lorenzo\_71:

(7, 44670), (13, 44616), (16, 44607), (17, 44601), (Start: 36 @44514 has 14 MA's), (Start: 38 @44508 has 259 MA's), (41, 44493), (42, 44487), (54, 44427),

Gene: Loser\_78 Start: 46367, Stop: 46212, Start Num: 38

Candidate Starts for Loser\_78:

(Start: 38 @46367 has 259 MA's), (40, 46352),

Gene: Lozinak\_156 Start: 83674, Stop: 83516, Start Num: 38

Candidate Starts for Lozinak\_156:  
(Start: 38 @83674 has 259 MA's), (41, 83659),

Gene: Luchador\_79 Start: 46628, Stop: 46443, Start Num: 38  
Candidate Starts for Luchador\_79:  
(Start: 38 @46628 has 259 MA's), (40, 46613), (46, 46571),

Gene: Lunsford\_71 Start: 44503, Stop: 44375, Start Num: 38  
Candidate Starts for Lunsford\_71:  
(3, 44737), (13, 44611), (16, 44602), (Start: 36 @44509 has 14 MA's), (Start: 38 @44503 has 259 MA's), (41, 44488), (42, 44482), (54, 44422),

Gene: MA5\_74 Start: 44473, Stop: 44345, Start Num: 38  
Candidate Starts for MA5\_74:  
(Start: 38 @44473 has 259 MA's), (41, 44458), (54, 44392),

Gene: Malec\_74 Start: 46069, Stop: 45905, Start Num: 38  
Candidate Starts for Malec\_74:  
(25, 46123), (Start: 38 @46069 has 259 MA's), (66, 45916),

Gene: Maminiaina\_78 Start: 45344, Stop: 45180, Start Num: 38  
Candidate Starts for Maminiaina\_78:  
(Start: 38 @45344 has 259 MA's), (40, 45329), (46, 45287),

Gene: Margo\_74 Start: 45068, Stop: 44940, Start Num: 38  
Candidate Starts for Margo\_74:  
(Start: 38 @45068 has 259 MA's), (41, 45053),

Gene: Maxo\_73 Start: 44510, Stop: 44382, Start Num: 38  
Candidate Starts for Maxo\_73:  
(Start: 36 @44516 has 14 MA's), (Start: 38 @44510 has 259 MA's), (41, 44495), (52, 44432), (54, 44429),

Gene: Mazhar510\_71 Start: 44508, Stop: 44380, Start Num: 38  
Candidate Starts for Mazhar510\_71:  
(7, 44670), (13, 44616), (16, 44607), (Start: 36 @44514 has 14 MA's), (Start: 38 @44508 has 259 MA's), (41, 44493), (42, 44487), (54, 44427),

Gene: McFly\_80 Start: 45189, Stop: 45022, Start Num: 38  
Candidate Starts for McFly\_80:  
(Start: 38 @45189 has 259 MA's), (39, 45183), (40, 45174),

Gene: Miko\_70 Start: 45080, Stop: 44916, Start Num: 38  
Candidate Starts for Miko\_70:  
(Start: 38 @45080 has 259 MA's), (39, 45074), (40, 45065), (60, 44954), (67, 44924),

Gene: Miramae\_70 Start: 44230, Stop: 44108, Start Num: 38  
Candidate Starts for Miramae\_70:  
(2, 44512), (6, 44392), (Start: 36 @44236 has 14 MA's), (Start: 38 @44230 has 259 MA's),

Gene: Miskis\_156 Start: 82703, Stop: 82545, Start Num: 38  
Candidate Starts for Miskis\_156:  
(Start: 38 @82703 has 259 MA's), (41, 82688), (53, 82625),

Gene: Morpher26\_70 Start: 44692, Stop: 44570, Start Num: 38  
Candidate Starts for Morpher26\_70:  
(Start: 36 @44698 has 14 MA's), (Start: 38 @44692 has 259 MA's), (41, 44677), (42, 44671), (59, 44581),

Gene: Mundrea\_70 Start: 44689, Stop: 44567, Start Num: 38  
Candidate Starts for Mundrea\_70:  
(Start: 36 @44695 has 14 MA's), (Start: 38 @44689 has 259 MA's), (41, 44674),

