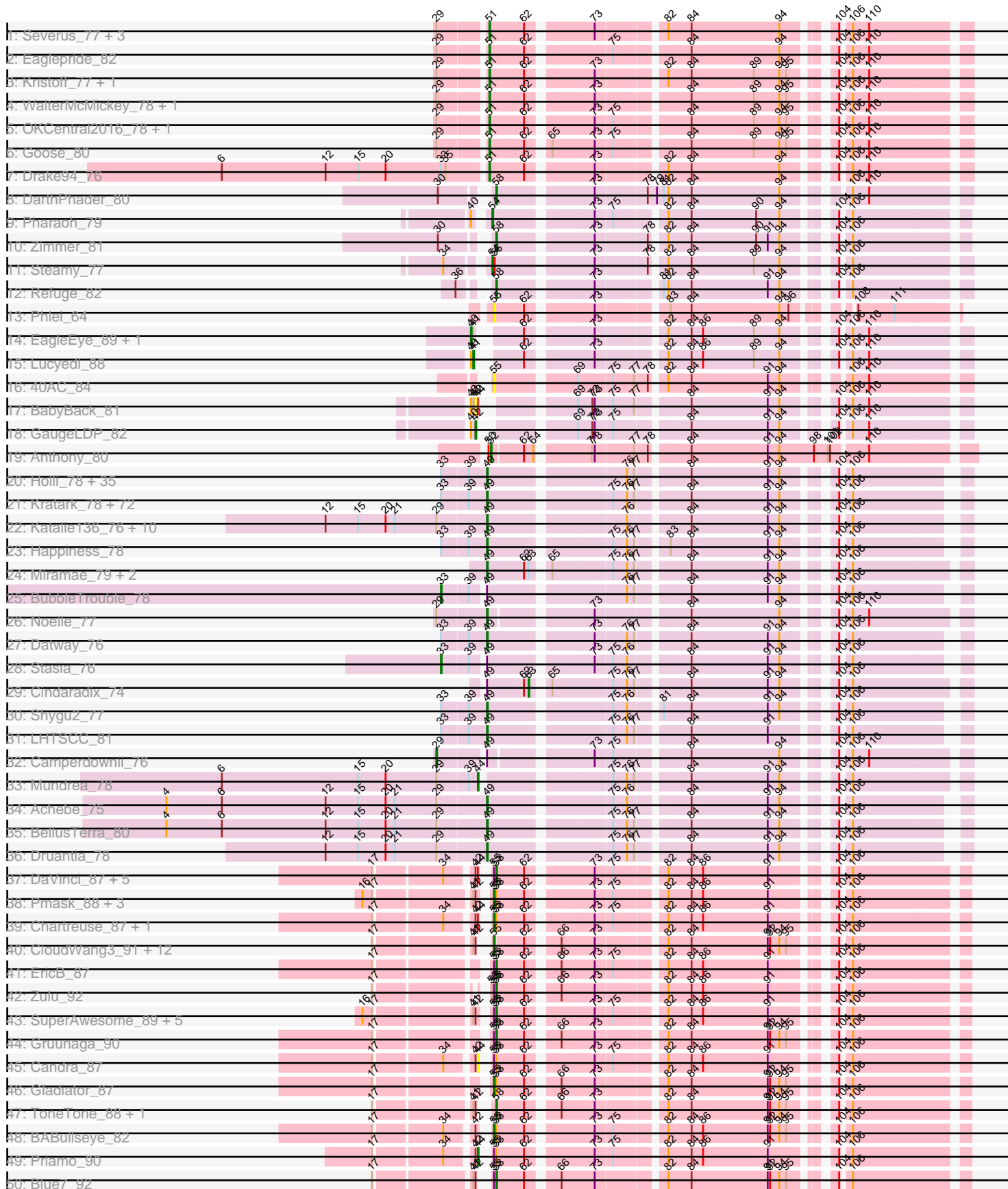
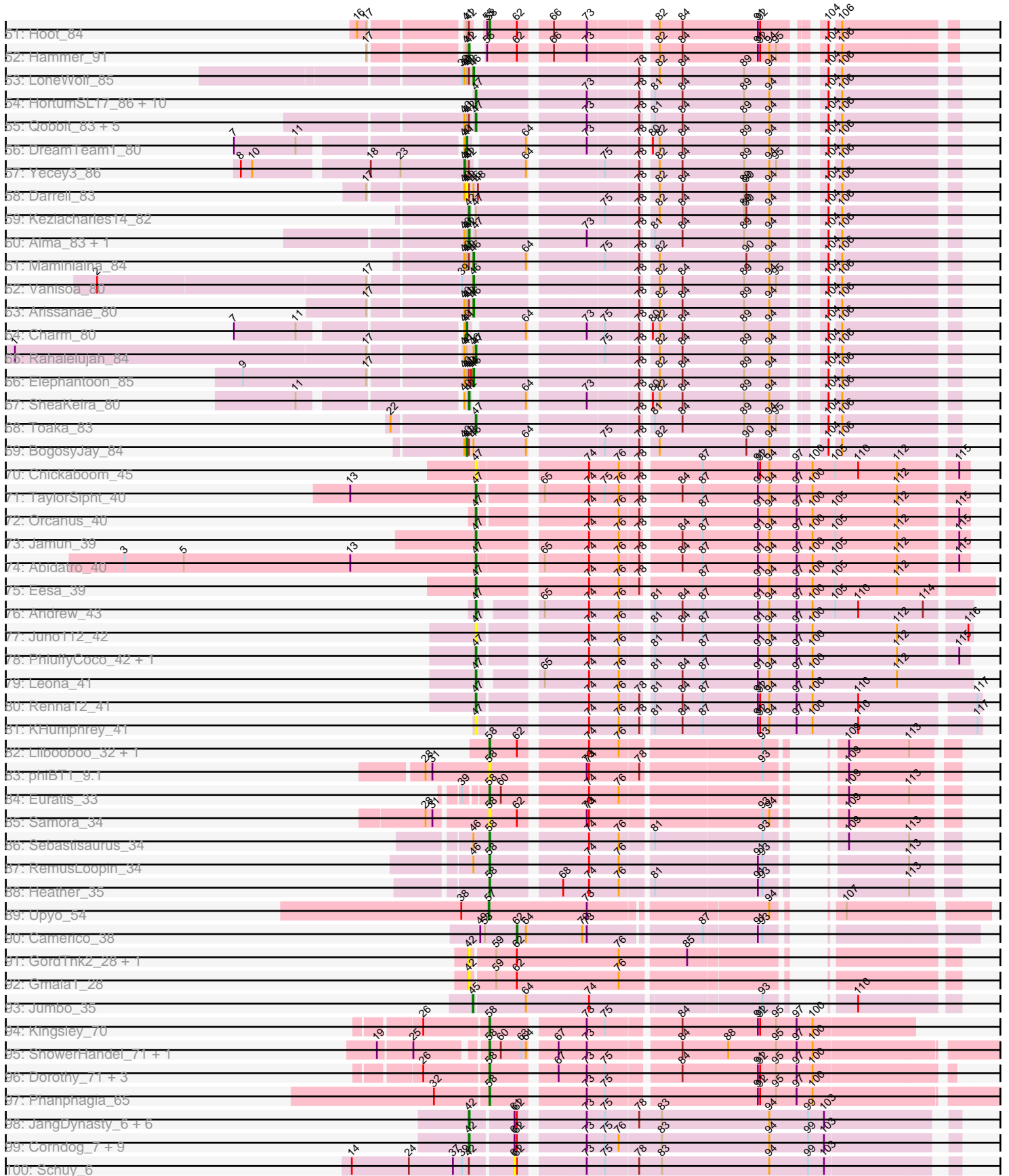


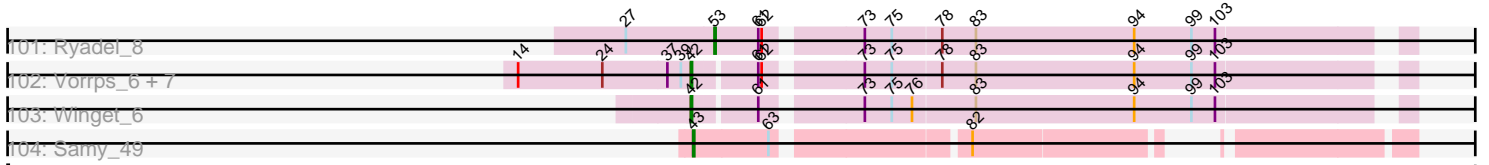
Pham 161513



Pham 161513



Pham 161513



Read	Match	Position
rU1: Ryadel_8	Match	14
rU1: Ryadel_8	Match	24
rU1: Ryadel_8	Match	27
rU1: Ryadel_8	Match	31
rU1: Ryadel_8	Match	32
rU1: Ryadel_8	Match	33
rU1: Ryadel_8	Match	34
rU1: Ryadel_8	Match	63
rU1: Ryadel_8	Match	73
rU1: Ryadel_8	Match	75
rU1: Ryadel_8	Match	76
rU1: Ryadel_8	Match	78
rU1: Ryadel_8	Match	83
rU1: Ryadel_8	Match	94
rU1: Ryadel_8	Match	99
rU1: Ryadel_8	Match	103
rU2: Vorrps_6 + 7	Match	14
rU2: Vorrps_6 + 7	Match	24
rU2: Vorrps_6 + 7	Match	27
rU2: Vorrps_6 + 7	Match	31
rU2: Vorrps_6 + 7	Match	32
rU2: Vorrps_6 + 7	Match	33
rU2: Vorrps_6 + 7	Match	34
rU2: Vorrps_6 + 7	Match	63
rU2: Vorrps_6 + 7	Match	73
rU2: Vorrps_6 + 7	Match	75
rU2: Vorrps_6 + 7	Match	76
rU2: Vorrps_6 + 7	Match	78
rU2: Vorrps_6 + 7	Match	83
rU2: Vorrps_6 + 7	Match	94
rU2: Vorrps_6 + 7	Match	99
rU2: Vorrps_6 + 7	Match	103
rU3: winget_6	Match	14
rU3: winget_6	Match	24
rU3: winget_6	Match	27
rU3: winget_6	Match	31
rU3: winget_6	Match	32
rU3: winget_6	Match	33
rU3: winget_6	Match	34
rU3: winget_6	Match	63
rU3: winget_6	Match	73
rU3: winget_6	Match	75
rU3: winget_6	Match	76
rU3: winget_6	Match	78
rU3: winget_6	Match	83
rU3: winget_6	Match	94
rU3: winget_6	Match	99
rU3: winget_6	Match	103
rU4: Samy_49	Match	14
rU4: Samy_49	Match	24
rU4: Samy_49	Match	27
rU4: Samy_49	Match	31
rU4: Samy_49	Match	32
rU4: Samy_49	Match	33
rU4: Samy_49	Match	34
rU4: Samy_49	Match	63
rU4: Samy_49	Match	73
rU4: Samy_49	Match	75
rU4: Samy_49	Match	76
rU4: Samy_49	Match	78
rU4: Samy_49	Match	83
rU4: Samy_49	Match	94
rU4: Samy_49	Match	99
rU4: Samy_49	Match	103

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 161513 Report

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

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 161513 has 302 members, 30 are drafts.

Phages represented in each track:

- Track 1 : Severus\_77, PeaceMeal1\_76, Poompha\_76, KittenMittens\_75
- Track 2 : Eaglepride\_82
- Track 3 : Kristoff\_77, Rebeuca\_80
- Track 4 : WalterMcMickey\_78, Twister\_79
- Track 5 : OKCentral2016\_78, Chupacabra\_76
- Track 6 : Goose\_80
- Track 7 : Drake94\_76
- Track 8 : DarthPhader\_80
- Track 9 : Pharaoh\_79
- Track 10 : Zimmer\_81
- Track 11 : Steamy\_77
- Track 12 : Refuge\_82
- Track 13 : Phlei\_64
- Track 14 : EagleEye\_89, PainterBoy\_87
- Track 15 : Lucyedi\_88
- Track 16 : 40AC\_84
- Track 17 : BabyBack\_81
- Track 18 : GaugeLDP\_82
- Track 19 : Anthony\_80
- Track 20 : Holli\_78, Pipcraft\_75, Flux\_80, Eros\_79, MeeZee\_78, Bartimeaus\_79, Medusa\_78, Jaykayelowell\_76, Blackmoor\_78, Cintron\_79, Deano\_76, Sparxx\_80, Roosevelt\_77, Polymorphads\_80, Abdiel\_78, Connomayer\_79, Nyxis\_78, Broseidon\_79, HamSlice\_75, Lorenzo\_79, Florean\_79, YoSam321\_79, TinaFeyge\_77, Albee\_79, TiroTheta9\_78, Citius\_79, Anyyong\_78, Thanksgivukkah\_78, Baby16\_79, Morrow\_81, LappelDuVide\_75, Sabertooth\_79, Millski\_78, Lunsford\_79, Pumbaa\_79, Xena\_75
- Track 21 : Kratak\_78, Eurydice\_80, Clarenza\_78, OKaNui\_78, DirtyDunning\_78, Maverick\_78, Obama12\_80, Caelakin\_77, Kingmustik0402\_79, Skipitt\_78, Kamy\_78, CentreCat\_79, Eagle\_78, JoongJeon\_78, Mazhar510\_79, Maxo\_81, Burger\_77, NorthStar\_76, Romney\_78, Cocoaberry\_79, Iracema64\_79, Eapen\_79, LochMonster\_80, Shaka\_77, Houdini22\_78, PeterPeter\_79, Peaches\_77, Spino\_78, Avle17\_79, Phacado\_79, Palestino\_78, Iceman\_77, Eris\_78, Commander\_77, Nebs\_80, BangNhom\_76, SheldonCooper\_79, Melvin\_81, ICleared\_78, Bruiser\_78,

Wilbur\_79, Dhanush\_79, Wander\_79, Alberto7\_80, TroyPia\_80, Cerulean\_81, LittleGuy\_79, Ohfah\_80, Kyee\_79, KFPoly\_78, Arturo\_76, Phontbonne\_79, Ruin\_79, Phighter1804\_79, Scamp\_79, JetBlade\_80, Koreni\_78, Lemur\_79, Taquarus\_78, Gadost\_79, TygerBlood\_79, NotAPhaseMom\_78, LittleB\_79, Bombshell\_79, ChampagnePapi\_82, Phelipe\_80, Nemo27\_78, Chaph\_79, Tinybot\_78, Ulysses\_78, Kremtemulon\_73, Funston\_78, Relief\_78

- Track 22 : Katalie136\_76, AbbysRanger\_76, Cici\_76, Perplexer\_76, Morpher26\_76, Backyardigan\_74, Wile\_75, Badger\_75, Wizard007\_76, Bumblebee11\_75, PetiteSangsue\_76
- Track 23 : Happiness\_78
- Track 24 : Miramae\_79, AvatarAhPeg\_79, Stink\_79
- Track 25 : BubbleTrouble\_78
- Track 26 : Noelle\_77
- Track 27 : Datway\_76
- Track 28 : Stasia\_76
- Track 29 : Cindaradix\_74
- Track 30 : Shygu2\_77
- Track 31 : LHTSCC\_81
- Track 32 : Camperdownii\_76
- Track 33 : Mundrea\_78
- Track 34 : Achebe\_75
- Track 35 : BellusTerra\_80
- Track 36 : Druantia\_78
- Track 37 : DaVinci\_87, McFly\_89, Kazan\_90, SmellyB\_89, Isiphiwo\_85, VohminGhazi\_89
- Track 38 : Pmask\_88, Dorothea\_86, Neeharika16\_88, Jordennis\_87
- Track 39 : Chartreuse\_87, SuperCallie99\_85
- Track 40 : CloudWang3\_91, Garak\_92, Yokurt\_90, Indra\_94, Rifter\_91, Jeffabunny\_79, Koko\_92, Hexamo\_90, Zaka\_91, Roksolana\_91, Wiks\_90, Artemis2UCLA\_90, Helmet\_92
- Track 41 : EricB\_87
- Track 42 : Zulu\_92
- Track 43 : SuperAwesome\_89, GreedyLawyer\_82, Cookiedough\_89, Kipper29\_89, JewelBug\_81, Newrala\_88
- Track 44 : Gruunaga\_90
- Track 45 : Candra\_87
- Track 46 : Gladiator\_87
- Track 47 : ToneTone\_88, Tucker\_91
- Track 48 : BABullseye\_82
- Track 49 : Priamo\_90
- Track 50 : Blue7\_92
- Track 51 : Hoot\_84
- Track 52 : Hammer\_91
- Track 53 : LoneWolf\_85
- Track 54 : HortumSL17\_86, Scherzo\_83, Phonnegut\_85, Tubs\_85, Aliter\_78, Fayely\_83, Catalina\_87, Beemo\_85, Phaeder\_85, Pioneer\_85, Myxus\_85
- Track 55 : Qobbit\_83, Conquerage\_83, Priya\_83, Spouty\_80, ExplosioNervosa\_83, EmyBug\_79
- Track 56 : DreamTeam1\_80
- Track 57 : Yecey3\_86
- Track 58 : Darrell\_83
- Track 59 : Keziacharles14\_82
- Track 60 : Alma\_83, Eidsmoe\_83

- Track 61 : Maminaiaina\_84
- Track 62 : Vanisoa\_80
- Track 63 : Arissanae\_80
- Track 64 : Charm\_80
- Track 65 : Rahalelujah\_84
- Track 66 : Elephantoan\_85
- Track 67 : SheaKeira\_80
- Track 68 : Toaka\_83
- Track 69 : BogosyJay\_84
- Track 70 : Chickaboom\_45
- Track 71 : TaylorSipht\_40
- Track 72 : Orcanus\_40
- Track 73 : Jamun\_39
- Track 74 : Abidatro\_40
- Track 75 : Eesa\_39
- Track 76 : Andrew\_43
- Track 77 : Juno112\_42
- Track 78 : PhluffyCoco\_42, RedFox\_42
- Track 79 : Leona\_41
- Track 80 : Renna12\_41
- Track 81 : KHumphrey\_41
- Track 82 : Lilbooboo\_32, Vash\_32
- Track 83 : phiBT1\_9.1
- Track 84 : Euratis\_33
- Track 85 : Samora\_34
- Track 86 : Sebastisaurus\_34
- Track 87 : RemusLoopin\_34
- Track 88 : Heather\_35
- Track 89 : Upyo\_54
- Track 90 : Camerico\_38
- Track 91 : GordTnk2\_28, GordDuk1\_28
- Track 92 : Gmala1\_28
- Track 93 : Jumbo\_35
- Track 94 : Kingsley\_70
- Track 95 : ShowerHandel\_71, ByChance\_63
- Track 96 : Dorothy\_71, Inventum\_68, RedBird\_71, Sassafras\_71
- Track 97 : Phanphagia\_65
- Track 98 : JangDynasty\_6, Familton\_7, Idergollasper\_6, SchoolBus\_6, FoulBall\_6, Blessica\_6, Catdawg\_6
- Track 99 : Corndog\_7, Ashwin\_7, Dylan\_7, YungJamal\_7, TelAviv\_6, Firecracker\_6, Bora\_6, Smooch\_7, Wildflower\_6, Zakhe101\_7
- Track 100 : Schuy\_6
- Track 101 : Ryadel\_8
- Track 102 : Vorrrps\_6, Krili\_6, Mori\_6, Alkhayr\_6, MadKillah\_6, NiebruSaylor\_6, Murai\_6, Shida\_6
- Track 103 : Winget\_6
- Track 104 : 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 49, it was called in 129 of the 272 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, ICleared\_78, Iceman\_77, Iracema64\_79, Jaykayelowell\_76, JetBlade\_80, JoongJeon\_78, KFPoly\_78, Kampy\_78, Katalie136\_76, Kingmustik0402\_79, Koreni\_78, Kratark\_78, Kremtemulon\_73, Kyee\_79, LHTSCC\_81, LappelDuVide\_75, 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, Nebs\_80, Nemo27\_78, Noelle\_77, 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, Romney\_78, Roosevelt\_77, Ruin\_79, Sabertooth\_79, Scamp\_79, Shaka\_77, SheldonCooper\_79, Shygu2\_77, Skipitt\_78, Sparxx\_80, Spino\_78, Stink\_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, Camerico\_38, Camperdownii\_76, Cindaradix\_74, Stasia\_76,

