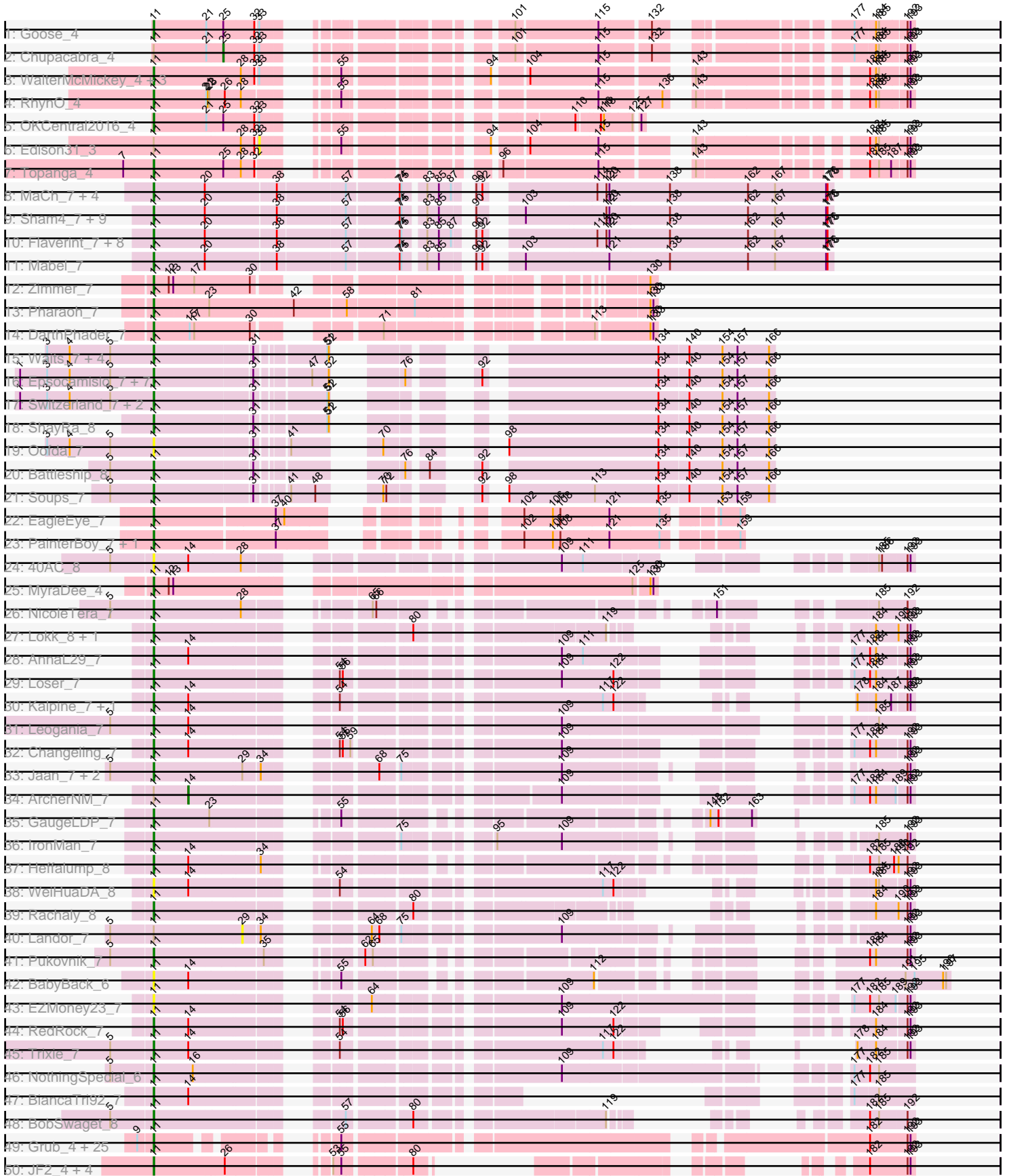
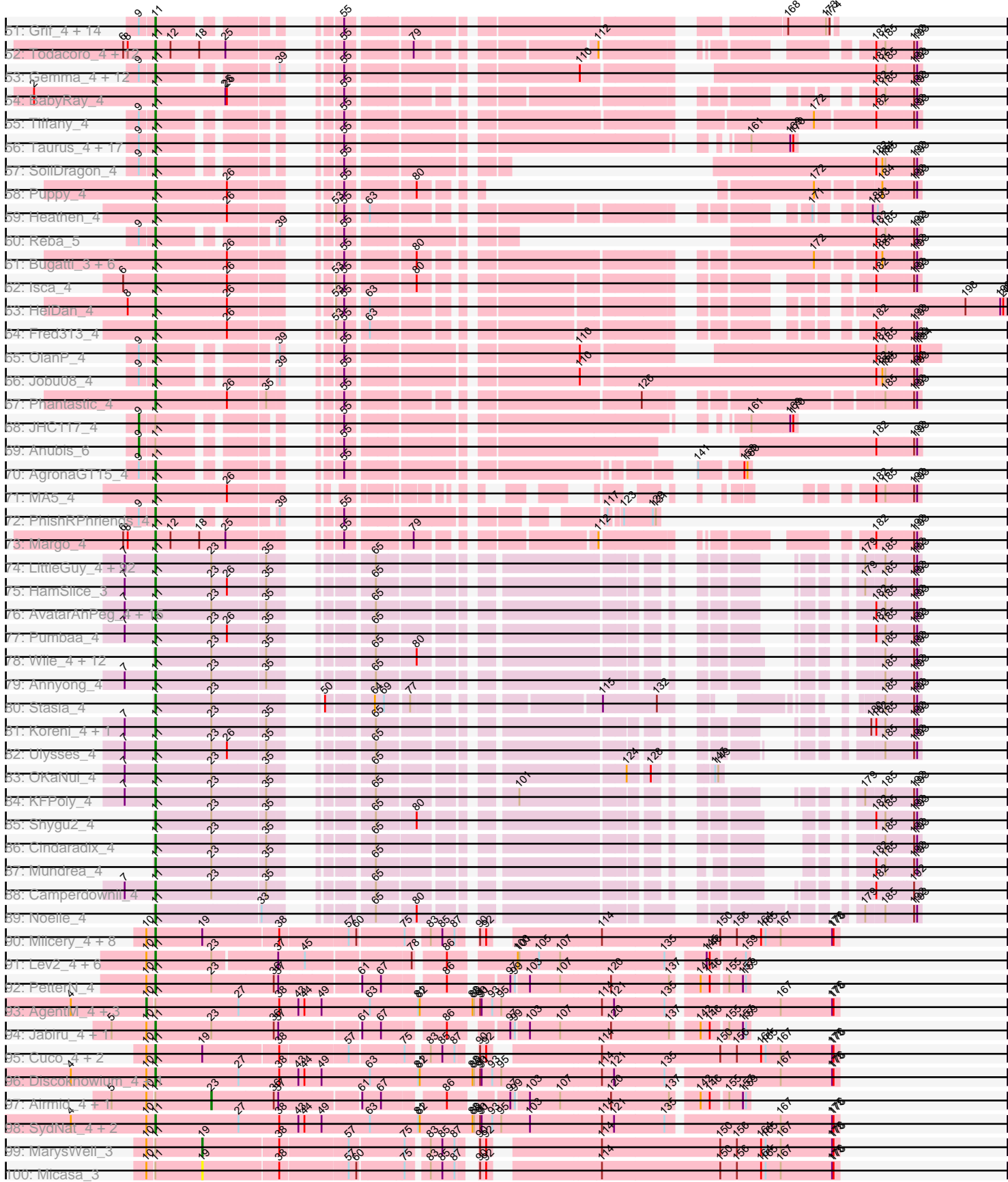
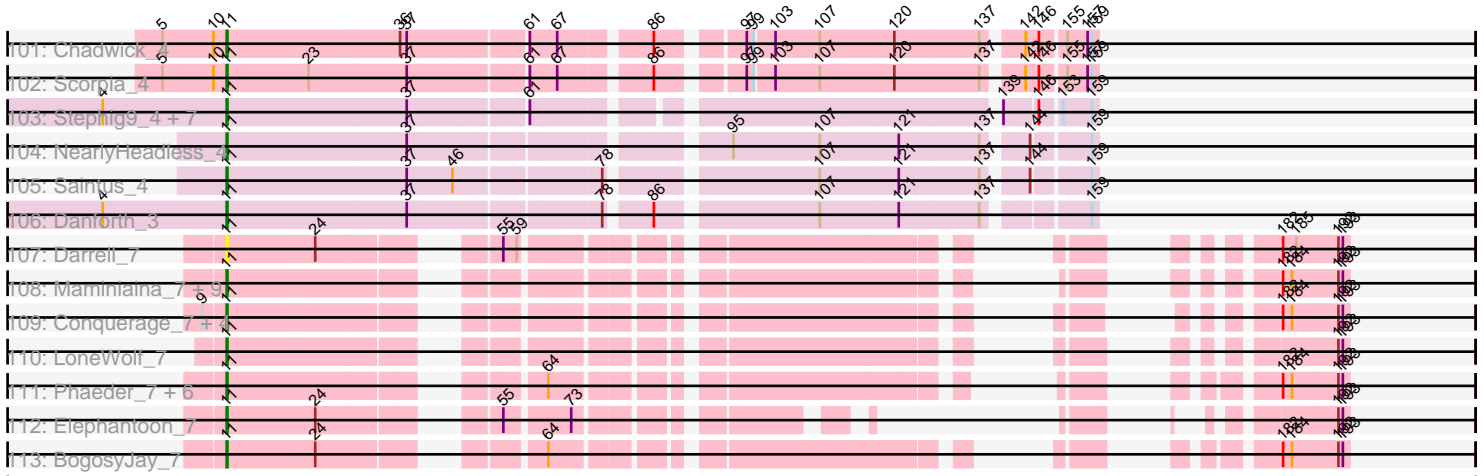


Pham 162916





Pham 162916



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 162916 Report

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

Pham number 162916 has 415 members, 22 are drafts.

Phages represented in each track:

- Track 1 : Goose\_4
- Track 2 : Chupacabra\_4
- Track 3 : WalterMcMickey\_4, Twister\_4, Rebeuca\_5, Kristoff\_5
- Track 4 : RhynO\_4
- Track 5 : OKCentral2016\_4
- Track 6 : Edison31\_3
- Track 7 : Topanga\_4
- Track 8 : MaCh\_7, Ebony\_7, Gilberta\_7, TinyTimmy\_6, Jabith\_7
- Track 9 : Sham4\_7, Et2Brutus\_6, Fibonacci\_7, Hutc2\_7, Petersenfast\_6, Bachome\_7, Bud\_7, Mulciber\_7, Salz\_7, Snape\_7
- Track 10 : Flaverint\_7, Aneem\_7, Munch\_7, Joselito\_7, Lucivia\_7, Bowtie\_7, Insomnia\_6, Orange\_7, Timothy\_7
- Track 11 : Mabel\_7
- Track 12 : Zimmer\_7
- Track 13 : Pharaoh\_7
- Track 14 : DARTHPhader\_7
- Track 15 : Waits\_7, Remus\_7, Strosahl\_7, DekHockey33\_7, KatherineG\_7
- Track 16 : Epsocamisio\_7, Nebulosus\_7, JSwag\_7, Boohoo\_7, LastResort\_7, ReMo\_7, Looper\_7, Anaysia\_7
- Track 17 : Switzerland\_7, Rosalind\_7, MinecraftSteve\_8
- Track 18 : ShayRa\_8
- Track 19 : Oofda\_7
- Track 20 : Battleship\_8
- Track 21 : Soups\_7
- Track 22 : EagleEye\_7
- Track 23 : PainterBoy\_7, Lucyedi\_7
- Track 24 : 40AC\_8
- Track 25 : MyraDee\_4
- Track 26 : NicoleTera\_7
- Track 27 : Lokk\_8, Miko\_8
- Track 28 : AnnaL29\_7
- Track 29 : Loser\_7
- Track 30 : Kalpine\_7, Colin\_8
- Track 31 : Leogania\_7
- Track 32 : Changeling\_7
- Track 33 : Jaan\_7, Phaded\_7, Bactobuster\_7
- Track 34 : ArcherNM\_7

- Track 35 : GaugeLDP\_7
- Track 36 : IronMan\_7
- Track 37 : Heffalump\_8
- Track 38 : WeiHuaDA\_8
- Track 39 : Rachaly\_8
- Track 40 : Landor\_7
- Track 41 : Pukovnik\_7
- Track 42 : BabyBack\_6
- Track 43 : EZMoney23\_7
- Track 44 : RedRock\_7
- Track 45 : Trixie\_7
- Track 46 : NothingSpecial\_6
- Track 47 : BiancaTri92\_7
- Track 48 : BobSwaget\_8
- Track 49 : Grub\_4, BreSam8\_4, Snickers\_4, Dieselweasel\_4, MuchMore\_6, AugsMagnumOpus\_6, Sabia\_4, Microwolf\_4, Aglet\_4, GingkoMaracino\_4, Stagni\_4, StepMih\_4, MadMarie\_4, Ollie\_4, Mainiac\_4, DaHudson\_4, PGHhamlin\_6, MarQuardt\_4, GtownJaz\_4, SoYo\_4, Watson\_4, Malinsilva\_6, Lilith\_4, Pembroke\_4, Farber\_4, Wooldri\_6
- Track 50 : JF2\_4, MK4\_4, Rockstar\_4, JF4\_4, B1\_03
- Track 51 : Grif\_4, Phoxy\_4, Louie6\_4, Soshari\_6, Spike509\_4, Methuselah\_4, Vix\_4, LarryKay\_4, Zetzy\_4, Misomonster\_6, KADY\_5, Bxz2\_4, BuzzBuzz\_3, Rummer\_4, HashRod\_5
- Track 52 : Todacoro\_4, Popcicle\_4, ResDef\_3, Veracruz\_3, Texage\_3, QuinnKiro\_3, Pocahontas\_4, Hookmount\_4, Panamaxus\_4, Noella\_4, Caviar\_4, Norbert\_3, Lambert1\_4
- Track 53 : Gemma\_4, Kalnoky\_5, PurpleHaze\_4, Manu\_5, Pawn\_4, Kalb97\_5, JeppNRM\_5, Groupthink\_5, HaveUMetTed\_5, Marius\_5, Phranny\_5, Heliosoles\_4, ACFishhook\_4
- Track 54 : BabyRay\_4
- Track 55 : Tiffany\_4
- Track 56 : Taurus\_4, JenCasNa\_4, Cullens\_4, PotatoSplit\_5, MoneyMay\_4, Fernando\_4, LBerry\_4, Phoebe\_4, Grum1\_4, Colbster\_4, EpicPhail\_4, Marie\_4, Beauxregard13\_4, Penny1\_4, Sabinator\_4, P28Green\_4, LugYA\_6, Hercules11\_4
- Track 57 : SoilDragon\_4
- Track 58 : Puppy\_4
- Track 59 : Heathen\_4
- Track 60 : Reba\_5
- Track 61 : Bugatti\_3, TNguyen7\_4, Pistachio\_4, Idleandcovert\_3, SaturnRing\_3, BlueBird\_4, Giroux\_3
- Track 62 : Isca\_4
- Track 63 : HelDan\_4
- Track 64 : Fred313\_4
- Track 65 : OlanP\_4
- Track 66 : Jobu08\_4
- Track 67 : Phantastic\_4
- Track 68 : JHC117\_4
- Track 69 : Anubis\_6
- Track 70 : AgronaGT15\_4
- Track 71 : MA5\_4
- Track 72 : PhishRPhriends\_4
- Track 73 : Margo\_4

- Track 74 : LittleGuy\_4, Kampy\_4, Lorenzo\_4, TroyPia\_4, Ohfah\_4, Sabertooth\_4, Clarenza\_4, CentreCat\_4, Ruin\_4, Kratak\_4, Florean\_4, Connomayer\_4, Holli\_4, Nyxis\_4, JoongJeon\_4, Phacado\_4, Eros\_4, Albee\_4, Bombshell\_4, Maverick\_4, LittleB\_4, BellusTerra\_4, NotAPhaseMom\_4, Phelipe\_4, Peaches\_4, ICleared\_4, Taquarus\_4, Avle17\_4, TiroTheta9\_4, Wizard007\_4, MeeZee\_4, LeoAvram\_4, Millski\_4, Commander\_4, JetBlade\_4, Eagle\_3, TygerBlood\_4, Relief\_4, Eapen\_4, Gadost\_4, NorthStar\_4, Baby16\_4, Wilbur\_4, Kingmustik0402\_4, Pipcraft\_4, Iceman\_4, Polymorphads\_4, Medusa\_4, Palestino\_4, Melvin\_4, Phontbonne\_4, YoSam321\_4, Citius\_4, Sparxx\_4, Caelakin\_4, Arturo\_3, Kye\_4, Cocoaberry\_4, TinaFeyge\_4, Bartimeaus\_4, LappelDuVide\_3, Roosevelt\_4, Spino\_4, Funston\_4, Dhanush\_4, Bruiser\_4, Blackmoor\_4, Maxo\_4, Scamp\_4, PeterPeter\_4, Lunsford\_4, Houdini22\_4, Nemo27\_4, Broseidon\_4, BubbleTrouble\_4, Jaykayelowell\_4, Lemur\_4, Romney\_4, Nebs\_4, Shaka\_4, Skipitt\_4, Eris\_4, Chaph\_4, Druantia\_4, Flux\_4, Eurydice\_4, Thanksgivukkah\_4, Morrow\_4, Burger\_3, Deano\_4, Mazhar510\_4, Abdiel\_4, Wander\_4
- Track 75 : HamSlice\_3
- Track 76 : AvatarAhPeg\_4, Cintron\_4, Cerulean\_4, SheldonCooper\_4, Phighter1804\_4, Iracema64\_4, Obama12\_4, Stink\_4, DirtyDunning\_4, LochMonster\_4, LHTSCC\_4, ChampagnePapi\_4, Tinybot\_3, Miramae\_4, Happiness\_4, BangNhom\_3
- Track 77 : Pumbaa\_4
- Track 78 : Wile\_4, Badger\_4, PetiteSangsue\_4, Cici\_4, Katalie136\_4, Perplexer\_4, Xena\_4, Datway\_4, Morpher26\_4, Achebe\_4, Backyardigan\_4, AbbysRanger\_4, Bumblebee11\_4
- Track 79 : Annyong\_4
- Track 80 : Stasia\_4
- Track 81 : Koreni\_4, Alberto7\_4
- Track 82 : Ulysses\_4
- Track 83 : OKaNui\_4
- Track 84 : KFPoly\_4
- Track 85 : Shygu2\_4
- Track 86 : Cindaradix\_4
- Track 87 : Mundrea\_4
- Track 88 : Camperdownii\_4
- Track 89 : Noelle\_4
- Track 90 : Milcery\_4, Tarynearal\_3, George\_3, Coog\_4, Midas2\_4, LittleCherry\_4, Bonamassa\_4, HuhtaEnerson15\_4, Swirley\_4
- Track 91 : Lev2\_4, Tiger\_4, PickleBack\_4, Conspiracy\_4, UnionJack\_4, ForGetIt\_4, Archetta\_4
- Track 92 : PetterN\_4
- Track 93 : AgentM\_4, Aragog\_4, Jovo\_4, Phlorence\_4
- Track 94 : Jabiru\_4, ElTiger69\_4
- Track 95 : Cuco\_4, Theia\_3, Dublin\_3
- Track 96 : Discoknowium\_4, Bluefalcon\_3
- Track 97 : Airmid\_4, Benedict\_4
- Track 98 : SydNat\_4, Zolita\_3, Ghoulboy\_4
- Track 99 : MarysWell\_3
- Track 100 : Micasa\_3
- Track 101 : Chadwick\_4
- Track 102 : Scorpia\_4
- Track 103 : Stephig9\_4, Expelliarmus\_3, Dixon\_4, Phillis\_4, Smeadley\_4, Groundhog\_3, Astro\_4, Roary\_4
- Track 104 : NearlyHeadless\_4

- Track 105 : Saintus\_4
- Track 106 : Danforth\_3
- Track 107 : Darrell\_7
- Track 108 : Maminiaina\_7, Ugenie5\_5, ExplosioNervosa\_7, Scherzo\_7, EmyBug\_5, Alma\_7, Pioneer\_7, Beemo\_7, Phonnegut\_7, Fayely\_7
- Track 109 : Conquerage\_7, Eidsmoe\_7, Qobbit\_7, Spouty\_6, Priya\_7
- Track 110 : LoneWolf\_7
- Track 111 : Phaeder\_7, HortumSL17\_7, Tubs\_7, Aliter\_7, Myxus\_7, Catalina\_7, PackMan\_7
- Track 112 : Elephantoon\_7
- Track 113 : BogosyJay\_7

