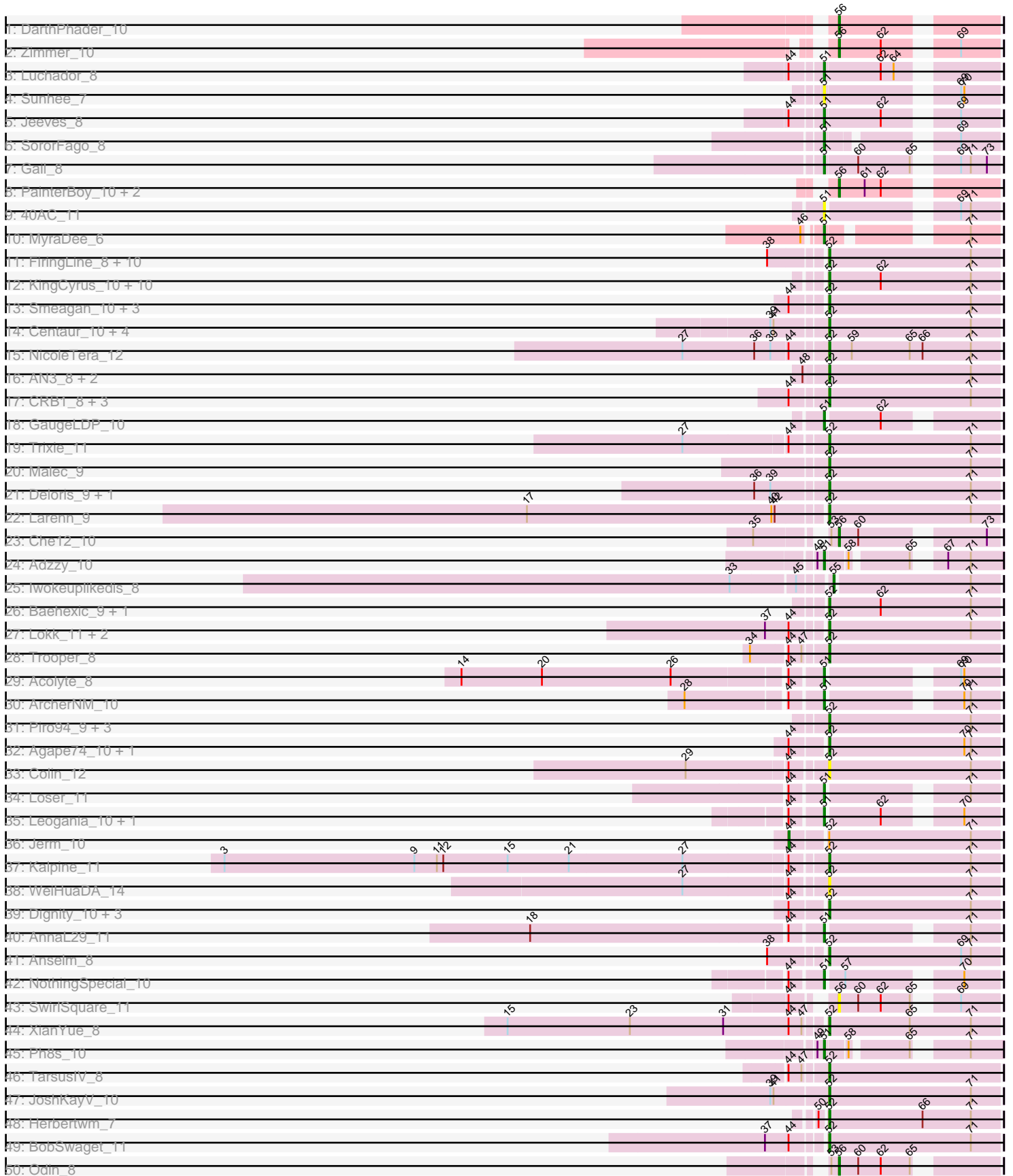
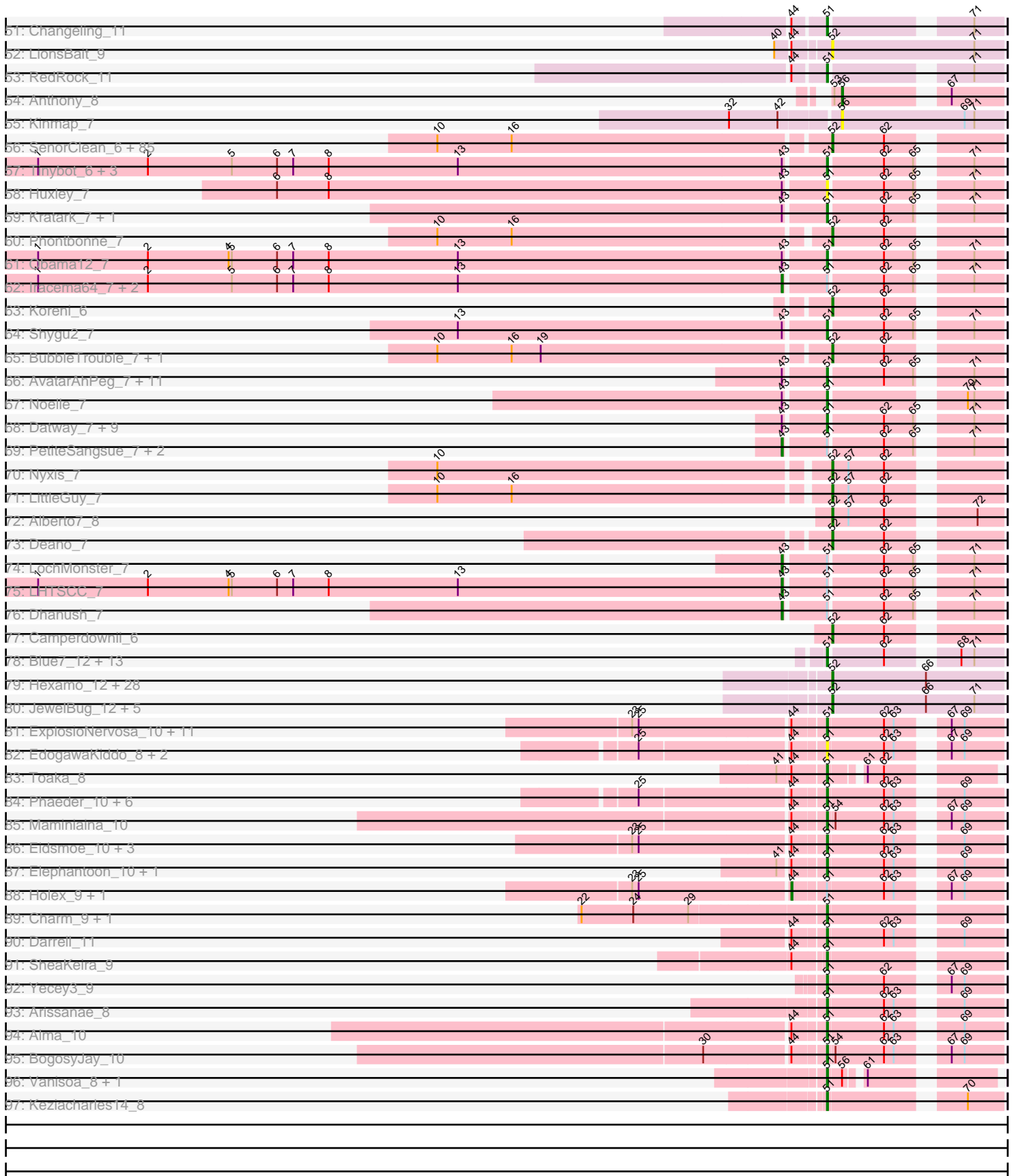


Pham 215742





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 215742 Report

This analysis was run 02/22/25 on database version 588.

Pham number 215742 has 329 members, 34 are drafts.

Phages represented in each track:

- Track 1 : DarthPhader\_10
- Track 2 : Zimmer\_10
- Track 3 : Luchador\_8
- Track 4 : Sunhee\_7
- Track 5 : Jeeves\_8
- Track 6 : SororFago\_8
- Track 7 : Gail\_8
- Track 8 : PainterBoy\_10, Lucyedi\_10, EagleEye\_11
- Track 9 : 40AC\_11
- Track 10 : MyraDee\_6
- Track 11 : FiringLine\_8, SnapTap\_8, Dalmatian\_8, Georgie2\_8, Retro23\_8, Crucio\_8, SweetiePie\_8, Echild\_8, Power\_8, Benvolio\_8, QueenBeesly\_8
- Track 12 : KingCyrus\_10, Fameo\_8, NaSiaTalie\_8, Flare16\_8, ChipMunk\_10, EvilGenius\_10, MiculUcigas\_8, Heffalump\_10, DudeLittle\_8, QueenB2\_8, Sknot\_9
- Track 13 : Smeagan\_10, Bugsy\_10, EZMoney23\_12, Leviathan\_10
- Track 14 : Centaur\_10, Equemioh13\_10, Gratitude\_9, Updawg\_10, WideWale\_10
- Track 15 : NicoleTera\_12
- Track 16 : AN3\_8, VA6\_8, LadyBird\_8
- Track 17 : CRB1\_8, 20ES\_8, SemperFi\_10, First\_008
- Track 18 : GaugeLDP\_10
- Track 19 : Trixie\_11
- Track 20 : Malec\_9
- Track 21 : Deloris\_9, BengiVuitton\_9
- Track 22 : Larenn\_9
- Track 23 : Che12\_10
- Track 24 : Adzzy\_10
- Track 25 : Iwokeuplikedis\_8
- Track 26 : Baehexic\_9, BabyBack\_10
- Track 27 : Lokk\_11, Rachaly\_11, Miko\_11
- Track 28 : Trooper\_8
- Track 29 : Acolyte\_8
- Track 30 : ArcherNM\_10
- Track 31 : Piro94\_9, Drake55\_10, HarryHoudini\_10, Terrific\_12
- Track 32 : Agape74\_10, AbbyPaige\_10
- Track 33 : Colin\_12
- Track 34 : Loser\_11
- Track 35 : Leogania\_10, BiancaTri92\_10

- Track 36 : Jerm\_10
- Track 37 : Kalpine\_11
- Track 38 : WeiHuaDA\_14
- Track 39 : Dignity\_10, Whabigail7\_10, Turbido\_10, LiITurb\_10
- Track 40 : AnnaL29\_11
- Track 41 : Anselm\_8
- Track 42 : NothingSpecial\_10
- Track 43 : SwirlSquare\_11
- Track 44 : XianYue\_8
- Track 45 : Ph8s\_10
- Track 46 : TarsusIV\_8
- Track 47 : JoshKayV\_10
- Track 48 : Herbertwm\_7
- Track 49 : BobSwaget\_11
- Track 50 : Odin\_8
- Track 51 : Changeling\_11
- Track 52 : LionsBait\_9
- Track 53 : RedRock\_11
- Track 54 : Anthony\_8
- Track 55 : Kinmap\_7
- Track 56 : SenorClean\_6, Blackmoor\_7, ICleared\_7, PeterPeter\_7, Mayonnaise\_7, Avle17\_7, Morrow\_7, HamSlice\_6, TiroTheta9\_7, Bombshell\_7, Polymorphads\_7, Kamy\_7, Medusa\_7, Palestino\_7, Melvin\_7, Wizard007\_7, Funston\_7, Citius\_7, Lorenzo\_7, LeoAvram\_7, Baby16\_7, Eurydice\_7, TroyPia\_7, MeeZee\_7, Koan\_6, OKaNui\_7, Sabertooth\_7, Lunsford\_8, Peaches\_7, Jaykayelowell\_7, KFPoly\_7, Millski\_7, Commander\_7, Happiness\_7, Clarenza\_7, CentreCat\_7, JetBlade\_7, Eagle\_6, Lemur\_7, Romney\_7, Nebs\_7, Eris\_7, Pipcraft\_7, Florean\_7, Iceman\_7, Connomayer\_7, Shaka\_7, Skipitt\_7, TinaFeyge\_7, Sparxx\_7, Ohfah\_7, Bartimeaus\_7, TygerBlood\_7, Wilbur\_7, Relief\_7, Albee\_7, Chaph\_7, Ruin\_7, Taquarus\_7, LittleB\_7, LappelDuVide\_7, Mazhar510\_7, Caelakin\_7, Phacado\_7, Roosevelt\_7, Nemo27\_7, Eros\_7, Broseidon\_7, Scamp\_7, Burger\_6, Maxo\_7, NorthStar\_7, BellusTerra\_7, Maverick\_7, Spino\_7, Annyong\_7, Phelipe\_7, YoSam321\_7, JoongJeon\_7, Eapen\_7, Abdiel\_7, Wander\_7, Druantia\_7, Bruiser\_7, Holli\_7, Kingmustik0402\_7
- Track 57 : Tinybot\_6, SheldonCooper\_7, Rosa24\_6, Cerulean\_7
- Track 58 : Huxley\_7
- Track 59 : Kratak\_7, Thanksgivukkah\_7
- Track 60 : Phontbonne\_7
- Track 61 : Obama12\_7
- Track 62 : Iracema64\_7, ChampagnePapi\_7, BangNhom\_6
- Track 63 : Koreni\_6
- Track 64 : Shygu2\_7
- Track 65 : BubbleTrouble\_7, Flux\_7
- Track 66 : AvatarAhPeg\_7, DirtyDunning\_7, Phighter1804\_7, NotAPhaseMom\_7, Cocoaberry\_7, Pumbaa\_7, Gadost\_7, Stink\_7, Miramae\_7, Mundrea\_7, Kye\_7, Houdini22\_7
- Track 67 : Noelle\_7
- Track 68 : Datway\_7, Katalie136\_7, Backyardigan\_7, Xena\_7, Cici\_7, Badger\_7, Wile\_7, Achebe\_7, AbbysRanger\_7, Bumblebee11\_7
- Track 69 : PetiteSangsue\_7, Morpher26\_7, Perplexer\_7
- Track 70 : Nyxis\_7
- Track 71 : LittleGuy\_7
- Track 72 : Alberto7\_8