Gene: Myxus\_78 Start: 45181, Stop: 45017, Start Num: 38  
Candidate Starts for Myxus\_78:  
(Start: 38 @45181 has 259 MA's), (40, 45166), (44, 45148), (46, 45124),

Gene: Nebs\_72 Start: 44547, Stop: 44419, Start Num: 38  
Candidate Starts for Nebs\_72:  
(Start: 36 @44553 has 14 MA's), (Start: 38 @44547 has 259 MA's), (41, 44532), (52, 44469), (54, 44466),

Gene: Neeharika16\_76 Start: 44656, Stop: 44489, Start Num: 38  
Candidate Starts for Neeharika16\_76:  
(Start: 38 @44656 has 259 MA's), (39, 44650), (40, 44641),

Gene: Nemo27\_70 Start: 44506, Stop: 44378, Start Num: 38  
Candidate Starts for Nemo27\_70:  
(7, 44668), (13, 44614), (16, 44605), (Start: 36 @44512 has 14 MA's), (Start: 38 @44506 has 259 MA's), (41, 44491), (42, 44485), (54, 44425),

Gene: Newrala\_78 Start: 44995, Stop: 44828, Start Num: 38  
Candidate Starts for Newrala\_78:  
(Start: 38 @44995 has 259 MA's), (39, 44989), (40, 44980),

Gene: Noella\_75 Start: 45044, Stop: 44916, Start Num: 38  
Candidate Starts for Noella\_75:  
(Start: 38 @45044 has 259 MA's), (41, 45029),

Gene: Noelle\_71 Start: 45009, Stop: 44887, Start Num: 38  
Candidate Starts for Noelle\_71:  
(11, 45135), (12, 45129), (27, 45063), (Start: 36 @45015 has 14 MA's), (Start: 38 @45009 has 259 MA's), (41, 44994), (59, 44898),

Gene: Norbert\_70 Start: 45041, Stop: 44913, Start Num: 38  
Candidate Starts for Norbert\_70:  
(Start: 38 @45041 has 259 MA's), (41, 45026),

Gene: NorthStar\_69 Start: 44510, Stop: 44382, Start Num: 38  
Candidate Starts for NorthStar\_69:  
(3, 44744), (13, 44618), (16, 44609), (Start: 36 @44516 has 14 MA's), (Start: 38 @44510 has 259 MA's), (41, 44495), (42, 44489), (54, 44429),

Gene: Norvs\_154 Start: 82865, Stop: 82707, Start Num: 38  
Candidate Starts for Norvs\_154:  
(Start: 38 @82865 has 259 MA's), (41, 82850),



Gene: NothingSpecial\_72 Start: 45754, Stop: 45581, Start Num: 38  
Candidate Starts for NothingSpecial\_72:

(Start: 38 @45754 has 259 MA's), (39, 45748), (51, 45682),

Gene: OKCentral2016\_69 Start: 43589, Stop: 43461, Start Num: 38  
Candidate Starts for OKCentral2016\_69:

(Start: 38 @43589 has 259 MA's), (41, 43574), (56, 43493),

Gene: OKaNui\_70 Start: 44560, Stop: 44432, Start Num: 38  
Candidate Starts for OKaNui\_70:

(13, 44668), (16, 44659), (17, 44653), (Start: 36 @44566 has 14 MA's), (Start: 38 @44560 has 259 MA's), (41, 44545), (42, 44539), (54, 44479),

Gene: Obama12\_72 Start: 44928, Stop: 44800, Start Num: 38  
Candidate Starts for Obama12\_72:

(Start: 36 @44934 has 14 MA's), (Start: 38 @44928 has 259 MA's), (41, 44913), (54, 44847),

Gene: Ohfah\_72 Start: 44547, Stop: 44419, Start Num: 38  
Candidate Starts for Ohfah\_72:

(Start: 36 @44553 has 14 MA's), (Start: 38 @44547 has 259 MA's), (41, 44532), (52, 44469), (54, 44466),

Gene: PP\_73 Start: 49011, Stop: 48865, Start Num: 38  
Candidate Starts for PP\_73:

(Start: 38 @49011 has 259 MA's), (41, 48996), (45, 48960),

Gene: PackMan\_77 Start: 45056, Stop: 44892, Start Num: 38  
Candidate Starts for PackMan\_77:

(Start: 38 @45056 has 259 MA's), (40, 45041), (44, 45023), (46, 44999),

Gene: Panamaxus\_72 Start: 45043, Stop: 44915, Start Num: 38  
Candidate Starts for Panamaxus\_72:

(Start: 38 @45043 has 259 MA's), (41, 45028),

Gene: PeaceMeal1\_69 Start: 43491, Stop: 43363, Start Num: 38  
Candidate Starts for PeaceMeal1\_69:

(Start: 38 @43491 has 259 MA's), (41, 43476), (56, 43395),

Gene: Perplexer\_70 Start: 44668, Stop: 44546, Start Num: 38  
Candidate Starts for Perplexer\_70:

(Start: 36 @44674 has 14 MA's), (Start: 38 @44668 has 259 MA's), (41, 44653), (42, 44647), (59, 44557),

Gene: PeterPeter\_71 Start: 44504, Stop: 44376, Start Num: 38  
Candidate Starts for PeterPeter\_71:

(7, 44666), (13, 44612), (16, 44603), (Start: 36 @44510 has 14 MA's), (Start: 38 @44504 has 259 MA's), (41, 44489), (42, 44483), (54, 44423),

Gene: PetiteSangsue\_70 Start: 44671, Stop: 44549, Start Num: 38  
Candidate Starts for PetiteSangsue\_70:

(Start: 36 @44677 has 14 MA's), (Start: 38 @44671 has 259 MA's), (41, 44656), (42, 44650), (59, 44560),

Gene: Phaded\_72 Start: 46962, Stop: 46786, Start Num: 38

Candidate Starts for Phaded\_72:

(Start: 38 @46962 has 259 MA's), (39, 46956), (63, 46809),

Gene: Phaeder\_78 Start: 45056, Stop: 44892, Start Num: 38

Candidate Starts for Phaeder\_78:

(Start: 38 @45056 has 259 MA's), (40, 45041), (44, 45023), (46, 44999),

Gene: Phantastic\_76 Start: 44730, Stop: 44602, Start Num: 38

Candidate Starts for Phantastic\_76:

(Start: 38 @44730 has 259 MA's), (41, 44715), (54, 44649),

Gene: Phelipe\_72 Start: 44553, Stop: 44419, Start Num: 36

Candidate Starts for Phelipe\_72:

(Start: 36 @44553 has 14 MA's), (Start: 38 @44547 has 259 MA's), (41, 44532), (52, 44469), (54, 44466),

Gene: Phighter1804\_71 Start: 44571, Stop: 44443, Start Num: 38

Candidate Starts for Phighter1804\_71:

(7, 44733), (13, 44679), (16, 44670), (Start: 36 @44577 has 14 MA's), (Start: 38 @44571 has 259 MA's), (41, 44556), (42, 44550), (54, 44490),

Gene: PhinkBoden\_154 Start: 83263, Stop: 83105, Start Num: 38

Candidate Starts for PhinkBoden\_154:

(Start: 38 @83263 has 259 MA's), (41, 83248),

Gene: Phonnegut\_78 Start: 45128, Stop: 44964, Start Num: 38

Candidate Starts for Phonnegut\_78:

(Start: 38 @45128 has 259 MA's), (40, 45113), (46, 45071),

Gene: Phontbonne\_71 Start: 44405, Stop: 44277, Start Num: 38

Candidate Starts for Phontbonne\_71:

(13, 44513), (16, 44504), (17, 44498), (Start: 36 @44411 has 14 MA's), (Start: 38 @44405 has 259 MA's), (41, 44390), (42, 44384), (54, 44324),

Gene: Pioneer\_78 Start: 45128, Stop: 44964, Start Num: 38

Candidate Starts for Pioneer\_78:

(Start: 38 @45128 has 259 MA's), (40, 45113), (46, 45071),

Gene: Pipcraft\_68 Start: 44511, Stop: 44383, Start Num: 38

Candidate Starts for Pipcraft\_68:

(3, 44745), (13, 44619), (16, 44610), (Start: 36 @44517 has 14 MA's), (Start: 38 @44511 has 259 MA's), (41, 44496), (42, 44490), (54, 44430),

Gene: Piro94\_76 Start: 45778, Stop: 45623, Start Num: 38

Candidate Starts for Piro94\_76:

