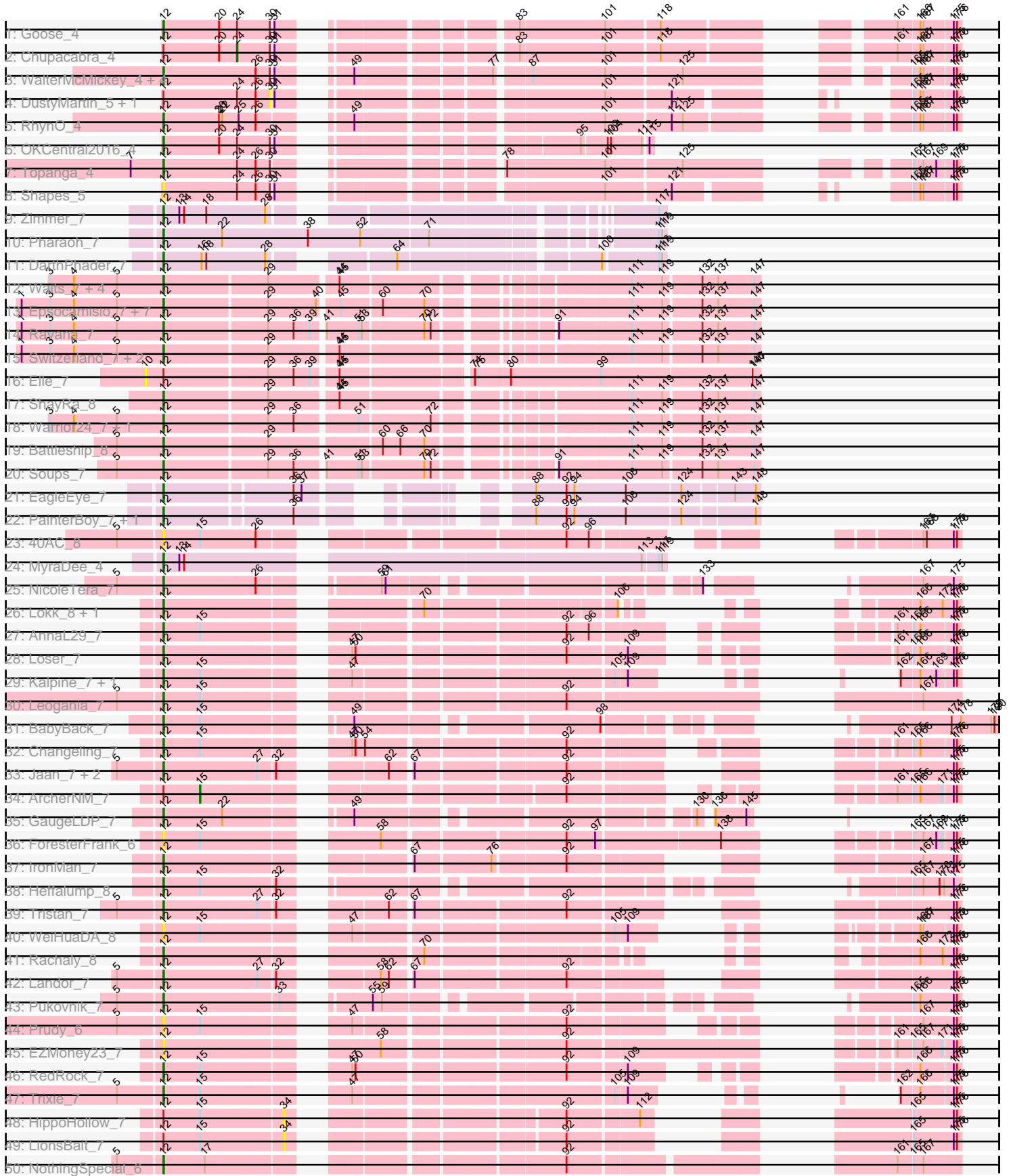
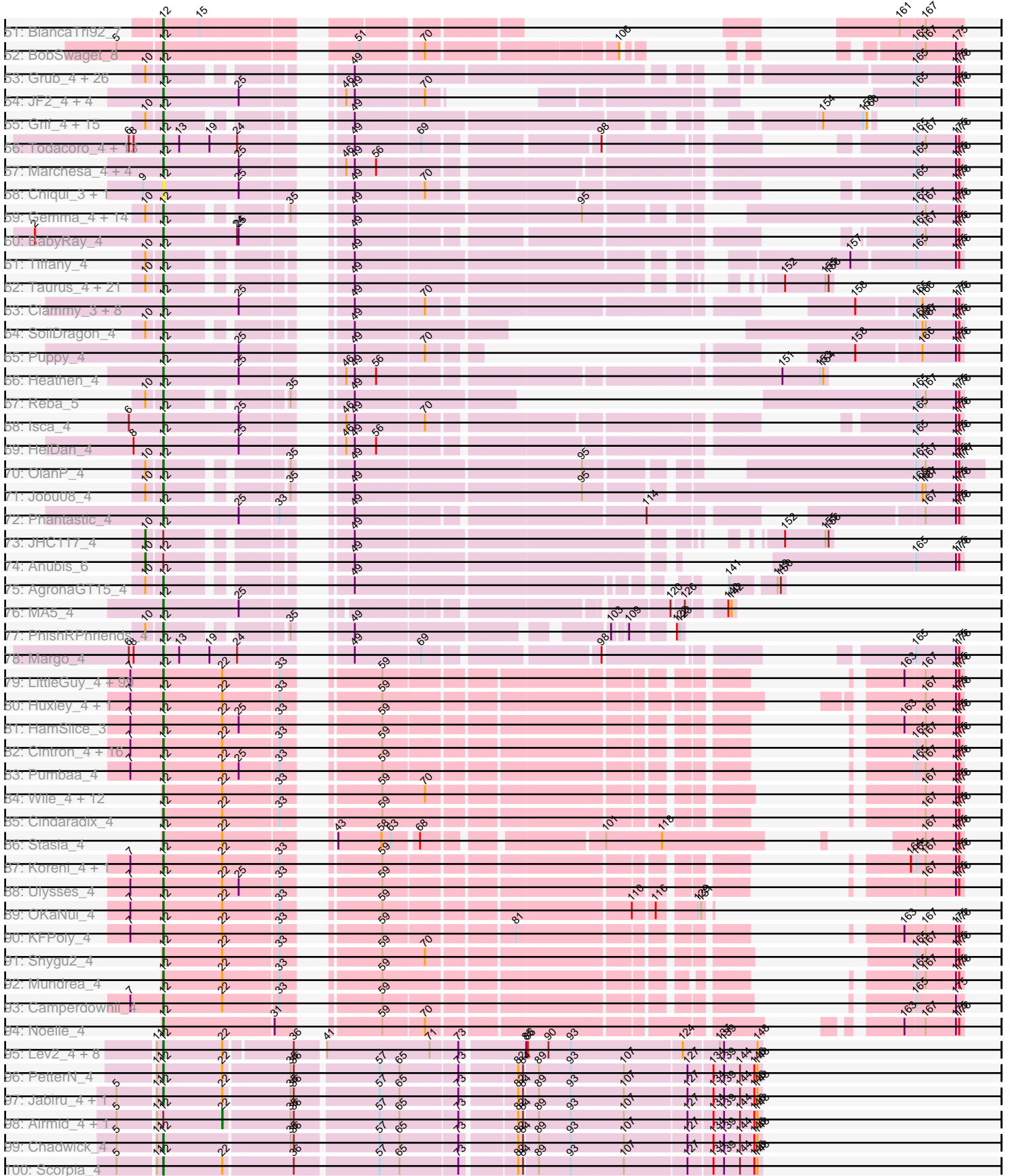


Pham 302971



Pham 302971





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 302971 Report

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

Pham number 302971 has 415 members, 45 are drafts.