- Track 73 : Deano\_7
- Track 74 : LochMonster\_7
- Track 75 : LHTSCC\_7
- Track 76 : Dhanush\_7
- Track 77 : Camperdownii\_6
- Track 78 : Blue7\_12, Hammer\_12, Gladiator\_12, Hoot\_12, BlessJoy\_12, Zaka\_12, Rifter\_12, Wiks\_12, CloudWang3\_12, Lilbunny\_12, Yokurt\_12, Zulu\_12, WunderPhul\_12, Gruunaga\_12
- Track 79 : Hexamo\_12, Cookiedough\_12, VohminGhazi\_12, BABullseye\_12, Tucker\_12, Dorothea\_12, McFly\_12, Priamo\_12, Koko\_12, Helmet\_13, SmellyB\_12, Roksolana\_12, Candra\_12, Jeffabunny\_12, Blinn1\_12, GreedyLawyer\_12, Polyphemus\_11, Garak\_13, Newrala\_12, Artemis2UCLA\_12, Chartreuse\_12, Pmask\_12, ToneTone\_11, Indra\_12, Temprado\_13, Kipper29\_12, DaVinci\_12, Jordennis\_12, Neeharika16\_12
- Track 80 : JewelBug\_12, Kazan\_12, SuperAwesome\_12, SuperCallie99\_12, Isiphiwo\_12, EricB\_12
- Track 81 : ExplosioNervosa\_10, Ugenie5\_7, Hanray\_9, Scherzo\_10, Onglai\_9, RyeScarlet\_11, Jiawan\_9, Phonnegut\_10, Pioneer\_10, EmyBug\_10, Beemo\_10, Fayely\_10
- Track 82 : EdogawaKiddo\_8, Lilleskat\_8, Sachima\_8
- Track 83 : Toaka\_8
- Track 84 : Phaeder\_10, Catalina\_10, HortumSL17\_10, Aliter\_10, PackMan\_10, Tubs\_10, Myxus\_10
- Track 85 : Maminiaina\_10
- Track 86 : Eidsmoe\_10, Spouty\_10, Conquerage\_10, Priya\_10
- Track 87 : Elephantoon\_10, LoneWolf\_10
- Track 88 : Halex\_9, Qobbit\_10
- Track 89 : Charm\_9, DreamTeam1\_9
- Track 90 : Darrell\_11
- Track 91 : SheaKeira\_9
- Track 92 : Yecey3\_9
- Track 93 : Arissanae\_8
- Track 94 : Alma\_10
- Track 95 : BogosyJay\_10
- Track 96 : Vanisoa\_8, Rahalelujah\_8
- Track 97 : Keziacharles14\_8

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

The start number called the most often in the published annotations is 52, it was called in 181 of the 295 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 20ES\_8, AN3\_8, AbbyPaige\_10, Abdiel\_7, Agape74\_10, Albee\_7, Alberto7\_8, Annyong\_7, Anselm\_8, Artemis2UCLA\_12, Avle17\_7, BABullseye\_12, Baby16\_7, BabyBack\_10, Baehexic\_9, Bartimeaus\_7, BellusTerra\_7, BengiVuitton\_9, Benvolio\_8, Blackmoor\_7, Blinn1\_12, BobSwaget\_11, Bombshell\_7, Broseidon\_7, Bruiser\_7, BubbleTrouble\_7, Buggy\_10, Burger\_6, CRB1\_8, Caelakin\_7, Camperdownii\_6, Candra\_12, Centaur\_10, CentreCat\_7, Chaph\_7, Chartreuse\_12, ChipMunk\_10, Citius\_7, Clarenza\_7, Colin\_12, Commander\_7, Connomayer\_7,

Cookiedough\_12, Crucio\_8, DaVinci\_12, Dalmatian\_8, Deano\_7, Deloris\_9, Dignity\_10, Dorothea\_12, Drake55\_10, Druantia\_7, DudeLittle\_8, EZMoney23\_12, Eagle\_6, Eapen\_7, Echid\_8, Equemioh13\_10, EricB\_12, Eris\_7, Eros\_7, Eurydice\_7, EvilGenius\_10, Fameo\_8, FiringLine\_8, First\_008, Flare16\_8, Florean\_7, Flux\_7, Funston\_7, Garak\_13, Georgie2\_8, Gratitude\_9, GreedyLawyer\_12, HamSlice\_6, Happiness\_7, HarryHoudini\_10, Heffalump\_10, Helmet\_13, Herbertwm\_7, Hexamo\_12, Holli\_7, ICleared\_7, Iceman\_7, Indra\_12, Isiphiwo\_12, Jaykayelowell\_7, Jeffabunny\_12, JetBlade\_7, JewelBug\_12, JoongJeon\_7, Jordennis\_12, JoshKayV\_10, KFPoly\_7, Kalpine\_11, Kampy\_7, Kazan\_12, KingCyrus\_10, Kingmustik0402\_7, Kipper29\_12, Koan\_6, Koko\_12, Koreni\_6, LadyBird\_8, LappelDuVide\_7, Larenn\_9, Lemur\_7, LeoAvram\_7, Leviathan\_10, LiITurb\_10, LionsBait\_9, LittleB\_7, LittleGuy\_7, Lokk\_11, Lorenzo\_7, Lunsford\_8, Malec\_9, Maverick\_7, Maxo\_7, Mayonnaise\_7, Mazhar510\_7, McFly\_12, Medusa\_7, MeeZee\_7, Melvin\_7, MiculUcigas\_8, Miko\_11, Millski\_7, Morrow\_7, NaSiaTalie\_8, Nebs\_7, Neeharika16\_12, Nemo27\_7, Newrala\_12, NicoleTera\_12, NorthStar\_7, Nyxis\_7, OKaNui\_7, Ohfah\_7, Palestino\_7, Peaches\_7, PeterPeter\_7, Phacado\_7, Phelipe\_7, Phontbonne\_7, Pipcraft\_7, Piro94\_9, Pmask\_12, Polymorphads\_7, Polyphemus\_11, Power\_8, Priamo\_12, QueenB2\_8, QueenBeesly\_8, Rachaly\_11, Relief\_7, Retro23\_8, Roksolana\_12, Romney\_7, Roosevelt\_7, Ruin\_7, Sabertooth\_7, Scamp\_7, SemperFi\_10, SenorClean\_6, Shaka\_7, Skipitt\_7, Sknot\_9, Smeagan\_10, SmellyB\_12, SnapTap\_8, Sparxx\_7, Spino\_7, SuperAwesome\_12, SuperCallie99\_12, SweetiePie\_8, Taquarus\_7, TarsusIV\_8, Temprado\_13, Terrific\_12, TinaFeyge\_7, TiroTheta9\_7, ToneTone\_11, Trixie\_11, Trooper\_8, TroyPia\_7, Tucker\_12, Turbido\_10, TygerBlood\_7, Updawg\_10, VA6\_8, VohminGhazi\_12, Wander\_7, WeiHuaDA\_14, Whabigail7\_10, WideWale\_10, Wilbur\_7, Wizard007\_7, XianYue\_8, YoSam321\_7,

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

- Jerm\_10,

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

- 40AC\_11, AbbysRanger\_7, Achebe\_7, Acolyte\_8, Adzzy\_10, Aliter\_10, Alma\_10, AnnaL29\_11, Anthony\_8, ArcherNM\_10, Arissanae\_8, AvatarAhPeg\_7, Backyardigan\_7, Badger\_7, BangNhom\_6, Beemo\_10, BiancaTri92\_10, BlessJoy\_12, Blue7\_12, BogosyJay\_10, Bumblebee11\_7, Catalina\_10, Cerulean\_7, ChampagnePapi\_7, Changeling\_11, Charm\_9, Che12\_10, Cici\_7, CloudWang3\_12, Cocoaberry\_7, Conquerage\_10, Darrell\_11, DarthPhader\_10, Datway\_7, Dhanush\_7, DirtyDunning\_7, DreamTeam1\_9, EagleEye\_11, EdogawaKiddo\_8, Eidsmoe\_10, Elephantoon\_10, EmyBug\_10, ExplosioNervosa\_10, Fayely\_10, Gadost\_7, Gail\_8, GaugeLDP\_10, Gladiator\_12, Gruunaga\_12, Hammer\_12, Hanray\_9, Horex\_9, Hoot\_12, HortumSL17\_10, Houdini22\_7, Huxley\_7, Iracema64\_7, Iwokeuplikedis\_8, Jeeves\_8, Jiawan\_9, Katalie136\_7, Keziacharles14\_8, Kinmap\_7, Kratak\_7, Kyee\_7, LHTSCC\_7, Leogania\_10, Lilbunny\_12, Lilleskat\_8, LochMonster\_7, LoneWolf\_10, Loser\_11, Luchador\_8, Lucyedi\_10, Maminiaina\_10, Miramae\_7, Morpher26\_7, Mundrea\_7, MyraDee\_6, Myxus\_10, Noelle\_7, NotAPhaseMom\_7, NothingSpecial\_10, Obama12\_7, Odin\_8, Onglai\_9, PackMan\_10, PainterBoy\_10, Perplexer\_7, PetiteSangsue\_7, Ph8s\_10, Phaeder\_10, Phighter1804\_7, Phonnegut\_10, Pioneer\_10, Priya\_10, Pumbaa\_7, Qobbit\_10, Rahalelujah\_8, RedRock\_11, Rifter\_12, Rosa24\_6, RyeScarlet\_11, Sachima\_8, Scherzo\_10, SheaKeira\_9, SheldonCooper\_7, Shygu2\_7, SororFago\_8, Spouty\_10, Stink\_7, Sunhee\_7, SwirlSquare\_11, Thanksgivukkah\_7, Tinybot\_6, Toaka\_8, Tubs\_10, Ugenie5\_7, Vanisoa\_8, Wiks\_12, Wile\_7, WunderPhul\_12, Xena\_7, Yecey3\_9, Yokurt\_12, Zaka\_12, Zimmer\_10, Zulu\_12,

## Summary by start number:

### Start 43:

- Found in 41 of 329 ( 12.5% ) of genes in pham
- Manual Annotations of this start: 9 of 295
- Called 22.0% of time when present
- Phage (with cluster) where this start called: BangNhom\_6 (A4), ChampagnePapi\_7 (A4), Dhanush\_7 (A4), Iracema64\_7 (A4), LHTSCC\_7 (A4), LochMonster\_7 (A4), Morpher26\_7 (A4), Perplexer\_7 (A4), PetiteSangsue\_7 (A4),

### Start 44:

- Found in 76 of 329 ( 23.1% ) of genes in pham
- Manual Annotations of this start: 2 of 295
- Called 3.9% of time when present
- Phage (with cluster) where this start called: Horex\_9 (A9), Jerm\_10 (A2), Qobbit\_10 (A9),

### Start 51:

- Found in 117 of 329 ( 35.6% ) of genes in pham
- Manual Annotations of this start: 94 of 295
- Called 90.6% of time when present
- Phage (with cluster) where this start called: 40AC\_11 (A17), AbbysRanger\_7 (A4), Achebe\_7 (A4), Acolyte\_8 (A2), Adzzy\_10 (A2), Aliter\_10 (A9), Alma\_10 (A9), AnnaL29\_11 (A2), ArcherNM\_10 (A2), Arissanae\_8 (A9), AvatarAhPeg\_7 (A4), Backyardigan\_7 (A4), Badger\_7 (A4), Beemo\_10 (A9), BiancaTri92\_10 (A2), BlessJoy\_12 (A6), Blue7\_12 (A6), BogosyJay\_10 (A9), Bumblebee11\_7 (A4), Catalina\_10 (A9), Cerulean\_7 (A4), Changeling\_11 (A2), Charm\_9 (A9), Cici\_7 (A4), CloudWang3\_12 (A6), Cocoaberry\_7 (A4), Conquerage\_10 (A9), Darrell\_11 (A9), Datway\_7 (A4), DirtyDunning\_7 (A4), DreamTeam1\_9 (A9), EdogawaKiddo\_8 (A9), Eidsmoe\_10 (A9), Elephantoon\_10 (A9), EmyBug\_10 (A9), ExplosioNervosa\_10 (A9), Fayely\_10 (A9), Gadost\_7 (A4), Gail\_8 (A14), GaugeLDP\_10 (A2), Gladiator\_12 (A6), Gruunaga\_12 (A6), Hammer\_12 (A6), Hanray\_9 (A9), Hoot\_12 (A6), HortumSL17\_10 (A9), Houdini22\_7 (A4), Huxley\_7 (A4), Jeeves\_8 (A14), Jiawan\_9 (A9), Katalie136\_7 (A4), Keziacharles14\_8 (A9), Kratark\_7 (A4), Kyee\_7 (A4), Leogania\_10 (A2), Lilbunny\_12 (A6), Lilleskat\_8 (A9), LoneWolf\_10 (A9), Loser\_11 (A2), Luchador\_8 (A14), Maminiaina\_10 (A9), Miramae\_7 (A4), Mundrea\_7 (A4), MyraDee\_6 (A18), Myxus\_10 (A9), Noelle\_7 (A4), NotAPhaseMom\_7 (A4), NothingSpecial\_10 (A2), Obama12\_7 (A4), Onglai\_9 (A9), PackMan\_10 (A9), Ph8s\_10 (A2), Phaeder\_10 (A9), Phighter1804\_7 (A4), Phonnegut\_10 (A9), Pioneer\_10 (A9), Priya\_10 (A9), Pumbaa\_7 (A4), Rahalelujah\_8 (A9), RedRock\_11 (A2), Rifter\_12 (A6), Rosa24\_6 (A4), RyeScarlet\_11 (A9), Sachima\_8 (A9), Scherzo\_10 (A9), SheaKeira\_9 (A9), SheldonCooper\_7 (A4), Shygu2\_7 (A4), SororFago\_8 (A14), Spouty\_10 (A9), Stink\_7 (A4), Sunhee\_7 (A14), Thanksgivukkah\_7 (A4), Tinybot\_6 (A4), Toaka\_8 (A9), Tubs\_10 (A9), Ugenie5\_7 (A9), Vanisoa\_8 (A9), Wiks\_12 (A6), Wile\_7 (A4), WunderPhul\_12 (A6), Xena\_7 (A4), Yecey3\_9 (A9), Yokurt\_12 (A6), Zaka\_12 (A6), Zulu\_12 (A6),