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

- 40AC\_84, Abidatro\_40, Aliter\_78, Alkhayr\_6, Alma\_83, Andrew\_43, Anthony\_80, Arissanae\_80, Artemis2UCLA\_90, Ashwin\_7, BABullseye\_82, BabyBack\_81, Beemo\_85, Blessica\_6, Blue7\_92, BogosyJay\_84, Bora\_6, ByChance\_63, Candra\_87, Catalina\_87, Catdawg\_6, Charm\_80, Chartreuse\_87, Chickaboom\_45, Chupacabra\_76, CloudWang3\_91, Conquerage\_83, Cookiedough\_89, Corndog\_7, DaVinci\_87, Darrell\_83, DarthPhader\_80, Dorothea\_86, Dorothy\_71, Drake94\_76, DreamTeam1\_80, Dylan\_7, EagleEye\_89, Eaglepride\_82, Eesa\_39, Eidsmoe\_83, Elephantoon\_85, EmyBug\_79, EricB\_87, Euratis\_33, ExplosioNervosa\_83, Familton\_7, Fayely\_83, Firecracker\_6, FoulBall\_6, Garak\_92, GaugeLDP\_82, Gladiator\_87, Gmala1\_28, Goose\_80, GordDuk1\_28, GordTnk2\_28, GreedyLawyer\_82, Gruunaga\_90, Hammer\_91, Heather\_35, Helmet\_92, Hexamo\_90, Hoot\_84, HortumSL17\_86, Idergollasper\_6, Indra\_94, Inventum\_68, Isiphiwo\_85, Jamun\_39, JangDynasty\_6, Jeffabunny\_79, JewelBug\_81, Jordennis\_87, Jumbo\_35, Juno112\_42, KHumphrey\_41, Kazan\_90, Keziacharles14\_82, Kingsley\_70, Kipper29\_89, KittenMittens\_75, Koko\_92, Krili\_6, Kristoff\_77, Leona\_41, Lilbooboo\_32, LoneWolf\_85, Lucyedi\_88, MadKillah\_6, Maminiaina\_84, McFly\_89, Mori\_6, Mundrea\_78, Murai\_6, Myxus\_85, Neeharika16\_88, Newrala\_88, NiebruSaylor\_6, OKCentral2016\_78, Orcanus\_40, PainterBoy\_87, PeaceMeal1\_76, Phaeder\_85, Phanphagia\_65, Pharaoh\_79, Phlei\_64, PhluffyCoco\_42, Phonnegut\_85, Pioneer\_85, Pmask\_88, Poompha\_76, Priamo\_90, Priya\_83, Qobbit\_83, Rahalelujah\_84, Rebeuca\_80, RedBird\_71,

RedFox\_42, Refuge\_82, RemusLoopin\_34, Renna12\_41, Rifter\_91, Roksolana\_91, Ryadel\_8, Samora\_34, Samy\_49, Sassafras\_71, Scherzo\_83, SchoolBus\_6, Schuy\_6, Sebastisaurus\_34, Severus\_77, SheaKeira\_80, Shida\_6, ShowerHandel\_71, SmellyB\_89, Smooch\_7, Spouty\_80, Steamy\_77, SuperAwesome\_89, SuperCallie99\_85, TaylorSipht\_40, TelAviv\_6, Toaka\_83, ToneTone\_88, Tubs\_85, Tucker\_91, Twister\_79, Upyo\_54, Vanisoa\_80, Vash\_32, VohminGhazi\_89, Vorrrps\_6, WalterMcMickey\_78, Wiks\_90, Wildflower\_6, Winget\_6, Yecey3\_86, Yokurt\_90, YungJamal\_7, Zaka\_91, Zakhe101\_7, Zimmer\_81, Zulu\_92, phiBT1\_9.1,

### Summary by start number:

#### Start 29:

- Found in 29 of 302 ( 9.6% ) of genes in pham
- Manual Annotations of this start: 1 of 272
- Called 3.4% of time when present
- Phage (with cluster) where this start called: Camperdownii\_76 (A4),

#### Start 33:

- Found in 116 of 302 ( 38.4% ) of genes in pham
- Manual Annotations of this start: 2 of 272
- Called 1.7% of time when present
- Phage (with cluster) where this start called: BubbleTrouble\_78 (A4), Stasia\_76 (A4),

#### Start 40:

- Found in 25 of 302 ( 8.3% ) of genes in pham
- Manual Annotations of this start: 3 of 272
- Called 12.0% of time when present
- Phage (with cluster) where this start called: EagleEye\_89 (A16), PainterBoy\_87 (A16), Yecey3\_86 (A9),

#### Start 41:

- Found in 50 of 302 ( 16.6% ) of genes in pham
- Manual Annotations of this start: 4 of 272
- Called 10.0% of time when present
- Phage (with cluster) where this start called: BogosyJay\_84 (A9), Charm\_80 (A9), Darrell\_83 (A9), DreamTeam1\_80 (A9), Lucyedi\_88 (A16),

#### Start 42:

- Found in 88 of 302 ( 29.1% ) of genes in pham
- Manual Annotations of this start: 27 of 272
- Called 40.9% of time when present
- Phage (with cluster) where this start called: Alkhayr\_6 (O), Alma\_83 (A9), Ashwin\_7 (O), BabyBack\_81 (A2), Blessica\_6 (O), Bora\_6 (O), Catdawg\_6 (O), Corndog\_7 (O), Dylan\_7 (O), Eidsmoe\_83 (A9), Familton\_7 (O), Firecracker\_6 (O), FoulBall\_6 (O), GaugeLDP\_82 (A2), Gmala1\_28 (DF1), GordDuk1\_28 (DF1), GordTnk2\_28 (DF1), Hammer\_91 (A6), Idergollasper\_6 (O), JangDynasty\_6 (O), Keziacharles14\_82 (A9), KriLi\_6 (O), MadKillah\_6 (O), Mori\_6 (O), Murai\_6 (O), NiebruSaylor\_6 (O), SchoolBus\_6 (O), SheaKeira\_80 (A9), Shida\_6 (O), Smooch\_7 (O), TelAviv\_6 (O), Vorrrps\_6 (O), Wildflower\_6 (O), Winget\_6 (O), YungJamal\_7 (O), Zakhe101\_7 (O),

#### Start 43:

- Found in 1 of 302 ( 0.3% ) of genes in pham



- Manual Annotations of this start: 1 of 272
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Samy\_49 (singleton),

#### Start 44:

- Found in 13 of 302 ( 4.3% ) of genes in pham
- Manual Annotations of this start: 2 of 272
- Called 23.1% of time when present
- Phage (with cluster) where this start called: Candra\_87 (A6), Mundrea\_78 (A4), Priamo\_90 (A6),

#### Start 45:

- Found in 1 of 302 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 272
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Jumbo\_35 (DF3),

#### Start 46:

- Found in 10 of 302 ( 3.3% ) of genes in pham
- Manual Annotations of this start: 5 of 272
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Arissanae\_80 (A9), Elephantoon\_85 (A9), LoneWolf\_85 (A9), Maminina\_84 (A9), Vanisoa\_80 (A9),

#### Start 47:

- Found in 35 of 302 ( 11.6% ) of genes in pham
- Manual Annotations of this start: 26 of 272
- Called 91.4% of time when present
- Phage (with cluster) where this start called: Abidatro\_40 (AS1), Aliter\_78 (A9), Andrew\_43 (AS3), Beemo\_85 (A9), Catalina\_87 (A9), Chickaboom\_45 (AS1), Conquerage\_83 (A9), Eesa\_39 (AS1), EmyBug\_79 (A9), ExplosioNervosa\_83 (A9), Fayely\_83 (A9), HortumSL17\_86 (A9), Jamun\_39 (AS1), Juno112\_42 (AS3), KHumphrey\_41 (AS3), Leona\_41 (AS3), Myxus\_85 (A9), Orcanus\_40 (AS1), Phaeder\_85 (A9), PhluffyCoco\_42 (AS3), Phonnegut\_85 (A9), Pioneer\_85 (A9), Priya\_83 (A9), Qobbit\_83 (A9), Rahalelujah\_84 (A9), RedFox\_42 (AS3), Renna12\_41 (AS3), Scherzo\_83 (A9), Spouty\_80 (A9), TaylorSipht\_40 (AS1), Toaka\_83 (A9), Tubs\_85 (A9),

#### Start 49:

- Found in 136 of 302 ( 45.0% ) of genes in pham
- Manual Annotations of this start: 129 of 272
- Called 96.3% 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), 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), Koreni\_78 (A4), Kratak\_78 (A4), Kremtemulon\_73 (A4), Kyee\_79 (A4), LHTSCC\_81 (A4), LappelDuVide\_75 (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), Nebs\_80 (A4), Nemo27\_78 (A4), Noelle\_77 (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), Romney\_78 (A4), Roosevelt\_77 (A4), Ruin\_79 (A4), Sabertooth\_79 (A4), Scamp\_79 (A4), Shaka\_77 (A4), SheldonCooper\_79 (A4), Shygu2\_77 (A4), Skipitt\_78 (A4), Sparxx\_80 (A4), Spino\_78 (A4), Stink\_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 51:

- Found in 13 of 302 ( 4.3% ) of genes in pham
- Manual Annotations of this start: 13 of 272
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Chupacabra\_76 (A10), Drake94\_76 (A10), Eaglepride\_82 (A10), Goose\_80 (A10), KittenMittens\_75 (A10), Kristoff\_77 (A10), OKCentral2016\_78 (A10), PeaceMeal1\_76 (A10), Poompha\_76 (A10), Rebeuca\_80 (A10), Severus\_77 (A10), Twister\_79 (A10), WalterMcMickey\_78 (A10),

#### Start 52:

- Found in 1 of 302 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 272
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Anthony\_80 (A20),

#### Start 53:

- Found in 3 of 302 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 1 of 272
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Ryadel\_8 (O),

#### Start 54:

- Found in 2 of 302 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 2 of 272
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Pharaoh\_79 (A12), Steamy\_77 (A12),

#### Start 55:

- Found in 43 of 302 ( 14.2% ) of genes in pham
- Manual Annotations of this start: 16 of 272
- Called 53.5% of time when present

- Phage (with cluster) where this start called: 40AC\_84 (A17), Artemis2UCLA\_90 (A6), BABullseye\_82 (A6), Chartreuse\_87 (A6), CloudWang3\_91 (A6), Dorothea\_86 (A6), Garak\_92 (A6), Gladiator\_87 (A6), Helmet\_92 (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), SuperCallie99\_85 (A6), Wiks\_90 (A6), Yokurt\_90 (A6), Zaka\_91 (A6),

Start 57:

- Found in 1 of 302 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 272
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Upyo\_54 (CD),

Start 58:

- Found in 48 of 302 ( 15.9% ) of genes in pham
- Manual Annotations of this start: 35 of 272
- Called 79.2% of time when present
- Phage (with cluster) where this start called: Blue7\_92 (A6), ByChance\_63 (F1), Cookiedough\_89 (A6), DaVinci\_87 (A6), DarthPhader\_80 (A12), Dorothy\_71 (F1), EricB\_87 (A6), Euratis\_33 (BB1), GreedyLawyer\_82 (A6), Gruunaga\_90 (A6), Heather\_35 (BB2), Hoot\_84 (A6), Inventum\_68 (F1), Isiphiwo\_85 (A6), JewelBug\_81 (A6), Kazan\_90 (A6), Kingsley\_70 (F1), Kipper29\_89 (A6), Lilbooboo\_32 (BB1), McFly\_89 (A6), Newrala\_88 (A6), Phanphagia\_65 (F1), RedBird\_71 (F1), Refuge\_82 (A12), RemusLoopin\_34 (BB2), Samora\_34 (BB1), Sassafras\_71 (F1), Sebastisaurus\_34 (BB2), ShowerHandel\_71 (F1), SmellyB\_89 (A6), SuperAwesome\_89 (A6), ToneTone\_88 (A6), Tucker\_91 (A6), Vash\_32 (BB1), VohminGhazi\_89 (A6), Zimmer\_81 (A12), Zulu\_92 (A6), phiBT1\_9.1 (BB1),

Start 61:

- Found in 28 of 302 ( 9.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 3.6% of time when present
- Phage (with cluster) where this start called: Schuy\_6 (O),

Start 62:

- Found in 99 of 302 ( 32.8% ) of genes in pham
- Manual Annotations of this start: 1 of 272
- Called 1.0% of time when present
- Phage (with cluster) where this start called: Camerico\_38 (DF),

Start 63:

- Found in 7 of 302 ( 2.3% ) of genes in pham
- Manual Annotations of this start: 1 of 272
- Called 14.3% of time when present
- Phage (with cluster) where this start called: Cindaradix\_74 (A4),

### Summary by clusters:

There are 21 clusters represented in this pham: O, AS3, A17, A16, A10, A13, F1, DF, A12, DF1, AS1, DF3, CD, A20, A2, A4, A6, A9, singleton, BB2, BB1,

Info for manual annotations of cluster A10:

- Start number 51 was manually annotated 13 times for cluster A10.

Info for manual annotations of cluster A12:

- Start number 54 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 40 was manually annotated 2 times for cluster A16.
- Start number 41 was manually annotated 1 time for cluster A16.

Info for manual annotations of cluster A2:

- Start number 42 was manually annotated 1 time for cluster A2.

Info for manual annotations of cluster A20:

- Start number 52 was manually annotated 1 time for cluster A20.

Info for manual annotations of cluster A4:

- Start number 29 was manually annotated 1 time for cluster A4.
- Start number 33 was manually annotated 2 times for cluster A4.
- Start number 44 was manually annotated 1 time for cluster A4.
- Start number 49 was manually annotated 129 times for cluster A4.
- Start number 63 was manually annotated 1 time for cluster A4.

Info for manual annotations of cluster A6:

- Start number 42 was manually annotated 1 time for cluster A6.
- Start number 44 was manually annotated 1 time for cluster A6.
- Start number 55 was manually annotated 16 times for cluster A6.
- Start number 58 was manually annotated 19 times for cluster A6.

Info for manual annotations of cluster A9:

- Start number 40 was manually annotated 1 time for cluster A9.
- Start number 41 was manually annotated 3 times for cluster A9.
- Start number 42 was manually annotated 4 times for cluster A9.
- Start number 46 was manually annotated 5 times for cluster A9.
- Start number 47 was manually annotated 17 times for cluster A9.

Info for manual annotations of cluster AS1:

- Start number 47 was manually annotated 5 times for cluster AS1.

Info for manual annotations of cluster AS3:

- Start number 47 was manually annotated 4 times for cluster AS3.

Info for manual annotations of cluster BB1:

- Start number 58 was manually annotated 3 times for cluster BB1.

Info for manual annotations of cluster BB2:

- Start number 58 was manually annotated 3 times for cluster BB2.

Info for manual annotations of cluster CD:

- Start number 57 was manually annotated 1 time for cluster CD.

Info for manual annotations of cluster DF:

- Start number 62 was manually annotated 1 time for cluster DF.

Info for manual annotations of cluster DF3:

- Start number 45 was manually annotated 1 time for cluster DF3.

Info for manual annotations of cluster F1:

- Start number 58 was manually annotated 7 times for cluster F1.

Info for manual annotations of cluster O:

- Start number 42 was manually annotated 21 times for cluster O.
- Start number 53 was manually annotated 1 time for cluster O.