Phages represented in each track:

- Track 1 : Goose\_4
- Track 2 : Chupacabra\_4
- Track 3 : WalterMcMickey\_4, Twister\_4, Rebeuca\_5, Edison31\_4, Kristoff\_5
- Track 4 : DustyMartin\_5, Rowdy\_5
- Track 5 : RhynO\_4
- Track 6 : OKCentral2016\_4
- Track 7 : Topanga\_4
- Track 8 : Shapes\_5
- Track 9 : Zimmer\_7
- Track 10 : Pharaoh\_7
- Track 11 : DarthPhader\_7
- Track 12 : Waits\_7, Strosahl\_7, DekHockey33\_7, KatherineG\_7, Remus\_7
- Track 13 : Epsocamisio\_7, Nebulosus\_7, JSwag\_7, LastResort\_7, Boohoo\_7, ReMo\_7, Looper\_7, Anaysia\_7
- Track 14 : Ravana\_7
- Track 15 : Switzerland\_7, Rosalind\_7, MinecraftSteve\_8
- Track 16 : Elle\_7
- Track 17 : ShayRa\_8
- Track 18 : Warrior24\_7, Oofda\_7
- Track 19 : Battleship\_8
- Track 20 : Soups\_7
- Track 21 : EagleEye\_7
- Track 22 : PainterBoy\_7, Lucyedi\_7
- Track 23 : 40AC\_8
- Track 24 : MyraDee\_4
- Track 25 : NicoleTera\_7
- Track 26 : Lokk\_8, Miko\_8
- Track 27 : AnnaL29\_7
- Track 28 : Loser\_7
- Track 29 : Kalpine\_7, Colin\_8
- Track 30 : Leogania\_7
- Track 31 : BabyBack\_7
- Track 32 : Changeling\_7
- Track 33 : Jaan\_7, Phaded\_7, Bactobuster\_7
- Track 34 : ArcherNM\_7
- Track 35 : GaugeLDP\_7
- Track 36 : ForesterFrank\_6

- Track 37 : IronMan\_7
- Track 38 : Heffalump\_8
- Track 39 : Tristan\_7
- Track 40 : WeiHuaDA\_8
- Track 41 : Rachaly\_8
- Track 42 : Landor\_7
- Track 43 : Pukovnik\_7
- Track 44 : Prudy\_6
- Track 45 : EZMoney23\_7
- Track 46 : RedRock\_7
- Track 47 : Trixie\_7
- Track 48 : HippoHollow\_7
- Track 49 : LionsBait\_7
- Track 50 : NothingSpecial\_6
- Track 51 : BiancaTri92\_7
- Track 52 : BobSwaget\_8
- Track 53 : Grub\_4, BreSam8\_4, Snickers\_4, Dieselweasel\_4, MuchMore\_6, AugsMagnumOpus\_6, Sabia\_4, Microwolf\_4, Lowa\_4, Aglet\_4, GinkgoMaracino\_4, Stagni\_4, StepMih\_4, MadMarie\_4, Mainiac\_4, Ollie\_4, DaHudson\_4, PGHhamlin\_6, MarQuardt\_4, GtownJaz\_4, SoYo\_4, Watson\_4, Malinsilva\_6, Lilith\_4, Pembroke\_4, Farber\_4, Wooldri\_6
- Track 54 : JF2\_4, MK4\_4, Rockstar\_4, B1\_03, JF4\_4
- Track 55 : Grif\_4, Phoxy\_4, Louie6\_4, TinyPebbles\_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 56 : Todacoro\_4, Popcicle\_4, Veracruz\_3, Texage\_3, QuinnKiro\_3, Pocahontas\_4, ResDef\_4, Hookmount\_4, Panamaxus\_4, Noella\_4, Caviar\_4, Norbert\_3, EtoileNova\_3, Lambert1\_4
- Track 57 : Marchesa\_4, DropBear\_4, Kachowdy\_4, Fred313\_4, Zarafa\_4
- Track 58 : Chiqui\_3, BabyJohn\_3
- Track 59 : Gemma\_4, Kalnoky\_5, PurpleHaze\_4, Manu\_5, Pawn\_4, Kalb97\_5, JeppNRM\_5, ClownCar\_4, Groupthink\_5, HaveUMetTed\_5, Marius\_5, Phranny\_5, Calvinny\_4, Heliosoles\_4, ACFishhook\_4
- Track 60 : BabyRay\_4
- Track 61 : Tiffany\_4
- Track 62 : Taurus\_4, JenCasNa\_4, Cullens\_4, PotatoSplit\_5, MoneyMay\_4, Fernando\_4, LBerry\_4, Bigflo\_4, Phoebe\_4, Grum1\_4, Colbster\_4, EpicPhail\_4, Marie\_4, Beauxregard13\_4, Penny1\_4, Sabinator\_4, P28Green\_4, Montavir\_3, Croquant\_5, LugYA\_6, Hercules11\_4, Gwennie\_3
- Track 63 : Clammy\_3, Bugatti\_3, Pistachio\_4, Idleandcovert\_3, SaturnRing\_3, BlueBird\_4, Giroux\_4, TNguyen7\_4, Roimos\_4
- Track 64 : SoilDragon\_4
- Track 65 : Puppy\_4
- Track 66 : Heathen\_4
- Track 67 : Reba\_5
- Track 68 : Isca\_4
- Track 69 : HelDan\_4
- Track 70 : OlanP\_4
- Track 71 : Jobu08\_4
- Track 72 : Phantastic\_4
- Track 73 : JHC117\_4
- Track 74 : Anubis\_6
- Track 75 : AgronaGT15\_4