### Start 52:

- Found in 201 of 329 ( 61.1% ) of genes in pham
- Manual Annotations of this start: 181 of 295
- Called 99.5% of time when present

- Phage (with cluster) where this start called: 20ES\_8 (A2), AN3\_8 (A2), AbbyPaige\_10 (A2), Abdiel\_7 (A4), Agape74\_10 (A2), Albee\_7 (A4), Alberto7\_8 (A4), Annyong\_7 (A4), Anselm\_8 (A2), Artemis2UCLA\_12 (A6), Avle17\_7 (A4), BABullseye\_12 (A6), Baby16\_7 (A4), BabyBack\_10 (A2), Baehexic\_9 (A2), Bartimeaus\_7 (A4), BellusTerra\_7 (A4), BengiVuitton\_9 (A2), Benvolio\_8 (A2), Blackmoor\_7 (A4), Blinn1\_12 (A6), BobSwaget\_11 (A2), Bombshell\_7 (A4), Broseidon\_7 (A4), Bruiser\_7 (A4), BubbleTrouble\_7 (A4), Buggy\_10 (A2), Burger\_6 (A4), CRB1\_8 (A2), Caelakin\_7 (A4), Camperdownii\_6 (A4), Candra\_12 (A6), Centaur\_10 (A2), CentreCat\_7 (A4), Chaph\_7 (A4), Chartreuse\_12 (A6), ChipMunk\_10 (A2), Citius\_7 (A4), Clarenza\_7 (A4), Colin\_12 (A2), Commander\_7 (A4), Connomayer\_7 (A4), Cookiedough\_12 (A6), Crucio\_8 (A2), DaVinci\_12 (A6), Dalmatian\_8 (A2), Deano\_7 (A4), Deloris\_9 (A2), Dignity\_10 (A2), Dorothea\_12 (A6), Drake55\_10 (A2), Druantia\_7 (A4), DudeLittle\_8 (A2), EZMoney23\_12 (A2), Eagle\_6 (A4), Eapen\_7 (A4), Echild\_8 (A2), Equemioh13\_10 (A2), EricB\_12 (A6), Eris\_7 (A4), Eros\_7 (A4), Eurydice\_7 (A4), EvilGenius\_10 (A2), Fameo\_8 (A2), FiringLine\_8 (A2), First\_008 (A2), Flare16\_8 (A2), Florean\_7 (A4), Flux\_7 (A4), Funston\_7 (A4), Garak\_13 (A6), Georgie2\_8 (A2), Gratitude\_9 (A2), GreedyLawyer\_12 (A6), HamSlice\_6 (A4), Happiness\_7 (A4), HarryHoudini\_10 (A2), Heffalump\_10 (A2), Helmet\_13 (A6), Herbertwm\_7 (A2), Hexamo\_12 (A6), Holli\_7 (A4), ICleared\_7 (A4), Iceman\_7 (A4), Indra\_12 (A6), Isiphiwo\_12 (A6), Jaykayelowell\_7 (A4), Jeffabunny\_12 (A6), JetBlade\_7 (A4), JewelBug\_12 (A6), JoongJeon\_7 (A4), Jordennis\_12 (A6), JoshKayV\_10 (A2), KFPoly\_7 (A4), Kalpine\_11 (A2), Kampy\_7 (A4), Kazan\_12 (A6), KingCyrus\_10 (A2), Kingmustik0402\_7 (A4), Kipper29\_12 (A6), Koan\_6 (A4), Koko\_12 (A6), Koreni\_6 (A4), LadyBird\_8 (A2), LappelDuVide\_7 (A4), Larenn\_9 (A2), Lemur\_7 (A4), LeoAvram\_7 (A4), Leviathan\_10 (A2), LilTurb\_10 (A2), LionsBait\_9 (A2), LittleB\_7 (A4), LittleGuy\_7 (A4), Lökk\_11 (A2), Lorenzo\_7 (A4), Lunsford\_8 (A4), Malec\_9 (A2), Maverick\_7 (A4), Maxo\_7 (A4), Mayonnaise\_7 (A4), Mazhar510\_7 (A4), McFly\_12 (A6), Medusa\_7 (A4), MeeZee\_7 (A4), Melvin\_7 (A4), MiculUcigas\_8 (A2), Miko\_11 (A2), Millski\_7 (A4), Morrow\_7 (A4), NaSiaTalie\_8 (A2), Nebs\_7 (A4), Neeharika16\_12 (A6), Nemo27\_7 (A4), Newrala\_12 (A6), NicoleTera\_12 (A2), NorthStar\_7 (A4), Nyxis\_7 (A4), OKaNui\_7 (A4), Ohfah\_7 (A4), Palestino\_7 (A4), Peaches\_7 (A4), PeterPeter\_7 (A4), Phacado\_7 (A4), Phelipe\_7 (A4), Phontbonne\_7 (A4), Pipcraft\_7 (A4), Piro94\_9 (A2), Pmask\_12 (A6), Polymorphads\_7 (A4), Polyphemus\_11 (A6), Power\_8 (A2), Priamo\_12 (A6), QueenB2\_8 (A2), QueenBeesly\_8 (A2), Rachaly\_11 (A2), Relief\_7 (A4), Retro23\_8 (A2), Roksolana\_12 (A6), Romney\_7 (A4), Roosevelt\_7 (A4), Ruin\_7 (A4), Sabertooth\_7 (A4), Scamp\_7 (A4), SemperFi\_10 (A2), SenorClean\_6 (A4), Shaka\_7 (A4), Skipitt\_7 (A4), Sknot\_9 (A2), Smeagan\_10 (A2), SmellyB\_12 (A6), SnapTap\_8 (A2), Sparxx\_7 (A4), Spino\_7 (A4), SuperAwesome\_12 (A6), SuperCallie99\_12 (A6), SweetiePie\_8 (A2), Taquarus\_7 (A4), TarsusIV\_8 (A2), Temprado\_13 (A6), Terrific\_12 (A2), TinaFeyge\_7 (A4), TiroTheta9\_7 (A4), ToneTone\_11 (A6), Trixie\_11 (A2), Trooper\_8 (A2), TroyPia\_7 (A4), Tucker\_12 (A6), Turbido\_10 (A2), TygerBlood\_7 (A4), Updawg\_10 (A2), VA6\_8 (A2), VohminGhazi\_12 (A6), Wander\_7 (A4), WeiHuaDA\_14 (A2), Whabigail7\_10 (A2), WideWale\_10 (A2), Wilbur\_7 (A4), Wizard007\_7 (A4), XianYue\_8 (A2), YoSam321\_7 (A4),

Start 55:

- Found in 1 of 329 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 295
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Iwokeuplikedis\_8 (A2),

Start 56:



- Found in 12 of 329 ( 3.6% ) of genes in pham
- Manual Annotations of this start: 8 of 295
- Called 83.3% of time when present
- Phage (with cluster) where this start called: Anthony\_8 (A20), Che12\_10 (A2), DarthPhader\_10 (A12), EagleEye\_11 (A16), Kinmap\_7 (A21), Lucyedi\_10 (A16), Odin\_8 (A2), PainterBoy\_10 (A16), SwirlSquare\_11 (A2), Zimmer\_10 (A12),

### **Summary by clusters:**

There are 11 clusters represented in this pham: A20, A14, A17, A16, A12, A18, A21, A2, A4, A6, A9,

Info for manual annotations of cluster A12:

- Start number 56 was manually annotated 2 times for cluster A12.

Info for manual annotations of cluster A14:

- Start number 51 was manually annotated 4 times for cluster A14.

Info for manual annotations of cluster A16:

- Start number 56 was manually annotated 3 times for cluster A16.

Info for manual annotations of cluster A18:

- Start number 51 was manually annotated 1 time for cluster A18.

Info for manual annotations of cluster A2:

- Start number 44 was manually annotated 1 time for cluster A2.
- Start number 51 was manually annotated 12 times for cluster A2.
- Start number 52 was manually annotated 60 times for cluster A2.
- Start number 55 was manually annotated 1 time for cluster A2.
- Start number 56 was manually annotated 2 times for cluster A2.

Info for manual annotations of cluster A20:

- Start number 56 was manually annotated 1 time for cluster A20.

Info for manual annotations of cluster A4:

- Start number 43 was manually annotated 9 times for cluster A4.
- Start number 51 was manually annotated 30 times for cluster A4.
- Start number 52 was manually annotated 92 times for cluster A4.

Info for manual annotations of cluster A6:

- Start number 51 was manually annotated 13 times for cluster A6.
- Start number 52 was manually annotated 29 times for cluster A6.

Info for manual annotations of cluster A9:

- Start number 44 was manually annotated 1 time for cluster A9.
- Start number 51 was manually annotated 34 times for cluster A9.

### **Gene Information:**

Gene: 20ES\_8 Start: 4532, Stop: 4690, Start Num: 52  
Candidate Starts for 20ES\_8:  
(Start: 44 @4505 has 2 MA's), (Start: 52 @4532 has 181 MA's), (71, 4664),

Gene: 40AC\_11 Start: 6438, Stop: 6575, Start Num: 51  
Candidate Starts for 40AC\_11:  
(Start: 51 @6438 has 94 MA's), (69, 6540), (71, 6549),

Gene: AN3\_8 Start: 4514, Stop: 4672, Start Num: 52  
Candidate Starts for AN3\_8:  
(48, 4499), (Start: 52 @4514 has 181 MA's), (71, 4646),

Gene: AbbyPaige\_10 Start: 4959, Stop: 5117, Start Num: 52  
Candidate Starts for AbbyPaige\_10:  
(Start: 44 @4929 has 2 MA's), (Start: 52 @4959 has 181 MA's), (70, 5085), (71, 5091),

Gene: AbbysRanger\_7 Start: 3799, Stop: 3936, Start Num: 51  
Candidate Starts for AbbysRanger\_7:  
(Start: 43 @3763 has 9 MA's), (Start: 51 @3799 has 94 MA's), (62, 3847), (65, 3874), (71, 3910),

Gene: Abdiel\_7 Start: 3784, Stop: 3921, Start Num: 52  
Candidate Starts for Abdiel\_7:  
(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Achebe\_7 Start: 3799, Stop: 3936, Start Num: 51  
Candidate Starts for Achebe\_7:  
(Start: 43 @3763 has 9 MA's), (Start: 51 @3799 has 94 MA's), (62, 3847), (65, 3874), (71, 3910),

Gene: Acolyte\_8 Start: 4492, Stop: 4629, Start Num: 51  
Candidate Starts for Acolyte\_8:  
(14, 4171), (20, 4246), (26, 4366), (Start: 44 @4465 has 2 MA's), (Start: 51 @4492 has 94 MA's), (69, 4594), (70, 4597),

Gene: Adzzy\_10 Start: 4342, Stop: 4473, Start Num: 51  
Candidate Starts for Adzzy\_10:  
(49, 4336), (Start: 51 @4342 has 94 MA's), (58, 4360), (65, 4408), (67, 4423), (71, 4444),

Gene: Agape74\_10 Start: 4959, Stop: 5117, Start Num: 52  
Candidate Starts for Agape74\_10:  
(Start: 44 @4929 has 2 MA's), (Start: 52 @4959 has 181 MA's), (70, 5085), (71, 5091),

Gene: Albee\_7 Start: 3784, Stop: 3921, Start Num: 52  
Candidate Starts for Albee\_7:  
(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Alberto7\_8 Start: 4086, Stop: 4223, Start Num: 52  
Candidate Starts for Alberto7\_8:  
(Start: 52 @4086 has 181 MA's), (57, 4101), (62, 4134), (72, 4200),

Gene: Aliter\_10 Start: 5934, Stop: 6074, Start Num: 51  
Candidate Starts for Aliter\_10:  
(25, 5775), (Start: 44 @5907 has 2 MA's), (Start: 51 @5934 has 94 MA's), (62, 5985), (63, 5994), (69, 6039),

Gene: Alma\_10 Start: 6013, Stop: 6153, Start Num: 51  
Candidate Starts for Alma\_10:  
(Start: 44 @5986 has 2 MA's), (Start: 51 @6013 has 94 MA's), (62, 6064), (63, 6073), (69, 6118),

Gene: AnnaL29\_11 Start: 6279, Stop: 6416, Start Num: 51  
Candidate Starts for AnnaL29\_11:  
(18, 6018), (Start: 44 @6252 has 2 MA's), (Start: 51 @6279 has 94 MA's), (71, 6390),

Gene: Annyong\_7 Start: 3785, Stop: 3922, Start Num: 52  
Candidate Starts for Annyong\_7:  
(10, 3434), (16, 3503), (Start: 52 @3785 has 181 MA's), (62, 3833),

Gene: Anselm\_8 Start: 4647, Stop: 4805, Start Num: 52  
Candidate Starts for Anselm\_8:  
(38, 4602), (Start: 52 @4647 has 181 MA's), (69, 4770), (71, 4779),

Gene: Anthony\_8 Start: 3757, Stop: 3885, Start Num: 56  
Candidate Starts for Anthony\_8:  
(53, 3751), (Start: 56 @3757 has 8 MA's), (67, 3838),

Gene: ArcherNM\_10 Start: 6376, Stop: 6513, Start Num: 51  
Candidate Starts for ArcherNM\_10:  
(28, 6262), (Start: 44 @6349 has 2 MA's), (Start: 51 @6376 has 94 MA's), (70, 6481), (71, 6487),

Gene: Arissanae\_8 Start: 4165, Stop: 4305, Start Num: 51  
Candidate Starts for Arissanae\_8:  
(Start: 51 @4165 has 94 MA's), (62, 4216), (63, 4225), (69, 4270),

Gene: Artemis2UCLA\_12 Start: 5579, Stop: 5737, Start Num: 52  
Candidate Starts for Artemis2UCLA\_12:  
(Start: 52 @5579 has 181 MA's), (66, 5666),

Gene: AvatarAhPeg\_7 Start: 3787, Stop: 3924, Start Num: 51  
Candidate Starts for AvatarAhPeg\_7:  
(Start: 43 @3751 has 9 MA's), (Start: 51 @3787 has 94 MA's), (62, 3835), (65, 3862), (71, 3898),

