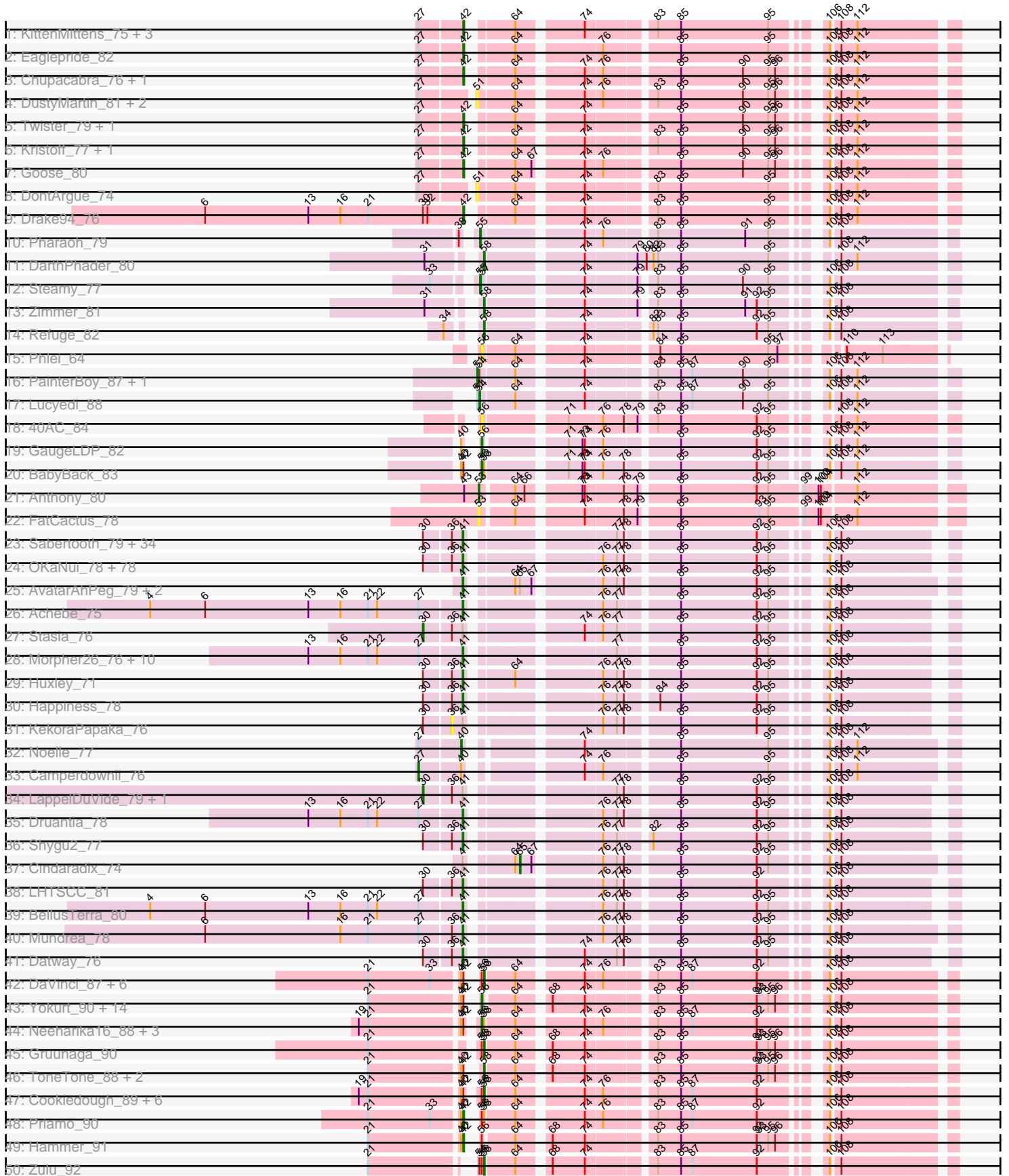
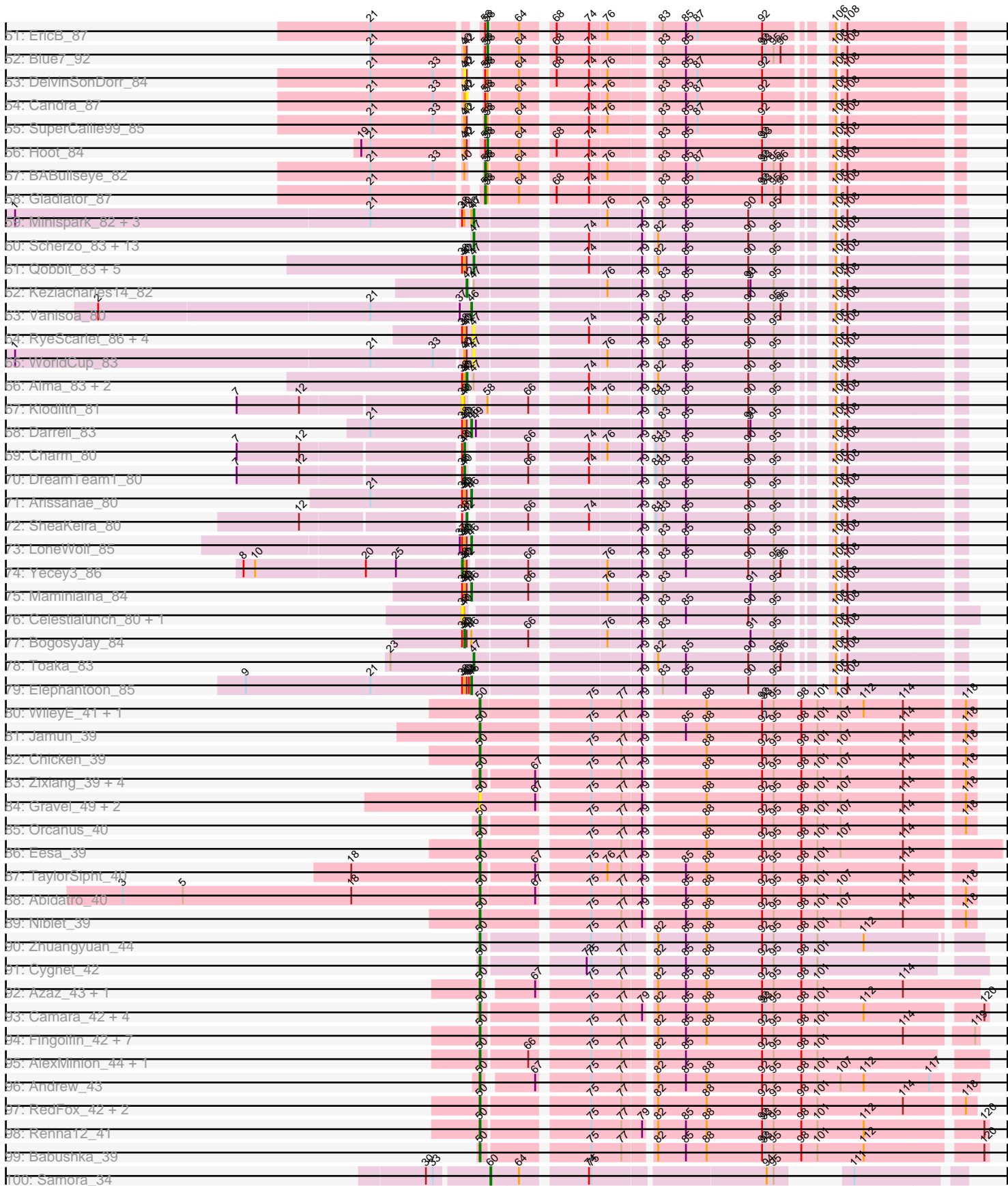


Pham 302994



Pham 302994





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 302994 Report

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

WARNING: Pham size does not match number of genes in report. Either unphamerated genes have been added (by you) or starterator has removed genes due to invalid start codon.

Pham number 302994 has 372 members, 51 are drafts.

Phages represented in each track:

- Track 1 : KittenMittens\_75, Poompha\_76, Severus\_77, PeaceMeal1\_76
- Track 2 : Eaglepride\_82
- Track 3 : Chupacabra\_76, OKCentral2016\_78
- Track 4 : DustyMartin\_81, Rowdy\_81, Shapes\_81
- Track 5 : Twister\_79, WalterMcMickey\_78
- Track 6 : Kristoff\_77, Rebeuca\_80
- Track 7 : Goose\_80
- Track 8 : DontArgue\_74
- Track 9 : Drake94\_76
- Track 10 : Pharaoh\_79
- Track 11 : DarthPhader\_80
- Track 12 : Steamy\_77
- Track 13 : Zimmer\_81
- Track 14 : Refuge\_82
- Track 15 : Phlei\_64
- Track 16 : PainterBoy\_87, EagleEye\_89
- Track 17 : Lucyedi\_88
- Track 18 : 40AC\_84
- Track 19 : GaugeLDP\_82
- Track 20 : BabyBack\_83
- Track 21 : Anthony\_80
- Track 22 : FatCactus\_78
- Track 23 : Sabertooth\_79, Millski\_78, Cintron\_79, Bartimeaus\_79, Pumbaa\_79, Lorenzo\_79, YoSam321\_79, TinaFeyge\_77, Albee\_79, TiroTheta9\_78, Jaykayelowell\_76, Polymorphads\_80, Abdiel\_78, Broseidon\_79, Thanksgivukkah\_78, Baby16\_79, Holli\_78, Flux\_80, Sparxx\_80, Roosevelt\_77, Nyxis\_78, Florean\_79, Pipcraft\_75, Xena\_75, Eros\_79, MeeZee\_78, Blackmoor\_78, Deano\_76, Connomayer\_79, HamSlice\_75, Citius\_79, Morrow\_81, Lunsford\_79, Medusa\_78, Annyong\_78
- Track 24 : OKaNui\_78, Eurydice\_80, Clarenza\_78, JoongJeon\_78, Mazhar510\_79, Burger\_77, Iracema64\_79, LochMonster\_80, Houdini22\_78, Avle17\_79, Melvin\_81, Bruiser\_78, Wander\_79, Relief\_78, SenorClean\_80, Ruin\_79, SteMason\_75, Phelipe\_80, Nemo27\_78, RockieBear\_76, Bombshell\_79, Eris\_78, Kampy\_78,

Obama12\_80, Kingmustik0402\_79, Romney\_78, Cocoaberry\_79, PeterPeter\_79, Nebs\_80, SheldonCooper\_79, Alberto7\_80, Cerulean\_81, CentreCat\_79, Kyee\_79, Scamp\_79, Lemur\_79, Tinybot\_78, LittleB\_79, Chaph\_79, Ulysses\_78, Kratark\_78, DirtyDunning\_78, Caelakin\_77, Skipitt\_78, Iceman\_77, Phacado\_79, ChampagnePapi\_82, Spino\_78, LittleGuy\_79, Dhanush\_79, Taquarus\_78, Commander\_77, JetBlade\_80, Rosa24\_75, Sultana\_79, Kremtemulon\_76, Ohfah\_80, Maverick\_78, Eagle\_78, Maxo\_81, Koan\_76, NorthStar\_76, Eapen\_79, Shaka\_77, Peaches\_77, KFPoly\_78, Palestino\_78, BangNhom\_76, ICleared\_78, Wilbur\_79, TroyPia\_80, Arturo\_76, TygerBlood\_79, Phighter1804\_79, Koreni\_78, Gadost\_79, NotAPhaseMom\_78, Phontbonne\_79, Funston\_78

- Track 25 : AvatarAhPeg\_79, Stink\_79, Miramae\_79
- Track 26 : Achebe\_75
- Track 27 : Stasia\_76
- Track 28 : Morpher26\_76, Wile\_75, Katalie136\_76, AbbysRanger\_76, Perplexer\_76, Backyardigan\_74, Badger\_75, Wizard007\_76, Bumblebee11\_75, Cici\_76, PetiteSangsue\_76
- Track 29 : Huxley\_71
- Track 30 : Happiness\_78
- Track 31 : KekoraPapaka\_76
- Track 32 : Noelle\_77
- Track 33 : Camperdownii\_76
- Track 34 : LappelDuVide\_79, BubbleTrouble\_78
- Track 35 : Druantia\_78
- Track 36 : Shygu2\_77
- Track 37 : Cindaradix\_74
- Track 38 : LHTSCC\_81
- Track 39 : BellusTerra\_80
- Track 40 : Mundrea\_78
- Track 41 : Datway\_76
- Track 42 : DaVinci\_87, McFly\_89, Kazan\_90, Chartreuse\_88, Isiphiwo\_85, VohminGhazi\_89, SmellyB\_89
- Track 43 : Yokurt\_90, Indra\_94, Rifter\_91, Wiks\_90, Koko\_92, Artemis2UCLA\_90, Temprado\_92, CloudWang3\_91, Hexamo\_90, Jeffabunny\_79, Roksolana\_91, Zaka\_91, BennyP\_91, Helmet\_93, Garak\_92
- Track 44 : Neeharika16\_88, Pmask\_88, Jordennis\_87, Dorothea\_89
- Track 45 : Gruunaga\_90
- Track 46 : ToneTone\_88, BlessJoy\_91, Tucker\_91
- Track 47 : Cookiedough\_89, Polyphemus\_82, SuperAwesome\_89, GreedyLawyer\_82, Newrala\_88, JewelBug\_81, Kipper29\_89
- Track 48 : Priamo\_90
- Track 49 : Hammer\_91
- Track 50 : Zulu\_92
- Track 51 : EricB\_87
- Track 52 : Blue7\_92
- Track 53 : DelvinSonDorr\_84
- Track 54 : Candra\_87
- Track 55 : SuperCallie99\_85
- Track 56 : Hoot\_84
- Track 57 : BABullseye\_82
- Track 58 : Gladiator\_87
- Track 59 : Minispark\_82, Bellris\_82, CogOmlette\_82, Rahalelujah\_84
- Track 60 : Scherzo\_83, Fayely\_83, Tubs\_85, Sachima\_81, Pioneer\_85, Phaeder\_85, Aliter\_78, Beemo\_85, Phonnegut\_85, Myxus\_85, HortumSL17\_86,

Onglai\_83, Jiawan\_82, Catalina\_87  
• Track 61 : Qobbit\_83, Spouty\_83, ExplosioNervosa\_83, Ayanochan\_83,  
Conquerage\_83, Priya\_83  
• Track 62 : Keziacharles14\_82  
• Track 63 : Vanisoa\_80  
• Track 64 : RyeScarlet\_86, Halex\_83, Lilleskat\_82, Hanray\_83, EdogawaKiddo\_83  
• Track 65 : WorldCup\_83  
• Track 66 : Alma\_83, Eidsmoe\_83, EmyBug\_82  
• Track 67 : Klodlith\_81  
• Track 68 : Darrell\_83  
• Track 69 : Charm\_80  
• Track 70 : DreamTeam1\_80  
• Track 71 : Arissanae\_80  
• Track 72 : SheaKeira\_80  
• Track 73 : LoneWolf\_85  
• Track 74 : Yecey3\_86  
• Track 75 : Maminiaina\_84  
• Track 76 : Celestialunch\_80, MegTheThird\_81  
• Track 77 : BogosyJay\_84  
• Track 78 : Toaka\_83  
• Track 79 : Elephantoon\_85  
• Track 80 : WileyE\_41, Chickaboom\_41  
• Track 81 : Jamun\_39  
• Track 82 : Chicken\_39  
• Track 83 : Zixiang\_39, Amanises\_42, KendraB23\_50, Shen\_39, Toad24\_42  
• Track 84 : Gravel\_49, Pelletreau\_49, Westrich\_48  
• Track 85 : Orcanus\_40  
• Track 86 : Eesa\_39  
• Track 87 : TaylorSipht\_40  
• Track 88 : Abidatro\_40  
• Track 89 : Niblet\_39  
• Track 90 : Zhuangyuan\_44  
• Track 91 : Cygnet\_42  
• Track 92 : Azaz\_43, Leona\_41  
• Track 93 : Camara\_42, Amphitrite\_42, AdoptaAdorbs\_41, Glotell\_43,  
KHumphrey\_42  
• Track 94 : Fingolfin\_42, HamCheese\_42, Laphuphu24k\_41, DanHam62\_42,  
AmiCi24\_41, Juno112\_41, Atlantica\_42, Oppalora\_41  
• Track 95 : AlexMinion\_44, StuartMinion\_34  
• Track 96 : Andrew\_43  
• Track 97 : RedFox\_42, PhluffyCoco\_42, Rattail\_42  
• Track 98 : Renna12\_41  
• Track 99 : Babushka\_39  
• Track 100 : Samora\_34  
• Track 101 : Euratis\_33  
• Track 102 : Vash\_32, Lilbooboo\_32  
• Track 103 : phiBT1\_9.1  
• Track 104 : Heather\_35  
• Track 105 : RemusLoopin\_34  
• Track 106 : Sebastisaurus\_34  
• Track 107 : Upyo\_54  
• Track 108 : Gmala1\_28  
• Track 109 : GordTnk2\_28, GordDuk1\_28

- Track 110 : Jumbo\_35
- Track 111 : Camerico\_38
- Track 112 : Sassafras\_71, RedBird\_71, Inventum\_68, Dorothy\_71
- Track 113 : PhlipPhlop\_68, EmiMonkey\_66
- Track 114 : Kingsley\_70
- Track 115 : ShowerHandel\_73, ByChance\_63
- Track 116 : FoulBall\_6, Idergollasper\_6, Familton\_7, YoyoKar\_6, SchoolBus\_6, Zebo\_6, KingPhillip3\_6, JangDynasty\_6, Blessica\_6, Catdawg\_6
- Track 117 : Schuy\_6, Vorrps\_6, MadKillah\_6, Mori\_6, Krili\_6, Alkhayr\_6, Murai\_6, Shida\_6, NiebruSaylor\_6
- Track 118 : Dylan\_7, Smooch\_7, Zakhe101\_7, Corndog\_7, Ashwin\_7, TelAviv\_6, YungJamal\_7, Bora\_6, Firecracker\_6, Wildflower\_6
- Track 119 : Ryadel\_8
- Track 120 : Imara\_6, Vagabond\_6, Winget\_6
- Track 121 : Wogge42\_6
- Track 122 : Samy\_49

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

The start number called the most often in the published annotations is 41, it was called in 134 of the 321 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AbbysRanger\_76, Abdiel\_78, Achebe\_75, Albee\_79, Alberto7\_80, Annyong\_78, Arturo\_76, AvatarAhPeg\_79, Avle17\_79, Baby16\_79, Backyardigan\_74, Badger\_75, BangNhom\_76, Bartimeaus\_79, BellusTerra\_80, Blackmoor\_78, Bombshell\_79, Broseidon\_79, Bruiser\_78, Bumblebee11\_75, Burger\_77, Caelakin\_77, CentreCat\_79, Cerulean\_81, ChampagnePapi\_82, Chaph\_79, Cici\_76, Cintron\_79, Citius\_79, Clarenza\_78, Cocoaberry\_79, Commander\_77, Connomayer\_79, Datway\_76, Deano\_76, Dhanush\_79, DirtyDunning\_78, Druantia\_78, Eagle\_78, Eapen\_79, Eris\_78, Eros\_79, Eurydice\_80, Floean\_79, Flux\_80, Funston\_78, Gadost\_79, HamSlice\_75, Happiness\_78, Holli\_78, Houdini22\_78, Huxley\_71, ICleared\_78, Iceman\_77, Iracema64\_79, Jaykayelowell\_76, JetBlade\_80, JoongJeon\_78, KFPoly\_78, Kampy\_78, Katalie136\_76, Kingmustik0402\_79, Koan\_76, Koreni\_78, Kratark\_78, Kremtemulon\_76, Kyee\_79, LHTSCC\_81, Lemur\_79, LittleB\_79, LittleGuy\_79, LochMonster\_80, Lorenzo\_79, Lunsford\_79, Maverick\_78, Maxo\_81, Mazhar510\_79, Medusa\_78, MeeZee\_78, Melvin\_81, Millski\_78, Miramae\_79, Morpher26\_76, Morrow\_81, Mundrea\_78, Nebs\_80, Nemo27\_78, NorthStar\_76, NotAPhaseMom\_78, Nyxis\_78, OKaNui\_78, Obama12\_80, Ohfah\_80, Palestino\_78, Peaches\_77, Perplexer\_76, PeterPeter\_79, PetiteSangsue\_76, Phacado\_79, Felipe\_80, Phighter1804\_79, Phontbonne\_79, Pipcraft\_75, Polymorphads\_80, Pumbaa\_79, Relief\_78, RockieBear\_76, Romney\_78, Roosevelt\_77, Rosa24\_75, Ruin\_79, Sabertooth\_79, Scamp\_79, SeniorClean\_80, Shaka\_77, SheldonCooper\_79, Shygu2\_77, Skipitt\_78, Sparxx\_80, Spino\_78, SteMason\_75, Stink\_79, Sultana\_79, Taquarus\_78, Thanksgivukkah\_78, TinaFeyge\_77, Tinybot\_78, TiroTheta9\_78, TroyPia\_80, TygerBlood\_79, Ulysses\_78, Wander\_79, Wilbur\_79, Wile\_75, Wizard007\_76, Xena\_75, YoSam321\_79,

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

- BubbleTrouble\_78, Cindaradix\_74, KekoraPapaka\_76, LappelDuVide\_79, Stasia\_76,

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

- 40AC\_84, Abidatro\_40, AdoptaAdorbs\_41, AlexMinion\_44, Aliter\_78, Alkhayr\_6, Alma\_83, Amanises\_42, AmiCi24\_41, Amphitrite\_42, Andrew\_43, Anthony\_80, Arissanae\_80, Artemis2UCLA\_90, Ashwin\_7, Atlantica\_42, Ayanochan\_83, Azaz\_43, BABullseye\_82, Babushka\_39, BabyBack\_83, Beemo\_85, Bellris\_82, BennyP\_91, BlessJoy\_91, Blessica\_6, Blue7\_92, BogosyJay\_84, Bora\_6, ByChance\_63, Camara\_42, Camerico\_38, Camperdownii\_76, Candra\_87, Catalina\_87, Catdawg\_6, Celestiallunch\_80, Charm\_80, Chartreuse\_88, Chickaboom\_41, Chicken\_39, Chupacabra\_76, CloudWang3\_91, CogOmlette\_82, Conquerage\_83, Cookiedough\_89, Corndog\_7, Cygnet\_42, DaVinci\_87, DanHam62\_42, Darrell\_83, DARTHPhader\_80, DelvinSonDorr\_84, DontArgue\_74, Dorothea\_89, Dorothy\_71, Drake94\_76, DreamTeam1\_80, DustyMartin\_81, Dylan\_7, EagleEye\_89, Eaglepride\_82, EdogawaKiddo\_83, Eesa\_39, Eidsmoe\_83, Elephanto\_85, EmiMonkey\_66, EmyBug\_82, EricB\_87, Euratis\_33, ExplosioNervosa\_83, Familton\_7, FatCactus\_78, Fayely\_83, Fingolfin\_42, Firecracker\_6, FoulBall\_6, Garak\_92, GaugeLDP\_82, Gladiator\_87, Glotell\_43, Gmala1\_28, Goose\_80, GordDuk1\_28, GordTnk2\_28, Gravel\_49, GreedyLawyer\_82, Gruunaga\_90, HamCheese\_42, Hammer\_91, Hanray\_83, Heather\_35, Helmet\_93, Hexamo\_90, Horex\_83, Hoot\_84, HortumSL17\_86, Idergollasper\_6, Imara\_6, Indra\_94, Inventum\_68, Isiphiwo\_85, Jamun\_39, JangDynasty\_6, Jeffabunny\_79, JewelBug\_81, Jiawan\_82, Jordennis\_87, Jumbo\_35, Juno112\_41, KHumphrey\_42, Kazan\_90, KendraB23\_50, Keziacharles14\_82, KingPhillip3\_6, Kingsley\_70, Kipper29\_89, KittenMittens\_75, Klodlith\_81, Koko\_92, Krili\_6, Kristoff\_77, Laphuphu24k\_41, Leona\_41, Lilbooboo\_32, Lilleskat\_82, LoneWolf\_85, Lucyedi\_88, MadKillah\_6, Maminina\_84, McFly\_89, MegTheThird\_81, Minispark\_82, Mori\_6, Murai\_6, Myxus\_85, Neeharika16\_88, Newrala\_88, Niblet\_39, NiebruSaylor\_6, Noelle\_77, OKCentral2016\_78, Onglai\_83, Oppalora\_41, Orcanus\_40, PainterBoy\_87, PeaceMeal1\_76, Pelletreau\_49, Phaeder\_85, Pharaoh\_79, Phlei\_64, PhilipPhlop\_68, PhluffyCoco\_42, Phonnegut\_85, Pioneer\_85, Pmask\_88, Polyphemus\_82, Poompha\_76, Priamo\_90, Priya\_83, Qobbit\_83, Rahalelujah\_84, Rattail\_42, Rebeuca\_80, RedBird\_71, RedFox\_42, Refuge\_82, RemusLoopin\_34, Renna12\_41, Rifter\_91, Roksolana\_91, Rowdy\_81, Ryadel\_8, RyeScarlet\_86, Sachima\_81, Samora\_34, Samy\_49, Sassafras\_71, Scherzo\_83, SchoolBus\_6, Schuy\_6, Sebastisaurus\_34, Severus\_77, Shapes\_81, SheaKeira\_80, Shen\_39, Shida\_6, ShowerHandel\_73, SmellyB\_89, Smooch\_7, Spouty\_83, Steamy\_77, StuartMinion\_34, SuperAwesome\_89, SuperCallie99\_85, TaylorSipht\_40, TelAviv\_6, Temprado\_92, Toad24\_42, Toaka\_83, ToneTone\_88, Tubs\_85, Tucker\_91, Twister\_79, Upyo\_54, Vagabond\_6, Vanisoa\_80, Vash\_32, VohminGhazi\_89, Vorrrps\_6, WalterMcMickey\_78, Westrich\_48, Wiks\_90, Wildflower\_6, WileyE\_41, Winget\_6, Wogge42\_6, WorldCup\_83, Yecey3\_86, Yokurt\_90, YoyoKar\_6, YungJamal\_7, Zaka\_91, Zakhe101\_7, Zebo\_6, Zhuangyuan\_44, Zimmer\_81, Zixiang\_39, Zulu\_92, phiBT1\_9.1,