- Track 76 : MA5\_4
- Track 77 : PhishRPhriends\_4
- Track 78 : Margo\_4
- Track 79 : LittleGuy\_4, Kamy\_4, Lorenzo\_4, TroyPia\_4, Ohfah\_4, Sultana\_4, Sabertooth\_4, SteMason\_3, Clarenza\_4, CentreCat\_4, Ruin\_4, Kratak\_4, Florean\_4, Holli\_4, Nyxis\_4, JoongJeon\_4, Phacado\_4, Eros\_4, Albee\_4, Bombshell\_4, Maverick\_4, LittleB\_4, BellusTerra\_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, Wilbur\_4, Kingmustik0402\_4, Mayonnaise\_4, Pipcraft\_4, Iceman\_4, Polymorphads\_4, Medusa\_4, Palestino\_4, Melvin\_4, Phontbonne\_4, YoSam321\_4, Citius\_4, Sparxx\_4, Caelakin\_4, KekoraPapaka\_3, Arturo\_3, Kye\_4, Cocoaberry\_4, TinaFeyge\_4, Koan\_4, Bartimeaus\_4, LappelDuVide\_4, Roosevelt\_4, Spino\_4, Funston\_4, RockieBear\_3, Dhanush\_4, Bruiser\_4, SenorClean\_4, Blackmoor\_4, Maxo\_4, Scamp\_4, Connomayer\_4, PeterPeter\_4, Lunsford\_4, Houdini22\_4, Baby16\_4, Nemo27\_4, Broseidon\_4, BubbleTrouble\_4, Jaykayelowell\_4, Lemur\_4, Romney\_4, Nebs\_4, NotAPhaseMom\_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 80 : Huxley\_4, Annyong\_4
- Track 81 : HamSlice\_3
- Track 82 : Cintron\_4, SheldonCooper\_4, Phighter1804\_4, Iracema64\_4, Obama12\_4, AvatarAhPeg\_4, Stink\_4, Rosa24\_3, DirtyDunning\_4, LochMonster\_4, LHTSCC\_4, ChampagnePapi\_4, Tinybot\_3, Cerulean\_4, Miramae\_4, Happiness\_4, BangNhom\_3
- Track 83 : Pumbaa\_4
- Track 84 : 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 85 : Cindaradix\_4
- Track 86 : Stasia\_4
- Track 87 : Koreni\_4, Alberto7\_4
- Track 88 : Ulysses\_4
- Track 89 : OKaNui\_4
- Track 90 : KFPoly\_4
- Track 91 : Shygu2\_4
- Track 92 : Mundrea\_4
- Track 93 : Camperdownii\_4
- Track 94 : Noelle\_4
- Track 95 : Lev2\_4, Tiger\_4, Florence1\_4, PickleBack\_4, Florence4\_4, Conspiracy\_4, UnionJack\_4, ForGetIt\_4, Archetta\_4
- Track 96 : PetterN\_4
- Track 97 : Jabiru\_4, ElTiger69\_4
- Track 98 : Airmid\_4, Benedict\_4
- Track 99 : Chadwick\_4
- Track 100 : Scorpio\_4
- Track 101 : Stephig9\_4, Expelliarmus\_3, Dixon\_4, Phillis\_4, Smeadley\_4, Groundhog\_3, Astro\_4, Roary\_4, Caitlin\_3
- Track 102 : Danforth\_3
- Track 103 : Saintus\_4
- Track 104 : NearlyHeadless\_4
- Track 105 : Darrell\_7

- Track 106 : Maminiaina\_7, Ugenie5\_5, ExplosioNervosa\_7, Scherzo\_7, Alma\_7, EmyBug\_7, Pioneer\_7, Beemo\_7, Ayanochan\_8, Phonnegut\_7, Fayely\_7
- Track 107 : RyeScarlet\_8, Hanray\_6, Jiawan\_6, Halex\_6
- Track 108 : Priya\_7, Conquerage\_7, Eidsmoe\_7, Qobbit\_7, Spouty\_7
- Track 109 : LoneWolf\_7
- Track 110 : Phaeder\_7, HortumSL17\_7, Tubs\_7, Aliter\_7, Myxus\_7, Catalina\_7, Lilleskat\_5, PackMan\_7
- Track 111 : Elephantoon\_7
- Track 112 : BogosyJay\_7
- Track 113 : EdogawaKiddo\_5, Sachima\_5

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

The start number called the most often in the published annotations is 12, it was called in 364 of the 370 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, AnnaL29\_7, Annyong\_4, Archetta\_4, Arturo\_3, Astro\_4, AugsMagnumOpus\_6, AvatarAhPeg\_4, Avle17\_4, Ayanochan\_8, B1\_03, Baby16\_4, BabyBack\_7, BabyJohn\_3, BabyRay\_4, Backyardigan\_4, Bactobuster\_7, Badger\_4, BangNhom\_3, Bartimeaus\_4, Battleship\_8, Beauxregard13\_4, Beemo\_7, BellusTerra\_4, BiancaTri92\_7, Bigflo\_4, Blackmoor\_4, BlueBird\_4, BobSwaget\_8, BogosyJay\_7, Bombshell\_4, Boohoo\_7, BreSam8\_4, Broseidon\_4, Bruiser\_4, BubbleTrouble\_4, Bugatti\_3, Bumblebee11\_4, Burger\_3, BuzzBuzz\_3, Bxz2\_4, Caelakin\_4, Caitlin\_3, Calvinny\_4, Camperdownii\_4, Catalina\_7, Caviar\_4, CentreCat\_4, Cerulean\_4, Chadwick\_4, ChampagnePapi\_4, Changeling\_7, Chaph\_4, Chiqui\_3, Cici\_4, Cindaradix\_4, Cintron\_4, Citius\_4, Clammy\_3, Clarenza\_4, ClownCar\_4, Cocoaberry\_4, Colbster\_4, Colin\_8, Commander\_4, Connomayer\_4, Conquerage\_7, Conspiracy\_4, Croquant\_5, Cullens\_4, DaHudson\_4, Danforth\_3, Darrell\_7, DARTHPhader\_7, Datway\_4, Deano\_4, DekHockey33\_7, Dhanush\_4, Dieselweasel\_4, DirtyDunning\_4, Dixon\_4, DropBear\_4, Druantia\_4, EZMoney23\_7, EagleEye\_7, Eagle\_3, Eapen\_4, Edison31\_4, EdogawaKiddo\_5, Eidsmoe\_7, ElTiger69\_4, Elephantoon\_7, EmyBug\_7, EpicPhail\_4, Epsocamisio\_7, Eris\_4, Eros\_4, EtoileNova\_3, Eurydice\_4, Expelliarmus\_3, ExplosioNervosa\_7, Farber\_4, Fayely\_7, Fernando\_4, Florean\_4, Florence1\_4, Florence4\_4, Flux\_4, ForGetIt\_4, ForesterFrank\_6, Fred313\_4, Funston\_4, Gadost\_4, GaugeLDP\_7, Gemma\_4, GingkoMaracino\_4, Giroux\_4, Goose\_4, Grif\_4, Groundhog\_3, Groupthink\_5, Grub\_4, Grum1\_4, GtownJaz\_4, Gwennie\_3, HamSlice\_3, Hanray\_6, Happiness\_4, HashRod\_5, HaveUMetTed\_5, Heathen\_4, Heffalump\_8, HeiDan\_4, Heliosoles\_4, Hercules11\_4, Halex\_6, Holli\_4, Hookmount\_4, HortumSL17\_7, Houdini22\_4, Huxley\_4, ICleared\_4, Iceman\_4, Idleandcovert\_3, Iracema64\_4, IronMan\_7, Isca\_4, JF2\_4, JF4\_4, JSwag\_7, Jaan\_7, Jabiru\_4, Jaykayelowell\_4, JenCasNa\_4, JeppNRM\_5, JetBlade\_4, Jiawan\_6, Jobu08\_4, JoongJeon\_4, KADY\_5, KFPoly\_4, Kachowdy\_4, Kalb97\_5, Kalnoky\_5, Kalpine\_7, Kampy\_4, Katalie136\_4, KatherineG\_7, KekoraPapaka\_3, Kingmustik0402\_4, Koan\_4, Koreni\_4, Kratark\_4, Kristoff\_5, Kyee\_4, LBerry\_4, LHTSCC\_4, Lambert1\_4, Landor\_7, LappelDuVide\_4, LarryKay\_4, LastResort\_7, Lemur\_4, LeoAvram\_4, Leogania\_7, Lev2\_4, Lilith\_4, Lilleskat\_5, LittleB\_4, LittleGuy\_4, LochMonster\_4, Lökk\_8, LoneWolf\_7, Looper\_7, Lorenzo\_4, Loser\_7,