### **Gene Information:**

Gene: 40AC\_84 Start: 49609, Stop: 49076, Start Num: 55

Candidate Starts for 40AC\_84:

(Start: 55 @49609 has 16 MA's), (69, 49516), (75, 49474), (77, 49447), (78, 49432), (82, 49417), (84, 49387), (91, 49288), (94, 49273), (106, 49216), (110, 49195),

Gene: AbbysRanger\_76 Start: 47071, Stop: 46538, Start Num: 49

Candidate Starts for AbbysRanger\_76:

(12, 47266), (15, 47224), (20, 47188), (21, 47176), (Start: 29 @47122 has 1 MA's), (Start: 49 @47071 has 129 MA's), (76, 46909), (84, 46840), (91, 46741), (94, 46726), (104, 46678), (106, 46669),

Gene: Abdiel\_78 Start: 47271, Stop: 46738, Start Num: 49

Candidate Starts for Abdiel\_78:

(Start: 33 @47316 has 2 MA's), (39, 47283), (Start: 49 @47271 has 129 MA's), (76, 47109), (77, 47100), (84, 47040), (91, 46941), (94, 46926), (104, 46878), (106, 46869),

Gene: Abidatro\_40 Start: 27123, Stop: 27719, Start Num: 47

Candidate Starts for Abidatro\_40:

(3, 26661), (5, 26739), (13, 26958), (Start: 47 @27123 has 26 MA's), (65, 27192), (74, 27249), (76, 27288), (78, 27312), (84, 27357), (87, 27384), (91, 27456), (94, 27471), (97, 27507), (100, 27528), (105, 27558), (112, 27639), (115, 27708),

Gene: Achebe\_75 Start: 47050, Stop: 46517, Start Num: 49

Candidate Starts for Achebe\_75:

(4, 47452), (6, 47380), (12, 47245), (15, 47203), (20, 47167), (21, 47155), (Start: 29 @47101 has 1 MA's), (Start: 49 @47050 has 129 MA's), (75, 46906), (76, 46888), (84, 46819), (91, 46720), (94, 46705), (104, 46657), (106, 46648),

Gene: Albee\_79 Start: 47259, Stop: 46726, Start Num: 49

Candidate Starts for Albee\_79:

(Start: 33 @47304 has 2 MA's), (39, 47271), (Start: 49 @47259 has 129 MA's), (76, 47097), (77, 47088), (84, 47028), (91, 46929), (94, 46914), (104, 46866), (106, 46857),

Gene: Alberto7\_80 Start: 47596, Stop: 47063, Start Num: 49

Candidate Starts for Alberto7\_80:

(Start: 33 @47641 has 2 MA's), (39, 47608), (Start: 49 @47596 has 129 MA's), (75, 47452), (76, 47434), (77, 47425), (84, 47365), (91, 47266), (94, 47251), (104, 47203), (106, 47194),

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

Candidate Starts for Aliter\_78:

(Start: 47 @44452 has 26 MA's), (73, 44323), (78, 44260), (81, 44251), (84, 44215), (89, 44134), (94, 44101), (104, 44053), (106, 44044),

Gene: Alkhayr\_6 Start: 2237, Stop: 1647, Start Num: 42

Candidate Starts for Alkhayr\_6:

(14, 2390), (24, 2315), (37, 2258), (39, 2246), (Start: 42 @2237 has 27 MA's), (61, 2186), (Start: 62 @2183 has 1 MA's), (73, 2108), (75, 2084), (78, 2042), (83, 2012), (94, 1871), (99, 1820), (103, 1799),

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

Candidate Starts for Alma\_83:

(Start: 40 @47308 has 3 MA's), (Start: 41 @47305 has 4 MA's), (Start: 42 @47302 has 27 MA's), (Start: 47 @47296 has 26 MA's), (73, 47167), (78, 47104), (81, 47095), (84, 47059), (89, 46978), (94, 46945), (104, 46897), (106, 46888),

Gene: Andrew\_43 Start: 26701, Stop: 27291, Start Num: 47

Candidate Starts for Andrew\_43:

(Start: 47 @26701 has 26 MA's), (65, 26758), (74, 26815), (76, 26854), (81, 26887), (84, 26923), (87, 26950), (91, 27022), (94, 27037), (97, 27073), (100, 27094), (105, 27124), (110, 27154), (114, 27238),

Gene: Annyong\_78 Start: 47304, Stop: 46771, Start Num: 49

Candidate Starts for Annyong\_78:

(Start: 33 @47349 has 2 MA's), (39, 47316), (Start: 49 @47304 has 129 MA's), (76, 47142), (77, 47133), (84, 47073), (91, 46974), (94, 46959), (104, 46911), (106, 46902),

Gene: Anthony\_80 Start: 47872, Stop: 47306, Start Num: 52

Candidate Starts for Anthony\_80:

(50, 47875), (Start: 52 @47872 has 1 MA's), (Start: 62 @47833 has 1 MA's), (64, 47821), (71, 47761), (73, 47758), (77, 47710), (78, 47695), (84, 47650), (91, 47551), (94, 47536), (98, 47494), (101, 47476), (102, 47473), (110, 47431),

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

Candidate Starts for Arissanae\_80:

(17, 47317), (Start: 40 @47200 has 3 MA's), (Start: 41 @47197 has 4 MA's), (Start: 42 @47194 has 27 MA's), (Start: 46 @47191 has 5 MA's), (78, 46996), (82, 46981), (84, 46951), (89, 46870), (94, 46837), (104, 46789), (106, 46780),

Gene: Artemis2UCLA\_90 Start: 47554, Stop: 47027, Start Num: 55

Candidate Starts for Artemis2UCLA\_90:

(17, 47671), (Start: 41 @47560 has 4 MA's), (Start: 42 @47557 has 27 MA's), (Start: 55 @47554 has 16 MA's), (Start: 62 @47518 has 1 MA's), (66, 47485), (73, 47443), (82, 47365), (84, 47335), (91, 47236), (92, 47233), (94, 47221), (95, 47212), (104, 47173), (106, 47164),

Gene: Arturo\_76 Start: 47387, Stop: 46854, Start Num: 49

Candidate Starts for Arturo\_76:

(Start: 33 @47432 has 2 MA's), (39, 47399), (Start: 49 @47387 has 129 MA's), (75, 47243), (76, 47225), (77, 47216), (84, 47156), (91, 47057), (94, 47042), (104, 46994), (106, 46985),

Gene: Ashwin\_7 Start: 2541, Stop: 1951, Start Num: 42

Candidate Starts for Ashwin\_7:

(Start: 42 @2541 has 27 MA's), (61, 2490), (Start: 62 @2487 has 1 MA's), (73, 2412), (75, 2388), (76, 2370), (83, 2316), (94, 2175), (99, 2124), (103, 2103),

Gene: AvatarAhPeg\_79 Start: 47420, Stop: 46878, Start Num: 49

Candidate Starts for AvatarAhPeg\_79:

(Start: 49 @47420 has 129 MA's), (Start: 62 @47372 has 1 MA's), (Start: 63 @47366 has 1 MA's), (65, 47351), (75, 47276), (76, 47258), (77, 47249), (84, 47189), (91, 47090), (94, 47075), (104, 47027), (106, 47018),

Gene: Avle17\_79 Start: 47253, Stop: 46720, Start Num: 49

Candidate Starts for Avle17\_79:

(Start: 33 @47298 has 2 MA's), (39, 47265), (Start: 49 @47253 has 129 MA's), (75, 47109), (76, 47091), (77, 47082), (84, 47022), (91, 46923), (94, 46908), (104, 46860), (106, 46851),

Gene: BABullseye\_82 Start: 45889, Stop: 45359, Start Num: 55

Candidate Starts for BABullseye\_82:

(17, 46006), (34, 45925), (Start: 42 @45895 has 27 MA's), (Start: 55 @45889 has 16 MA's), (Start: 58 @45886 has 35 MA's), (Start: 62 @45850 has 1 MA's), (73, 45775), (75, 45754), (82, 45697), (84, 45667), (86, 45652), (91, 45568), (92, 45565), (94, 45553), (95, 45544), (104, 45505), (106, 45496),

Gene: Baby16\_79 Start: 47270, Stop: 46737, Start Num: 49

Candidate Starts for Baby16\_79:

(Start: 33 @47315 has 2 MA's), (39, 47282), (Start: 49 @47270 has 129 MA's), (76, 47108), (77, 47099), (84, 47039), (91, 46940), (94, 46925), (104, 46877), (106, 46868),

Gene: BabyBack\_81 Start: 49524, Stop: 48991, Start Num: 42

Candidate Starts for BabyBack\_81:

(Start: 40 @49530 has 3 MA's), (Start: 41 @49527 has 4 MA's), (Start: 42 @49524 has 27 MA's), (Start: 44 @49521 has 2 MA's), (69, 49431), (72, 49413), (73, 49410), (75, 49389), (77, 49362), (84, 49302), (91, 49203), (94, 49188), (104, 49140), (106, 49131), (110, 49110),

Gene: Backyardigan\_74 Start: 47087, Stop: 46554, Start Num: 49

Candidate Starts for Backyardigan\_74:

(12, 47282), (15, 47240), (20, 47204), (21, 47192), (Start: 29 @47138 has 1 MA's), (Start: 49 @47087 has 129 MA's), (76, 46925), (84, 46856), (91, 46757), (94, 46742), (104, 46694), (106, 46685),

Gene: Badger\_75 Start: 47053, Stop: 46520, Start Num: 49

Candidate Starts for Badger\_75:

(12, 47248), (15, 47206), (20, 47170), (21, 47158), (Start: 29 @47104 has 1 MA's), (Start: 49 @47053 has 129 MA's), (76, 46891), (84, 46822), (91, 46723), (94, 46708), (104, 46660), (106, 46651),

Gene: BangNhom\_76 Start: 47696, Stop: 47163, Start Num: 49

Candidate Starts for BangNhom\_76:

(Start: 33 @47741 has 2 MA's), (39, 47708), (Start: 49 @47696 has 129 MA's), (75, 47552), (76, 47534), (77, 47525), (84, 47465), (91, 47366), (94, 47351), (104, 47303), (106, 47294),

Gene: Bartimeaus\_79 Start: 47261, Stop: 46728, Start Num: 49

Candidate Starts for Bartimeaus\_79:

(Start: 33 @47306 has 2 MA's), (39, 47273), (Start: 49 @47261 has 129 MA's), (76, 47099), (77, 47090), (84, 47030), (91, 46931), (94, 46916), (104, 46868), (106, 46859),

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

Candidate Starts for Beemo\_85:

(Start: 47 @47289 has 26 MA's), (73, 47160), (78, 47097), (81, 47088), (84, 47052), (89, 46971), (94, 46938), (104, 46890), (106, 46881),

Gene: BellusTerra\_80 Start: 47300, Stop: 46767, Start Num: 49

Candidate Starts for BellusTerra\_80:

(4, 47702), (6, 47630), (12, 47495), (15, 47453), (20, 47417), (21, 47405), (Start: 29 @47351 has 1 MA's), (Start: 49 @47300 has 129 MA's), (75, 47156), (76, 47138), (77, 47129), (84, 47069), (91, 46970), (94, 46955), (104, 46907), (106, 46898),

Gene: Blackmoor\_78 Start: 47261, Stop: 46728, Start Num: 49

Candidate Starts for Blackmoor\_78:

(Start: 33 @47306 has 2 MA's), (39, 47273), (Start: 49 @47261 has 129 MA's), (76, 47099), (77, 47090), (84, 47030), (91, 46931), (94, 46916), (104, 46868), (106, 46859),

Gene: Blessica\_6 Start: 2096, Stop: 1506, Start Num: 42

Candidate Starts for Blessica\_6:

(Start: 42 @2096 has 27 MA's), (61, 2045), (Start: 62 @2042 has 1 MA's), (73, 1967), (75, 1943), (78, 1901), (83, 1871), (94, 1730), (99, 1679), (103, 1658),

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

Candidate Starts for Blue7\_92:

(17, 47905), (Start: 41 @47794 has 4 MA's), (Start: 42 @47791 has 27 MA's), (Start: 55 @47788 has 16 MA's), (Start: 58 @47785 has 35 MA's), (Start: 62 @47749 has 1 MA's), (66, 47716), (73, 47674), (82, 47596), (84, 47566), (91, 47467), (92, 47464), (94, 47452), (95, 47443), (104, 47404), (106, 47395),

Gene: BogosyJay\_84 Start: 47353, Stop: 46796, Start Num: 41

Candidate Starts for BogosyJay\_84:

(Start: 40 @47356 has 3 MA's), (Start: 41 @47353 has 4 MA's), (Start: 42 @47350 has 27 MA's), (Start: 46 @47347 has 5 MA's), (64, 47278), (75, 47194), (78, 47152), (82, 47137), (90, 47023), (94, 46993), (104, 46945), (106, 46936),

Gene: Bombshell\_79 Start: 47256, Stop: 46723, Start Num: 49

Candidate Starts for Bombshell\_79:

(Start: 33 @47301 has 2 MA's), (39, 47268), (Start: 49 @47256 has 129 MA's), (75, 47112), (76, 47094), (77, 47085), (84, 47025), (91, 46926), (94, 46911), (104, 46863), (106, 46854),

Gene: Bora\_6 Start: 2231, Stop: 1641, Start Num: 42

Candidate Starts for Bora\_6:

(Start: 42 @2231 has 27 MA's), (61, 2180), (Start: 62 @2177 has 1 MA's), (73, 2102), (75, 2078), (76, 2060), (83, 2006), (94, 1865), (99, 1814), (103, 1793),

Gene: Broseidon\_79 Start: 47262, Stop: 46729, Start Num: 49

Candidate Starts for Broseidon\_79:

(Start: 33 @47307 has 2 MA's), (39, 47274), (Start: 49 @47262 has 129 MA's), (76, 47100), (77, 47091), (84, 47031), (91, 46932), (94, 46917), (104, 46869), (106, 46860),

Gene: Bruiser\_78 Start: 47259, Stop: 46726, Start Num: 49

Candidate Starts for Bruiser\_78:

(Start: 33 @47304 has 2 MA's), (39, 47271), (Start: 49 @47259 has 129 MA's), (75, 47115), (76, 47097), (77, 47088), (84, 47028), (91, 46929), (94, 46914), (104, 46866), (106, 46857),

Gene: BubbleTrouble\_78 Start: 47331, Stop: 46753, Start Num: 33



Candidate Starts for BubbleTrouble\_78:

(Start: 33 @47331 has 2 MA's), (39, 47298), (Start: 49 @47286 has 129 MA's), (76, 47124), (77, 47115), (84, 47055), (91, 46956), (94, 46941), (104, 46893), (106, 46884),

Gene: Bumblebee11\_75 Start: 47053, Stop: 46520, Start Num: 49

Candidate Starts for Bumblebee11\_75:

(12, 47248), (15, 47206), (20, 47170), (21, 47158), (Start: 29 @47104 has 1 MA's), (Start: 49 @47053 has 129 MA's), (76, 46891), (84, 46822), (91, 46723), (94, 46708), (104, 46660), (106, 46651),

Gene: Burger\_77 Start: 47259, Stop: 46726, Start Num: 49

Candidate Starts for Burger\_77:

(Start: 33 @47304 has 2 MA's), (39, 47271), (Start: 49 @47259 has 129 MA's), (75, 47115), (76, 47097), (77, 47088), (84, 47028), (91, 46929), (94, 46914), (104, 46866), (106, 46857),

Gene: ByChance\_63 Start: 41432, Stop: 42055, Start Num: 58

Candidate Starts for ByChance\_63:

(19, 41309), (25, 41351), (Start: 58 @41432 has 35 MA's), (60, 41447), (Start: 63 @41474 has 1 MA's), (64, 41480), (67, 41507), (73, 41543), (84, 41654), (88, 41714), (95, 41777), (97, 41804), (100, 41825),

Gene: Caelakin\_77 Start: 47259, Stop: 46726, Start Num: 49

Candidate Starts for Caelakin\_77:

(Start: 33 @47304 has 2 MA's), (39, 47271), (Start: 49 @47259 has 129 MA's), (75, 47115), (76, 47097), (77, 47088), (84, 47028), (91, 46929), (94, 46914), (104, 46866), (106, 46857),

Gene: Camerico\_38 Start: 42408, Stop: 42908, Start Num: 62

Candidate Starts for Camerico\_38:

(Start: 49 @42360 has 129 MA's), (Start: 53 @42366 has 1 MA's), (Start: 62 @42408 has 1 MA's), (64, 42420), (70, 42492), (73, 42498), (87, 42636), (91, 42702), (93, 42708),

Gene: Camperdownii\_76 Start: 46729, Stop: 46142, Start Num: 29

Candidate Starts for Camperdownii\_76:

(Start: 29 @46729 has 1 MA's), (Start: 49 @46678 has 129 MA's), (73, 46561), (75, 46540), (84, 46453), (94, 46339), (104, 46291), (106, 46282), (110, 46261),

Gene: Candra\_87 Start: 47596, Stop: 47063, Start Num: 44

Candidate Starts for Candra\_87:

(17, 47710), (34, 47629), (Start: 42 @47599 has 27 MA's), (Start: 44 @47596 has 2 MA's), (Start: 55 @47593 has 16 MA's), (Start: 58 @47590 has 35 MA's), (Start: 62 @47554 has 1 MA's), (73, 47479), (75, 47458), (82, 47401), (84, 47371), (86, 47356), (91, 47272), (104, 47209), (106, 47200),

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

Candidate Starts for Catalina\_87:

(Start: 47 @47399 has 26 MA's), (73, 47270), (78, 47207), (81, 47198), (84, 47162), (89, 47081), (94, 47048), (104, 47000), (106, 46991),

Gene: Catdawg\_6 Start: 2146, Stop: 1556, Start Num: 42

Candidate Starts for Catdawg\_6:

(Start: 42 @2146 has 27 MA's), (61, 2095), (Start: 62 @2092 has 1 MA's), (73, 2017), (75, 1993), (78, 1951), (83, 1921), (94, 1780), (99, 1729), (103, 1708),

Gene: CentreCat\_79 Start: 47299, Stop: 46766, Start Num: 49

Candidate Starts for CentreCat\_79:

(Start: 33 @47344 has 2 MA's), (39, 47311), (Start: 49 @47299 has 129 MA's), (75, 47155), (76, 47137), (77, 47128), (84, 47068), (91, 46969), (94, 46954), (104, 46906), (106, 46897),

Gene: Cerulean\_81 Start: 47697, Stop: 47164, Start Num: 49

Candidate Starts for Cerulean\_81:

(Start: 33 @47742 has 2 MA's), (39, 47709), (Start: 49 @47697 has 129 MA's), (75, 47553), (76, 47535), (77, 47526), (84, 47466), (91, 47367), (94, 47352), (104, 47304), (106, 47295),

Gene: ChampagnePapi\_82 Start: 47699, Stop: 47166, Start Num: 49

Candidate Starts for ChampagnePapi\_82:

(Start: 33 @47744 has 2 MA's), (39, 47711), (Start: 49 @47699 has 129 MA's), (75, 47555), (76, 47537), (77, 47528), (84, 47468), (91, 47369), (94, 47354), (104, 47306), (106, 47297),

Gene: Chaph\_79 Start: 47270, Stop: 46737, Start Num: 49

Candidate Starts for Chaph\_79:

(Start: 33 @47315 has 2 MA's), (39, 47282), (Start: 49 @47270 has 129 MA's), (75, 47126), (76, 47108), (77, 47099), (84, 47039), (91, 46940), (94, 46925), (104, 46877), (106, 46868),

Gene: Charm\_80 Start: 46735, Stop: 46187, Start Num: 41

Candidate Starts for Charm\_80:

(7, 47011), (11, 46930), (Start: 40 @46738 has 3 MA's), (Start: 41 @46735 has 4 MA's), (64, 46669), (73, 46606), (75, 46585), (78, 46543), (80, 46537), (82, 46528), (84, 46498), (89, 46417), (94, 46384), (104, 46336), (106, 46327),

Gene: Chartreuse\_87 Start: 46894, Stop: 46364, Start Num: 55

Candidate Starts for Chartreuse\_87:

(17, 47011), (34, 46930), (Start: 42 @46900 has 27 MA's), (Start: 44 @46897 has 2 MA's), (Start: 55 @46894 has 16 MA's), (Start: 58 @46891 has 35 MA's), (Start: 62 @46855 has 1 MA's), (73, 46780), (75, 46759), (82, 46702), (84, 46672), (86, 46657), (91, 46573), (104, 46510), (106, 46501),

Gene: Chickaboom\_45 Start: 27140, Stop: 27736, Start Num: 47

Candidate Starts for Chickaboom\_45:

(Start: 47 @27140 has 26 MA's), (74, 27266), (76, 27305), (78, 27329), (87, 27401), (91, 27473), (92, 27476), (94, 27488), (97, 27524), (100, 27545), (105, 27575), (110, 27605), (112, 27656), (115, 27725),

Gene: Chupacabra\_76 Start: 47045, Stop: 46506, Start Num: 51

Candidate Starts for Chupacabra\_76:

(Start: 29 @47099 has 1 MA's), (Start: 51 @47045 has 13 MA's), (Start: 62 @47000 has 1 MA's), (73, 46925), (75, 46904), (84, 46817), (89, 46736), (94, 46703), (95, 46694), (104, 46655), (106, 46646), (110, 46625),

Gene: Cici\_76 Start: 47066, Stop: 46533, Start Num: 49

Candidate Starts for Cici\_76:

(12, 47261), (15, 47219), (20, 47183), (21, 47171), (Start: 29 @47117 has 1 MA's), (Start: 49 @47066 has 129 MA's), (76, 46904), (84, 46835), (91, 46736), (94, 46721), (104, 46673), (106, 46664),

Gene: Cindaradix\_74 Start: 47332, Stop: 46844, Start Num: 63

Candidate Starts for Cindaradix\_74:

(Start: 49 @47386 has 129 MA's), (Start: 62 @47338 has 1 MA's), (Start: 63 @47332 has 1 MA's), (65, 47317), (75, 47242), (76, 47224), (77, 47215), (84, 47155), (91, 47056), (94, 47041), (104, 46993), (106, 46984),

Gene: Cintron\_79 Start: 47375, Stop: 46842, Start Num: 49

Candidate Starts for Cintron\_79:

(Start: 33 @47420 has 2 MA's), (39, 47387), (Start: 49 @47375 has 129 MA's), (76, 47213), (77, 47204), (84, 47144), (91, 47045), (94, 47030), (104, 46982), (106, 46973),

Gene: Citius\_79 Start: 47280, Stop: 46747, Start Num: 49

Candidate Starts for Citius\_79:

(Start: 33 @47325 has 2 MA's), (39, 47292), (Start: 49 @47280 has 129 MA's), (76, 47118), (77, 47109), (84, 47049), (91, 46950), (94, 46935), (104, 46887), (106, 46878),

Gene: Clarenza\_78 Start: 47256, Stop: 46723, Start Num: 49

Candidate Starts for Clarenza\_78:

(Start: 33 @47301 has 2 MA's), (39, 47268), (Start: 49 @47256 has 129 MA's), (75, 47112), (76, 47094), (77, 47085), (84, 47025), (91, 46926), (94, 46911), (104, 46863), (106, 46854),

Gene: CloudWang3\_91 Start: 48083, Stop: 47556, Start Num: 55

Candidate Starts for CloudWang3\_91:

(17, 48200), (Start: 41 @48089 has 4 MA's), (Start: 42 @48086 has 27 MA's), (Start: 55 @48083 has 16 MA's), (Start: 62 @48047 has 1 MA's), (66, 48014), (73, 47972), (82, 47894), (84, 47864), (91, 47765), (92, 47762), (94, 47750), (95, 47741), (104, 47702), (106, 47693),

Gene: Cocoaberry\_79 Start: 47260, Stop: 46727, Start Num: 49

Candidate Starts for Cocoaberry\_79:

(Start: 33 @47305 has 2 MA's), (39, 47272), (Start: 49 @47260 has 129 MA's), (75, 47116), (76, 47098), (77, 47089), (84, 47029), (91, 46930), (94, 46915), (104, 46867), (106, 46858),

Gene: Commander\_77 Start: 47257, Stop: 46724, Start Num: 49

Candidate Starts for Commander\_77:

(Start: 33 @47302 has 2 MA's), (39, 47269), (Start: 49 @47257 has 129 MA's), (75, 47113), (76, 47095), (77, 47086), (84, 47026), (91, 46927), (94, 46912), (104, 46864), (106, 46855),

Gene: Connomayer\_79 Start: 47259, Stop: 46726, Start Num: 49

Candidate Starts for Connomayer\_79:

(Start: 33 @47304 has 2 MA's), (39, 47271), (Start: 49 @47259 has 129 MA's), (76, 47097), (77, 47088), (84, 47028), (91, 46929), (94, 46914), (104, 46866), (106, 46857),

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

Candidate Starts for Conquerage\_83:

(Start: 40 @47077 has 3 MA's), (Start: 41 @47074 has 4 MA's), (Start: 42 @47071 has 27 MA's), (Start: 47 @47065 has 26 MA's), (73, 46936), (78, 46873), (81, 46864), (84, 46828), (89, 46747), (94, 46714), (104, 46666), (106, 46657),

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

Candidate Starts for Cookiedough\_89:

(16, 48337), (17, 48325), (Start: 41 @48214 has 4 MA's), (Start: 42 @48211 has 27 MA's), (Start: 55 @48202 has 16 MA's), (Start: 58 @48199 has 35 MA's), (Start: 62 @48163 has 1 MA's), (73, 48088), (75, 48067), (82, 48010), (84, 47980), (86, 47965), (91, 47881), (104, 47818), (106, 47809),

Gene: Corndog\_7 Start: 2523, Stop: 1933, Start Num: 42

Candidate Starts for Corndog\_7:

(Start: 42 @2523 has 27 MA's), (61, 2472), (Start: 62 @2469 has 1 MA's), (73, 2394), (75, 2370), (76, 2352), (83, 2298), (94, 2157), (99, 2106), (103, 2085),

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

Candidate Starts for DaVinci\_87:

(17, 47065), (34, 46984), (Start: 42 @46954 has 27 MA's), (Start: 44 @46951 has 2 MA's), (Start: 55 @46948 has 16 MA's), (Start: 58 @46945 has 35 MA's), (Start: 62 @46909 has 1 MA's), (73, 46834), (75, 46813), (82, 46756), (84, 46726), (86, 46711), (91, 46627), (104, 46564), (106, 46555),

Gene: Darrell\_83 Start: 46508, Stop: 45951, Start Num: 41

Candidate Starts for Darrell\_83:

(17, 46628), (Start: 40 @46511 has 3 MA's), (Start: 41 @46508 has 4 MA's), (Start: 42 @46505 has 27 MA's), (Start: 46 @46502 has 5 MA's), (48, 46496), (78, 46307), (82, 46292), (84, 46262), (89, 46181), (90, 46178), (94, 46148), (104, 46100), (106, 46091),

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

Candidate Starts for DarthPhader\_80:

(30, 48107), (Start: 58 @48059 has 35 MA's), (73, 47948), (78, 47885), (79, 47873), (81, 47867), (82, 47861), (84, 47831), (94, 47717), (106, 47660), (110, 47639),

Gene: Datway\_76 Start: 47070, Stop: 46537, Start Num: 49

Candidate Starts for Datway\_76:

(Start: 33 @47115 has 2 MA's), (39, 47082), (Start: 49 @47070 has 129 MA's), (73, 46947), (76, 46908), (77, 46899), (84, 46839), (91, 46740), (94, 46725), (104, 46677), (106, 46668),

Gene: Deano\_76 Start: 47267, Stop: 46734, Start Num: 49

Candidate Starts for Deano\_76:

(Start: 33 @47312 has 2 MA's), (39, 47279), (Start: 49 @47267 has 129 MA's), (76, 47105), (77, 47096), (84, 47036), (91, 46937), (94, 46922), (104, 46874), (106, 46865),

Gene: Dhanush\_79 Start: 47262, Stop: 46729, Start Num: 49

Candidate Starts for Dhanush\_79:

(Start: 33 @47307 has 2 MA's), (39, 47274), (Start: 49 @47262 has 129 MA's), (75, 47118), (76, 47100), (77, 47091), (84, 47031), (91, 46932), (94, 46917), (104, 46869), (106, 46860),

Gene: DirtyDunning\_78 Start: 47271, Stop: 46738, Start Num: 49

Candidate Starts for DirtyDunning\_78:

(Start: 33 @47316 has 2 MA's), (39, 47283), (Start: 49 @47271 has 129 MA's), (75, 47127), (76, 47109), (77, 47100), (84, 47040), (91, 46941), (94, 46926), (104, 46878), (106, 46869),

Gene: Dorothea\_86 Start: 48194, Stop: 47664, Start Num: 55

Candidate Starts for Dorothea\_86:

(16, 48329), (17, 48317), (Start: 41 @48206 has 4 MA's), (Start: 42 @48203 has 27 MA's), (Start: 55 @48194 has 16 MA's), (Start: 58 @48191 has 35 MA's), (Start: 62 @48155 has 1 MA's), (73, 48080), (75, 48059), (82, 48002), (84, 47972), (86, 47957), (91, 47873), (104, 47810), (106, 47801),

Gene: Dorothy\_71 Start: 44271, Stop: 44831, Start Num: 58

Candidate Starts for Dorothy\_71:

(26, 44190), (Start: 58 @44271 has 35 MA's), (67, 44346), (73, 44382), (75, 44406), (84, 44493), (91, 44592), (92, 44595), (95, 44616), (97, 44643), (100, 44664),

Gene: Drake94\_76 Start: 46202, Stop: 45663, Start Num: 51

Candidate Starts for Drake94\_76:

(6, 46538), (12, 46403), (15, 46361), (20, 46325), (Start: 33 @46253 has 2 MA's), (35, 46247), (Start: 51 @46202 has 13 MA's), (Start: 62 @46157 has 1 MA's), (73, 46082), (82, 46004), (84, 45974), (94, 45860), (104, 45812), (106, 45803), (110, 45782),

Gene: DreamTeam1\_80 Start: 46583, Stop: 46035, Start Num: 41

Candidate Starts for DreamTeam1\_80:

(7, 46859), (11, 46778), (Start: 40 @46586 has 3 MA's), (Start: 41 @46583 has 4 MA's), (64, 46517), (73, 46454), (78, 46391), (80, 46385), (82, 46376), (84, 46346), (89, 46265), (94, 46232), (104, 46184), (106, 46175),

Gene: Druantia\_78 Start: 47262, Stop: 46729, Start Num: 49

Candidate Starts for Druantia\_78:

(12, 47457), (15, 47415), (20, 47379), (21, 47367), (Start: 29 @47313 has 1 MA's), (Start: 49 @47262 has 129 MA's), (75, 47118), (76, 47100), (77, 47091), (84, 47031), (91, 46932), (94, 46917), (104, 46869), (106, 46860),

Gene: Dylan\_7 Start: 2545, Stop: 1955, Start Num: 42

Candidate Starts for Dylan\_7:

(Start: 42 @2545 has 27 MA's), (61, 2494), (Start: 62 @2491 has 1 MA's), (73, 2416), (75, 2392), (76, 2374), (83, 2320), (94, 2179), (99, 2128), (103, 2107),

Gene: Eagle\_78 Start: 47321, Stop: 46788, Start Num: 49

Candidate Starts for Eagle\_78:

(Start: 33 @47366 has 2 MA's), (39, 47333), (Start: 49 @47321 has 129 MA's), (75, 47177), (76, 47159), (77, 47150), (84, 47090), (91, 46991), (94, 46976), (104, 46928), (106, 46919),

Gene: EagleEye\_89 Start: 49182, Stop: 48643, Start Num: 40

Candidate Starts for EagleEye\_89:

(Start: 40 @49182 has 3 MA's), (Start: 41 @49179 has 4 MA's), (Start: 62 @49137 has 1 MA's), (73, 49062), (82, 48984), (84, 48954), (86, 48939), (89, 48873), (94, 48840), (104, 48792), (106, 48783), (110, 48762),

Gene: Eaglepride\_82 Start: 47125, Stop: 46586, Start Num: 51

Candidate Starts for Eaglepride\_82:

(Start: 29 @47179 has 1 MA's), (Start: 51 @47125 has 13 MA's), (Start: 62 @47080 has 1 MA's), (75, 46984), (84, 46897), (94, 46783), (104, 46735), (106, 46726), (110, 46705),

Gene: Eapen\_79 Start: 47254, Stop: 46721, Start Num: 49

Candidate Starts for Eapen\_79:

(Start: 33 @47299 has 2 MA's), (39, 47266), (Start: 49 @47254 has 129 MA's), (75, 47110), (76, 47092), (77, 47083), (84, 47023), (91, 46924), (94, 46909), (104, 46861), (106, 46852),

Gene: Eesa\_39 Start: 28022, Stop: 28654, Start Num: 47

Candidate Starts for Eesa\_39:

(Start: 47 @28022 has 26 MA's), (74, 28151), (76, 28190), (78, 28214), (87, 28286), (91, 28358), (94, 28373), (97, 28409), (100, 28430), (105, 28460), (112, 28541),

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

Candidate Starts for Eidsmoe\_83:

(Start: 40 @47069 has 3 MA's), (Start: 41 @47066 has 4 MA's), (Start: 42 @47063 has 27 MA's), (Start: 47 @47057 has 26 MA's), (73, 46928), (78, 46865), (81, 46856), (84, 46820), (89, 46739), (94, 46706), (104, 46658), (106, 46649),

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

Candidate Starts for Elephantoon\_85:

(9, 47509), (17, 47347), (Start: 40 @47230 has 3 MA's), (Start: 41 @47227 has 4 MA's), (Start: 42 @47224 has 27 MA's), (Start: 44 @47221 has 2 MA's), (Start: 46 @47218 has 5 MA's), (78, 47023), (82, 47008), (84, 46978), (89, 46897), (94, 46864), (104, 46816), (106, 46807),

Gene: EmyBug\_79 Start: 47059, Stop: 46511, Start Num: 47

Candidate Starts for EmyBug\_79:

(Start: 40 @47071 has 3 MA's), (Start: 41 @47068 has 4 MA's), (Start: 42 @47065 has 27 MA's), (Start: 47 @47059 has 26 MA's), (73, 46930), (78, 46867), (81, 46858), (84, 46822), (89, 46741), (94, 46708), (104, 46660), (106, 46651),

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

Candidate Starts for EricB\_87:

(17, 47214), (Start: 55 @47091 has 16 MA's), (Start: 58 @47088 has 35 MA's), (Start: 62 @47052 has 1 MA's), (66, 47019), (73, 46977), (75, 46956), (82, 46899), (84, 46869), (86, 46854), (91, 46770), (104, 46707), (106, 46698),

Gene: Eris\_78 Start: 47271, Stop: 46738, Start Num: 49

Candidate Starts for Eris\_78:

(Start: 33 @47316 has 2 MA's), (39, 47283), (Start: 49 @47271 has 129 MA's), (75, 47127), (76, 47109), (77, 47100), (84, 47040), (91, 46941), (94, 46926), (104, 46878), (106, 46869),

Gene: Eros\_79 Start: 47261, Stop: 46728, Start Num: 49

Candidate Starts for Eros\_79:

(Start: 33 @47306 has 2 MA's), (39, 47273), (Start: 49 @47261 has 129 MA's), (76, 47099), (77, 47090), (84, 47030), (91, 46931), (94, 46916), (104, 46868), (106, 46859),

Gene: Euratis\_33 Start: 25788, Stop: 26288, Start Num: 58

Candidate Starts for Euratis\_33:

(39, 25764), (Start: 58 @25788 has 35 MA's), (60, 25803), (74, 25902), (76, 25941), (109, 26157), (113, 26235),

Gene: Eurydice\_80 Start: 47296, Stop: 46763, Start Num: 49

Candidate Starts for Eurydice\_80:

(Start: 33 @47341 has 2 MA's), (39, 47308), (Start: 49 @47296 has 129 MA's), (75, 47152), (76, 47134), (77, 47125), (84, 47065), (91, 46966), (94, 46951), (104, 46903), (106, 46894),

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

Candidate Starts for ExplosioNervosa\_83:

(Start: 40 @47137 has 3 MA's), (Start: 41 @47134 has 4 MA's), (Start: 42 @47131 has 27 MA's), (Start: 47 @47125 has 26 MA's), (73, 46996), (78, 46933), (81, 46924), (84, 46888), (89, 46807), (94, 46774), (104, 46726), (106, 46717),

Gene: Familton\_7 Start: 2147, Stop: 1557, Start Num: 42

Candidate Starts for Familton\_7:

(Start: 42 @2147 has 27 MA's), (61, 2096), (Start: 62 @2093 has 1 MA's), (73, 2018), (75, 1994), (78, 1952), (83, 1922), (94, 1781), (99, 1730), (103, 1709),

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

Candidate Starts for Fayely\_83:

(Start: 47 @47032 has 26 MA's), (73, 46903), (78, 46840), (81, 46831), (84, 46795), (89, 46714), (94, 46681), (104, 46633), (106, 46624),

Gene: Firecracker\_6 Start: 2232, Stop: 1642, Start Num: 42

Candidate Starts for Firecracker\_6:

(Start: 42 @2232 has 27 MA's), (61, 2181), (Start: 62 @2178 has 1 MA's), (73, 2103), (75, 2079), (76, 2061), (83, 2007), (94, 1866), (99, 1815), (103, 1794),

Gene: Florean\_79 Start: 47258, Stop: 46725, Start Num: 49

Candidate Starts for Florean\_79:

(Start: 33 @47303 has 2 MA's), (39, 47270), (Start: 49 @47258 has 129 MA's), (76, 47096), (77, 47087), (84, 47027), (91, 46928), (94, 46913), (104, 46865), (106, 46856),

Gene: Flux\_80 Start: 47257, Stop: 46724, Start Num: 49

Candidate Starts for Flux\_80:

(Start: 33 @47302 has 2 MA's), (39, 47269), (Start: 49 @47257 has 129 MA's), (76, 47095), (77, 47086), (84, 47026), (91, 46927), (94, 46912), (104, 46864), (106, 46855),

Gene: FoulBall\_6 Start: 2147, Stop: 1557, Start Num: 42

Candidate Starts for FoulBall\_6:

(Start: 42 @2147 has 27 MA's), (61, 2096), (Start: 62 @2093 has 1 MA's), (73, 2018), (75, 1994), (78, 1952), (83, 1922), (94, 1781), (99, 1730), (103, 1709),

Gene: Funston\_78 Start: 47256, Stop: 46723, Start Num: 49

Candidate Starts for Funston\_78:

(Start: 33 @47301 has 2 MA's), (39, 47268), (Start: 49 @47256 has 129 MA's), (75, 47112), (76, 47094), (77, 47085), (84, 47025), (91, 46926), (94, 46911), (104, 46863), (106, 46854),

Gene: Gadost\_79 Start: 47260, Stop: 46727, Start Num: 49

Candidate Starts for Gadost\_79:

(Start: 33 @47305 has 2 MA's), (39, 47272), (Start: 49 @47260 has 129 MA's), (75, 47116), (76, 47098), (77, 47089), (84, 47029), (91, 46930), (94, 46915), (104, 46867), (106, 46858),

Gene: Garak\_92 Start: 48028, Stop: 47501, Start Num: 55

Candidate Starts for Garak\_92:

(17, 48145), (Start: 41 @48034 has 4 MA's), (Start: 42 @48031 has 27 MA's), (Start: 55 @48028 has 16 MA's), (Start: 62 @47992 has 1 MA's), (66, 47959), (73, 47917), (82, 47839), (84, 47809), (91, 47710), (92, 47707), (94, 47695), (95, 47686), (104, 47647), (106, 47638),

Gene: GaugeLDP\_82 Start: 49074, Stop: 48544, Start Num: 42

Candidate Starts for GaugeLDP\_82:

(Start: 40 @49080 has 3 MA's), (Start: 42 @49074 has 27 MA's), (69, 48984), (72, 48966), (73, 48963), (75, 48942), (84, 48855), (91, 48756), (94, 48741), (104, 48693), (106, 48684), (110, 48663),

Gene: Gladiator\_87 Start: 47742, Stop: 47212, Start Num: 55

Candidate Starts for Gladiator\_87:

(17, 47865), (Start: 55 @47742 has 16 MA's), (Start: 58 @47739 has 35 MA's), (Start: 62 @47703 has 1 MA's), (66, 47670), (73, 47628), (82, 47550), (84, 47520), (91, 47421), (92, 47418), (94, 47406), (95, 47397), (104, 47358), (106, 47349),

Gene: Gmala1\_28 Start: 35092, Stop: 35631, Start Num: 42

Candidate Starts for Gmala1\_28:

(Start: 42 @35092 has 27 MA's), (59, 35122), (Start: 62 @35149 has 1 MA's), (76, 35281),

Gene: Goose\_80 Start: 46856, Stop: 46317, Start Num: 51

Candidate Starts for Goose\_80:

(Start: 29 @46910 has 1 MA's), (Start: 51 @46856 has 13 MA's), (Start: 62 @46811 has 1 MA's), (65, 46790), (73, 46736), (75, 46715), (84, 46628), (89, 46547), (94, 46514), (95, 46505), (104, 46466), (106, 46457), (110, 46436),

Gene: GordDuk1\_28 Start: 35030, Stop: 35569, Start Num: 42

Candidate Starts for GordDuk1\_28:

(Start: 42 @35030 has 27 MA's), (59, 35060), (Start: 62 @35087 has 1 MA's), (76, 35219), (85, 35300),

Gene: GordTnk2\_28 Start: 34999, Stop: 35538, Start Num: 42

Candidate Starts for GordTnk2\_28:

(Start: 42 @34999 has 27 MA's), (59, 35029), (Start: 62 @35056 has 1 MA's), (76, 35188), (85, 35269),

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

Candidate Starts for GreedyLawyer\_82:

(16, 47659), (17, 47647), (Start: 41 @47536 has 4 MA's), (Start: 42 @47533 has 27 MA's), (Start: 55 @47524 has 16 MA's), (Start: 58 @47521 has 35 MA's), (Start: 62 @47485 has 1 MA's), (73, 47410), (75, 47389), (82, 47332), (84, 47302), (86, 47287), (91, 47203), (104, 47140), (106, 47131),

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

Candidate Starts for Gruunaga\_90:

(17, 47820), (Start: 55 @47697 has 16 MA's), (Start: 58 @47694 has 35 MA's), (Start: 62 @47658 has 1 MA's), (66, 47625), (73, 47583), (82, 47505), (84, 47475), (91, 47376), (92, 47373), (94, 47361), (95, 47352), (104, 47313), (106, 47304),

Gene: HamSlice\_75 Start: 47258, Stop: 46725, Start Num: 49

Candidate Starts for HamSlice\_75:

(Start: 33 @47303 has 2 MA's), (39, 47270), (Start: 49 @47258 has 129 MA's), (76, 47096), (77, 47087), (84, 47027), (91, 46928), (94, 46913), (104, 46865), (106, 46856),

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

Candidate Starts for Hammer\_91:

(17, 47518), (Start: 41 @47407 has 4 MA's), (Start: 42 @47404 has 27 MA's), (Start: 55 @47401 has 16 MA's), (Start: 62 @47365 has 1 MA's), (66, 47332), (73, 47290), (82, 47212), (84, 47182), (91, 47083), (92, 47080), (94, 47068), (95, 47059), (104, 47020), (106, 47011),

Gene: Happiness\_78 Start: 47282, Stop: 46749, Start Num: 49

Candidate Starts for Happiness\_78:

(Start: 33 @47327 has 2 MA's), (39, 47294), (Start: 49 @47282 has 129 MA's), (75, 47138), (76, 47120), (77, 47111), (83, 47078), (84, 47051), (91, 46952), (94, 46937), (104, 46889), (106, 46880),

Gene: Heather\_35 Start: 26803, Stop: 27303, Start Num: 58

Candidate Starts for Heather\_35:

(Start: 58 @26803 has 35 MA's), (68, 26884), (74, 26917), (76, 26956), (81, 26992), (91, 27124), (93, 27130), (113, 27250),

Gene: Helmet\_92 Start: 48028, Stop: 47501, Start Num: 55

Candidate Starts for Helmet\_92:

(17, 48145), (Start: 41 @48034 has 4 MA's), (Start: 42 @48031 has 27 MA's), (Start: 55 @48028 has 16 MA's), (Start: 62 @47992 has 1 MA's), (66, 47959), (73, 47917), (82, 47839), (84, 47809), (91, 47710), (92, 47707), (94, 47695), (95, 47686), (104, 47647), (106, 47638),



Gene: Hexamo\_90 Start: 47569, Stop: 47042, Start Num: 55

Candidate Starts for Hexamo\_90:

(17, 47686), (Start: 41 @47575 has 4 MA's), (Start: 42 @47572 has 27 MA's), (Start: 55 @47569 has 16 MA's), (Start: 62 @47533 has 1 MA's), (66, 47500), (73, 47458), (82, 47380), (84, 47350), (91, 47251), (92, 47248), (94, 47236), (95, 47227), (104, 47188), (106, 47179),

Gene: Holli\_78 Start: 47049, Stop: 46516, Start Num: 49

Candidate Starts for Holli\_78:

(Start: 33 @47094 has 2 MA's), (39, 47061), (Start: 49 @47049 has 129 MA's), (76, 46887), (77, 46878), (84, 46818), (91, 46719), (94, 46704), (104, 46656), (106, 46647),

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

Candidate Starts for Hoot\_84:

(16, 45543), (17, 45531), (Start: 41 @45420 has 4 MA's), (Start: 42 @45417 has 27 MA's), (Start: 55 @45408 has 16 MA's), (Start: 58 @45405 has 35 MA's), (Start: 62 @45369 has 1 MA's), (66, 45336), (73, 45294), (82, 45216), (84, 45186), (91, 45087), (92, 45084), (104, 45024), (106, 45015),

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

Candidate Starts for HortumSL17\_86:

(Start: 47 @47397 has 26 MA's), (73, 47268), (78, 47205), (81, 47196), (84, 47160), (89, 47079), (94, 47046), (104, 46998), (106, 46989),

Gene: Houdini22\_78 Start: 47260, Stop: 46727, Start Num: 49

Candidate Starts for Houdini22\_78:

(Start: 33 @47305 has 2 MA's), (39, 47272), (Start: 49 @47260 has 129 MA's), (75, 47116), (76, 47098), (77, 47089), (84, 47029), (91, 46930), (94, 46915), (104, 46867), (106, 46858),

Gene: ICleared\_78 Start: 47327, Stop: 46794, Start Num: 49

Candidate Starts for ICleared\_78:

(Start: 33 @47372 has 2 MA's), (39, 47339), (Start: 49 @47327 has 129 MA's), (75, 47183), (76, 47165), (77, 47156), (84, 47096), (91, 46997), (94, 46982), (104, 46934), (106, 46925),

Gene: Iceman\_77 Start: 47549, Stop: 47016, Start Num: 49

Candidate Starts for Iceman\_77:

(Start: 33 @47594 has 2 MA's), (39, 47561), (Start: 49 @47549 has 129 MA's), (75, 47405), (76, 47387), (77, 47378), (84, 47318), (91, 47219), (94, 47204), (104, 47156), (106, 47147),

Gene: Idergollasper\_6 Start: 2147, Stop: 1557, Start Num: 42

Candidate Starts for Idergollasper\_6:

(Start: 42 @2147 has 27 MA's), (61, 2096), (Start: 62 @2093 has 1 MA's), (73, 2018), (75, 1994), (78, 1952), (83, 1922), (94, 1781), (99, 1730), (103, 1709),

Gene: Indra\_94 Start: 48029, Stop: 47502, Start Num: 55

Candidate Starts for Indra\_94:

(17, 48146), (Start: 41 @48035 has 4 MA's), (Start: 42 @48032 has 27 MA's), (Start: 55 @48029 has 16 MA's), (Start: 62 @47993 has 1 MA's), (66, 47960), (73, 47918), (82, 47840), (84, 47810), (91, 47711), (92, 47708), (94, 47696), (95, 47687), (104, 47648), (106, 47639),

Gene: Inventum\_68 Start: 44469, Stop: 45092, Start Num: 58

Candidate Starts for Inventum\_68:

(26, 44388), (Start: 58 @44469 has 35 MA's), (67, 44544), (73, 44580), (75, 44604), (84, 44691), (91, 44790), (92, 44793), (95, 44814), (97, 44841), (100, 44862),

Gene: Iracema64\_79 Start: 47523, Stop: 46990, Start Num: 49

Candidate Starts for Iracema64\_79:

(Start: 33 @47568 has 2 MA's), (39, 47535), (Start: 49 @47523 has 129 MA's), (75, 47379), (76, 47361), (77, 47352), (84, 47292), (91, 47193), (94, 47178), (104, 47130), (106, 47121),

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

Candidate Starts for Isiphiwo\_85:

(17, 47236), (34, 47155), (Start: 42 @47125 has 27 MA's), (Start: 44 @47122 has 2 MA's), (Start: 55 @47119 has 16 MA's), (Start: 58 @47116 has 35 MA's), (Start: 62 @47080 has 1 MA's), (73, 47005), (75, 46984), (82, 46927), (84, 46897), (86, 46882), (91, 46798), (104, 46735), (106, 46726),

Gene: Jamun\_39 Start: 27180, Stop: 27779, Start Num: 47

Candidate Starts for Jamun\_39:

(Start: 47 @27180 has 26 MA's), (74, 27309), (76, 27348), (78, 27372), (84, 27417), (87, 27444), (91, 27516), (94, 27531), (97, 27567), (100, 27588), (105, 27618), (112, 27699), (115, 27768),

Gene: JangDynasty\_6 Start: 2236, Stop: 1646, Start Num: 42

Candidate Starts for JangDynasty\_6:

(Start: 42 @2236 has 27 MA's), (61, 2185), (Start: 62 @2182 has 1 MA's), (73, 2107), (75, 2083), (78, 2041), (83, 2011), (94, 1870), (99, 1819), (103, 1798),

Gene: Jaykayelowell\_76 Start: 47252, Stop: 46719, Start Num: 49

Candidate Starts for Jaykayelowell\_76:

(Start: 33 @47297 has 2 MA's), (39, 47264), (Start: 49 @47252 has 129 MA's), (76, 47090), (77, 47081), (84, 47021), (91, 46922), (94, 46907), (104, 46859), (106, 46850),

Gene: Jeffabunny\_79 Start: 44172, Stop: 43645, Start Num: 55

Candidate Starts for Jeffabunny\_79:

(17, 44289), (Start: 41 @44178 has 4 MA's), (Start: 42 @44175 has 27 MA's), (Start: 55 @44172 has 16 MA's), (Start: 62 @44136 has 1 MA's), (66, 44103), (73, 44061), (82, 43983), (84, 43953), (91, 43854), (92, 43851), (94, 43839), (95, 43830), (104, 43791), (106, 43782),

Gene: JetBlade\_80 Start: 47287, Stop: 46754, Start Num: 49

Candidate Starts for JetBlade\_80:

(Start: 33 @47332 has 2 MA's), (39, 47299), (Start: 49 @47287 has 129 MA's), (75, 47143), (76, 47125), (77, 47116), (84, 47056), (91, 46957), (94, 46942), (104, 46894), (106, 46885),

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

Candidate Starts for JewelBug\_81:

(16, 46022), (17, 46010), (Start: 41 @45899 has 4 MA's), (Start: 42 @45896 has 27 MA's), (Start: 55 @45887 has 16 MA's), (Start: 58 @45884 has 35 MA's), (Start: 62 @45848 has 1 MA's), (73, 45773), (75, 45752), (82, 45695), (84, 45665), (86, 45650), (91, 45566), (104, 45503), (106, 45494),

Gene: JoongJeon\_78 Start: 47253, Stop: 46720, Start Num: 49

Candidate Starts for JoongJeon\_78:

(Start: 33 @47298 has 2 MA's), (39, 47265), (Start: 49 @47253 has 129 MA's), (75, 47109), (76, 47091), (77, 47082), (84, 47022), (91, 46923), (94, 46908), (104, 46860), (106, 46851),

Gene: Jordennis\_87 Start: 47791, Stop: 47261, Start Num: 55

Candidate Starts for Jordennis\_87:

(16, 47926), (17, 47914), (Start: 41 @47803 has 4 MA's), (Start: 42 @47800 has 27 MA's), (Start: 55 @47791 has 16 MA's), (Start: 58 @47788 has 35 MA's), (Start: 62 @47752 has 1 MA's), (73, 47677), (75, 47656), (82, 47599), (84, 47569), (86, 47554), (91, 47470), (104, 47407), (106, 47398),

Gene: Jumbo\_35 Start: 41371, Stop: 41904, Start Num: 45

Candidate Starts for Jumbo\_35:

(Start: 45 @41371 has 1 MA's), (64, 41437), (74, 41518), (93, 41728), (110, 41782),

Gene: Juno112\_42 Start: 26811, Stop: 27410, Start Num: 47

Candidate Starts for Juno112\_42:

(Start: 47 @26811 has 26 MA's), (74, 26934), (76, 26973), (81, 27006), (84, 27042), (87, 27069), (91, 27141), (94, 27156), (97, 27192), (100, 27213), (112, 27324), (116, 27405),

Gene: KFPoly\_78 Start: 47253, Stop: 46720, Start Num: 49

Candidate Starts for KFPoly\_78:

(Start: 33 @47298 has 2 MA's), (39, 47265), (Start: 49 @47253 has 129 MA's), (75, 47109), (76, 47091), (77, 47082), (84, 47022), (91, 46923), (94, 46908), (104, 46860), (106, 46851),

Gene: KHumphrey\_41 Start: 26810, Stop: 27418, Start Num: 47

Candidate Starts for KHumphrey\_41:

(Start: 47 @26810 has 26 MA's), (74, 26933), (76, 26972), (78, 26996), (81, 27005), (84, 27041), (87, 27068), (91, 27140), (92, 27143), (94, 27155), (97, 27191), (100, 27212), (110, 27272), (117, 27413),

Gene: Kamy\_78 Start: 47262, Stop: 46729, Start Num: 49

Candidate Starts for Kamy\_78:

(Start: 33 @47307 has 2 MA's), (39, 47274), (Start: 49 @47262 has 129 MA's), (75, 47118), (76, 47100), (77, 47091), (84, 47031), (91, 46932), (94, 46917), (104, 46869), (106, 46860),

Gene: Katalie136\_76 Start: 47053, Stop: 46520, Start Num: 49

Candidate Starts for Katalie136\_76:

(12, 47248), (15, 47206), (20, 47170), (21, 47158), (Start: 29 @47104 has 1 MA's), (Start: 49 @47053 has 129 MA's), (76, 46891), (84, 46822), (91, 46723), (94, 46708), (104, 46660), (106, 46651),

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

Candidate Starts for Kazan\_90:

(17, 47680), (34, 47599), (Start: 42 @47569 has 27 MA's), (Start: 44 @47566 has 2 MA's), (Start: 55 @47563 has 16 MA's), (Start: 58 @47560 has 35 MA's), (Start: 62 @47524 has 1 MA's), (73, 47449), (75, 47428), (82, 47371), (84, 47341), (86, 47326), (91, 47242), (104, 47179), (106, 47170),

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

Candidate Starts for Keziacharles14\_82:

(Start: 42 @47898 has 27 MA's), (Start: 47 @47895 has 26 MA's), (75, 47745), (78, 47703), (82, 47688), (84, 47658), (89, 47577), (90, 47574), (94, 47544), (104, 47496), (106, 47487),

Gene: Kingmustik0402\_79 Start: 47248, Stop: 46715, Start Num: 49

Candidate Starts for Kingmustik0402\_79:

(Start: 33 @47293 has 2 MA's), (39, 47260), (Start: 49 @47248 has 129 MA's), (75, 47104), (76, 47086), (77, 47077), (84, 47017), (91, 46918), (94, 46903), (104, 46855), (106, 46846),

Gene: Kingsley\_70 Start: 46174, Stop: 46698, Start Num: 58

Candidate Starts for Kingsley\_70:

(26, 46093), (Start: 58 @46174 has 35 MA's), (73, 46285), (75, 46309), (84, 46396), (91, 46495), (92, 46498), (95, 46519), (97, 46546), (100, 46567),

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

Candidate Starts for Kipper29\_89:

(16, 47701), (17, 47689), (Start: 41 @47578 has 4 MA's), (Start: 42 @47575 has 27 MA's), (Start: 55 @47566 has 16 MA's), (Start: 58 @47563 has 35 MA's), (Start: 62 @47527 has 1 MA's), (73, 47452), (75, 47431), (82, 47374), (84, 47344), (86, 47329), (91, 47245), (104, 47182), (106, 47173),

Gene: KittenMittens\_75 Start: 46212, Stop: 45673, Start Num: 51

Candidate Starts for KittenMittens\_75:

(Start: 29 @46266 has 1 MA's), (Start: 51 @46212 has 13 MA's), (Start: 62 @46167 has 1 MA's), (73, 46092), (82, 46014), (84, 45984), (94, 45870), (104, 45822), (106, 45813), (110, 45792),

Gene: Koko\_92 Start: 48418, Stop: 47891, Start Num: 55

Candidate Starts for Koko\_92:

(17, 48535), (Start: 41 @48424 has 4 MA's), (Start: 42 @48421 has 27 MA's), (Start: 55 @48418 has 16 MA's), (Start: 62 @48382 has 1 MA's), (66, 48349), (73, 48307), (82, 48229), (84, 48199), (91, 48100), (92, 48097), (94, 48085), (95, 48076), (104, 48037), (106, 48028),

Gene: Koreni\_78 Start: 46940, Stop: 46407, Start Num: 49

Candidate Starts for Koreni\_78:

(Start: 33 @46985 has 2 MA's), (39, 46952), (Start: 49 @46940 has 129 MA's), (75, 46796), (76, 46778), (77, 46769), (84, 46709), (91, 46610), (94, 46595), (104, 46547), (106, 46538),

Gene: Kratak\_78 Start: 47293, Stop: 46760, Start Num: 49

Candidate Starts for Kratak\_78:

(Start: 33 @47338 has 2 MA's), (39, 47305), (Start: 49 @47293 has 129 MA's), (75, 47149), (76, 47131), (77, 47122), (84, 47062), (91, 46963), (94, 46948), (104, 46900), (106, 46891),

Gene: Kremtemulon\_73 Start: 47139, Stop: 46606, Start Num: 49

Candidate Starts for Kremtemulon\_73:

(Start: 33 @47184 has 2 MA's), (39, 47151), (Start: 49 @47139 has 129 MA's), (75, 46995), (76, 46977), (77, 46968), (84, 46908), (91, 46809), (94, 46794), (104, 46746), (106, 46737),

Gene: Krili\_6 Start: 2098, Stop: 1508, Start Num: 42

Candidate Starts for Krili\_6:

(14, 2251), (24, 2176), (37, 2119), (39, 2107), (Start: 42 @2098 has 27 MA's), (61, 2047), (Start: 62 @2044 has 1 MA's), (73, 1969), (75, 1945), (78, 1903), (83, 1873), (94, 1732), (99, 1681), (103, 1660),