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

The start number called the most often in the published annotations is 11, it was called in 382 of the 393 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 40AC\_8, ACFishhook\_4, AbbysRanger\_4, Abdiel\_4, Achebe\_4, Aglet\_4, AgronaGT15\_4, Albee\_4, Alberto7\_4, Aliter\_7, Alma\_7, Anaysia\_7, Aneem\_7, AnnaL29\_7, Annyong\_4, Archetta\_4, Arturo\_3, Astro\_4, AugsMagnumOpus\_6, AvatarAhPeg\_4, Avle17\_4, B1\_03, Baby16\_4, BabyBack\_6, BabyRay\_4, Bachome\_7, Backyardigan\_4, Bactobuster\_7, Badger\_4, BangNhom\_3, Bartimeaus\_4, Battleship\_8, Beauxregard13\_4, Beemo\_7, BellusTerra\_4, BiancaTri92\_7, Blackmoor\_4, BlueBird\_4, Bluefalcon\_3, BobSwaget\_8, BogosyJay\_7, Bombshell\_4, Bonamassa\_4, Boohoo\_7, Bowtie\_7, BreSam8\_4, Broseidon\_4, Bruiser\_4, BubbleTrouble\_4, Bud\_7, Bugatti\_3, Bumblebee11\_4, Burger\_3, BuzzBuzz\_3, Bxz2\_4, Caelakin\_4, Camperdownii\_4, Catalina\_7, Caviar\_4, CentreCat\_4, Cerulean\_4, Chadwick\_4, ChampagnePapi\_4, Changeling\_7, Chaph\_4, Cici\_4, Cindaradix\_4, Cintron\_4, Citius\_4, Clarenza\_4, Cocoaberry\_4, Colbster\_4, Colin\_8, Commander\_4, Connomayer\_4, Conquerage\_7, Conspiracy\_4, Coog\_4, Cuco\_4, Cullens\_4, DaHudson\_4, Danforth\_3, Darrell\_7, DarthPhader\_7, Datway\_4, Deano\_4, DekHockey33\_7, Dhanush\_4, Dieselweasel\_4, DirtyDunning\_4, Discoknowium\_4, Dixon\_4, Druantia\_4, Dublin\_3, EZMoney23\_7, EagleEye\_7, Eagle\_3, Eapen\_4, Ebony\_7, Eidsmoe\_7, ElTiger69\_4, Elephantoon\_7, EmyBug\_5, EpicPhail\_4, Epsocamisio\_7, Eris\_4, Eros\_4, Et2Brutus\_6, Eurydice\_4, Expelliarmus\_3, ExplosioNervosa\_7, Farber\_4, Fayely\_7, Fernando\_4, Fibonacci\_7, Flaverint\_7, Floean\_4, Flux\_4, ForGetIt\_4, Fred313\_4, Funston\_4, Gadost\_4, GaugeLDP\_7, Gemma\_4, George\_3, Ghoulboy\_4, Gilberta\_7, GingkoMaracino\_4, Giroux\_3, Goose\_4, Grif\_4, Groundhog\_3, Groupthink\_5, Grub\_4, Grum1\_4, GtownJaz\_4, HamSlice\_3, Happiness\_4, HashRod\_5, HaveUMetTed\_5, Heathen\_4, Heffalump\_8, HelDan\_4, Heliosoles\_4, Hercules11\_4, Holli\_4, Hookmount\_4, HortumSL17\_7, Houdini22\_4, HuhtaEnerson15\_4, Hutc2\_7, ICleared\_4, Iceman\_4, Idleandcovert\_3, Insomnia\_6, Iracema64\_4, IronMan\_7, Isca\_4, JF2\_4, JF4\_4, JSwag\_7, Jaan\_7, Jabiru\_4, Jabith\_7, Jaykayelowell\_4, JenCasNa\_4, JeppNRM\_5, JetBlade\_4, Jobu08\_4, JoongJeon\_4, Joselito\_7, KADY\_5, KFPoly\_4, Kalb97\_5, Kalnok\_5, Kalpine\_7, Kamy\_4, Katalie136\_4, KatherineG\_7, Kingmustik0402\_4, Koreni\_4, Kratark\_4, Kristoff\_5, Kyee\_4, LBerry\_4, LHTSCC\_4, Lambert1\_4, LappelDuVide\_3, LarryKay\_4, LastResort\_7, Lemur\_4, LeoAvram\_4, Leogania\_7, Lev2\_4, Lilith\_4, LittleB\_4, LittleCherry\_4, LittleGuy\_4, LochMonster\_4, Loka\_8,

LoneWolf\_7, Looper\_7, Lorenzo\_4, Loser\_7, Louie6\_4, Lucivia\_7, Lucyedi\_7, LugYA\_6, Lunsford\_4, MA5\_4, MK4\_4, MaCh\_7, Mabel\_7, MadMarie\_4, Mainiac\_4, Malinsilva\_6, Maminiana\_7, Manu\_5, MarQuardt\_4, Margo\_4, Marie\_4, Marius\_5, Maverick\_4, Maxo\_4, Mazhar510\_4, Medusa\_4, MeeZee\_4, Melvin\_4, Methuselah\_4, Microwolf\_4, Midas2\_4, Miko\_8, Milcery\_4, Millski\_4, MinecraftSteve\_8, Miramae\_4, Misomonster\_6, MoneyMay\_4, Morpher26\_4, Morrow\_4, MuchMore\_6, Mulciber\_7, Munch\_7, Mundrea\_4, MyraDee\_4, Myxus\_7, NearlyHeadless\_4, Nebs\_4, Nebulosus\_7, Nemo27\_4, NicoleTera\_7, Noella\_4, Noelle\_4, Norbert\_3, NorthStar\_4, NotAPhaseMom\_4, NothingSpecial\_6, Nyxis\_4, OKCentral2016\_4, OKaNui\_4, Obama12\_4, Ohfah\_4, OlanP\_4, Ollie\_4, Oofda\_7, Orange\_7, P28Green\_4, PGHhamlin\_6, PackMan\_7, PainterBoy\_7, Palestino\_4, Panamaxus\_4, Pawn\_4, Peaches\_4, Pembroke\_4, Penny1\_4, Perplexer\_4, PeterPeter\_4, Petersenfast\_6, PetiteSangsue\_4, PetterN\_4, Phacado\_4, Phaded\_7, Phaeder\_7, Phantastic\_4, Pharaoh\_7, Phelipe\_4, Phighter1804\_4, Phillis\_4, PhishRPhriends\_4, Phoebe\_4, Phonnegut\_7, Phontbonne\_4, Phoxy\_4, Phranny\_5, PickleBack\_4, Pioneer\_7, Pipcraft\_4, Pistachio\_4, Pocahontas\_4, Polymorphads\_4, Popcicle\_4, PotatoSplit\_5, Priya\_7, Pukovnik\_7, Pumbaa\_4, Puppy\_4, PurpleHaze\_4, Qobbit\_7, QuinnKiro\_3, Rachaly\_8, ReMo\_7, Reba\_5, Rebeuca\_5, RedRock\_7, Relief\_4, Remus\_7, ResDef\_3, RhynO\_4, Roary\_4, Rockstar\_4, Romney\_4, Roosevelt\_4, Rosalind\_7, Ruin\_4, Rummer\_4, Sabertooth\_4, Sabia\_4, Sabinator\_4, Saintus\_4, Salz\_7, SaturnRing\_3, Scamp\_4, Scherzo\_7, Scorpia\_4, Shaka\_4, Sham4\_7, ShayRa\_8, SheldonCooper\_4, Shygu2\_4, Skipitt\_4, Smeadley\_4, Snape\_7, Snickers\_4, SoYo\_4, SoilDragon\_4, Soshari\_6, Soups\_7, Sparxx\_4, Spike509\_4, Spino\_4, Spouty\_6, Stagni\_4, Stasia\_4, StepMih\_4, Stephig9\_4, Stink\_4, Strosahl\_7, Swirley\_4, Switzerland\_7, SydNat\_4, TNguyen7\_4, Taquarus\_4, Tarynearal\_3, Taurus\_4, Texage\_3, Thanksgivukkah\_4, Theia\_3, Tiffany\_4, Tiger\_4, Timothy\_7, TinaFeyge\_4, TinyTimmy\_6, Tinybot\_3, TiroTheta9\_4, Todacoro\_4, Topanga\_4, Trixie\_7, TroyPia\_4, Tubs\_7, Twister\_4, TygerBlood\_4, Ugenie5\_5, Ulysses\_4, UnionJack\_4, Veracruz\_3, Vix\_4, Waits\_7, WalterMcMickey\_4, Wander\_4, Watson\_4, WeiHuaDA\_8, Wilbur\_4, Wile\_4, Wizard007\_4, Wooldri\_6, Xena\_4, YoSam321\_4, Zetzy\_4, Zimmer\_7, Zolita\_3,

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

- AgentM\_4, Airmid\_4, Anubis\_6, Aragog\_4, ArcherNM\_7, Benedict\_4, Chupacabra\_4, Edison31\_3, JHC117\_4, Jovo\_4, Landor\_7, MarysWell\_3, Micasa\_3, Phlorence\_4,

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

- 

### Summary by start number:

Start 9:

- Found in 86 of 415 ( 20.7% ) of genes in pham
- Manual Annotations of this start: 2 of 393
- Called 2.3% of time when present
- Phage (with cluster) where this start called: Anubis\_6 (A3), JHC117\_4 (A3),

Start 10:

- Found in 37 of 415 ( 8.9% ) of genes in pham
- Manual Annotations of this start: 4 of 393
- Called 10.8% of time when present



- Phage (with cluster) where this start called: AgentM\_4 (A5), Aragog\_4 (A5), Jovo\_4 (A5), Phlorence\_4 (A5),

Start 11:

- Found in 415 of 415 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 382 of 393
- Called 96.6% of time when present
- Phage (with cluster) where this start called: 40AC\_8 (A17), ACFishhook\_4 (A3), AbbysRanger\_4 (A4), Abdiel\_4 (A4), Achebe\_4 (A4), Aglet\_4 (A3), AgronaGT15\_4 (A3), Albee\_4 (A4), Alberto7\_4 (A4), Aliter\_7 (A9), Alma\_7 (A9), Anaysia\_7 (A15), Aneem\_7 (A11), AnnaL29\_7 (A2), Annyong\_4 (A4), Archetta\_4 (A5), Arturo\_3 (A4), Astro\_4 (A8), AugsMagnumOpus\_6 (A3), AvatarAhPeg\_4 (A4), Avle17\_4 (A4), B1\_03 (A3), Baby16\_4 (A4), BabyBack\_6 (A2), BabyRay\_4 (A3), Bachome\_7 (A11), Backyardigan\_4 (A4), Bactobuster\_7 (A2), Badger\_4 (A4), BangNhom\_3 (A4), Bartimeaus\_4 (A4), Battleship\_8 (A15), Beauxregard13\_4 (A3), Beemo\_7 (A9), BellusTerra\_4 (A4), BiancaTri92\_7 (A2), Blackmoor\_4 (A4), BlueBird\_4 (A3), Bluefalcon\_3 (A5), BobSwaget\_8 (A2), BogosyJay\_7 (A9), Bombshell\_4 (A4), Bonamassa\_4 (A5), Boohoo\_7 (A15), Bowtie\_7 (A11), BreSam8\_4 (A3), Broseidon\_4 (A4), Bruiser\_4 (A4), BubbleTrouble\_4 (A4), Bud\_7 (A11), Bugatti\_3 (A3), Bumblebee11\_4 (A4), Burger\_3 (A4), BuzzBuzz\_3 (A3), Bxz2\_4 (A3), Caelakin\_4 (A4), Camperdownii\_4 (A4), Catalina\_7 (A9), Caviar\_4 (A3), CentreCat\_4 (A4), Cerulean\_4 (A4), Chadwick\_4 (A5), ChampagnePapi\_4 (A4), Changeling\_7 (A2), Chaph\_4 (A4), Cici\_4 (A4), Cindaradix\_4 (A4), Cintron\_4 (A4), Citius\_4 (A4), Clarenza\_4 (A4), Cocoaberry\_4 (A4), Colbster\_4 (A3), Colin\_8 (A2), Commander\_4 (A4), Connomayer\_4 (A4), Conquerage\_7 (A9), Conspiracy\_4 (A5), Coog\_4 (A5), Cuco\_4 (A5), Cullens\_4 (A3), DaHudson\_4 (A3), Danforth\_3 (A8), Darrell\_7 (A9), DarthPhader\_7 (A12), Datway\_4 (A4), Deano\_4 (A4), DekHockey33\_7 (A15), Dhanush\_4 (A4), Dieselweasel\_4 (A3), DirtyDunning\_4 (A4), Discoknowium\_4 (A5), Dixon\_4 (A8), Druantia\_4 (A4), Dublin\_3 (A5), EZMoney23\_7 (A2), EagleEye\_7 (A16), Eagle\_3 (A4), Eapen\_4 (A4), Ebony\_7 (A11), Eidsmoe\_7 (A9), EITiger69\_4 (A5), Elephantoon\_7 (A9), EmyBug\_5 (A9), EpicPhail\_4 (A3), Epsocamisio\_7 (A15), Eris\_4 (A4), Eros\_4 (A4), Et2Brutus\_6 (A11), Eurydice\_4 (A4), Expelliarmus\_3 (A8), ExplosioNervosa\_7 (A9), Farber\_4 (A3), Fayely\_7 (A9), Fernando\_4 (A3), Fibonacci\_7 (A11), Flaverint\_7 (A11), Florean\_4 (A4), Flux\_4 (A4), ForGetIt\_4 (A5), Fred313\_4 (A3), Funston\_4 (A4), Gadost\_4 (A4), GaugeLDP\_7 (A2), Gemma\_4 (A3), George\_3 (A5), Ghoulyboy\_4 (A5), Gilberta\_7 (A11), GingkoMaracino\_4 (A3), Giroux\_3 (A3), Goose\_4 (A10), Grif\_4 (A3), Groundhog\_3 (A8), Groupthink\_5 (A3), Grub\_4 (A3), Grum1\_4 (A3), GtownJaz\_4 (A3), HamSlice\_3 (A4), Happiness\_4 (A4), HashRod\_5 (A3), HaveUMetTed\_5 (A3), Heathen\_4 (A3), Heffalump\_8 (A2), HelDan\_4 (A3), Heliosoles\_4 (A3), Hercules11\_4 (A3), Holli\_4 (A4), Hookmount\_4 (A3), HortumSL17\_7 (A9), Houdini22\_4 (A4), HuhtaEnerson15\_4 (A5), Hutc2\_7 (A11), ICleared\_4 (A4), Iceman\_4 (A4), Idleandcovert\_3 (A3), Insomnia\_6 (A11), Iracema64\_4 (A4), IronMan\_7 (A2), Isca\_4 (A3), JF2\_4 (A3), JF4\_4 (A3), JSwag\_7 (A15), Jaan\_7 (A2), Jabiru\_4 (A5), Jabith\_7 (A11), Jaykayelowell\_4 (A4), JenCasNa\_4 (A3), JeppNRM\_5 (A3), JetBlade\_4 (A4), Jobu08\_4 (A3), JoongJeon\_4 (A4), Joselito\_7 (A11), KADY\_5 (A3), KFPoly\_4 (A4), Kalb97\_5 (A3), Kalnok\_5 (A3), Kalpine\_7 (A2), Kamy\_4 (A4), Katalie136\_4 (A4), KatherineG\_7 (A15), Kingmustik0402\_4 (A4), Koreni\_4 (A4), Kratark\_4 (A4), Kristoff\_5 (A10), Kye\_4 (A4), LBerry\_4 (A3), LHTSCC\_4 (A4), Lambert1\_4 (A3), LappelDuVide\_3 (A4), LarryKay\_4 (A3), LastResort\_7 (A15), Lemur\_4 (A4), LeoAvram\_4 (A4), Leogania\_7 (A2), Lev2\_4 (A5), Lilith\_4 (A3), LittleB\_4 (A4), LittleCherry\_4 (A5), LittleGuy\_4 (A4), LochMonster\_4 (A4), Lokk\_8 (A2), LoneWolf\_7 (A9), Looper\_7 (A15), Lorenzo\_4 (A4), Loser\_7 (A2), Louie6\_4 (A3), Lucivia\_7 (A11), Lucyedi\_7 (A16), LugYA\_6 (A3),

Lunsford\_4 (A4), MA5\_4 (A3), MK4\_4 (A3), MaCh\_7 (A11), Mabel\_7 (A11), MadMarie\_4 (A3), Mainiac\_4 (A3), Malinsilva\_6 (A3), Maminiaina\_7 (A9), Manu\_5 (A3), MarQuardt\_4 (A3), Margo\_4 (A3), Marie\_4 (A3), Marius\_5 (A3), Maverick\_4 (A4), Maxo\_4 (A4), Mazhar510\_4 (A4), Medusa\_4 (A4), MeeZee\_4 (A4), Melvin\_4 (A4), Methuselah\_4 (A3), Microwolf\_4 (A3), Midas2\_4 (A5), Miko\_8 (A2), Milcery\_4 (A5), Millski\_4 (A4), MinecraftSteve\_8 (A15), Miramae\_4 (A4), Misomonster\_6 (A3), MoneyMay\_4 (A3), Morpher26\_4 (A4), Morrow\_4 (A4), MuchMore\_6 (A3), Mulciber\_7 (A11), Munch\_7 (A11), Mundrea\_4 (A4), MyraDee\_4 (A18), Myxus\_7 (A9), NearlyHeadless\_4 (A8), Nebs\_4 (A4), Nebulosus\_7 (A15), Nemo27\_4 (A4), NicoleTera\_7 (A2), Noella\_4 (A3), Noelle\_4 (A4), Norbert\_3 (A3), NorthStar\_4 (A4), NotAPhaseMom\_4 (A4), NothingSpecial\_6 (A2), Nyxis\_4 (A4), OKCentral2016\_4 (A10), OKaNui\_4 (A4), Obama12\_4 (A4), Ohfah\_4 (A4), OlanP\_4 (A3), Ollie\_4 (A3), Oofda\_7 (A15), Orange\_7 (A11), P28Green\_4 (A3), PGHhamlin\_6 (A3), PackMan\_7 (A9), PainterBoy\_7 (A16), Palestino\_4 (A4), Panamaxus\_4 (A3), Pawn\_4 (A3), Peaches\_4 (A4), Pembroke\_4 (A3), Penny1\_4 (A3), Perplexer\_4 (A4), PeterPeter\_4 (A4), Petersenfast\_6 (A11), PetiteSangsue\_4 (A4), PetterN\_4 (A5), Phacado\_4 (A4), Phaded\_7 (A2), Phaeder\_7 (A9), Phantastic\_4 (A3), Pharaoh\_7 (A12), Felipe\_4 (A4), Phighter1804\_4 (A4), Phillis\_4 (A8), PhishRPhriends\_4 (A3), Phoebe\_4 (A3), Phonnegut\_7 (A9), Phontbonne\_4 (A4), Phoxy\_4 (A3), Phranny\_5 (A3), PickleBack\_4 (A5), Pioneer\_7 (A9), Pipcraft\_4 (A4), Pistachio\_4 (A3), Pocahontas\_4 (A3), Polymorphads\_4 (A4), Popcicle\_4 (A3), PotatoSplit\_5 (A3), Priya\_7 (A9), Pukovnik\_7 (A2), Pumbaa\_4 (A4), Puppy\_4 (A3), PurpleHaze\_4 (A3), Qobbit\_7 (A9), QuinnKiro\_3 (A3), Rachaly\_8 (A2), ReMo\_7 (A15), Reba\_5 (A3), Rebeuca\_5 (A10), RedRock\_7 (A2), Relief\_4 (A4), Remus\_7 (A15), ResDef\_3 (A3), RhynO\_4 (A10), Roary\_4 (A8), Rockstar\_4 (A3), Romney\_4 (A4), Roosevelt\_4 (A4), Rosalind\_7 (A15), Ruin\_4 (A4), Rummer\_4 (A3), Sabertooth\_4 (A4), Sabia\_4 (A3), Sabinator\_4 (A3), Saintus\_4 (A8), Salz\_7 (A11), SaturnRing\_3 (A3), Scamp\_4 (A4), Scherzo\_7 (A9), Scorpia\_4 (A5), Shaka\_4 (A4), Sham4\_7 (A11), ShayRa\_8 (A15), SheldonCooper\_4 (A4), Shygu2\_4 (A4), Skipitt\_4 (A4), Smeadley\_4 (A8), Snape\_7 (A11), Snickers\_4 (A3), SoYo\_4 (A3), SoilDragon\_4 (A3), Soshari\_6 (A3), Soups\_7 (A15), Sparxx\_4 (A4), Spike509\_4 (A3), Spino\_4 (A4), Spouty\_6 (A9), Stagni\_4 (A3), Stasia\_4 (A4), StepMih\_4 (A3), Stephig9\_4 (A8), Stink\_4 (A4), Strosahl\_7 (A15), Swirley\_4 (A5), Switzerland\_7 (A15), SydNat\_4 (A5), TNguyen7\_4 (A3), Taquarus\_4 (A4), Tarynearal\_3 (A5), Taurus\_4 (A3), Texage\_3 (A3), Thanksgivukkah\_4 (A4), Theia\_3 (A5), Tiffany\_4 (A3), Tiger\_4 (A5), Timothy\_7 (A11), TinaFeyge\_4 (A4), TinyTimmy\_6 (A11), Tinybot\_3 (A4), TiroTheta9\_4 (A4), Todacoro\_4 (A3), Topanga\_4 (A10), Trixie\_7 (A2), TroyPia\_4 (A4), Tubs\_7 (A9), Twister\_4 (A10), TygerBlood\_4 (A4), Ugenie5\_5 (A9), Ulysses\_4 (A4), UnionJack\_4 (A5), Veracruz\_3 (A3), Vix\_4 (A3), Waits\_7 (A15), WalterMcMickey\_4 (A10), Wander\_4 (A4), Watson\_4 (A3), WeiHuaDA\_8 (A2), Wilbur\_4 (A4), Wile\_4 (A4), Wizard007\_4 (A4), Wooldri\_6 (A3), Xena\_4 (A4), YoSam321\_4 (A4), Zetzy\_4 (A3), Zimmer\_7 (A12), Zolita\_3 (A5),

#### Start 14:

- Found in 13 of 415 ( 3.1% ) of genes in pham
- Manual Annotations of this start: 1 of 393
- Called 7.7% of time when present
- Phage (with cluster) where this start called: ArcherNM\_7 (A2),

#### Start 19:

- Found in 14 of 415 ( 3.4% ) of genes in pham
- Manual Annotations of this start: 1 of 393
- Called 14.3% of time when present

- Phage (with cluster) where this start called: MarysWell\_3 (A5), Micasa\_3 (A5),

#### Start 23:

- Found in 151 of 415 ( 36.4% ) of genes in pham
- Manual Annotations of this start: 2 of 393
- Called 1.3% of time when present
- Phage (with cluster) where this start called: Airmid\_4 (A5), Benedict\_4 (A5),

#### Start 25:

- Found in 19 of 415 ( 4.6% ) of genes in pham
- Manual Annotations of this start: 1 of 393
- Called 5.3% of time when present
- Phage (with cluster) where this start called: Chupacabra\_4 (A10),

#### Start 29:

- Found in 4 of 415 ( 1.0% ) of genes in pham
- No Manual Annotations of this start.
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Landor\_7 (A2),

#### Start 33:

- Found in 9 of 415 ( 2.2% ) of genes in pham
- No Manual Annotations of this start.
- Called 11.1% of time when present
- Phage (with cluster) where this start called: Edison31\_3 (A10),

### **Summary by clusters:**

There are 13 clusters represented in this pham: A15, A17, A16, A11, A10, A12, A18, A3, A2, A5, A4, A9, A8,

#### Info for manual annotations of cluster A10:

- Start number 11 was manually annotated 8 times for cluster A10.
- Start number 25 was manually annotated 1 time for cluster A10.