### Summary by start number:

Start 27:

- Found in 33 of 372 ( 8.9% ) of genes in pham
- Manual Annotations of this start: 1 of 321
- Called 3.0% of time when present
- Phage (with cluster) where this start called: Camperdownii\_76 (A4),

Start 30:

- Found in 126 of 372 ( 33.9% ) of genes in pham
- Manual Annotations of this start: 3 of 321
- Called 2.4% of time when present
- Phage (with cluster) where this start called: BubbleTrouble\_78 (A4), LappelDuVide\_79 (A4), Stasia\_76 (A4),

Start 36:

- Found in 124 of 372 ( 33.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 0.8% of time when present
- Phage (with cluster) where this start called: KekoraPapaka\_76 (A4),

Start 38:

- Found in 43 of 372 ( 11.6% ) of genes in pham
- Manual Annotations of this start: 1 of 321
- Called 9.3% of time when present
- Phage (with cluster) where this start called: Celestiallunch\_80 (A9), Klodlith\_81 (A9), MegTheThird\_81 (A9), Yecey3\_86 (A9),

Start 40:

- Found in 79 of 372 ( 21.2% ) of genes in pham
- Manual Annotations of this start: 4 of 321
- Called 6.3% of time when present
- Phage (with cluster) where this start called: BogosyJay\_84 (A9), Charm\_80 (A9), DelvinSonDorr\_84 (A6), DreamTeam1\_80 (A9), Noelle\_77 (A4),

Start 41:

- Found in 142 of 372 ( 38.2% ) of genes in pham
- Manual Annotations of this start: 134 of 321
- Called 96.5% of time when present
- Phage (with cluster) where this start called: AbbysRanger\_76 (A4), Abdiel\_78 (A4), Achebe\_75 (A4), Albee\_79 (A4), Alberto7\_80 (A4), Annyong\_78 (A4), Arturo\_76 (A4), AvatarAhPeg\_79 (A4), Avle17\_79 (A4), Baby16\_79 (A4), Backyardigan\_74 (A4), Badger\_75 (A4), BangNhom\_76 (A4), Bartimeaus\_79 (A4), BellusTerra\_80 (A4), Blackmoor\_78 (A4), Bombshell\_79 (A4), Broseidon\_79 (A4), Bruiser\_78 (A4), Bumblebee11\_75 (A4), Burger\_77 (A4), Caelakin\_77 (A4), CentreCat\_79 (A4), Cerulean\_81 (A4), ChampagnePapi\_82 (A4), Chaph\_79 (A4), Cici\_76 (A4), Cintron\_79 (A4), Citius\_79 (A4), Clarenza\_78 (A4), Cocoaberry\_79 (A4), Commander\_77 (A4), Connomayer\_79 (A4), Datway\_76 (A4), Deano\_76 (A4), Dhanush\_79 (A4), DirtyDunning\_78 (A4), Druantia\_78 (A4), Eagle\_78 (A4), Eapen\_79 (A4), Eris\_78 (A4), Eros\_79 (A4), Eurydice\_80 (A4), Florean\_79 (A4), Flux\_80 (A4), Funston\_78 (A4), Gadost\_79 (A4), HamSlice\_75 (A4), Happiness\_78 (A4), Holli\_78 (A4), Houdini22\_78 (A4), Huxley\_71 (A4), ICleared\_78 (A4), Iceman\_77 (A4), Iracema64\_79 (A4), Jaykayelowell\_76 (A4), JetBlade\_80 (A4), JoongJeon\_78 (A4), KFPoly\_78 (A4), Kamy\_78 (A4), Katalie136\_76 (A4), Kingmustik0402\_79 (A4), Koan\_76 (A4), Koreni\_78 (A4), Kratak\_78 (A4), Kremtemulon\_76 (A4), Kyee\_79 (A4), LHTSCC\_81 (A4), Lemur\_79 (A4), LittleB\_79 (A4), LittleGuy\_79 (A4), LochMonster\_80 (A4), Lorenzo\_79 (A4), Lunsford\_79 (A4), Maverick\_78 (A4), Maxo\_81 (A4), Mazhar510\_79 (A4), Medusa\_78 (A4), MeeZee\_78 (A4), Melvin\_81 (A4), Millski\_78 (A4), Miramae\_79 (A4), Morpher26\_76 (A4), Morrow\_81 (A4), Mundrea\_78 (A4), Nebs\_80 (A4), Nemo27\_78 (A4), NorthStar\_76

(A4), NotAPhaseMom\_78 (A4), Nyxis\_78 (A4), OKaNui\_78 (A4), Obama12\_80 (A4), Ohfah\_80 (A4), Palestino\_78 (A4), Peaches\_77 (A4), Perplexer\_76 (A4), PeterPeter\_79 (A4), PetiteSangsue\_76 (A4), Phacado\_79 (A4), Phelipe\_80 (A4), Phighter1804\_79 (A4), Phontbonne\_79 (A4), Pipcraft\_75 (A4), Polymorphads\_80 (A4), Pumbaa\_79 (A4), Relief\_78 (A4), RockieBear\_76 (A4), Romney\_78 (A4), Roosevelt\_77 (A4), Rosa24\_75 (A4), Ruin\_79 (A4), Sabertooth\_79 (A4), Scamp\_79 (A4), SenorClean\_80 (A4), Shaka\_77 (A4), SheldonCooper\_79 (A4), Shygu2\_77 (A4), Skipitt\_78 (A4), Sparxx\_80 (A4), Spino\_78 (A4), SteMason\_75 (A4), Stink\_79 (A4), Sultana\_79 (A4), Taquarus\_78 (A4), Thanksgivukkah\_78 (A4), TinaFeyge\_77 (A4), Tinybot\_78 (A4), TiroTheta9\_78 (A4), TroyPia\_80 (A4), TygerBlood\_79 (A4), Ulysses\_78 (A4), Wander\_79 (A4), Wilbur\_79 (A4), Wile\_75 (A4), Wizard007\_76 (A4), Xena\_75 (A4), YoSam321\_79 (A4),

#### Start 42:

- Found in 81 of 372 ( 21.8% ) of genes in pham
- Manual Annotations of this start: 20 of 321
- Called 25.9% of time when present
- Phage (with cluster) where this start called: Alma\_83 (A9), Candra\_87 (A6), Chupacabra\_76 (A10), Drake94\_76 (A10), Eaglepride\_82 (A10), Eidsmoe\_83 (A9), EmyBug\_82 (A9), Goose\_80 (A10), Hammer\_91 (A6), Keziacharles14\_82 (A9), KittenMittens\_75 (A10), Kristoff\_77 (A10), OKCentral2016\_78 (A10), PeaceMeal1\_76 (A10), Poompha\_76 (A10), Priamo\_90 (A6), Rebeuca\_80 (A10), Severus\_77 (A10), SheaKeira\_80 (A9), Twister\_79 (A10), WalterMcMickey\_78 (A10),

#### Start 44:

- Found in 34 of 372 ( 9.1% ) of genes in pham
- Manual Annotations of this start: 29 of 321
- Called 97.1% of time when present
- Phage (with cluster) where this start called: Alkhayr\_6 (O), Ashwin\_7 (O), Blessica\_6 (O), Bora\_6 (O), Catdawg\_6 (O), Corndog\_7 (O), Dylan\_7 (O), Familton\_7 (O), Firecracker\_6 (O), FoulBall\_6 (O), Idergollasper\_6 (O), Imara\_6 (O), JangDynasty\_6 (O), KingPhillip3\_6 (O), Krili\_6 (O), MadKillah\_6 (O), Mori\_6 (O), Murai\_6 (O), NiebruSaylor\_6 (O), SchoolBus\_6 (O), Schuy\_6 (O), Shida\_6 (O), Smooch\_7 (O), TelAviv\_6 (O), Vagabond\_6 (O), Vorrps\_6 (O), Wildflower\_6 (O), Winget\_6 (O), Wogge42\_6 (O), YoyoKar\_6 (O), YungJamal\_7 (O), Zakhe101\_7 (O), Zebo\_6 (O),

#### Start 45:

- Found in 3 of 372 ( 0.8% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Gmala1\_28 (DF1), GordDuk1\_28 (DF1), GordTnk2\_28 (DF1),

#### Start 46:

- Found in 12 of 372 ( 3.2% ) of genes in pham
- Manual Annotations of this start: 7 of 321
- Called 58.3% of time when present
- Phage (with cluster) where this start called: Arissanee\_80 (A9), Darrell\_83 (A9), Elephantoon\_85 (A9), LoneWolf\_85 (A9), Maminiaina\_84 (A9), Samy\_49 (singleton), Vanisoa\_80 (A9),

#### Start 47:

- Found in 36 of 372 ( 9.7% ) of genes in pham

- Manual Annotations of this start: 19 of 321
- Called 88.9% of time when present
- Phage (with cluster) where this start called: Aliter\_78 (A9), Ayanochan\_83 (A9), Beemo\_85 (A9), Bellris\_82 (A9), Catalina\_87 (A9), CogOmlette\_82 (A9), Conquerage\_83 (A9), EdogawaKiddo\_83 (A9), ExplosioNervosa\_83 (A9), Fayely\_83 (A9), Hanray\_83 (A9), Horex\_83 (A9), HortumSL17\_86 (A9), Jiawan\_82 (A9), Jumbo\_35 (DF3), Lilleskat\_82 (A9), Minispark\_82 (A9), Myxus\_85 (A9), Onglai\_83 (A9), Phaeder\_85 (A9), Phonnegut\_85 (A9), Pioneer\_85 (A9), Priya\_83 (A9), Qobbit\_83 (A9), Rahalelujah\_84 (A9), RyeScarlet\_86 (A9), Sachima\_81 (A9), Scherzo\_83 (A9), Spouty\_83 (A9), Toaka\_83 (A9), Tubs\_85 (A9), WorldCup\_83 (A9),

#### Start 50:

- Found in 42 of 372 ( 11.3% ) of genes in pham
- Manual Annotations of this start: 30 of 321
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abidatro\_40 (AS1), AdoptaAdorbs\_41 (AS3), AlexMinion\_44 (AS3), Amanises\_42 (AS1), AmiCi24\_41 (AS3), Amphitrite\_42 (AS3), Andrew\_43 (AS3), Atlantica\_42 (AS3), Azaz\_43 (AS3), Babushka\_39 (AS3), Camara\_42 (AS3), Chickaboom\_41 (AS1), Chicken\_39 (AS1), Cygnet\_42 (AS2), DanHam62\_42 (AS3), Eesa\_39 (AS1), Fingolfin\_42 (AS3), Glotell\_43 (AS3), Gravel\_49 (AS1), HamCheese\_42 (AS3), Jamun\_39 (AS1), Juno112\_41 (AS3), KHumphrey\_42 (AS3), KendraB23\_50 (AS1), Laphuphu24k\_41 (AS3), Leona\_41 (AS3), Niblet\_39 (AS1), Oppalora\_41 (AS3), Orcanus\_40 (AS1), Pelletreau\_49 (AS1), PhluffyCoco\_42 (AS3), Rattail\_42 (AS3), RedFox\_42 (AS3), Renna12\_41 (AS3), Shen\_39 (AS1), StuartMinion\_34 (AS3), TaylorSipht\_40 (AS1), Toad24\_42 (AS1), Westrich\_48 (AS1), WileyE\_41 (AS1), Zhuangyuan\_44 (AS2), Zixiang\_39 (AS1),

#### Start 51:

- Found in 7 of 372 ( 1.9% ) of genes in pham
- Manual Annotations of this start: 2 of 321
- Called 85.7% of time when present
- Phage (with cluster) where this start called: DontArgue\_74 (A10), DustyMartin\_81 (A10), EagleEye\_89 (A16), PainterBoy\_87 (A16), Rowdy\_81 (A10), Shapes\_81 (A10),

#### Start 53:

- Found in 2 of 372 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 321
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Anthony\_80 (A20), FatCactus\_78 (A20),

#### Start 54:

- Found in 4 of 372 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 1 of 321
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Lucyedi\_88 (A16),

#### Start 55:

- Found in 2 of 372 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 2 of 321
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Pharaoh\_79 (A12), Steamy\_77 (A12),

Start 56:

- Found in 50 of 372 ( 13.4% ) of genes in pham
- Manual Annotations of this start: 24 of 321
- Called 54.0% of time when present
- Phage (with cluster) where this start called: 40AC\_84 (A17), Artemis2UCLA\_90 (A6), BABullseye\_82 (A6), BabyBack\_83 (A2), BennyP\_91 (A6), CloudWang3\_91 (A6), Dorothea\_89 (A6), Garak\_92 (A6), GaugeLDP\_82 (A2), Gladiator\_87 (A6), Helmet\_93 (A6), Hexamo\_90 (A6), Indra\_94 (A6), Jeffabunny\_79 (A6), Jordennis\_87 (A6), Koko\_92 (A6), Neeharika16\_88 (A6), Phlei\_64 (A13), Pmask\_88 (A6), Rifter\_91 (A6), Roksolana\_91 (A6), Ryadel\_8 (O), SuperCallie99\_85 (A6), Temprado\_92 (A6), Wiks\_90 (A6), Yokurt\_90 (A6), Zaka\_91 (A6),

Start 58:

- Found in 37 of 372 ( 9.9% ) of genes in pham
- Manual Annotations of this start: 25 of 321
- Called 67.6% of time when present
- Phage (with cluster) where this start called: BlessJoy\_91 (A6), Blue7\_92 (A6), Chartreuse\_88 (A6), Cookiedough\_89 (A6), DaVinci\_87 (A6), DarthPhader\_80 (A12), EricB\_87 (A6), GreedyLawyer\_82 (A6), Gruunaga\_90 (A6), Hoot\_84 (A6), Isiphiwo\_85 (A6), JewelBug\_81 (A6), Kazan\_90 (A6), Kipper29\_89 (A6), McFly\_89 (A6), Newrala\_88 (A6), Polyphemus\_82 (A6), Refuge\_82 (A12), SmellyB\_89 (A6), SuperAwesome\_89 (A6), ToneTone\_88 (A6), Tucker\_91 (A6), VohminGhazi\_89 (A6), Zimmer\_81 (A12), Zulu\_92 (A6),

Start 59:

- Found in 1 of 372 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 321
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Upyo\_54 (CD),

Start 60:

- Found in 17 of 372 ( 4.6% ) of genes in pham
- Manual Annotations of this start: 15 of 321
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ByChance\_63 (F1), Dorothy\_71 (F1), EmiMonkey\_66 (F1), Euratis\_33 (BB1), Heather\_35 (BB2), Inventum\_68 (F1), Kingsley\_70 (F1), Lilbooboo\_32 (BB1), PhilipPhlop\_68 (F1), RedBird\_71 (F1), RemusLoopin\_34 (BB2), Samora\_34 (BB1), Sassafras\_71 (F1), Sebastisaurus\_34 (BB2), ShowerHandel\_73 (F1), Vash\_32 (BB1), phiBT1\_9.1 (BB1),

Start 64:

- Found in 114 of 372 ( 30.6% ) of genes in pham
- Manual Annotations of this start: 1 of 321
- Called 0.9% of time when present
- Phage (with cluster) where this start called: Camerico\_38 (DF4),

Start 65:

- Found in 7 of 372 ( 1.9% ) of genes in pham
- Manual Annotations of this start: 1 of 321
- Called 14.3% of time when present
- Phage (with cluster) where this start called: Cindaradix\_74 (A4),

**Summary by clusters:**

There are 22 clusters represented in this pham: singleton, A17, A16, A10, A13, A12, DF4, DF1, DF3, A2, A4, A6, A9, BB2, BB1, AS3, AS2, AS1, O, CD, A20, F1,

Info for manual annotations of cluster A10:

- Start number 42 was manually annotated 13 times for cluster A10.

Info for manual annotations of cluster A12:

- Start number 55 was manually annotated 2 times for cluster A12.
- Start number 58 was manually annotated 3 times for cluster A12.

Info for manual annotations of cluster A16:

- Start number 51 was manually annotated 2 times for cluster A16.
- Start number 54 was manually annotated 1 time for cluster A16.

Info for manual annotations of cluster A2:

- Start number 56 was manually annotated 2 times for cluster A2.

Info for manual annotations of cluster A20:

- Start number 53 was manually annotated 1 time for cluster A20.

Info for manual annotations of cluster A4:

- Start number 27 was manually annotated 1 time for cluster A4.
- Start number 30 was manually annotated 3 times for cluster A4.
- Start number 40 was manually annotated 1 time for cluster A4.
- Start number 41 was manually annotated 134 times for cluster A4.
- Start number 65 was manually annotated 1 time for cluster A4.

Info for manual annotations of cluster A6:

- Start number 42 was manually annotated 2 times for cluster A6.
- Start number 56 was manually annotated 21 times for cluster A6.
- Start number 58 was manually annotated 22 times for cluster A6.

Info for manual annotations of cluster A9:

- Start number 38 was manually annotated 1 time for cluster A9.
- Start number 40 was manually annotated 3 times for cluster A9.
- Start number 42 was manually annotated 5 times for cluster A9.
- Start number 46 was manually annotated 6 times for cluster A9.
- Start number 47 was manually annotated 18 times for cluster A9.

Info for manual annotations of cluster AS1:

- Start number 50 was manually annotated 12 times for cluster AS1.

Info for manual annotations of cluster AS2:

- Start number 50 was manually annotated 2 times for cluster AS2.

Info for manual annotations of cluster AS3:

- Start number 50 was manually annotated 16 times for cluster AS3.

Info for manual annotations of cluster BB1:

- Start number 60 was manually annotated 4 times for cluster BB1.

Info for manual annotations of cluster BB2:

- Start number 60 was manually annotated 3 times for cluster BB2.

Info for manual annotations of cluster CD:

- Start number 59 was manually annotated 1 time for cluster CD.

Info for manual annotations of cluster DF3:

- Start number 47 was manually annotated 1 time for cluster DF3.

Info for manual annotations of cluster DF4:

- Start number 64 was manually annotated 1 time for cluster DF4.

Info for manual annotations of cluster F1:

- Start number 60 was manually annotated 8 times for cluster F1.

Info for manual annotations of cluster O:

- Start number 44 was manually annotated 29 times for cluster O.
- Start number 56 was manually annotated 1 time for cluster O.

### **Gene Information:**

Gene: 40AC\_84 Start: 49609, Stop: 49076, Start Num: 56

Candidate Starts for 40AC\_84:

(Start: 56 @49609 has 24 MA's), (71, 49516), (76, 49474), (78, 49447), (79, 49432), (83, 49417), (85, 49387), (92, 49288), (95, 49273), (108, 49216), (112, 49195),

Gene: AbbysRanger\_76 Start: 47071, Stop: 46538, Start Num: 41

Candidate Starts for AbbysRanger\_76:

(13, 47266), (16, 47224), (21, 47188), (22, 47176), (Start: 27 @47122 has 1 MA's), (Start: 41 @47071 has 134 MA's), (77, 46909), (85, 46840), (92, 46741), (95, 46726), (106, 46678), (108, 46669),

Gene: Abdiel\_78 Start: 47271, Stop: 46738, Start Num: 41

Candidate Starts for Abdiel\_78:

(Start: 30 @47316 has 3 MA's), (36, 47283), (Start: 41 @47271 has 134 MA's), (77, 47109), (78, 47100), (85, 47040), (92, 46941), (95, 46926), (106, 46878), (108, 46869),

Gene: Abidatro\_40 Start: 27123, Stop: 27719, Start Num: 50

Candidate Starts for Abidatro\_40:

(3, 26661), (5, 26739), (18, 26958), (Start: 50 @27123 has 30 MA's), (67, 27192), (75, 27249), (77, 27288), (79, 27312), (85, 27357), (88, 27384), (92, 27456), (95, 27471), (98, 27507), (101, 27528), (107, 27558), (114, 27639), (118, 27708),

Gene: Achebe\_75 Start: 47050, Stop: 46517, Start Num: 41

Candidate Starts for Achebe\_75:

(4, 47452), (6, 47380), (13, 47245), (16, 47203), (21, 47167), (22, 47155), (Start: 27 @47101 has 1 MA's), (Start: 41 @47050 has 134 MA's), (76, 46906), (77, 46888), (85, 46819), (92, 46720), (95, 46705), (106, 46657), (108, 46648),

Gene: AdoptaAdorbs\_41 Start: 26809, Stop: 27417, Start Num: 50

Candidate Starts for AdoptaAdorbs\_41:

(Start: 50 @26809 has 30 MA's), (75, 26932), (77, 26971), (79, 26995), (82, 27004), (85, 27040), (88, 27067), (92, 27139), (93, 27142), (95, 27154), (98, 27190), (101, 27211), (112, 27271), (120, 27412),

Gene: Albee\_79 Start: 47259, Stop: 46726, Start Num: 41

Candidate Starts for Albee\_79:

(Start: 30 @47304 has 3 MA's), (36, 47271), (Start: 41 @47259 has 134 MA's), (77, 47097), (78, 47088), (85, 47028), (92, 46929), (95, 46914), (106, 46866), (108, 46857),

Gene: Alberto7\_80 Start: 47596, Stop: 47063, Start Num: 41

Candidate Starts for Alberto7\_80:

(Start: 30 @47641 has 3 MA's), (36, 47608), (Start: 41 @47596 has 134 MA's), (76, 47452), (77, 47434), (78, 47425), (85, 47365), (92, 47266), (95, 47251), (106, 47203), (108, 47194),

Gene: AlexMinion\_44 Start: 26975, Stop: 27574, Start Num: 50

Candidate Starts for AlexMinion\_44:

(Start: 50 @26975 has 30 MA's), (66, 27032), (75, 27098), (77, 27137), (82, 27170), (85, 27206), (92, 27305), (95, 27320), (98, 27356), (101, 27377),

Gene: Aliter\_78 Start: 44452, Stop: 43904, Start Num: 47

Candidate Starts for Aliter\_78:

(Start: 47 @44452 has 19 MA's), (74, 44323), (79, 44260), (82, 44251), (85, 44215), (90, 44134), (95, 44101), (106, 44053), (108, 44044),