(Start: 38 @45778 has 259 MA's), (39, 45772),

Gene: Pistachio\_75 Start: 44636, Stop: 44508, Start Num: 38

Candidate Starts for Pistachio\_75:

(Start: 38 @44636 has 259 MA's), (41, 44621), (54, 44555),

Gene: Pmask\_78 Start: 45193, Stop: 45026, Start Num: 38

Candidate Starts for Pmask\_78:

(Start: 38 @45193 has 259 MA's), (39, 45187), (40, 45178),

Gene: Pocahontas\_73 Start: 45039, Stop: 44911, Start Num: 38

Candidate Starts for Pocahontas\_73:

(Start: 38 @45039 has 259 MA's), (41, 45024),

Gene: Polymorphads\_71 Start: 44528, Stop: 44400, Start Num: 38

Candidate Starts for Polymorphads\_71:

(Start: 36 @44534 has 14 MA's), (Start: 38 @44528 has 259 MA's), (41, 44513), (52, 44450), (54, 44447),

Gene: Poompha\_68 Start: 43489, Stop: 43361, Start Num: 38

Candidate Starts for Poompha\_68:

(Start: 38 @43489 has 259 MA's), (41, 43474), (56, 43393),

Gene: Popcicle\_74 Start: 45039, Stop: 44911, Start Num: 38

Candidate Starts for Popcicle\_74:

(Start: 38 @45039 has 259 MA's), (41, 45024),

Gene: Power\_76 Start: 46167, Stop: 46003, Start Num: 38

Candidate Starts for Power\_76:

(31, 46206), (Start: 38 @46167 has 259 MA's), (39, 46161), (66, 46014),

Gene: Priamo\_81 Start: 44855, Stop: 44688, Start Num: 38

Candidate Starts for Priamo\_81:

(Start: 38 @44855 has 259 MA's), (39, 44849), (40, 44840),

Gene: Priya\_76 Start: 44853, Stop: 44689, Start Num: 38

Candidate Starts for Priya\_76:

(Start: 38 @44853 has 259 MA's), (40, 44838), (46, 44796),

Gene: Pukovnik\_73 Start: 46577, Stop: 46401, Start Num: 38

Candidate Starts for Pukovnik\_73:

(Start: 38 @46577 has 259 MA's), (63, 46424),

Gene: Pumbaa\_71 Start: 44461, Stop: 44327, Start Num: 36

Candidate Starts for Pumbaa\_71:

(3, 44689), (13, 44563), (16, 44554), (Start: 36 @44461 has 14 MA's), (Start: 38 @44455 has 259 MA's), (41, 44440), (42, 44434), (54, 44374),

Gene: Puppy\_75 Start: 44706, Stop: 44578, Start Num: 38

Candidate Starts for Puppy\_75:

(Start: 38 @44706 has 259 MA's), (41, 44691), (54, 44625),

Gene: Qobbit\_76 Start: 44815, Stop: 44651, Start Num: 38

Candidate Starts for Qobbit\_76:

(Start: 38 @44815 has 259 MA's), (40, 44800), (46, 44758),

Gene: QueenB2\_74 Start: 45451, Stop: 45287, Start Num: 38

Candidate Starts for QueenB2\_74:

(31, 45490), (Start: 38 @45451 has 259 MA's), (66, 45298),

Gene: QueenBeesly\_77 Start: 46124, Stop: 45960, Start Num: 38  
Candidate Starts for QueenBeesly\_77:  
(31, 46163), (Start: 38 @46124 has 259 MA's), (39, 46118), (66, 45971),

Gene: QuinnKiro\_73 Start: 45042, Stop: 44914, Start Num: 38  
Candidate Starts for QuinnKiro\_73:  
(Start: 38 @45042 has 259 MA's), (41, 45027),

Gene: Rachaly\_72 Start: 45226, Stop: 45062, Start Num: 38  
Candidate Starts for Rachaly\_72:  
(Start: 38 @45226 has 259 MA's), (39, 45220), (40, 45211), (60, 45100), (67, 45070),

Gene: Rahalelujah\_78 Start: 44992, Stop: 44807, Start Num: 38  
Candidate Starts for Rahalelujah\_78:  
(Start: 38 @44992 has 259 MA's), (39, 44986), (73, 44821),