#### Info for manual annotations of cluster A11:

- Start number 11 was manually annotated 22 times for cluster A11.

#### Info for manual annotations of cluster A12:

- Start number 11 was manually annotated 3 times for cluster A12.

#### Info for manual annotations of cluster A15:

- Start number 11 was manually annotated 19 times for cluster A15.

#### Info for manual annotations of cluster A16:

- Start number 11 was manually annotated 3 times for cluster A16.

#### Info for manual annotations of cluster A18:

- Start number 11 was manually annotated 1 time for cluster A18.

#### Info for manual annotations of cluster A2:

- Start number 11 was manually annotated 21 times for cluster A2.

- Start number 14 was manually annotated 1 time for cluster A2.

Info for manual annotations of cluster A3:

- Start number 9 was manually annotated 2 times for cluster A3.
- Start number 11 was manually annotated 107 times for cluster A3.

Info for manual annotations of cluster A4:

- Start number 11 was manually annotated 135 times for cluster A4.

Info for manual annotations of cluster A5:

- Start number 10 was manually annotated 4 times for cluster A5.
- Start number 11 was manually annotated 29 times for cluster A5.
- Start number 19 was manually annotated 1 time for cluster A5.
- Start number 23 was manually annotated 2 times for cluster A5.

Info for manual annotations of cluster A8:

- Start number 11 was manually annotated 11 times for cluster A8.

Info for manual annotations of cluster A9:

- Start number 11 was manually annotated 23 times for cluster A9.

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

Gene: 40AC\_8 Start: 4152, Stop: 5285, Start Num: 11

Candidate Starts for 40AC\_8:

(5, 4071), (Start: 11 @4152 has 382 MA's), (Start: 14 @4221 has 1 MA's), (28, 4320), (109, 4791), (111, 4833), (185, 5217), (186, 5223), (192, 5271), (193, 5277),

Gene: ACFishhook\_4 Start: 1685, Stop: 2965, Start Num: 11

Candidate Starts for ACFishhook\_4:

(Start: 9 @1658 has 2 MA's), (Start: 11 @1685 has 382 MA's), (39, 1865), (55, 1913), (110, 2309), (182, 2879), (185, 2897), (192, 2951), (193, 2957),

Gene: AbbysRanger\_4 Start: 1644, Stop: 2729, Start Num: 11

Candidate Starts for AbbysRanger\_4:

(Start: 11 @1644 has 382 MA's), (Start: 23 @1752 has 2 MA's), (35, 1848), (65, 1962), (80, 2034), (185, 2658), (192, 2715), (193, 2721),

Gene: Abdiel\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Abdiel\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Achebe\_4 Start: 1644, Stop: 2729, Start Num: 11

Candidate Starts for Achebe\_4:

(Start: 11 @1644 has 382 MA's), (Start: 23 @1752 has 2 MA's), (35, 1848), (65, 1962), (80, 2034), (185, 2658), (192, 2715), (193, 2721),

Gene: AgentM\_4 Start: 2343, Stop: 3680, Start Num: 10

Candidate Starts for AgentM\_4:

(4, 2196), (Start: 10 @2343 has 4 MA's), (Start: 11 @2355 has 382 MA's), (27, 2520), (38, 2601), (43, 2637), (44, 2649), (49, 2682), (63, 2778), (81, 2874), (82, 2877), (88, 2982), (89, 2985), (90, 2997), (91, 3000), (93, 3021), (95, 3039), (114, 3234), (121, 3258), (135, 3357), (167, 3567), (175, 3669), (176, 3672),

Gene: Aglet\_4 Start: 1681, Stop: 2895, Start Num: 11

Candidate Starts for Aglet\_4:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (55, 1909), (182, 2809), (192, 2881), (193, 2887),

Gene: AgronaGT15\_4 Start: 1682, Stop: 2536, Start Num: 11

Candidate Starts for AgronaGT15\_4:

(Start: 9 @1655 has 2 MA's), (Start: 11 @1682 has 382 MA's), (55, 1910), (141, 2450), (158, 2522), (160, 2528),

Gene: Airmid\_4 Start: 2465, Stop: 3403, Start Num: 23

Candidate Starts for Airmid\_4:

(5, 2276), (Start: 10 @2342 has 4 MA's), (Start: 11 @2354 has 382 MA's), (Start: 23 @2465 has 2 MA's), (36, 2585), (37, 2591), (61, 2738), (67, 2774), (86, 2879), (97, 2972), (99, 2981), (103, 3005), (107, 3065), (120, 3161), (137, 3275), (142, 3317), (146, 3335), (155, 3362), (157, 3389), (159, 3395),

Gene: Albee\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Albee\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Alberto7\_4 Start: 1646, Stop: 2719, Start Num: 11

Candidate Starts for Alberto7\_4:

(7, 1586), (Start: 11 @1646 has 382 MA's), (Start: 23 @1754 has 2 MA's), (35, 1850), (65, 1964), (180, 2624), (182, 2630), (185, 2648), (192, 2705), (193, 2711),

Gene: Aliter\_7 Start: 4192, Stop: 5163, Start Num: 11

Candidate Starts for Aliter\_7:

(Start: 11 @4192 has 382 MA's), (64, 4525), (182, 5080), (184, 5092), (192, 5149), (193, 5155),

Gene: Alma\_7 Start: 4190, Stop: 5221, Start Num: 11

Candidate Starts for Alma\_7:

(Start: 11 @4190 has 382 MA's), (182, 5138), (184, 5150), (192, 5207), (193, 5213),

Gene: Anaysia\_7 Start: 3414, Stop: 4406, Start Num: 11

Candidate Starts for Anaysia\_7:

(1, 3147), (3, 3201), (4, 3246), (5, 3327), (Start: 11 @3414 has 382 MA's), (31, 3600), (47, 3690), (52, 3723), (76, 3795), (92, 3870), (134, 4179), (140, 4236), (154, 4302), (157, 4332), (166, 4395),

Gene: Aneem\_7 Start: 4196, Stop: 5410, Start Num: 11

Candidate Starts for Aneem\_7:

(Start: 11 @4196 has 382 MA's), (20, 4298), (38, 4430), (57, 4556), (74, 4649), (75, 4652), (83, 4688), (85, 4706), (87, 4730), (90, 4748), (92, 4760), (114, 4943), (120, 4961), (121, 4967), (138, 5087), (162, 5243), (167, 5297), (175, 5399), (176, 5402),

Gene: AnnaL29\_7 Start: 4133, Stop: 5236, Start Num: 11

Candidate Starts for AnnaL29\_7:

(Start: 11 @4133 has 382 MA's), (Start: 14 @4202 has 1 MA's), (109, 4772), (111, 4814), (177, 5126), (182, 5153), (184, 5165), (192, 5222), (193, 5228),

Gene: Annyong\_4 Start: 1646, Stop: 2719, Start Num: 11

Candidate Starts for Annyong\_4:

(7, 1586), (Start: 11 @1646 has 382 MA's), (Start: 23 @1754 has 2 MA's), (35, 1850), (65, 1964), (185, 2648), (192, 2705), (193, 2711),

Gene: Anubis\_6 Start: 1654, Stop: 2805, Start Num: 9

Candidate Starts for Anubis\_6:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (55, 1909), (182, 2719), (192, 2791), (193, 2797),

Gene: Aragog\_4 Start: 2373, Stop: 3710, Start Num: 10

Candidate Starts for Aragog\_4:

(4, 2226), (Start: 10 @2373 has 4 MA's), (Start: 11 @2385 has 382 MA's), (27, 2550), (38, 2631), (43, 2667), (44, 2679), (49, 2712), (63, 2808), (81, 2904), (82, 2907), (88, 3012), (89, 3015), (90, 3027), (91, 3030), (93, 3051), (95, 3069), (114, 3264), (121, 3288), (135, 3387), (167, 3597), (175, 3699), (176, 3702),

Gene: ArcherNM\_7 Start: 4221, Stop: 5246, Start Num: 14

Candidate Starts for ArcherNM\_7:

(Start: 11 @4152 has 382 MA's), (Start: 14 @4221 has 1 MA's), (109, 4782), (177, 5136), (182, 5163), (184, 5175), (189, 5214), (192, 5232), (193, 5238),

Gene: Archetta\_4 Start: 2385, Stop: 3440, Start Num: 11

Candidate Starts for Archetta\_4:

(Start: 10 @2373 has 4 MA's), (Start: 11 @2385 has 382 MA's), (Start: 23 @2496 has 2 MA's), (37, 2613), (45, 2661), (78, 2853), (86, 2901), (100, 3015), (101, 3018), (105, 3057), (107, 3099), (135, 3300), (145, 3363), (146, 3369), (159, 3432),

Gene: Arturo\_3 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Arturo\_3:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Astro\_4 Start: 2306, Stop: 3343, Start Num: 11

Candidate Starts for Astro\_4:

(4, 2147), (Start: 11 @2306 has 382 MA's), (37, 2543), (61, 2690), (139, 3236), (146, 3275), (153, 3299), (159, 3335),

Gene: AugsMagnumOpus\_6 Start: 1681, Stop: 2886, Start Num: 11

Candidate Starts for AugsMagnumOpus\_6:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (55, 1909), (182, 2800), (192, 2872), (193, 2878),

Gene: AvatarAhPeg\_4 Start: 1638, Stop: 2714, Start Num: 11

Candidate Starts for AvatarAhPeg\_4:

(7, 1578), (Start: 11 @1638 has 382 MA's), (Start: 23 @1746 has 2 MA's), (35, 1842), (65, 1956), (182, 2625), (185, 2643), (192, 2700), (193, 2706),

Gene: Avle17\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Avle17\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: B1\_03 Start: 1608, Stop: 2510, Start Num: 11

Candidate Starts for B1\_03:

(Start: 11 @1608 has 382 MA's), (26, 1743), (53, 1866), (55, 1881), (80, 1995), (182, 2424), (192, 2496), (193, 2502),

Gene: Baby16\_4 Start: 1645, Stop: 2727, Start Num: 11

Candidate Starts for Baby16\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2620), (185, 2656), (192, 2713), (193, 2719),

Gene: BabyBack\_6 Start: 3957, Stop: 5108, Start Num: 11

Candidate Starts for BabyBack\_6:

(Start: 11 @3957 has 382 MA's), (Start: 14 @4026 has 1 MA's), (55, 4233), (112, 4629), (191, 5019), (195, 5037), (196, 5094), (197, 5100),

Gene: BabyRay\_4 Start: 1650, Stop: 2777, Start Num: 11

Candidate Starts for BabyRay\_4:

(2, 1410), (Start: 11 @1650 has 382 MA's), (Start: 25 @1782 has 1 MA's), (26, 1785), (55, 1923), (182, 2691), (185, 2709), (192, 2763), (193, 2769),

Gene: Bachome\_7 Start: 4193, Stop: 5407, Start Num: 11

Candidate Starts for Bachome\_7:

(Start: 11 @4193 has 382 MA's), (20, 4295), (38, 4427), (57, 4553), (74, 4646), (75, 4649), (83, 4685), (85, 4703), (90, 4745), (103, 4802), (120, 4958), (121, 4964), (138, 5084), (162, 5240), (167, 5294), (175, 5396), (176, 5399),

Gene: Backyardigan\_4 Start: 1644, Stop: 2729, Start Num: 11

Candidate Starts for Backyardigan\_4:

(Start: 11 @1644 has 382 MA's), (Start: 23 @1752 has 2 MA's), (35, 1848), (65, 1962), (80, 2034), (185, 2658), (192, 2715), (193, 2721),

Gene: Bactobuster\_7 Start: 3964, Stop: 5064, Start Num: 11

Candidate Starts for Bactobuster\_7:

(5, 3883), (Start: 11 @3964 has 382 MA's), (29, 4135), (34, 4165), (68, 4306), (75, 4339), (109, 4603), (192, 5050), (193, 5056),

Gene: Badger\_4 Start: 1645, Stop: 2730, Start Num: 11

Candidate Starts for Badger\_4:

(Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (80, 2035), (185, 2659), (192, 2716), (193, 2722),

Gene: BangNhom\_3 Start: 1642, Stop: 2718, Start Num: 11

Candidate Starts for BangNhom\_3:

(7, 1582), (Start: 11 @1642 has 382 MA's), (Start: 23 @1750 has 2 MA's), (35, 1846), (65, 1960), (182, 2629), (185, 2647), (192, 2704), (193, 2710),

Gene: Bartimeaus\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Bartimeaus\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Battleship\_8 Start: 3561, Stop: 4553, Start Num: 11

Candidate Starts for Battleship\_8:

(5, 3474), (Start: 11 @3561 has 382 MA's), (31, 3747), (76, 3942), (84, 3972), (92, 4017), (134, 4326), (140, 4383), (154, 4449), (157, 4479), (166, 4542),

Gene: Beauxregard13\_4 Start: 1681, Stop: 2625, Start Num: 11

Candidate Starts for Beauxregard13\_4:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (55, 1909), (161, 2539), (169, 2611), (170, 2617),

Gene: Beemo\_7 Start: 4193, Stop: 5224, Start Num: 11

Candidate Starts for Beemo\_7:

(Start: 11 @4193 has 382 MA's), (182, 5141), (184, 5153), (192, 5210), (193, 5216),

Gene: BellusTerra\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for BellusTerra\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Benedict\_4 Start: 2467, Stop: 3405, Start Num: 23

Candidate Starts for Benedict\_4:

(5, 2278), (Start: 10 @2344 has 4 MA's), (Start: 11 @2356 has 382 MA's), (Start: 23 @2467 has 2 MA's), (36, 2587), (37, 2593), (61, 2740), (67, 2776), (86, 2881), (97, 2974), (99, 2983), (103, 3007), (107, 3067), (120, 3163), (137, 3277), (142, 3319), (146, 3337), (155, 3364), (157, 3391), (159, 3397),

Gene: BiancaTri92\_7 Start: 4180, Stop: 5040, Start Num: 11

Candidate Starts for BiancaTri92\_7:

(Start: 11 @4180 has 382 MA's), (Start: 14 @4249 has 1 MA's), (177, 4927), (185, 4972),

Gene: Blackmoor\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Blackmoor\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: BlueBird\_4 Start: 1612, Stop: 2826, Start Num: 11

Candidate Starts for BlueBird\_4:

(Start: 11 @1612 has 382 MA's), (26, 1747), (55, 1885), (80, 1999), (172, 2641), (182, 2743), (184, 2755), (192, 2812), (193, 2818),

Gene: Bluefalcon\_3 Start: 2352, Stop: 3677, Start Num: 11

Candidate Starts for Bluefalcon\_3:

(4, 2193), (Start: 10 @2340 has 4 MA's), (Start: 11 @2352 has 382 MA's), (27, 2517), (38, 2598), (43, 2634), (44, 2646), (49, 2679), (63, 2775), (81, 2871), (82, 2874), (88, 2979), (89, 2982), (90, 2994), (91, 2997), (93, 3018), (95, 3036), (114, 3231), (121, 3255), (135, 3354), (167, 3564), (175, 3666), (176, 3669),

Gene: BobSwaget\_8 Start: 4394, Stop: 5380, Start Num: 11

Candidate Starts for BobSwaget\_8:

(5, 4313), (Start: 11 @4394 has 382 MA's), (57, 4688), (80, 4793), (119, 5111), (182, 5294), (185, 5312), (192, 5366),

Gene: BogosyJay\_7 Start: 3953, Stop: 5005, Start Num: 11



Candidate Starts for BogosyJay\_7:

(Start: 11 @3953 has 382 MA's), (24, 4070), (64, 4286), (182, 4922), (184, 4934), (192, 4991), (193, 4997),

Gene: Bombshell\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Bombshell\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Bonamassa\_4 Start: 2386, Stop: 3603, Start Num: 11

Candidate Starts for Bonamassa\_4:

(Start: 10 @2374 has 4 MA's), (Start: 11 @2386 has 382 MA's), (Start: 19 @2479 has 1 MA's), (38, 2620), (57, 2746), (60, 2758), (75, 2842), (83, 2878), (85, 2896), (87, 2920), (90, 2938), (92, 2950), (114, 3133), (150, 3367), (156, 3400), (164, 3448), (165, 3457), (167, 3487), (175, 3589), (176, 3592),

Gene: Boohoo\_7 Start: 3414, Stop: 4406, Start Num: 11

Candidate Starts for Boohoo\_7:

(1, 3147), (3, 3201), (4, 3246), (5, 3327), (Start: 11 @3414 has 382 MA's), (31, 3600), (47, 3690), (52, 3723), (76, 3795), (92, 3870), (134, 4179), (140, 4236), (154, 4302), (157, 4332), (166, 4395),

Gene: Bowtie\_7 Start: 4196, Stop: 5410, Start Num: 11

Candidate Starts for Bowtie\_7:

(Start: 11 @4196 has 382 MA's), (20, 4298), (38, 4430), (57, 4556), (74, 4649), (75, 4652), (83, 4688), (85, 4706), (87, 4730), (90, 4748), (92, 4760), (114, 4943), (120, 4961), (121, 4967), (138, 5087), (162, 5243), (167, 5297), (175, 5399), (176, 5402),

Gene: BreSam8\_4 Start: 1682, Stop: 2887, Start Num: 11

Candidate Starts for BreSam8\_4:

(Start: 9 @1655 has 2 MA's), (Start: 11 @1682 has 382 MA's), (55, 1910), (182, 2801), (192, 2873), (193, 2879),

Gene: Broseidon\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Broseidon\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Bruiser\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Bruiser\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: BubbleTrouble\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for BubbleTrouble\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Bud\_7 Start: 4202, Stop: 5416, Start Num: 11

Candidate Starts for Bud\_7:

(Start: 11 @4202 has 382 MA's), (20, 4304), (38, 4436), (57, 4562), (74, 4655), (75, 4658), (83, 4694), (85, 4712), (90, 4754), (103, 4811), (120, 4967), (121, 4973), (138, 5093), (162, 5249), (167, 5303), (175, 5405), (176, 5408),

Gene: Bugatti\_3 Start: 1612, Stop: 2826, Start Num: 11

Candidate Starts for Bugatti\_3:

(Start: 11 @1612 has 382 MA's), (26, 1747), (55, 1885), (80, 1999), (172, 2641), (182, 2743), (184, 2755), (192, 2812), (193, 2818),