Gene: Kristoff\_77 Start: 47480, Stop: 46941, Start Num: 51

Candidate Starts for Kristoff\_77:

(Start: 29 @47534 has 1 MA's), (Start: 51 @47480 has 13 MA's), (Start: 62 @47435 has 1 MA's), (73, 47360), (82, 47282), (84, 47252), (89, 47171), (94, 47138), (95, 47129), (104, 47090), (106, 47081), (110, 47060),

Gene: Kyee\_79 Start: 47254, Stop: 46721, Start Num: 49

Candidate Starts for Kyee\_79:

(Start: 33 @47299 has 2 MA's), (39, 47266), (Start: 49 @47254 has 129 MA's), (75, 47110), (76, 47092), (77, 47083), (84, 47023), (91, 46924), (94, 46909), (104, 46861), (106, 46852),

Gene: LHTSCC\_81 Start: 47699, Stop: 47166, Start Num: 49

Candidate Starts for LHTSCC\_81:

(Start: 33 @47744 has 2 MA's), (39, 47711), (Start: 49 @47699 has 129 MA's), (75, 47555), (76, 47537), (77, 47528), (84, 47468), (91, 47369), (104, 47306), (106, 47297),

Gene: LappelDuVide\_75 Start: 47259, Stop: 46726, Start Num: 49

Candidate Starts for LappelDuVide\_75:

(Start: 33 @47304 has 2 MA's), (39, 47271), (Start: 49 @47259 has 129 MA's), (76, 47097), (77, 47088), (84, 47028), (91, 46929), (94, 46914), (104, 46866), (106, 46857),

Gene: Lemur\_79 Start: 47256, Stop: 46723, Start Num: 49

Candidate Starts for Lemur\_79:

(Start: 33 @47301 has 2 MA's), (39, 47268), (Start: 49 @47256 has 129 MA's), (75, 47112), (76, 47094), (77, 47085), (84, 47025), (91, 46926), (94, 46911), (104, 46863), (106, 46854),

Gene: Leona\_41 Start: 26885, Stop: 27487, Start Num: 47

Candidate Starts for Leona\_41:

(Start: 47 @26885 has 26 MA's), (65, 26942), (74, 26999), (76, 27038), (81, 27071), (84, 27107), (87, 27134), (91, 27206), (94, 27221), (97, 27257), (100, 27278), (112, 27389),

Gene: Lilbooboo\_32 Start: 25803, Stop: 26303, Start Num: 58

Candidate Starts for Lilbooboo\_32:

(Start: 58 @25803 has 35 MA's), (Start: 62 @25839 has 1 MA's), (74, 25917), (76, 25956), (93, 26130), (109, 26172), (113, 26250),

Gene: LittleB\_79 Start: 47260, Stop: 46727, Start Num: 49

Candidate Starts for LittleB\_79:

(Start: 33 @47305 has 2 MA's), (39, 47272), (Start: 49 @47260 has 129 MA's), (75, 47116), (76, 47098), (77, 47089), (84, 47029), (91, 46930), (94, 46915), (104, 46867), (106, 46858),

Gene: LittleGuy\_79 Start: 47144, Stop: 46611, Start Num: 49

Candidate Starts for LittleGuy\_79:

(Start: 33 @47189 has 2 MA's), (39, 47156), (Start: 49 @47144 has 129 MA's), (75, 47000), (76, 46982), (77, 46973), (84, 46913), (91, 46814), (94, 46799), (104, 46751), (106, 46742),

Gene: LochMonster\_80 Start: 47496, Stop: 46963, Start Num: 49

Candidate Starts for LochMonster\_80:

(Start: 33 @47541 has 2 MA's), (39, 47508), (Start: 49 @47496 has 129 MA's), (75, 47352), (76, 47334), (77, 47325), (84, 47265), (91, 47166), (94, 47151), (104, 47103), (106, 47094),

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

Candidate Starts for LoneWolf\_85:

(39, 47426), (Start: 40 @47423 has 3 MA's), (Start: 41 @47420 has 4 MA's), (Start: 42 @47417 has 27 MA's), (Start: 46 @47414 has 5 MA's), (78, 47219), (82, 47204), (84, 47174), (89, 47093), (94, 47060), (104, 47012), (106, 47003),

Gene: Lorenzo\_79 Start: 47257, Stop: 46724, Start Num: 49

Candidate Starts for Lorenzo\_79:

(Start: 33 @47302 has 2 MA's), (39, 47269), (Start: 49 @47257 has 129 MA's), (76, 47095), (77, 47086), (84, 47026), (91, 46927), (94, 46912), (104, 46864), (106, 46855),

Gene: Lucyedi\_88 Start: 49378, Stop: 48842, Start Num: 41

Candidate Starts for Lucyedi\_88:

(Start: 40 @49381 has 3 MA's), (Start: 41 @49378 has 4 MA's), (Start: 62 @49336 has 1 MA's), (73, 49261), (82, 49183), (84, 49153), (86, 49138), (89, 49072), (94, 49039), (104, 48991), (106, 48982), (110, 48961),

Gene: Lunsford\_79 Start: 47252, Stop: 46719, Start Num: 49

Candidate Starts for Lunsford\_79:

(Start: 33 @47297 has 2 MA's), (39, 47264), (Start: 49 @47252 has 129 MA's), (76, 47090), (77, 47081), (84, 47021), (91, 46922), (94, 46907), (104, 46859), (106, 46850),

Gene: MadKillah\_6 Start: 2098, Stop: 1508, Start Num: 42

Candidate Starts for MadKillah\_6:

(14, 2251), (24, 2176), (37, 2119), (39, 2107), (Start: 42 @2098 has 27 MA's), (61, 2047), (Start: 62 @2044 has 1 MA's), (73, 1969), (75, 1945), (78, 1903), (83, 1873), (94, 1732), (99, 1681), (103, 1660),

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

Candidate Starts for Maminiaina\_84:

(Start: 40 @47338 has 3 MA's), (Start: 41 @47335 has 4 MA's), (Start: 42 @47332 has 27 MA's), (Start: 46 @47329 has 5 MA's), (64, 47260), (75, 47176), (78, 47134), (82, 47119), (90, 47005), (94, 46975), (104, 46927), (106, 46918),

Gene: Maverick\_78 Start: 47256, Stop: 46723, Start Num: 49

Candidate Starts for Maverick\_78:

(Start: 33 @47301 has 2 MA's), (39, 47268), (Start: 49 @47256 has 129 MA's), (75, 47112), (76, 47094), (77, 47085), (84, 47025), (91, 46926), (94, 46911), (104, 46863), (106, 46854),

Gene: Maxo\_81 Start: 47262, Stop: 46729, Start Num: 49

Candidate Starts for Maxo\_81:

(Start: 33 @47307 has 2 MA's), (39, 47274), (Start: 49 @47262 has 129 MA's), (75, 47118), (76, 47100), (77, 47091), (84, 47031), (91, 46932), (94, 46917), (104, 46869), (106, 46860),

Gene: Mazhar510\_79 Start: 47257, Stop: 46724, Start Num: 49

Candidate Starts for Mazhar510\_79:

(Start: 33 @47302 has 2 MA's), (39, 47269), (Start: 49 @47257 has 129 MA's), (75, 47113), (76, 47095), (77, 47086), (84, 47026), (91, 46927), (94, 46912), (104, 46864), (106, 46855),

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

Candidate Starts for McFly\_89:

(17, 48019), (34, 47938), (Start: 42 @47908 has 27 MA's), (Start: 44 @47905 has 2 MA's), (Start: 55 @47902 has 16 MA's), (Start: 58 @47899 has 35 MA's), (Start: 62 @47863 has 1 MA's), (73, 47788), (75, 47767), (82, 47710), (84, 47680), (86, 47665), (91, 47581), (104, 47518), (106, 47509),

Gene: Medusa\_78 Start: 47272, Stop: 46739, Start Num: 49

Candidate Starts for Medusa\_78:

(Start: 33 @47317 has 2 MA's), (39, 47284), (Start: 49 @47272 has 129 MA's), (76, 47110), (77, 47101), (84, 47041), (91, 46942), (94, 46927), (104, 46879), (106, 46870),

Gene: MeeZee\_78 Start: 47253, Stop: 46720, Start Num: 49

Candidate Starts for MeeZee\_78:

(Start: 33 @47298 has 2 MA's), (39, 47265), (Start: 49 @47253 has 129 MA's), (76, 47091), (77, 47082), (84, 47022), (91, 46923), (94, 46908), (104, 46860), (106, 46851),

Gene: Melvin\_81 Start: 47254, Stop: 46721, Start Num: 49

Candidate Starts for Melvin\_81:

(Start: 33 @47299 has 2 MA's), (39, 47266), (Start: 49 @47254 has 129 MA's), (75, 47110), (76, 47092), (77, 47083), (84, 47023), (91, 46924), (94, 46909), (104, 46861), (106, 46852),

Gene: Millski\_78 Start: 47260, Stop: 46727, Start Num: 49

Candidate Starts for Millski\_78:

(Start: 33 @47305 has 2 MA's), (39, 47272), (Start: 49 @47260 has 129 MA's), (76, 47098), (77, 47089), (84, 47029), (91, 46930), (94, 46915), (104, 46867), (106, 46858),

Gene: Miramae\_79 Start: 47083, Stop: 46541, Start Num: 49

Candidate Starts for Miramae\_79:

(Start: 49 @47083 has 129 MA's), (Start: 62 @47035 has 1 MA's), (Start: 63 @47029 has 1 MA's), (65, 47014), (75, 46939), (76, 46921), (77, 46912), (84, 46852), (91, 46753), (94, 46738), (104, 46690), (106, 46681),

Gene: Mori\_6 Start: 2098, Stop: 1508, Start Num: 42

Candidate Starts for Mori\_6:

(14, 2251), (24, 2176), (37, 2119), (39, 2107), (Start: 42 @2098 has 27 MA's), (61, 2047), (Start: 62 @2044 has 1 MA's), (73, 1969), (75, 1945), (78, 1903), (83, 1873), (94, 1732), (99, 1681), (103, 1660),

Gene: Morpher26\_76 Start: 47074, Stop: 46541, Start Num: 49

Candidate Starts for Morpher26\_76:

(12, 47269), (15, 47227), (20, 47191), (21, 47179), (Start: 29 @47125 has 1 MA's), (Start: 49 @47074 has 129 MA's), (76, 46912), (84, 46843), (91, 46744), (94, 46729), (104, 46681), (106, 46672),

Gene: Morrow\_81 Start: 47299, Stop: 46766, Start Num: 49

Candidate Starts for Morrow\_81:

(Start: 33 @47344 has 2 MA's), (39, 47311), (Start: 49 @47299 has 129 MA's), (76, 47137), (77, 47128), (84, 47068), (91, 46969), (94, 46954), (104, 46906), (106, 46897),

Gene: Mundrea\_78 Start: 47310, Stop: 46768, Start Num: 44

Candidate Starts for Mundrea\_78:

(6, 47640), (15, 47463), (20, 47427), (Start: 29 @47361 has 1 MA's), (39, 47322), (Start: 44 @47310 has 2 MA's), (75, 47166), (76, 47148), (77, 47139), (84, 47079), (91, 46980), (94, 46965), (104, 46917), (106, 46908),

Gene: Murai\_6 Start: 2098, Stop: 1508, Start Num: 42

Candidate Starts for Murai\_6:

(14, 2251), (24, 2176), (37, 2119), (39, 2107), (Start: 42 @2098 has 27 MA's), (61, 2047), (Start: 62 @2044 has 1 MA's), (73, 1969), (75, 1945), (78, 1903), (83, 1873), (94, 1732), (99, 1681), (103, 1660),

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

Candidate Starts for Myxus\_85:

(Start: 47 @47397 has 26 MA's), (73, 47268), (78, 47205), (81, 47196), (84, 47160), (89, 47079), (94, 47046), (104, 46998), (106, 46989),

Gene: Nebs\_80 Start: 47299, Stop: 46766, Start Num: 49

Candidate Starts for Nebs\_80:

(Start: 33 @47344 has 2 MA's), (39, 47311), (Start: 49 @47299 has 129 MA's), (75, 47155), (76, 47137), (77, 47128), (84, 47068), (91, 46969), (94, 46954), (104, 46906), (106, 46897),

Gene: Neeharika16\_88 Start: 47653, Stop: 47123, Start Num: 55

Candidate Starts for Neeharika16\_88:

(16, 47788), (17, 47776), (Start: 41 @47665 has 4 MA's), (Start: 42 @47662 has 27 MA's), (Start: 55 @47653 has 16 MA's), (Start: 58 @47650 has 35 MA's), (Start: 62 @47614 has 1 MA's), (73, 47539), (75, 47518), (82, 47461), (84, 47431), (86, 47416), (91, 47332), (104, 47269), (106, 47260),

Gene: Nemo27\_78 Start: 47255, Stop: 46722, Start Num: 49

Candidate Starts for Nemo27\_78:

(Start: 33 @47300 has 2 MA's), (39, 47267), (Start: 49 @47255 has 129 MA's), (75, 47111), (76, 47093), (77, 47084), (84, 47024), (91, 46925), (94, 46910), (104, 46862), (106, 46853),

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

Candidate Starts for Newrala\_88:

(16, 48134), (17, 48122), (Start: 41 @48011 has 4 MA's), (Start: 42 @48008 has 27 MA's), (Start: 55 @47999 has 16 MA's), (Start: 58 @47996 has 35 MA's), (Start: 62 @47960 has 1 MA's), (73, 47885), (75, 47864), (82, 47807), (84, 47777), (86, 47762), (91, 47678), (104, 47615), (106, 47606),

Gene: NiebruSaylor\_6 Start: 2098, Stop: 1508, Start Num: 42

Candidate Starts for NiebruSaylor\_6:

(14, 2251), (24, 2176), (37, 2119), (39, 2107), (Start: 42 @2098 has 27 MA's), (61, 2047), (Start: 62 @2044 has 1 MA's), (73, 1969), (75, 1945), (78, 1903), (83, 1873), (94, 1732), (99, 1681), (103, 1660),

Gene: Noelle\_77 Start: 47280, Stop: 46744, Start Num: 49

Candidate Starts for Noelle\_77:

(Start: 29 @47331 has 1 MA's), (Start: 49 @47280 has 129 MA's), (73, 47163), (84, 47055), (94, 46941), (104, 46893), (106, 46884), (110, 46863),

Gene: NorthStar\_76 Start: 47259, Stop: 46726, Start Num: 49

Candidate Starts for NorthStar\_76:

(Start: 33 @47304 has 2 MA's), (39, 47271), (Start: 49 @47259 has 129 MA's), (75, 47115), (76, 47097), (77, 47088), (84, 47028), (91, 46929), (94, 46914), (104, 46866), (106, 46857),

Gene: NotAPhaseMom\_78 Start: 47260, Stop: 46727, Start Num: 49

Candidate Starts for NotAPhaseMom\_78:

(Start: 33 @47305 has 2 MA's), (39, 47272), (Start: 49 @47260 has 129 MA's), (75, 47116), (76, 47098), (77, 47089), (84, 47029), (91, 46930), (94, 46915), (104, 46867), (106, 46858),

Gene: Nyxis\_78 Start: 47138, Stop: 46605, Start Num: 49

Candidate Starts for Nyxis\_78:

(Start: 33 @47183 has 2 MA's), (39, 47150), (Start: 49 @47138 has 129 MA's), (76, 46976), (77, 46967), (84, 46907), (91, 46808), (94, 46793), (104, 46745), (106, 46736),

Gene: OKCentral2016\_78 Start: 46283, Stop: 45744, Start Num: 51

Candidate Starts for OKCentral2016\_78:

(Start: 29 @46337 has 1 MA's), (Start: 51 @46283 has 13 MA's), (Start: 62 @46238 has 1 MA's), (73, 46163), (75, 46142), (84, 46055), (89, 45974), (94, 45941), (95, 45932), (104, 45893), (106, 45884), (110, 45863),

Gene: OKaNui\_78 Start: 47310, Stop: 46777, Start Num: 49

Candidate Starts for OKaNui\_78:

(Start: 33 @47355 has 2 MA's), (39, 47322), (Start: 49 @47310 has 129 MA's), (75, 47166), (76, 47148), (77, 47139), (84, 47079), (91, 46980), (94, 46965), (104, 46917), (106, 46908),

Gene: Obama12\_80 Start: 47683, Stop: 47150, Start Num: 49

Candidate Starts for Obama12\_80:

(Start: 33 @47728 has 2 MA's), (39, 47695), (Start: 49 @47683 has 129 MA's), (75, 47539), (76, 47521), (77, 47512), (84, 47452), (91, 47353), (94, 47338), (104, 47290), (106, 47281),

Gene: Ohfah\_80 Start: 47299, Stop: 46766, Start Num: 49

Candidate Starts for Ohfah\_80:



(Start: 33 @47344 has 2 MA's), (39, 47311), (Start: 49 @47299 has 129 MA's), (75, 47155), (76, 47137), (77, 47128), (84, 47068), (91, 46969), (94, 46954), (104, 46906), (106, 46897),

Gene: Orcanus\_40 Start: 27545, Stop: 28138, Start Num: 47

Candidate Starts for Orcanus\_40:

(Start: 47 @27545 has 26 MA's), (74, 27668), (76, 27707), (78, 27731), (87, 27803), (91, 27875), (94, 27890), (97, 27926), (100, 27947), (105, 27977), (112, 28058), (115, 28127),

Gene: PainterBoy\_87 Start: 49092, Stop: 48553, Start Num: 40

Candidate Starts for PainterBoy\_87:

(Start: 40 @49092 has 3 MA's), (Start: 41 @49089 has 4 MA's), (Start: 62 @49047 has 1 MA's), (73, 48972), (82, 48894), (84, 48864), (86, 48849), (89, 48783), (94, 48750), (104, 48702), (106, 48693), (110, 48672),

Gene: Palestino\_78 Start: 47256, Stop: 46723, Start Num: 49

Candidate Starts for Palestino\_78:

(Start: 33 @47301 has 2 MA's), (39, 47268), (Start: 49 @47256 has 129 MA's), (75, 47112), (76, 47094), (77, 47085), (84, 47025), (91, 46926), (94, 46911), (104, 46863), (106, 46854),

Gene: PeaceMeal1\_76 Start: 46213, Stop: 45674, Start Num: 51

Candidate Starts for PeaceMeal1\_76:

(Start: 29 @46267 has 1 MA's), (Start: 51 @46213 has 13 MA's), (Start: 62 @46168 has 1 MA's), (73, 46093), (82, 46015), (84, 45985), (94, 45871), (104, 45823), (106, 45814), (110, 45793),

Gene: Peaches\_77 Start: 47258, Stop: 46725, Start Num: 49

Candidate Starts for Peaches\_77:

(Start: 33 @47303 has 2 MA's), (39, 47270), (Start: 49 @47258 has 129 MA's), (75, 47114), (76, 47096), (77, 47087), (84, 47027), (91, 46928), (94, 46913), (104, 46865), (106, 46856),