Gene: Alkhayr\_6 Start: 2237, Stop: 1647, Start Num: 44

Candidate Starts for Alkhayr\_6:

(17, 2390), (26, 2315), (35, 2258), (Start: 38 @2246 has 1 MA's), (Start: 44 @2237 has 29 MA's), (63, 2186), (Start: 64 @2183 has 1 MA's), (74, 2108), (76, 2084), (79, 2042), (84, 2012), (95, 1871), (100, 1820), (105, 1799),

Gene: Alma\_83 Start: 47302, Stop: 46748, Start Num: 42

Candidate Starts for Alma\_83:

(Start: 38 @47308 has 1 MA's), (Start: 40 @47305 has 4 MA's), (Start: 42 @47302 has 20 MA's), (Start: 47 @47296 has 19 MA's), (74, 47167), (79, 47104), (82, 47095), (85, 47059), (90, 46978), (95, 46945), (106, 46897), (108, 46888),

Gene: Amanises\_42 Start: 28188, Stop: 28781, Start Num: 50

Candidate Starts for Amanises\_42:

(Start: 50 @28188 has 30 MA's), (67, 28254), (75, 28311), (77, 28350), (79, 28374), (88, 28446), (92, 28518), (95, 28533), (98, 28569), (101, 28590), (107, 28620), (114, 28701), (118, 28770),

Gene: AmiCi24\_41 Start: 26807, Stop: 27406, Start Num: 50

Candidate Starts for AmiCi24\_41:

(Start: 50 @26807 has 30 MA's), (75, 26930), (77, 26969), (82, 27002), (85, 27038), (88, 27065), (92, 27137), (95, 27152), (98, 27188), (101, 27209), (114, 27320), (119, 27401),

Gene: Amphitrite\_42 Start: 26808, Stop: 27416, Start Num: 50

Candidate Starts for Amphitrite\_42:

(Start: 50 @26808 has 30 MA's), (75, 26931), (77, 26970), (79, 26994), (82, 27003), (85, 27039), (88, 27066), (92, 27138), (93, 27141), (95, 27153), (98, 27189), (101, 27210), (112, 27270), (120, 27411),

Gene: Andrew\_43 Start: 26701, Stop: 27291, Start Num: 50

Candidate Starts for Andrew\_43:

(Start: 50 @26701 has 30 MA's), (67, 26758), (75, 26815), (77, 26854), (82, 26887), (85, 26923), (88, 26950), (92, 27022), (95, 27037), (98, 27073), (101, 27094), (107, 27124), (112, 27154), (117, 27238),

Gene: Annyong\_78 Start: 47304, Stop: 46771, Start Num: 41

Candidate Starts for Annyong\_78:

(Start: 30 @47349 has 3 MA's), (36, 47316), (Start: 41 @47304 has 134 MA's), (77, 47142), (78, 47133), (85, 47073), (92, 46974), (95, 46959), (106, 46911), (108, 46902),

Gene: Anthony\_80 Start: 47872, Stop: 47306, Start Num: 53

Candidate Starts for Anthony\_80:

(43, 47875), (Start: 53 @47872 has 1 MA's), (Start: 64 @47833 has 1 MA's), (66, 47821), (73, 47761), (74, 47758), (78, 47710), (79, 47695), (85, 47650), (92, 47551), (95, 47536), (99, 47494), (103, 47476), (104, 47473), (112, 47431),

Gene: Arissanae\_80 Start: 47191, Stop: 46640, Start Num: 46

Candidate Starts for Arissanae\_80:

(21, 47317), (Start: 38 @47200 has 1 MA's), (Start: 40 @47197 has 4 MA's), (Start: 42 @47194 has 20 MA's), (Start: 46 @47191 has 7 MA's), (79, 46996), (83, 46981), (85, 46951), (90, 46870), (95, 46837), (106, 46789), (108, 46780),

Gene: Artemis2UCLA\_90 Start: 47554, Stop: 47027, Start Num: 56

Candidate Starts for Artemis2UCLA\_90:

(21, 47671), (Start: 40 @47560 has 4 MA's), (Start: 42 @47557 has 20 MA's), (Start: 56 @47554 has 24 MA's), (Start: 64 @47518 has 1 MA's), (68, 47485), (74, 47443), (83, 47365), (85, 47335), (92, 47236), (93, 47233), (95, 47221), (96, 47212), (106, 47173), (108, 47164),

Gene: Arturo\_76 Start: 47387, Stop: 46854, Start Num: 41

Candidate Starts for Arturo\_76:

(Start: 30 @47432 has 3 MA's), (36, 47399), (Start: 41 @47387 has 134 MA's), (76, 47243), (77, 47225), (78, 47216), (85, 47156), (92, 47057), (95, 47042), (106, 46994), (108, 46985),

Gene: Ashwin\_7 Start: 2541, Stop: 1951, Start Num: 44

Candidate Starts for Ashwin\_7:

(Start: 44 @2541 has 29 MA's), (63, 2490), (Start: 64 @2487 has 1 MA's), (74, 2412), (76, 2388), (77, 2370), (84, 2316), (95, 2175), (100, 2124), (105, 2103),

Gene: Atlantica\_42 Start: 26809, Stop: 27408, Start Num: 50

Candidate Starts for Atlantica\_42:

(Start: 50 @26809 has 30 MA's), (75, 26932), (77, 26971), (82, 27004), (85, 27040), (88, 27067), (92, 27139), (95, 27154), (98, 27190), (101, 27211), (114, 27322), (119, 27403),

Gene: AvatarAhPeg\_79 Start: 47420, Stop: 46878, Start Num: 41

Candidate Starts for AvatarAhPeg\_79:

(Start: 41 @47420 has 134 MA's), (Start: 64 @47372 has 1 MA's), (Start: 65 @47366 has 1 MA's), (67, 47351), (76, 47276), (77, 47258), (78, 47249), (85, 47189), (92, 47090), (95, 47075), (106, 47027), (108, 47018),

Gene: Avle17\_79 Start: 47253, Stop: 46720, Start Num: 41

Candidate Starts for Avle17\_79:

(Start: 30 @47298 has 3 MA's), (36, 47265), (Start: 41 @47253 has 134 MA's), (76, 47109), (77, 47091), (78, 47082), (85, 47022), (92, 46923), (95, 46908), (106, 46860), (108, 46851),

Gene: Ayanochan\_83 Start: 47079, Stop: 46531, Start Num: 47

Candidate Starts for Ayanochan\_83:

(Start: 38 @47091 has 1 MA's), (Start: 40 @47088 has 4 MA's), (Start: 42 @47085 has 20 MA's), (Start: 47 @47079 has 19 MA's), (74, 46950), (79, 46887), (82, 46878), (85, 46842), (90, 46761), (95, 46728), (106, 46680), (108, 46671),

Gene: Azaz\_43 Start: 26884, Stop: 27486, Start Num: 50

Candidate Starts for Azaz\_43:

(Start: 50 @26884 has 30 MA's), (67, 26941), (75, 26998), (77, 27037), (82, 27070), (85, 27106), (88, 27133), (92, 27205), (95, 27220), (98, 27256), (101, 27277), (114, 27388),

Gene: BABullseye\_82 Start: 45889, Stop: 45359, Start Num: 56

Candidate Starts for BABullseye\_82:

(21, 46006), (33, 45925), (Start: 40 @45895 has 4 MA's), (Start: 56 @45889 has 24 MA's), (Start: 58 @45886 has 25 MA's), (Start: 64 @45850 has 1 MA's), (74, 45775), (76, 45754), (83, 45697), (85, 45667), (87, 45652), (92, 45568), (93, 45565), (95, 45553), (96, 45544), (106, 45505), (108, 45496),

Gene: Babushka\_39 Start: 26742, Stop: 27350, Start Num: 50

Candidate Starts for Babushka\_39:

(Start: 50 @26742 has 30 MA's), (75, 26865), (77, 26904), (82, 26937), (85, 26973), (88, 27000), (92, 27072), (93, 27075), (95, 27087), (98, 27123), (101, 27144), (112, 27204), (120, 27345),

Gene: Baby16\_79 Start: 47270, Stop: 46737, Start Num: 41

Candidate Starts for Baby16\_79:

(Start: 30 @47315 has 3 MA's), (36, 47282), (Start: 41 @47270 has 134 MA's), (77, 47108), (78, 47099), (85, 47039), (92, 46940), (95, 46925), (106, 46877), (108, 46868),

Gene: BabyBack\_83 Start: 49524, Stop: 48991, Start Num: 56

Candidate Starts for BabyBack\_83:

(Start: 40 @49530 has 4 MA's), (Start: 42 @49527 has 20 MA's), (Start: 56 @49524 has 24 MA's), (Start: 58 @49521 has 25 MA's), (71, 49431), (73, 49413), (74, 49410), (76, 49389), (78, 49362), (85, 49302), (92, 49203), (95, 49188), (106, 49140), (108, 49131), (112, 49110),

Gene: Backyardigan\_74 Start: 47087, Stop: 46554, Start Num: 41

Candidate Starts for Backyardigan\_74:

(13, 47282), (16, 47240), (21, 47204), (22, 47192), (Start: 27 @47138 has 1 MA's), (Start: 41 @47087 has 134 MA's), (77, 46925), (85, 46856), (92, 46757), (95, 46742), (106, 46694), (108, 46685),

Gene: Badger\_75 Start: 47053, Stop: 46520, Start Num: 41

Candidate Starts for Badger\_75:

(13, 47248), (16, 47206), (21, 47170), (22, 47158), (Start: 27 @47104 has 1 MA's), (Start: 41 @47053 has 134 MA's), (77, 46891), (85, 46822), (92, 46723), (95, 46708), (106, 46660), (108, 46651),

Gene: BangNhom\_76 Start: 47696, Stop: 47163, Start Num: 41

Candidate Starts for BangNhom\_76:

(Start: 30 @47741 has 3 MA's), (36, 47708), (Start: 41 @47696 has 134 MA's), (76, 47552), (77, 47534), (78, 47525), (85, 47465), (92, 47366), (95, 47351), (106, 47303), (108, 47294),

Gene: Bartimeaus\_79 Start: 47261, Stop: 46728, Start Num: 41

Candidate Starts for Bartimeaus\_79:

(Start: 30 @47306 has 3 MA's), (36, 47273), (Start: 41 @47261 has 134 MA's), (77, 47099), (78, 47090), (85, 47030), (92, 46931), (95, 46916), (106, 46868), (108, 46859),

Gene: Beemo\_85 Start: 47289, Stop: 46741, Start Num: 47

Candidate Starts for Beemo\_85:

(Start: 47 @47289 has 19 MA's), (74, 47160), (79, 47097), (82, 47088), (85, 47052), (90, 46971), (95, 46938), (106, 46890), (108, 46881),

Gene: Bellris\_82 Start: 46814, Stop: 46266, Start Num: 47

Candidate Starts for Bellris\_82:

(1, 47396), (21, 46937), (Start: 38 @46826 has 1 MA's), (Start: 40 @46823 has 4 MA's), (Start: 46 @46817 has 7 MA's), (Start: 47 @46814 has 19 MA's), (76, 46664), (79, 46622), (83, 46607), (85, 46577), (90, 46496), (95, 46463), (106, 46415), (108, 46406),

Gene: BellusTerra\_80 Start: 47300, Stop: 46767, Start Num: 41

Candidate Starts for BellusTerra\_80:

(4, 47702), (6, 47630), (13, 47495), (16, 47453), (21, 47417), (22, 47405), (Start: 27 @47351 has 1 MA's), (Start: 41 @47300 has 134 MA's), (76, 47156), (77, 47138), (78, 47129), (85, 47069), (92, 46970), (95, 46955), (106, 46907), (108, 46898),

Gene: BennyP\_91 Start: 47731, Stop: 47204, Start Num: 56

Candidate Starts for BennyP\_91:

(21, 47848), (Start: 40 @47737 has 4 MA's), (Start: 42 @47734 has 20 MA's), (Start: 56 @47731 has 24 MA's), (Start: 64 @47695 has 1 MA's), (68, 47662), (74, 47620), (83, 47542), (85, 47512), (92, 47413), (93, 47410), (95, 47398), (96, 47389), (106, 47350), (108, 47341),

Gene: Blackmoor\_78 Start: 47261, Stop: 46728, Start Num: 41

Candidate Starts for Blackmoor\_78:

(Start: 30 @47306 has 3 MA's), (36, 47273), (Start: 41 @47261 has 134 MA's), (77, 47099), (78, 47090), (85, 47030), (92, 46931), (95, 46916), (106, 46868), (108, 46859),

Gene: BlessJoy\_91 Start: 48075, Stop: 47548, Start Num: 58

Candidate Starts for BlessJoy\_91:

(21, 48195), (Start: 40 @48084 has 4 MA's), (Start: 42 @48081 has 20 MA's), (Start: 58 @48075 has 25 MA's), (Start: 64 @48039 has 1 MA's), (68, 48006), (74, 47964), (83, 47886), (85, 47856), (92, 47757), (93, 47754), (95, 47742), (96, 47733), (106, 47694), (108, 47685),

Gene: Blessica\_6 Start: 2096, Stop: 1506, Start Num: 44

Candidate Starts for Blessica\_6:

(Start: 44 @2096 has 29 MA's), (63, 2045), (Start: 64 @2042 has 1 MA's), (74, 1967), (76, 1943), (79, 1901), (84, 1871), (95, 1730), (100, 1679), (105, 1658),

Gene: Blue7\_92 Start: 47785, Stop: 47258, Start Num: 58

Candidate Starts for Blue7\_92:

(21, 47905), (Start: 40 @47794 has 4 MA's), (Start: 42 @47791 has 20 MA's), (Start: 56 @47788 has 24 MA's), (Start: 58 @47785 has 25 MA's), (Start: 64 @47749 has 1 MA's), (68, 47716), (74, 47674), (83, 47596), (85, 47566), (92, 47467), (93, 47464), (95, 47452), (96, 47443), (106, 47404), (108, 47395),

Gene: BogosyJay\_84 Start: 47353, Stop: 46796, Start Num: 40

Candidate Starts for BogosyJay\_84:

(Start: 38 @47356 has 1 MA's), (Start: 40 @47353 has 4 MA's), (Start: 42 @47350 has 20 MA's), (Start: 46 @47347 has 7 MA's), (66, 47278), (76, 47194), (79, 47152), (83, 47137), (91, 47023), (95, 46993), (106, 46945), (108, 46936),

Gene: Bombshell\_79 Start: 47256, Stop: 46723, Start Num: 41

Candidate Starts for Bombshell\_79:

(Start: 30 @47301 has 3 MA's), (36, 47268), (Start: 41 @47256 has 134 MA's), (76, 47112), (77, 47094), (78, 47085), (85, 47025), (92, 46926), (95, 46911), (106, 46863), (108, 46854),

Gene: Bora\_6 Start: 2231, Stop: 1641, Start Num: 44

Candidate Starts for Bora\_6:

(Start: 44 @2231 has 29 MA's), (63, 2180), (Start: 64 @2177 has 1 MA's), (74, 2102), (76, 2078), (77, 2060), (84, 2006), (95, 1865), (100, 1814), (105, 1793),

Gene: Broseidon\_79 Start: 47262, Stop: 46729, Start Num: 41

Candidate Starts for Broseidon\_79:

(Start: 30 @47307 has 3 MA's), (36, 47274), (Start: 41 @47262 has 134 MA's), (77, 47100), (78, 47091), (85, 47031), (92, 46932), (95, 46917), (106, 46869), (108, 46860),

Gene: Bruiser\_78 Start: 47259, Stop: 46726, Start Num: 41

Candidate Starts for Bruiser\_78:

(Start: 30 @47304 has 3 MA's), (36, 47271), (Start: 41 @47259 has 134 MA's), (76, 47115), (77, 47097), (78, 47088), (85, 47028), (92, 46929), (95, 46914), (106, 46866), (108, 46857),

Gene: BubbleTrouble\_78 Start: 47331, Stop: 46753, Start Num: 30

Candidate Starts for BubbleTrouble\_78:

(Start: 30 @47331 has 3 MA's), (36, 47298), (Start: 41 @47286 has 134 MA's), (77, 47124), (78, 47115), (85, 47055), (92, 46956), (95, 46941), (106, 46893), (108, 46884),

Gene: Bumblebee11\_75 Start: 47053, Stop: 46520, Start Num: 41

Candidate Starts for Bumblebee11\_75:

(13, 47248), (16, 47206), (21, 47170), (22, 47158), (Start: 27 @47104 has 1 MA's), (Start: 41 @47053 has 134 MA's), (77, 46891), (85, 46822), (92, 46723), (95, 46708), (106, 46660), (108, 46651),

Gene: Burger\_77 Start: 47259, Stop: 46726, Start Num: 41

Candidate Starts for Burger\_77:

(Start: 30 @47304 has 3 MA's), (36, 47271), (Start: 41 @47259 has 134 MA's), (76, 47115), (77, 47097), (78, 47088), (85, 47028), (92, 46929), (95, 46914), (106, 46866), (108, 46857),

Gene: ByChance\_63 Start: 41432, Stop: 42055, Start Num: 60

Candidate Starts for ByChance\_63:

(24, 41309), (29, 41351), (Start: 60 @41432 has 15 MA's), (62, 41447), (Start: 65 @41474 has 1 MA's), (66, 41480), (69, 41507), (74, 41543), (85, 41654), (89, 41714), (96, 41777), (98, 41804), (102, 41825),

Gene: Caelakin\_77 Start: 47259, Stop: 46726, Start Num: 41

Candidate Starts for Caelakin\_77:

(Start: 30 @47304 has 3 MA's), (36, 47271), (Start: 41 @47259 has 134 MA's), (76, 47115), (77, 47097), (78, 47088), (85, 47028), (92, 46929), (95, 46914), (106, 46866), (108, 46857),

Gene: Camara\_42 Start: 26811, Stop: 27419, Start Num: 50

Candidate Starts for Camara\_42:

(Start: 50 @26811 has 30 MA's), (75, 26934), (77, 26973), (79, 26997), (82, 27006), (85, 27042), (88, 27069), (92, 27141), (93, 27144), (95, 27156), (98, 27192), (101, 27213), (112, 27273), (120, 27414),

Gene: Camerico\_38 Start: 42408, Stop: 42908, Start Num: 64

Candidate Starts for Camerico\_38:

(52, 42360), (57, 42366), (Start: 64 @42408 has 1 MA's), (66, 42420), (72, 42492), (74, 42498), (88, 42636), (92, 42702), (94, 42708),

Gene: Camperdownii\_76 Start: 46729, Stop: 46142, Start Num: 27

Candidate Starts for Camperdownii\_76:

(Start: 27 @46729 has 1 MA's), (Start: 40 @46678 has 4 MA's), (74, 46561), (76, 46540), (85, 46453), (95, 46339), (106, 46291), (108, 46282), (112, 46261),

Gene: Candra\_87 Start: 47596, Stop: 47063, Start Num: 42

Candidate Starts for Candra\_87:

(21, 47710), (33, 47629), (Start: 40 @47599 has 4 MA's), (Start: 42 @47596 has 20 MA's), (Start: 56 @47593 has 24 MA's), (Start: 58 @47590 has 25 MA's), (Start: 64 @47554 has 1 MA's), (74, 47479), (76, 47458), (83, 47401), (85, 47371), (87, 47356), (92, 47272), (106, 47209), (108, 47200),

Gene: Catalina\_87 Start: 47399, Stop: 46851, Start Num: 47

Candidate Starts for Catalina\_87:

(Start: 47 @47399 has 19 MA's), (74, 47270), (79, 47207), (82, 47198), (85, 47162), (90, 47081), (95, 47048), (106, 47000), (108, 46991),

Gene: Catdawg\_6 Start: 2146, Stop: 1556, Start Num: 44

Candidate Starts for Catdawg\_6:

(Start: 44 @2146 has 29 MA's), (63, 2095), (Start: 64 @2092 has 1 MA's), (74, 2017), (76, 1993), (79, 1951), (84, 1921), (95, 1780), (100, 1729), (105, 1708),

Gene: Celestiallunch\_80 Start: 46594, Stop: 46028, Start Num: 38

Candidate Starts for Celestiallunch\_80:

(Start: 38 @46594 has 1 MA's), (Start: 40 @46591 has 4 MA's), (79, 46399), (83, 46384), (85, 46354), (90, 46273), (95, 46240), (106, 46192), (108, 46183),

Gene: CentreCat\_79 Start: 47299, Stop: 46766, Start Num: 41

Candidate Starts for CentreCat\_79:

(Start: 30 @47344 has 3 MA's), (36, 47311), (Start: 41 @47299 has 134 MA's), (76, 47155), (77, 47137), (78, 47128), (85, 47068), (92, 46969), (95, 46954), (106, 46906), (108, 46897),

Gene: Cerulean\_81 Start: 47697, Stop: 47164, Start Num: 41

Candidate Starts for Cerulean\_81:

(Start: 30 @47742 has 3 MA's), (36, 47709), (Start: 41 @47697 has 134 MA's), (76, 47553), (77, 47535), (78, 47526), (85, 47466), (92, 47367), (95, 47352), (106, 47304), (108, 47295),

Gene: ChampagnePapi\_82 Start: 47699, Stop: 47166, Start Num: 41

Candidate Starts for ChampagnePapi\_82:

(Start: 30 @47744 has 3 MA's), (36, 47711), (Start: 41 @47699 has 134 MA's), (76, 47555), (77, 47537), (78, 47528), (85, 47468), (92, 47369), (95, 47354), (106, 47306), (108, 47297),

Gene: Chaph\_79 Start: 47270, Stop: 46737, Start Num: 41

Candidate Starts for Chaph\_79:

(Start: 30 @47315 has 3 MA's), (36, 47282), (Start: 41 @47270 has 134 MA's), (76, 47126), (77, 47108), (78, 47099), (85, 47039), (92, 46940), (95, 46925), (106, 46877), (108, 46868),

Gene: Charm\_80 Start: 46735, Stop: 46187, Start Num: 40

Candidate Starts for Charm\_80:

(7, 47011), (12, 46930), (Start: 38 @46738 has 1 MA's), (Start: 40 @46735 has 4 MA's), (66, 46669), (74, 46606), (76, 46585), (79, 46543), (81, 46537), (83, 46528), (85, 46498), (90, 46417), (95, 46384), (106, 46336), (108, 46327),

Gene: Chartreuse\_88 Start: 46891, Stop: 46364, Start Num: 58

Candidate Starts for Chartreuse\_88:

(21, 47011), (33, 46930), (Start: 40 @46900 has 4 MA's), (Start: 42 @46897 has 20 MA's), (Start: 56 @46894 has 24 MA's), (Start: 58 @46891 has 25 MA's), (Start: 64 @46855 has 1 MA's), (74, 46780), (76, 46759), (83, 46702), (85, 46672), (87, 46657), (92, 46573), (106, 46510), (108, 46501),

Gene: Chickaboom\_41 Start: 27140, Stop: 27736, Start Num: 50

Candidate Starts for Chickaboom\_41:

(Start: 50 @27140 has 30 MA's), (75, 27266), (77, 27305), (79, 27329), (88, 27401), (92, 27473), (93, 27476), (95, 27488), (98, 27524), (101, 27545), (107, 27575), (112, 27605), (114, 27656), (118, 27725),

Gene: Chicken\_39 Start: 27483, Stop: 28082, Start Num: 50

Candidate Starts for Chicken\_39:

(Start: 50 @27483 has 30 MA's), (75, 27612), (77, 27651), (79, 27675), (88, 27747), (92, 27819), (95, 27834), (98, 27870), (101, 27891), (107, 27921), (114, 28002), (118, 28071),

Gene: Chupacabra\_76 Start: 47045, Stop: 46506, Start Num: 42

Candidate Starts for Chupacabra\_76:

(Start: 27 @47099 has 1 MA's), (Start: 42 @47045 has 20 MA's), (Start: 64 @47000 has 1 MA's), (74, 46925), (76, 46904), (85, 46817), (90, 46736), (95, 46703), (96, 46694), (106, 46655), (108, 46646), (112, 46625),

Gene: Cici\_76 Start: 47066, Stop: 46533, Start Num: 41

Candidate Starts for Cici\_76:

(13, 47261), (16, 47219), (21, 47183), (22, 47171), (Start: 27 @47117 has 1 MA's), (Start: 41 @47066 has 134 MA's), (77, 46904), (85, 46835), (92, 46736), (95, 46721), (106, 46673), (108, 46664),

Gene: Cindaradix\_74 Start: 47332, Stop: 46844, Start Num: 65

Candidate Starts for Cindaradix\_74:

(Start: 41 @47386 has 134 MA's), (Start: 64 @47338 has 1 MA's), (Start: 65 @47332 has 1 MA's), (67, 47317), (76, 47242), (77, 47224), (78, 47215), (85, 47155), (92, 47056), (95, 47041), (106, 46993), (108, 46984),

Gene: Cintron\_79 Start: 47375, Stop: 46842, Start Num: 41

Candidate Starts for Cintron\_79:

(Start: 30 @47420 has 3 MA's), (36, 47387), (Start: 41 @47375 has 134 MA's), (77, 47213), (78, 47204), (85, 47144), (92, 47045), (95, 47030), (106, 46982), (108, 46973),

Gene: Citius\_79 Start: 47280, Stop: 46747, Start Num: 41

Candidate Starts for Citius\_79:

(Start: 30 @47325 has 3 MA's), (36, 47292), (Start: 41 @47280 has 134 MA's), (77, 47118), (78, 47109), (85, 47049), (92, 46950), (95, 46935), (106, 46887), (108, 46878),

Gene: Clarenza\_78 Start: 47256, Stop: 46723, Start Num: 41

Candidate Starts for Clarenza\_78:

(Start: 30 @47301 has 3 MA's), (36, 47268), (Start: 41 @47256 has 134 MA's), (76, 47112), (77, 47094), (78, 47085), (85, 47025), (92, 46926), (95, 46911), (106, 46863), (108, 46854),

Gene: CloudWang3\_91 Start: 48083, Stop: 47556, Start Num: 56

Candidate Starts for CloudWang3\_91:

(21, 48200), (Start: 40 @48089 has 4 MA's), (Start: 42 @48086 has 20 MA's), (Start: 56 @48083 has 24 MA's), (Start: 64 @48047 has 1 MA's), (68, 48014), (74, 47972), (83, 47894), (85, 47864), (92, 47765), (93, 47762), (95, 47750), (96, 47741), (106, 47702), (108, 47693),

Gene: Cocoaberry\_79 Start: 47260, Stop: 46727, Start Num: 41

Candidate Starts for Cocoaberry\_79:

(Start: 30 @47305 has 3 MA's), (36, 47272), (Start: 41 @47260 has 134 MA's), (76, 47116), (77, 47098), (78, 47089), (85, 47029), (92, 46930), (95, 46915), (106, 46867), (108, 46858),

Gene: CogOmlette\_82 Start: 46811, Stop: 46263, Start Num: 47

Candidate Starts for CogOmlette\_82:

(1, 47393), (21, 46934), (Start: 38 @46823 has 1 MA's), (Start: 40 @46820 has 4 MA's), (Start: 46 @46814 has 7 MA's), (Start: 47 @46811 has 19 MA's), (76, 46661), (79, 46619), (83, 46604), (85, 46574), (90, 46493), (95, 46460), (106, 46412), (108, 46403),

Gene: Commander\_77 Start: 47257, Stop: 46724, Start Num: 41

Candidate Starts for Commander\_77:

(Start: 30 @47302 has 3 MA's), (36, 47269), (Start: 41 @47257 has 134 MA's), (76, 47113), (77, 47095), (78, 47086), (85, 47026), (92, 46927), (95, 46912), (106, 46864), (108, 46855),

Gene: Connomayer\_79 Start: 47259, Stop: 46726, Start Num: 41

Candidate Starts for Connomayer\_79:

(Start: 30 @47304 has 3 MA's), (36, 47271), (Start: 41 @47259 has 134 MA's), (77, 47097), (78, 47088), (85, 47028), (92, 46929), (95, 46914), (106, 46866), (108, 46857),

Gene: Conquerage\_83 Start: 47065, Stop: 46517, Start Num: 47

Candidate Starts for Conquerage\_83:

(Start: 38 @47077 has 1 MA's), (Start: 40 @47074 has 4 MA's), (Start: 42 @47071 has 20 MA's), (Start: 47 @47065 has 19 MA's), (74, 46936), (79, 46873), (82, 46864), (85, 46828), (90, 46747), (95, 46714), (106, 46666), (108, 46657),

Gene: Cookiedough\_89 Start: 48199, Stop: 47672, Start Num: 58

Candidate Starts for Cookiedough\_89:

(19, 48337), (21, 48325), (Start: 40 @48214 has 4 MA's), (Start: 42 @48211 has 20 MA's), (Start: 56 @48202 has 24 MA's), (Start: 58 @48199 has 25 MA's), (Start: 64 @48163 has 1 MA's), (74, 48088), (76, 48067), (83, 48010), (85, 47980), (87, 47965), (92, 47881), (106, 47818), (108, 47809),

Gene: Corndog\_7 Start: 2523, Stop: 1933, Start Num: 44

Candidate Starts for Corndog\_7:

(Start: 44 @2523 has 29 MA's), (63, 2472), (Start: 64 @2469 has 1 MA's), (74, 2394), (76, 2370), (77, 2352), (84, 2298), (95, 2157), (100, 2106), (105, 2085),

Gene: Cygnet\_42 Start: 27686, Stop: 28285, Start Num: 50

Candidate Starts for Cygnet\_42:

(Start: 50 @27686 has 30 MA's), (73, 27803), (75, 27809), (77, 27848), (82, 27881), (85, 27917), (88, 27944), (92, 28016), (95, 28031), (98, 28067), (101, 28088),

Gene: DaVinci\_87 Start: 46945, Stop: 46418, Start Num: 58

Candidate Starts for DaVinci\_87:

(21, 47065), (33, 46984), (Start: 40 @46954 has 4 MA's), (Start: 42 @46951 has 20 MA's), (Start: 56 @46948 has 24 MA's), (Start: 58 @46945 has 25 MA's), (Start: 64 @46909 has 1 MA's), (74, 46834), (76, 46813), (83, 46756), (85, 46726), (87, 46711), (92, 46627), (106, 46564), (108, 46555),

Gene: DanHam62\_42 Start: 26808, Stop: 27407, Start Num: 50

Candidate Starts for DanHam62\_42:

(Start: 50 @26808 has 30 MA's), (75, 26931), (77, 26970), (82, 27003), (85, 27039), (88, 27066), (92, 27138), (95, 27153), (98, 27189), (101, 27210), (114, 27321), (119, 27402),

Gene: Darrell\_83 Start: 46502, Stop: 45951, Start Num: 46

Candidate Starts for Darrell\_83:

(21, 46628), (Start: 38 @46511 has 1 MA's), (Start: 40 @46508 has 4 MA's), (Start: 42 @46505 has 20 MA's), (Start: 46 @46502 has 7 MA's), (49, 46496), (79, 46307), (83, 46292), (85, 46262), (90, 46181), (91, 46178), (95, 46148), (106, 46100), (108, 46091),

Gene: DarthPhader\_80 Start: 48059, Stop: 47520, Start Num: 58

Candidate Starts for DarthPhader\_80:

(31, 48107), (Start: 58 @48059 has 25 MA's), (74, 47948), (79, 47885), (80, 47873), (82, 47867), (83, 47861), (85, 47831), (95, 47717), (108, 47660), (112, 47639),

Gene: Datway\_76 Start: 47070, Stop: 46537, Start Num: 41

Candidate Starts for Datway\_76:

(Start: 30 @47115 has 3 MA's), (36, 47082), (Start: 41 @47070 has 134 MA's), (74, 46947), (77, 46908), (78, 46899), (85, 46839), (92, 46740), (95, 46725), (106, 46677), (108, 46668),

Gene: Deano\_76 Start: 47267, Stop: 46734, Start Num: 41

Candidate Starts for Deano\_76:

(Start: 30 @47312 has 3 MA's), (36, 47279), (Start: 41 @47267 has 134 MA's), (77, 47105), (78, 47096), (85, 47036), (92, 46937), (95, 46922), (106, 46874), (108, 46865),

Gene: DelvinSonDorr\_84 Start: 47163, Stop: 46627, Start Num: 40

Candidate Starts for DelvinSonDorr\_84:

(21, 47274), (33, 47193), (Start: 40 @47163 has 4 MA's), (Start: 42 @47160 has 20 MA's), (Start: 56 @47157 has 24 MA's), (Start: 58 @47154 has 25 MA's), (Start: 64 @47118 has 1 MA's), (68, 47085), (74, 47043), (76, 47022), (83, 46965), (85, 46935), (87, 46920), (92, 46836), (106, 46773), (108, 46764),

Gene: Dhanush\_79 Start: 47262, Stop: 46729, Start Num: 41

Candidate Starts for Dhanush\_79:

(Start: 30 @47307 has 3 MA's), (36, 47274), (Start: 41 @47262 has 134 MA's), (76, 47118), (77, 47100), (78, 47091), (85, 47031), (92, 46932), (95, 46917), (106, 46869), (108, 46860),

Gene: DirtyDunning\_78 Start: 47271, Stop: 46738, Start Num: 41

Candidate Starts for DirtyDunning\_78:

(Start: 30 @47316 has 3 MA's), (36, 47283), (Start: 41 @47271 has 134 MA's), (76, 47127), (77, 47109), (78, 47100), (85, 47040), (92, 46941), (95, 46926), (106, 46878), (108, 46869),

Gene: DontArgue\_74 Start: 45905, Stop: 45366, Start Num: 51

Candidate Starts for DontArgue\_74:

(Start: 27 @45965 has 1 MA's), (Start: 51 @45905 has 2 MA's), (Start: 64 @45860 has 1 MA's), (74, 45785), (83, 45707), (85, 45677), (95, 45563), (106, 45515), (108, 45506), (112, 45485),

Gene: Dorothea\_89 Start: 48194, Stop: 47664, Start Num: 56

Candidate Starts for Dorothea\_89:

(19, 48329), (21, 48317), (Start: 40 @48206 has 4 MA's), (Start: 42 @48203 has 20 MA's), (Start: 56 @48194 has 24 MA's), (Start: 58 @48191 has 25 MA's), (Start: 64 @48155 has 1 MA's), (74, 48080), (76, 48059), (83, 48002), (85, 47972), (87, 47957), (92, 47873), (106, 47810), (108, 47801),

Gene: Dorothy\_71 Start: 44271, Stop: 44831, Start Num: 60

Candidate Starts for Dorothy\_71:

(29, 44190), (Start: 60 @44271 has 15 MA's), (69, 44346), (74, 44382), (76, 44406), (85, 44493), (92, 44592), (93, 44595), (96, 44616), (98, 44643), (102, 44664),

Gene: Drake94\_76 Start: 46202, Stop: 45663, Start Num: 42

Candidate Starts for Drake94\_76:

(6, 46538), (13, 46403), (16, 46361), (21, 46325), (Start: 30 @46253 has 3 MA's), (32, 46247), (Start: 42 @46202 has 20 MA's), (Start: 64 @46157 has 1 MA's), (74, 46082), (83, 46004), (85, 45974), (95, 45860), (106, 45812), (108, 45803), (112, 45782),

Gene: DreamTeam1\_80 Start: 46583, Stop: 46035, Start Num: 40

Candidate Starts for DreamTeam1\_80:

(7, 46859), (12, 46778), (Start: 38 @46586 has 1 MA's), (Start: 40 @46583 has 4 MA's), (66, 46517), (74, 46454), (79, 46391), (81, 46385), (83, 46376), (85, 46346), (90, 46265), (95, 46232), (106, 46184), (108, 46175),

Gene: Druantia\_78 Start: 47262, Stop: 46729, Start Num: 41

Candidate Starts for Druantia\_78:

(13, 47457), (16, 47415), (21, 47379), (22, 47367), (Start: 27 @47313 has 1 MA's), (Start: 41 @47262 has 134 MA's), (76, 47118), (77, 47100), (78, 47091), (85, 47031), (92, 46932), (95, 46917), (106, 46869), (108, 46860),

Gene: DustyMartin\_81 Start: 47188, Stop: 46649, Start Num: 51

Candidate Starts for DustyMartin\_81:

(Start: 27 @47248 has 1 MA's), (Start: 51 @47188 has 2 MA's), (Start: 64 @47143 has 1 MA's), (74, 47068), (76, 47047), (83, 46990), (85, 46960), (90, 46879), (95, 46846), (96, 46837), (106, 46798), (108, 46789), (112, 46768),

Gene: Dylan\_7 Start: 2545, Stop: 1955, Start Num: 44

Candidate Starts for Dylan\_7:

(Start: 44 @2545 has 29 MA's), (63, 2494), (Start: 64 @2491 has 1 MA's), (74, 2416), (76, 2392), (77, 2374), (84, 2320), (95, 2179), (100, 2128), (105, 2107),

Gene: Eagle\_78 Start: 47321, Stop: 46788, Start Num: 41

Candidate Starts for Eagle\_78:

(Start: 30 @47366 has 3 MA's), (36, 47333), (Start: 41 @47321 has 134 MA's), (76, 47177), (77, 47159), (78, 47150), (85, 47090), (92, 46991), (95, 46976), (106, 46928), (108, 46919),

Gene: EagleEye\_89 Start: 49182, Stop: 48643, Start Num: 51

Candidate Starts for EagleEye\_89:

(Start: 51 @49182 has 2 MA's), (Start: 54 @49179 has 1 MA's), (Start: 64 @49137 has 1 MA's), (74, 49062), (83, 48984), (85, 48954), (87, 48939), (90, 48873), (95, 48840), (106, 48792), (108, 48783), (112, 48762),

Gene: Eaglepride\_82 Start: 47125, Stop: 46586, Start Num: 42

Candidate Starts for Eaglepride\_82:

(Start: 27 @47179 has 1 MA's), (Start: 42 @47125 has 20 MA's), (Start: 64 @47080 has 1 MA's), (76, 46984), (85, 46897), (95, 46783), (106, 46735), (108, 46726), (112, 46705),

Gene: Eapen\_79 Start: 47254, Stop: 46721, Start Num: 41

Candidate Starts for Eapen\_79:

(Start: 30 @47299 has 3 MA's), (36, 47266), (Start: 41 @47254 has 134 MA's), (76, 47110), (77, 47092), (78, 47083), (85, 47023), (92, 46924), (95, 46909), (106, 46861), (108, 46852),

Gene: EdogawaKiddo\_83 Start: 47367, Stop: 46819, Start Num: 47

Candidate Starts for EdogawaKiddo\_83:

(Start: 38 @47379 has 1 MA's), (Start: 40 @47376 has 4 MA's), (Start: 42 @47373 has 20 MA's), (Start: 47 @47367 has 19 MA's), (74, 47238), (79, 47175), (82, 47166), (85, 47130), (90, 47049), (95, 47016), (106, 46968), (108, 46959),

Gene: Eesa\_39 Start: 28022, Stop: 28654, Start Num: 50

Candidate Starts for Eesa\_39:

(Start: 50 @28022 has 30 MA's), (75, 28151), (77, 28190), (79, 28214), (88, 28286), (92, 28358), (95, 28373), (98, 28409), (101, 28430), (107, 28460), (114, 28541),

Gene: Eidsmoe\_83 Start: 47063, Stop: 46509, Start Num: 42

Candidate Starts for Eidsmoe\_83:

(Start: 38 @47069 has 1 MA's), (Start: 40 @47066 has 4 MA's), (Start: 42 @47063 has 20 MA's), (Start: 47 @47057 has 19 MA's), (74, 46928), (79, 46865), (82, 46856), (85, 46820), (90, 46739), (95, 46706), (106, 46658), (108, 46649),

Gene: Elephantoon\_85 Start: 47218, Stop: 46667, Start Num: 46

Candidate Starts for Elephantoon\_85:

(9, 47509), (21, 47347), (Start: 38 @47230 has 1 MA's), (Start: 40 @47227 has 4 MA's), (Start: 42 @47224 has 20 MA's), (Start: 44 @47221 has 29 MA's), (Start: 46 @47218 has 7 MA's), (79, 47023), (83, 47008), (85, 46978), (90, 46897), (95, 46864), (106, 46816), (108, 46807),

Gene: EmiMonkey\_66 Start: 47129, Stop: 47779, Start Num: 60

Candidate Starts for EmiMonkey\_66:

(11, 46880), (14, 46910), (24, 47006), (29, 47048), (Start: 60 @47129 has 15 MA's), (62, 47144), (74, 47240), (76, 47264), (85, 47351), (89, 47411), (95, 47465), (96, 47474), (98, 47501), (102, 47522), (116, 47657),

Gene: EmyBug\_82 Start: 47065, Stop: 46511, Start Num: 42

Candidate Starts for EmyBug\_82:

(Start: 38 @47071 has 1 MA's), (Start: 40 @47068 has 4 MA's), (Start: 42 @47065 has 20 MA's), (Start: 47 @47059 has 19 MA's), (74, 46930), (79, 46867), (82, 46858), (85, 46822), (90, 46741), (95, 46708), (106, 46660), (108, 46651),

Gene: EricB\_87 Start: 47088, Stop: 46561, Start Num: 58

Candidate Starts for EricB\_87:

(21, 47214), (Start: 56 @47091 has 24 MA's), (Start: 58 @47088 has 25 MA's), (Start: 64 @47052 has 1 MA's), (68, 47019), (74, 46977), (76, 46956), (83, 46899), (85, 46869), (87, 46854), (92, 46770), (106, 46707), (108, 46698),

Gene: Eris\_78 Start: 47271, Stop: 46738, Start Num: 41

Candidate Starts for Eris\_78:

(Start: 30 @47316 has 3 MA's), (36, 47283), (Start: 41 @47271 has 134 MA's), (76, 47127), (77, 47109), (78, 47100), (85, 47040), (92, 46941), (95, 46926), (106, 46878), (108, 46869),

Gene: Eros\_79 Start: 47261, Stop: 46728, Start Num: 41

Candidate Starts for Eros\_79:

(Start: 30 @47306 has 3 MA's), (36, 47273), (Start: 41 @47261 has 134 MA's), (77, 47099), (78, 47090), (85, 47030), (92, 46931), (95, 46916), (106, 46868), (108, 46859),

Gene: Euratis\_33 Start: 25788, Stop: 26288, Start Num: 60

Candidate Starts for Euratis\_33:

(39, 25764), (Start: 60 @25788 has 15 MA's), (62, 25803), (75, 25902), (77, 25941), (111, 26157), (115, 26235),

Gene: Eurydice\_80 Start: 47296, Stop: 46763, Start Num: 41

Candidate Starts for Eurydice\_80:

(Start: 30 @47341 has 3 MA's), (36, 47308), (Start: 41 @47296 has 134 MA's), (76, 47152), (77, 47134), (78, 47125), (85, 47065), (92, 46966), (95, 46951), (106, 46903), (108, 46894),

Gene: ExplosioNervosa\_83 Start: 47125, Stop: 46577, Start Num: 47

Candidate Starts for ExplosioNervosa\_83:

(Start: 38 @47137 has 1 MA's), (Start: 40 @47134 has 4 MA's), (Start: 42 @47131 has 20 MA's), (Start: 47 @47125 has 19 MA's), (74, 46996), (79, 46933), (82, 46924), (85, 46888), (90, 46807), (95, 46774), (106, 46726), (108, 46717),

Gene: Familton\_7 Start: 2147, Stop: 1557, Start Num: 44

Candidate Starts for Familton\_7:

(Start: 44 @2147 has 29 MA's), (63, 2096), (Start: 64 @2093 has 1 MA's), (74, 2018), (76, 1994), (79, 1952), (84, 1922), (95, 1781), (100, 1730), (105, 1709),

Gene: FatCactus\_78 Start: 47335, Stop: 46769, Start Num: 53

Candidate Starts for FatCactus\_78:

(Start: 53 @47335 has 1 MA's), (Start: 64 @47296 has 1 MA's), (74, 47221), (78, 47173), (79, 47158), (85, 47113), (93, 47011), (95, 46999), (99, 46957), (103, 46939), (104, 46936), (112, 46894),

Gene: Fayely\_83 Start: 47032, Stop: 46484, Start Num: 47

Candidate Starts for Fayely\_83:

(Start: 47 @47032 has 19 MA's), (74, 46903), (79, 46840), (82, 46831), (85, 46795), (90, 46714), (95, 46681), (106, 46633), (108, 46624),

Gene: Fingolfin\_42 Start: 26811, Stop: 27410, Start Num: 50

Candidate Starts for Fingolfin\_42:

(Start: 50 @26811 has 30 MA's), (75, 26934), (77, 26973), (82, 27006), (85, 27042), (88, 27069), (92, 27141), (95, 27156), (98, 27192), (101, 27213), (114, 27324), (119, 27405),

Gene: Firecracker\_6 Start: 2232, Stop: 1642, Start Num: 44

Candidate Starts for Firecracker\_6:

(Start: 44 @2232 has 29 MA's), (63, 2181), (Start: 64 @2178 has 1 MA's), (74, 2103), (76, 2079), (77, 2061), (84, 2007), (95, 1866), (100, 1815), (105, 1794),

Gene: Florean\_79 Start: 47258, Stop: 46725, Start Num: 41

Candidate Starts for Florean\_79:

(Start: 30 @47303 has 3 MA's), (36, 47270), (Start: 41 @47258 has 134 MA's), (77, 47096), (78, 47087), (85, 47027), (92, 46928), (95, 46913), (106, 46865), (108, 46856),

Gene: Flux\_80 Start: 47257, Stop: 46724, Start Num: 41

Candidate Starts for Flux\_80:

(Start: 30 @47302 has 3 MA's), (36, 47269), (Start: 41 @47257 has 134 MA's), (77, 47095), (78, 47086), (85, 47026), (92, 46927), (95, 46912), (106, 46864), (108, 46855),

Gene: FoulBall\_6 Start: 2147, Stop: 1557, Start Num: 44

Candidate Starts for FoulBall\_6:

(Start: 44 @2147 has 29 MA's), (63, 2096), (Start: 64 @2093 has 1 MA's), (74, 2018), (76, 1994), (79, 1952), (84, 1922), (95, 1781), (100, 1730), (105, 1709),

Gene: Funston\_78 Start: 47256, Stop: 46723, Start Num: 41

Candidate Starts for Funston\_78:

(Start: 30 @47301 has 3 MA's), (36, 47268), (Start: 41 @47256 has 134 MA's), (76, 47112), (77, 47094), (78, 47085), (85, 47025), (92, 46926), (95, 46911), (106, 46863), (108, 46854),

Gene: Gadost\_79 Start: 47260, Stop: 46727, Start Num: 41

Candidate Starts for Gadost\_79:

(Start: 30 @47305 has 3 MA's), (36, 47272), (Start: 41 @47260 has 134 MA's), (76, 47116), (77, 47098), (78, 47089), (85, 47029), (92, 46930), (95, 46915), (106, 46867), (108, 46858),

Gene: Garak\_92 Start: 48028, Stop: 47501, Start Num: 56

Candidate Starts for Garak\_92:

(21, 48145), (Start: 40 @48034 has 4 MA's), (Start: 42 @48031 has 20 MA's), (Start: 56 @48028 has 24 MA's), (Start: 64 @47992 has 1 MA's), (68, 47959), (74, 47917), (83, 47839), (85, 47809), (92, 47710), (93, 47707), (95, 47695), (96, 47686), (106, 47647), (108, 47638),

Gene: GaugeLDP\_82 Start: 49074, Stop: 48544, Start Num: 56

Candidate Starts for GaugeLDP\_82:

(Start: 40 @49080 has 4 MA's), (Start: 56 @49074 has 24 MA's), (71, 48984), (73, 48966), (74, 48963), (76, 48942), (85, 48855), (92, 48756), (95, 48741), (106, 48693), (108, 48684), (112, 48663),

Gene: Gladiator\_87 Start: 47742, Stop: 47212, Start Num: 56

Candidate Starts for Gladiator\_87:

(21, 47865), (Start: 56 @47742 has 24 MA's), (Start: 58 @47739 has 25 MA's), (Start: 64 @47703 has 1 MA's), (68, 47670), (74, 47628), (83, 47550), (85, 47520), (92, 47421), (93, 47418), (95, 47406), (96, 47397), (106, 47358), (108, 47349),

Gene: Glotell\_43 Start: 26967, Stop: 27575, Start Num: 50

Candidate Starts for Glotell\_43:

(Start: 50 @26967 has 30 MA's), (75, 27090), (77, 27129), (79, 27153), (82, 27162), (85, 27198), (88, 27225), (92, 27297), (93, 27300), (95, 27312), (98, 27348), (101, 27369), (112, 27429), (120, 27570),

Gene: Gmala1\_28 Start: 35092, Stop: 35631, Start Num: 45

Candidate Starts for Gmala1\_28:

(45, 35092), (61, 35122), (Start: 64 @35149 has 1 MA's), (77, 35281),

Gene: Goose\_80 Start: 46856, Stop: 46317, Start Num: 42

Candidate Starts for Goose\_80:

(Start: 27 @46910 has 1 MA's), (Start: 42 @46856 has 20 MA's), (Start: 64 @46811 has 1 MA's), (67, 46790), (74, 46736), (76, 46715), (85, 46628), (90, 46547), (95, 46514), (96, 46505), (106, 46466), (108, 46457), (112, 46436),

Gene: GordDuk1\_28 Start: 35030, Stop: 35569, Start Num: 45

Candidate Starts for GordDuk1\_28:

(45, 35030), (61, 35060), (Start: 64 @35087 has 1 MA's), (77, 35219), (86, 35300),

Gene: GordTnk2\_28 Start: 34999, Stop: 35538, Start Num: 45

Candidate Starts for GordTnk2\_28:

(45, 34999), (61, 35029), (Start: 64 @35056 has 1 MA's), (77, 35188), (86, 35269),

Gene: Gravel\_49 Start: 27995, Stop: 28594, Start Num: 50

Candidate Starts for Gravel\_49:

(Start: 50 @27995 has 30 MA's), (67, 28067), (75, 28124), (77, 28163), (79, 28187), (88, 28259), (92, 28331), (95, 28346), (98, 28382), (101, 28403), (107, 28433), (114, 28514), (118, 28583),

Gene: GreedyLawyer\_82 Start: 47521, Stop: 46994, Start Num: 58

Candidate Starts for GreedyLawyer\_82:

(19, 47659), (21, 47647), (Start: 40 @47536 has 4 MA's), (Start: 42 @47533 has 20 MA's), (Start: 56 @47524 has 24 MA's), (Start: 58 @47521 has 25 MA's), (Start: 64 @47485 has 1 MA's), (74, 47410), (76, 47389), (83, 47332), (85, 47302), (87, 47287), (92, 47203), (106, 47140), (108, 47131),

Gene: Gruunaga\_90 Start: 47694, Stop: 47167, Start Num: 58

Candidate Starts for Gruunaga\_90:

(21, 47820), (Start: 56 @47697 has 24 MA's), (Start: 58 @47694 has 25 MA's), (Start: 64 @47658 has 1 MA's), (68, 47625), (74, 47583), (83, 47505), (85, 47475), (92, 47376), (93, 47373), (95, 47361), (96, 47352), (106, 47313), (108, 47304),

Gene: HamCheese\_42 Start: 26795, Stop: 27394, Start Num: 50

Candidate Starts for HamCheese\_42:

(Start: 50 @26795 has 30 MA's), (75, 26918), (77, 26957), (82, 26990), (85, 27026), (88, 27053), (92, 27125), (95, 27140), (98, 27176), (101, 27197), (114, 27308), (119, 27389),

Gene: HamSlice\_75 Start: 47258, Stop: 46725, Start Num: 41

Candidate Starts for HamSlice\_75:

(Start: 30 @47303 has 3 MA's), (36, 47270), (Start: 41 @47258 has 134 MA's), (77, 47096), (78, 47087), (85, 47027), (92, 46928), (95, 46913), (106, 46865), (108, 46856),

Gene: Hammer\_91 Start: 47404, Stop: 46874, Start Num: 42

Candidate Starts for Hammer\_91:

(21, 47518), (Start: 40 @47407 has 4 MA's), (Start: 42 @47404 has 20 MA's), (Start: 56 @47401 has 24 MA's), (Start: 64 @47365 has 1 MA's), (68, 47332), (74, 47290), (83, 47212), (85, 47182), (92, 47083), (93, 47080), (95, 47068), (96, 47059), (106, 47020), (108, 47011),

Gene: Hanray\_83 Start: 47343, Stop: 46795, Start Num: 47

Candidate Starts for Hanray\_83:

(Start: 38 @47355 has 1 MA's), (Start: 40 @47352 has 4 MA's), (Start: 42 @47349 has 20 MA's), (Start: 47 @47343 has 19 MA's), (74, 47214), (79, 47151), (82, 47142), (85, 47106), (90, 47025), (95, 46992), (106, 46944), (108, 46935),

Gene: Happiness\_78 Start: 47282, Stop: 46749, Start Num: 41

Candidate Starts for Happiness\_78:

(Start: 30 @47327 has 3 MA's), (36, 47294), (Start: 41 @47282 has 134 MA's), (76, 47138), (77, 47120), (78, 47111), (84, 47078), (85, 47051), (92, 46952), (95, 46937), (106, 46889), (108, 46880),

Gene: Heather\_35 Start: 26803, Stop: 27303, Start Num: 60

Candidate Starts for Heather\_35:

(Start: 60 @26803 has 15 MA's), (70, 26884), (75, 26917), (77, 26956), (82, 26992), (92, 27124), (94, 27130), (115, 27250),

Gene: Helmet\_93 Start: 48028, Stop: 47501, Start Num: 56

Candidate Starts for Helmet\_93:

(21, 48145), (Start: 40 @48034 has 4 MA's), (Start: 42 @48031 has 20 MA's), (Start: 56 @48028 has 24 MA's), (Start: 64 @47992 has 1 MA's), (68, 47959), (74, 47917), (83, 47839), (85, 47809), (92,

47710), (93, 47707), (95, 47695), (96, 47686), (106, 47647), (108, 47638),

Gene: Hexamo\_90 Start: 47569, Stop: 47042, Start Num: 56

Candidate Starts for Hexamo\_90:

(21, 47686), (Start: 40 @47575 has 4 MA's), (Start: 42 @47572 has 20 MA's), (Start: 56 @47569 has 24 MA's), (Start: 64 @47533 has 1 MA's), (68, 47500), (74, 47458), (83, 47380), (85, 47350), (92, 47251), (93, 47248), (95, 47236), (96, 47227), (106, 47188), (108, 47179),

Gene: Holec\_83 Start: 47359, Stop: 46811, Start Num: 47

Candidate Starts for Holec\_83:

(Start: 38 @47371 has 1 MA's), (Start: 40 @47368 has 4 MA's), (Start: 42 @47365 has 20 MA's), (Start: 47 @47359 has 19 MA's), (74, 47230), (79, 47167), (82, 47158), (85, 47122), (90, 47041), (95, 47008), (106, 46960), (108, 46951),

Gene: Holli\_78 Start: 47049, Stop: 46516, Start Num: 41

Candidate Starts for Holli\_78:

(Start: 30 @47094 has 3 MA's), (36, 47061), (Start: 41 @47049 has 134 MA's), (77, 46887), (78, 46878), (85, 46818), (92, 46719), (95, 46704), (106, 46656), (108, 46647),

Gene: Hoot\_84 Start: 45405, Stop: 44878, Start Num: 58

Candidate Starts for Hoot\_84:

(19, 45543), (21, 45531), (Start: 40 @45420 has 4 MA's), (Start: 42 @45417 has 20 MA's), (Start: 56 @45408 has 24 MA's), (Start: 58 @45405 has 25 MA's), (Start: 64 @45369 has 1 MA's), (68, 45336), (74, 45294), (83, 45216), (85, 45186), (92, 45087), (93, 45084), (106, 45024), (108, 45015),

Gene: HortumSL17\_86 Start: 47397, Stop: 46849, Start Num: 47

Candidate Starts for HortumSL17\_86:

(Start: 47 @47397 has 19 MA's), (74, 47268), (79, 47205), (82, 47196), (85, 47160), (90, 47079), (95, 47046), (106, 46998), (108, 46989),

Gene: Houdini22\_78 Start: 47260, Stop: 46727, Start Num: 41

Candidate Starts for Houdini22\_78:

(Start: 30 @47305 has 3 MA's), (36, 47272), (Start: 41 @47260 has 134 MA's), (76, 47116), (77, 47098), (78, 47089), (85, 47029), (92, 46930), (95, 46915), (106, 46867), (108, 46858),

Gene: Huxley\_71 Start: 45152, Stop: 44619, Start Num: 41

Candidate Starts for Huxley\_71:

(Start: 30 @45197 has 3 MA's), (36, 45164), (Start: 41 @45152 has 134 MA's), (Start: 64 @45104 has 1 MA's), (76, 45008), (77, 44990), (78, 44981), (85, 44921), (92, 44822), (95, 44807), (106, 44759), (108, 44750),

Gene: ICleared\_78 Start: 47327, Stop: 46794, Start Num: 41

Candidate Starts for ICleared\_78:

(Start: 30 @47372 has 3 MA's), (36, 47339), (Start: 41 @47327 has 134 MA's), (76, 47183), (77, 47165), (78, 47156), (85, 47096), (92, 46997), (95, 46982), (106, 46934), (108, 46925),

Gene: Iceman\_77 Start: 47549, Stop: 47016, Start Num: 41

Candidate Starts for Iceman\_77:

(Start: 30 @47594 has 3 MA's), (36, 47561), (Start: 41 @47549 has 134 MA's), (76, 47405), (77, 47387), (78, 47378), (85, 47318), (92, 47219), (95, 47204), (106, 47156), (108, 47147),

Gene: Idergollasper\_6 Start: 2147, Stop: 1557, Start Num: 44

Candidate Starts for Idergollasper\_6:

(Start: 44 @2147 has 29 MA's), (63, 2096), (Start: 64 @2093 has 1 MA's), (74, 2018), (76, 1994), (79, 1952), (84, 1922), (95, 1781), (100, 1730), (105, 1709),

Gene: Imara\_6 Start: 2232, Stop: 1642, Start Num: 44

Candidate Starts for Imara\_6:

(Start: 44 @2232 has 29 MA's), (63, 2181), (74, 2103), (76, 2079), (77, 2061), (84, 2007), (95, 1866), (100, 1815), (105, 1794),

Gene: Indra\_94 Start: 48029, Stop: 47502, Start Num: 56

Candidate Starts for Indra\_94:

(21, 48146), (Start: 40 @48035 has 4 MA's), (Start: 42 @48032 has 20 MA's), (Start: 56 @48029 has 24 MA's), (Start: 64 @47993 has 1 MA's), (68, 47960), (74, 47918), (83, 47840), (85, 47810), (92, 47711), (93, 47708), (95, 47696), (96, 47687), (106, 47648), (108, 47639),

Gene: Inventum\_68 Start: 44469, Stop: 45092, Start Num: 60

Candidate Starts for Inventum\_68:

(29, 44388), (Start: 60 @44469 has 15 MA's), (69, 44544), (74, 44580), (76, 44604), (85, 44691), (92, 44790), (93, 44793), (96, 44814), (98, 44841), (102, 44862),

Gene: Iracema64\_79 Start: 47523, Stop: 46990, Start Num: 41

Candidate Starts for Iracema64\_79:

(Start: 30 @47568 has 3 MA's), (36, 47535), (Start: 41 @47523 has 134 MA's), (76, 47379), (77, 47361), (78, 47352), (85, 47292), (92, 47193), (95, 47178), (106, 47130), (108, 47121),

Gene: Isiphiwo\_85 Start: 47116, Stop: 46589, Start Num: 58

Candidate Starts for Isiphiwo\_85:

(21, 47236), (33, 47155), (Start: 40 @47125 has 4 MA's), (Start: 42 @47122 has 20 MA's), (Start: 56 @47119 has 24 MA's), (Start: 58 @47116 has 25 MA's), (Start: 64 @47080 has 1 MA's), (74, 47005), (76, 46984), (83, 46927), (85, 46897), (87, 46882), (92, 46798), (106, 46735), (108, 46726),

Gene: Jamun\_39 Start: 27180, Stop: 27779, Start Num: 50

Candidate Starts for Jamun\_39:

(Start: 50 @27180 has 30 MA's), (75, 27309), (77, 27348), (79, 27372), (85, 27417), (88, 27444), (92, 27516), (95, 27531), (98, 27567), (101, 27588), (107, 27618), (114, 27699), (118, 27768),

Gene: JangDynasty\_6 Start: 2236, Stop: 1646, Start Num: 44

Candidate Starts for JangDynasty\_6:

(Start: 44 @2236 has 29 MA's), (63, 2185), (Start: 64 @2182 has 1 MA's), (74, 2107), (76, 2083), (79, 2041), (84, 2011), (95, 1870), (100, 1819), (105, 1798),

Gene: Jaykayelowell\_76 Start: 47252, Stop: 46719, Start Num: 41

Candidate Starts for Jaykayelowell\_76:

(Start: 30 @47297 has 3 MA's), (36, 47264), (Start: 41 @47252 has 134 MA's), (77, 47090), (78, 47081), (85, 47021), (92, 46922), (95, 46907), (106, 46859), (108, 46850),

Gene: Jeffabunny\_79 Start: 44172, Stop: 43645, Start Num: 56

Candidate Starts for Jeffabunny\_79:

(21, 44289), (Start: 40 @44178 has 4 MA's), (Start: 42 @44175 has 20 MA's), (Start: 56 @44172 has 24 MA's), (Start: 64 @44136 has 1 MA's), (68, 44103), (74, 44061), (83, 43983), (85, 43953), (92, 43854), (93, 43851), (95, 43839), (96, 43830), (106, 43791), (108, 43782),

Gene: JetBlade\_80 Start: 47287, Stop: 46754, Start Num: 41

Candidate Starts for JetBlade\_80:

(Start: 30 @47332 has 3 MA's), (36, 47299), (Start: 41 @47287 has 134 MA's), (76, 47143), (77, 47125), (78, 47116), (85, 47056), (92, 46957), (95, 46942), (106, 46894), (108, 46885),

Gene: JewelBug\_81 Start: 45884, Stop: 45357, Start Num: 58

Candidate Starts for JewelBug\_81:

(19, 46022), (21, 46010), (Start: 40 @45899 has 4 MA's), (Start: 42 @45896 has 20 MA's), (Start: 56 @45887 has 24 MA's), (Start: 58 @45884 has 25 MA's), (Start: 64 @45848 has 1 MA's), (74, 45773), (76, 45752), (83, 45695), (85, 45665), (87, 45650), (92, 45566), (106, 45503), (108, 45494),

Gene: Jiawan\_82 Start: 47375, Stop: 46827, Start Num: 47

Candidate Starts for Jiawan\_82:

(Start: 47 @47375 has 19 MA's), (74, 47246), (79, 47183), (82, 47174), (85, 47138), (90, 47057), (95, 47024), (106, 46976), (108, 46967),

Gene: JoongJeon\_78 Start: 47253, Stop: 46720, Start Num: 41

Candidate Starts for JoongJeon\_78:

(Start: 30 @47298 has 3 MA's), (36, 47265), (Start: 41 @47253 has 134 MA's), (76, 47109), (77, 47091), (78, 47082), (85, 47022), (92, 46923), (95, 46908), (106, 46860), (108, 46851),

Gene: Jordennis\_87 Start: 47791, Stop: 47261, Start Num: 56

Candidate Starts for Jordennis\_87:

(19, 47926), (21, 47914), (Start: 40 @47803 has 4 MA's), (Start: 42 @47800 has 20 MA's), (Start: 56 @47791 has 24 MA's), (Start: 58 @47788 has 25 MA's), (Start: 64 @47752 has 1 MA's), (74, 47677), (76, 47656), (83, 47599), (85, 47569), (87, 47554), (92, 47470), (106, 47407), (108, 47398),

Gene: Jumbo\_35 Start: 41371, Stop: 41904, Start Num: 47

Candidate Starts for Jumbo\_35:

(Start: 47 @41371 has 19 MA's), (66, 41437), (75, 41518), (94, 41728), (112, 41782),

Gene: Juno112\_41 Start: 26811, Stop: 27410, Start Num: 50

Candidate Starts for Juno112\_41:

(Start: 50 @26811 has 30 MA's), (75, 26934), (77, 26973), (82, 27006), (85, 27042), (88, 27069), (92, 27141), (95, 27156), (98, 27192), (101, 27213), (114, 27324), (119, 27405),

Gene: KFPoly\_78 Start: 47253, Stop: 46720, Start Num: 41

Candidate Starts for KFPoly\_78:

(Start: 30 @47298 has 3 MA's), (36, 47265), (Start: 41 @47253 has 134 MA's), (76, 47109), (77, 47091), (78, 47082), (85, 47022), (92, 46923), (95, 46908), (106, 46860), (108, 46851),

Gene: KHumphrey\_42 Start: 26810, Stop: 27418, Start Num: 50

Candidate Starts for KHumphrey\_42:

(Start: 50 @26810 has 30 MA's), (75, 26933), (77, 26972), (79, 26996), (82, 27005), (85, 27041), (88, 27068), (92, 27140), (93, 27143), (95, 27155), (98, 27191), (101, 27212), (112, 27272), (120, 27413),

Gene: Kampy\_78 Start: 47262, Stop: 46729, Start Num: 41

Candidate Starts for Kampy\_78:

(Start: 30 @47307 has 3 MA's), (36, 47274), (Start: 41 @47262 has 134 MA's), (76, 47118), (77, 47100), (78, 47091), (85, 47031), (92, 46932), (95, 46917), (106, 46869), (108, 46860),

Gene: Katalie136\_76 Start: 47053, Stop: 46520, Start Num: 41

Candidate Starts for Katalie136\_76:

(13, 47248), (16, 47206), (21, 47170), (22, 47158), (Start: 27 @47104 has 1 MA's), (Start: 41 @47053 has 134 MA's), (77, 46891), (85, 46822), (92, 46723), (95, 46708), (106, 46660), (108, 46651),

Gene: Kazan\_90 Start: 47560, Stop: 47033, Start Num: 58

Candidate Starts for Kazan\_90:

(21, 47680), (33, 47599), (Start: 40 @47569 has 4 MA's), (Start: 42 @47566 has 20 MA's), (Start: 56 @47563 has 24 MA's), (Start: 58 @47560 has 25 MA's), (Start: 64 @47524 has 1 MA's), (74, 47449), (76, 47428), (83, 47371), (85, 47341), (87, 47326), (92, 47242), (106, 47179), (108, 47170),

Gene: KekoraPapaka\_76 Start: 47271, Stop: 46726, Start Num: 36

Candidate Starts for KekoraPapaka\_76:

(Start: 30 @47304 has 3 MA's), (36, 47271), (Start: 41 @47259 has 134 MA's), (76, 47115), (77, 47097), (78, 47088), (85, 47028), (92, 46929), (95, 46914), (106, 46866), (108, 46857),

Gene: KendraB23\_50 Start: 28188, Stop: 28781, Start Num: 50

Candidate Starts for KendraB23\_50:

(Start: 50 @28188 has 30 MA's), (67, 28254), (75, 28311), (77, 28350), (79, 28374), (88, 28446), (92, 28518), (95, 28533), (98, 28569), (101, 28590), (107, 28620), (114, 28701), (118, 28770),

Gene: Keziacharles14\_82 Start: 47898, Stop: 47347, Start Num: 42

Candidate Starts for Keziacharles14\_82:

(Start: 42 @47898 has 20 MA's), (Start: 47 @47895 has 19 MA's), (76, 47745), (79, 47703), (83, 47688), (85, 47658), (90, 47577), (91, 47574), (95, 47544), (106, 47496), (108, 47487),

Gene: KingPhillip3\_6 Start: 2147, Stop: 1557, Start Num: 44

Candidate Starts for KingPhillip3\_6:

(Start: 44 @2147 has 29 MA's), (63, 2096), (Start: 64 @2093 has 1 MA's), (74, 2018), (76, 1994), (79, 1952), (84, 1922), (95, 1781), (100, 1730), (105, 1709),

Gene: Kingmustik0402\_79 Start: 47248, Stop: 46715, Start Num: 41

Candidate Starts for Kingmustik0402\_79:

(Start: 30 @47293 has 3 MA's), (36, 47260), (Start: 41 @47248 has 134 MA's), (76, 47104), (77, 47086), (78, 47077), (85, 47017), (92, 46918), (95, 46903), (106, 46855), (108, 46846),

Gene: Kingsley\_70 Start: 46174, Stop: 46698, Start Num: 60

Candidate Starts for Kingsley\_70:

(29, 46093), (Start: 60 @46174 has 15 MA's), (74, 46285), (76, 46309), (85, 46396), (92, 46495), (93, 46498), (96, 46519), (98, 46546), (102, 46567),

Gene: Kipper29\_89 Start: 47563, Stop: 47036, Start Num: 58

Candidate Starts for Kipper29\_89:

(19, 47701), (21, 47689), (Start: 40 @47578 has 4 MA's), (Start: 42 @47575 has 20 MA's), (Start: 56 @47566 has 24 MA's), (Start: 58 @47563 has 25 MA's), (Start: 64 @47527 has 1 MA's), (74, 47452), (76, 47431), (83, 47374), (85, 47344), (87, 47329), (92, 47245), (106, 47182), (108, 47173),

Gene: KittenMittens\_75 Start: 46212, Stop: 45673, Start Num: 42

Candidate Starts for KittenMittens\_75:

(Start: 27 @46266 has 1 MA's), (Start: 42 @46212 has 20 MA's), (Start: 64 @46167 has 1 MA's), (74, 46092), (83, 46014), (85, 45984), (95, 45870), (106, 45822), (108, 45813), (112, 45792),

Gene: Klodlith\_81 Start: 46808, Stop: 46257, Start Num: 38

Candidate Starts for Klodlith\_81:

(7, 47081), (12, 47000), (Start: 38 @46808 has 1 MA's), (Start: 40 @46805 has 4 MA's), (Start: 58 @46787 has 25 MA's), (66, 46739), (74, 46676), (76, 46655), (79, 46613), (81, 46607), (83, 46598), (85, 46568), (90, 46487), (95, 46454), (106, 46406), (108, 46397),

Gene: Koan\_76 Start: 47259, Stop: 46726, Start Num: 41

Candidate Starts for Koan\_76:

(Start: 30 @47304 has 3 MA's), (36, 47271), (Start: 41 @47259 has 134 MA's), (76, 47115), (77, 47097), (78, 47088), (85, 47028), (92, 46929), (95, 46914), (106, 46866), (108, 46857),

Gene: Koko\_92 Start: 48418, Stop: 47891, Start Num: 56

Candidate Starts for Koko\_92:

(21, 48535), (Start: 40 @48424 has 4 MA's), (Start: 42 @48421 has 20 MA's), (Start: 56 @48418 has 24 MA's), (Start: 64 @48382 has 1 MA's), (68, 48349), (74, 48307), (83, 48229), (85, 48199), (92, 48100), (93, 48097), (95, 48085), (96, 48076), (106, 48037), (108, 48028),

Gene: Koreni\_78 Start: 46940, Stop: 46407, Start Num: 41

Candidate Starts for Koreni\_78:

(Start: 30 @46985 has 3 MA's), (36, 46952), (Start: 41 @46940 has 134 MA's), (76, 46796), (77, 46778), (78, 46769), (85, 46709), (92, 46610), (95, 46595), (106, 46547), (108, 46538),

Gene: Kratak\_78 Start: 47293, Stop: 46760, Start Num: 41

Candidate Starts for Kratak\_78:

(Start: 30 @47338 has 3 MA's), (36, 47305), (Start: 41 @47293 has 134 MA's), (76, 47149), (77, 47131), (78, 47122), (85, 47062), (92, 46963), (95, 46948), (106, 46900), (108, 46891),

Gene: Kremtemulon\_76 Start: 47139, Stop: 46606, Start Num: 41

Candidate Starts for Kremtemulon\_76:

(Start: 30 @47184 has 3 MA's), (36, 47151), (Start: 41 @47139 has 134 MA's), (76, 46995), (77, 46977), (78, 46968), (85, 46908), (92, 46809), (95, 46794), (106, 46746), (108, 46737),

Gene: Krili\_6 Start: 2098, Stop: 1508, Start Num: 44

Candidate Starts for Krili\_6:

(17, 2251), (26, 2176), (35, 2119), (Start: 38 @2107 has 1 MA's), (Start: 44 @2098 has 29 MA's), (63, 2047), (Start: 64 @2044 has 1 MA's), (74, 1969), (76, 1945), (79, 1903), (84, 1873), (95, 1732), (100, 1681), (105, 1660),

Gene: Kristoff\_77 Start: 47480, Stop: 46941, Start Num: 42

Candidate Starts for Kristoff\_77:

(Start: 27 @47534 has 1 MA's), (Start: 42 @47480 has 20 MA's), (Start: 64 @47435 has 1 MA's), (74, 47360), (83, 47282), (85, 47252), (90, 47171), (95, 47138), (96, 47129), (106, 47090), (108, 47081), (112, 47060),

Gene: Kyee\_79 Start: 47254, Stop: 46721, Start Num: 41

Candidate Starts for Kyee\_79:

(Start: 30 @47299 has 3 MA's), (36, 47266), (Start: 41 @47254 has 134 MA's), (76, 47110), (77, 47092), (78, 47083), (85, 47023), (92, 46924), (95, 46909), (106, 46861), (108, 46852),

Gene: LHTSCC\_81 Start: 47699, Stop: 47166, Start Num: 41

Candidate Starts for LHTSCC\_81:

(Start: 30 @47744 has 3 MA's), (36, 47711), (Start: 41 @47699 has 134 MA's), (76, 47555), (77, 47537), (78, 47528), (85, 47468), (92, 47369), (106, 47306), (108, 47297),

Gene: Laphuphu24k\_41 Start: 26795, Stop: 27394, Start Num: 50

Candidate Starts for Laphuphu24k\_41:

(Start: 50 @26795 has 30 MA's), (75, 26918), (77, 26957), (82, 26990), (85, 27026), (88, 27053), (92, 27125), (95, 27140), (98, 27176), (101, 27197), (114, 27308), (119, 27389),

Gene: LappelDuVide\_79 Start: 47304, Stop: 46726, Start Num: 30

Candidate Starts for LappelDuVide\_79:

(Start: 30 @47304 has 3 MA's), (36, 47271), (Start: 41 @47259 has 134 MA's), (77, 47097), (78, 47088), (85, 47028), (92, 46929), (95, 46914), (106, 46866), (108, 46857),

Gene: Lemur\_79 Start: 47256, Stop: 46723, Start Num: 41

Candidate Starts for Lemur\_79:

(Start: 30 @47301 has 3 MA's), (36, 47268), (Start: 41 @47256 has 134 MA's), (76, 47112), (77, 47094), (78, 47085), (85, 47025), (92, 46926), (95, 46911), (106, 46863), (108, 46854),

Gene: Leona\_41 Start: 26885, Stop: 27487, Start Num: 50

Candidate Starts for Leona\_41:

(Start: 50 @26885 has 30 MA's), (67, 26942), (75, 26999), (77, 27038), (82, 27071), (85, 27107), (88, 27134), (92, 27206), (95, 27221), (98, 27257), (101, 27278), (114, 27389),

Gene: Lilbooboo\_32 Start: 25803, Stop: 26303, Start Num: 60

Candidate Starts for Lilbooboo\_32:

(Start: 60 @25803 has 15 MA's), (Start: 64 @25839 has 1 MA's), (75, 25917), (77, 25956), (94, 26130), (111, 26172), (115, 26250),

Gene: Lilleskat\_82 Start: 47356, Stop: 46808, Start Num: 47

Candidate Starts for Lilleskat\_82:

(Start: 38 @47368 has 1 MA's), (Start: 40 @47365 has 4 MA's), (Start: 42 @47362 has 20 MA's), (Start: 47 @47356 has 19 MA's), (74, 47227), (79, 47164), (82, 47155), (85, 47119), (90, 47038), (95, 47005), (106, 46957), (108, 46948),

Gene: LittleB\_79 Start: 47260, Stop: 46727, Start Num: 41

Candidate Starts for LittleB\_79:

(Start: 30 @47305 has 3 MA's), (36, 47272), (Start: 41 @47260 has 134 MA's), (76, 47116), (77, 47098), (78, 47089), (85, 47029), (92, 46930), (95, 46915), (106, 46867), (108, 46858),

Gene: LittleGuy\_79 Start: 47144, Stop: 46611, Start Num: 41

Candidate Starts for LittleGuy\_79:

(Start: 30 @47189 has 3 MA's), (36, 47156), (Start: 41 @47144 has 134 MA's), (76, 47000), (77, 46982), (78, 46973), (85, 46913), (92, 46814), (95, 46799), (106, 46751), (108, 46742),

Gene: LochMonster\_80 Start: 47496, Stop: 46963, Start Num: 41

Candidate Starts for LochMonster\_80:

(Start: 30 @47541 has 3 MA's), (36, 47508), (Start: 41 @47496 has 134 MA's), (76, 47352), (77, 47334), (78, 47325), (85, 47265), (92, 47166), (95, 47151), (106, 47103), (108, 47094),

Gene: LoneWolf\_85 Start: 47414, Stop: 46863, Start Num: 46

Candidate Starts for LoneWolf\_85:

(37, 47426), (Start: 38 @47423 has 1 MA's), (Start: 40 @47420 has 4 MA's), (Start: 42 @47417 has 20 MA's), (Start: 46 @47414 has 7 MA's), (79, 47219), (83, 47204), (85, 47174), (90, 47093), (95, 47060), (106, 47012), (108, 47003),

Gene: Lorenzo\_79 Start: 47257, Stop: 46724, Start Num: 41

Candidate Starts for Lorenzo\_79:

(Start: 30 @47302 has 3 MA's), (36, 47269), (Start: 41 @47257 has 134 MA's), (77, 47095), (78, 47086), (85, 47026), (92, 46927), (95, 46912), (106, 46864), (108, 46855),

Gene: Lucyedi\_88 Start: 49378, Stop: 48842, Start Num: 54

Candidate Starts for Lucyedi\_88:

(Start: 51 @49381 has 2 MA's), (Start: 54 @49378 has 1 MA's), (Start: 64 @49336 has 1 MA's), (74, 49261), (83, 49183), (85, 49153), (87, 49138), (90, 49072), (95, 49039), (106, 48991), (108, 48982), (112, 48961),

Gene: Lunsford\_79 Start: 47252, Stop: 46719, Start Num: 41

Candidate Starts for Lunsford\_79:

(Start: 30 @47297 has 3 MA's), (36, 47264), (Start: 41 @47252 has 134 MA's), (77, 47090), (78, 47081), (85, 47021), (92, 46922), (95, 46907), (106, 46859), (108, 46850),

Gene: MadKillah\_6 Start: 2098, Stop: 1508, Start Num: 44

Candidate Starts for MadKillah\_6:

(17, 2251), (26, 2176), (35, 2119), (Start: 38 @2107 has 1 MA's), (Start: 44 @2098 has 29 MA's), (63, 2047), (Start: 64 @2044 has 1 MA's), (74, 1969), (76, 1945), (79, 1903), (84, 1873), (95, 1732), (100, 1681), (105, 1660),

Gene: Maminiaina\_84 Start: 47329, Stop: 46778, Start Num: 46

Candidate Starts for Maminiaina\_84:

(Start: 38 @47338 has 1 MA's), (Start: 40 @47335 has 4 MA's), (Start: 42 @47332 has 20 MA's), (Start: 46 @47329 has 7 MA's), (66, 47260), (76, 47176), (79, 47134), (83, 47119), (91, 47005), (95, 46975), (106, 46927), (108, 46918),

Gene: Maverick\_78 Start: 47256, Stop: 46723, Start Num: 41

Candidate Starts for Maverick\_78:

(Start: 30 @47301 has 3 MA's), (36, 47268), (Start: 41 @47256 has 134 MA's), (76, 47112), (77, 47094), (78, 47085), (85, 47025), (92, 46926), (95, 46911), (106, 46863), (108, 46854),

Gene: Maxo\_81 Start: 47262, Stop: 46729, Start Num: 41

Candidate Starts for Maxo\_81:

(Start: 30 @47307 has 3 MA's), (36, 47274), (Start: 41 @47262 has 134 MA's), (76, 47118), (77, 47100), (78, 47091), (85, 47031), (92, 46932), (95, 46917), (106, 46869), (108, 46860),

Gene: Mazhar510\_79 Start: 47257, Stop: 46724, Start Num: 41

Candidate Starts for Mazhar510\_79:

(Start: 30 @47302 has 3 MA's), (36, 47269), (Start: 41 @47257 has 134 MA's), (76, 47113), (77, 47095), (78, 47086), (85, 47026), (92, 46927), (95, 46912), (106, 46864), (108, 46855),

Gene: McFly\_89 Start: 47899, Stop: 47372, Start Num: 58

Candidate Starts for McFly\_89:

(21, 48019), (33, 47938), (Start: 40 @47908 has 4 MA's), (Start: 42 @47905 has 20 MA's), (Start: 56 @47902 has 24 MA's), (Start: 58 @47899 has 25 MA's), (Start: 64 @47863 has 1 MA's), (74, 47788), (76, 47767), (83, 47710), (85, 47680), (87, 47665), (92, 47581), (106, 47518), (108, 47509),

Gene: Medusa\_78 Start: 47272, Stop: 46739, Start Num: 41

Candidate Starts for Medusa\_78:

(Start: 30 @47317 has 3 MA's), (36, 47284), (Start: 41 @47272 has 134 MA's), (77, 47110), (78, 47101), (85, 47041), (92, 46942), (95, 46927), (106, 46879), (108, 46870),

Gene: MeeZee\_78 Start: 47253, Stop: 46720, Start Num: 41

Candidate Starts for MeeZee\_78:

(Start: 30 @47298 has 3 MA's), (36, 47265), (Start: 41 @47253 has 134 MA's), (77, 47091), (78, 47082), (85, 47022), (92, 46923), (95, 46908), (106, 46860), (108, 46851),

Gene: MegTheThird\_81 Start: 46812, Stop: 46246, Start Num: 38

Candidate Starts for MegTheThird\_81:

(Start: 38 @46812 has 1 MA's), (Start: 40 @46809 has 4 MA's), (79, 46617), (83, 46602), (85, 46572), (90, 46491), (95, 46458), (106, 46410), (108, 46401),

Gene: Melvin\_81 Start: 47254, Stop: 46721, Start Num: 41

Candidate Starts for Melvin\_81:

(Start: 30 @47299 has 3 MA's), (36, 47266), (Start: 41 @47254 has 134 MA's), (76, 47110), (77, 47092), (78, 47083), (85, 47023), (92, 46924), (95, 46909), (106, 46861), (108, 46852),

Gene: Millski\_78 Start: 47260, Stop: 46727, Start Num: 41

Candidate Starts for Millski\_78:

(Start: 30 @47305 has 3 MA's), (36, 47272), (Start: 41 @47260 has 134 MA's), (77, 47098), (78, 47089), (85, 47029), (92, 46930), (95, 46915), (106, 46867), (108, 46858),

Gene: Minispark\_82 Start: 46808, Stop: 46260, Start Num: 47

Candidate Starts for Minispark\_82:

(1, 47390), (21, 46931), (Start: 38 @46820 has 1 MA's), (Start: 40 @46817 has 4 MA's), (Start: 46 @46811 has 7 MA's), (Start: 47 @46808 has 19 MA's), (76, 46658), (79, 46616), (83, 46601), (85, 46571), (90, 46490), (95, 46457), (106, 46409), (108, 46400),

Gene: Miramae\_79 Start: 47083, Stop: 46541, Start Num: 41

Candidate Starts for Miramae\_79:

(Start: 41 @47083 has 134 MA's), (Start: 64 @47035 has 1 MA's), (Start: 65 @47029 has 1 MA's), (67, 47014), (76, 46939), (77, 46921), (78, 46912), (85, 46852), (92, 46753), (95, 46738), (106, 46690), (108, 46681),

Gene: Mori\_6 Start: 2098, Stop: 1508, Start Num: 44

Candidate Starts for Mori\_6:

(17, 2251), (26, 2176), (35, 2119), (Start: 38 @2107 has 1 MA's), (Start: 44 @2098 has 29 MA's), (63, 2047), (Start: 64 @2044 has 1 MA's), (74, 1969), (76, 1945), (79, 1903), (84, 1873), (95, 1732), (100, 1681), (105, 1660),

Gene: Morpher26\_76 Start: 47074, Stop: 46541, Start Num: 41

Candidate Starts for Morpher26\_76:

(13, 47269), (16, 47227), (21, 47191), (22, 47179), (Start: 27 @47125 has 1 MA's), (Start: 41 @47074 has 134 MA's), (77, 46912), (85, 46843), (92, 46744), (95, 46729), (106, 46681), (108, 46672),

Gene: Morrow\_81 Start: 47299, Stop: 46766, Start Num: 41

Candidate Starts for Morrow\_81:

(Start: 30 @47344 has 3 MA's), (36, 47311), (Start: 41 @47299 has 134 MA's), (77, 47137), (78, 47128), (85, 47068), (92, 46969), (95, 46954), (106, 46906), (108, 46897),

Gene: Mundrea\_78 Start: 47310, Stop: 46768, Start Num: 41

Candidate Starts for Mundrea\_78:

(6, 47640), (16, 47463), (21, 47427), (Start: 27 @47361 has 1 MA's), (36, 47322), (Start: 41 @47310 has 134 MA's), (76, 47166), (77, 47148), (78, 47139), (85, 47079), (92, 46980), (95, 46965), (106, 46917), (108, 46908),

Gene: Murai\_6 Start: 2098, Stop: 1508, Start Num: 44

Candidate Starts for Murai\_6:

(17, 2251), (26, 2176), (35, 2119), (Start: 38 @2107 has 1 MA's), (Start: 44 @2098 has 29 MA's), (63, 2047), (Start: 64 @2044 has 1 MA's), (74, 1969), (76, 1945), (79, 1903), (84, 1873), (95, 1732), (100, 1681), (105, 1660),

Gene: Myxus\_85 Start: 47397, Stop: 46849, Start Num: 47

Candidate Starts for Myxus\_85:

(Start: 47 @47397 has 19 MA's), (74, 47268), (79, 47205), (82, 47196), (85, 47160), (90, 47079), (95, 47046), (106, 46998), (108, 46989),

Gene: Nebs\_80 Start: 47299, Stop: 46766, Start Num: 41

Candidate Starts for Nebs\_80:

(Start: 30 @47344 has 3 MA's), (36, 47311), (Start: 41 @47299 has 134 MA's), (76, 47155), (77, 47137), (78, 47128), (85, 47068), (92, 46969), (95, 46954), (106, 46906), (108, 46897),

Gene: Neeharika16\_88 Start: 47653, Stop: 47123, Start Num: 56

Candidate Starts for Neeharika16\_88:

(19, 47788), (21, 47776), (Start: 40 @47665 has 4 MA's), (Start: 42 @47662 has 20 MA's), (Start: 56 @47653 has 24 MA's), (Start: 58 @47650 has 25 MA's), (Start: 64 @47614 has 1 MA's), (74, 47539), (76, 47518), (83, 47461), (85, 47431), (87, 47416), (92, 47332), (106, 47269), (108, 47260),

Gene: Nemo27\_78 Start: 47255, Stop: 46722, Start Num: 41

Candidate Starts for Nemo27\_78:

(Start: 30 @47300 has 3 MA's), (36, 47267), (Start: 41 @47255 has 134 MA's), (76, 47111), (77, 47093), (78, 47084), (85, 47024), (92, 46925), (95, 46910), (106, 46862), (108, 46853),

Gene: Newrala\_88 Start: 47996, Stop: 47469, Start Num: 58

Candidate Starts for Newrala\_88:

(19, 48134), (21, 48122), (Start: 40 @48011 has 4 MA's), (Start: 42 @48008 has 20 MA's), (Start: 56 @47999 has 24 MA's), (Start: 58 @47996 has 25 MA's), (Start: 64 @47960 has 1 MA's), (74, 47885), (76, 47864), (83, 47807), (85, 47777), (87, 47762), (92, 47678), (106, 47615), (108, 47606),

Gene: Niblet\_39 Start: 27570, Stop: 28169, Start Num: 50

Candidate Starts for Niblet\_39:

(Start: 50 @27570 has 30 MA's), (75, 27699), (77, 27738), (79, 27762), (85, 27807), (88, 27834), (92, 27906), (95, 27921), (98, 27957), (101, 27978), (107, 28008), (114, 28089), (118, 28158),

Gene: NiebruSaylor\_6 Start: 2098, Stop: 1508, Start Num: 44

Candidate Starts for NiebruSaylor\_6:

(17, 2251), (26, 2176), (35, 2119), (Start: 38 @2107 has 1 MA's), (Start: 44 @2098 has 29 MA's), (63, 2047), (Start: 64 @2044 has 1 MA's), (74, 1969), (76, 1945), (79, 1903), (84, 1873), (95, 1732), (100, 1681), (105, 1660),

Gene: Noelle\_77 Start: 47280, Stop: 46744, Start Num: 40

Candidate Starts for Noelle\_77:

(Start: 27 @47331 has 1 MA's), (Start: 40 @47280 has 4 MA's), (74, 47163), (85, 47055), (95, 46941), (106, 46893), (108, 46884), (112, 46863),

Gene: NorthStar\_76 Start: 47259, Stop: 46726, Start Num: 41

Candidate Starts for NorthStar\_76:

(Start: 30 @47304 has 3 MA's), (36, 47271), (Start: 41 @47259 has 134 MA's), (76, 47115), (77, 47097), (78, 47088), (85, 47028), (92, 46929), (95, 46914), (106, 46866), (108, 46857),

Gene: NotAPhaseMom\_78 Start: 47260, Stop: 46727, Start Num: 41

Candidate Starts for NotAPhaseMom\_78:

(Start: 30 @47305 has 3 MA's), (36, 47272), (Start: 41 @47260 has 134 MA's), (76, 47116), (77, 47098), (78, 47089), (85, 47029), (92, 46930), (95, 46915), (106, 46867), (108, 46858),

Gene: Nyxis\_78 Start: 47138, Stop: 46605, Start Num: 41

Candidate Starts for Nyxis\_78:

(Start: 30 @47183 has 3 MA's), (36, 47150), (Start: 41 @47138 has 134 MA's), (77, 46976), (78, 46967), (85, 46907), (92, 46808), (95, 46793), (106, 46745), (108, 46736),

Gene: OKCentral2016\_78 Start: 46283, Stop: 45744, Start Num: 42

Candidate Starts for OKCentral2016\_78:

(Start: 27 @46337 has 1 MA's), (Start: 42 @46283 has 20 MA's), (Start: 64 @46238 has 1 MA's), (74, 46163), (76, 46142), (85, 46055), (90, 45974), (95, 45941), (96, 45932), (106, 45893), (108, 45884), (112, 45863),

Gene: OKaNui\_78 Start: 47310, Stop: 46777, Start Num: 41

Candidate Starts for OKaNui\_78:

(Start: 30 @47355 has 3 MA's), (36, 47322), (Start: 41 @47310 has 134 MA's), (76, 47166), (77, 47148), (78, 47139), (85, 47079), (92, 46980), (95, 46965), (106, 46917), (108, 46908),

Gene: Obama12\_80 Start: 47683, Stop: 47150, Start Num: 41

Candidate Starts for Obama12\_80:

(Start: 30 @47728 has 3 MA's), (36, 47695), (Start: 41 @47683 has 134 MA's), (76, 47539), (77, 47521), (78, 47512), (85, 47452), (92, 47353), (95, 47338), (106, 47290), (108, 47281),

Gene: Ohfah\_80 Start: 47299, Stop: 46766, Start Num: 41

Candidate Starts for Ohfah\_80:

(Start: 30 @47344 has 3 MA's), (36, 47311), (Start: 41 @47299 has 134 MA's), (76, 47155), (77, 47137), (78, 47128), (85, 47068), (92, 46969), (95, 46954), (106, 46906), (108, 46897),

Gene: Onglai\_83 Start: 45547, Stop: 44999, Start Num: 47

Candidate Starts for Onglai\_83:

(Start: 47 @45547 has 19 MA's), (74, 45418), (79, 45355), (82, 45346), (85, 45310), (90, 45229), (95, 45196), (106, 45148), (108, 45139),

Gene: Oppalora\_41 Start: 26809, Stop: 27408, Start Num: 50

Candidate Starts for Oppalora\_41:

(Start: 50 @26809 has 30 MA's), (75, 26932), (77, 26971), (82, 27004), (85, 27040), (88, 27067), (92, 27139), (95, 27154), (98, 27190), (101, 27211), (114, 27322), (119, 27403),

Gene: Orcanus\_40 Start: 27545, Stop: 28138, Start Num: 50

Candidate Starts for Orcanus\_40:

(Start: 50 @27545 has 30 MA's), (75, 27668), (77, 27707), (79, 27731), (88, 27803), (92, 27875), (95, 27890), (98, 27926), (101, 27947), (107, 27977), (114, 28058), (118, 28127),

Gene: PainterBoy\_87 Start: 49092, Stop: 48553, Start Num: 51

Candidate Starts for PainterBoy\_87:

(Start: 51 @49092 has 2 MA's), (Start: 54 @49089 has 1 MA's), (Start: 64 @49047 has 1 MA's), (74, 48972), (83, 48894), (85, 48864), (87, 48849), (90, 48783), (95, 48750), (106, 48702), (108, 48693), (112, 48672),

Gene: Palestino\_78 Start: 47256, Stop: 46723, Start Num: 41

Candidate Starts for Palestino\_78:

(Start: 30 @47301 has 3 MA's), (36, 47268), (Start: 41 @47256 has 134 MA's), (76, 47112), (77, 47094), (78, 47085), (85, 47025), (92, 46926), (95, 46911), (106, 46863), (108, 46854),

Gene: PeaceMeal1\_76 Start: 46213, Stop: 45674, Start Num: 42

Candidate Starts for PeaceMeal1\_76:

(Start: 27 @46267 has 1 MA's), (Start: 42 @46213 has 20 MA's), (Start: 64 @46168 has 1 MA's), (74, 46093), (83, 46015), (85, 45985), (95, 45871), (106, 45823), (108, 45814), (112, 45793),

Gene: Peaches\_77 Start: 47258, Stop: 46725, Start Num: 41

Candidate Starts for Peaches\_77:

(Start: 30 @47303 has 3 MA's), (36, 47270), (Start: 41 @47258 has 134 MA's), (76, 47114), (77, 47096), (78, 47087), (85, 47027), (92, 46928), (95, 46913), (106, 46865), (108, 46856),

Gene: Pelletreau\_49 Start: 27995, Stop: 28594, Start Num: 50

Candidate Starts for Pelletreau\_49:

(Start: 50 @27995 has 30 MA's), (67, 28067), (75, 28124), (77, 28163), (79, 28187), (88, 28259), (92, 28331), (95, 28346), (98, 28382), (101, 28403), (107, 28433), (114, 28514), (118, 28583),

Gene: Perplexer\_76 Start: 47054, Stop: 46521, Start Num: 41

Candidate Starts for Perplexer\_76:

(13, 47249), (16, 47207), (21, 47171), (22, 47159), (Start: 27 @47105 has 1 MA's), (Start: 41 @47054 has 134 MA's), (77, 46892), (85, 46823), (92, 46724), (95, 46709), (106, 46661), (108, 46652),

Gene: PeterPeter\_79 Start: 47253, Stop: 46720, Start Num: 41

Candidate Starts for PeterPeter\_79:

(Start: 30 @47298 has 3 MA's), (36, 47265), (Start: 41 @47253 has 134 MA's), (76, 47109), (77, 47091), (78, 47082), (85, 47022), (92, 46923), (95, 46908), (106, 46860), (108, 46851),

Gene: PetiteSangsue\_76 Start: 47057, Stop: 46524, Start Num: 41

Candidate Starts for PetiteSangsue\_76:

(13, 47252), (16, 47210), (21, 47174), (22, 47162), (Start: 27 @47108 has 1 MA's), (Start: 41 @47057 has 134 MA's), (77, 46895), (85, 46826), (92, 46727), (95, 46712), (106, 46664), (108, 46655),

Gene: Phacado\_79 Start: 47255, Stop: 46722, Start Num: 41

Candidate Starts for Phacado\_79:

(Start: 30 @47300 has 3 MA's), (36, 47267), (Start: 41 @47255 has 134 MA's), (76, 47111), (77, 47093), (78, 47084), (85, 47024), (92, 46925), (95, 46910), (106, 46862), (108, 46853),

Gene: Phaeder\_85 Start: 47272, Stop: 46724, Start Num: 47

Candidate Starts for Phaeder\_85:

(Start: 47 @47272 has 19 MA's), (74, 47143), (79, 47080), (82, 47071), (85, 47035), (90, 46954), (95, 46921), (106, 46873), (108, 46864),

Gene: Pharaoh\_79 Start: 48294, Stop: 47764, Start Num: 55

Candidate Starts for Pharaoh\_79:

(Start: 38 @48306 has 1 MA's), (Start: 55 @48294 has 2 MA's), (74, 48180), (76, 48159), (83, 48102), (85, 48072), (91, 47988), (95, 47958), (106, 47910), (108, 47901),

Gene: Phelipe\_80 Start: 47299, Stop: 46766, Start Num: 41

Candidate Starts for Phelipe\_80:

(Start: 30 @47344 has 3 MA's), (36, 47311), (Start: 41 @47299 has 134 MA's), (76, 47155), (77, 47137), (78, 47128), (85, 47068), (92, 46969), (95, 46954), (106, 46906), (108, 46897),

Gene: Phighter1804\_79 Start: 47320, Stop: 46787, Start Num: 41

Candidate Starts for Phighter1804\_79:

(Start: 30 @47365 has 3 MA's), (36, 47332), (Start: 41 @47320 has 134 MA's), (76, 47176), (77, 47158), (78, 47149), (85, 47089), (92, 46990), (95, 46975), (106, 46927), (108, 46918),

Gene: Phlei\_64 Start: 44228, Stop: 43716, Start Num: 56

Candidate Starts for Phlei\_64:

(Start: 56 @44228 has 24 MA's), (Start: 64 @44189 has 1 MA's), (74, 44114), (84, 44033), (85, 44006), (95, 43892), (97, 43880), (110, 43832), (113, 43787),

Gene: PhlipPhlop\_68 Start: 47129, Stop: 47779, Start Num: 60

Candidate Starts for PhlipPhlop\_68:

(11, 46880), (14, 46910), (24, 47006), (29, 47048), (Start: 60 @47129 has 15 MA's), (62, 47144), (74, 47240), (76, 47264), (85, 47351), (89, 47411), (95, 47465), (96, 47474), (98, 47501), (102, 47522), (116, 47657),

Gene: PhluffyCoco\_42 Start: 26807, Stop: 27400, Start Num: 50

Candidate Starts for PhluffyCoco\_42:

(Start: 50 @26807 has 30 MA's), (75, 26930), (77, 26969), (82, 27002), (88, 27065), (92, 27137), (95, 27152), (98, 27188), (101, 27209), (114, 27320), (118, 27389),

Gene: Phonnegut\_85 Start: 47288, Stop: 46740, Start Num: 47

Candidate Starts for Phonnegut\_85:

(Start: 47 @47288 has 19 MA's), (74, 47159), (79, 47096), (82, 47087), (85, 47051), (90, 46970), (95, 46937), (106, 46889), (108, 46880),

Gene: Phontbonne\_79 Start: 47154, Stop: 46621, Start Num: 41

Candidate Starts for Phontbonne\_79:

(Start: 30 @47199 has 3 MA's), (36, 47166), (Start: 41 @47154 has 134 MA's), (76, 47010), (77, 46992), (78, 46983), (85, 46923), (92, 46824), (95, 46809), (106, 46761), (108, 46752),

Gene: Pioneer\_85 Start: 47288, Stop: 46740, Start Num: 47

Candidate Starts for Pioneer\_85:

(Start: 47 @47288 has 19 MA's), (74, 47159), (79, 47096), (82, 47087), (85, 47051), (90, 46970), (95, 46937), (106, 46889), (108, 46880),

Gene: Pipcraft\_75 Start: 47260, Stop: 46727, Start Num: 41

Candidate Starts for Pipcraft\_75:

(Start: 30 @47305 has 3 MA's), (36, 47272), (Start: 41 @47260 has 134 MA's), (77, 47098), (78, 47089), (85, 47029), (92, 46930), (95, 46915), (106, 46867), (108, 46858),

Gene: Pmask\_88 Start: 48200, Stop: 47670, Start Num: 56

Candidate Starts for Pmask\_88:

(19, 48335), (21, 48323), (Start: 40 @48212 has 4 MA's), (Start: 42 @48209 has 20 MA's), (Start: 56 @48200 has 24 MA's), (Start: 58 @48197 has 25 MA's), (Start: 64 @48161 has 1 MA's), (74, 48086), (76, 48065), (83, 48008), (85, 47978), (87, 47963), (92, 47879), (106, 47816), (108, 47807),

Gene: Polymorphads\_80 Start: 47280, Stop: 46747, Start Num: 41

Candidate Starts for Polymorphads\_80:

(Start: 30 @47325 has 3 MA's), (36, 47292), (Start: 41 @47280 has 134 MA's), (77, 47118), (78, 47109), (85, 47049), (92, 46950), (95, 46935), (106, 46887), (108, 46878),

Gene: Polyphemus\_82 Start: 45968, Stop: 45441, Start Num: 58

Candidate Starts for Polyphemus\_82:

(19, 46106), (21, 46094), (Start: 40 @45983 has 4 MA's), (Start: 42 @45980 has 20 MA's), (Start: 56 @45971 has 24 MA's), (Start: 58 @45968 has 25 MA's), (Start: 64 @45932 has 1 MA's), (74, 45857), (76, 45836), (83, 45779), (85, 45749), (87, 45734), (92, 45650), (106, 45587), (108, 45578),

Gene: Poompha\_76 Start: 46211, Stop: 45672, Start Num: 42

Candidate Starts for Poompha\_76:

(Start: 27 @46265 has 1 MA's), (Start: 42 @46211 has 20 MA's), (Start: 64 @46166 has 1 MA's), (74, 46091), (83, 46013), (85, 45983), (95, 45869), (106, 45821), (108, 45812), (112, 45791),

Gene: Priamo\_90 Start: 47446, Stop: 46913, Start Num: 42

Candidate Starts for Priamo\_90:

(21, 47560), (33, 47479), (Start: 40 @47449 has 4 MA's), (Start: 42 @47446 has 20 MA's), (Start: 56 @47443 has 24 MA's), (Start: 58 @47440 has 25 MA's), (Start: 64 @47404 has 1 MA's), (74, 47329), (76, 47308), (83, 47251), (85, 47221), (87, 47206), (92, 47122), (106, 47059), (108, 47050),

Gene: Priya\_83 Start: 47060, Stop: 46512, Start Num: 47

Candidate Starts for Priya\_83:

(Start: 38 @47072 has 1 MA's), (Start: 40 @47069 has 4 MA's), (Start: 42 @47066 has 20 MA's), (Start: 47 @47060 has 19 MA's), (74, 46931), (79, 46868), (82, 46859), (85, 46823), (90, 46742), (95, 46709), (106, 46661), (108, 46652),

Gene: Pumbaa\_79 Start: 47204, Stop: 46671, Start Num: 41

Candidate Starts for Pumbaa\_79:

(Start: 30 @47249 has 3 MA's), (36, 47216), (Start: 41 @47204 has 134 MA's), (77, 47042), (78, 47033), (85, 46973), (92, 46874), (95, 46859), (106, 46811), (108, 46802),

Gene: Qobbit\_83 Start: 47022, Stop: 46474, Start Num: 47

Candidate Starts for Qobbit\_83:

(Start: 38 @47034 has 1 MA's), (Start: 40 @47031 has 4 MA's), (Start: 42 @47028 has 20 MA's), (Start: 47 @47022 has 19 MA's), (74, 46893), (79, 46830), (82, 46821), (85, 46785), (90, 46704), (95, 46671), (106, 46623), (108, 46614),

Gene: Rahalelujah\_84 Start: 46823, Stop: 46275, Start Num: 47

Candidate Starts for Rahalelujah\_84:

(1, 47405), (21, 46946), (Start: 38 @46835 has 1 MA's), (Start: 40 @46832 has 4 MA's), (Start: 46 @46826 has 7 MA's), (Start: 47 @46823 has 19 MA's), (76, 46673), (79, 46631), (83, 46616), (85, 46586), (90, 46505), (95, 46472), (106, 46424), (108, 46415),

Gene: Rattail\_42 Start: 26893, Stop: 27486, Start Num: 50

Candidate Starts for Rattail\_42:

(Start: 50 @26893 has 30 MA's), (75, 27016), (77, 27055), (82, 27088), (88, 27151), (92, 27223), (95, 27238), (98, 27274), (101, 27295), (114, 27406), (118, 27475),

Gene: Rebeuca\_80 Start: 47481, Stop: 46942, Start Num: 42

Candidate Starts for Rebeuca\_80:

(Start: 27 @47535 has 1 MA's), (Start: 42 @47481 has 20 MA's), (Start: 64 @47436 has 1 MA's), (74, 47361), (83, 47283), (85, 47253), (90, 47172), (95, 47139), (96, 47130), (106, 47091), (108, 47082), (112, 47061),

Gene: RedBird\_71 Start: 44150, Stop: 44698, Start Num: 60

Candidate Starts for RedBird\_71:

(29, 44069), (Start: 60 @44150 has 15 MA's), (69, 44225), (74, 44261), (76, 44285), (85, 44372), (92, 44471), (93, 44474), (96, 44495), (98, 44522), (102, 44543),

Gene: RedFox\_42 Start: 26806, Stop: 27399, Start Num: 50

Candidate Starts for RedFox\_42:

(Start: 50 @26806 has 30 MA's), (75, 26929), (77, 26968), (82, 27001), (88, 27064), (92, 27136), (95, 27151), (98, 27187), (101, 27208), (114, 27319), (118, 27388),

Gene: Refuge\_82 Start: 48905, Stop: 48375, Start Num: 58

Candidate Starts for Refuge\_82:

(34, 48929), (Start: 58 @48905 has 25 MA's), (74, 48794), (82, 48722), (83, 48716), (85, 48686), (92, 48587), (95, 48572), (106, 48524), (108, 48515),

Gene: Relief\_78 Start: 47256, Stop: 46723, Start Num: 41

Candidate Starts for Relief\_78:

(Start: 30 @47301 has 3 MA's), (36, 47268), (Start: 41 @47256 has 134 MA's), (76, 47112), (77, 47094), (78, 47085), (85, 47025), (92, 46926), (95, 46911), (106, 46863), (108, 46854),

Gene: RemusLoopin\_34 Start: 26998, Stop: 27498, Start Num: 60

Candidate Starts for RemusLoopin\_34:

(48, 26977), (Start: 60 @26998 has 15 MA's), (75, 27112), (77, 27151), (92, 27319), (94, 27325), (115, 27445),

Gene: Renna12\_41 Start: 26867, Stop: 27475, Start Num: 50

Candidate Starts for Renna12\_41:

(Start: 50 @26867 has 30 MA's), (75, 26990), (77, 27029), (79, 27053), (82, 27062), (85, 27098), (88, 27125), (92, 27197), (93, 27200), (95, 27212), (98, 27248), (101, 27269), (112, 27329), (120, 27470),

Gene: Rifter\_91 Start: 47196, Stop: 46669, Start Num: 56

Candidate Starts for Rifter\_91:

(21, 47313), (Start: 40 @47202 has 4 MA's), (Start: 42 @47199 has 20 MA's), (Start: 56 @47196 has 24 MA's), (Start: 64 @47160 has 1 MA's), (68, 47127), (74, 47085), (83, 47007), (85, 46977), (92, 46878), (93, 46875), (95, 46863), (96, 46854), (106, 46815), (108, 46806),

Gene: RockieBear\_76 Start: 47258, Stop: 46725, Start Num: 41

Candidate Starts for RockieBear\_76:

(Start: 30 @47303 has 3 MA's), (36, 47270), (Start: 41 @47258 has 134 MA's), (76, 47114), (77, 47096), (78, 47087), (85, 47027), (92, 46928), (95, 46913), (106, 46865), (108, 46856),

Gene: Roksolana\_91 Start: 47912, Stop: 47385, Start Num: 56

Candidate Starts for Roksolana\_91:

(21, 48029), (Start: 40 @47918 has 4 MA's), (Start: 42 @47915 has 20 MA's), (Start: 56 @47912 has 24 MA's), (Start: 64 @47876 has 1 MA's), (68, 47843), (74, 47801), (83, 47723), (85, 47693), (92, 47594), (93, 47591), (95, 47579), (96, 47570), (106, 47531), (108, 47522),

Gene: Romney\_78 Start: 47256, Stop: 46723, Start Num: 41

Candidate Starts for Romney\_78:

(Start: 30 @47301 has 3 MA's), (36, 47268), (Start: 41 @47256 has 134 MA's), (76, 47112), (77, 47094), (78, 47085), (85, 47025), (92, 46926), (95, 46911), (106, 46863), (108, 46854),

Gene: Roosevelt\_77 Start: 47261, Stop: 46728, Start Num: 41

Candidate Starts for Roosevelt\_77:

(Start: 30 @47306 has 3 MA's), (36, 47273), (Start: 41 @47261 has 134 MA's), (77, 47099), (78, 47090), (85, 47030), (92, 46931), (95, 46916), (106, 46868), (108, 46859),

Gene: Rosa24\_75 Start: 47287, Stop: 46754, Start Num: 41

Candidate Starts for Rosa24\_75:

(Start: 30 @47332 has 3 MA's), (36, 47299), (Start: 41 @47287 has 134 MA's), (76, 47143), (77, 47125), (78, 47116), (85, 47056), (92, 46957), (95, 46942), (106, 46894), (108, 46885),

Gene: Rowdy\_81 Start: 47188, Stop: 46649, Start Num: 51

Candidate Starts for Rowdy\_81:

(Start: 27 @47248 has 1 MA's), (Start: 51 @47188 has 2 MA's), (Start: 64 @47143 has 1 MA's), (74, 47068), (76, 47047), (83, 46990), (85, 46960), (90, 46879), (95, 46846), (96, 46837), (106, 46798), (108, 46789), (112, 46768),

Gene: Ruin\_79 Start: 47252, Stop: 46719, Start Num: 41

Candidate Starts for Ruin\_79:

(Start: 30 @47297 has 3 MA's), (36, 47264), (Start: 41 @47252 has 134 MA's), (76, 47108), (77, 47090), (78, 47081), (85, 47021), (92, 46922), (95, 46907), (106, 46859), (108, 46850),

Gene: Ryadel\_8 Start: 2666, Stop: 2088, Start Num: 56

Candidate Starts for Ryadel\_8:

(28, 2744), (Start: 56 @2666 has 24 MA's), (63, 2627), (Start: 64 @2624 has 1 MA's), (74, 2549), (76, 2525), (79, 2483), (84, 2453), (95, 2312), (100, 2261), (105, 2240),

Gene: RyeScarlet\_86 Start: 47263, Stop: 46715, Start Num: 47

Candidate Starts for RyeScarlet\_86:

(Start: 38 @47275 has 1 MA's), (Start: 40 @47272 has 4 MA's), (Start: 42 @47269 has 20 MA's), (Start: 47 @47263 has 19 MA's), (74, 47134), (79, 47071), (82, 47062), (85, 47026), (90, 46945), (95, 46912), (106, 46864), (108, 46855),

Gene: Sabertooth\_79 Start: 47264, Stop: 46731, Start Num: 41

Candidate Starts for Sabertooth\_79:

(Start: 30 @47309 has 3 MA's), (36, 47276), (Start: 41 @47264 has 134 MA's), (77, 47102), (78, 47093), (85, 47033), (92, 46934), (95, 46919), (106, 46871), (108, 46862),

Gene: Sachima\_81 Start: 47300, Stop: 46752, Start Num: 47

Candidate Starts for Sachima\_81:

(Start: 47 @47300 has 19 MA's), (74, 47171), (79, 47108), (82, 47099), (85, 47063), (90, 46982), (95, 46949), (106, 46901), (108, 46892),

Gene: Samora\_34 Start: 26403, Stop: 26903, Start Num: 60

Candidate Starts for Samora\_34:

(Start: 30 @26328 has 3 MA's), (33, 26337), (Start: 60 @26403 has 15 MA's), (Start: 64 @26439 has 1 MA's), (74, 26514), (75, 26517), (94, 26730), (95, 26739), (111, 26772),

Gene: Samy\_49 Start: 33023, Stop: 33553, Start Num: 46

Candidate Starts for Samy\_49:

(Start: 46 @33023 has 7 MA's), (Start: 65 @33089 has 1 MA's), (83, 33242),

Gene: Sassafras\_71 Start: 44468, Stop: 45091, Start Num: 60

Candidate Starts for Sassafras\_71:

(29, 44387), (Start: 60 @44468 has 15 MA's), (69, 44543), (74, 44579), (76, 44603), (85, 44690), (92, 44789), (93, 44792), (96, 44813), (98, 44840), (102, 44861),

Gene: Scamp\_79 Start: 47261, Stop: 46728, Start Num: 41

Candidate Starts for Scamp\_79:

(Start: 30 @47306 has 3 MA's), (36, 47273), (Start: 41 @47261 has 134 MA's), (76, 47117), (77, 47099), (78, 47090), (85, 47030), (92, 46931), (95, 46916), (106, 46868), (108, 46859),

Gene: Scherzo\_83 Start: 47320, Stop: 46772, Start Num: 47

Candidate Starts for Scherzo\_83:

(Start: 47 @47320 has 19 MA's), (74, 47191), (79, 47128), (82, 47119), (85, 47083), (90, 47002), (95, 46969), (106, 46921), (108, 46912),

Gene: SchoolBus\_6 Start: 2147, Stop: 1557, Start Num: 44

Candidate Starts for SchoolBus\_6:

(Start: 44 @2147 has 29 MA's), (63, 2096), (Start: 64 @2093 has 1 MA's), (74, 2018), (76, 1994), (79, 1952), (84, 1922), (95, 1781), (100, 1730), (105, 1709),

Gene: Schuy\_6 Start: 2098, Stop: 1508, Start Num: 44

Candidate Starts for Schuy\_6:

(17, 2251), (26, 2176), (35, 2119), (Start: 38 @2107 has 1 MA's), (Start: 44 @2098 has 29 MA's), (63, 2047), (Start: 64 @2044 has 1 MA's), (74, 1969), (76, 1945), (79, 1903), (84, 1873), (95, 1732), (100, 1681), (105, 1660),

Gene: Sebastisaurus\_34 Start: 26720, Stop: 27220, Start Num: 60

Candidate Starts for Sebastisaurus\_34:

(48, 26699), (Start: 60 @26720 has 15 MA's), (75, 26834), (77, 26873), (82, 26909), (94, 27047), (111, 27089), (115, 27167),

Gene: SenorClean\_80 Start: 47259, Stop: 46726, Start Num: 41

Candidate Starts for SenorClean\_80:

(Start: 30 @47304 has 3 MA's), (36, 47271), (Start: 41 @47259 has 134 MA's), (76, 47115), (77, 47097), (78, 47088), (85, 47028), (92, 46929), (95, 46914), (106, 46866), (108, 46857),

Gene: Severus\_77 Start: 46211, Stop: 45672, Start Num: 42

Candidate Starts for Severus\_77:

(Start: 27 @46265 has 1 MA's), (Start: 42 @46211 has 20 MA's), (Start: 64 @46166 has 1 MA's), (74, 46091), (83, 46013), (85, 45983), (95, 45869), (106, 45821), (108, 45812), (112, 45791),

Gene: Shaka\_77 Start: 47257, Stop: 46724, Start Num: 41

Candidate Starts for Shaka\_77:

(Start: 30 @47302 has 3 MA's), (36, 47269), (Start: 41 @47257 has 134 MA's), (76, 47113), (77, 47095), (78, 47086), (85, 47026), (92, 46927), (95, 46912), (106, 46864), (108, 46855),

Gene: Shapes\_81 Start: 47188, Stop: 46649, Start Num: 51

Candidate Starts for Shapes\_81:

(Start: 27 @47248 has 1 MA's), (Start: 51 @47188 has 2 MA's), (Start: 64 @47143 has 1 MA's), (74, 47068), (76, 47047), (83, 46990), (85, 46960), (90, 46879), (95, 46846), (96, 46837), (106, 46798), (108, 46789), (112, 46768),

Gene: SheaKeira\_80 Start: 46608, Stop: 46063, Start Num: 42

Candidate Starts for SheaKeira\_80:

(12, 46806), (Start: 38 @46614 has 1 MA's), (Start: 42 @46608 has 20 MA's), (66, 46545), (74, 46482), (79, 46419), (81, 46413), (83, 46404), (85, 46374), (90, 46293), (95, 46260), (106, 46212), (108, 46203),

Gene: SheldonCooper\_79 Start: 47697, Stop: 47164, Start Num: 41

Candidate Starts for SheldonCooper\_79:

(Start: 30 @47742 has 3 MA's), (36, 47709), (Start: 41 @47697 has 134 MA's), (76, 47553), (77, 47535), (78, 47526), (85, 47466), (92, 47367), (95, 47352), (106, 47304), (108, 47295),

Gene: Shen\_39 Start: 26102, Stop: 26695, Start Num: 50

Candidate Starts for Shen\_39:

(Start: 50 @26102 has 30 MA's), (67, 26168), (75, 26225), (77, 26264), (79, 26288), (88, 26360), (92, 26432), (95, 26447), (98, 26483), (101, 26504), (107, 26534), (114, 26615), (118, 26684),

Gene: Shida\_6 Start: 2147, Stop: 1557, Start Num: 44

Candidate Starts for Shida\_6:

(17, 2300), (26, 2225), (35, 2168), (Start: 38 @2156 has 1 MA's), (Start: 44 @2147 has 29 MA's), (63, 2096), (Start: 64 @2093 has 1 MA's), (74, 2018), (76, 1994), (79, 1952), (84, 1922), (95, 1781), (100, 1730), (105, 1709),

Gene: ShowerHandel\_73 Start: 45372, Stop: 45995, Start Num: 60

Candidate Starts for ShowerHandel\_73:

(24, 45249), (29, 45291), (Start: 60 @45372 has 15 MA's), (62, 45387), (Start: 65 @45414 has 1 MA's), (66, 45420), (69, 45447), (74, 45483), (85, 45594), (89, 45654), (96, 45717), (98, 45744), (102, 45765),

Gene: Shygu2\_77 Start: 47203, Stop: 46670, Start Num: 41

Candidate Starts for Shygu2\_77:

(Start: 30 @47248 has 3 MA's), (36, 47215), (Start: 41 @47203 has 134 MA's), (76, 47059), (77, 47041), (82, 47008), (85, 46972), (92, 46873), (95, 46858), (106, 46810), (108, 46801),

Gene: Skipitt\_78 Start: 47253, Stop: 46720, Start Num: 41

Candidate Starts for Skipitt\_78:

(Start: 30 @47298 has 3 MA's), (36, 47265), (Start: 41 @47253 has 134 MA's), (76, 47109), (77, 47091), (78, 47082), (85, 47022), (92, 46923), (95, 46908), (106, 46860), (108, 46851),

Gene: SmellyB\_89 Start: 47554, Stop: 47027, Start Num: 58

Candidate Starts for SmellyB\_89:

(21, 47674), (33, 47593), (Start: 40 @47563 has 4 MA's), (Start: 42 @47560 has 20 MA's), (Start: 56 @47557 has 24 MA's), (Start: 58 @47554 has 25 MA's), (Start: 64 @47518 has 1 MA's), (74, 47443), (76, 47422), (83, 47365), (85, 47335), (87, 47320), (92, 47236), (106, 47173), (108, 47164),

Gene: Smooch\_7 Start: 2521, Stop: 1931, Start Num: 44

Candidate Starts for Smooch\_7:

(Start: 44 @2521 has 29 MA's), (63, 2470), (Start: 64 @2467 has 1 MA's), (74, 2392), (76, 2368), (77, 2350), (84, 2296), (95, 2155), (100, 2104), (105, 2083),

Gene: Sparxx\_80 Start: 47255, Stop: 46722, Start Num: 41

Candidate Starts for Sparxx\_80:

(Start: 30 @47300 has 3 MA's), (36, 47267), (Start: 41 @47255 has 134 MA's), (77, 47093), (78, 47084), (85, 47024), (92, 46925), (95, 46910), (106, 46862), (108, 46853),

Gene: Spino\_78 Start: 47259, Stop: 46726, Start Num: 41

Candidate Starts for Spino\_78:

(Start: 30 @47304 has 3 MA's), (36, 47271), (Start: 41 @47259 has 134 MA's), (76, 47115), (77, 47097), (78, 47088), (85, 47028), (92, 46929), (95, 46914), (106, 46866), (108, 46857),

Gene: Spouty\_83 Start: 47059, Stop: 46511, Start Num: 47

Candidate Starts for Spouty\_83:

(Start: 38 @47071 has 1 MA's), (Start: 40 @47068 has 4 MA's), (Start: 42 @47065 has 20 MA's), (Start: 47 @47059 has 19 MA's), (74, 46930), (79, 46867), (82, 46858), (85, 46822), (90, 46741), (95, 46708), (106, 46660), (108, 46651),

Gene: Stasia\_76 Start: 47261, Stop: 46683, Start Num: 30

Candidate Starts for Stasia\_76:

(Start: 30 @47261 has 3 MA's), (36, 47228), (Start: 41 @47216 has 134 MA's), (74, 47093), (76, 47072), (77, 47054), (85, 46985), (92, 46886), (95, 46871), (106, 46823), (108, 46814),

Gene: SteMason\_75 Start: 47256, Stop: 46723, Start Num: 41

Candidate Starts for SteMason\_75:

(Start: 30 @47301 has 3 MA's), (36, 47268), (Start: 41 @47256 has 134 MA's), (76, 47112), (77, 47094), (78, 47085), (85, 47025), (92, 46926), (95, 46911), (106, 46863), (108, 46854),

Gene: Steamy\_77 Start: 47389, Stop: 46856, Start Num: 55

Candidate Starts for Steamy\_77:

(33, 47431), (Start: 55 @47389 has 2 MA's), (57, 47386), (74, 47275), (79, 47212), (83, 47197), (85, 47167), (90, 47086), (95, 47053), (106, 47005), (108, 46996),

Gene: Stink\_79 Start: 47391, Stop: 46849, Start Num: 41

Candidate Starts for Stink\_79:

(Start: 41 @47391 has 134 MA's), (Start: 64 @47343 has 1 MA's), (Start: 65 @47337 has 1 MA's), (67, 47322), (76, 47247), (77, 47229), (78, 47220), (85, 47160), (92, 47061), (95, 47046), (106, 46998), (108, 46989),

Gene: StuartMinion\_34 Start: 23874, Stop: 24473, Start Num: 50

Candidate Starts for StuartMinion\_34:

(Start: 50 @23874 has 30 MA's), (66, 23931), (75, 23997), (77, 24036), (82, 24069), (85, 24105), (92, 24204), (95, 24219), (98, 24255), (101, 24276),

Gene: Sultana\_79 Start: 47256, Stop: 46723, Start Num: 41

Candidate Starts for Sultana\_79:

(Start: 30 @47301 has 3 MA's), (36, 47268), (Start: 41 @47256 has 134 MA's), (76, 47112), (77, 47094), (78, 47085), (85, 47025), (92, 46926), (95, 46911), (106, 46863), (108, 46854),

Gene: SuperAwesome\_89 Start: 48236, Stop: 47709, Start Num: 58

Candidate Starts for SuperAwesome\_89:

(19, 48374), (21, 48362), (Start: 40 @48251 has 4 MA's), (Start: 42 @48248 has 20 MA's), (Start: 56 @48239 has 24 MA's), (Start: 58 @48236 has 25 MA's), (Start: 64 @48200 has 1 MA's), (74, 48125), (76, 48104), (83, 48047), (85, 48017), (87, 48002), (92, 47918), (106, 47855), (108, 47846),

Gene: SuperCallie99\_85 Start: 47620, Stop: 47090, Start Num: 56

Candidate Starts for SuperCallie99\_85:

(21, 47737), (33, 47656), (Start: 40 @47626 has 4 MA's), (Start: 42 @47623 has 20 MA's), (Start: 56 @47620 has 24 MA's), (Start: 58 @47617 has 25 MA's), (Start: 64 @47581 has 1 MA's), (74, 47506), (76, 47485), (83, 47428), (85, 47398), (87, 47383), (92, 47299), (106, 47236), (108, 47227),

Gene: Taquarus\_78 Start: 47262, Stop: 46729, Start Num: 41

Candidate Starts for Taquarus\_78:

(Start: 30 @47307 has 3 MA's), (36, 47274), (Start: 41 @47262 has 134 MA's), (76, 47118), (77, 47100), (78, 47091), (85, 47031), (92, 46932), (95, 46917), (106, 46869), (108, 46860),

Gene: TaylorSipt\_40 Start: 26950, Stop: 27543, Start Num: 50

Candidate Starts for TaylorSipt\_40:

(18, 26785), (Start: 50 @26950 has 30 MA's), (67, 27016), (75, 27073), (76, 27094), (77, 27112), (79, 27136), (85, 27181), (88, 27208), (92, 27280), (95, 27295), (98, 27331), (101, 27352), (114, 27463),

Gene: TelAviv\_6 Start: 2144, Stop: 1554, Start Num: 44

Candidate Starts for TelAviv\_6:

(Start: 44 @2144 has 29 MA's), (63, 2093), (Start: 64 @2090 has 1 MA's), (74, 2015), (76, 1991), (77, 1973), (84, 1919), (95, 1778), (100, 1727), (105, 1706),

Gene: Temprado\_92 Start: 48028, Stop: 47501, Start Num: 56

Candidate Starts for Temprado\_92:

(21, 48145), (Start: 40 @48034 has 4 MA's), (Start: 42 @48031 has 20 MA's), (Start: 56 @48028 has 24 MA's), (Start: 64 @47992 has 1 MA's), (68, 47959), (74, 47917), (83, 47839), (85, 47809), (92, 47710), (93, 47707), (95, 47695), (96, 47686), (106, 47647), (108, 47638),

Gene: Thanksgivukkah\_78 Start: 47257, Stop: 46724, Start Num: 41

Candidate Starts for Thanksgivukkah\_78:

(Start: 30 @47302 has 3 MA's), (36, 47269), (Start: 41 @47257 has 134 MA's), (77, 47095), (78, 47086), (85, 47026), (92, 46927), (95, 46912), (106, 46864), (108, 46855),

Gene: TinaFeyge\_77 Start: 47254, Stop: 46721, Start Num: 41

Candidate Starts for TinaFeyge\_77:

(Start: 30 @47299 has 3 MA's), (36, 47266), (Start: 41 @47254 has 134 MA's), (77, 47092), (78, 47083), (85, 47023), (92, 46924), (95, 46909), (106, 46861), (108, 46852),

Gene: Tinybot\_78 Start: 47286, Stop: 46753, Start Num: 41

Candidate Starts for Tinybot\_78:

(Start: 30 @47331 has 3 MA's), (36, 47298), (Start: 41 @47286 has 134 MA's), (76, 47142), (77, 47124), (78, 47115), (85, 47055), (92, 46956), (95, 46941), (106, 46893), (108, 46884),

Gene: TiroTheta9\_78 Start: 47253, Stop: 46720, Start Num: 41

Candidate Starts for TiroTheta9\_78:

(Start: 30 @47298 has 3 MA's), (36, 47265), (Start: 41 @47253 has 134 MA's), (77, 47091), (78, 47082), (85, 47022), (92, 46923), (95, 46908), (106, 46860), (108, 46851),

Gene: Toad24\_42 Start: 28241, Stop: 28834, Start Num: 50

Candidate Starts for Toad24\_42:

(Start: 50 @28241 has 30 MA's), (67, 28307), (75, 28364), (77, 28403), (79, 28427), (88, 28499), (92, 28571), (95, 28586), (98, 28622), (101, 28643), (107, 28673), (114, 28754), (118, 28823),

Gene: Toaka\_83 Start: 47180, Stop: 46632, Start Num: 47

Candidate Starts for Toaka\_83:

(23, 47282), (Start: 47 @47180 has 19 MA's), (79, 46988), (82, 46979), (85, 46943), (90, 46862), (95, 46829), (96, 46820), (106, 46781), (108, 46772),

Gene: ToneTone\_88 Start: 47576, Stop: 47049, Start Num: 58

Candidate Starts for ToneTone\_88:

(21, 47696), (Start: 40 @47585 has 4 MA's), (Start: 42 @47582 has 20 MA's), (Start: 58 @47576 has 25 MA's), (Start: 64 @47540 has 1 MA's), (68, 47507), (74, 47465), (83, 47387), (85, 47357), (92, 47258), (93, 47255), (95, 47243), (96, 47234), (106, 47195), (108, 47186),

Gene: TroyPia\_80 Start: 47294, Stop: 46761, Start Num: 41

Candidate Starts for TroyPia\_80:

(Start: 30 @47339 has 3 MA's), (36, 47306), (Start: 41 @47294 has 134 MA's), (76, 47150), (77, 47132), (78, 47123), (85, 47063), (92, 46964), (95, 46949), (106, 46901), (108, 46892),

Gene: Tubs\_85 Start: 47272, Stop: 46724, Start Num: 47

Candidate Starts for Tubs\_85:

(Start: 47 @47272 has 19 MA's), (74, 47143), (79, 47080), (82, 47071), (85, 47035), (90, 46954), (95, 46921), (106, 46873), (108, 46864),

Gene: Tucker\_91 Start: 47779, Stop: 47252, Start Num: 58

Candidate Starts for Tucker\_91:

(21, 47899), (Start: 40 @47788 has 4 MA's), (Start: 42 @47785 has 20 MA's), (Start: 58 @47779 has 25 MA's), (Start: 64 @47743 has 1 MA's), (68, 47710), (74, 47668), (83, 47590), (85, 47560), (92, 47461), (93, 47458), (95, 47446), (96, 47437), (106, 47398), (108, 47389),

Gene: Twister\_79 Start: 47039, Stop: 46500, Start Num: 42

Candidate Starts for Twister\_79:

(Start: 27 @47093 has 1 MA's), (Start: 42 @47039 has 20 MA's), (Start: 64 @46994 has 1 MA's), (74, 46919), (85, 46811), (90, 46730), (95, 46697), (96, 46688), (106, 46649), (108, 46640), (112, 46619),

Gene: TygerBlood\_79 Start: 47259, Stop: 46726, Start Num: 41

Candidate Starts for TygerBlood\_79:

(Start: 30 @47304 has 3 MA's), (36, 47271), (Start: 41 @47259 has 134 MA's), (76, 47115), (77, 47097), (78, 47088), (85, 47028), (92, 46929), (95, 46914), (106, 46866), (108, 46857),

Gene: Ulysses\_78 Start: 46942, Stop: 46409, Start Num: 41

Candidate Starts for Ulysses\_78:

(Start: 30 @46987 has 3 MA's), (36, 46954), (Start: 41 @46942 has 134 MA's), (76, 46798), (77, 46780), (78, 46771), (85, 46711), (92, 46612), (95, 46597), (106, 46549), (108, 46540),

Gene: Upyo\_54 Start: 39880, Stop: 39335, Start Num: 59

Candidate Starts for Upyo\_54:

(Start: 38 @39916 has 1 MA's), (Start: 59 @39880 has 1 MA's), (74, 39754), (95, 39538), (109, 39508),

Gene: Vagabond\_6 Start: 2233, Stop: 1643, Start Num: 44

Candidate Starts for Vagabond\_6:

(Start: 44 @2233 has 29 MA's), (63, 2182), (74, 2104), (76, 2080), (77, 2062), (84, 2008), (95, 1867), (100, 1816), (105, 1795),

Gene: Vanisoa\_80 Start: 47513, Stop: 46962, Start Num: 46

Candidate Starts for Vanisoa\_80:

(2, 47984), (21, 47636), (37, 47525), (Start: 46 @47513 has 7 MA's), (79, 47318), (83, 47303), (85, 47273), (90, 47192), (95, 47159), (96, 47150), (106, 47111), (108, 47102),

Gene: Vash\_32 Start: 25646, Stop: 26146, Start Num: 60

Candidate Starts for Vash\_32:

(Start: 60 @25646 has 15 MA's), (Start: 64 @25682 has 1 MA's), (75, 25760), (77, 25799), (94, 25973), (111, 26015), (115, 26093),

Gene: VohminGhazi\_89 Start: 47555, Stop: 47028, Start Num: 58

Candidate Starts for VohminGhazi\_89:

(21, 47675), (33, 47594), (Start: 40 @47564 has 4 MA's), (Start: 42 @47561 has 20 MA's), (Start: 56 @47558 has 24 MA's), (Start: 58 @47555 has 25 MA's), (Start: 64 @47519 has 1 MA's), (74, 47444), (76, 47423), (83, 47366), (85, 47336), (87, 47321), (92, 47237), (106, 47174), (108, 47165),

Gene: Vorrps\_6 Start: 2098, Stop: 1508, Start Num: 44

Candidate Starts for Vorrps\_6:

(17, 2251), (26, 2176), (35, 2119), (Start: 38 @2107 has 1 MA's), (Start: 44 @2098 has 29 MA's), (63, 2047), (Start: 64 @2044 has 1 MA's), (74, 1969), (76, 1945), (79, 1903), (84, 1873), (95, 1732), (100, 1681), (105, 1660),

Gene: WalterMcMickey\_78 Start: 47039, Stop: 46500, Start Num: 42

Candidate Starts for WalterMcMickey\_78:

(Start: 27 @47093 has 1 MA's), (Start: 42 @47039 has 20 MA's), (Start: 64 @46994 has 1 MA's), (74, 46919), (85, 46811), (90, 46730), (95, 46697), (96, 46688), (106, 46649), (108, 46640), (112, 46619),

Gene: Wander\_79 Start: 47253, Stop: 46720, Start Num: 41

Candidate Starts for Wander\_79:

(Start: 30 @47298 has 3 MA's), (36, 47265), (Start: 41 @47253 has 134 MA's), (76, 47109), (77, 47091), (78, 47082), (85, 47022), (92, 46923), (95, 46908), (106, 46860), (108, 46851),

Gene: Westrich\_48 Start: 27919, Stop: 28518, Start Num: 50

Candidate Starts for Westrich\_48:

(Start: 50 @27919 has 30 MA's), (67, 27991), (75, 28048), (77, 28087), (79, 28111), (88, 28183), (92, 28255), (95, 28270), (98, 28306), (101, 28327), (107, 28357), (114, 28438), (118, 28507),

Gene: Wiks\_90 Start: 47659, Stop: 47132, Start Num: 56

Candidate Starts for Wiks\_90:

(21, 47776), (Start: 40 @47665 has 4 MA's), (Start: 42 @47662 has 20 MA's), (Start: 56 @47659 has 24 MA's), (Start: 64 @47623 has 1 MA's), (68, 47590), (74, 47548), (83, 47470), (85, 47440), (92, 47341), (93, 47338), (95, 47326), (96, 47317), (106, 47278), (108, 47269),

Gene: Wilbur\_79 Start: 47256, Stop: 46723, Start Num: 41

Candidate Starts for Wilbur\_79:

(Start: 30 @47301 has 3 MA's), (36, 47268), (Start: 41 @47256 has 134 MA's), (76, 47112), (77, 47094), (78, 47085), (85, 47025), (92, 46926), (95, 46911), (106, 46863), (108, 46854),

Gene: Wildflower\_6 Start: 2193, Stop: 1603, Start Num: 44

Candidate Starts for Wildflower\_6:

(Start: 44 @2193 has 29 MA's), (63, 2142), (Start: 64 @2139 has 1 MA's), (74, 2064), (76, 2040), (77, 2022), (84, 1968), (95, 1827), (100, 1776), (105, 1755),

Gene: Wile\_75 Start: 47083, Stop: 46550, Start Num: 41

Candidate Starts for Wile\_75:

(13, 47278), (16, 47236), (21, 47200), (22, 47188), (Start: 27 @47134 has 1 MA's), (Start: 41 @47083 has 134 MA's), (77, 46921), (85, 46852), (92, 46753), (95, 46738), (106, 46690), (108, 46681),

Gene: WileyE\_41 Start: 27140, Stop: 27736, Start Num: 50

Candidate Starts for WileyE\_41:

(Start: 50 @27140 has 30 MA's), (75, 27266), (77, 27305), (79, 27329), (88, 27401), (92, 27473), (93, 27476), (95, 27488), (98, 27524), (101, 27545), (107, 27575), (112, 27605), (114, 27656), (118, 27725),

Gene: Winget\_6 Start: 2232, Stop: 1642, Start Num: 44

Candidate Starts for Winget\_6:

(Start: 44 @2232 has 29 MA's), (63, 2181), (74, 2103), (76, 2079), (77, 2061), (84, 2007), (95, 1866), (100, 1815), (105, 1794),

Gene: Wizard007\_76 Start: 46809, Stop: 46276, Start Num: 41

Candidate Starts for Wizard007\_76:

(13, 47004), (16, 46962), (21, 46926), (22, 46914), (Start: 27 @46860 has 1 MA's), (Start: 41 @46809 has 134 MA's), (77, 46647), (85, 46578), (92, 46479), (95, 46464), (106, 46416), (108, 46407),

Gene: Wogge42\_6 Start: 2236, Stop: 1646, Start Num: 44

Candidate Starts for Wogge42\_6:

(15, 2413), (17, 2389), (26, 2314), (35, 2257), (Start: 38 @2245 has 1 MA's), (Start: 44 @2236 has 29 MA's), (63, 2185), (Start: 64 @2182 has 1 MA's), (74, 2107), (76, 2083), (79, 2041), (84, 2011), (95, 1870), (100, 1819), (105, 1798),

Gene: WorldCup\_83 Start: 46962, Stop: 46414, Start Num: 47

Candidate Starts for WorldCup\_83:

(1, 47544), (21, 47085), (33, 47004), (Start: 40 @46971 has 4 MA's), (Start: 42 @46968 has 20 MA's), (Start: 47 @46962 has 19 MA's), (76, 46812), (79, 46770), (83, 46755), (85, 46725), (90, 46644), (95, 46611), (106, 46563), (108, 46554),

Gene: Xena\_75 Start: 47078, Stop: 46545, Start Num: 41

Candidate Starts for Xena\_75:

(Start: 30 @47123 has 3 MA's), (36, 47090), (Start: 41 @47078 has 134 MA's), (77, 46916), (78, 46907), (85, 46847), (92, 46748), (95, 46733), (106, 46685), (108, 46676),

Gene: Yecey3\_86 Start: 47082, Stop: 46528, Start Num: 38

Candidate Starts for Yecey3\_86:

(8, 47352), (10, 47337), (20, 47196), (25, 47157), (Start: 38 @47082 has 1 MA's), (Start: 40 @47079 has 4 MA's), (Start: 42 @47076 has 20 MA's), (66, 47010), (76, 46926), (79, 46884), (83, 46869), (85, 46839), (90, 46758), (95, 46725), (96, 46716), (106, 46677), (108, 46668),

Gene: YoSam321\_79 Start: 47254, Stop: 46721, Start Num: 41

Candidate Starts for YoSam321\_79:

(Start: 30 @47299 has 3 MA's), (36, 47266), (Start: 41 @47254 has 134 MA's), (77, 47092), (78, 47083), (85, 47023), (92, 46924), (95, 46909), (106, 46861), (108, 46852),

Gene: Yokurt\_90 Start: 47659, Stop: 47132, Start Num: 56

Candidate Starts for Yokurt\_90:

(21, 47776), (Start: 40 @47665 has 4 MA's), (Start: 42 @47662 has 20 MA's), (Start: 56 @47659 has 24 MA's), (Start: 64 @47623 has 1 MA's), (68, 47590), (74, 47548), (83, 47470), (85, 47440), (92, 47341), (93, 47338), (95, 47326), (96, 47317), (106, 47278), (108, 47269),

Gene: YoyoKar\_6 Start: 2154, Stop: 1564, Start Num: 44

Candidate Starts for YoyoKar\_6:

(Start: 44 @2154 has 29 MA's), (63, 2103), (Start: 64 @2100 has 1 MA's), (74, 2025), (76, 2001), (79, 1959), (84, 1929), (95, 1788), (100, 1737), (105, 1716),

Gene: YungJamal\_7 Start: 2521, Stop: 1931, Start Num: 44

Candidate Starts for YungJamal\_7:

(Start: 44 @2521 has 29 MA's), (63, 2470), (Start: 64 @2467 has 1 MA's), (74, 2392), (76, 2368), (77, 2350), (84, 2296), (95, 2155), (100, 2104), (105, 2083),

Gene: Zaka\_91 Start: 47659, Stop: 47132, Start Num: 56

Candidate Starts for Zaka\_91:

(21, 47776), (Start: 40 @47665 has 4 MA's), (Start: 42 @47662 has 20 MA's), (Start: 56 @47659 has 24 MA's), (Start: 64 @47623 has 1 MA's), (68, 47590), (74, 47548), (83, 47470), (85, 47440), (92, 47341), (93, 47338), (95, 47326), (96, 47317), (106, 47278), (108, 47269),

Gene: Zakhe101\_7 Start: 2545, Stop: 1955, Start Num: 44

Candidate Starts for Zakhe101\_7:

(Start: 44 @2545 has 29 MA's), (63, 2494), (Start: 64 @2491 has 1 MA's), (74, 2416), (76, 2392), (77, 2374), (84, 2320), (95, 2179), (100, 2128), (105, 2107),

Gene: Zebo\_6 Start: 2147, Stop: 1557, Start Num: 44

Candidate Starts for Zebo\_6:

(Start: 44 @2147 has 29 MA's), (63, 2096), (Start: 64 @2093 has 1 MA's), (74, 2018), (76, 1994), (79, 1952), (84, 1922), (95, 1781), (100, 1730), (105, 1709),

Gene: Zhuangyuan\_44 Start: 27617, Stop: 28213, Start Num: 50

Candidate Starts for Zhuangyuan\_44:

(Start: 50 @27617 has 30 MA's), (75, 27740), (77, 27779), (82, 27812), (85, 27848), (88, 27875), (92, 27947), (95, 27962), (98, 27998), (101, 28019), (112, 28079),

Gene: Zimmer\_81 Start: 48142, Stop: 47615, Start Num: 58

Candidate Starts for Zimmer\_81:

(31, 48190), (Start: 58 @48142 has 25 MA's), (74, 48031), (79, 47968), (83, 47953), (85, 47923), (91, 47839), (92, 47824), (95, 47809), (106, 47761), (108, 47752),

Gene: Zixiang\_39 Start: 27606, Stop: 28199, Start Num: 50

Candidate Starts for Zixiang\_39:

(Start: 50 @27606 has 30 MA's), (67, 27672), (75, 27729), (77, 27768), (79, 27792), (88, 27864), (92, 27936), (95, 27951), (98, 27987), (101, 28008), (107, 28038), (114, 28119), (118, 28188),

Gene: Zulu\_92 Start: 48036, Stop: 47509, Start Num: 58

Candidate Starts for Zulu\_92:

(21, 48153), (Start: 54 @48042 has 1 MA's), (Start: 56 @48039 has 24 MA's), (Start: 58 @48036 has 25 MA's), (Start: 64 @48000 has 1 MA's), (68, 47967), (74, 47925), (83, 47847), (85, 47817), (87, 47802), (92, 47718), (106, 47655), (108, 47646),

Gene: phiBT1\_9.1 Start: 27120, Stop: 27620, Start Num: 60

Candidate Starts for phiBT1\_9.1:

(Start: 30 @27036 has 3 MA's), (33, 27045), (Start: 60 @27120 has 15 MA's), (74, 27231), (75, 27234), (79, 27297), (94, 27447), (111, 27489),