Gene: Bumblebee11\_4 Start: 1644, Stop: 2729, Start Num: 11

Candidate Starts for Bumblebee11\_4:

(Start: 11 @1644 has 382 MA's), (Start: 23 @1752 has 2 MA's), (35, 1848), (65, 1962), (80, 2034), (185, 2658), (192, 2715), (193, 2721),

Gene: Burger\_3 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Burger\_3:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: BuzzBuzz\_3 Start: 1682, Stop: 2716, Start Num: 11

Candidate Starts for BuzzBuzz\_3:

(Start: 9 @1655 has 2 MA's), (Start: 11 @1682 has 382 MA's), (55, 1910), (168, 2630), (173, 2702), (174, 2708),

Gene: Bxz2\_4 Start: 1692, Stop: 2726, Start Num: 11

Candidate Starts for Bxz2\_4:

(Start: 9 @1665 has 2 MA's), (Start: 11 @1692 has 382 MA's), (55, 1920), (168, 2640), (173, 2712), (174, 2718),

Gene: Caelakin\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Caelakin\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Camperdownii\_4 Start: 1646, Stop: 2725, Start Num: 11

Candidate Starts for Camperdownii\_4:

(7, 1586), (Start: 11 @1646 has 382 MA's), (Start: 23 @1754 has 2 MA's), (35, 1850), (65, 1964), (182, 2639), (192, 2711),

Gene: Catalina\_7 Start: 4193, Stop: 5236, Start Num: 11

Candidate Starts for Catalina\_7:

(Start: 11 @4193 has 382 MA's), (64, 4526), (182, 5153), (184, 5165), (192, 5222), (193, 5228),

Gene: Caviar\_4 Start: 1633, Stop: 2760, Start Num: 11

Candidate Starts for Caviar\_4:

(6, 1570), (8, 1579), (Start: 11 @1633 has 382 MA's), (12, 1663), (18, 1720), (Start: 25 @1765 has 1 MA's), (55, 1906), (79, 2014), (112, 2302), (182, 2674), (185, 2692), (192, 2746), (193, 2752),

Gene: CentreCat\_4 Start: 1646, Stop: 2719, Start Num: 11

Candidate Starts for CentreCat\_4:

(7, 1586), (Start: 11 @1646 has 382 MA's), (Start: 23 @1754 has 2 MA's), (35, 1850), (65, 1964), (179, 2612), (185, 2648), (192, 2705), (193, 2711),

Gene: Cerulean\_4 Start: 1643, Stop: 2719, Start Num: 11

Candidate Starts for Cerulean\_4:

(7, 1583), (Start: 11 @1643 has 382 MA's), (Start: 23 @1751 has 2 MA's), (35, 1847), (65, 1961), (182, 2630), (185, 2648), (192, 2705), (193, 2711),

Gene: Chadwick\_4 Start: 2353, Stop: 3402, Start Num: 11

Candidate Starts for Chadwick\_4:

(5, 2275), (Start: 10 @2341 has 4 MA's), (Start: 11 @2353 has 382 MA's), (36, 2584), (37, 2590), (61, 2737), (67, 2773), (86, 2878), (97, 2971), (99, 2980), (103, 3004), (107, 3064), (120, 3160), (137, 3274), (142, 3316), (146, 3334), (155, 3361), (157, 3388), (159, 3394),

Gene: ChampagnePapi\_4 Start: 1642, Stop: 2718, Start Num: 11

Candidate Starts for ChampagnePapi\_4:

(7, 1582), (Start: 11 @1642 has 382 MA's), (Start: 23 @1750 has 2 MA's), (35, 1846), (65, 1960), (182, 2629), (185, 2647), (192, 2704), (193, 2710),

Gene: Changeling\_7 Start: 4153, Stop: 5271, Start Num: 11

Candidate Starts for Changeling\_7:

(Start: 11 @4153 has 382 MA's), (Start: 14 @4222 has 1 MA's), (54, 4435), (56, 4441), (59, 4456), (109, 4798), (177, 5161), (182, 5188), (184, 5200), (192, 5257), (193, 5263),

Gene: Chaph\_4 Start: 1645, Stop: 2727, Start Num: 11

Candidate Starts for Chaph\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2620), (185, 2656), (192, 2713), (193, 2719),

Gene: Chupacabra\_4 Start: 1765, Stop: 2814, Start Num: 25

Candidate Starts for Chupacabra\_4:

(Start: 11 @1633 has 382 MA's), (21, 1735), (Start: 25 @1765 has 1 MA's), (32, 1825), (33, 1828), (101, 2158), (115, 2314), (132, 2407), (177, 2704), (184, 2743), (185, 2749), (192, 2800), (193, 2806),

Gene: Cici\_4 Start: 1644, Stop: 2729, Start Num: 11

Candidate Starts for Cici\_4:

(Start: 11 @1644 has 382 MA's), (Start: 23 @1752 has 2 MA's), (35, 1848), (65, 1962), (80, 2034), (185, 2658), (192, 2715), (193, 2721),

Gene: Cindaradix\_4 Start: 1642, Stop: 2718, Start Num: 11

Candidate Starts for Cindaradix\_4:

(Start: 11 @1642 has 382 MA's), (Start: 23 @1750 has 2 MA's), (35, 1846), (65, 1960), (185, 2647), (192, 2704), (193, 2710),

Gene: Cintron\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Cintron\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (182, 2629), (185, 2647), (192, 2704), (193, 2710),

Gene: Citius\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Citius\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Clarenza\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Clarenza\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Cocoaberry\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Cocoaberry\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Colbster\_4 Start: 1681, Stop: 2625, Start Num: 11

Candidate Starts for Colbster\_4:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (55, 1909), (161, 2539), (169, 2611), (170, 2617),

Gene: Colin\_8 Start: 4293, Stop: 5243, Start Num: 11

Candidate Starts for Colin\_8:

(Start: 11 @4293 has 382 MA's), (Start: 14 @4362 has 1 MA's), (54, 4575), (117, 5013), (122, 5034), (178, 5139), (184, 5172), (187, 5202), (192, 5229), (193, 5235),

Gene: Commander\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Commander\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Connomayer\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Connomayer\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Conquerage\_7 Start: 4189, Stop: 5220, Start Num: 11

Candidate Starts for Conquerage\_7:

(Start: 9 @4162 has 2 MA's), (Start: 11 @4189 has 382 MA's), (182, 5137), (184, 5149), (192, 5206), (193, 5212),

Gene: Conspiracy\_4 Start: 2386, Stop: 3441, Start Num: 11

Candidate Starts for Conspiracy\_4:

(Start: 10 @2374 has 4 MA's), (Start: 11 @2386 has 382 MA's), (Start: 23 @2497 has 2 MA's), (37, 2614), (45, 2662), (78, 2854), (86, 2902), (100, 3016), (101, 3019), (105, 3058), (107, 3100), (135, 3301), (145, 3364), (146, 3370), (159, 3433),

Gene: Coog\_4 Start: 2354, Stop: 3571, Start Num: 11

Candidate Starts for Coog\_4:

(Start: 10 @2342 has 4 MA's), (Start: 11 @2354 has 382 MA's), (Start: 19 @2447 has 1 MA's), (38, 2588), (57, 2714), (60, 2726), (75, 2810), (83, 2846), (85, 2864), (87, 2888), (90, 2906), (92, 2918), (114, 3101), (150, 3335), (156, 3368), (164, 3416), (165, 3425), (167, 3455), (175, 3557), (176, 3560),

Gene: Cuco\_4 Start: 2385, Stop: 3602, Start Num: 11

Candidate Starts for Cuco\_4:

(Start: 10 @2373 has 4 MA's), (Start: 11 @2385 has 382 MA's), (Start: 19 @2478 has 1 MA's), (38, 2619), (57, 2745), (75, 2841), (83, 2877), (85, 2895), (87, 2919), (90, 2937), (92, 2949), (114, 3132), (150, 3366), (156, 3399), (164, 3447), (165, 3456), (167, 3486), (175, 3588), (176, 3591),

Gene: Cullens\_4 Start: 1681, Stop: 2625, Start Num: 11

Candidate Starts for Cullens\_4:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (55, 1909), (161, 2539), (169, 2611), (170, 2617),

Gene: DaHudson\_4 Start: 1681, Stop: 2886, Start Num: 11

Candidate Starts for DaHudson\_4:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (55, 1909), (182, 2800), (192, 2872), (193, 2878),

Gene: Danforth\_3 Start: 2306, Stop: 3358, Start Num: 11

Candidate Starts for Danforth\_3:

(4, 2147), (Start: 11 @2306 has 382 MA's), (37, 2543), (78, 2783), (86, 2831), (107, 3029), (121, 3131), (137, 3239), (159, 3350),

Gene: Darrell\_7 Start: 4069, Stop: 5115, Start Num: 11

Candidate Starts for Darrell\_7:

(Start: 11 @4069 has 382 MA's), (24, 4186), (55, 4354), (59, 4372), (182, 5029), (185, 5047), (192, 5101), (193, 5107),

Gene: DarthPhader\_7 Start: 4505, Stop: 5314, Start Num: 11

Candidate Starts for DarthPhader\_7:

(Start: 11 @4505 has 382 MA's), (15, 4577), (17, 4586), (30, 4697), (71, 4865), (113, 5201), (130, 5300), (133, 5306),

Gene: Datway\_4 Start: 1644, Stop: 2729, Start Num: 11

Candidate Starts for Datway\_4:

(Start: 11 @1644 has 382 MA's), (Start: 23 @1752 has 2 MA's), (35, 1848), (65, 1962), (80, 2034), (185, 2658), (192, 2715), (193, 2721),

Gene: Deano\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Deano\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: DekHockey33\_7 Start: 3561, Stop: 4553, Start Num: 11

Candidate Starts for DekHockey33\_7:

(3, 3348), (4, 3393), (5, 3474), (Start: 11 @3561 has 382 MA's), (31, 3747), (51, 3867), (52, 3870), (134, 4326), (140, 4383), (154, 4449), (157, 4479), (166, 4542),

Gene: Dhanush\_4 Start: 1644, Stop: 2717, Start Num: 11

Candidate Starts for Dhanush\_4:

(7, 1584), (Start: 11 @1644 has 382 MA's), (Start: 23 @1752 has 2 MA's), (35, 1848), (65, 1962), (179, 2610), (185, 2646), (192, 2703), (193, 2709),

Gene: Dieselweasel\_4 Start: 1681, Stop: 2895, Start Num: 11

Candidate Starts for Dieselweasel\_4:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (55, 1909), (182, 2809), (192, 2881), (193, 2887),

Gene: DirtyDunning\_4 Start: 1643, Stop: 2716, Start Num: 11

Candidate Starts for DirtyDunning\_4:

(7, 1583), (Start: 11 @1643 has 382 MA's), (Start: 23 @1751 has 2 MA's), (35, 1847), (65, 1961), (182, 2627), (185, 2645), (192, 2702), (193, 2708),

Gene: Discoknowium\_4 Start: 2385, Stop: 3710, Start Num: 11

Candidate Starts for Discoknowium\_4:

(4, 2226), (Start: 10 @2373 has 4 MA's), (Start: 11 @2385 has 382 MA's), (27, 2550), (38, 2631), (43, 2667), (44, 2679), (49, 2712), (63, 2808), (81, 2904), (82, 2907), (88, 3012), (89, 3015), (90, 3027), (91, 3030), (93, 3051), (95, 3069), (114, 3264), (121, 3288), (135, 3387), (167, 3597), (175, 3699),

(176, 3702),

Gene: Dixon\_4 Start: 2307, Stop: 3344, Start Num: 11

Candidate Starts for Dixon\_4:

(4, 2148), (Start: 11 @2307 has 382 MA's), (37, 2544), (61, 2691), (139, 3237), (146, 3276), (153, 3300), (159, 3336),

Gene: Druantia\_4 Start: 1646, Stop: 2719, Start Num: 11

Candidate Starts for Druantia\_4:

(7, 1586), (Start: 11 @1646 has 382 MA's), (Start: 23 @1754 has 2 MA's), (35, 1850), (65, 1964), (179, 2612), (185, 2648), (192, 2705), (193, 2711),

Gene: Dublin\_3 Start: 2354, Stop: 3571, Start Num: 11

Candidate Starts for Dublin\_3:

(Start: 10 @2342 has 4 MA's), (Start: 11 @2354 has 382 MA's), (Start: 19 @2447 has 1 MA's), (38, 2588), (57, 2714), (75, 2810), (83, 2846), (85, 2864), (87, 2888), (90, 2906), (92, 2918), (114, 3101), (150, 3335), (156, 3368), (164, 3416), (165, 3425), (167, 3455), (175, 3557), (176, 3560),

Gene: EZMoney23\_7 Start: 4151, Stop: 5341, Start Num: 11

Candidate Starts for EZMoney23\_7:

(Start: 11 @4151 has 382 MA's), (64, 4484), (109, 4796), (177, 5231), (182, 5258), (185, 5276), (189, 5309), (192, 5327), (193, 5333),

Gene: Eagle\_3 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Eagle\_3:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: EagleEye\_7 Start: 3969, Stop: 4871, Start Num: 11

Candidate Starts for EagleEye\_7:

(Start: 11 @3969 has 382 MA's), (37, 4197), (40, 4212), (102, 4479), (106, 4536), (108, 4551), (121, 4644), (135, 4743), (153, 4827), (159, 4863),

Gene: Eapen\_4 Start: 1647, Stop: 2720, Start Num: 11

Candidate Starts for Eapen\_4:

(7, 1587), (Start: 11 @1647 has 382 MA's), (Start: 23 @1755 has 2 MA's), (35, 1851), (65, 1965), (179, 2613), (185, 2649), (192, 2706), (193, 2712),

Gene: Ebony\_7 Start: 4202, Stop: 5416, Start Num: 11

Candidate Starts for Ebony\_7:

(Start: 11 @4202 has 382 MA's), (20, 4304), (38, 4436), (57, 4562), (74, 4655), (75, 4658), (83, 4694), (85, 4712), (87, 4736), (90, 4754), (92, 4766), (114, 4949), (120, 4967), (121, 4973), (138, 5093), (162, 5249), (167, 5303), (175, 5405), (176, 5408),

Gene: Edison31\_3 Start: 1857, Stop: 2834, Start Num: 33

Candidate Starts for Edison31\_3:

(Start: 11 @1662 has 382 MA's), (28, 1827), (32, 1854), (33, 1857), (55, 1935), (94, 2154), (104, 2208), (115, 2343), (143, 2478), (182, 2751), (184, 2763), (185, 2769), (192, 2820), (193, 2826),

Gene: Eidsmoe\_7 Start: 4189, Stop: 5220, Start Num: 11

Candidate Starts for Eidsmoe\_7:

(Start: 9 @4162 has 2 MA's), (Start: 11 @4189 has 382 MA's), (182, 5137), (184, 5149), (192, 5206), (193, 5212),

Gene: EITiger69\_4 Start: 2354, Stop: 3403, Start Num: 11

Candidate Starts for EITiger69\_4:

(5, 2276), (Start: 10 @2342 has 4 MA's), (Start: 11 @2354 has 382 MA's), (Start: 23 @2465 has 2 MA's), (36, 2585), (37, 2591), (61, 2738), (67, 2774), (86, 2879), (97, 2972), (99, 2981), (103, 3005), (107, 3065), (120, 3161), (137, 3275), (142, 3317), (146, 3335), (155, 3362), (157, 3389), (159, 3395),

Gene: Elephantoon\_7 Start: 3947, Stop: 4801, Start Num: 11

Candidate Starts for Elephantoon\_7:

(Start: 11 @3947 has 382 MA's), (24, 4064), (55, 4232), (73, 4310), (192, 4787), (193, 4793),

Gene: EmyBug\_5 Start: 4189, Stop: 5220, Start Num: 11

Candidate Starts for EmyBug\_5:

(Start: 11 @4189 has 382 MA's), (182, 5137), (184, 5149), (192, 5206), (193, 5212),

Gene: EpicPhail\_4 Start: 1681, Stop: 2625, Start Num: 11

Candidate Starts for EpicPhail\_4:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (55, 1909), (161, 2539), (169, 2611), (170, 2617),

Gene: Epsocamisio\_7 Start: 3414, Stop: 4406, Start Num: 11

Candidate Starts for Epsocamisio\_7:

(1, 3147), (3, 3201), (4, 3246), (5, 3327), (Start: 11 @3414 has 382 MA's), (31, 3600), (47, 3690), (52, 3723), (76, 3795), (92, 3870), (134, 4179), (140, 4236), (154, 4302), (157, 4332), (166, 4395),

Gene: Eris\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Eris\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Eros\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Eros\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Et2Brutus\_6 Start: 4199, Stop: 5413, Start Num: 11

Candidate Starts for Et2Brutus\_6:

(Start: 11 @4199 has 382 MA's), (20, 4301), (38, 4433), (57, 4559), (74, 4652), (75, 4655), (83, 4691), (85, 4709), (90, 4751), (103, 4808), (120, 4964), (121, 4970), (138, 5090), (162, 5246), (167, 5300), (175, 5402), (176, 5405),

Gene: Eurydice\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Eurydice\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Expelliarmus\_3 Start: 2307, Stop: 3344, Start Num: 11

Candidate Starts for Expelliarmus\_3:

(4, 2148), (Start: 11 @2307 has 382 MA's), (37, 2544), (61, 2691), (139, 3237), (146, 3276), (153, 3300), (159, 3336),

Gene: ExplosioNervosa\_7 Start: 4192, Stop: 5223, Start Num: 11

Candidate Starts for ExplosioNervosa\_7:

(Start: 11 @4192 has 382 MA's), (182, 5140), (184, 5152), (192, 5209), (193, 5215),

Gene: Farber\_4 Start: 1682, Stop: 2887, Start Num: 11

Candidate Starts for Farber\_4:

(Start: 9 @1655 has 2 MA's), (Start: 11 @1682 has 382 MA's), (55, 1910), (182, 2801), (192, 2873), (193, 2879),

Gene: Fayely\_7 Start: 4192, Stop: 5223, Start Num: 11

Candidate Starts for Fayely\_7:

(Start: 11 @4192 has 382 MA's), (182, 5140), (184, 5152), (192, 5209), (193, 5215),

Gene: Fernando\_4 Start: 1681, Stop: 2625, Start Num: 11

Candidate Starts for Fernando\_4:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (55, 1909), (161, 2539), (169, 2611), (170, 2617),

Gene: Fibonacci\_7 Start: 4199, Stop: 5413, Start Num: 11

Candidate Starts for Fibonacci\_7:

(Start: 11 @4199 has 382 MA's), (20, 4301), (38, 4433), (57, 4559), (74, 4652), (75, 4655), (83, 4691), (85, 4709), (90, 4751), (103, 4808), (120, 4964), (121, 4970), (138, 5090), (162, 5246), (167, 5300), (175, 5402), (176, 5405),

Gene: Flaverint\_7 Start: 4196, Stop: 5410, Start Num: 11

Candidate Starts for Flaverint\_7:

(Start: 11 @4196 has 382 MA's), (20, 4298), (38, 4430), (57, 4556), (74, 4649), (75, 4652), (83, 4688), (85, 4706), (87, 4730), (90, 4748), (92, 4760), (114, 4943), (120, 4961), (121, 4967), (138, 5087), (162, 5243), (167, 5297), (175, 5399), (176, 5402),

Gene: Florean\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Florean\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Flux\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Flux\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: ForGetIt\_4 Start: 2412, Stop: 3467, Start Num: 11

Candidate Starts for ForGetIt\_4:

(Start: 10 @2400 has 4 MA's), (Start: 11 @2412 has 382 MA's), (Start: 23 @2523 has 2 MA's), (37, 2640), (45, 2688), (78, 2880), (86, 2928), (100, 3042), (101, 3045), (105, 3084), (107, 3126), (135, 3327), (145, 3390), (146, 3396), (159, 3459),

Gene: Fred313\_4 Start: 1605, Stop: 2732, Start Num: 11

Candidate Starts for Fred313\_4:

(Start: 11 @1605 has 382 MA's), (26, 1740), (53, 1863), (55, 1878), (63, 1911), (182, 2646), (192, 2718), (193, 2724),

Gene: Funston\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Funston\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),



Gene: Gadost\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Gadost\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: GaugeLDP\_7 Start: 3954, Stop: 4844, Start Num: 11

Candidate Starts for GaugeLDP\_7:

(Start: 11 @3954 has 382 MA's), (Start: 23 @4062 has 2 MA's), (55, 4230), (148, 4761), (152, 4773), (163, 4830),

Gene: Gemma\_4 Start: 1685, Stop: 2884, Start Num: 11

Candidate Starts for Gemma\_4:

(Start: 9 @1658 has 2 MA's), (Start: 11 @1685 has 382 MA's), (39, 1865), (55, 1913), (110, 2309), (182, 2798), (185, 2816), (192, 2870), (193, 2876),

Gene: George\_3 Start: 2385, Stop: 3602, Start Num: 11

Candidate Starts for George\_3:

(Start: 10 @2373 has 4 MA's), (Start: 11 @2385 has 382 MA's), (Start: 19 @2478 has 1 MA's), (38, 2619), (57, 2745), (60, 2757), (75, 2841), (83, 2877), (85, 2895), (87, 2919), (90, 2937), (92, 2949), (114, 3132), (150, 3366), (156, 3399), (164, 3447), (165, 3456), (167, 3486), (175, 3588), (176, 3591),

Gene: Ghouboy\_4 Start: 2354, Stop: 3679, Start Num: 11

Candidate Starts for Ghouboy\_4:

(4, 2195), (Start: 10 @2342 has 4 MA's), (Start: 11 @2354 has 382 MA's), (27, 2519), (38, 2600), (43, 2636), (44, 2648), (49, 2681), (63, 2777), (81, 2873), (82, 2876), (88, 2981), (89, 2984), (90, 2996), (91, 2999), (93, 3020), (95, 3038), (103, 3095), (114, 3233), (121, 3257), (135, 3356), (167, 3566), (175, 3668), (176, 3671),

Gene: Gilberta\_7 Start: 4193, Stop: 5407, Start Num: 11

Candidate Starts for Gilberta\_7:

(Start: 11 @4193 has 382 MA's), (20, 4295), (38, 4427), (57, 4553), (74, 4646), (75, 4649), (83, 4685), (85, 4703), (87, 4727), (90, 4745), (92, 4757), (114, 4940), (120, 4958), (121, 4964), (138, 5084), (162, 5240), (167, 5294), (175, 5396), (176, 5399),

Gene: GingkoMaracino\_4 Start: 1681, Stop: 2805, Start Num: 11

Candidate Starts for GingkoMaracino\_4:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (55, 1909), (182, 2719), (192, 2791), (193, 2797),

Gene: Giroux\_3 Start: 1612, Stop: 2826, Start Num: 11

Candidate Starts for Giroux\_3:

(Start: 11 @1612 has 382 MA's), (26, 1747), (55, 1885), (80, 1999), (172, 2641), (182, 2743), (184, 2755), (192, 2812), (193, 2818),

Gene: Goose\_4 Start: 1635, Stop: 2816, Start Num: 11

Candidate Starts for Goose\_4:

(Start: 11 @1635 has 382 MA's), (21, 1737), (Start: 25 @1767 has 1 MA's), (32, 1827), (33, 1830), (101, 2160), (115, 2316), (132, 2409), (177, 2706), (184, 2745), (185, 2751), (192, 2802), (193, 2808),

Gene: Grif\_4 Start: 1681, Stop: 2715, Start Num: 11

Candidate Starts for Grif\_4:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (55, 1909), (168, 2629), (173, 2701), (174, 2707),

Gene: Groundhog\_3 Start: 2308, Stop: 3345, Start Num: 11

Candidate Starts for Groundhog\_3:

(4, 2149), (Start: 11 @2308 has 382 MA's), (37, 2545), (61, 2692), (139, 3238), (146, 3277), (153, 3301), (159, 3337),

Gene: Groupthink\_5 Start: 1685, Stop: 2884, Start Num: 11

Candidate Starts for Groupthink\_5:

(Start: 9 @1658 has 2 MA's), (Start: 11 @1685 has 382 MA's), (39, 1865), (55, 1913), (110, 2309), (182, 2798), (185, 2816), (192, 2870), (193, 2876),

Gene: Grub\_4 Start: 1681, Stop: 2886, Start Num: 11

Candidate Starts for Grub\_4:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (55, 1909), (182, 2800), (192, 2872), (193, 2878),

Gene: Grum1\_4 Start: 1681, Stop: 2625, Start Num: 11

Candidate Starts for Grum1\_4:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (55, 1909), (161, 2539), (169, 2611), (170, 2617),

Gene: GtownJaz\_4 Start: 1681, Stop: 2895, Start Num: 11

Candidate Starts for GtownJaz\_4:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (55, 1909), (182, 2809), (192, 2881), (193, 2887),

Gene: HamSlice\_3 Start: 1646, Stop: 2719, Start Num: 11

Candidate Starts for HamSlice\_3:

(7, 1586), (Start: 11 @1646 has 382 MA's), (Start: 23 @1754 has 2 MA's), (26, 1781), (35, 1850), (65, 1964), (179, 2612), (185, 2648), (192, 2705), (193, 2711),

Gene: Happiness\_4 Start: 1644, Stop: 2720, Start Num: 11

Candidate Starts for Happiness\_4:

(7, 1584), (Start: 11 @1644 has 382 MA's), (Start: 23 @1752 has 2 MA's), (35, 1848), (65, 1962), (182, 2631), (185, 2649), (192, 2706), (193, 2712),

Gene: HashRod\_5 Start: 1682, Stop: 2716, Start Num: 11

Candidate Starts for HashRod\_5:

(Start: 9 @1655 has 2 MA's), (Start: 11 @1682 has 382 MA's), (55, 1910), (168, 2630), (173, 2702), (174, 2708),

Gene: HaveUMetTed\_5 Start: 1685, Stop: 2884, Start Num: 11

Candidate Starts for HaveUMetTed\_5:

(Start: 9 @1658 has 2 MA's), (Start: 11 @1685 has 382 MA's), (39, 1865), (55, 1913), (110, 2309), (182, 2798), (185, 2816), (192, 2870), (193, 2876),

Gene: Heathen\_4 Start: 1605, Stop: 2657, Start Num: 11

Candidate Starts for Heathen\_4:

(Start: 11 @1605 has 382 MA's), (26, 1740), (53, 1863), (55, 1878), (63, 1911), (171, 2574), (181, 2643), (183, 2649),

Gene: Heffalump\_8 Start: 4531, Stop: 5598, Start Num: 11

Candidate Starts for Heffalump\_8:

(Start: 11 @4531 has 382 MA's), (Start: 14 @4600 has 1 MA's), (34, 4732), (182, 5512), (185, 5530), (188, 5560), (190, 5566), (192, 5584),

Gene: HelDan\_4 Start: 1605, Stop: 2909, Start Num: 11

Candidate Starts for HelDan\_4:

(8, 1551), (Start: 11 @1605 has 382 MA's), (26, 1740), (53, 1863), (55, 1878), (63, 1911), (198, 2826), (199, 2895), (200, 2901),

Gene: Heliosoles\_4 Start: 1685, Stop: 2884, Start Num: 11

Candidate Starts for Heliosoles\_4:

(Start: 9 @1658 has 2 MA's), (Start: 11 @1685 has 382 MA's), (39, 1865), (55, 1913), (110, 2309), (182, 2798), (185, 2816), (192, 2870), (193, 2876),

Gene: Hercules11\_4 Start: 1681, Stop: 2634, Start Num: 11

Candidate Starts for Hercules11\_4:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (55, 1909), (161, 2548), (169, 2620), (170, 2626),

Gene: Holli\_4 Start: 1645, Stop: 2511, Start Num: 11

Candidate Starts for Holli\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2404), (185, 2440), (192, 2497), (193, 2503),

Gene: Hookmount\_4 Start: 1633, Stop: 2760, Start Num: 11

Candidate Starts for Hookmount\_4:

(6, 1570), (8, 1579), (Start: 11 @1633 has 382 MA's), (12, 1663), (18, 1720), (Start: 25 @1765 has 1 MA's), (55, 1906), (79, 2014), (112, 2302), (182, 2674), (185, 2692), (192, 2746), (193, 2752),

Gene: HortumSL17\_7 Start: 4192, Stop: 5235, Start Num: 11

Candidate Starts for HortumSL17\_7:

(Start: 11 @4192 has 382 MA's), (64, 4525), (182, 5152), (184, 5164), (192, 5221), (193, 5227),

Gene: Houdini22\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Houdini22\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: HuhtaEnerson15\_4 Start: 2386, Stop: 3603, Start Num: 11

Candidate Starts for HuhtaEnerson15\_4:

(Start: 10 @2374 has 4 MA's), (Start: 11 @2386 has 382 MA's), (Start: 19 @2479 has 1 MA's), (38, 2620), (57, 2746), (60, 2758), (75, 2842), (83, 2878), (85, 2896), (87, 2920), (90, 2938), (92, 2950), (114, 3133), (150, 3367), (156, 3400), (164, 3448), (165, 3457), (167, 3487), (175, 3589), (176, 3592),

Gene: Hutc2\_7 Start: 4199, Stop: 5413, Start Num: 11

Candidate Starts for Hutc2\_7:

(Start: 11 @4199 has 382 MA's), (20, 4301), (38, 4433), (57, 4559), (74, 4652), (75, 4655), (83, 4691), (85, 4709), (90, 4751), (103, 4808), (120, 4964), (121, 4970), (138, 5090), (162, 5246), (167, 5300), (175, 5402), (176, 5405),

Gene: ICleared\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for ICleared\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Iceman\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Iceman\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Idleandcovert\_3 Start: 1612, Stop: 2826, Start Num: 11

Candidate Starts for Idleandcovert\_3:

(Start: 11 @1612 has 382 MA's), (26, 1747), (55, 1885), (80, 1999), (172, 2641), (182, 2743), (184, 2755), (192, 2812), (193, 2818),

Gene: Insomnia\_6 Start: 4196, Stop: 5410, Start Num: 11

Candidate Starts for Insomnia\_6:

(Start: 11 @4196 has 382 MA's), (20, 4298), (38, 4430), (57, 4556), (74, 4649), (75, 4652), (83, 4688), (85, 4706), (87, 4730), (90, 4748), (92, 4760), (114, 4943), (120, 4961), (121, 4967), (138, 5087), (162, 5243), (167, 5297), (175, 5399), (176, 5402),

Gene: Iracema64\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Iracema64\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (182, 2629), (185, 2647), (192, 2704), (193, 2710),

Gene: IronMan\_7 Start: 3972, Stop: 5072, Start Num: 11

Candidate Starts for IronMan\_7:

(Start: 11 @3972 has 382 MA's), (75, 4347), (95, 4482), (109, 4611), (185, 5001), (192, 5058), (193, 5064),

Gene: Isca\_4 Start: 1610, Stop: 2746, Start Num: 11

Candidate Starts for Isca\_4:

(6, 1547), (Start: 11 @1610 has 382 MA's), (26, 1745), (53, 1868), (55, 1883), (80, 1997), (182, 2660), (192, 2732), (193, 2738),

Gene: JF2\_4 Start: 1608, Stop: 2510, Start Num: 11

Candidate Starts for JF2\_4:

(Start: 11 @1608 has 382 MA's), (26, 1743), (53, 1866), (55, 1881), (80, 1995), (182, 2424), (192, 2496), (193, 2502),

Gene: JF4\_4 Start: 1608, Stop: 2510, Start Num: 11

Candidate Starts for JF4\_4:

(Start: 11 @1608 has 382 MA's), (26, 1743), (53, 1866), (55, 1881), (80, 1995), (182, 2424), (192, 2496), (193, 2502),

Gene: JHC117\_4 Start: 1654, Stop: 2625, Start Num: 9

Candidate Starts for JHC117\_4:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (55, 1909), (161, 2539), (169, 2611), (170, 2617),

Gene: JSwag\_7 Start: 3414, Stop: 4406, Start Num: 11

Candidate Starts for JSwag\_7:

(1, 3147), (3, 3201), (4, 3246), (5, 3327), (Start: 11 @3414 has 382 MA's), (31, 3600), (47, 3690), (52, 3723), (76, 3795), (92, 3870), (134, 4179), (140, 4236), (154, 4302), (157, 4332), (166, 4395),

Gene: Jaan\_7 Start: 3968, Stop: 5068, Start Num: 11

Candidate Starts for Jaan\_7:

(5, 3887), (Start: 11 @3968 has 382 MA's), (29, 4139), (34, 4169), (68, 4310), (75, 4343), (109, 4607), (192, 5054), (193, 5060),

Gene: Jabiru\_4 Start: 2354, Stop: 3403, Start Num: 11

Candidate Starts for Jabiru\_4:

(5, 2276), (Start: 10 @2342 has 4 MA's), (Start: 11 @2354 has 382 MA's), (Start: 23 @2465 has 2 MA's), (36, 2585), (37, 2591), (61, 2738), (67, 2774), (86, 2879), (97, 2972), (99, 2981), (103, 3005), (107, 3065), (120, 3161), (137, 3275), (142, 3317), (146, 3335), (155, 3362), (157, 3389), (159, 3395),

Gene: Jabith\_7 Start: 4196, Stop: 5410, Start Num: 11

Candidate Starts for Jabith\_7:

(Start: 11 @4196 has 382 MA's), (20, 4298), (38, 4430), (57, 4556), (74, 4649), (75, 4652), (83, 4688), (85, 4706), (87, 4730), (90, 4748), (92, 4760), (114, 4943), (120, 4961), (121, 4967), (138, 5087), (162, 5243), (167, 5297), (175, 5399), (176, 5402),

Gene: Jaykayelowell\_4 Start: 1644, Stop: 2717, Start Num: 11

Candidate Starts for Jaykayelowell\_4:

(7, 1584), (Start: 11 @1644 has 382 MA's), (Start: 23 @1752 has 2 MA's), (35, 1848), (65, 1962), (179, 2610), (185, 2646), (192, 2703), (193, 2709),

Gene: JenCasNa\_4 Start: 1681, Stop: 2625, Start Num: 11

Candidate Starts for JenCasNa\_4:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (55, 1909), (161, 2539), (169, 2611), (170, 2617),

Gene: JeppNRM\_5 Start: 1685, Stop: 2884, Start Num: 11

Candidate Starts for JeppNRM\_5:

(Start: 9 @1658 has 2 MA's), (Start: 11 @1685 has 382 MA's), (39, 1865), (55, 1913), (110, 2309), (182, 2798), (185, 2816), (192, 2870), (193, 2876),

Gene: JetBlade\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for JetBlade\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Jobu08\_4 Start: 1681, Stop: 2958, Start Num: 11

Candidate Starts for Jobu08\_4:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (39, 1861), (55, 1909), (110, 2305), (182, 2875), (184, 2887), (185, 2893), (192, 2944), (193, 2950),

Gene: JoongJeon\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for JoongJeon\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Joselito\_7 Start: 4196, Stop: 5410, Start Num: 11

Candidate Starts for Joselito\_7:

(Start: 11 @4196 has 382 MA's), (20, 4298), (38, 4430), (57, 4556), (74, 4649), (75, 4652), (83, 4688), (85, 4706), (87, 4730), (90, 4748), (92, 4760), (114, 4943), (120, 4961), (121, 4967), (138, 5087), (162, 5243), (167, 5297), (175, 5399), (176, 5402),

Gene: Jovo\_4 Start: 2374, Stop: 3711, Start Num: 10

Candidate Starts for Jovo\_4:

(4, 2227), (Start: 10 @2374 has 4 MA's), (Start: 11 @2386 has 382 MA's), (27, 2551), (38, 2632), (43, 2668), (44, 2680), (49, 2713), (63, 2809), (81, 2905), (82, 2908), (88, 3013), (89, 3016), (90, 3028), (91, 3031), (93, 3052), (95, 3070), (114, 3265), (121, 3289), (135, 3388), (167, 3598), (175, 3700), (176, 3703),

Gene: KADY\_5 Start: 1682, Stop: 2716, Start Num: 11

Candidate Starts for KADY\_5:

(Start: 9 @1655 has 2 MA's), (Start: 11 @1682 has 382 MA's), (55, 1910), (168, 2630), (173, 2702), (174, 2708),

Gene: KFPoly\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for KFPoly\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (101, 2176), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Kalb97\_5 Start: 1683, Stop: 2882, Start Num: 11

Candidate Starts for Kalb97\_5:

(Start: 9 @1656 has 2 MA's), (Start: 11 @1683 has 382 MA's), (39, 1863), (55, 1911), (110, 2307), (182, 2796), (185, 2814), (192, 2868), (193, 2874),

Gene: Kalnoky\_5 Start: 1685, Stop: 2884, Start Num: 11

Candidate Starts for Kalnoky\_5:

(Start: 9 @1658 has 2 MA's), (Start: 11 @1685 has 382 MA's), (39, 1865), (55, 1913), (110, 2309), (182, 2798), (185, 2816), (192, 2870), (193, 2876),

Gene: Kalpine\_7 Start: 4413, Stop: 5363, Start Num: 11

Candidate Starts for Kalpine\_7:

(Start: 11 @4413 has 382 MA's), (Start: 14 @4482 has 1 MA's), (54, 4695), (117, 5133), (122, 5154), (178, 5259), (184, 5292), (187, 5322), (192, 5349), (193, 5355),

Gene: Kampy\_4 Start: 1646, Stop: 2719, Start Num: 11

Candidate Starts for Kampy\_4:

(7, 1586), (Start: 11 @1646 has 382 MA's), (Start: 23 @1754 has 2 MA's), (35, 1850), (65, 1964), (179, 2612), (185, 2648), (192, 2705), (193, 2711),

Gene: Katalie136\_4 Start: 1644, Stop: 2729, Start Num: 11

Candidate Starts for Katalie136\_4:

(Start: 11 @1644 has 382 MA's), (Start: 23 @1752 has 2 MA's), (35, 1848), (65, 1962), (80, 2034), (185, 2658), (192, 2715), (193, 2721),

Gene: KatherineG\_7 Start: 3561, Stop: 4553, Start Num: 11

Candidate Starts for KatherineG\_7:

(3, 3348), (4, 3393), (5, 3474), (Start: 11 @3561 has 382 MA's), (31, 3747), (51, 3867), (52, 3870), (134, 4326), (140, 4383), (154, 4449), (157, 4479), (166, 4542),

Gene: Kingmustik0402\_4 Start: 1646, Stop: 2710, Start Num: 11

Candidate Starts for Kingmustik0402\_4:

(7, 1586), (Start: 11 @1646 has 382 MA's), (Start: 23 @1754 has 2 MA's), (35, 1850), (65, 1964), (179, 2603), (185, 2639), (192, 2696), (193, 2702),

Gene: Koreni\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Koreni\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (180, 2623), (182, 2629), (185, 2647), (192, 2704), (193, 2710),

Gene: Kratark\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Kratark\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Kristoff\_5 Start: 1827, Stop: 2999, Start Num: 11

Candidate Starts for Kristoff\_5:

(Start: 11 @1827 has 382 MA's), (28, 1992), (32, 2019), (33, 2022), (55, 2100), (94, 2319), (104, 2373), (115, 2508), (143, 2643), (182, 2916), (184, 2928), (185, 2934), (192, 2985), (193, 2991),

Gene: Kyee\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Kyee\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: LBerry\_4 Start: 1681, Stop: 2625, Start Num: 11

Candidate Starts for LBerry\_4:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (55, 1909), (161, 2539), (169, 2611), (170, 2617),

Gene: LHTSCC\_4 Start: 1642, Stop: 2718, Start Num: 11

Candidate Starts for LHTSCC\_4:

(7, 1582), (Start: 11 @1642 has 382 MA's), (Start: 23 @1750 has 2 MA's), (35, 1846), (65, 1960), (182, 2629), (185, 2647), (192, 2704), (193, 2710),

Gene: Lambert1\_4 Start: 1633, Stop: 2760, Start Num: 11

Candidate Starts for Lambert1\_4:

(6, 1570), (8, 1579), (Start: 11 @1633 has 382 MA's), (12, 1663), (18, 1720), (Start: 25 @1765 has 1 MA's), (55, 1906), (79, 2014), (112, 2302), (182, 2674), (185, 2692), (192, 2746), (193, 2752),

Gene: Landor\_7 Start: 4141, Stop: 5070, Start Num: 29

Candidate Starts for Landor\_7:

(5, 3889), (Start: 11 @3970 has 382 MA's), (29, 4141), (34, 4171), (64, 4297), (68, 4312), (75, 4345), (109, 4609), (192, 5056), (193, 5062),

Gene: LappelDuVide\_3 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for LappelDuVide\_3:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: LarryKay\_4 Start: 1682, Stop: 2716, Start Num: 11

Candidate Starts for LarryKay\_4:

(Start: 9 @1655 has 2 MA's), (Start: 11 @1682 has 382 MA's), (55, 1910), (168, 2630), (173, 2702), (174, 2708),

Gene: LastResort\_7 Start: 3414, Stop: 4406, Start Num: 11

Candidate Starts for LastResort\_7:

(1, 3147), (3, 3201), (4, 3246), (5, 3327), (Start: 11 @3414 has 382 MA's), (31, 3600), (47, 3690), (52, 3723), (76, 3795), (92, 3870), (134, 4179), (140, 4236), (154, 4302), (157, 4332), (166, 4395),

Gene: Lemur\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Lemur\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: LeoAvram\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for LeoAvram\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Leogania\_7 Start: 4183, Stop: 5397, Start Num: 11

Candidate Starts for Leogania\_7:

(5, 4102), (Start: 11 @4183 has 382 MA's), (Start: 14 @4252 has 1 MA's), (109, 4822), (185, 5329),