Gene: Rebeuca\_72 Start: 44797, Stop: 44669, Start Num: 38  
Candidate Starts for Rebeuca\_72:  
(Start: 38 @44797 has 259 MA's), (41, 44782), (44, 44767), (56, 44701),

Gene: RedRock\_75 Start: 46134, Stop: 45979, Start Num: 38  
Candidate Starts for RedRock\_75:  
(Start: 38 @46134 has 259 MA's), (40, 46119),

Gene: Refuge\_74 Start: 46251, Stop: 46102, Start Num: 38  
Candidate Starts for Refuge\_74:  
(Start: 38 @46251 has 259 MA's), (40, 46236), (60, 46125),

Gene: Reindeer\_151 Start: 77820, Stop: 77668, Start Num: 38  
Candidate Starts for Reindeer\_151:  
(29, 77868), (Start: 38 @77820 has 259 MA's), (41, 77805), (58, 77706),

Gene: Relief\_70 Start: 44513, Stop: 44379, Start Num: 36  
Candidate Starts for Relief\_70:  
(3, 44741), (13, 44615), (16, 44606), (Start: 36 @44513 has 14 MA's), (Start: 38 @44507 has 259 MA's), (41, 44492), (42, 44486), (54, 44426),

Gene: ResDef\_72 Start: 45045, Stop: 44917, Start Num: 38  
Candidate Starts for ResDef\_72:  
(Start: 38 @45045 has 259 MA's), (41, 45030),

Gene: Retro23\_77 Start: 45856, Stop: 45692, Start Num: 38  
Candidate Starts for Retro23\_77:  
(31, 45895), (Start: 38 @45856 has 259 MA's), (39, 45850), (66, 45703),

Gene: Roosevelt\_69 Start: 44512, Stop: 44384, Start Num: 38  
Candidate Starts for Roosevelt\_69:  
(13, 44620), (16, 44611), (Start: 36 @44518 has 14 MA's), (Start: 38 @44512 has 259 MA's), (41, 44497), (42, 44491), (54, 44431),

Gene: Sabertooth\_71 Start: 44518, Stop: 44384, Start Num: 36  
Candidate Starts for Sabertooth\_71:

(Start: 36 @44518 has 14 MA's), (Start: 38 @44512 has 259 MA's), (41, 44497), (54, 44431),

Gene: SaturnRing\_74 Start: 45089, Stop: 44961, Start Num: 38

Candidate Starts for SaturnRing\_74:

(Start: 38 @45089 has 259 MA's), (41, 45074), (54, 45008),

Gene: Scamp\_71 Start: 44512, Stop: 44384, Start Num: 38

Candidate Starts for Scamp\_71:

(3, 44746), (13, 44620), (16, 44611), (Start: 36 @44518 has 14 MA's), (Start: 38 @44512 has 259 MA's), (41, 44497), (42, 44491), (54, 44431),

Gene: Scherzo\_77 Start: 45338, Stop: 45153, Start Num: 38

Candidate Starts for Scherzo\_77:

(Start: 38 @45338 has 259 MA's), (40, 45323), (46, 45281), (70, 45176),

Gene: Scout\_73 Start: 44265, Stop: 44137, Start Num: 38

Candidate Starts for Scout\_73:

(Start: 38 @44265 has 259 MA's), (41, 44250), (54, 44184),

Gene: SemperFi\_77 Start: 46012, Stop: 45848, Start Num: 38

Candidate Starts for SemperFi\_77:

(31, 46051), (Start: 38 @46012 has 259 MA's), (39, 46006), (46, 45955), (66, 45859),

Gene: Severus\_69 Start: 43489, Stop: 43361, Start Num: 38

Candidate Starts for Severus\_69:

(Start: 38 @43489 has 259 MA's), (41, 43474), (56, 43393),

Gene: Shaka\_69 Start: 44505, Stop: 44377, Start Num: 38

Candidate Starts for Shaka\_69:

(Start: 36 @44511 has 14 MA's), (Start: 38 @44505 has 259 MA's), (41, 44490), (54, 44424),

Gene: SheaKeira\_72 Start: 44164, Stop: 44015, Start Num: 38

Candidate Starts for SheaKeira\_72:

(23, 44221), (Start: 38 @44164 has 259 MA's), (39, 44158), (42, 44140), (44, 44131), (58, 44059),