Gene: Avle17\_7 Start: 3784, Stop: 3921, Start Num: 52  
Candidate Starts for Avle17\_7:  
(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: BABullseye\_12 Start: 5696, Stop: 5854, Start Num: 52  
Candidate Starts for BABullseye\_12:  
(Start: 52 @5696 has 181 MA's), (66, 5783),

Gene: Baby16\_7 Start: 3793, Stop: 3930, Start Num: 52  
Candidate Starts for Baby16\_7:  
(10, 3442), (16, 3511), (Start: 52 @3793 has 181 MA's), (62, 3841),

Gene: BabyBack\_10 Start: 6002, Stop: 6139, Start Num: 52  
Candidate Starts for BabyBack\_10:  
(Start: 52 @6002 has 181 MA's), (62, 6050), (71, 6113),

Gene: Backyardigan\_7 Start: 3799, Stop: 3936, Start Num: 51  
Candidate Starts for Backyardigan\_7:  
(Start: 43 @3763 has 9 MA's), (Start: 51 @3799 has 94 MA's), (62, 3847), (65, 3874), (71, 3910),

Gene: Badger\_7 Start: 3800, Stop: 3937, Start Num: 51  
Candidate Starts for Badger\_7:  
(Start: 43 @3764 has 9 MA's), (Start: 51 @3800 has 94 MA's), (62, 3848), (65, 3875), (71, 3911),

Gene: Baehexic\_9 Start: 5051, Stop: 5209, Start Num: 52  
Candidate Starts for Baehexic\_9:  
(Start: 52 @5051 has 181 MA's), (62, 5099), (71, 5183),

Gene: BangNhom\_6 Start: 3755, Stop: 3928, Start Num: 43  
Candidate Starts for BangNhom\_6:  
(1, 3065), (2, 3167), (5, 3245), (6, 3287), (7, 3302), (8, 3335), (13, 3455), (Start: 43 @3755 has 9 MA's), (Start: 51 @3791 has 94 MA's), (62, 3839), (65, 3866), (71, 3902),

Gene: Bartimeaus\_7 Start: 3784, Stop: 3921, Start Num: 52  
Candidate Starts for Bartimeaus\_7:  
(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Beemo\_10 Start: 6040, Stop: 6180, Start Num: 51  
Candidate Starts for Beemo\_10:  
(23, 5872), (25, 5878), (Start: 44 @6013 has 2 MA's), (Start: 51 @6040 has 94 MA's), (62, 6091), (63, 6100), (67, 6133), (69, 6145),

Gene: BellusTerra\_7 Start: 3784, Stop: 3921, Start Num: 52  
Candidate Starts for BellusTerra\_7:  
(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: BengiVuitton\_9 Start: 4975, Stop: 5133, Start Num: 52  
Candidate Starts for BengiVuitton\_9:  
(36, 4918), (39, 4933), (Start: 52 @4975 has 181 MA's), (71, 5107),

Gene: Benvolio\_8 Start: 4639, Stop: 4797, Start Num: 52  
Candidate Starts for Benvolio\_8:  
(38, 4594), (Start: 52 @4639 has 181 MA's), (71, 4771),

Gene: BiancaTri92\_10 Start: 6131, Stop: 6268, Start Num: 51  
Candidate Starts for BiancaTri92\_10:  
(Start: 44 @6104 has 2 MA's), (Start: 51 @6131 has 94 MA's), (62, 6179), (70, 6236),

Gene: Blackmoor\_7 Start: 3784, Stop: 3921, Start Num: 52  
Candidate Starts for Blackmoor\_7:  
(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: BlessJoy\_12 Start: 5695, Stop: 5832, Start Num: 51  
Candidate Starts for BlessJoy\_12:  
(Start: 51 @5695 has 94 MA's), (62, 5743), (68, 5794), (71, 5806),

Gene: Blinn1\_12 Start: 5729, Stop: 5887, Start Num: 52  
Candidate Starts for Blinn1\_12:  
(Start: 52 @5729 has 181 MA's), (66, 5816),

Gene: Blue7\_12 Start: 5688, Stop: 5825, Start Num: 51  
Candidate Starts for Blue7\_12:  
(Start: 51 @5688 has 94 MA's), (62, 5736), (68, 5787), (71, 5799),

Gene: BobSwaget\_11 Start: 6254, Stop: 6412, Start Num: 52  
Candidate Starts for BobSwaget\_11:  
(37, 6206), (Start: 44 @6227 has 2 MA's), (Start: 52 @6254 has 181 MA's), (71, 6386),

Gene: BogosyJay\_10 Start: 5797, Stop: 5937, Start Num: 51  
Candidate Starts for BogosyJay\_10:  
(30, 5695), (Start: 44 @5770 has 2 MA's), (Start: 51 @5797 has 94 MA's), (54, 5803), (62, 5848), (63, 5857), (67, 5890), (69, 5902),

Gene: Bombshell\_7 Start: 3784, Stop: 3921, Start Num: 52  
Candidate Starts for Bombshell\_7:  
(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Broseidon\_7 Start: 3784, Stop: 3921, Start Num: 52  
Candidate Starts for Broseidon\_7:  
(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Bruiser\_7 Start: 3784, Stop: 3921, Start Num: 52  
Candidate Starts for Bruiser\_7:  
(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: BubbleTrouble\_7 Start: 3784, Stop: 3921, Start Num: 52  
Candidate Starts for BubbleTrouble\_7:  
(10, 3433), (16, 3502), (19, 3529), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Buggy\_10 Start: 4958, Stop: 5116, Start Num: 52  
Candidate Starts for Buggy\_10:  
(Start: 44 @4931 has 2 MA's), (Start: 52 @4958 has 181 MA's), (71, 5090),

Gene: Bumblebee11\_7 Start: 3799, Stop: 3936, Start Num: 51  
Candidate Starts for Bumblebee11\_7:  
(Start: 43 @3763 has 9 MA's), (Start: 51 @3799 has 94 MA's), (62, 3847), (65, 3874), (71, 3910),

Gene: Burger\_6 Start: 3784, Stop: 3921, Start Num: 52  
Candidate Starts for Burger\_6:  
(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: CRB1\_8 Start: 4521, Stop: 4679, Start Num: 52  
Candidate Starts for CRB1\_8:  
(Start: 44 @4494 has 2 MA's), (Start: 52 @4521 has 181 MA's), (71, 4653),

Gene: Caelakin\_7 Start: 3784, Stop: 3921, Start Num: 52  
Candidate Starts for Caelakin\_7:  
(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Camperdownii\_6 Start: 3437, Stop: 3574, Start Num: 52  
Candidate Starts for Camperdownii\_6:  
(Start: 52 @3437 has 181 MA's), (62, 3485),

Gene: Candra\_12 Start: 5729, Stop: 5887, Start Num: 52

Candidate Starts for Candra\_12:

(Start: 52 @5729 has 181 MA's), (66, 5816),

Gene: Catalina\_10 Start: 6007, Stop: 6147, Start Num: 51

Candidate Starts for Catalina\_10:

(25, 5848), (Start: 44 @5980 has 2 MA's), (Start: 51 @6007 has 94 MA's), (62, 6058), (63, 6067), (69, 6112),

Gene: Centaur\_10 Start: 5030, Stop: 5188, Start Num: 52

Candidate Starts for Centaur\_10:

(39, 4988), (41, 4991), (Start: 52 @5030 has 181 MA's), (71, 5162),

Gene: CentreCat\_7 Start: 3785, Stop: 3922, Start Num: 52

Candidate Starts for CentreCat\_7:

(10, 3434), (16, 3503), (Start: 52 @3785 has 181 MA's), (62, 3833),

Gene: Cerulean\_7 Start: 3792, Stop: 3929, Start Num: 51

Candidate Starts for Cerulean\_7:

(1, 3066), (2, 3168), (5, 3246), (6, 3288), (7, 3303), (8, 3336), (13, 3456), (Start: 43 @3756 has 9 MA's), (Start: 51 @3792 has 94 MA's), (62, 3840), (65, 3867), (71, 3903),

Gene: ChampagnePapi\_7 Start: 3755, Stop: 3928, Start Num: 43

Candidate Starts for ChampagnePapi\_7:

(1, 3065), (2, 3167), (5, 3245), (6, 3287), (7, 3302), (8, 3335), (13, 3455), (Start: 43 @3755 has 9 MA's), (Start: 51 @3791 has 94 MA's), (62, 3839), (65, 3866), (71, 3902),

Gene: Changeling\_11 Start: 6288, Stop: 6425, Start Num: 51

Candidate Starts for Changeling\_11:

(Start: 44 @6261 has 2 MA's), (Start: 51 @6288 has 94 MA's), (71, 6399),

Gene: Chaph\_7 Start: 3793, Stop: 3930, Start Num: 52

Candidate Starts for Chaph\_7:

(10, 3442), (16, 3511), (Start: 52 @3793 has 181 MA's), (62, 3841),

Gene: Charm\_9 Start: 4220, Stop: 4360, Start Num: 51

Candidate Starts for Charm\_9:

(22, 4004), (24, 4052), (29, 4103), (Start: 51 @4220 has 94 MA's),

Gene: Chartreuse\_12 Start: 5643, Stop: 5801, Start Num: 52

Candidate Starts for Chartreuse\_12:

(Start: 52 @5643 has 181 MA's), (66, 5730),

Gene: Che12\_10 Start: 4345, Stop: 4473, Start Num: 56

Candidate Starts for Che12\_10:

(35, 4288), (53, 4339), (Start: 56 @4345 has 8 MA's), (60, 4363), (73, 4462),

Gene: ChipMunk\_10 Start: 4908, Stop: 5066, Start Num: 52

Candidate Starts for ChipMunk\_10:

(Start: 52 @4908 has 181 MA's), (62, 4956), (71, 5040),

Gene: Cici\_7 Start: 3799, Stop: 3936, Start Num: 51

Candidate Starts for Cici\_7:  
(Start: 43 @3763 has 9 MA's), (Start: 51 @3799 has 94 MA's), (62, 3847), (65, 3874), (71, 3910),

Gene: Citius\_7 Start: 3784, Stop: 3921, Start Num: 52  
Candidate Starts for Citius\_7:  
(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Clarenza\_7 Start: 3784, Stop: 3921, Start Num: 52  
Candidate Starts for Clarenza\_7:  
(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: CloudWang3\_12 Start: 5695, Stop: 5832, Start Num: 51  
Candidate Starts for CloudWang3\_12:  
(Start: 51 @5695 has 94 MA's), (62, 5743), (68, 5794), (71, 5806),

Gene: Cocoaberry\_7 Start: 3788, Stop: 3925, Start Num: 51  
Candidate Starts for Cocoaberry\_7:  
(Start: 43 @3752 has 9 MA's), (Start: 51 @3788 has 94 MA's), (62, 3836), (65, 3863), (71, 3899),

Gene: Colin\_12 Start: 6233, Stop: 6391, Start Num: 52  
Candidate Starts for Colin\_12:  
(29, 6116), (Start: 44 @6206 has 2 MA's), (Start: 52 @6233 has 181 MA's), (71, 6365),

Gene: Commander\_7 Start: 3784, Stop: 3921, Start Num: 52  
Candidate Starts for Commander\_7:  
(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Connomayer\_7 Start: 3784, Stop: 3921, Start Num: 52  
Candidate Starts for Connomayer\_7:  
(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Conquerage\_10 Start: 6036, Stop: 6176, Start Num: 51  
Candidate Starts for Conquerage\_10:  
(23, 5868), (25, 5874), (Start: 44 @6009 has 2 MA's), (Start: 51 @6036 has 94 MA's), (62, 6087), (63, 6096), (69, 6141),

Gene: Cookiedough\_12 Start: 5696, Stop: 5854, Start Num: 52  
Candidate Starts for Cookiedough\_12:  
(Start: 52 @5696 has 181 MA's), (66, 5783),

Gene: Crucio\_8 Start: 4536, Stop: 4694, Start Num: 52  
Candidate Starts for Crucio\_8:  
(38, 4491), (Start: 52 @4536 has 181 MA's), (71, 4668),

Gene: DaVinci\_12 Start: 5697, Stop: 5855, Start Num: 52  
Candidate Starts for DaVinci\_12:  
(Start: 52 @5697 has 181 MA's), (66, 5784),

Gene: Dalmatian\_8 Start: 4638, Stop: 4796, Start Num: 52  
Candidate Starts for Dalmatian\_8:  
(38, 4593), (Start: 52 @4638 has 181 MA's), (71, 4770),

Gene: Darrell\_11 Start: 6229, Stop: 6369, Start Num: 51

Candidate Starts for Darrell\_11:  
(Start: 44 @6202 has 2 MA's), (Start: 51 @6229 has 94 MA's), (62, 6280), (63, 6289), (69, 6334),

Gene: DarthPhader\_10 Start: 6401, Stop: 6529, Start Num: 56  
Candidate Starts for DarthPhader\_10:  
(Start: 56 @6401 has 8 MA's),

Gene: Datway\_7 Start: 3799, Stop: 3936, Start Num: 51  
Candidate Starts for Datway\_7:  
(Start: 43 @3763 has 9 MA's), (Start: 51 @3799 has 94 MA's), (62, 3847), (65, 3874), (71, 3910),

Gene: Deano\_7 Start: 3790, Stop: 3927, Start Num: 52  
Candidate Starts for Deano\_7:  
(Start: 52 @3790 has 181 MA's), (62, 3838),

Gene: Deloris\_9 Start: 4975, Stop: 5133, Start Num: 52  
Candidate Starts for Deloris\_9:  
(36, 4918), (39, 4933), (Start: 52 @4975 has 181 MA's), (71, 5107),

Gene: Dhanush\_7 Start: 3751, Stop: 3924, Start Num: 43  
Candidate Starts for Dhanush\_7:  
(Start: 43 @3751 has 9 MA's), (Start: 51 @3787 has 94 MA's), (62, 3835), (65, 3862), (71, 3898),