Gene: Lev2\_4 Start: 2385, Stop: 3440, Start Num: 11

Candidate Starts for Lev2\_4:

(Start: 10 @2373 has 4 MA's), (Start: 11 @2385 has 382 MA's), (Start: 23 @2496 has 2 MA's), (37, 2613), (45, 2661), (78, 2853), (86, 2901), (100, 3015), (101, 3018), (105, 3057), (107, 3099), (135, 3300), (145, 3363), (146, 3369), (159, 3432),

Gene: Lilith\_4 Start: 1682, Stop: 2887, Start Num: 11

Candidate Starts for Lilith\_4:

(Start: 9 @1655 has 2 MA's), (Start: 11 @1682 has 382 MA's), (55, 1910), (182, 2801), (192, 2873), (193, 2879),

Gene: LittleB\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for LittleB\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: LittleCherry\_4 Start: 2387, Stop: 3604, Start Num: 11

Candidate Starts for LittleCherry\_4:

(Start: 10 @2375 has 4 MA's), (Start: 11 @2387 has 382 MA's), (Start: 19 @2480 has 1 MA's), (38, 2621), (57, 2747), (60, 2759), (75, 2843), (83, 2879), (85, 2897), (87, 2921), (90, 2939), (92, 2951), (114, 3134), (150, 3368), (156, 3401), (164, 3449), (165, 3458), (167, 3488), (175, 3590), (176, 3593),

Gene: LittleGuy\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for LittleGuy\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: LochMonster\_4 Start: 1643, Stop: 2716, Start Num: 11

Candidate Starts for LochMonster\_4:

(7, 1583), (Start: 11 @1643 has 382 MA's), (Start: 23 @1751 has 2 MA's), (35, 1847), (65, 1961), (182, 2627), (185, 2645), (192, 2702), (193, 2708),

Gene: Lokk\_8 Start: 4396, Stop: 5382, Start Num: 11

Candidate Starts for Lokk\_8:

(Start: 11 @4396 has 382 MA's), (80, 4795), (119, 5113), (184, 5308), (190, 5350), (192, 5368), (193, 5374),



Gene: LoneWolf\_7 Start: 3950, Stop: 4993, Start Num: 11

Candidate Starts for LoneWolf\_7:

(Start: 11 @3950 has 382 MA's), (192, 4979), (193, 4985),

Gene: Looper\_7 Start: 3414, Stop: 4406, Start Num: 11

Candidate Starts for Looper\_7:

(1, 3147), (3, 3201), (4, 3246), (5, 3327), (Start: 11 @3414 has 382 MA's), (31, 3600), (47, 3690), (52, 3723), (76, 3795), (92, 3870), (134, 4179), (140, 4236), (154, 4302), (157, 4332), (166, 4395),

Gene: Lorenzo\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Lorenzo\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Loser\_7 Start: 4131, Stop: 5249, Start Num: 11

Candidate Starts for Loser\_7:

(Start: 11 @4131 has 382 MA's), (54, 4413), (56, 4419), (109, 4776), (122, 4878), (177, 5139), (182, 5166), (184, 5178), (192, 5235), (193, 5241),

Gene: Louie6\_4 Start: 1682, Stop: 2716, Start Num: 11

Candidate Starts for Louie6\_4:

(Start: 9 @1655 has 2 MA's), (Start: 11 @1682 has 382 MA's), (55, 1910), (168, 2630), (173, 2702), (174, 2708),

Gene: Lucivia\_7 Start: 4193, Stop: 5407, Start Num: 11

Candidate Starts for Lucivia\_7:

(Start: 11 @4193 has 382 MA's), (20, 4295), (38, 4427), (57, 4553), (74, 4646), (75, 4649), (83, 4685), (85, 4703), (87, 4727), (90, 4745), (92, 4757), (114, 4940), (120, 4958), (121, 4964), (138, 5084), (162, 5240), (167, 5294), (175, 5396), (176, 5399),

Gene: Lucyedi\_7 Start: 3969, Stop: 4871, Start Num: 11

Candidate Starts for Lucyedi\_7:

(Start: 11 @3969 has 382 MA's), (37, 4197), (102, 4479), (106, 4536), (108, 4551), (121, 4644), (135, 4743), (159, 4863),

Gene: LugYA\_6 Start: 1681, Stop: 2625, Start Num: 11

Candidate Starts for LugYA\_6:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (55, 1909), (161, 2539), (169, 2611), (170, 2617),

Gene: Lunsford\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Lunsford\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: MA5\_4 Start: 1622, Stop: 2464, Start Num: 11

Candidate Starts for MA5\_4:

(Start: 11 @1622 has 382 MA's), (26, 1757), (182, 2381), (185, 2399), (192, 2450), (193, 2456),

Gene: MK4\_4 Start: 1608, Stop: 2744, Start Num: 11

Candidate Starts for MK4\_4:

(Start: 11 @1608 has 382 MA's), (26, 1743), (53, 1866), (55, 1881), (80, 1995), (182, 2658), (192, 2730), (193, 2736),

Gene: MaCh\_7 Start: 4193, Stop: 5407, Start Num: 11

Candidate Starts for MaCh\_7:

(Start: 11 @4193 has 382 MA's), (20, 4295), (38, 4427), (57, 4553), (74, 4646), (75, 4649), (83, 4685), (85, 4703), (87, 4727), (90, 4745), (92, 4757), (114, 4940), (120, 4958), (121, 4964), (138, 5084), (162, 5240), (167, 5294), (175, 5396), (176, 5399),

Gene: Mabel\_7 Start: 4208, Stop: 5422, Start Num: 11

Candidate Starts for Mabel\_7:

(Start: 11 @4208 has 382 MA's), (20, 4310), (38, 4442), (57, 4568), (74, 4661), (75, 4664), (83, 4700), (85, 4718), (90, 4760), (92, 4772), (103, 4817), (121, 4979), (138, 5099), (162, 5255), (167, 5309), (175, 5411), (176, 5414),

Gene: MadMarie\_4 Start: 1682, Stop: 2896, Start Num: 11

Candidate Starts for MadMarie\_4:

(Start: 9 @1655 has 2 MA's), (Start: 11 @1682 has 382 MA's), (55, 1910), (182, 2810), (192, 2882), (193, 2888),

Gene: Mainiac\_4 Start: 1682, Stop: 2887, Start Num: 11

Candidate Starts for Mainiac\_4:

(Start: 9 @1655 has 2 MA's), (Start: 11 @1682 has 382 MA's), (55, 1910), (182, 2801), (192, 2873), (193, 2879),

Gene: Malinsilva\_6 Start: 1681, Stop: 2886, Start Num: 11

Candidate Starts for Malinsilva\_6:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (55, 1909), (182, 2800), (192, 2872), (193, 2878),

Gene: Maminiaina\_7 Start: 3953, Stop: 4984, Start Num: 11

Candidate Starts for Maminiaina\_7:

(Start: 11 @3953 has 382 MA's), (182, 4901), (184, 4913), (192, 4970), (193, 4976),

Gene: Manu\_5 Start: 1685, Stop: 2884, Start Num: 11

Candidate Starts for Manu\_5:

(Start: 9 @1658 has 2 MA's), (Start: 11 @1685 has 382 MA's), (39, 1865), (55, 1913), (110, 2309), (182, 2798), (185, 2816), (192, 2870), (193, 2876),

Gene: MarQuardt\_4 Start: 1681, Stop: 2895, Start Num: 11

Candidate Starts for MarQuardt\_4:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (55, 1909), (182, 2809), (192, 2881), (193, 2887),

Gene: Margo\_4 Start: 1633, Stop: 2760, Start Num: 11

Candidate Starts for Margo\_4:

(6, 1570), (8, 1579), (Start: 11 @1633 has 382 MA's), (12, 1663), (18, 1720), (Start: 25 @1765 has 1 MA's), (55, 1906), (79, 2014), (112, 2302), (182, 2674), (192, 2746), (193, 2752),

Gene: Marie\_4 Start: 1681, Stop: 2625, Start Num: 11

Candidate Starts for Marie\_4:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (55, 1909), (161, 2539), (169, 2611), (170, 2617),

Gene: Marius\_5 Start: 1685, Stop: 2884, Start Num: 11

Candidate Starts for Marius\_5:

(Start: 9 @1658 has 2 MA's), (Start: 11 @1685 has 382 MA's), (39, 1865), (55, 1913), (110, 2309), (182, 2798), (185, 2816), (192, 2870), (193, 2876),

Gene: MarysWell\_3 Start: 2448, Stop: 3572, Start Num: 19

Candidate Starts for MarysWell\_3:

(Start: 10 @2343 has 4 MA's), (Start: 11 @2355 has 382 MA's), (Start: 19 @2448 has 1 MA's), (38, 2589), (57, 2715), (75, 2811), (83, 2847), (85, 2865), (87, 2889), (90, 2907), (92, 2919), (114, 3102), (150, 3336), (156, 3369), (164, 3417), (165, 3426), (167, 3456), (175, 3558), (176, 3561),

Gene: Maverick\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Maverick\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Maxo\_4 Start: 1646, Stop: 2719, Start Num: 11

Candidate Starts for Maxo\_4:

(7, 1586), (Start: 11 @1646 has 382 MA's), (Start: 23 @1754 has 2 MA's), (35, 1850), (65, 1964), (179, 2612), (185, 2648), (192, 2705), (193, 2711),

Gene: Mazhar510\_4 Start: 1646, Stop: 2719, Start Num: 11

Candidate Starts for Mazhar510\_4:

(7, 1586), (Start: 11 @1646 has 382 MA's), (Start: 23 @1754 has 2 MA's), (35, 1850), (65, 1964), (179, 2612), (185, 2648), (192, 2705), (193, 2711),

Gene: Medusa\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Medusa\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: MeeZee\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for MeeZee\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Melvin\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Melvin\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Methuselah\_4 Start: 1682, Stop: 2716, Start Num: 11

Candidate Starts for Methuselah\_4:

(Start: 9 @1655 has 2 MA's), (Start: 11 @1682 has 382 MA's), (55, 1910), (168, 2630), (173, 2702), (174, 2708),

Gene: Micasa\_3 Start: 2448, Stop: 3572, Start Num: 19

Candidate Starts for Micasa\_3:

(Start: 10 @2343 has 4 MA's), (Start: 11 @2355 has 382 MA's), (Start: 19 @2448 has 1 MA's), (38, 2589), (57, 2715), (60, 2727), (75, 2811), (83, 2847), (85, 2865), (87, 2889), (90, 2907), (92, 2919), (114, 3102), (150, 3336), (156, 3369), (164, 3417), (165, 3426), (167, 3456), (175, 3558), (176, 3561),

Gene: Microwolf\_4 Start: 1681, Stop: 2895, Start Num: 11

Candidate Starts for Microwolf\_4:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (55, 1909), (182, 2809), (192, 2881), (193, 2887),

Gene: Midas2\_4 Start: 2354, Stop: 3571, Start Num: 11

Candidate Starts for Midas2\_4:

(Start: 10 @2342 has 4 MA's), (Start: 11 @2354 has 382 MA's), (Start: 19 @2447 has 1 MA's), (38, 2588), (57, 2714), (60, 2726), (75, 2810), (83, 2846), (85, 2864), (87, 2888), (90, 2906), (92, 2918), (114, 3101), (150, 3335), (156, 3368), (164, 3416), (165, 3425), (167, 3455), (175, 3557), (176, 3560),

Gene: Miko\_8 Start: 4374, Stop: 5360, Start Num: 11

Candidate Starts for Miko\_8:

(Start: 11 @4374 has 382 MA's), (80, 4773), (119, 5091), (184, 5286), (190, 5328), (192, 5346), (193, 5352),

Gene: Milcery\_4 Start: 2385, Stop: 3602, Start Num: 11

Candidate Starts for Milcery\_4:

(Start: 10 @2373 has 4 MA's), (Start: 11 @2385 has 382 MA's), (Start: 19 @2478 has 1 MA's), (38, 2619), (57, 2745), (60, 2757), (75, 2841), (83, 2877), (85, 2895), (87, 2919), (90, 2937), (92, 2949), (114, 3132), (150, 3366), (156, 3399), (164, 3447), (165, 3456), (167, 3486), (175, 3588), (176, 3591),

Gene: Millski\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Millski\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: MinecraftSteve\_8 Start: 3561, Stop: 4553, Start Num: 11

Candidate Starts for MinecraftSteve\_8:

(1, 3294), (3, 3348), (4, 3393), (5, 3474), (Start: 11 @3561 has 382 MA's), (31, 3747), (51, 3867), (52, 3870), (134, 4326), (140, 4383), (154, 4449), (157, 4479), (166, 4542),

Gene: Miramae\_4 Start: 1638, Stop: 2714, Start Num: 11

Candidate Starts for Miramae\_4:

(7, 1578), (Start: 11 @1638 has 382 MA's), (Start: 23 @1746 has 2 MA's), (35, 1842), (65, 1956), (182, 2625), (185, 2643), (192, 2700), (193, 2706),

Gene: Misomonster\_6 Start: 1681, Stop: 2715, Start Num: 11

Candidate Starts for Misomonster\_6:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (55, 1909), (168, 2629), (173, 2701), (174, 2707),

Gene: MoneyMay\_4 Start: 1681, Stop: 2625, Start Num: 11

Candidate Starts for MoneyMay\_4:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (55, 1909), (161, 2539), (169, 2611), (170, 2617),

Gene: Morpher26\_4 Start: 1644, Stop: 2729, Start Num: 11

Candidate Starts for Morpher26\_4:

(Start: 11 @1644 has 382 MA's), (Start: 23 @1752 has 2 MA's), (35, 1848), (65, 1962), (80, 2034), (185, 2658), (192, 2715), (193, 2721),

Gene: Morrow\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Morrow\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: MuchMore\_6 Start: 1681, Stop: 2886, Start Num: 11

Candidate Starts for MuchMore\_6:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (55, 1909), (182, 2800), (192, 2872), (193, 2878),

Gene: Mulciber\_7 Start: 4199, Stop: 5413, Start Num: 11

Candidate Starts for Mulciber\_7:

(Start: 11 @4199 has 382 MA's), (20, 4301), (38, 4433), (57, 4559), (74, 4652), (75, 4655), (83, 4691), (85, 4709), (90, 4751), (103, 4808), (120, 4964), (121, 4970), (138, 5090), (162, 5246), (167, 5300), (175, 5402), (176, 5405),

Gene: Munch\_7 Start: 4196, Stop: 5410, Start Num: 11

Candidate Starts for Munch\_7:

(Start: 11 @4196 has 382 MA's), (20, 4298), (38, 4430), (57, 4556), (74, 4649), (75, 4652), (83, 4688), (85, 4706), (87, 4730), (90, 4748), (92, 4760), (114, 4943), (120, 4961), (121, 4967), (138, 5087), (162, 5243), (167, 5297), (175, 5399), (176, 5402),

Gene: Mundrea\_4 Start: 1642, Stop: 2709, Start Num: 11

Candidate Starts for Mundrea\_4:

(Start: 11 @1642 has 382 MA's), (Start: 23 @1750 has 2 MA's), (35, 1846), (65, 1960), (182, 2620), (185, 2638), (192, 2695), (193, 2701),

Gene: MyraDee\_4 Start: 1517, Stop: 2386, Start Num: 11

Candidate Starts for MyraDee\_4:

(Start: 11 @1517 has 382 MA's), (12, 1547), (13, 1556), (125, 2345), (130, 2372), (133, 2378),

Gene: Myxus\_7 Start: 4192, Stop: 5235, Start Num: 11

Candidate Starts for Myxus\_7:

(Start: 11 @4192 has 382 MA's), (64, 4525), (182, 5152), (184, 5164), (192, 5221), (193, 5227),

Gene: NearlyHeadless\_4 Start: 2306, Stop: 3358, Start Num: 11

Candidate Starts for NearlyHeadless\_4:

(Start: 11 @2306 has 382 MA's), (37, 2543), (95, 2912), (107, 3029), (121, 3131), (137, 3239), (144, 3284), (159, 3350),

Gene: Nebs\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Nebs\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Nebulosus\_7 Start: 3414, Stop: 4406, Start Num: 11

Candidate Starts for Nebulosus\_7:

(1, 3147), (3, 3201), (4, 3246), (5, 3327), (Start: 11 @3414 has 382 MA's), (31, 3600), (47, 3690), (52, 3723), (76, 3795), (92, 3870), (134, 4179), (140, 4236), (154, 4302), (157, 4332), (166, 4395),

Gene: Nemo27\_4 Start: 1644, Stop: 2717, Start Num: 11

Candidate Starts for Nemo27\_4:

(7, 1584), (Start: 11 @1644 has 382 MA's), (Start: 23 @1752 has 2 MA's), (35, 1848), (65, 1962), (179, 2610), (185, 2646), (192, 2703), (193, 2709),

Gene: NicoleTera\_7 Start: 4172, Stop: 5248, Start Num: 11

Candidate Starts for NicoleTera\_7:

(5, 4091), (Start: 11 @4172 has 382 MA's), (28, 4340), (65, 4496), (66, 4502), (151, 4988), (185, 5180), (192, 5234),

Gene: Noella\_4 Start: 1633, Stop: 2760, Start Num: 11

Candidate Starts for Noella\_4:

(6, 1570), (8, 1579), (Start: 11 @1633 has 382 MA's), (12, 1663), (18, 1720), (Start: 25 @1765 has 1 MA's), (55, 1906), (79, 2014), (112, 2302), (182, 2674), (185, 2692), (192, 2746), (193, 2752),

Gene: Noelle\_4 Start: 1629, Stop: 2783, Start Num: 11

Candidate Starts for Noelle\_4:

(Start: 11 @1629 has 382 MA's), (33, 1824), (65, 1947), (80, 2016), (179, 2676), (185, 2712), (192, 2769), (193, 2775),

Gene: Norbert\_3 Start: 1633, Stop: 2760, Start Num: 11

Candidate Starts for Norbert\_3:

(6, 1570), (8, 1579), (Start: 11 @1633 has 382 MA's), (12, 1663), (18, 1720), (Start: 25 @1765 has 1 MA's), (55, 1906), (79, 2014), (112, 2302), (182, 2674), (185, 2692), (192, 2746), (193, 2752),

Gene: NorthStar\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for NorthStar\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: NotAPhaseMom\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for NotAPhaseMom\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: NothingSpecial\_6 Start: 4006, Stop: 5202, Start Num: 11

Candidate Starts for NothingSpecial\_6:

(5, 3925), (Start: 11 @4006 has 382 MA's), (16, 4084), (109, 4645), (177, 5089), (182, 5116), (185, 5134),

Gene: Nyxis\_4 Start: 1648, Stop: 2721, Start Num: 11

Candidate Starts for Nyxis\_4:

(7, 1588), (Start: 11 @1648 has 382 MA's), (Start: 23 @1756 has 2 MA's), (35, 1852), (65, 1966), (179, 2614), (185, 2650), (192, 2707), (193, 2713),

Gene: OKCentral2016\_4 Start: 1637, Stop: 2374, Start Num: 11

Candidate Starts for OKCentral2016\_4:

(Start: 11 @1637 has 382 MA's), (21, 1739), (Start: 25 @1769 has 1 MA's), (32, 1829), (33, 1832), (110, 2264), (116, 2303), (118, 2309), (125, 2360), (127, 2366),

Gene: OKaNui\_4 Start: 1644, Stop: 2483, Start Num: 11

Candidate Starts for OKaNui\_4:

(7, 1584), (Start: 11 @1644 has 382 MA's), (Start: 23 @1752 has 2 MA's), (35, 1848), (65, 1962), (124, 2376), (128, 2412), (147, 2469), (149, 2475),

Gene: Obama12\_4 Start: 1644, Stop: 2720, Start Num: 11

Candidate Starts for Obama12\_4:

(7, 1584), (Start: 11 @1644 has 382 MA's), (Start: 23 @1752 has 2 MA's), (35, 1848), (65, 1962), (182, 2631), (185, 2649), (192, 2706), (193, 2712),

Gene: Ohfah\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Ohfah\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: OlanP\_4 Start: 1864, Stop: 3102, Start Num: 11

Candidate Starts for OlanP\_4:

(Start: 9 @1837 has 2 MA's), (Start: 11 @1864 has 382 MA's), (39, 2044), (55, 2092), (110, 2488), (182, 2977), (185, 2995), (192, 3049), (193, 3055), (194, 3061),

Gene: Ollie\_4 Start: 1681, Stop: 2805, Start Num: 11

Candidate Starts for Ollie\_4:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (55, 1909), (182, 2719), (192, 2791), (193, 2797),

Gene: Oofda\_7 Start: 3417, Stop: 4409, Start Num: 11

Candidate Starts for Oofda\_7:

(3, 3204), (4, 3249), (5, 3330), (Start: 11 @3417 has 382 MA's), (31, 3603), (41, 3651), (70, 3759), (98, 3885), (134, 4182), (140, 4239), (154, 4305), (157, 4335), (166, 4398),

Gene: Orange\_7 Start: 4196, Stop: 5410, Start Num: 11

Candidate Starts for Orange\_7:

(Start: 11 @4196 has 382 MA's), (20, 4298), (38, 4430), (57, 4556), (74, 4649), (75, 4652), (83, 4688), (85, 4706), (87, 4730), (90, 4748), (92, 4760), (114, 4943), (120, 4961), (121, 4967), (138, 5087), (162, 5243), (167, 5297), (175, 5399), (176, 5402),

Gene: P28Green\_4 Start: 1682, Stop: 2626, Start Num: 11

Candidate Starts for P28Green\_4:

(Start: 9 @1655 has 2 MA's), (Start: 11 @1682 has 382 MA's), (55, 1910), (161, 2540), (169, 2612), (170, 2618),

Gene: PGHhamlin\_6 Start: 1681, Stop: 2886, Start Num: 11

Candidate Starts for PGHhamlin\_6:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (55, 1909), (182, 2800), (192, 2872), (193, 2878),

Gene: PackMan\_7 Start: 4192, Stop: 5235, Start Num: 11

Candidate Starts for PackMan\_7:

(Start: 11 @4192 has 382 MA's), (64, 4525), (182, 5152), (184, 5164), (192, 5221), (193, 5227),

Gene: PainterBoy\_7 Start: 3969, Stop: 4871, Start Num: 11

Candidate Starts for PainterBoy\_7:

(Start: 11 @3969 has 382 MA's), (37, 4197), (102, 4479), (106, 4536), (108, 4551), (121, 4644), (135, 4743), (159, 4863),

Gene: Palestino\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Palestino\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Panamaxus\_4 Start: 1633, Stop: 2760, Start Num: 11

Candidate Starts for Panamaxus\_4:

(6, 1570), (8, 1579), (Start: 11 @1633 has 382 MA's), (12, 1663), (18, 1720), (Start: 25 @1765 has 1 MA's), (55, 1906), (79, 2014), (112, 2302), (182, 2674), (185, 2692), (192, 2746), (193, 2752),

Gene: Pawn\_4 Start: 1685, Stop: 2884, Start Num: 11

Candidate Starts for Pawn\_4:

(Start: 9 @1658 has 2 MA's), (Start: 11 @1685 has 382 MA's), (39, 1865), (55, 1913), (110, 2309), (182, 2798), (185, 2816), (192, 2870), (193, 2876),

Gene: Peaches\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Peaches\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Pembroke\_4 Start: 1681, Stop: 2886, Start Num: 11

Candidate Starts for Pembroke\_4:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (55, 1909), (182, 2800), (192, 2872), (193, 2878),

Gene: Penny1\_4 Start: 1681, Stop: 2625, Start Num: 11

Candidate Starts for Penny1\_4:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (55, 1909), (161, 2539), (169, 2611), (170, 2617),

Gene: Perplexer\_4 Start: 1644, Stop: 2729, Start Num: 11

Candidate Starts for Perplexer\_4:

(Start: 11 @1644 has 382 MA's), (Start: 23 @1752 has 2 MA's), (35, 1848), (65, 1962), (80, 2034), (185, 2658), (192, 2715), (193, 2721),

Gene: PeterPeter\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for PeterPeter\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Petersenfast\_6 Start: 4199, Stop: 5413, Start Num: 11

Candidate Starts for Petersenfast\_6:

(Start: 11 @4199 has 382 MA's), (20, 4301), (38, 4433), (57, 4559), (74, 4652), (75, 4655), (83, 4691), (85, 4709), (90, 4751), (103, 4808), (120, 4964), (121, 4970), (138, 5090), (162, 5246), (167, 5300), (175, 5402), (176, 5405),

Gene: PetiteSangsue\_4 Start: 1644, Stop: 2729, Start Num: 11

Candidate Starts for PetiteSangsue\_4:

(Start: 11 @1644 has 382 MA's), (Start: 23 @1752 has 2 MA's), (35, 1848), (65, 1962), (80, 2034), (185, 2658), (192, 2715), (193, 2721),

Gene: PetterN\_4 Start: 2354, Stop: 3403, Start Num: 11

Candidate Starts for PetterN\_4:

(Start: 10 @2342 has 4 MA's), (Start: 11 @2354 has 382 MA's), (Start: 23 @2465 has 2 MA's), (36, 2585), (37, 2591), (61, 2738), (67, 2774), (86, 2879), (97, 2972), (99, 2981), (103, 3005), (107, 3065), (120, 3161), (137, 3275), (142, 3317), (146, 3335), (155, 3362), (157, 3389), (159, 3395),

Gene: Phacado\_4 Start: 1644, Stop: 2717, Start Num: 11



Candidate Starts for Phacado\_4:

(7, 1584), (Start: 11 @1644 has 382 MA's), (Start: 23 @1752 has 2 MA's), (35, 1848), (65, 1962), (179, 2610), (185, 2646), (192, 2703), (193, 2709),

Gene: Phaded\_7 Start: 3967, Stop: 5067, Start Num: 11

Candidate Starts for Phaded\_7:

(5, 3886), (Start: 11 @3967 has 382 MA's), (29, 4138), (34, 4168), (68, 4309), (75, 4342), (109, 4606), (192, 5053), (193, 5059),

Gene: Phaeder\_7 Start: 4192, Stop: 5235, Start Num: 11

Candidate Starts for Phaeder\_7:

(Start: 11 @4192 has 382 MA's), (64, 4525), (182, 5152), (184, 5164), (192, 5221), (193, 5227),

Gene: Phantastic\_4 Start: 1617, Stop: 2831, Start Num: 11

Candidate Starts for Phantastic\_4:

(Start: 11 @1617 has 382 MA's), (26, 1752), (35, 1821), (55, 1890), (126, 2376), (185, 2766), (192, 2817), (193, 2823),

Gene: Pharaoh\_7 Start: 4476, Stop: 5333, Start Num: 11

Candidate Starts for Pharaoh\_7:

(Start: 11 @4476 has 382 MA's), (Start: 23 @4584 has 2 MA's), (42, 4746), (58, 4845), (81, 4968), (130, 5319), (133, 5325),

Gene: Phelipe\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Phelipe\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Phighter1804\_4 Start: 1644, Stop: 2717, Start Num: 11

Candidate Starts for Phighter1804\_4:

(7, 1584), (Start: 11 @1644 has 382 MA's), (Start: 23 @1752 has 2 MA's), (35, 1848), (65, 1962), (182, 2628), (185, 2646), (192, 2703), (193, 2709),

Gene: Phillis\_4 Start: 2306, Stop: 3343, Start Num: 11

Candidate Starts for Phillis\_4:

(4, 2147), (Start: 11 @2306 has 382 MA's), (37, 2543), (61, 2690), (139, 3236), (146, 3275), (153, 3299), (159, 3335),

Gene: PhishRPhriends\_4 Start: 1686, Stop: 2396, Start Num: 11

Candidate Starts for PhishRPhriends\_4:

(Start: 9 @1659 has 2 MA's), (Start: 11 @1686 has 382 MA's), (39, 1866), (55, 1914), (117, 2310), (123, 2328), (129, 2382), (131, 2388),

Gene: Phlorence\_4 Start: 2373, Stop: 3710, Start Num: 10

Candidate Starts for Phlorence\_4:

(4, 2226), (Start: 10 @2373 has 4 MA's), (Start: 11 @2385 has 382 MA's), (27, 2550), (38, 2631), (43, 2667), (44, 2679), (49, 2712), (63, 2808), (81, 2904), (82, 2907), (88, 3012), (89, 3015), (90, 3027), (91, 3030), (93, 3051), (95, 3069), (114, 3264), (121, 3288), (135, 3387), (167, 3597), (175, 3699), (176, 3702),

Gene: Phoebe\_4 Start: 1681, Stop: 2625, Start Num: 11

Candidate Starts for Phoebe\_4:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (55, 1909), (161, 2539), (169, 2611), (170, 2617),

Gene: Phonnegut\_7 Start: 4192, Stop: 5223, Start Num: 11

Candidate Starts for Phonnegut\_7:

(Start: 11 @4192 has 382 MA's), (182, 5140), (184, 5152), (192, 5209), (193, 5215),

Gene: Phontbonne\_4 Start: 1643, Stop: 2716, Start Num: 11

Candidate Starts for Phontbonne\_4:

(7, 1583), (Start: 11 @1643 has 382 MA's), (Start: 23 @1751 has 2 MA's), (35, 1847), (65, 1961), (179, 2609), (185, 2645), (192, 2702), (193, 2708),

Gene: Phoxy\_4 Start: 1682, Stop: 2716, Start Num: 11

Candidate Starts for Phoxy\_4:

(Start: 9 @1655 has 2 MA's), (Start: 11 @1682 has 382 MA's), (55, 1910), (168, 2630), (173, 2702), (174, 2708),

Gene: Phranny\_5 Start: 1685, Stop: 2884, Start Num: 11

Candidate Starts for Phranny\_5:

(Start: 9 @1658 has 2 MA's), (Start: 11 @1685 has 382 MA's), (39, 1865), (55, 1913), (110, 2309), (182, 2798), (185, 2816), (192, 2870), (193, 2876),

Gene: PickleBack\_4 Start: 2386, Stop: 3441, Start Num: 11

Candidate Starts for PickleBack\_4:

(Start: 10 @2374 has 4 MA's), (Start: 11 @2386 has 382 MA's), (Start: 23 @2497 has 2 MA's), (37, 2614), (45, 2662), (78, 2854), (86, 2902), (100, 3016), (101, 3019), (105, 3058), (107, 3100), (135, 3301), (145, 3364), (146, 3370), (159, 3433),

Gene: Pioneer\_7 Start: 4192, Stop: 5223, Start Num: 11

Candidate Starts for Pioneer\_7:

(Start: 11 @4192 has 382 MA's), (182, 5140), (184, 5152), (192, 5209), (193, 5215),

Gene: Pipcraft\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Pipcraft\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Pistachio\_4 Start: 1612, Stop: 2373, Start Num: 11

Candidate Starts for Pistachio\_4:

(Start: 11 @1612 has 382 MA's), (26, 1747), (55, 1885), (80, 1999), (172, 2188), (182, 2290), (184, 2302), (192, 2359), (193, 2365),

Gene: Pocahontas\_4 Start: 1633, Stop: 2760, Start Num: 11

Candidate Starts for Pocahontas\_4:

(6, 1570), (8, 1579), (Start: 11 @1633 has 382 MA's), (12, 1663), (18, 1720), (Start: 25 @1765 has 1 MA's), (55, 1906), (79, 2014), (112, 2302), (182, 2674), (185, 2692), (192, 2746), (193, 2752),

Gene: Polymorphads\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Polymorphads\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Popcicle\_4 Start: 1633, Stop: 2760, Start Num: 11

Candidate Starts for Popcicle\_4:

(6, 1570), (8, 1579), (Start: 11 @1633 has 382 MA's), (12, 1663), (18, 1720), (Start: 25 @1765 has 1 MA's), (55, 1906), (79, 2014), (112, 2302), (182, 2674), (185, 2692), (192, 2746), (193, 2752),

Gene: PotatoSplit\_5 Start: 1681, Stop: 2625, Start Num: 11

Candidate Starts for PotatoSplit\_5:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (55, 1909), (161, 2539), (169, 2611), (170, 2617),

Gene: Priya\_7 Start: 4190, Stop: 5221, Start Num: 11

Candidate Starts for Priya\_7:

(Start: 9 @4163 has 2 MA's), (Start: 11 @4190 has 382 MA's), (182, 5138), (184, 5150), (192, 5207), (193, 5213),

Gene: Pukovnik\_7 Start: 3940, Stop: 5010, Start Num: 11

Candidate Starts for Pukovnik\_7:

(5, 3859), (Start: 11 @3940 has 382 MA's), (35, 4147), (62, 4246), (65, 4261), (182, 4927), (184, 4939), (192, 4996), (193, 5002),

Gene: Pumbaa\_4 Start: 1643, Stop: 2716, Start Num: 11

Candidate Starts for Pumbaa\_4:

(7, 1583), (Start: 11 @1643 has 382 MA's), (Start: 23 @1751 has 2 MA's), (26, 1778), (35, 1847), (65, 1961), (182, 2627), (185, 2645), (192, 2702), (193, 2708),

Gene: Puppy\_4 Start: 1612, Stop: 2445, Start Num: 11

Candidate Starts for Puppy\_4:

(Start: 11 @1612 has 382 MA's), (26, 1747), (55, 1885), (80, 1999), (172, 2260), (184, 2374), (192, 2431), (193, 2437),

Gene: PurpleHaze\_4 Start: 1684, Stop: 2883, Start Num: 11

Candidate Starts for PurpleHaze\_4:

(Start: 9 @1657 has 2 MA's), (Start: 11 @1684 has 382 MA's), (39, 1864), (55, 1912), (110, 2308), (182, 2797), (185, 2815), (192, 2869), (193, 2875),

Gene: Qobbit\_7 Start: 4189, Stop: 5220, Start Num: 11

Candidate Starts for Qobbit\_7:

(Start: 9 @4162 has 2 MA's), (Start: 11 @4189 has 382 MA's), (182, 5137), (184, 5149), (192, 5206), (193, 5212),

Gene: QuinnKiro\_3 Start: 1633, Stop: 2760, Start Num: 11

Candidate Starts for QuinnKiro\_3:

(6, 1570), (8, 1579), (Start: 11 @1633 has 382 MA's), (12, 1663), (18, 1720), (Start: 25 @1765 has 1 MA's), (55, 1906), (79, 2014), (112, 2302), (182, 2674), (185, 2692), (192, 2746), (193, 2752),

Gene: Rachaly\_8 Start: 4394, Stop: 5380, Start Num: 11

Candidate Starts for Rachaly\_8:

(Start: 11 @4394 has 382 MA's), (80, 4793), (184, 5306), (190, 5348), (192, 5366), (193, 5372),

Gene: ReMo\_7 Start: 3414, Stop: 4406, Start Num: 11

Candidate Starts for ReMo\_7:

(1, 3147), (3, 3201), (4, 3246), (5, 3327), (Start: 11 @3414 has 382 MA's), (31, 3600), (47, 3690), (52, 3723), (76, 3795), (92, 3870), (134, 4179), (140, 4236), (154, 4302), (157, 4332), (166, 4395),

Gene: Reba\_5 Start: 1685, Stop: 2557, Start Num: 11

Candidate Starts for Reba\_5:

(Start: 9 @1658 has 2 MA's), (Start: 11 @1685 has 382 MA's), (39, 1865), (55, 1913), (182, 2471), (185, 2489), (192, 2543), (193, 2549),

Gene: Rebeuca\_5 Start: 1828, Stop: 3000, Start Num: 11

Candidate Starts for Rebeuca\_5:

(Start: 11 @1828 has 382 MA's), (28, 1993), (32, 2020), (33, 2023), (55, 2101), (94, 2320), (104, 2374), (115, 2509), (143, 2644), (182, 2917), (184, 2929), (185, 2935), (192, 2986), (193, 2992),

Gene: RedRock\_7 Start: 4133, Stop: 5242, Start Num: 11

Candidate Starts for RedRock\_7:

(Start: 11 @4133 has 382 MA's), (Start: 14 @4202 has 1 MA's), (54, 4415), (56, 4421), (109, 4778), (122, 4880), (184, 5171), (192, 5228), (193, 5234),

Gene: Relief\_4 Start: 1646, Stop: 2719, Start Num: 11

Candidate Starts for Relief\_4:

(7, 1586), (Start: 11 @1646 has 382 MA's), (Start: 23 @1754 has 2 MA's), (35, 1850), (65, 1964), (179, 2612), (185, 2648), (192, 2705), (193, 2711),

Gene: Remus\_7 Start: 3414, Stop: 4406, Start Num: 11

Candidate Starts for Remus\_7:

(3, 3201), (4, 3246), (5, 3327), (Start: 11 @3414 has 382 MA's), (31, 3600), (51, 3720), (52, 3723), (134, 4179), (140, 4236), (154, 4302), (157, 4332), (166, 4395),

Gene: ResDef\_3 Start: 1633, Stop: 2760, Start Num: 11

Candidate Starts for ResDef\_3:

(6, 1570), (8, 1579), (Start: 11 @1633 has 382 MA's), (12, 1663), (18, 1720), (Start: 25 @1765 has 1 MA's), (55, 1906), (79, 2014), (112, 2302), (182, 2674), (185, 2692), (192, 2746), (193, 2752),

Gene: RhynO\_4 Start: 1673, Stop: 2839, Start Num: 11

Candidate Starts for RhynO\_4:

(Start: 11 @1673 has 382 MA's), (21, 1775), (22, 1778), (Start: 23 @1781 has 2 MA's), (26, 1811), (28, 1841), (55, 1949), (115, 2357), (136, 2471), (143, 2492), (182, 2756), (184, 2768), (185, 2774), (192, 2825), (193, 2831),

Gene: Roary\_4 Start: 2306, Stop: 3343, Start Num: 11

Candidate Starts for Roary\_4:

(4, 2147), (Start: 11 @2306 has 382 MA's), (37, 2543), (61, 2690), (139, 3236), (146, 3275), (153, 3299), (159, 3335),

Gene: Rockstar\_4 Start: 1608, Stop: 2744, Start Num: 11

Candidate Starts for Rockstar\_4:

(Start: 11 @1608 has 382 MA's), (26, 1743), (53, 1866), (55, 1881), (80, 1995), (182, 2658), (192, 2730), (193, 2736),

Gene: Romney\_4 Start: 1644, Stop: 2717, Start Num: 11

Candidate Starts for Romney\_4:

(7, 1584), (Start: 11 @1644 has 382 MA's), (Start: 23 @1752 has 2 MA's), (35, 1848), (65, 1962), (179, 2610), (185, 2646), (192, 2703), (193, 2709),

Gene: Roosevelt\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Roosevelt\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Rosalind\_7 Start: 3561, Stop: 4553, Start Num: 11

Candidate Starts for Rosalind\_7:

(1, 3294), (3, 3348), (4, 3393), (5, 3474), (Start: 11 @3561 has 382 MA's), (31, 3747), (51, 3867), (52, 3870), (134, 4326), (140, 4383), (154, 4449), (157, 4479), (166, 4542),

Gene: Ruin\_4 Start: 1644, Stop: 2717, Start Num: 11

Candidate Starts for Ruin\_4:

(7, 1584), (Start: 11 @1644 has 382 MA's), (Start: 23 @1752 has 2 MA's), (35, 1848), (65, 1962), (179, 2610), (185, 2646), (192, 2703), (193, 2709),

Gene: Rummer\_4 Start: 1682, Stop: 2716, Start Num: 11

Candidate Starts for Rummer\_4:

(Start: 9 @1655 has 2 MA's), (Start: 11 @1682 has 382 MA's), (55, 1910), (168, 2630), (173, 2702), (174, 2708),

Gene: Sabertooth\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Sabertooth\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Sabia\_4 Start: 1682, Stop: 2887, Start Num: 11

Candidate Starts for Sabia\_4:

(Start: 9 @1655 has 2 MA's), (Start: 11 @1682 has 382 MA's), (55, 1910), (182, 2801), (192, 2873), (193, 2879),

Gene: Sabinator\_4 Start: 1681, Stop: 2625, Start Num: 11

Candidate Starts for Sabinator\_4:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (55, 1909), (161, 2539), (169, 2611), (170, 2617),

Gene: Saintus\_4 Start: 2306, Stop: 3358, Start Num: 11

Candidate Starts for Saintus\_4:

(Start: 11 @2306 has 382 MA's), (37, 2543), (46, 2600), (78, 2783), (107, 3029), (121, 3131), (137, 3239), (144, 3284), (159, 3350),

Gene: Salz\_7 Start: 4196, Stop: 5410, Start Num: 11

Candidate Starts for Salz\_7:

(Start: 11 @4196 has 382 MA's), (20, 4298), (38, 4430), (57, 4556), (74, 4649), (75, 4652), (83, 4688), (85, 4706), (90, 4748), (103, 4805), (120, 4961), (121, 4967), (138, 5087), (162, 5243), (167, 5297), (175, 5399), (176, 5402),

Gene: SaturnRing\_3 Start: 1612, Stop: 2826, Start Num: 11

Candidate Starts for SaturnRing\_3:

(Start: 11 @1612 has 382 MA's), (26, 1747), (55, 1885), (80, 1999), (172, 2641), (182, 2743), (184, 2755), (192, 2812), (193, 2818),

Gene: Scamp\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Scamp\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Scherzo\_7 Start: 4192, Stop: 5223, Start Num: 11

Candidate Starts for Scherzo\_7:

(Start: 11 @4192 has 382 MA's), (182, 5140), (184, 5152), (192, 5209), (193, 5215),

Gene: Scorpia\_4 Start: 2355, Stop: 3404, Start Num: 11

Candidate Starts for Scorpia\_4:

(5, 2277), (Start: 10 @2343 has 4 MA's), (Start: 11 @2355 has 382 MA's), (Start: 23 @2466 has 2 MA's), (37, 2592), (61, 2739), (67, 2775), (86, 2880), (97, 2973), (99, 2982), (103, 3006), (107, 3066), (120, 3162), (137, 3276), (142, 3318), (146, 3336), (155, 3363), (157, 3390), (159, 3396),