Louie6\_4, Iowa\_4, Lucyedi\_7, LugYA\_6, Lunsford\_4, MA5\_4, MK4\_4, MadMarie\_4, Mainiac\_4, Malinsilva\_6, Maminiaina\_7, Manu\_5, MarQuardt\_4, Marchesa\_4, Margo\_4, Marie\_4, Marius\_5, Maverick\_4, Maxo\_4, Mayonnaise\_4, Mazhar510\_4, Medusa\_4, MeeZee\_4, Melvin\_4, Methuselah\_4, Microwolf\_4, Miko\_8, Millski\_4, MinecraftSteve\_8, Miramae\_4, Misomonster\_6, MoneyMay\_4, Montavir\_3, Morpher26\_4, Morrow\_4, MuchMore\_6, 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, P28Green\_4, PGHhamlin\_6, PackMan\_7, PainterBoy\_7, Palestino\_4, Panamaxus\_4, Pawn\_4, Peaches\_4, Pembroke\_4, Penny1\_4, Perplexer\_4, PeterPeter\_4, 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, Prudy\_6, Pukovnik\_7, Pumbaa\_4, Puppy\_4, PurpleHaze\_4, Qobbit\_7, QuinnKiro\_3, Rachaly\_8, Ravana\_7, ReMo\_7, Reba\_5, Rebeuca\_5, RedRock\_7, Relief\_4, Remus\_7, ResDef\_4, RhynO\_4, Roary\_4, RockieBear\_3, Rockstar\_4, Roimos\_4, Romney\_4, Roosevelt\_4, Rosa24\_3, Rosalind\_7, Ruin\_4, Rummer\_4, RyeScarlet\_8, Sabertooth\_4, Sabia\_4, Sabinator\_4, Sachima\_5, Saintus\_4, SaturnRing\_3, Scamp\_4, Scherzo\_7, Scorpia\_4, SenorClean\_4, Shaka\_4, Shapes\_5, ShayRa\_8, SheldonCooper\_4, Shygu2\_4, Skipitt\_4, Smeadley\_4, Snickers\_4, SoYo\_4, SoilDragon\_4, Soshari\_6, Soups\_7, Sparxx\_4, Spike509\_4, Spino\_4, Spouty\_7, Stagni\_4, Stasia\_4, SteMason\_3, StepMih\_4, Stephig9\_4, Stink\_4, Strosahl\_7, Sultana\_4, Switzerland\_7, TNguyen7\_4, Taquarus\_4, Taurus\_4, Texage\_3, Thanksgivukkah\_4, Tiffany\_4, Tiger\_4, TinaFeyge\_4, TinyPebbles\_4, Tinybot\_3, TiroTheta9\_4, Todacoro\_4, Topanga\_4, Tristan\_7, 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, Warrior24\_7, Watson\_4, WeiHuaDA\_8, Wilbur\_4, Wile\_4, Wizard007\_4, Wooldri\_6, Xena\_4, YoSam321\_4, Zarafa\_4, Zetzy\_4, Zimmer\_7,

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

- Airmid\_4, Anubis\_6, ArcherNM\_7, Benedict\_4, Chupacabra\_4, DustyMartin\_5, Elle\_7, HippoHollow\_7, JHC117\_4, LionsBait\_7, Rowdy\_5,

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

- 

### Summary by start number:

Start 10:

- Found in 95 of 415 ( 22.9% ) of genes in pham
- Manual Annotations of this start: 2 of 370
- Called 3.2% of time when present
- Phage (with cluster) where this start called: Anubis\_6 (A3), Elle\_7 (A15), JHC117\_4 (A3),

Start 12:

- Found in 415 of 415 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 364 of 370
- Called 97.3% of time when present