Gene: Dignity\_10 Start: 4903, Stop: 5061, Start Num: 52  
Candidate Starts for Dignity\_10:  
(Start: 44 @4873 has 2 MA's), (Start: 52 @4903 has 181 MA's), (71, 5035),

Gene: DirtyDunning\_7 Start: 3789, Stop: 3926, Start Num: 51  
Candidate Starts for DirtyDunning\_7:  
(Start: 43 @3753 has 9 MA's), (Start: 51 @3789 has 94 MA's), (62, 3837), (65, 3864), (71, 3900),

Gene: Dorothea\_12 Start: 5696, Stop: 5854, Start Num: 52  
Candidate Starts for Dorothea\_12:  
(Start: 52 @5696 has 181 MA's), (66, 5783),

Gene: Drake55\_10 Start: 5047, Stop: 5205, Start Num: 52  
Candidate Starts for Drake55\_10:  
(Start: 52 @5047 has 181 MA's), (71, 5179),

Gene: DreamTeam1\_9 Start: 4220, Stop: 4360, Start Num: 51  
Candidate Starts for DreamTeam1\_9:  
(22, 4004), (24, 4052), (29, 4103), (Start: 51 @4220 has 94 MA's),

Gene: Druantia\_7 Start: 3785, Stop: 3922, Start Num: 52  
Candidate Starts for Druantia\_7:  
(10, 3434), (16, 3503), (Start: 52 @3785 has 181 MA's), (62, 3833),

Gene: DudeLittle\_8 Start: 4640, Stop: 4798, Start Num: 52  
Candidate Starts for DudeLittle\_8:  
(Start: 52 @4640 has 181 MA's), (62, 4688), (71, 4772),

Gene: EZMoney23\_12 Start: 6526, Stop: 6684, Start Num: 52  
Candidate Starts for EZMoney23\_12:



(Start: 44 @6499 has 2 MA's), (Start: 52 @6526 has 181 MA's), (71, 6658),

Gene: Eagle\_6 Start: 3784, Stop: 3921, Start Num: 52

Candidate Starts for Eagle\_6:

(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: EagleEye\_11 Start: 5767, Stop: 5895, Start Num: 56

Candidate Starts for EagleEye\_11:

(Start: 56 @5767 has 8 MA's), (61, 5791), (62, 5806),

Gene: Eapen\_7 Start: 3786, Stop: 3923, Start Num: 52

Candidate Starts for Eapen\_7:

(10, 3435), (16, 3504), (Start: 52 @3786 has 181 MA's), (62, 3834),

Gene: Echild\_8 Start: 4639, Stop: 4797, Start Num: 52

Candidate Starts for Echild\_8:

(38, 4594), (Start: 52 @4639 has 181 MA's), (71, 4771),

Gene: EdogawaKiddo\_8 Start: 6006, Stop: 6146, Start Num: 51

Candidate Starts for EdogawaKiddo\_8:

(25, 5847), (Start: 44 @5979 has 2 MA's), (Start: 51 @6006 has 94 MA's), (62, 6057), (63, 6066), (67, 6099), (69, 6111),

Gene: Eidsmoe\_10 Start: 6036, Stop: 6176, Start Num: 51

Candidate Starts for Eidsmoe\_10:

(23, 5868), (25, 5874), (Start: 44 @6009 has 2 MA's), (Start: 51 @6036 has 94 MA's), (62, 6087), (63, 6096), (69, 6141),

Gene: Elephantoon\_10 Start: 5658, Stop: 5798, Start Num: 51

Candidate Starts for Elephantoon\_10:

(41, 5622), (Start: 44 @5631 has 2 MA's), (Start: 51 @5658 has 94 MA's), (62, 5709), (63, 5718), (69, 5763),

Gene: EmyBug\_10 Start: 6036, Stop: 6176, Start Num: 51

Candidate Starts for EmyBug\_10:

(23, 5868), (25, 5874), (Start: 44 @6009 has 2 MA's), (Start: 51 @6036 has 94 MA's), (62, 6087), (63, 6096), (67, 6129), (69, 6141),

Gene: Equemioh13\_10 Start: 5033, Stop: 5191, Start Num: 52

Candidate Starts for Equemioh13\_10:

(39, 4991), (41, 4994), (Start: 52 @5033 has 181 MA's), (71, 5165),

Gene: EricB\_12 Start: 5697, Stop: 5855, Start Num: 52

Candidate Starts for EricB\_12:

(Start: 52 @5697 has 181 MA's), (66, 5784), (71, 5829),

Gene: Eris\_7 Start: 3784, Stop: 3921, Start Num: 52

Candidate Starts for Eris\_7:

(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Eros\_7 Start: 3784, Stop: 3921, Start Num: 52

Candidate Starts for Eros\_7:

(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Eurydice\_7 Start: 3784, Stop: 3921, Start Num: 52  
Candidate Starts for Eurydice\_7:  
(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: EvilGenius\_10 Start: 4907, Stop: 5065, Start Num: 52  
Candidate Starts for EvilGenius\_10:  
(Start: 52 @4907 has 181 MA's), (62, 4955), (71, 5039),

Gene: ExplosioNervosa\_10 Start: 6039, Stop: 6179, Start Num: 51  
Candidate Starts for ExplosioNervosa\_10:  
(23, 5871), (25, 5877), (Start: 44 @6012 has 2 MA's), (Start: 51 @6039 has 94 MA's), (62, 6090), (63, 6099), (67, 6132), (69, 6144),

Gene: Fameo\_8 Start: 4642, Stop: 4800, Start Num: 52  
Candidate Starts for Fameo\_8:  
(Start: 52 @4642 has 181 MA's), (62, 4690), (71, 4774),

Gene: Fayely\_10 Start: 6039, Stop: 6179, Start Num: 51  
Candidate Starts for Fayely\_10:  
(23, 5871), (25, 5877), (Start: 44 @6012 has 2 MA's), (Start: 51 @6039 has 94 MA's), (62, 6090), (63, 6099), (67, 6132), (69, 6144),

Gene: FiringLine\_8 Start: 4536, Stop: 4694, Start Num: 52  
Candidate Starts for FiringLine\_8:  
(38, 4491), (Start: 52 @4536 has 181 MA's), (71, 4668),

Gene: First\_008 Start: 4532, Stop: 4690, Start Num: 52  
Candidate Starts for First\_008:  
(Start: 44 @4505 has 2 MA's), (Start: 52 @4532 has 181 MA's), (71, 4664),

Gene: Flare16\_8 Start: 4591, Stop: 4749, Start Num: 52  
Candidate Starts for Flare16\_8:  
(Start: 52 @4591 has 181 MA's), (62, 4639), (71, 4723),

Gene: Florean\_7 Start: 3784, Stop: 3921, Start Num: 52  
Candidate Starts for Florean\_7:  
(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Flux\_7 Start: 3784, Stop: 3921, Start Num: 52  
Candidate Starts for Flux\_7:  
(10, 3433), (16, 3502), (19, 3529), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Funston\_7 Start: 3784, Stop: 3921, Start Num: 52  
Candidate Starts for Funston\_7:  
(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Gadost\_7 Start: 3788, Stop: 3925, Start Num: 51  
Candidate Starts for Gadost\_7:  
(Start: 43 @3752 has 9 MA's), (Start: 51 @3788 has 94 MA's), (62, 3836), (65, 3863), (71, 3899),

Gene: Gail\_8 Start: 4427, Stop: 4567, Start Num: 51  
Candidate Starts for Gail\_8:

(Start: 51 @4427 has 94 MA's), (60, 4457), (65, 4505), (69, 4532), (71, 4541), (73, 4556),

Gene: Garak\_13 Start: 5696, Stop: 5854, Start Num: 52

Candidate Starts for Garak\_13:

(Start: 52 @5696 has 181 MA's), (66, 5783),

Gene: GaugeLDP\_10 Start: 5712, Stop: 5849, Start Num: 51

Candidate Starts for GaugeLDP\_10:

(Start: 51 @5712 has 94 MA's), (62, 5760),

Gene: Georgie2\_8 Start: 4537, Stop: 4695, Start Num: 52

Candidate Starts for Georgie2\_8:

(38, 4492), (Start: 52 @4537 has 181 MA's), (71, 4669),

Gene: Gladiator\_12 Start: 5688, Stop: 5825, Start Num: 51

Candidate Starts for Gladiator\_12:

(Start: 51 @5688 has 94 MA's), (62, 5736), (68, 5787), (71, 5799),

Gene: Gratitude\_9 Start: 5033, Stop: 5191, Start Num: 52

Candidate Starts for Gratitude\_9:

(39, 4991), (41, 4994), (Start: 52 @5033 has 181 MA's), (71, 5165),

Gene: GreedyLawyer\_12 Start: 5696, Stop: 5854, Start Num: 52

Candidate Starts for GreedyLawyer\_12:

(Start: 52 @5696 has 181 MA's), (66, 5783),

Gene: Gruunaga\_12 Start: 5688, Stop: 5825, Start Num: 51

Candidate Starts for Gruunaga\_12:

(Start: 51 @5688 has 94 MA's), (62, 5736), (68, 5787), (71, 5799),

Gene: HamSlice\_6 Start: 3785, Stop: 3922, Start Num: 52

Candidate Starts for HamSlice\_6:

(10, 3434), (16, 3503), (Start: 52 @3785 has 181 MA's), (62, 3833),

Gene: Hammer\_12 Start: 5688, Stop: 5825, Start Num: 51

Candidate Starts for Hammer\_12:

(Start: 51 @5688 has 94 MA's), (62, 5736), (68, 5787), (71, 5799),

Gene: Hanray\_9 Start: 6042, Stop: 6182, Start Num: 51

Candidate Starts for Hanray\_9:

(23, 5874), (25, 5880), (Start: 44 @6015 has 2 MA's), (Start: 51 @6042 has 94 MA's), (62, 6093), (63, 6102), (67, 6135), (69, 6147),

Gene: Happiness\_7 Start: 3789, Stop: 3926, Start Num: 52

Candidate Starts for Happiness\_7:

(10, 3438), (16, 3507), (Start: 52 @3789 has 181 MA's), (62, 3837),

Gene: HarryHoudini\_10 Start: 5047, Stop: 5205, Start Num: 52

Candidate Starts for HarryHoudini\_10:

(Start: 52 @5047 has 181 MA's), (71, 5179),

Gene: Heffalump\_10 Start: 6441, Stop: 6599, Start Num: 52

Candidate Starts for Heffalump\_10:

(Start: 52 @6441 has 181 MA's), (62, 6489), (71, 6573),

Gene: Helmet\_13 Start: 5696, Stop: 5854, Start Num: 52

Candidate Starts for Helmet\_13:

(Start: 52 @5696 has 181 MA's), (66, 5783),

Gene: Herbertwm\_7 Start: 4328, Stop: 4486, Start Num: 52

Candidate Starts for Herbertwm\_7:

(50, 4322), (Start: 52 @4328 has 181 MA's), (66, 4415), (71, 4460),

Gene: Hexamo\_12 Start: 5651, Stop: 5809, Start Num: 52

Candidate Starts for Hexamo\_12:

(Start: 52 @5651 has 181 MA's), (66, 5738),

Gene: Holec\_9 Start: 6015, Stop: 6182, Start Num: 44

Candidate Starts for Holec\_9:

(23, 5874), (25, 5880), (Start: 44 @6015 has 2 MA's), (Start: 51 @6042 has 94 MA's), (62, 6093), (63, 6102), (67, 6135), (69, 6147),

Gene: Holli\_7 Start: 3577, Stop: 3714, Start Num: 52

Candidate Starts for Holli\_7:

(10, 3226), (16, 3295), (Start: 52 @3577 has 181 MA's), (62, 3625),

Gene: Hoot\_12 Start: 5696, Stop: 5833, Start Num: 51

Candidate Starts for Hoot\_12:

(Start: 51 @5696 has 94 MA's), (62, 5744), (68, 5795), (71, 5807),

Gene: HortumSL17\_10 Start: 6006, Stop: 6146, Start Num: 51

Candidate Starts for HortumSL17\_10:

(25, 5847), (Start: 44 @5979 has 2 MA's), (Start: 51 @6006 has 94 MA's), (62, 6057), (63, 6066), (69, 6111),

Gene: Houdini22\_7 Start: 3788, Stop: 3925, Start Num: 51

Candidate Starts for Houdini22\_7:

(Start: 43 @3752 has 9 MA's), (Start: 51 @3788 has 94 MA's), (62, 3836), (65, 3863), (71, 3899),

Gene: Huxley\_7 Start: 3878, Stop: 4015, Start Num: 51

Candidate Starts for Huxley\_7:

(6, 3374), (8, 3422), (Start: 43 @3842 has 9 MA's), (Start: 51 @3878 has 94 MA's), (62, 3926), (65, 3953), (71, 3989),

Gene: ICleared\_7 Start: 3784, Stop: 3921, Start Num: 52

Candidate Starts for ICleared\_7:

(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Iceman\_7 Start: 3784, Stop: 3921, Start Num: 52

Candidate Starts for Iceman\_7:

(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Indra\_12 Start: 5696, Stop: 5854, Start Num: 52

Candidate Starts for Indra\_12:

(Start: 52 @5696 has 181 MA's), (66, 5783),

Gene: Iracema64\_7 Start: 3755, Stop: 3928, Start Num: 43  
Candidate Starts for Iracema64\_7:  
(1, 3065), (2, 3167), (5, 3245), (6, 3287), (7, 3302), (8, 3335), (13, 3455), (Start: 43 @3755 has 9 MA's), (Start: 51 @3791 has 94 MA's), (62, 3839), (65, 3866), (71, 3902),

Gene: Isiphiwo\_12 Start: 5696, Stop: 5854, Start Num: 52  
Candidate Starts for Isiphiwo\_12:  
(Start: 52 @5696 has 181 MA's), (66, 5783), (71, 5828),

Gene: Iwokeuplikedis\_8 Start: 4340, Stop: 4489, Start Num: 55  
Candidate Starts for Iwokeuplikedis\_8:  
(33, 4259), (45, 4316), (Start: 55 @4340 has 1 MA's), (71, 4463),