Gene: Perplexer\_76 Start: 47054, Stop: 46521, Start Num: 49

Candidate Starts for Perplexer\_76:

(12, 47249), (15, 47207), (20, 47171), (21, 47159), (Start: 29 @47105 has 1 MA's), (Start: 49 @47054 has 129 MA's), (76, 46892), (84, 46823), (91, 46724), (94, 46709), (104, 46661), (106, 46652),

Gene: PeterPeter\_79 Start: 47253, Stop: 46720, Start Num: 49

Candidate Starts for PeterPeter\_79:

(Start: 33 @47298 has 2 MA's), (39, 47265), (Start: 49 @47253 has 129 MA's), (75, 47109), (76, 47091), (77, 47082), (84, 47022), (91, 46923), (94, 46908), (104, 46860), (106, 46851),

Gene: PetiteSangsue\_76 Start: 47057, Stop: 46524, Start Num: 49

Candidate Starts for PetiteSangsue\_76:

(12, 47252), (15, 47210), (20, 47174), (21, 47162), (Start: 29 @47108 has 1 MA's), (Start: 49 @47057 has 129 MA's), (76, 46895), (84, 46826), (91, 46727), (94, 46712), (104, 46664), (106, 46655),

Gene: Phacado\_79 Start: 47255, Stop: 46722, Start Num: 49

Candidate Starts for Phacado\_79:

(Start: 33 @47300 has 2 MA's), (39, 47267), (Start: 49 @47255 has 129 MA's), (75, 47111), (76, 47093), (77, 47084), (84, 47024), (91, 46925), (94, 46910), (104, 46862), (106, 46853),

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

Candidate Starts for Phaeder\_85:

(Start: 47 @47272 has 26 MA's), (73, 47143), (78, 47080), (81, 47071), (84, 47035), (89, 46954), (94, 46921), (104, 46873), (106, 46864),

Gene: Phanphagia\_65 Start: 43251, Stop: 43910, Start Num: 58

Candidate Starts for Phanphagia\_65:

(32, 43185), (Start: 58 @43251 has 35 MA's), (73, 43362), (75, 43386), (91, 43572), (92, 43575), (95, 43596), (97, 43623), (100, 43644),

Gene: Pharaoh\_79 Start: 48294, Stop: 47764, Start Num: 54

Candidate Starts for Pharaoh\_79:

(Start: 40 @48306 has 3 MA's), (Start: 54 @48294 has 2 MA's), (73, 48180), (75, 48159), (82, 48102), (84, 48072), (90, 47988), (94, 47958), (104, 47910), (106, 47901),

Gene: Phelipe\_80 Start: 47299, Stop: 46766, Start Num: 49

Candidate Starts for Phelipe\_80:

(Start: 33 @47344 has 2 MA's), (39, 47311), (Start: 49 @47299 has 129 MA's), (75, 47155), (76, 47137), (77, 47128), (84, 47068), (91, 46969), (94, 46954), (104, 46906), (106, 46897),

Gene: Phighter1804\_79 Start: 47320, Stop: 46787, Start Num: 49

Candidate Starts for Phighter1804\_79:

(Start: 33 @47365 has 2 MA's), (39, 47332), (Start: 49 @47320 has 129 MA's), (75, 47176), (76, 47158), (77, 47149), (84, 47089), (91, 46990), (94, 46975), (104, 46927), (106, 46918),

Gene: Phlei\_64 Start: 44228, Stop: 43716, Start Num: 55

Candidate Starts for Phlei\_64:

(Start: 55 @44228 has 16 MA's), (Start: 62 @44189 has 1 MA's), (73, 44114), (83, 44033), (84, 44006), (94, 43892), (96, 43880), (108, 43832), (111, 43787),

Gene: PhluffyCoco\_42 Start: 26807, Stop: 27400, Start Num: 47

Candidate Starts for PhluffyCoco\_42:

(Start: 47 @26807 has 26 MA's), (74, 26930), (76, 26969), (81, 27002), (87, 27065), (91, 27137), (94, 27152), (97, 27188), (100, 27209), (112, 27320), (115, 27389),

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

Candidate Starts for Phonnegut\_85:

(Start: 47 @47288 has 26 MA's), (73, 47159), (78, 47096), (81, 47087), (84, 47051), (89, 46970), (94, 46937), (104, 46889), (106, 46880),

Gene: Phontbonne\_79 Start: 47154, Stop: 46621, Start Num: 49

Candidate Starts for Phontbonne\_79:

(Start: 33 @47199 has 2 MA's), (39, 47166), (Start: 49 @47154 has 129 MA's), (75, 47010), (76, 46992), (77, 46983), (84, 46923), (91, 46824), (94, 46809), (104, 46761), (106, 46752),

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

Candidate Starts for Pioneer\_85:

(Start: 47 @47288 has 26 MA's), (73, 47159), (78, 47096), (81, 47087), (84, 47051), (89, 46970), (94, 46937), (104, 46889), (106, 46880),

Gene: Pipcraft\_75 Start: 47260, Stop: 46727, Start Num: 49

Candidate Starts for Pipcraft\_75:

(Start: 33 @47305 has 2 MA's), (39, 47272), (Start: 49 @47260 has 129 MA's), (76, 47098), (77, 47089), (84, 47029), (91, 46930), (94, 46915), (104, 46867), (106, 46858),

Gene: Pmask\_88 Start: 48200, Stop: 47670, Start Num: 55

Candidate Starts for Pmask\_88:

(16, 48335), (17, 48323), (Start: 41 @48212 has 4 MA's), (Start: 42 @48209 has 27 MA's), (Start: 55 @48200 has 16 MA's), (Start: 58 @48197 has 35 MA's), (Start: 62 @48161 has 1 MA's), (73, 48086), (75, 48065), (82, 48008), (84, 47978), (86, 47963), (91, 47879), (104, 47816), (106, 47807),

Gene: Polymorphads\_80 Start: 47280, Stop: 46747, Start Num: 49

Candidate Starts for Polymorphads\_80:

(Start: 33 @47325 has 2 MA's), (39, 47292), (Start: 49 @47280 has 129 MA's), (76, 47118), (77, 47109), (84, 47049), (91, 46950), (94, 46935), (104, 46887), (106, 46878),

Gene: Poompha\_76 Start: 46211, Stop: 45672, Start Num: 51

Candidate Starts for Poompha\_76:

(Start: 29 @46265 has 1 MA's), (Start: 51 @46211 has 13 MA's), (Start: 62 @46166 has 1 MA's), (73, 46091), (82, 46013), (84, 45983), (94, 45869), (104, 45821), (106, 45812), (110, 45791),

Gene: Priamo\_90 Start: 47446, Stop: 46913, Start Num: 44

Candidate Starts for Priamo\_90:

(17, 47560), (34, 47479), (Start: 42 @47449 has 27 MA's), (Start: 44 @47446 has 2 MA's), (Start: 55 @47443 has 16 MA's), (Start: 58 @47440 has 35 MA's), (Start: 62 @47404 has 1 MA's), (73, 47329), (75, 47308), (82, 47251), (84, 47221), (86, 47206), (91, 47122), (104, 47059), (106, 47050),

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

Candidate Starts for Priya\_83:

(Start: 40 @47072 has 3 MA's), (Start: 41 @47069 has 4 MA's), (Start: 42 @47066 has 27 MA's), (Start: 47 @47060 has 26 MA's), (73, 46931), (78, 46868), (81, 46859), (84, 46823), (89, 46742), (94, 46709), (104, 46661), (106, 46652),

Gene: Pumbaa\_79 Start: 47204, Stop: 46671, Start Num: 49

Candidate Starts for Pumbaa\_79:

(Start: 33 @47249 has 2 MA's), (39, 47216), (Start: 49 @47204 has 129 MA's), (76, 47042), (77, 47033), (84, 46973), (91, 46874), (94, 46859), (104, 46811), (106, 46802),

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

Candidate Starts for Qobbit\_83:

(Start: 40 @47034 has 3 MA's), (Start: 41 @47031 has 4 MA's), (Start: 42 @47028 has 27 MA's), (Start: 47 @47022 has 26 MA's), (73, 46893), (78, 46830), (81, 46821), (84, 46785), (89, 46704), (94, 46671), (104, 46623), (106, 46614),

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

Candidate Starts for Rahalelujah\_84:

(1, 47405), (17, 46946), (Start: 40 @46835 has 3 MA's), (Start: 41 @46832 has 4 MA's), (Start: 46 @46826 has 5 MA's), (Start: 47 @46823 has 26 MA's), (75, 46673), (78, 46631), (82, 46616), (84, 46586), (89, 46505), (94, 46472), (104, 46424), (106, 46415),

Gene: Rebeuca\_80 Start: 47481, Stop: 46942, Start Num: 51

Candidate Starts for Rebeuca\_80:

(Start: 29 @47535 has 1 MA's), (Start: 51 @47481 has 13 MA's), (Start: 62 @47436 has 1 MA's), (73, 47361), (82, 47283), (84, 47253), (89, 47172), (94, 47139), (95, 47130), (104, 47091), (106, 47082), (110, 47061),

Gene: RedBird\_71 Start: 44150, Stop: 44698, Start Num: 58

Candidate Starts for RedBird\_71:

(26, 44069), (Start: 58 @44150 has 35 MA's), (67, 44225), (73, 44261), (75, 44285), (84, 44372), (91, 44471), (92, 44474), (95, 44495), (97, 44522), (100, 44543),

Gene: RedFox\_42 Start: 26806, Stop: 27399, Start Num: 47

Candidate Starts for RedFox\_42:

(Start: 47 @26806 has 26 MA's), (74, 26929), (76, 26968), (81, 27001), (87, 27064), (91, 27136), (94, 27151), (97, 27187), (100, 27208), (112, 27319), (115, 27388),

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

Candidate Starts for Refuge\_82:

(36, 48929), (Start: 58 @48905 has 35 MA's), (73, 48794), (81, 48722), (82, 48716), (84, 48686), (91, 48587), (94, 48572), (104, 48524), (106, 48515),

Gene: Relief\_78 Start: 47256, Stop: 46723, Start Num: 49

Candidate Starts for Relief\_78:

(Start: 33 @47301 has 2 MA's), (39, 47268), (Start: 49 @47256 has 129 MA's), (75, 47112), (76, 47094), (77, 47085), (84, 47025), (91, 46926), (94, 46911), (104, 46863), (106, 46854),

Gene: RemusLoopin\_34 Start: 26998, Stop: 27498, Start Num: 58

Candidate Starts for RemusLoopin\_34:

(Start: 46 @26977 has 5 MA's), (Start: 58 @26998 has 35 MA's), (74, 27112), (76, 27151), (91, 27319), (93, 27325), (113, 27445),

Gene: Renna12\_41 Start: 26867, Stop: 27475, Start Num: 47

Candidate Starts for Renna12\_41:

(Start: 47 @26867 has 26 MA's), (74, 26990), (76, 27029), (78, 27053), (81, 27062), (84, 27098), (87, 27125), (91, 27197), (92, 27200), (94, 27212), (97, 27248), (100, 27269), (110, 27329), (117, 27470),

Gene: Rifter\_91 Start: 47196, Stop: 46669, Start Num: 55

Candidate Starts for Rifter\_91:

(17, 47313), (Start: 41 @47202 has 4 MA's), (Start: 42 @47199 has 27 MA's), (Start: 55 @47196 has 16 MA's), (Start: 62 @47160 has 1 MA's), (66, 47127), (73, 47085), (82, 47007), (84, 46977), (91, 46878), (92, 46875), (94, 46863), (95, 46854), (104, 46815), (106, 46806),

Gene: Roksolana\_91 Start: 47912, Stop: 47385, Start Num: 55

Candidate Starts for Roksolana\_91:

(17, 48029), (Start: 41 @47918 has 4 MA's), (Start: 42 @47915 has 27 MA's), (Start: 55 @47912 has 16 MA's), (Start: 62 @47876 has 1 MA's), (66, 47843), (73, 47801), (82, 47723), (84, 47693), (91, 47594), (92, 47591), (94, 47579), (95, 47570), (104, 47531), (106, 47522),

Gene: Romney\_78 Start: 47256, Stop: 46723, Start Num: 49

Candidate Starts for Romney\_78:

(Start: 33 @47301 has 2 MA's), (39, 47268), (Start: 49 @47256 has 129 MA's), (75, 47112), (76, 47094), (77, 47085), (84, 47025), (91, 46926), (94, 46911), (104, 46863), (106, 46854),

Gene: Roosevelt\_77 Start: 47261, Stop: 46728, Start Num: 49

Candidate Starts for Roosevelt\_77:

(Start: 33 @47306 has 2 MA's), (39, 47273), (Start: 49 @47261 has 129 MA's), (76, 47099), (77, 47090), (84, 47030), (91, 46931), (94, 46916), (104, 46868), (106, 46859),

Gene: Ruin\_79 Start: 47252, Stop: 46719, Start Num: 49

Candidate Starts for Ruin\_79:

(Start: 33 @47297 has 2 MA's), (39, 47264), (Start: 49 @47252 has 129 MA's), (75, 47108), (76, 47090), (77, 47081), (84, 47021), (91, 46922), (94, 46907), (104, 46859), (106, 46850),

Gene: Ryadel\_8 Start: 2666, Stop: 2088, Start Num: 53

Candidate Starts for Ryadel\_8:

(27, 2744), (Start: 53 @2666 has 1 MA's), (61, 2627), (Start: 62 @2624 has 1 MA's), (73, 2549), (75, 2525), (78, 2483), (83, 2453), (94, 2312), (99, 2261), (103, 2240),

Gene: Sabertooth\_79 Start: 47264, Stop: 46731, Start Num: 49

Candidate Starts for Sabertooth\_79:

(Start: 33 @47309 has 2 MA's), (39, 47276), (Start: 49 @47264 has 129 MA's), (76, 47102), (77, 47093), (84, 47033), (91, 46934), (94, 46919), (104, 46871), (106, 46862),

Gene: Samora\_34 Start: 26403, Stop: 26903, Start Num: 58

Candidate Starts for Samora\_34:

(28, 26328), (31, 26337), (Start: 58 @26403 has 35 MA's), (Start: 62 @26439 has 1 MA's), (73, 26514), (74, 26517), (93, 26730), (94, 26739), (109, 26772),

Gene: Samy\_49 Start: 33023, Stop: 33553, Start Num: 43

Candidate Starts for Samy\_49:

(Start: 43 @33023 has 1 MA's), (Start: 63 @33089 has 1 MA's), (82, 33242),

Gene: Sassafras\_71 Start: 44468, Stop: 45091, Start Num: 58

Candidate Starts for Sassafras\_71:

(26, 44387), (Start: 58 @44468 has 35 MA's), (67, 44543), (73, 44579), (75, 44603), (84, 44690), (91, 44789), (92, 44792), (95, 44813), (97, 44840), (100, 44861),

Gene: Scamp\_79 Start: 47261, Stop: 46728, Start Num: 49

Candidate Starts for Scamp\_79:

(Start: 33 @47306 has 2 MA's), (39, 47273), (Start: 49 @47261 has 129 MA's), (75, 47117), (76, 47099), (77, 47090), (84, 47030), (91, 46931), (94, 46916), (104, 46868), (106, 46859),

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

Candidate Starts for Scherzo\_83:

(Start: 47 @47320 has 26 MA's), (73, 47191), (78, 47128), (81, 47119), (84, 47083), (89, 47002), (94, 46969), (104, 46921), (106, 46912),

Gene: SchoolBus\_6 Start: 2147, Stop: 1557, Start Num: 42

Candidate Starts for SchoolBus\_6:

(Start: 42 @2147 has 27 MA's), (61, 2096), (Start: 62 @2093 has 1 MA's), (73, 2018), (75, 1994), (78, 1952), (83, 1922), (94, 1781), (99, 1730), (103, 1709),

Gene: Schuy\_6 Start: 2047, Stop: 1508, Start Num: 61

Candidate Starts for Schuy\_6:

(14, 2251), (24, 2176), (37, 2119), (39, 2107), (Start: 42 @2098 has 27 MA's), (61, 2047), (Start: 62 @2044 has 1 MA's), (73, 1969), (75, 1945), (78, 1903), (83, 1873), (94, 1732), (99, 1681), (103, 1660),

Gene: Sebastisaurus\_34 Start: 26720, Stop: 27220, Start Num: 58

Candidate Starts for Sebastisaurus\_34:

(Start: 46 @26699 has 5 MA's), (Start: 58 @26720 has 35 MA's), (74, 26834), (76, 26873), (81, 26909), (93, 27047), (109, 27089), (113, 27167),

Gene: Severus\_77 Start: 46211, Stop: 45672, Start Num: 51

Candidate Starts for Severus\_77:

(Start: 29 @46265 has 1 MA's), (Start: 51 @46211 has 13 MA's), (Start: 62 @46166 has 1 MA's), (73, 46091), (82, 46013), (84, 45983), (94, 45869), (104, 45821), (106, 45812), (110, 45791),

Gene: Shaka\_77 Start: 47257, Stop: 46724, Start Num: 49

Candidate Starts for Shaka\_77:

(Start: 33 @47302 has 2 MA's), (39, 47269), (Start: 49 @47257 has 129 MA's), (75, 47113), (76, 47095), (77, 47086), (84, 47026), (91, 46927), (94, 46912), (104, 46864), (106, 46855),

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

Candidate Starts for SheaKeira\_80:

(11, 46806), (Start: 40 @46614 has 3 MA's), (Start: 42 @46608 has 27 MA's), (64, 46545), (73, 46482), (78, 46419), (80, 46413), (82, 46404), (84, 46374), (89, 46293), (94, 46260), (104, 46212), (106, 46203),

Gene: SheldonCooper\_79 Start: 47697, Stop: 47164, Start Num: 49

Candidate Starts for SheldonCooper\_79:

(Start: 33 @47742 has 2 MA's), (39, 47709), (Start: 49 @47697 has 129 MA's), (75, 47553), (76, 47535), (77, 47526), (84, 47466), (91, 47367), (94, 47352), (104, 47304), (106, 47295),

Gene: Shida\_6 Start: 2147, Stop: 1557, Start Num: 42

Candidate Starts for Shida\_6:

(14, 2300), (24, 2225), (37, 2168), (39, 2156), (Start: 42 @2147 has 27 MA's), (61, 2096), (Start: 62 @2093 has 1 MA's), (73, 2018), (75, 1994), (78, 1952), (83, 1922), (94, 1781), (99, 1730), (103, 1709),

Gene: ShowerHandel\_71 Start: 45372, Stop: 45995, Start Num: 58

Candidate Starts for ShowerHandel\_71:

(19, 45249), (25, 45291), (Start: 58 @45372 has 35 MA's), (60, 45387), (Start: 63 @45414 has 1 MA's), (64, 45420), (67, 45447), (73, 45483), (84, 45594), (88, 45654), (95, 45717), (97, 45744), (100, 45765),

Gene: Shygu2\_77 Start: 47203, Stop: 46670, Start Num: 49

Candidate Starts for Shygu2\_77:

(Start: 33 @47248 has 2 MA's), (39, 47215), (Start: 49 @47203 has 129 MA's), (75, 47059), (76, 47041), (81, 47008), (84, 46972), (91, 46873), (94, 46858), (104, 46810), (106, 46801),

Gene: Skipitt\_78 Start: 47253, Stop: 46720, Start Num: 49

Candidate Starts for Skipitt\_78:

(Start: 33 @47298 has 2 MA's), (39, 47265), (Start: 49 @47253 has 129 MA's), (75, 47109), (76, 47091), (77, 47082), (84, 47022), (91, 46923), (94, 46908), (104, 46860), (106, 46851),

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

Candidate Starts for SmellyB\_89:

(17, 47674), (34, 47593), (Start: 42 @47563 has 27 MA's), (Start: 44 @47560 has 2 MA's), (Start: 55 @47557 has 16 MA's), (Start: 58 @47554 has 35 MA's), (Start: 62 @47518 has 1 MA's), (73, 47443), (75, 47422), (82, 47365), (84, 47335), (86, 47320), (91, 47236), (104, 47173), (106, 47164),

Gene: Smooch\_7 Start: 2521, Stop: 1931, Start Num: 42

Candidate Starts for Smooch\_7:

(Start: 42 @2521 has 27 MA's), (61, 2470), (Start: 62 @2467 has 1 MA's), (73, 2392), (75, 2368), (76, 2350), (83, 2296), (94, 2155), (99, 2104), (103, 2083),

Gene: Sparxx\_80 Start: 47255, Stop: 46722, Start Num: 49

Candidate Starts for Sparxx\_80:

(Start: 33 @47300 has 2 MA's), (39, 47267), (Start: 49 @47255 has 129 MA's), (76, 47093), (77, 47084), (84, 47024), (91, 46925), (94, 46910), (104, 46862), (106, 46853),

Gene: Spino\_78 Start: 47259, Stop: 46726, Start Num: 49

Candidate Starts for Spino\_78:

(Start: 33 @47304 has 2 MA's), (39, 47271), (Start: 49 @47259 has 129 MA's), (75, 47115), (76, 47097), (77, 47088), (84, 47028), (91, 46929), (94, 46914), (104, 46866), (106, 46857),

Gene: Spouty\_80 Start: 47059, Stop: 46511, Start Num: 47

Candidate Starts for Spouty\_80:

(Start: 40 @47071 has 3 MA's), (Start: 41 @47068 has 4 MA's), (Start: 42 @47065 has 27 MA's), (Start: 47 @47059 has 26 MA's), (73, 46930), (78, 46867), (81, 46858), (84, 46822), (89, 46741), (94, 46708), (104, 46660), (106, 46651),

Gene: Stasia\_76 Start: 47261, Stop: 46683, Start Num: 33

Candidate Starts for Stasia\_76:

(Start: 33 @47261 has 2 MA's), (39, 47228), (Start: 49 @47216 has 129 MA's), (73, 47093), (75, 47072), (76, 47054), (84, 46985), (91, 46886), (94, 46871), (104, 46823), (106, 46814),

Gene: Steamy\_77 Start: 47389, Stop: 46856, Start Num: 54

Candidate Starts for Steamy\_77:

(34, 47431), (Start: 54 @47389 has 2 MA's), (56, 47386), (73, 47275), (78, 47212), (82, 47197), (84, 47167), (89, 47086), (94, 47053), (104, 47005), (106, 46996),

Gene: Stink\_79 Start: 47391, Stop: 46849, Start Num: 49

Candidate Starts for Stink\_79:

(Start: 49 @47391 has 129 MA's), (Start: 62 @47343 has 1 MA's), (Start: 63 @47337 has 1 MA's), (65, 47322), (75, 47247), (76, 47229), (77, 47220), (84, 47160), (91, 47061), (94, 47046), (104, 46998), (106, 46989),

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

Candidate Starts for SuperAwesome\_89:

(16, 48374), (17, 48362), (Start: 41 @48251 has 4 MA's), (Start: 42 @48248 has 27 MA's), (Start: 55 @48239 has 16 MA's), (Start: 58 @48236 has 35 MA's), (Start: 62 @48200 has 1 MA's), (73, 48125), (75, 48104), (82, 48047), (84, 48017), (86, 48002), (91, 47918), (104, 47855), (106, 47846),

Gene: SuperCallie99\_85 Start: 47620, Stop: 47090, Start Num: 55

Candidate Starts for SuperCallie99\_85:

(17, 47737), (34, 47656), (Start: 42 @47626 has 27 MA's), (Start: 44 @47623 has 2 MA's), (Start: 55 @47620 has 16 MA's), (Start: 58 @47617 has 35 MA's), (Start: 62 @47581 has 1 MA's), (73, 47506), (75, 47485), (82, 47428), (84, 47398), (86, 47383), (91, 47299), (104, 47236), (106, 47227),

Gene: Taquarus\_78 Start: 47262, Stop: 46729, Start Num: 49

Candidate Starts for Taquarus\_78:

(Start: 33 @47307 has 2 MA's), (39, 47274), (Start: 49 @47262 has 129 MA's), (75, 47118), (76, 47100), (77, 47091), (84, 47031), (91, 46932), (94, 46917), (104, 46869), (106, 46860),

Gene: TaylorSipht\_40 Start: 26950, Stop: 27543, Start Num: 47

Candidate Starts for TaylorSipht\_40:

(13, 26785), (Start: 47 @26950 has 26 MA's), (65, 27016), (74, 27073), (75, 27094), (76, 27112), (78, 27136), (84, 27181), (87, 27208), (91, 27280), (94, 27295), (97, 27331), (100, 27352), (112, 27463),

Gene: TelAviv\_6 Start: 2144, Stop: 1554, Start Num: 42

Candidate Starts for TelAviv\_6:

(Start: 42 @2144 has 27 MA's), (61, 2093), (Start: 62 @2090 has 1 MA's), (73, 2015), (75, 1991), (76, 1973), (83, 1919), (94, 1778), (99, 1727), (103, 1706),

Gene: Thanksgivukkah\_78 Start: 47257, Stop: 46724, Start Num: 49

Candidate Starts for Thanksgivukkah\_78:

(Start: 33 @47302 has 2 MA's), (39, 47269), (Start: 49 @47257 has 129 MA's), (76, 47095), (77, 47086), (84, 47026), (91, 46927), (94, 46912), (104, 46864), (106, 46855),

Gene: TinaFeyge\_77 Start: 47254, Stop: 46721, Start Num: 49

Candidate Starts for TinaFeyge\_77:

(Start: 33 @47299 has 2 MA's), (39, 47266), (Start: 49 @47254 has 129 MA's), (76, 47092), (77, 47083), (84, 47023), (91, 46924), (94, 46909), (104, 46861), (106, 46852),

Gene: Tinybot\_78 Start: 47286, Stop: 46753, Start Num: 49

Candidate Starts for Tinybot\_78:

(Start: 33 @47331 has 2 MA's), (39, 47298), (Start: 49 @47286 has 129 MA's), (75, 47142), (76, 47124), (77, 47115), (84, 47055), (91, 46956), (94, 46941), (104, 46893), (106, 46884),

Gene: TiroTheta9\_78 Start: 47253, Stop: 46720, Start Num: 49

Candidate Starts for TiroTheta9\_78:

(Start: 33 @47298 has 2 MA's), (39, 47265), (Start: 49 @47253 has 129 MA's), (76, 47091), (77, 47082), (84, 47022), (91, 46923), (94, 46908), (104, 46860), (106, 46851),

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

Candidate Starts for Toaka\_83:

(22, 47282), (Start: 47 @47180 has 26 MA's), (78, 46988), (81, 46979), (84, 46943), (89, 46862), (94, 46829), (95, 46820), (104, 46781), (106, 46772),

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

Candidate Starts for ToneTone\_88:

(17, 47696), (Start: 41 @47585 has 4 MA's), (Start: 42 @47582 has 27 MA's), (Start: 58 @47576 has 35 MA's), (Start: 62 @47540 has 1 MA's), (66, 47507), (73, 47465), (82, 47387), (84, 47357), (91, 47258), (92, 47255), (94, 47243), (95, 47234), (104, 47195), (106, 47186),

Gene: TroyPia\_80 Start: 47294, Stop: 46761, Start Num: 49

Candidate Starts for TroyPia\_80:

(Start: 33 @47339 has 2 MA's), (39, 47306), (Start: 49 @47294 has 129 MA's), (75, 47150), (76, 47132), (77, 47123), (84, 47063), (91, 46964), (94, 46949), (104, 46901), (106, 46892),

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

Candidate Starts for Tubs\_85:

(Start: 47 @47272 has 26 MA's), (73, 47143), (78, 47080), (81, 47071), (84, 47035), (89, 46954), (94, 46921), (104, 46873), (106, 46864),

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

Candidate Starts for Tucker\_91:

(17, 47899), (Start: 41 @47788 has 4 MA's), (Start: 42 @47785 has 27 MA's), (Start: 58 @47779 has 35 MA's), (Start: 62 @47743 has 1 MA's), (66, 47710), (73, 47668), (82, 47590), (84, 47560), (91, 47461), (92, 47458), (94, 47446), (95, 47437), (104, 47398), (106, 47389),

Gene: Twister\_79 Start: 47039, Stop: 46500, Start Num: 51

Candidate Starts for Twister\_79:



(Start: 29 @47093 has 1 MA's), (Start: 51 @47039 has 13 MA's), (Start: 62 @46994 has 1 MA's), (73, 46919), (84, 46811), (89, 46730), (94, 46697), (95, 46688), (104, 46649), (106, 46640), (110, 46619),

Gene: TygerBlood\_79 Start: 47259, Stop: 46726, Start Num: 49

Candidate Starts for TygerBlood\_79:

(Start: 33 @47304 has 2 MA's), (39, 47271), (Start: 49 @47259 has 129 MA's), (75, 47115), (76, 47097), (77, 47088), (84, 47028), (91, 46929), (94, 46914), (104, 46866), (106, 46857),

Gene: Ulysses\_78 Start: 46942, Stop: 46409, Start Num: 49

Candidate Starts for Ulysses\_78:

(Start: 33 @46987 has 2 MA's), (39, 46954), (Start: 49 @46942 has 129 MA's), (75, 46798), (76, 46780), (77, 46771), (84, 46711), (91, 46612), (94, 46597), (104, 46549), (106, 46540),

Gene: Upyo\_54 Start: 39880, Stop: 39335, Start Num: 57

Candidate Starts for Upyo\_54:

(38, 39916), (Start: 57 @39880 has 1 MA's), (73, 39754), (94, 39538), (107, 39508),

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

Candidate Starts for Vanisoa\_80:

(2, 47984), (17, 47636), (39, 47525), (Start: 46 @47513 has 5 MA's), (78, 47318), (82, 47303), (84, 47273), (89, 47192), (94, 47159), (95, 47150), (104, 47111), (106, 47102),

Gene: Vash\_32 Start: 25646, Stop: 26146, Start Num: 58

Candidate Starts for Vash\_32:

(Start: 58 @25646 has 35 MA's), (Start: 62 @25682 has 1 MA's), (74, 25760), (76, 25799), (93, 25973), (109, 26015), (113, 26093),

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

Candidate Starts for VohminGhazi\_89:

(17, 47675), (34, 47594), (Start: 42 @47564 has 27 MA's), (Start: 44 @47561 has 2 MA's), (Start: 55 @47558 has 16 MA's), (Start: 58 @47555 has 35 MA's), (Start: 62 @47519 has 1 MA's), (73, 47444), (75, 47423), (82, 47366), (84, 47336), (86, 47321), (91, 47237), (104, 47174), (106, 47165),

Gene: Vorrps\_6 Start: 2098, Stop: 1508, Start Num: 42

Candidate Starts for Vorrps\_6:

(14, 2251), (24, 2176), (37, 2119), (39, 2107), (Start: 42 @2098 has 27 MA's), (61, 2047), (Start: 62 @2044 has 1 MA's), (73, 1969), (75, 1945), (78, 1903), (83, 1873), (94, 1732), (99, 1681), (103, 1660),

Gene: WalterMcMickey\_78 Start: 47039, Stop: 46500, Start Num: 51

Candidate Starts for WalterMcMickey\_78:

(Start: 29 @47093 has 1 MA's), (Start: 51 @47039 has 13 MA's), (Start: 62 @46994 has 1 MA's), (73, 46919), (84, 46811), (89, 46730), (94, 46697), (95, 46688), (104, 46649), (106, 46640), (110, 46619),

Gene: Wander\_79 Start: 47253, Stop: 46720, Start Num: 49

Candidate Starts for Wander\_79:

(Start: 33 @47298 has 2 MA's), (39, 47265), (Start: 49 @47253 has 129 MA's), (75, 47109), (76, 47091), (77, 47082), (84, 47022), (91, 46923), (94, 46908), (104, 46860), (106, 46851),

Gene: Wiks\_90 Start: 47659, Stop: 47132, Start Num: 55

Candidate Starts for Wiks\_90:

(17, 47776), (Start: 41 @47665 has 4 MA's), (Start: 42 @47662 has 27 MA's), (Start: 55 @47659 has 16 MA's), (Start: 62 @47623 has 1 MA's), (66, 47590), (73, 47548), (82, 47470), (84, 47440), (91, 47341), (92, 47338), (94, 47326), (95, 47317), (104, 47278), (106, 47269),

Gene: Wilbur\_79 Start: 47256, Stop: 46723, Start Num: 49

Candidate Starts for Wilbur\_79:

(Start: 33 @47301 has 2 MA's), (39, 47268), (Start: 49 @47256 has 129 MA's), (75, 47112), (76, 47094), (77, 47085), (84, 47025), (91, 46926), (94, 46911), (104, 46863), (106, 46854),

Gene: Wildflower\_6 Start: 2193, Stop: 1603, Start Num: 42

Candidate Starts for Wildflower\_6:

(Start: 42 @2193 has 27 MA's), (61, 2142), (Start: 62 @2139 has 1 MA's), (73, 2064), (75, 2040), (76, 2022), (83, 1968), (94, 1827), (99, 1776), (103, 1755),

Gene: Wile\_75 Start: 47083, Stop: 46550, Start Num: 49

Candidate Starts for Wile\_75:

(12, 47278), (15, 47236), (20, 47200), (21, 47188), (Start: 29 @47134 has 1 MA's), (Start: 49 @47083 has 129 MA's), (76, 46921), (84, 46852), (91, 46753), (94, 46738), (104, 46690), (106, 46681),

Gene: Winget\_6 Start: 2232, Stop: 1642, Start Num: 42

Candidate Starts for Winget\_6:

(Start: 42 @2232 has 27 MA's), (61, 2181), (73, 2103), (75, 2079), (76, 2061), (83, 2007), (94, 1866), (99, 1815), (103, 1794),

Gene: Wizard007\_76 Start: 46809, Stop: 46276, Start Num: 49

Candidate Starts for Wizard007\_76:

(12, 47004), (15, 46962), (20, 46926), (21, 46914), (Start: 29 @46860 has 1 MA's), (Start: 49 @46809 has 129 MA's), (76, 46647), (84, 46578), (91, 46479), (94, 46464), (104, 46416), (106, 46407),

Gene: Xena\_75 Start: 47078, Stop: 46545, Start Num: 49

Candidate Starts for Xena\_75:

(Start: 33 @47123 has 2 MA's), (39, 47090), (Start: 49 @47078 has 129 MA's), (76, 46916), (77, 46907), (84, 46847), (91, 46748), (94, 46733), (104, 46685), (106, 46676),

Gene: Yecey3\_86 Start: 47082, Stop: 46528, Start Num: 40

Candidate Starts for Yecey3\_86:

(8, 47352), (10, 47337), (18, 47196), (23, 47157), (Start: 40 @47082 has 3 MA's), (Start: 41 @47079 has 4 MA's), (Start: 42 @47076 has 27 MA's), (64, 47010), (75, 46926), (78, 46884), (82, 46869), (84, 46839), (89, 46758), (94, 46725), (95, 46716), (104, 46677), (106, 46668),

Gene: YoSam321\_79 Start: 47254, Stop: 46721, Start Num: 49

Candidate Starts for YoSam321\_79:

(Start: 33 @47299 has 2 MA's), (39, 47266), (Start: 49 @47254 has 129 MA's), (76, 47092), (77, 47083), (84, 47023), (91, 46924), (94, 46909), (104, 46861), (106, 46852),

Gene: Yokurt\_90 Start: 47659, Stop: 47132, Start Num: 55

Candidate Starts for Yokurt\_90:

(17, 47776), (Start: 41 @47665 has 4 MA's), (Start: 42 @47662 has 27 MA's), (Start: 55 @47659 has 16 MA's), (Start: 62 @47623 has 1 MA's), (66, 47590), (73, 47548), (82, 47470), (84, 47440), (91, 47341), (92, 47338), (94, 47326), (95, 47317), (104, 47278), (106, 47269),

Gene: YungJamal\_7 Start: 2521, Stop: 1931, Start Num: 42

Candidate Starts for YungJamal\_7:

(Start: 42 @2521 has 27 MA's), (61, 2470), (Start: 62 @2467 has 1 MA's), (73, 2392), (75, 2368), (76, 2350), (83, 2296), (94, 2155), (99, 2104), (103, 2083),

Gene: Zaka\_91 Start: 47659, Stop: 47132, Start Num: 55

Candidate Starts for Zaka\_91:

(17, 47776), (Start: 41 @47665 has 4 MA's), (Start: 42 @47662 has 27 MA's), (Start: 55 @47659 has 16 MA's), (Start: 62 @47623 has 1 MA's), (66, 47590), (73, 47548), (82, 47470), (84, 47440), (91, 47341), (92, 47338), (94, 47326), (95, 47317), (104, 47278), (106, 47269),

Gene: Zakhe101\_7 Start: 2545, Stop: 1955, Start Num: 42

Candidate Starts for Zakhe101\_7:

(Start: 42 @2545 has 27 MA's), (61, 2494), (Start: 62 @2491 has 1 MA's), (73, 2416), (75, 2392), (76, 2374), (83, 2320), (94, 2179), (99, 2128), (103, 2107),

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

Candidate Starts for Zimmer\_81:

(30, 48190), (Start: 58 @48142 has 35 MA's), (73, 48031), (78, 47968), (82, 47953), (84, 47923), (90, 47839), (91, 47824), (94, 47809), (104, 47761), (106, 47752),

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

Candidate Starts for Zulu\_92:

(17, 48153), (Start: 53 @48042 has 1 MA's), (Start: 55 @48039 has 16 MA's), (Start: 58 @48036 has 35 MA's), (Start: 62 @48000 has 1 MA's), (66, 47967), (73, 47925), (82, 47847), (84, 47817), (86, 47802), (91, 47718), (104, 47655), (106, 47646),

Gene: phiBT1\_9.1 Start: 27120, Stop: 27620, Start Num: 58

Candidate Starts for phiBT1\_9.1:

(28, 27036), (31, 27045), (Start: 58 @27120 has 35 MA's), (73, 27231), (74, 27234), (78, 27297), (93, 27447), (109, 27489),