• Phage (with cluster) where this start called: 40AC\_8 (A17), ACFishhook\_4 (A3), AbbyssRanger\_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), AnnaL29\_7 (A2), Annyong\_4 (A4), Archetta\_4 (A5), Arturo\_3 (A4), Astro\_4 (A8), AugsMagnumOpus\_6 (A3), AvatarAhPeg\_4 (A4), Avle17\_4 (A4), Ayanochan\_8 (A9), B1\_03 (A3), Baby16\_4 (A4), BabyBack\_7 (A2), BabyJohn\_3 (A3), BabyRay\_4 (A3), 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), Bigflo\_4 (A3), Blackmoor\_4 (A4), BlueBird\_4 (A3), BobSwaget\_8 (A2), BogosyJay\_7 (A9), Bombshell\_4 (A4), Boohoo\_7 (A15), BreSam8\_4 (A3), Broseidon\_4 (A4), Bruiser\_4 (A4), BubbleTrouble\_4 (A4), Bugatti\_3 (A3), Bumblebee11\_4 (A4), Burger\_3 (A4), BuzzBuzz\_3 (A3), Bxz2\_4 (A3), Caelakin\_4 (A4), Caitlin\_3 (A8), Calvinny\_4 (A3), 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), Chiqui\_3 (A3), Cici\_4 (A4), Cindaradix\_4 (A4), Cintron\_4 (A4), Citius\_4 (A4), Clammy\_3 (A3), Clarenza\_4 (A4), ClownCar\_4 (A3), Cocoaberry\_4 (A4), Colbster\_4 (A3), Colin\_8 (A2), Commander\_4 (A4), Connomayer\_4 (A4), Conquerage\_7 (A9), Conspiracy\_4 (A5), Croquant\_5 (A3), 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), Dixon\_4 (A8), DropBear\_4 (A3), Druantia\_4 (A4), EZMoney23\_7 (A2), EagleEye\_7 (A16), Eagle\_3 (A4), Eapen\_4 (A4), Edison31\_4 (A10), EdogawaKiddo\_5 (A9), Eidsmoe\_7 (A9), EITiger69\_4 (A5), Elephantoon\_7 (A9), EmyBug\_7 (A9), EpicPhail\_4 (A3), Epsocamisio\_7 (A15), Eris\_4 (A4), Eros\_4 (A4), EtoileNova\_3 (A3), Eurydice\_4 (A4), Expelliarmus\_3 (A8), ExplosioNervosa\_7 (A9), Farber\_4 (A3), Fayely\_7 (A9), Fernando\_4 (A3), Florean\_4 (A4), Florence1\_4 (A5), Florence4\_4 (A5), Flux\_4 (A4), ForGetIt\_4 (A5), ForesterFrank\_6 (A2), Fred313\_4 (A3), Funston\_4 (A4), Gadost\_4 (A4), GaugeLDP\_7 (A2), Gemma\_4 (A3), GingkoMaracino\_4 (A3), Giroux\_4 (A3), Goose\_4 (A10), Grif\_4 (A3), Groundhog\_3 (A8), Groupthink\_5 (A3), Grub\_4 (A3), Grum1\_4 (A3), GtownJaz\_4 (A3), Gwennie\_3 (A3), HamSlice\_3 (A4), Hanray\_6 (A9), Happiness\_4 (A4), HashRod\_5 (A3), HaveUMetTed\_5 (A3), Heathen\_4 (A3), Heffalump\_8 (A2), HelDan\_4 (A3), Heliosoles\_4 (A3), Hercules11\_4 (A3), Horex\_6 (A9), Holli\_4 (A4), Hookmount\_4 (A3), HortumSL17\_7 (A9), Houdini22\_4 (A4), Huxley\_4 (A4), ICleared\_4 (A4), Iceman\_4 (A4), Idleandcovert\_3 (A3), Iracema64\_4 (A4), IronMan\_7 (A2), Isca\_4 (A3), JF2\_4 (A3), JF4\_4 (A3), JSwag\_7 (A15), Jaan\_7 (A2), Jabiru\_4 (A5), Jaykayelowell\_4 (A4), JenCasNa\_4 (A3), JeppNRM\_5 (A3), JetBlade\_4 (A4), Jiawan\_6 (A9), Jobu08\_4 (A3), JoongJeon\_4 (A4), KADY\_5 (A3), KFPoly\_4 (A4), Kachowdy\_4 (A3), Kalb97\_5 (A3), Kalnoky\_5 (A3), Kalpine\_7 (A2), Kampy\_4 (A4), Katalie136\_4 (A4), KatherineG\_7 (A15), KekoraPapaka\_3 (A4), Kingmustik0402\_4 (A4), Koan\_4 (A4), Koreni\_4 (A4), Kratark\_4 (A4), Kristoff\_5 (A10), Kyee\_4 (A4), LBBerry\_4 (A3), LHTSCC\_4 (A4), Lambert1\_4 (A3), Landor\_7 (A2), LappelDuVide\_4 (A4), LarryKay\_4 (A3), LastResort\_7 (A15), Lemur\_4 (A4), LeoAvram\_4 (A4), Leogania\_7 (A2), Lev2\_4 (A5), Lilith\_4 (A3), Lilleskat\_5 (A9), LittleB\_4 (A4), LittleGuy\_4 (A4), LochMonster\_4 (A4), Lokk\_8 (A2), LoneWolf\_7 (A9), Looper\_7 (A15), Lorenzo\_4 (A4), Loser\_7 (A2), Louie6\_4 (A3), Lowa\_4 (A3), Lucyedi\_7 (A16), LugYA\_6 (A3), Lunsford\_4 (A4), MA5\_4 (A3), MK4\_4 (A3), MadMarie\_4 (A3), Mainiac\_4 (A3), Malinsilva\_6 (A3), Maminiaina\_7 (A9), Manu\_5 (A3), MarQuardt\_4 (A3), Marchesa\_4 (A3), Margo\_4 (A3), Marie\_4 (A3), Marius\_5 (A3), Maverick\_4 (A4), Maxo\_4 (A4), Mayonnaise\_4 (A4), Mazhar510\_4 (A4), Medusa\_4 (A4), MeeZee\_4 (A4), Melvin\_4 (A4), Methuselah\_4 (A3), Microwolf\_4 (A3), Miko\_8 (A2), Millski\_4 (A4), MinecraftSteve\_8 (A15), Miramae\_4 (A4), Misomonster\_6 (A3), MoneyMay\_4 (A3), Montavir\_3 (A3), Morpher26\_4 (A4),

Morrow\_4 (A4), MuchMore\_6 (A3), 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), 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), PetiteSangsue\_4 (A4), PetterN\_4 (A5), Phacado\_4 (A4), Phaded\_7 (A2), Phaeder\_7 (A9), Phantastic\_4 (A3), Pharaoh\_7 (A12), Phelipe\_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), Prudy\_6 (A2), Pukovnik\_7 (A2), Pumbaa\_4 (A4), Puppy\_4 (A3), PurpleHaze\_4 (A3), Qobbit\_7 (A9), QuinnKiro\_3 (A3), Rachaly\_8 (A2), Ravana\_7 (A15), ReMo\_7 (A15), Reba\_5 (A3), Rebeuca\_5 (A10), RedRock\_7 (A2), Relief\_4 (A4), Remus\_7 (A15), ResDef\_4 (A3), RhynO\_4 (A10), Roary\_4 (A8), RockieBear\_3 (A4), Rockstar\_4 (A3), Roimos\_4 (A3), Romney\_4 (A4), Roosevelt\_4 (A4), Rosa24\_3 (A4), Rosalind\_7 (A15), Ruin\_4 (A4), Rummer\_4 (A3), RyeScarlet\_8 (A9), Sabertooth\_4 (A4), Sabia\_4 (A3), Sabinator\_4 (A3), Sachima\_5 (A9), Saintus\_4 (A8), SaturnRing\_3 (A3), Scamp\_4 (A4), Scherzo\_7 (A9), Scorpia\_4 (A5), SenorClean\_4 (A4), Shaka\_4 (A4), Shapes\_5 (A10), ShayRa\_8 (A15), SheldonCooper\_4 (A4), Shygu2\_4 (A4), Skipitt\_4 (A4), Smeadley\_4 (A8), 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\_7 (A9), Stagni\_4 (A3), Stasia\_4 (A4), SteMason\_3 (A4), StepMih\_4 (A3), Stepbig9\_4 (A8), Stink\_4 (A4), Strosahl\_7 (A15), Sultana\_4 (A4), Switzerland\_7 (A15), TNguyen7\_4 (A3), Taquarus\_4 (A4), Taurus\_4 (A3), Texage\_3 (A3), Thanksgivukkah\_4 (A4), Tiffany\_4 (A3), Tiger\_4 (A5), TinaFeyge\_4 (A4), TinyPebbles\_4 (A3), Tinybot\_3 (A4), TiroTheta9\_4 (A4), Todacoro\_4 (A3), Topanga\_4 (A10), Tristan\_7 (A2), 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), Warrior24\_7 (A15), Watson\_4 (A3), WeiHuaDA\_8 (A2), Wilbur\_4 (A4), Wile\_4 (A4), Wizard007\_4 (A4), Wooldri\_6 (A3), Xena\_4 (A4), YoSam321\_4 (A4), Zarafa\_4 (A3), Zetzy\_4 (A3), Zimmer\_7 (A12),

#### Start 15:

- Found in 17 of 415 ( 4.1% ) of genes in pham
- Manual Annotations of this start: 1 of 370
- Called 5.9% of time when present
- Phage (with cluster) where this start called: ArcherNM\_7 (A2),