Gene: Shaka\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Shaka\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Sham4\_7 Start: 4199, Stop: 5413, Start Num: 11

Candidate Starts for Sham4\_7:

(Start: 11 @4199 has 382 MA's), (20, 4301), (38, 4433), (57, 4559), (74, 4652), (75, 4655), (83, 4691), (85, 4709), (90, 4751), (103, 4808), (120, 4964), (121, 4970), (138, 5090), (162, 5246), (167, 5300), (175, 5402), (176, 5405),

Gene: ShayRa\_8 Start: 3561, Stop: 4553, Start Num: 11

Candidate Starts for ShayRa\_8:

(Start: 11 @3561 has 382 MA's), (31, 3747), (51, 3867), (52, 3870), (134, 4326), (140, 4383), (154, 4449), (157, 4479), (166, 4542),

Gene: SheldonCooper\_4 Start: 1643, Stop: 2719, Start Num: 11

Candidate Starts for SheldonCooper\_4:

(7, 1583), (Start: 11 @1643 has 382 MA's), (Start: 23 @1751 has 2 MA's), (35, 1847), (65, 1961), (182, 2630), (185, 2648), (192, 2705), (193, 2711),

Gene: Shygu2\_4 Start: 1644, Stop: 2720, Start Num: 11

Candidate Starts for Shygu2\_4:

(Start: 11 @1644 has 382 MA's), (Start: 23 @1752 has 2 MA's), (35, 1848), (65, 1962), (80, 2034), (182, 2631), (185, 2649), (192, 2706), (193, 2712),

Gene: Skipitt\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Skipitt\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Smeadley\_4 Start: 2306, Stop: 3343, Start Num: 11

Candidate Starts for Smeadley\_4:

(4, 2147), (Start: 11 @2306 has 382 MA's), (37, 2543), (61, 2690), (139, 3236), (146, 3275), (153, 3299), (159, 3335),

Gene: Snape\_7 Start: 4202, Stop: 5416, Start Num: 11

Candidate Starts for Snape\_7:

(Start: 11 @4202 has 382 MA's), (20, 4304), (38, 4436), (57, 4562), (74, 4655), (75, 4658), (83, 4694), (85, 4712), (90, 4754), (103, 4811), (120, 4967), (121, 4973), (138, 5093), (162, 5249), (167, 5303), (175, 5405), (176, 5408),

Gene: Snickers\_4 Start: 1681, Stop: 2868, Start Num: 11

Candidate Starts for Snickers\_4:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (55, 1909), (182, 2782), (192, 2854), (193, 2860),

Gene: SoYo\_4 Start: 1681, Stop: 2805, Start Num: 11

Candidate Starts for SoYo\_4:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (55, 1909), (182, 2719), (192, 2791), (193, 2797),

Gene: SoilDragon\_4 Start: 1681, Stop: 2568, Start Num: 11

Candidate Starts for SoilDragon\_4:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (55, 1909), (182, 2485), (184, 2497), (185, 2503), (192, 2554), (193, 2560),

Gene: Soshari\_6 Start: 1682, Stop: 2716, Start Num: 11

Candidate Starts for Soshari\_6:

(Start: 9 @1655 has 2 MA's), (Start: 11 @1682 has 382 MA's), (55, 1910), (168, 2630), (173, 2702), (174, 2708),

Gene: Soups\_7 Start: 3561, Stop: 4553, Start Num: 11

Candidate Starts for Soups\_7:

(5, 3474), (Start: 11 @3561 has 382 MA's), (31, 3747), (41, 3795), (48, 3843), (70, 3903), (72, 3909), (92, 4017), (98, 4029), (113, 4200), (134, 4326), (140, 4383), (154, 4449), (157, 4479), (166, 4542),

Gene: Sparxx\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Sparxx\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Spike509\_4 Start: 1682, Stop: 2716, Start Num: 11

Candidate Starts for Spike509\_4:

(Start: 9 @1655 has 2 MA's), (Start: 11 @1682 has 382 MA's), (55, 1910), (168, 2630), (173, 2702), (174, 2708),

Gene: Spino\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Spino\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Spouty\_6 Start: 4189, Stop: 5220, Start Num: 11

Candidate Starts for Spouty\_6:

(Start: 9 @4162 has 2 MA's), (Start: 11 @4189 has 382 MA's), (182, 5137), (184, 5149), (192, 5206), (193, 5212),

Gene: Stagni\_4 Start: 1682, Stop: 2887, Start Num: 11

Candidate Starts for Stagni\_4:

(Start: 9 @1655 has 2 MA's), (Start: 11 @1682 has 382 MA's), (55, 1910), (182, 2801), (192, 2873), (193, 2879),

Gene: Stasia\_4 Start: 1647, Stop: 2741, Start Num: 11

Candidate Starts for Stasia\_4:

(Start: 11 @1647 has 382 MA's), (Start: 23 @1755 has 2 MA's), (50, 1890), (64, 1968), (69, 1986), (77, 2025), (115, 2316), (132, 2418), (185, 2670), (192, 2727), (193, 2733),

Gene: StepMih\_4 Start: 1682, Stop: 2887, Start Num: 11

Candidate Starts for StepMih\_4:

(Start: 9 @1655 has 2 MA's), (Start: 11 @1682 has 382 MA's), (55, 1910), (182, 2801), (192, 2873), (193, 2879),

Gene: Stephig9\_4 Start: 2307, Stop: 3344, Start Num: 11

Candidate Starts for Stephig9\_4:

(4, 2148), (Start: 11 @2307 has 382 MA's), (37, 2544), (61, 2691), (139, 3237), (146, 3276), (153, 3300), (159, 3336),

Gene: Stink\_4 Start: 1639, Stop: 2715, Start Num: 11

Candidate Starts for Stink\_4:

(7, 1579), (Start: 11 @1639 has 382 MA's), (Start: 23 @1747 has 2 MA's), (35, 1843), (65, 1957), (182, 2626), (185, 2644), (192, 2701), (193, 2707),

Gene: Strosahl\_7 Start: 3414, Stop: 4406, Start Num: 11

Candidate Starts for Strosahl\_7:

(3, 3201), (4, 3246), (5, 3327), (Start: 11 @3414 has 382 MA's), (31, 3600), (51, 3720), (52, 3723), (134, 4179), (140, 4236), (154, 4302), (157, 4332), (166, 4395),

Gene: Swirley\_4 Start: 2354, Stop: 3571, Start Num: 11

Candidate Starts for Swirley\_4:

(Start: 10 @2342 has 4 MA's), (Start: 11 @2354 has 382 MA's), (Start: 19 @2447 has 1 MA's), (38, 2588), (57, 2714), (60, 2726), (75, 2810), (83, 2846), (85, 2864), (87, 2888), (90, 2906), (92, 2918), (114, 3101), (150, 3335), (156, 3368), (164, 3416), (165, 3425), (167, 3455), (175, 3557), (176, 3560),

Gene: Switzerland\_7 Start: 3561, Stop: 4553, Start Num: 11

Candidate Starts for Switzerland\_7:

(1, 3294), (3, 3348), (4, 3393), (5, 3474), (Start: 11 @3561 has 382 MA's), (31, 3747), (51, 3867), (52, 3870), (134, 4326), (140, 4383), (154, 4449), (157, 4479), (166, 4542),

Gene: SydNat\_4 Start: 2354, Stop: 3679, Start Num: 11

Candidate Starts for SydNat\_4:

(4, 2195), (Start: 10 @2342 has 4 MA's), (Start: 11 @2354 has 382 MA's), (27, 2519), (38, 2600), (43, 2636), (44, 2648), (49, 2681), (63, 2777), (81, 2873), (82, 2876), (88, 2981), (89, 2984), (90, 2996), (91, 2999), (93, 3020), (95, 3038), (103, 3095), (114, 3233), (121, 3257), (135, 3356), (167, 3566), (175, 3668), (176, 3671),

Gene: TNguyen7\_4 Start: 1610, Stop: 2824, Start Num: 11

Candidate Starts for TNguyen7\_4:

(Start: 11 @1610 has 382 MA's), (26, 1745), (55, 1883), (80, 1997), (172, 2639), (182, 2741), (184, 2753), (192, 2810), (193, 2816),

Gene: Taquarus\_4 Start: 1648, Stop: 2721, Start Num: 11

Candidate Starts for Taquarus\_4:

(7, 1588), (Start: 11 @1648 has 382 MA's), (Start: 23 @1756 has 2 MA's), (35, 1852), (65, 1966), (179, 2614), (185, 2650), (192, 2707), (193, 2713),

Gene: Tarynearal\_3 Start: 2383, Stop: 3600, Start Num: 11

Candidate Starts for Tarynearal\_3:



(Start: 10 @2371 has 4 MA's), (Start: 11 @2383 has 382 MA's), (Start: 19 @2476 has 1 MA's), (38, 2617), (57, 2743), (60, 2755), (75, 2839), (83, 2875), (85, 2893), (87, 2917), (90, 2935), (92, 2947), (114, 3130), (150, 3364), (156, 3397), (164, 3445), (165, 3454), (167, 3484), (175, 3586), (176, 3589),

Gene: Taurus\_4 Start: 1681, Stop: 2625, Start Num: 11

Candidate Starts for Taurus\_4:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (55, 1909), (161, 2539), (169, 2611), (170, 2617),

Gene: Texage\_3 Start: 1633, Stop: 2760, Start Num: 11

Candidate Starts for Texage\_3:

(6, 1570), (8, 1579), (Start: 11 @1633 has 382 MA's), (12, 1663), (18, 1720), (Start: 25 @1765 has 1 MA's), (55, 1906), (79, 2014), (112, 2302), (182, 2674), (185, 2692), (192, 2746), (193, 2752),

Gene: Thanksgivukkah\_4 Start: 1646, Stop: 2719, Start Num: 11

Candidate Starts for Thanksgivukkah\_4:

(7, 1586), (Start: 11 @1646 has 382 MA's), (Start: 23 @1754 has 2 MA's), (35, 1850), (65, 1964), (179, 2612), (185, 2648), (192, 2705), (193, 2711),

Gene: Theia\_3 Start: 2355, Stop: 3572, Start Num: 11

Candidate Starts for Theia\_3:

(Start: 10 @2343 has 4 MA's), (Start: 11 @2355 has 382 MA's), (Start: 19 @2448 has 1 MA's), (38, 2589), (57, 2715), (75, 2811), (83, 2847), (85, 2865), (87, 2889), (90, 2907), (92, 2919), (114, 3102), (150, 3336), (156, 3369), (164, 3417), (165, 3426), (167, 3456), (175, 3558), (176, 3561),

Gene: Tiffany\_4 Start: 1682, Stop: 2896, Start Num: 11

Candidate Starts for Tiffany\_4:

(Start: 9 @1655 has 2 MA's), (Start: 11 @1682 has 382 MA's), (55, 1910), (172, 2699), (182, 2810), (192, 2882), (193, 2888),

Gene: Tiger\_4 Start: 2385, Stop: 3440, Start Num: 11

Candidate Starts for Tiger\_4:

(Start: 10 @2373 has 4 MA's), (Start: 11 @2385 has 382 MA's), (Start: 23 @2496 has 2 MA's), (37, 2613), (45, 2661), (78, 2853), (86, 2901), (100, 3015), (101, 3018), (105, 3057), (107, 3099), (135, 3300), (145, 3363), (146, 3369), (159, 3432),

Gene: Timothy\_7 Start: 4196, Stop: 5410, Start Num: 11

Candidate Starts for Timothy\_7:

(Start: 11 @4196 has 382 MA's), (20, 4298), (38, 4430), (57, 4556), (74, 4649), (75, 4652), (83, 4688), (85, 4706), (87, 4730), (90, 4748), (92, 4760), (114, 4943), (120, 4961), (121, 4967), (138, 5087), (162, 5243), (167, 5297), (175, 5399), (176, 5402),

Gene: TinaFeyge\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for TinaFeyge\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: TinyTimmy\_6 Start: 4196, Stop: 5410, Start Num: 11

Candidate Starts for TinyTimmy\_6:

(Start: 11 @4196 has 382 MA's), (20, 4298), (38, 4430), (57, 4556), (74, 4649), (75, 4652), (83, 4688), (85, 4706), (87, 4730), (90, 4748), (92, 4760), (114, 4943), (120, 4961), (121, 4967), (138, 5087), (162, 5243), (167, 5297), (175, 5399), (176, 5402),

Gene: Tinybot\_3 Start: 1645, Stop: 2721, Start Num: 11

Candidate Starts for Tinybot\_3:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (182, 2632), (185, 2650), (192, 2707), (193, 2713),

Gene: TiroTheta9\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for TiroTheta9\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Todacoro\_4 Start: 1633, Stop: 2760, Start Num: 11

Candidate Starts for Todacoro\_4:

(6, 1570), (8, 1579), (Start: 11 @1633 has 382 MA's), (12, 1663), (18, 1720), (Start: 25 @1765 has 1 MA's), (55, 1906), (79, 2014), (112, 2302), (182, 2674), (185, 2692), (192, 2746), (193, 2752),

Gene: Topanga\_4 Start: 1711, Stop: 2889, Start Num: 11

Candidate Starts for Topanga\_4:

(7, 1651), (Start: 11 @1711 has 382 MA's), (Start: 25 @1843 has 1 MA's), (28, 1876), (32, 1903), (96, 2218), (115, 2398), (143, 2533), (182, 2806), (185, 2824), (187, 2848), (192, 2875), (193, 2881),

Gene: Trixie\_7 Start: 4278, Stop: 5228, Start Num: 11

Candidate Starts for Trixie\_7:

(5, 4197), (Start: 11 @4278 has 382 MA's), (Start: 14 @4347 has 1 MA's), (54, 4560), (117, 4998), (122, 5019), (178, 5124), (184, 5157), (192, 5214), (193, 5220),

Gene: TroyPia\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for TroyPia\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Tubs\_7 Start: 4192, Stop: 5235, Start Num: 11

Candidate Starts for Tubs\_7:

(Start: 11 @4192 has 382 MA's), (64, 4525), (182, 5152), (184, 5164), (192, 5221), (193, 5227),

Gene: Twister\_4 Start: 1661, Stop: 2833, Start Num: 11

Candidate Starts for Twister\_4:

(Start: 11 @1661 has 382 MA's), (28, 1826), (32, 1853), (33, 1856), (55, 1934), (94, 2153), (104, 2207), (115, 2342), (143, 2477), (182, 2750), (184, 2762), (185, 2768), (192, 2819), (193, 2825),

Gene: TygerBlood\_4 Start: 1647, Stop: 2720, Start Num: 11

Candidate Starts for TygerBlood\_4:

(7, 1587), (Start: 11 @1647 has 382 MA's), (Start: 23 @1755 has 2 MA's), (35, 1851), (65, 1965), (179, 2613), (185, 2649), (192, 2706), (193, 2712),

Gene: Ugenie5\_5 Start: 4192, Stop: 5223, Start Num: 11

Candidate Starts for Ugenie5\_5:

(Start: 11 @4192 has 382 MA's), (182, 5140), (184, 5152), (192, 5209), (193, 5215),

Gene: Ulysses\_4 Start: 1646, Stop: 2719, Start Num: 11

Candidate Starts for Ulysses\_4:

(7, 1586), (Start: 11 @1646 has 382 MA's), (Start: 23 @1754 has 2 MA's), (26, 1781), (35, 1850), (65, 1964), (185, 2648), (192, 2705), (193, 2711),

Gene: UnionJack\_4 Start: 2352, Stop: 3407, Start Num: 11

Candidate Starts for UnionJack\_4:

(Start: 10 @2340 has 4 MA's), (Start: 11 @2352 has 382 MA's), (Start: 23 @2463 has 2 MA's), (37, 2580), (45, 2628), (78, 2820), (86, 2868), (100, 2982), (101, 2985), (105, 3024), (107, 3066), (135, 3267), (145, 3330), (146, 3336), (159, 3399),

Gene: Veracruz\_3 Start: 1633, Stop: 2760, Start Num: 11

Candidate Starts for Veracruz\_3:

(6, 1570), (8, 1579), (Start: 11 @1633 has 382 MA's), (12, 1663), (18, 1720), (Start: 25 @1765 has 1 MA's), (55, 1906), (79, 2014), (112, 2302), (182, 2674), (185, 2692), (192, 2746), (193, 2752),

Gene: Vix\_4 Start: 1681, Stop: 2715, Start Num: 11

Candidate Starts for Vix\_4:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (55, 1909), (168, 2629), (173, 2701), (174, 2707),

Gene: Waits\_7 Start: 3413, Stop: 4405, Start Num: 11

Candidate Starts for Waits\_7:

(3, 3200), (4, 3245), (5, 3326), (Start: 11 @3413 has 382 MA's), (31, 3599), (51, 3719), (52, 3722), (134, 4178), (140, 4235), (154, 4301), (157, 4331), (166, 4394),

Gene: WalterMcMickey\_4 Start: 1661, Stop: 2833, Start Num: 11

Candidate Starts for WalterMcMickey\_4:

(Start: 11 @1661 has 382 MA's), (28, 1826), (32, 1853), (33, 1856), (55, 1934), (94, 2153), (104, 2207), (115, 2342), (143, 2477), (182, 2750), (184, 2762), (185, 2768), (192, 2819), (193, 2825),

Gene: Wander\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for Wander\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Watson\_4 Start: 1681, Stop: 2886, Start Num: 11

Candidate Starts for Watson\_4:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (55, 1909), (182, 2800), (192, 2872), (193, 2878),

Gene: WeiHuaDA\_8 Start: 4411, Stop: 5442, Start Num: 11

Candidate Starts for WeiHuaDA\_8:

(Start: 11 @4411 has 382 MA's), (Start: 14 @4480 has 1 MA's), (54, 4693), (117, 5131), (122, 5152), (184, 5371), (185, 5377), (192, 5428), (193, 5434),

Gene: Wilbur\_4 Start: 1644, Stop: 2717, Start Num: 11

Candidate Starts for Wilbur\_4:

(7, 1584), (Start: 11 @1644 has 382 MA's), (Start: 23 @1752 has 2 MA's), (35, 1848), (65, 1962), (179, 2610), (185, 2646), (192, 2703), (193, 2709),

Gene: Wile\_4 Start: 1645, Stop: 2730, Start Num: 11

Candidate Starts for Wile\_4:

(Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (80, 2035), (185, 2659), (192, 2716), (193, 2722),

Gene: Wizard007\_4 Start: 1647, Stop: 2720, Start Num: 11

Candidate Starts for Wizard007\_4:

(7, 1587), (Start: 11 @1647 has 382 MA's), (Start: 23 @1755 has 2 MA's), (35, 1851), (65, 1965), (179, 2613), (185, 2649), (192, 2706), (193, 2712),

Gene: Wooldri\_6 Start: 1681, Stop: 2805, Start Num: 11

Candidate Starts for Wooldri\_6:

(Start: 9 @1654 has 2 MA's), (Start: 11 @1681 has 382 MA's), (55, 1909), (182, 2719), (192, 2791), (193, 2797),

Gene: Xena\_4 Start: 1644, Stop: 2729, Start Num: 11

Candidate Starts for Xena\_4:

(Start: 11 @1644 has 382 MA's), (Start: 23 @1752 has 2 MA's), (35, 1848), (65, 1962), (80, 2034), (185, 2658), (192, 2715), (193, 2721),

Gene: YoSam321\_4 Start: 1645, Stop: 2718, Start Num: 11

Candidate Starts for YoSam321\_4:

(7, 1585), (Start: 11 @1645 has 382 MA's), (Start: 23 @1753 has 2 MA's), (35, 1849), (65, 1963), (179, 2611), (185, 2647), (192, 2704), (193, 2710),

Gene: Zetzy\_4 Start: 1683, Stop: 2717, Start Num: 11

Candidate Starts for Zetzy\_4:

(Start: 9 @1656 has 2 MA's), (Start: 11 @1683 has 382 MA's), (55, 1911), (168, 2631), (173, 2703), (174, 2709),

Gene: Zimmer\_7 Start: 4514, Stop: 5293, Start Num: 11

Candidate Starts for Zimmer\_7:

(Start: 11 @4514 has 382 MA's), (12, 4544), (13, 4553), (17, 4595), (30, 4706), (130, 5279),

Gene: Zolita\_3 Start: 2354, Stop: 3679, Start Num: 11

Candidate Starts for Zolita\_3:

(4, 2195), (Start: 10 @2342 has 4 MA's), (Start: 11 @2354 has 382 MA's), (27, 2519), (38, 2600), (43, 2636), (44, 2648), (49, 2681), (63, 2777), (81, 2873), (82, 2876), (88, 2981), (89, 2984), (90, 2996), (91, 2999), (93, 3020), (95, 3038), (103, 3095), (114, 3233), (121, 3257), (135, 3356), (167, 3566), (175, 3668), (176, 3671),