Gene: SheldonCooper\_71 Start: 44945, Stop: 44817, Start Num: 38

Candidate Starts for SheldonCooper\_71:

(Start: 36 @44951 has 14 MA's), (Start: 38 @44945 has 259 MA's), (41, 44930), (54, 44864),

Gene: Shygu2\_70 Start: 44723, Stop: 44601, Start Num: 38

Candidate Starts for Shygu2\_70:

(Start: 36 @44729 has 14 MA's), (Start: 38 @44723 has 259 MA's), (41, 44708), (59, 44612),

Gene: Skipitt\_70 Start: 44504, Stop: 44376, Start Num: 38

Candidate Starts for Skipitt\_70:

(3, 44738), (13, 44612), (16, 44603), (Start: 36 @44510 has 14 MA's), (Start: 38 @44504 has 259 MA's), (41, 44489), (42, 44483), (54, 44423),

Gene: Smeagan\_79 Start: 46399, Stop: 46235, Start Num: 38

Candidate Starts for Smeagan\_79:

(32, 46438), (Start: 38 @46399 has 259 MA's), (66, 46246),

Gene: SmellyB\_79 Start: 44554, Stop: 44387, Start Num: 38

Candidate Starts for SmellyB\_79:  
(Start: 38 @44554 has 259 MA's), (39, 44548), (40, 44539),

Gene: Smoothie\_157 Start: 83364, Stop: 83206, Start Num: 38  
Candidate Starts for Smoothie\_157:  
(Start: 38 @83364 has 259 MA's), (41, 83349),

Gene: SnapTap\_76 Start: 45823, Stop: 45659, Start Num: 38  
Candidate Starts for SnapTap\_76:  
(31, 45862), (Start: 38 @45823 has 259 MA's), (39, 45817), (66, 45670),

Gene: SororFago\_78 Start: 46342, Stop: 46166, Start Num: 38  
Candidate Starts for SororFago\_78:  
(Start: 38 @46342 has 259 MA's), (40, 46327),

Gene: Spino\_70 Start: 44516, Stop: 44382, Start Num: 36  
Candidate Starts for Spino\_70:  
(7, 44672), (13, 44618), (16, 44609), (Start: 36 @44516 has 14 MA's), (Start: 38 @44510 has 259 MA's), (41, 44495), (42, 44489), (54, 44429),

Gene: Spouty\_73 Start: 44852, Stop: 44688, Start Num: 38  
Candidate Starts for Spouty\_73:  
(Start: 38 @44852 has 259 MA's), (40, 44837), (46, 44795),

Gene: Stasia\_70 Start: 44731, Stop: 44609, Start Num: 38  
Candidate Starts for Stasia\_70:  
(13, 44842), (Start: 36 @44737 has 14 MA's), (Start: 38 @44731 has 259 MA's), (41, 44716), (49, 44665),

Gene: Steamy\_81 Start: 48438, Stop: 48295, Start Num: 38  
Candidate Starts for Steamy\_81:  
(22, 48507), (33, 48468), (Start: 38 @48438 has 259 MA's), (45, 48384), (47, 48378),

Gene: Stink\_70 Start: 44516, Stop: 44388, Start Num: 36  
Candidate Starts for Stink\_70:  
(1, 44831), (2, 44792), (6, 44672), (Start: 36 @44516 has 14 MA's), (Start: 38 @44510 has 259 MA's),

Gene: SuperAwesome\_79 Start: 45232, Stop: 45065, Start Num: 38  
Candidate Starts for SuperAwesome\_79:  
(Start: 38 @45232 has 259 MA's), (39, 45226), (40, 45217),

Gene: SuperCallie99\_76 Start: 45076, Stop: 44909, Start Num: 38  
Candidate Starts for SuperCallie99\_76:  
(Start: 38 @45076 has 259 MA's), (39, 45070), (40, 45061),

Gene: SweetiePie\_76 Start: 45955, Stop: 45791, Start Num: 38  
Candidate Starts for SweetiePie\_76:  
(31, 45994), (Start: 38 @45955 has 259 MA's), (39, 45949), (66, 45802),

Gene: TNguyen7\_75 Start: 45047, Stop: 44919, Start Num: 38  
Candidate Starts for TNguyen7\_75:  
(Start: 38 @45047 has 259 MA's), (41, 45032), (54, 44966),