#### Start 22:

- Found in 162 of 415 ( 39.0% ) of genes in pham
- Manual Annotations of this start: 2 of 370
- Called 1.2% of time when present
- Phage (with cluster) where this start called: Airmid\_4 (A5), Benedict\_4 (A5),

#### Start 24:

- Found in 23 of 415 ( 5.5% ) of genes in pham
- Manual Annotations of this start: 1 of 370
- Called 4.3% of time when present
- Phage (with cluster) where this start called: Chupacabra\_4 (A10),

Start 30:

- Found in 12 of 415 ( 2.9% ) of genes in pham
- No Manual Annotations of this start.
- Called 16.7% of time when present
- Phage (with cluster) where this start called: DustyMartin\_5 (A10), Rowdy\_5 (A10),

Start 34:

- Found in 2 of 415 ( 0.5% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: HippoHollow\_7 (A2), LionsBait\_7 (A2),

### **Summary by clusters:**

There are 12 clusters represented in this pham: A15, A17, A16, A10, A12, A18, A3, A2, A5, A4, A9, A8,

Info for manual annotations of cluster A10:

- Start number 12 was manually annotated 9 times for cluster A10.
- Start number 24 was manually annotated 1 time for cluster A10.

Info for manual annotations of cluster A12:

- Start number 12 was manually annotated 3 times for cluster A12.

Info for manual annotations of cluster A15:

- Start number 12 was manually annotated 22 times for cluster A15.

Info for manual annotations of cluster A16:

- Start number 12 was manually annotated 3 times for cluster A16.

Info for manual annotations of cluster A18:

- Start number 12 was manually annotated 1 time for cluster A18.

Info for manual annotations of cluster A2:

- Start number 12 was manually annotated 24 times for cluster A2.
- Start number 15 was manually annotated 1 time for cluster A2.

Info for manual annotations of cluster A3:

- Start number 10 was manually annotated 2 times for cluster A3.
- Start number 12 was manually annotated 112 times for cluster A3.

Info for manual annotations of cluster A4:

- Start number 12 was manually annotated 141 times for cluster A4.

Info for manual annotations of cluster A5:

- Start number 12 was manually annotated 12 times for cluster A5.
- Start number 22 was manually annotated 2 times for cluster A5.

Info for manual annotations of cluster A8:

- Start number 12 was manually annotated 11 times for cluster A8.

Info for manual annotations of cluster A9:

•Start number 12 was manually annotated 26 times for cluster A9.

**Gene Information:**

Gene: 40AC\_8 Start: 4152, Stop: 5285, Start Num: 12

Candidate Starts for 40AC\_8:

(5, 4071), (Start: 12 @4152 has 364 MA's), (Start: 15 @4221 has 1 MA's), (26, 4320), (92, 4791), (96, 4833), (167, 5217), (168, 5223), (175, 5271), (176, 5277),

Gene: ACFishhook\_4 Start: 1685, Stop: 2965, Start Num: 12

Candidate Starts for ACFishhook\_4:

(Start: 10 @1658 has 2 MA's), (Start: 12 @1685 has 364 MA's), (35, 1865), (49, 1913), (95, 2309), (165, 2879), (167, 2897), (175, 2951), (176, 2957),

Gene: AbbysRanger\_4 Start: 1644, Stop: 2729, Start Num: 12

Candidate Starts for AbbysRanger\_4:

(Start: 12 @1644 has 364 MA's), (Start: 22 @1752 has 2 MA's), (33, 1848), (59, 1962), (70, 2034), (167, 2658), (175, 2715), (176, 2721),

Gene: Abdiel\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Abdiel\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Achebe\_4 Start: 1644, Stop: 2729, Start Num: 12

Candidate Starts for Achebe\_4:

(Start: 12 @1644 has 364 MA's), (Start: 22 @1752 has 2 MA's), (33, 1848), (59, 1962), (70, 2034), (167, 2658), (175, 2715), (176, 2721),

Gene: Aglet\_4 Start: 1681, Stop: 2895, Start Num: 12

Candidate Starts for Aglet\_4:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (165, 2809), (175, 2881), (176, 2887),

Gene: AgronaGT15\_4 Start: 1682, Stop: 2536, Start Num: 12

Candidate Starts for AgronaGT15\_4:

(Start: 10 @1655 has 2 MA's), (Start: 12 @1682 has 364 MA's), (49, 1910), (141, 2450), (149, 2522), (150, 2528),

Gene: Airmid\_4 Start: 2465, Stop: 3403, Start Num: 22

Candidate Starts for Airmid\_4:

(5, 2276), (11, 2342), (Start: 12 @2354 has 364 MA's), (Start: 22 @2465 has 2 MA's), (35, 2585), (36, 2591), (57, 2738), (65, 2774), (73, 2879), (82, 2972), (84, 2981), (89, 3005), (93, 3065), (107, 3161), (127, 3275), (134, 3317), (139, 3335), (144, 3362), (146, 3389), (148, 3395),

Gene: Albee\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Albee\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Alberto7\_4 Start: 1646, Stop: 2719, Start Num: 12

Candidate Starts for Alberto7\_4:

(7, 1586), (Start: 12 @1646 has 364 MA's), (Start: 22 @1754 has 2 MA's), (33, 1850), (59, 1964), (164, 2624), (165, 2630), (167, 2648), (175, 2705), (176, 2711),

Gene: Aliter\_7 Start: 4192, Stop: 5163, Start Num: 12

Candidate Starts for Aliter\_7:

(Start: 12 @4192 has 364 MA's), (58, 4525), (165, 5080), (166, 5092), (175, 5149), (176, 5155),

Gene: Alma\_7 Start: 4190, Stop: 5221, Start Num: 12

Candidate Starts for Alma\_7:

(Start: 12 @4190 has 364 MA's), (165, 5138), (166, 5150), (175, 5207), (176, 5213),

Gene: Anaysia\_7 Start: 3414, Stop: 4406, Start Num: 12

Candidate Starts for Anaysia\_7:

(1, 3147), (3, 3201), (4, 3246), (5, 3327), (Start: 12 @3414 has 364 MA's), (29, 3600), (40, 3690), (45, 3723), (60, 3795), (70, 3870), (111, 4179), (119, 4236), (132, 4302), (137, 4332), (147, 4395),

Gene: AnnaL29\_7 Start: 4133, Stop: 5236, Start Num: 12

Candidate Starts for AnnaL29\_7:

(Start: 12 @4133 has 364 MA's), (Start: 15 @4202 has 1 MA's), (92, 4772), (96, 4814), (161, 5126), (165, 5153), (166, 5165), (175, 5222), (176, 5228),

Gene: Annyong\_4 Start: 1646, Stop: 2719, Start Num: 12

Candidate Starts for Annyong\_4:

(7, 1586), (Start: 12 @1646 has 364 MA's), (Start: 22 @1754 has 2 MA's), (33, 1850), (59, 1964), (167, 2648), (175, 2705), (176, 2711),

Gene: Anubis\_6 Start: 1654, Stop: 2805, Start Num: 10

Candidate Starts for Anubis\_6:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (165, 2719), (175, 2791), (176, 2797),

Gene: ArcherNM\_7 Start: 4221, Stop: 5246, Start Num: 15

Candidate Starts for ArcherNM\_7:

(Start: 12 @4152 has 364 MA's), (Start: 15 @4221 has 1 MA's), (92, 4782), (161, 5136), (165, 5163), (166, 5175), (171, 5214), (175, 5232), (176, 5238),

Gene: Archetta\_4 Start: 2385, Stop: 3440, Start Num: 12

Candidate Starts for Archetta\_4:

(11, 2373), (Start: 12 @2385 has 364 MA's), (Start: 22 @2496 has 2 MA's), (36, 2613), (41, 2661), (71, 2853), (73, 2901), (85, 3015), (86, 3018), (90, 3057), (93, 3099), (124, 3300), (137, 3363), (139, 3369), (148, 3432),

Gene: Arturo\_3 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Arturo\_3:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Astro\_4 Start: 2306, Stop: 3343, Start Num: 12

Candidate Starts for Astro\_4:

(4, 2147), (Start: 12 @2306 has 364 MA's), (36, 2543), (57, 2690), (128, 3236), (139, 3275), (143, 3299), (148, 3335),

Gene: AugsMagnumOpus\_6 Start: 1681, Stop: 2886, Start Num: 12  
Candidate Starts for AugsMagnumOpus\_6:  
(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (165, 2800), (175, 2872),  
(176, 2878),

Gene: AvatarAhPeg\_4 Start: 1638, Stop: 2714, Start Num: 12  
Candidate Starts for AvatarAhPeg\_4:  
(7, 1578), (Start: 12 @1638 has 364 MA's), (Start: 22 @1746 has 2 MA's), (33, 1842), (59, 1956), (165,  
2625), (167, 2643), (175, 2700), (176, 2706),

Gene: Avle17\_4 Start: 1645, Stop: 2718, Start Num: 12  
Candidate Starts for Avle17\_4:  
(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163,  
2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Ayanochan\_8 Start: 4192, Stop: 5223, Start Num: 12  
Candidate Starts for Ayanochan\_8:  
(Start: 12 @4192 has 364 MA's), (165, 5140), (166, 5152), (175, 5209), (176, 5215),

Gene: B1\_03 Start: 1608, Stop: 2510, Start Num: 12  
Candidate Starts for B1\_03:  
(Start: 12 @1608 has 364 MA's), (25, 1743), (46, 1866), (49, 1881), (70, 1995), (165, 2424), (175,  
2496), (176, 2502),

Gene: Baby16\_4 Start: 1645, Stop: 2727, Start Num: 12  
Candidate Starts for Baby16\_4:  
(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163,  
2620), (167, 2656), (175, 2713), (176, 2719),

Gene: BabyBack\_7 Start: 3957, Stop: 5108, Start Num: 12  
Candidate Starts for BabyBack\_7:  
(Start: 12 @3957 has 364 MA's), (Start: 15 @4026 has 1 MA's), (49, 4233), (98, 4629), (174, 5019),  
(178, 5037), (179, 5094), (180, 5100),

Gene: BabyJohn\_3 Start: 1627, Stop: 2763, Start Num: 12  
Candidate Starts for BabyJohn\_3:  
(9, 1591), (Start: 12 @1627 has 364 MA's), (25, 1762), (49, 1900), (70, 2014), (165, 2677), (175, 2749),  
(176, 2755),

Gene: BabyRay\_4 Start: 1650, Stop: 2777, Start Num: 12  
Candidate Starts for BabyRay\_4:  
(2, 1410), (Start: 12 @1650 has 364 MA's), (Start: 24 @1782 has 1 MA's), (25, 1785), (49, 1923), (165,  
2691), (167, 2709), (175, 2763), (176, 2769),

Gene: Backyardigan\_4 Start: 1644, Stop: 2729, Start Num: 12  
Candidate Starts for Backyardigan\_4:  
(Start: 12 @1644 has 364 MA's), (Start: 22 @1752 has 2 MA's), (33, 1848), (59, 1962), (70, 2034),  
(167, 2658), (175, 2715), (176, 2721),

Gene: Bactobuster\_7 Start: 3964, Stop: 5064, Start Num: 12  
Candidate Starts for Bactobuster\_7:

(5, 3883), (Start: 12 @3964 has 364 MA's), (27, 4135), (32, 4165), (62, 4306), (67, 4339), (92, 4603), (175, 5050), (176, 5056),

Gene: Badger\_4 Start: 1645, Stop: 2730, Start Num: 12

Candidate Starts for Badger\_4:

(Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (70, 2035), (167, 2659), (175, 2716), (176, 2722),

Gene: BangNhom\_3 Start: 1642, Stop: 2718, Start Num: 12

Candidate Starts for BangNhom\_3:

(7, 1582), (Start: 12 @1642 has 364 MA's), (Start: 22 @1750 has 2 MA's), (33, 1846), (59, 1960), (165, 2629), (167, 2647), (175, 2704), (176, 2710),

Gene: Bartimeaus\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Bartimeaus\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Battleship\_8 Start: 3561, Stop: 4553, Start Num: 12

Candidate Starts for Battleship\_8:

(5, 3474), (Start: 12 @3561 has 364 MA's), (29, 3747), (60, 3942), (66, 3972), (70, 4017), (111, 4326), (119, 4383), (132, 4449), (137, 4479), (147, 4542),

Gene: Beauxregard13\_4 Start: 1681, Stop: 2625, Start Num: 12

Candidate Starts for Beauxregard13\_4:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (152, 2539), (155, 2611), (156, 2617),

Gene: Beemo\_7 Start: 4193, Stop: 5224, Start Num: 12

Candidate Starts for Beemo\_7:

(Start: 12 @4193 has 364 MA's), (165, 5141), (166, 5153), (175, 5210), (176, 5216),

Gene: BellusTerra\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for BellusTerra\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Benedict\_4 Start: 2467, Stop: 3405, Start Num: 22

Candidate Starts for Benedict\_4:

(5, 2278), (11, 2344), (Start: 12 @2356 has 364 MA's), (Start: 22 @2467 has 2 MA's), (35, 2587), (36, 2593), (57, 2740), (65, 2776), (73, 2881), (82, 2974), (84, 2983), (89, 3007), (93, 3067), (107, 3163), (127, 3277), (134, 3319), (139, 3337), (144, 3364), (146, 3391), (148, 3397),

Gene: BiancaTri92\_7 Start: 4180, Stop: 5040, Start Num: 12

Candidate Starts for BiancaTri92\_7:

(Start: 12 @4180 has 364 MA's), (Start: 15 @4249 has 1 MA's), (161, 4927), (167, 4972),

Gene: Bigflo\_4 Start: 1681, Stop: 2625, Start Num: 12

Candidate Starts for Bigflo\_4:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (152, 2539), (155, 2611), (156, 2617),

Gene: Blackmoor\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Blackmoor\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: BlueBird\_4 Start: 1612, Stop: 2826, Start Num: 12

Candidate Starts for BlueBird\_4:

(Start: 12 @1612 has 364 MA's), (25, 1747), (49, 1885), (70, 1999), (158, 2641), (165, 2743), (166, 2755), (175, 2812), (176, 2818),