Gene: Jaykayelowell\_7 Start: 3783, Stop: 3920, Start Num: 52  
Candidate Starts for Jaykayelowell\_7:  
(10, 3432), (16, 3501), (Start: 52 @3783 has 181 MA's), (62, 3831),

Gene: Jeeves\_8 Start: 4443, Stop: 4583, Start Num: 51  
Candidate Starts for Jeeves\_8:  
(Start: 44 @4416 has 2 MA's), (Start: 51 @4443 has 94 MA's), (62, 4494), (69, 4548),

Gene: Jeffabunny\_12 Start: 5696, Stop: 5854, Start Num: 52  
Candidate Starts for Jeffabunny\_12:  
(Start: 52 @5696 has 181 MA's), (66, 5783),

Gene: Jerm\_10 Start: 4874, Stop: 5062, Start Num: 44  
Candidate Starts for Jerm\_10:  
(Start: 44 @4874 has 2 MA's), (Start: 52 @4904 has 181 MA's), (71, 5036),

Gene: JetBlade\_7 Start: 3784, Stop: 3921, Start Num: 52  
Candidate Starts for JetBlade\_7:  
(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: JewelBug\_12 Start: 5697, Stop: 5855, Start Num: 52  
Candidate Starts for JewelBug\_12:  
(Start: 52 @5697 has 181 MA's), (66, 5784), (71, 5829),

Gene: Jiawan\_9 Start: 6042, Stop: 6182, Start Num: 51  
Candidate Starts for Jiawan\_9:  
(23, 5874), (25, 5880), (Start: 44 @6015 has 2 MA's), (Start: 51 @6042 has 94 MA's), (62, 6093), (63, 6102), (67, 6135), (69, 6147),

Gene: JoongJeon\_7 Start: 3784, Stop: 3921, Start Num: 52  
Candidate Starts for JoongJeon\_7:  
(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Jordennis\_12 Start: 5696, Stop: 5854, Start Num: 52  
Candidate Starts for Jordennis\_12:  
(Start: 52 @5696 has 181 MA's), (66, 5783),

Gene: JoshKayV\_10 Start: 4917, Stop: 5075, Start Num: 52  
Candidate Starts for JoshKayV\_10:  
(39, 4872), (41, 4875), (Start: 52 @4917 has 181 MA's), (71, 5049),

Gene: KFPoly\_7 Start: 3784, Stop: 3921, Start Num: 52  
Candidate Starts for KFPoly\_7:  
(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Kalpine\_11 Start: 6346, Stop: 6504, Start Num: 52  
Candidate Starts for Kalpine\_11:  
(3, 5800), (9, 5977), (11, 5998), (12, 6004), (15, 6064), (21, 6121), (27, 6226), (Start: 44 @6319 has 2 MA's), (Start: 52 @6346 has 181 MA's), (71, 6478),

Gene: Kamy\_7 Start: 3785, Stop: 3922, Start Num: 52  
Candidate Starts for Kamy\_7:  
(10, 3434), (16, 3503), (Start: 52 @3785 has 181 MA's), (62, 3833),

Gene: Katalie136\_7 Start: 3799, Stop: 3936, Start Num: 51  
Candidate Starts for Katalie136\_7:  
(Start: 43 @3763 has 9 MA's), (Start: 51 @3799 has 94 MA's), (62, 3847), (65, 3874), (71, 3910),

Gene: Kazan\_12 Start: 5702, Stop: 5860, Start Num: 52  
Candidate Starts for Kazan\_12:  
(Start: 52 @5702 has 181 MA's), (66, 5789), (71, 5834),

Gene: Keziacharles14\_8 Start: 4207, Stop: 4347, Start Num: 51  
Candidate Starts for Keziacharles14\_8:  
(Start: 51 @4207 has 94 MA's), (70, 4315),

Gene: KingCyrus\_10 Start: 4896, Stop: 5054, Start Num: 52  
Candidate Starts for KingCyrus\_10:  
(Start: 52 @4896 has 181 MA's), (62, 4944), (71, 5028),

Gene: Kingmustik0402\_7 Start: 3776, Stop: 3913, Start Num: 52  
Candidate Starts for Kingmustik0402\_7:  
(10, 3425), (16, 3494), (Start: 52 @3776 has 181 MA's), (62, 3824),

Gene: Kinmap\_7 Start: 4359, Stop: 4508, Start Num: 56  
Candidate Starts for Kinmap\_7:  
(32, 4263), (42, 4308), (Start: 56 @4359 has 8 MA's), (69, 4473), (71, 4482),

Gene: Kipper29\_12 Start: 5696, Stop: 5854, Start Num: 52  
Candidate Starts for Kipper29\_12:  
(Start: 52 @5696 has 181 MA's), (66, 5783),

Gene: Koan\_6 Start: 3784, Stop: 3921, Start Num: 52  
Candidate Starts for Koan\_6:  
(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Koko\_12 Start: 5696, Stop: 5854, Start Num: 52  
Candidate Starts for Koko\_12:  
(Start: 52 @5696 has 181 MA's), (66, 5783),

Gene: Koreni\_6 Start: 3433, Stop: 3570, Start Num: 52  
Candidate Starts for Koreni\_6:  
(Start: 52 @3433 has 181 MA's), (62, 3481),

Gene: Kratark\_7 Start: 3788, Stop: 3925, Start Num: 51  
Candidate Starts for Kratark\_7:  
(Start: 43 @3752 has 9 MA's), (Start: 51 @3788 has 94 MA's), (62, 3836), (65, 3863), (71, 3899),

Gene: Kyee\_7 Start: 3788, Stop: 3925, Start Num: 51  
Candidate Starts for Kyee\_7:  
(Start: 43 @3752 has 9 MA's), (Start: 51 @3788 has 94 MA's), (62, 3836), (65, 3863), (71, 3899),

Gene: LHTSCC\_7 Start: 3755, Stop: 3928, Start Num: 43  
Candidate Starts for LHTSCC\_7:  
(1, 3065), (2, 3167), (4, 3242), (5, 3245), (6, 3287), (7, 3302), (8, 3335), (13, 3455), (Start: 43 @3755 has 9 MA's), (Start: 51 @3791 has 94 MA's), (62, 3839), (65, 3866), (71, 3902),

Gene: LadyBird\_8 Start: 4523, Stop: 4681, Start Num: 52  
Candidate Starts for LadyBird\_8:  
(48, 4508), (Start: 52 @4523 has 181 MA's), (71, 4655),

Gene: LappelDuVide\_7 Start: 3784, Stop: 3921, Start Num: 52  
Candidate Starts for LappelDuVide\_7:  
(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Larenn\_9 Start: 4621, Stop: 4779, Start Num: 52  
Candidate Starts for Larenn\_9:  
(17, 4351), (40, 4579), (42, 4582), (Start: 52 @4621 has 181 MA's), (71, 4753),

Gene: Lemur\_7 Start: 3784, Stop: 3921, Start Num: 52  
Candidate Starts for Lemur\_7:  
(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: LeoAvram\_7 Start: 3784, Stop: 3921, Start Num: 52  
Candidate Starts for LeoAvram\_7:  
(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Leogania\_10 Start: 6488, Stop: 6625, Start Num: 51  
Candidate Starts for Leogania\_10:  
(Start: 44 @6461 has 2 MA's), (Start: 51 @6488 has 94 MA's), (62, 6536), (70, 6593),

Gene: Leviathan\_10 Start: 4951, Stop: 5109, Start Num: 52  
Candidate Starts for Leviathan\_10:  
(Start: 44 @4924 has 2 MA's), (Start: 52 @4951 has 181 MA's), (71, 5083),

Gene: LilTurb\_10 Start: 4963, Stop: 5121, Start Num: 52  
Candidate Starts for LilTurb\_10:  
(Start: 44 @4933 has 2 MA's), (Start: 52 @4963 has 181 MA's), (71, 5095),

Gene: Lilbunny\_12 Start: 5695, Stop: 5832, Start Num: 51  
Candidate Starts for Lilbunny\_12:  
(Start: 51 @5695 has 94 MA's), (62, 5743), (68, 5794), (71, 5806),

Gene: Lilleskat\_8 Start: 6006, Stop: 6146, Start Num: 51  
Candidate Starts for Lilleskat\_8:

(25, 5847), (Start: 44 @5979 has 2 MA's), (Start: 51 @6006 has 94 MA's), (62, 6057), (63, 6066), (67, 6099), (69, 6111),

Gene: LionsBait\_9 Start: 6081, Stop: 6239, Start Num: 52

Candidate Starts for LionsBait\_9:

(40, 6042), (Start: 44 @6054 has 2 MA's), (Start: 52 @6081 has 181 MA's), (71, 6213),

Gene: LittleB\_7 Start: 3784, Stop: 3921, Start Num: 52

Candidate Starts for LittleB\_7:

(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: LittleGuy\_7 Start: 3781, Stop: 3918, Start Num: 52

Candidate Starts for LittleGuy\_7:

(10, 3433), (16, 3502), (Start: 52 @3781 has 181 MA's), (57, 3796), (62, 3829),

Gene: LochMonster\_7 Start: 3753, Stop: 3926, Start Num: 43

Candidate Starts for LochMonster\_7:

(Start: 43 @3753 has 9 MA's), (Start: 51 @3789 has 94 MA's), (62, 3837), (65, 3864), (71, 3900),

Gene: Lokk\_11 Start: 6259, Stop: 6417, Start Num: 52

Candidate Starts for Lokk\_11:

(37, 6211), (Start: 44 @6232 has 2 MA's), (Start: 52 @6259 has 181 MA's), (71, 6391),

Gene: LoneWolf\_10 Start: 5853, Stop: 5993, Start Num: 51

Candidate Starts for LoneWolf\_10:

(41, 5817), (Start: 44 @5826 has 2 MA's), (Start: 51 @5853 has 94 MA's), (62, 5904), (63, 5913), (69, 5958),

Gene: Lorenzo\_7 Start: 3784, Stop: 3921, Start Num: 52

Candidate Starts for Lorenzo\_7:

(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Loser\_11 Start: 6267, Stop: 6404, Start Num: 51

Candidate Starts for Loser\_11:

(Start: 44 @6240 has 2 MA's), (Start: 51 @6267 has 94 MA's), (71, 6378),

Gene: Luchador\_8 Start: 4428, Stop: 4568, Start Num: 51

Candidate Starts for Luchador\_8:

(Start: 44 @4401 has 2 MA's), (Start: 51 @4428 has 94 MA's), (62, 4479), (64, 4491),

Gene: Lucyedi\_10 Start: 5686, Stop: 5814, Start Num: 56

Candidate Starts for Lucyedi\_10:

(Start: 56 @5686 has 8 MA's), (61, 5710), (62, 5725),

Gene: Lunsford\_8 Start: 3784, Stop: 3921, Start Num: 52

Candidate Starts for Lunsford\_8:

(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Malec\_9 Start: 4626, Stop: 4784, Start Num: 52

Candidate Starts for Malec\_9:

(Start: 52 @4626 has 181 MA's), (71, 4758),

Gene: Maminiaina\_10 Start: 5776, Stop: 5916, Start Num: 51



Candidate Starts for Maminaiaina\_10:

(Start: 44 @5749 has 2 MA's), (Start: 51 @5776 has 94 MA's), (54, 5782), (62, 5827), (63, 5836), (67, 5869), (69, 5881),

Gene: Maverick\_7 Start: 3784, Stop: 3921, Start Num: 52

Candidate Starts for Maverick\_7:

(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Maxo\_7 Start: 3785, Stop: 3922, Start Num: 52

Candidate Starts for Maxo\_7:

(10, 3434), (16, 3503), (Start: 52 @3785 has 181 MA's), (62, 3833),

Gene: Mayonnaise\_7 Start: 3784, Stop: 3921, Start Num: 52

Candidate Starts for Mayonnaise\_7:

(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Mazhar510\_7 Start: 3785, Stop: 3922, Start Num: 52

Candidate Starts for Mazhar510\_7:

(10, 3434), (16, 3503), (Start: 52 @3785 has 181 MA's), (62, 3833),

Gene: McFly\_12 Start: 5696, Stop: 5854, Start Num: 52

Candidate Starts for McFly\_12:

(Start: 52 @5696 has 181 MA's), (66, 5783),

Gene: Medusa\_7 Start: 3784, Stop: 3921, Start Num: 52

Candidate Starts for Medusa\_7:

(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: MeeZee\_7 Start: 3784, Stop: 3921, Start Num: 52

Candidate Starts for MeeZee\_7:

(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Melvin\_7 Start: 3784, Stop: 3921, Start Num: 52

Candidate Starts for Melvin\_7:

(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: MiculUcigas\_8 Start: 4591, Stop: 4749, Start Num: 52

Candidate Starts for MiculUcigas\_8:

(Start: 52 @4591 has 181 MA's), (62, 4639), (71, 4723),

Gene: Miko\_11 Start: 6237, Stop: 6395, Start Num: 52

Candidate Starts for Miko\_11:

(37, 6189), (Start: 44 @6210 has 2 MA's), (Start: 52 @6237 has 181 MA's), (71, 6369),

Gene: Millski\_7 Start: 3784, Stop: 3921, Start Num: 52

Candidate Starts for Millski\_7:

(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Miramae\_7 Start: 3787, Stop: 3924, Start Num: 51

Candidate Starts for Miramae\_7:

(Start: 43 @3751 has 9 MA's), (Start: 51 @3787 has 94 MA's), (62, 3835), (65, 3862), (71, 3898),

Gene: Morpher26\_7 Start: 3763, Stop: 3936, Start Num: 43

Candidate Starts for Morpher26\_7:

(Start: 43 @3763 has 9 MA's), (Start: 51 @3799 has 94 MA's), (62, 3847), (65, 3874), (71, 3910),

Gene: Morrow\_7 Start: 3784, Stop: 3921, Start Num: 52

Candidate Starts for Morrow\_7:

(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Mundrea\_7 Start: 3782, Stop: 3919, Start Num: 51

Candidate Starts for Mundrea\_7:

(Start: 43 @3746 has 9 MA's), (Start: 51 @3782 has 94 MA's), (62, 3830), (65, 3857), (71, 3893),

Gene: MyraDee\_6 Start: 3130, Stop: 3258, Start Num: 51

Candidate Starts for MyraDee\_6:

(46, 3118), (Start: 51 @3130 has 94 MA's), (71, 3232),

Gene: Myxus\_10 Start: 6006, Stop: 6146, Start Num: 51

Candidate Starts for Myxus\_10:

(25, 5847), (Start: 44 @5979 has 2 MA's), (Start: 51 @6006 has 94 MA's), (62, 6057), (63, 6066), (69, 6111),

Gene: NaSiaTalie\_8 Start: 4591, Stop: 4749, Start Num: 52

Candidate Starts for NaSiaTalie\_8:

(Start: 52 @4591 has 181 MA's), (62, 4639), (71, 4723),

Gene: Nebs\_7 Start: 3784, Stop: 3921, Start Num: 52

Candidate Starts for Nebs\_7:

(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Neeharika16\_12 Start: 5696, Stop: 5854, Start Num: 52

Candidate Starts for Neeharika16\_12:

(Start: 52 @5696 has 181 MA's), (66, 5783),

Gene: Nemo27\_7 Start: 3783, Stop: 3920, Start Num: 52

Candidate Starts for Nemo27\_7:

(10, 3432), (16, 3501), (Start: 52 @3783 has 181 MA's), (62, 3831),

Gene: Newrala\_12 Start: 5696, Stop: 5854, Start Num: 52

Candidate Starts for Newrala\_12:

(Start: 52 @5696 has 181 MA's), (66, 5783),

Gene: NicoleTera\_12 Start: 6309, Stop: 6467, Start Num: 52

Candidate Starts for NicoleTera\_12:

(27, 6186), (36, 6252), (39, 6267), (Start: 44 @6282 has 2 MA's), (Start: 52 @6309 has 181 MA's), (59, 6330), (65, 6384), (66, 6396), (71, 6441),

Gene: Noelle\_7 Start: 3853, Stop: 3990, Start Num: 51

Candidate Starts for Noelle\_7:

(Start: 43 @3817 has 9 MA's), (Start: 51 @3853 has 94 MA's), (70, 3958), (71, 3964),

Gene: NorthStar\_7 Start: 3784, Stop: 3921, Start Num: 52

Candidate Starts for NorthStar\_7:

(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: NotAPhaseMom\_7 Start: 3788, Stop: 3925, Start Num: 51  
Candidate Starts for NotAPhaseMom\_7:  
(Start: 43 @3752 has 9 MA's), (Start: 51 @3788 has 94 MA's), (62, 3836), (65, 3863), (71, 3899),

Gene: NothingSpecial\_10 Start: 6370, Stop: 6507, Start Num: 51  
Candidate Starts for NothingSpecial\_10:  
(Start: 44 @6343 has 2 MA's), (Start: 51 @6370 has 94 MA's), (57, 6385), (70, 6475),

Gene: Nyxis\_7 Start: 3784, Stop: 3921, Start Num: 52  
Candidate Starts for Nyxis\_7:  
(10, 3436), (Start: 52 @3784 has 181 MA's), (57, 3799), (62, 3832),

Gene: OKaNui\_7 Start: 3549, Stop: 3686, Start Num: 52  
Candidate Starts for OKaNui\_7:  
(10, 3198), (16, 3267), (Start: 52 @3549 has 181 MA's), (62, 3597),

Gene: Obama12\_7 Start: 3793, Stop: 3930, Start Num: 51  
Candidate Starts for Obama12\_7:  
(1, 3067), (2, 3169), (4, 3244), (5, 3247), (6, 3289), (7, 3304), (8, 3337), (13, 3457), (Start: 43 @3757 has 9 MA's), (Start: 51 @3793 has 94 MA's), (62, 3841), (65, 3868), (71, 3904),

Gene: Odin\_8 Start: 4345, Stop: 4473, Start Num: 56  
Candidate Starts for Odin\_8:  
(53, 4339), (Start: 56 @4345 has 8 MA's), (60, 4363), (62, 4384), (65, 4411),

Gene: Ohfah\_7 Start: 3784, Stop: 3921, Start Num: 52  
Candidate Starts for Ohfah\_7:  
(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Onglai\_9 Start: 4372, Stop: 4512, Start Num: 51  
Candidate Starts for Onglai\_9:  
(23, 4204), (25, 4210), (Start: 44 @4345 has 2 MA's), (Start: 51 @4372 has 94 MA's), (62, 4423), (63, 4432), (67, 4465), (69, 4477),

Gene: PackMan\_10 Start: 6006, Stop: 6146, Start Num: 51  
Candidate Starts for PackMan\_10:  
(25, 5847), (Start: 44 @5979 has 2 MA's), (Start: 51 @6006 has 94 MA's), (62, 6057), (63, 6066), (69, 6111),

Gene: PainterBoy\_10 Start: 5686, Stop: 5814, Start Num: 56  
Candidate Starts for PainterBoy\_10:  
(Start: 56 @5686 has 8 MA's), (61, 5710), (62, 5725),

Gene: Palestino\_7 Start: 3784, Stop: 3921, Start Num: 52  
Candidate Starts for Palestino\_7:  
(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Peaches\_7 Start: 3784, Stop: 3921, Start Num: 52  
Candidate Starts for Peaches\_7:  
(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Perplexer\_7 Start: 3763, Stop: 3936, Start Num: 43  
Candidate Starts for Perplexer\_7:

(Start: 43 @3763 has 9 MA's), (Start: 51 @3799 has 94 MA's), (62, 3847), (65, 3874), (71, 3910),

Gene: PeterPeter\_7 Start: 3784, Stop: 3921, Start Num: 52

Candidate Starts for PeterPeter\_7:

(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: PetiteSangsue\_7 Start: 3763, Stop: 3936, Start Num: 43

Candidate Starts for PetiteSangsue\_7:

(Start: 43 @3763 has 9 MA's), (Start: 51 @3799 has 94 MA's), (62, 3847), (65, 3874), (71, 3910),

Gene: Ph8s\_10 Start: 4343, Stop: 4474, Start Num: 51

Candidate Starts for Ph8s\_10:

(49, 4337), (Start: 51 @4343 has 94 MA's), (58, 4361), (65, 4409), (71, 4445),

Gene: Phacado\_7 Start: 3783, Stop: 3920, Start Num: 52

Candidate Starts for Phacado\_7:

(10, 3432), (16, 3501), (Start: 52 @3783 has 181 MA's), (62, 3831),

Gene: Phaeder\_10 Start: 6006, Stop: 6146, Start Num: 51

Candidate Starts for Phaeder\_10:

(25, 5847), (Start: 44 @5979 has 2 MA's), (Start: 51 @6006 has 94 MA's), (62, 6057), (63, 6066), (69, 6111),

Gene: Phelipe\_7 Start: 3784, Stop: 3921, Start Num: 52

Candidate Starts for Phelipe\_7:

(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Phighter1804\_7 Start: 3790, Stop: 3927, Start Num: 51

Candidate Starts for Phighter1804\_7:

(Start: 43 @3754 has 9 MA's), (Start: 51 @3790 has 94 MA's), (62, 3838), (65, 3865), (71, 3901),

Gene: Phonnegut\_10 Start: 6039, Stop: 6179, Start Num: 51

Candidate Starts for Phonnegut\_10:

(23, 5871), (25, 5877), (Start: 44 @6012 has 2 MA's), (Start: 51 @6039 has 94 MA's), (62, 6090), (63, 6099), (67, 6132), (69, 6144),

Gene: Phontbonne\_7 Start: 3779, Stop: 3916, Start Num: 52

Candidate Starts for Phontbonne\_7:

(10, 3431), (16, 3500), (Start: 52 @3779 has 181 MA's), (62, 3827),

Gene: Pioneer\_10 Start: 6039, Stop: 6179, Start Num: 51

Candidate Starts for Pioneer\_10:

(23, 5871), (25, 5877), (Start: 44 @6012 has 2 MA's), (Start: 51 @6039 has 94 MA's), (62, 6090), (63, 6099), (67, 6132), (69, 6144),

Gene: Pipcraft\_7 Start: 3784, Stop: 3921, Start Num: 52

Candidate Starts for Pipcraft\_7:

(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Piro94\_9 Start: 5048, Stop: 5206, Start Num: 52

Candidate Starts for Piro94\_9:

(Start: 52 @5048 has 181 MA's), (71, 5180),

Gene: Pmask\_12 Start: 5696, Stop: 5854, Start Num: 52

Candidate Starts for Pmask\_12:

(Start: 52 @5696 has 181 MA's), (66, 5783),

Gene: Polymorphads\_7 Start: 3784, Stop: 3921, Start Num: 52

Candidate Starts for Polymorphads\_7:

(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Polyphemus\_11 Start: 5698, Stop: 5856, Start Num: 52

Candidate Starts for Polyphemus\_11:

(Start: 52 @5698 has 181 MA's), (66, 5785),

Gene: Power\_8 Start: 4536, Stop: 4694, Start Num: 52

Candidate Starts for Power\_8:

(38, 4491), (Start: 52 @4536 has 181 MA's), (71, 4668),

Gene: Priamo\_12 Start: 5714, Stop: 5872, Start Num: 52

Candidate Starts for Priamo\_12:

(Start: 52 @5714 has 181 MA's), (66, 5801),

Gene: Priya\_10 Start: 6037, Stop: 6177, Start Num: 51

Candidate Starts for Priya\_10:

(23, 5869), (25, 5875), (Start: 44 @6010 has 2 MA's), (Start: 51 @6037 has 94 MA's), (62, 6088), (63, 6097), (69, 6142),

Gene: Pumbaa\_7 Start: 3789, Stop: 3926, Start Num: 51

Candidate Starts for Pumbaa\_7:

(Start: 43 @3753 has 9 MA's), (Start: 51 @3789 has 94 MA's), (62, 3837), (65, 3864), (71, 3900),

Gene: Qobbit\_10 Start: 6009, Stop: 6176, Start Num: 44

Candidate Starts for Qobbit\_10:

(23, 5868), (25, 5874), (Start: 44 @6009 has 2 MA's), (Start: 51 @6036 has 94 MA's), (62, 6087), (63, 6096), (67, 6129), (69, 6141),

Gene: QueenB2\_8 Start: 4642, Stop: 4800, Start Num: 52

Candidate Starts for QueenB2\_8:

(Start: 52 @4642 has 181 MA's), (62, 4690), (71, 4774),

Gene: QueenBeesly\_8 Start: 4536, Stop: 4694, Start Num: 52

Candidate Starts for QueenBeesly\_8:

(38, 4491), (Start: 52 @4536 has 181 MA's), (71, 4668),

Gene: Rachaly\_11 Start: 6257, Stop: 6415, Start Num: 52

Candidate Starts for Rachaly\_11:

(37, 6209), (Start: 44 @6230 has 2 MA's), (Start: 52 @6257 has 181 MA's), (71, 6389),

Gene: Rahalelujah\_8 Start: 4151, Stop: 4273, Start Num: 51

Candidate Starts for Rahalelujah\_8:

(Start: 51 @4151 has 94 MA's), (Start: 56 @4163 has 8 MA's), (61, 4175),

Gene: RedRock\_11 Start: 6350, Stop: 6487, Start Num: 51

Candidate Starts for RedRock\_11:

(Start: 44 @6323 has 2 MA's), (Start: 51 @6350 has 94 MA's), (71, 6461),

Gene: Relief\_7 Start: 3785, Stop: 3922, Start Num: 52  
Candidate Starts for Relief\_7:  
(10, 3434), (16, 3503), (Start: 52 @3785 has 181 MA's), (62, 3833),

Gene: Retro23\_8 Start: 4639, Stop: 4797, Start Num: 52  
Candidate Starts for Retro23\_8:  
(38, 4594), (Start: 52 @4639 has 181 MA's), (71, 4771),

Gene: Rifter\_12 Start: 5687, Stop: 5824, Start Num: 51  
Candidate Starts for Rifter\_12:  
(Start: 51 @5687 has 94 MA's), (62, 5735), (68, 5786), (71, 5798),

Gene: Roksolana\_12 Start: 5696, Stop: 5854, Start Num: 52  
Candidate Starts for Roksolana\_12:  
(Start: 52 @5696 has 181 MA's), (66, 5783),

Gene: Romney\_7 Start: 3783, Stop: 3920, Start Num: 52  
Candidate Starts for Romney\_7:  
(10, 3432), (16, 3501), (Start: 52 @3783 has 181 MA's), (62, 3831),

Gene: Roosevelt\_7 Start: 3784, Stop: 3921, Start Num: 52  
Candidate Starts for Roosevelt\_7:  
(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Rosa24\_6 Start: 3789, Stop: 3926, Start Num: 51  
Candidate Starts for Rosa24\_6:  
(1, 3063), (2, 3165), (5, 3243), (6, 3285), (7, 3300), (8, 3333), (13, 3453), (Start: 43 @3753 has 9 MA's), (Start: 51 @3789 has 94 MA's), (62, 3837), (65, 3864), (71, 3900),

Gene: Ruin\_7 Start: 3783, Stop: 3920, Start Num: 52  
Candidate Starts for Ruin\_7:  
(10, 3432), (16, 3501), (Start: 52 @3783 has 181 MA's), (62, 3831),

Gene: RyeScarlet\_11 Start: 6042, Stop: 6182, Start Num: 51  
Candidate Starts for RyeScarlet\_11:  
(23, 5874), (25, 5880), (Start: 44 @6015 has 2 MA's), (Start: 51 @6042 has 94 MA's), (62, 6093), (63, 6102), (67, 6135), (69, 6147),

Gene: Sabertooth\_7 Start: 3784, Stop: 3921, Start Num: 52  
Candidate Starts for Sabertooth\_7:  
(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Sachima\_8 Start: 6006, Stop: 6146, Start Num: 51  
Candidate Starts for Sachima\_8:  
(25, 5847), (Start: 44 @5979 has 2 MA's), (Start: 51 @6006 has 94 MA's), (62, 6057), (63, 6066), (67, 6099), (69, 6111),

Gene: Scamp\_7 Start: 3784, Stop: 3921, Start Num: 52  
Candidate Starts for Scamp\_7:  
(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Scherzo\_10 Start: 6039, Stop: 6179, Start Num: 51