Gene: Taquarus\_70 Start: 44513, Stop: 44385, Start Num: 38  
Candidate Starts for Taquarus\_70:  
(3, 44747), (13, 44621), (16, 44612), (Start: 36 @44519 has 14 MA's), (Start: 38 @44513 has 259 MA's), (41, 44498), (42, 44492), (54, 44432),

Gene: TarsusIV\_74 Start: 45855, Stop: 45700, Start Num: 38  
Candidate Starts for TarsusIV\_74:  
(Start: 38 @45855 has 259 MA's), (60, 45729),

Gene: Texage\_72 Start: 45043, Stop: 44915, Start Num: 38  
Candidate Starts for Texage\_72:  
(Start: 38 @45043 has 259 MA's), (41, 45028),

Gene: Timshel\_72 Start: 47629, Stop: 47480, Start Num: 38  
Candidate Starts for Timshel\_72:  
(Start: 38 @47629 has 259 MA's), (41, 47614), (45, 47578), (49, 47560), (55, 47536),

Gene: Tinybot\_70 Start: 44537, Stop: 44409, Start Num: 38  
Candidate Starts for Tinybot\_70:  
(7, 44699), (13, 44645), (16, 44636), (Start: 36 @44543 has 14 MA's), (Start: 38 @44537 has 259 MA's), (41, 44522), (42, 44516), (54, 44456),

Gene: TiroTheta9\_70 Start: 44504, Stop: 44376, Start Num: 38  
Candidate Starts for TiroTheta9\_70:  
(13, 44612), (16, 44603), (Start: 36 @44510 has 14 MA's), (Start: 38 @44504 has 259 MA's), (41, 44489), (42, 44483), (54, 44423),

Gene: Toaka\_78 Start: 45406, Stop: 45206, Start Num: 34  
Candidate Starts for Toaka\_78:  
(Start: 34 @45406 has 1 MA's), (Start: 38 @45391 has 259 MA's), (40, 45376), (73, 45220),

Gene: Todacoro\_74 Start: 45042, Stop: 44914, Start Num: 38  
Candidate Starts for Todacoro\_74:  
(Start: 38 @45042 has 259 MA's), (41, 45027),

Gene: Toniann\_156 Start: 83006, Stop: 82848, Start Num: 38  
Candidate Starts for Toniann\_156:  
(Start: 38 @83006 has 259 MA's), (41, 82991),

Gene: Trixie\_76 Start: 46566, Stop: 46399, Start Num: 38  
Candidate Starts for Trixie\_76:  
(Start: 38 @46566 has 259 MA's), (46, 46509), (68, 46410), (71, 46404),

Gene: Trooper\_76 Start: 45821, Stop: 45675, Start Num: 38  
Candidate Starts for Trooper\_76:  
(Start: 38 @45821 has 259 MA's),

Gene: TroyPia\_72 Start: 44542, Stop: 44414, Start Num: 38  
Candidate Starts for TroyPia\_72:  
(Start: 36 @44548 has 14 MA's), (Start: 38 @44542 has 259 MA's), (41, 44527), (52, 44464), (54, 44461),

Gene: Tubs\_78 Start: 45056, Stop: 44892, Start Num: 38

Candidate Starts for Tubs\_78:

(Start: 38 @45056 has 259 MA's), (40, 45041), (44, 45023), (46, 44999),

Gene: Turbido\_77 Start: 46120, Stop: 45956, Start Num: 38

Candidate Starts for Turbido\_77:

(32, 46159), (Start: 38 @46120 has 259 MA's), (66, 45967),

Gene: Twister\_70 Start: 44343, Stop: 44215, Start Num: 38

Candidate Starts for Twister\_70:

(Start: 38 @44343 has 259 MA's), (41, 44328), (44, 44313), (56, 44247),

Gene: TygerBlood\_71 Start: 44510, Stop: 44382, Start Num: 38

Candidate Starts for TygerBlood\_71:

(3, 44744), (13, 44618), (16, 44609), (Start: 36 @44516 has 14 MA's), (Start: 38 @44510 has 259 MA's), (41, 44495), (42, 44489), (54, 44429),

Gene: Ulysses\_70 Start: 44193, Stop: 44065, Start Num: 38

Candidate Starts for Ulysses\_70:

(3, 44427), (13, 44301), (16, 44292), (Start: 36 @44199 has 14 MA's), (Start: 38 @44193 has 259 MA's), (41, 44178), (54, 44112),

Gene: Updawg\_77 Start: 45675, Stop: 45511, Start Num: 38

Candidate Starts for Updawg\_77:

(10, 45807), (16, 45777), (Start: 38 @45675 has 259 MA's), (66, 45522),

Gene: VA6\_76 Start: 45850, Stop: 45683, Start Num: 38

Candidate Starts for VA6\_76:

(Start: 38 @45850 has 259 MA's), (39, 45844), (64, 45703),

Gene: Vanisoa\_75 Start: 45726, Stop: 45541, Start Num: 38

Candidate Starts for Vanisoa\_75:

(Start: 38 @45726 has 259 MA's), (44, 45693), (73, 45555), (75, 45546),

Gene: Veracruz\_71 Start: 45043, Stop: 44915, Start Num: 38

Candidate Starts for Veracruz\_71:

(Start: 38 @45043 has 259 MA's), (41, 45028),

Gene: VohminGhazi\_79 Start: 44555, Stop: 44388, Start Num: 38

Candidate Starts for VohminGhazi\_79:

(Start: 38 @44555 has 259 MA's), (39, 44549), (40, 44540),

Gene: WalterMcMickey\_70 Start: 44343, Stop: 44215, Start Num: 38

Candidate Starts for WalterMcMickey\_70:

(Start: 38 @44343 has 259 MA's), (41, 44328), (44, 44313), (56, 44247),

Gene: WeiHuaDA\_77 Start: 46612, Stop: 46448, Start Num: 38

Candidate Starts for WeiHuaDA\_77:

(20, 46702), (35, 46621), (Start: 38 @46612 has 259 MA's), (46, 46555), (60, 46486),

Gene: WideWale\_77 Start: 45675, Stop: 45511, Start Num: 38

Candidate Starts for WideWale\_77:

(10, 45807), (16, 45777), (Start: 38 @45675 has 259 MA's), (66, 45522),



Gene: Wile\_69 Start: 44707, Stop: 44579, Start Num: 36

Candidate Starts for Wile\_69:

(Start: 36 @44707 has 14 MA's), (Start: 38 @44701 has 259 MA's), (41, 44686), (42, 44680), (59, 44590),

Gene: WilliamBoone\_158 Start: 81466, Stop: 81308, Start Num: 38

Candidate Starts for WilliamBoone\_158:

(Start: 38 @81466 has 259 MA's), (41, 81451),

Gene: Wizard007\_70 Start: 44427, Stop: 44305, Start Num: 38

Candidate Starts for Wizard007\_70:

(Start: 36 @44433 has 14 MA's), (Start: 38 @44427 has 259 MA's), (41, 44412), (42, 44406), (59, 44316),

Gene: Xena\_69 Start: 44688, Stop: 44566, Start Num: 38

Candidate Starts for Xena\_69:

(11, 44814), (12, 44808), (14, 44802), (27, 44742), (Start: 36 @44694 has 14 MA's), (Start: 38 @44688 has 259 MA's), (41, 44673), (59, 44577),

Gene: XianYue\_72 Start: 45602, Stop: 45423, Start Num: 38

Candidate Starts for XianYue\_72:

(Start: 38 @45602 has 259 MA's), (46, 45545), (64, 45455), (69, 45443), (74, 45428),

Gene: Yecey3\_80 Start: 45152, Stop: 44967, Start Num: 38

Candidate Starts for Yecey3\_80:

(21, 45221), (Start: 38 @45152 has 259 MA's), (58, 45047), (73, 44981),

Gene: YoSam321\_71 Start: 44511, Stop: 44377, Start Num: 36

Candidate Starts for YoSam321\_71:

(3, 44739), (13, 44613), (16, 44604), (Start: 36 @44511 has 14 MA's), (Start: 38 @44505 has 259 MA's), (41, 44490), (42, 44484), (54, 44424),

Gene: Zimmer\_75 Start: 46180, Stop: 46019, Start Num: 38

Candidate Starts for Zimmer\_75:

(Start: 38 @46180 has 259 MA's), (46, 46123),