Candidate Starts for Scherzo\_10:

(23, 5871), (25, 5877), (Start: 44 @6012 has 2 MA's), (Start: 51 @6039 has 94 MA's), (62, 6090), (63, 6099), (67, 6132), (69, 6144),

Gene: SemperFi\_10 Start: 4964, Stop: 5122, Start Num: 52

Candidate Starts for SemperFi\_10:

(Start: 44 @4937 has 2 MA's), (Start: 52 @4964 has 181 MA's), (71, 5096),

Gene: SenorClean\_6 Start: 3784, Stop: 3921, Start Num: 52

Candidate Starts for SenorClean\_6:

(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Shaka\_7 Start: 3784, Stop: 3921, Start Num: 52

Candidate Starts for Shaka\_7:

(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: SheaKeira\_9 Start: 4237, Stop: 4377, Start Num: 51

Candidate Starts for SheaKeira\_9:

(Start: 44 @4210 has 2 MA's), (Start: 51 @4237 has 94 MA's),

Gene: SheldonCooper\_7 Start: 3792, Stop: 3929, Start Num: 51

Candidate Starts for SheldonCooper\_7:

(1, 3066), (2, 3168), (5, 3246), (6, 3288), (7, 3303), (8, 3336), (13, 3456), (Start: 43 @3756 has 9 MA's), (Start: 51 @3792 has 94 MA's), (62, 3840), (65, 3867), (71, 3903),

Gene: Shygu2\_7 Start: 3793, Stop: 3930, Start Num: 51

Candidate Starts for Shygu2\_7:

(13, 3457), (Start: 43 @3757 has 9 MA's), (Start: 51 @3793 has 94 MA's), (62, 3841), (65, 3868), (71, 3904),

Gene: Skipitt\_7 Start: 3784, Stop: 3921, Start Num: 52

Candidate Starts for Skipitt\_7:

(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Sknot\_9 Start: 4591, Stop: 4749, Start Num: 52

Candidate Starts for Sknot\_9:

(Start: 52 @4591 has 181 MA's), (62, 4639), (71, 4723),

Gene: Smeagan\_10 Start: 4954, Stop: 5112, Start Num: 52

Candidate Starts for Smeagan\_10:

(Start: 44 @4927 has 2 MA's), (Start: 52 @4954 has 181 MA's), (71, 5086),

Gene: SmellyB\_12 Start: 5696, Stop: 5854, Start Num: 52

Candidate Starts for SmellyB\_12:

(Start: 52 @5696 has 181 MA's), (66, 5783),

Gene: SnapTap\_8 Start: 4536, Stop: 4694, Start Num: 52

Candidate Starts for SnapTap\_8:

(38, 4491), (Start: 52 @4536 has 181 MA's), (71, 4668),

Gene: SororFago\_8 Start: 4427, Stop: 4555, Start Num: 51

Candidate Starts for SororFago\_8:

(Start: 51 @4427 has 94 MA's), (69, 4520),

Gene: Sparxx\_7 Start: 3784, Stop: 3921, Start Num: 52  
Candidate Starts for Sparxx\_7:  
(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Spino\_7 Start: 3784, Stop: 3921, Start Num: 52  
Candidate Starts for Spino\_7:  
(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Spouty\_10 Start: 6036, Stop: 6176, Start Num: 51  
Candidate Starts for Spouty\_10:  
(23, 5868), (25, 5874), (Start: 44 @6009 has 2 MA's), (Start: 51 @6036 has 94 MA's), (62, 6087), (63, 6096), (69, 6141),

Gene: Stink\_7 Start: 3788, Stop: 3925, Start Num: 51  
Candidate Starts for Stink\_7:  
(Start: 43 @3752 has 9 MA's), (Start: 51 @3788 has 94 MA's), (62, 3836), (65, 3863), (71, 3899),

Gene: Sunhee\_7 Start: 4434, Stop: 4574, Start Num: 51  
Candidate Starts for Sunhee\_7:  
(Start: 51 @4434 has 94 MA's), (69, 4539), (70, 4542),

Gene: SuperAwesome\_12 Start: 5696, Stop: 5854, Start Num: 52  
Candidate Starts for SuperAwesome\_12:  
(Start: 52 @5696 has 181 MA's), (66, 5783), (71, 5828),

Gene: SuperCallie99\_12 Start: 5697, Stop: 5855, Start Num: 52  
Candidate Starts for SuperCallie99\_12:  
(Start: 52 @5697 has 181 MA's), (66, 5784), (71, 5829),

Gene: SweetiePie\_8 Start: 4536, Stop: 4694, Start Num: 52  
Candidate Starts for SweetiePie\_8:  
(38, 4491), (Start: 52 @4536 has 181 MA's), (71, 4668),

Gene: SwirlSquare\_11 Start: 4380, Stop: 4508, Start Num: 56  
Candidate Starts for SwirlSquare\_11:  
(Start: 44 @4353 has 2 MA's), (Start: 56 @4380 has 8 MA's), (60, 4398), (62, 4419), (65, 4446), (69, 4473),

Gene: Taquarus\_7 Start: 3787, Stop: 3924, Start Num: 52  
Candidate Starts for Taquarus\_7:  
(10, 3436), (16, 3505), (Start: 52 @3787 has 181 MA's), (62, 3835),

Gene: TarsusIV\_8 Start: 4529, Stop: 4687, Start Num: 52  
Candidate Starts for TarsusIV\_8:  
(Start: 44 @4502 has 2 MA's), (47, 4514), (Start: 52 @4529 has 181 MA's),

Gene: Temprado\_13 Start: 5696, Stop: 5854, Start Num: 52  
Candidate Starts for Temprado\_13:  
(Start: 52 @5696 has 181 MA's), (66, 5783),

Gene: Terrific\_12 Start: 5045, Stop: 5203, Start Num: 52  
Candidate Starts for Terrific\_12:



(Start: 52 @5045 has 181 MA's), (71, 5177),

Gene: Thanksgivukkah\_7 Start: 3789, Stop: 3926, Start Num: 51

Candidate Starts for Thanksgivukkah\_7:

(Start: 43 @3753 has 9 MA's), (Start: 51 @3789 has 94 MA's), (62, 3837), (65, 3864), (71, 3900),

Gene: TinaFeyge\_7 Start: 3784, Stop: 3921, Start Num: 52

Candidate Starts for TinaFeyge\_7:

(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Tinybot\_6 Start: 3794, Stop: 3931, Start Num: 51

Candidate Starts for Tinybot\_6:

(1, 3068), (2, 3170), (5, 3248), (6, 3290), (7, 3305), (8, 3338), (13, 3458), (Start: 43 @3758 has 9 MA's), (Start: 51 @3794 has 94 MA's), (62, 3842), (65, 3869), (71, 3905),

Gene: TiroTheta9\_7 Start: 3784, Stop: 3921, Start Num: 52

Candidate Starts for TiroTheta9\_7:

(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Toaka\_8 Start: 4431, Stop: 4553, Start Num: 51

Candidate Starts for Toaka\_8:

(41, 4389), (Start: 44 @4401 has 2 MA's), (Start: 51 @4431 has 94 MA's), (61, 4455), (62, 4470),

Gene: ToneTone\_11 Start: 5606, Stop: 5764, Start Num: 52

Candidate Starts for ToneTone\_11:

(Start: 52 @5606 has 181 MA's), (66, 5693),

Gene: Trixie\_11 Start: 6218, Stop: 6376, Start Num: 52

Candidate Starts for Trixie\_11:

(27, 6098), (Start: 44 @6191 has 2 MA's), (Start: 52 @6218 has 181 MA's), (71, 6350),

Gene: Trooper\_8 Start: 4328, Stop: 4486, Start Num: 52

Candidate Starts for Trooper\_8:

(34, 4271), (Start: 44 @4301 has 2 MA's), (47, 4313), (Start: 52 @4328 has 181 MA's),

Gene: TroyPia\_7 Start: 3784, Stop: 3921, Start Num: 52

Candidate Starts for TroyPia\_7:

(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Tubs\_10 Start: 6006, Stop: 6146, Start Num: 51

Candidate Starts for Tubs\_10:

(25, 5847), (Start: 44 @5979 has 2 MA's), (Start: 51 @6006 has 94 MA's), (62, 6057), (63, 6066), (69, 6111),

Gene: Tucker\_12 Start: 5696, Stop: 5854, Start Num: 52

Candidate Starts for Tucker\_12:

(Start: 52 @5696 has 181 MA's), (66, 5783),

Gene: Turbido\_10 Start: 4966, Stop: 5124, Start Num: 52

Candidate Starts for Turbido\_10:

(Start: 44 @4936 has 2 MA's), (Start: 52 @4966 has 181 MA's), (71, 5098),

Gene: TygerBlood\_7 Start: 3786, Stop: 3923, Start Num: 52

Candidate Starts for TygerBlood\_7:

(10, 3435), (16, 3504), (Start: 52 @3786 has 181 MA's), (62, 3834),

Gene: Ugenie5\_7 Start: 6039, Stop: 6179, Start Num: 51

Candidate Starts for Ugenie5\_7:

(23, 5871), (25, 5877), (Start: 44 @6012 has 2 MA's), (Start: 51 @6039 has 94 MA's), (62, 6090), (63, 6099), (67, 6132), (69, 6144),

Gene: Updawg\_10 Start: 5033, Stop: 5191, Start Num: 52

Candidate Starts for Updawg\_10:

(39, 4991), (41, 4994), (Start: 52 @5033 has 181 MA's), (71, 5165),

Gene: VA6\_8 Start: 4514, Stop: 4672, Start Num: 52

Candidate Starts for VA6\_8:

(48, 4499), (Start: 52 @4514 has 181 MA's), (71, 4646),

Gene: Vanisoa\_8 Start: 4142, Stop: 4264, Start Num: 51

Candidate Starts for Vanisoa\_8:

(Start: 51 @4142 has 94 MA's), (Start: 56 @4154 has 8 MA's), (61, 4166),

Gene: VohminGhazi\_12 Start: 5696, Stop: 5854, Start Num: 52

Candidate Starts for VohminGhazi\_12:

(Start: 52 @5696 has 181 MA's), (66, 5783),

Gene: Wander\_7 Start: 3784, Stop: 3921, Start Num: 52

Candidate Starts for Wander\_7:

(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: WeiHuaDA\_14 Start: 6828, Stop: 6986, Start Num: 52

Candidate Starts for WeiHuaDA\_14:

(27, 6708), (Start: 44 @6801 has 2 MA's), (Start: 52 @6828 has 181 MA's), (71, 6960),

Gene: Whabigail7\_10 Start: 4969, Stop: 5127, Start Num: 52

Candidate Starts for Whabigail7\_10:

(Start: 44 @4939 has 2 MA's), (Start: 52 @4969 has 181 MA's), (71, 5101),

Gene: WideWale\_10 Start: 5033, Stop: 5191, Start Num: 52

Candidate Starts for WideWale\_10:

(39, 4991), (41, 4994), (Start: 52 @5033 has 181 MA's), (71, 5165),

Gene: Wiks\_12 Start: 5695, Stop: 5832, Start Num: 51

Candidate Starts for Wiks\_12:

(Start: 51 @5695 has 94 MA's), (62, 5743), (68, 5794), (71, 5806),

Gene: Wilbur\_7 Start: 3783, Stop: 3920, Start Num: 52

Candidate Starts for Wilbur\_7:

(10, 3432), (16, 3501), (Start: 52 @3783 has 181 MA's), (62, 3831),

Gene: Wile\_7 Start: 3800, Stop: 3937, Start Num: 51

Candidate Starts for Wile\_7:

(Start: 43 @3764 has 9 MA's), (Start: 51 @3800 has 94 MA's), (62, 3848), (65, 3875), (71, 3911),

Gene: Wizard007\_7 Start: 3786, Stop: 3923, Start Num: 52

Candidate Starts for Wizard007\_7:

(10, 3435), (16, 3504), (Start: 52 @3786 has 181 MA's), (62, 3834),

Gene: WunderPhul\_12 Start: 5695, Stop: 5832, Start Num: 51

Candidate Starts for WunderPhul\_12:

(Start: 51 @5695 has 94 MA's), (62, 5743), (68, 5794), (71, 5806),

Gene: Xena\_7 Start: 3799, Stop: 3936, Start Num: 51

Candidate Starts for Xena\_7:

(Start: 43 @3763 has 9 MA's), (Start: 51 @3799 has 94 MA's), (62, 3847), (65, 3874), (71, 3910),

Gene: XianYue\_8 Start: 4451, Stop: 4609, Start Num: 52

Candidate Starts for XianYue\_8:

(15, 4163), (23, 4277), (31, 4364), (Start: 44 @4424 has 2 MA's), (47, 4436), (Start: 52 @4451 has 181 MA's), (65, 4526), (71, 4583),

Gene: Yecey3\_9 Start: 4201, Stop: 4341, Start Num: 51

Candidate Starts for Yecey3\_9:

(Start: 51 @4201 has 94 MA's), (62, 4252), (67, 4294), (69, 4306),

Gene: YoSam321\_7 Start: 3784, Stop: 3921, Start Num: 52

Candidate Starts for YoSam321\_7:

(10, 3433), (16, 3502), (Start: 52 @3784 has 181 MA's), (62, 3832),

Gene: Yokurt\_12 Start: 5695, Stop: 5832, Start Num: 51

Candidate Starts for Yokurt\_12:

(Start: 51 @5695 has 94 MA's), (62, 5743), (68, 5794), (71, 5806),

Gene: Zaka\_12 Start: 5695, Stop: 5832, Start Num: 51

Candidate Starts for Zaka\_12:

(Start: 51 @5695 has 94 MA's), (62, 5743), (68, 5794), (71, 5806),

Gene: Zimmer\_10 Start: 6114, Stop: 6242, Start Num: 56

Candidate Starts for Zimmer\_10:

(Start: 56 @6114 has 8 MA's), (62, 6153), (69, 6207),

Gene: Zulu\_12 Start: 5694, Stop: 5831, Start Num: 51

Candidate Starts for Zulu\_12:

(Start: 51 @5694 has 94 MA's), (62, 5742), (68, 5793), (71, 5805),