Gene: BobSwaget\_8 Start: 4394, Stop: 5380, Start Num: 12

Candidate Starts for BobSwaget\_8:

(5, 4313), (Start: 12 @4394 has 364 MA's), (51, 4688), (70, 4793), (106, 5111), (165, 5294), (167, 5312), (175, 5366),

Gene: BogosyJay\_7 Start: 3953, Stop: 5005, Start Num: 12

Candidate Starts for BogosyJay\_7:

(Start: 12 @3953 has 364 MA's), (23, 4070), (58, 4286), (165, 4922), (166, 4934), (175, 4991), (176, 4997),

Gene: Bombshell\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Bombshell\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Boohoo\_7 Start: 3414, Stop: 4406, Start Num: 12

Candidate Starts for Boohoo\_7:

(1, 3147), (3, 3201), (4, 3246), (5, 3327), (Start: 12 @3414 has 364 MA's), (29, 3600), (40, 3690), (45, 3723), (60, 3795), (70, 3870), (111, 4179), (119, 4236), (132, 4302), (137, 4332), (147, 4395),

Gene: BreSam8\_4 Start: 1682, Stop: 2887, Start Num: 12

Candidate Starts for BreSam8\_4:

(Start: 10 @1655 has 2 MA's), (Start: 12 @1682 has 364 MA's), (49, 1910), (165, 2801), (175, 2873), (176, 2879),

Gene: Broseidon\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Broseidon\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Bruiser\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Bruiser\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: BubbleTrouble\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for BubbleTrouble\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Bugatti\_3 Start: 1612, Stop: 2826, Start Num: 12

Candidate Starts for Bugatti\_3:

(Start: 12 @1612 has 364 MA's), (25, 1747), (49, 1885), (70, 1999), (158, 2641), (165, 2743), (166, 2755), (175, 2812), (176, 2818),

Gene: Bumblebee11\_4 Start: 1644, Stop: 2729, Start Num: 12

Candidate Starts for Bumblebee11\_4:

(Start: 12 @1644 has 364 MA's), (Start: 22 @1752 has 2 MA's), (33, 1848), (59, 1962), (70, 2034), (167, 2658), (175, 2715), (176, 2721),

Gene: Burger\_3 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Burger\_3:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: BuzzBuzz\_3 Start: 1682, Stop: 2716, Start Num: 12

Candidate Starts for BuzzBuzz\_3:

(Start: 10 @1655 has 2 MA's), (Start: 12 @1682 has 364 MA's), (49, 1910), (154, 2630), (159, 2702), (160, 2708),

Gene: Bxz2\_4 Start: 1692, Stop: 2726, Start Num: 12

Candidate Starts for Bxz2\_4:

(Start: 10 @1665 has 2 MA's), (Start: 12 @1692 has 364 MA's), (49, 1920), (154, 2640), (159, 2712), (160, 2718),

Gene: Caelakin\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Caelakin\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Caitlin\_3 Start: 2306, Stop: 3343, Start Num: 12

Candidate Starts for Caitlin\_3:

(4, 2147), (Start: 12 @2306 has 364 MA's), (36, 2543), (57, 2690), (128, 3236), (139, 3275), (143, 3299), (148, 3335),

Gene: Calvinny\_4 Start: 1685, Stop: 2884, Start Num: 12

Candidate Starts for Calvinny\_4:

(Start: 10 @1658 has 2 MA's), (Start: 12 @1685 has 364 MA's), (35, 1865), (49, 1913), (95, 2309), (165, 2798), (167, 2816), (175, 2870), (176, 2876),

Gene: Camperdownii\_4 Start: 1646, Stop: 2725, Start Num: 12

Candidate Starts for Camperdownii\_4:

(7, 1586), (Start: 12 @1646 has 364 MA's), (Start: 22 @1754 has 2 MA's), (33, 1850), (59, 1964), (165, 2639), (175, 2711),

Gene: Catalina\_7 Start: 4193, Stop: 5236, Start Num: 12

Candidate Starts for Catalina\_7:

(Start: 12 @4193 has 364 MA's), (58, 4526), (165, 5153), (166, 5165), (175, 5222), (176, 5228),

Gene: Caviar\_4 Start: 1633, Stop: 2760, Start Num: 12

Candidate Starts for Caviar\_4:

(6, 1570), (8, 1579), (Start: 12 @1633 has 364 MA's), (13, 1663), (19, 1720), (Start: 24 @1765 has 1 MA's), (49, 1906), (69, 2014), (98, 2302), (165, 2674), (167, 2692), (175, 2746), (176, 2752),

Gene: CentreCat\_4 Start: 1646, Stop: 2719, Start Num: 12

Candidate Starts for CentreCat\_4:

(7, 1586), (Start: 12 @1646 has 364 MA's), (Start: 22 @1754 has 2 MA's), (33, 1850), (59, 1964), (163, 2612), (167, 2648), (175, 2705), (176, 2711),

Gene: Cerulean\_4 Start: 1643, Stop: 2719, Start Num: 12

Candidate Starts for Cerulean\_4:

(7, 1583), (Start: 12 @1643 has 364 MA's), (Start: 22 @1751 has 2 MA's), (33, 1847), (59, 1961), (165, 2630), (167, 2648), (175, 2705), (176, 2711),

Gene: Chadwick\_4 Start: 2353, Stop: 3402, Start Num: 12

Candidate Starts for Chadwick\_4:

(5, 2275), (11, 2341), (Start: 12 @2353 has 364 MA's), (35, 2584), (36, 2590), (57, 2737), (65, 2773), (73, 2878), (82, 2971), (84, 2980), (89, 3004), (93, 3064), (107, 3160), (127, 3274), (134, 3316), (139, 3334), (144, 3361), (146, 3388), (148, 3394),

Gene: ChampagnePapi\_4 Start: 1642, Stop: 2718, Start Num: 12

Candidate Starts for ChampagnePapi\_4:

(7, 1582), (Start: 12 @1642 has 364 MA's), (Start: 22 @1750 has 2 MA's), (33, 1846), (59, 1960), (165, 2629), (167, 2647), (175, 2704), (176, 2710),

Gene: Changeling\_7 Start: 4153, Stop: 5271, Start Num: 12

Candidate Starts for Changeling\_7:

(Start: 12 @4153 has 364 MA's), (Start: 15 @4222 has 1 MA's), (47, 4435), (50, 4441), (54, 4456), (92, 4798), (161, 5161), (165, 5188), (166, 5200), (175, 5257), (176, 5263),

Gene: Chaph\_4 Start: 1645, Stop: 2727, Start Num: 12

Candidate Starts for Chaph\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2620), (167, 2656), (175, 2713), (176, 2719),

Gene: Chiqui\_3 Start: 1627, Stop: 2763, Start Num: 12

Candidate Starts for Chiqui\_3:

(9, 1591), (Start: 12 @1627 has 364 MA's), (25, 1762), (49, 1900), (70, 2014), (165, 2677), (175, 2749), (176, 2755),

Gene: Chupacabra\_4 Start: 1765, Stop: 2814, Start Num: 24

Candidate Starts for Chupacabra\_4:

(Start: 12 @1633 has 364 MA's), (20, 1735), (Start: 24 @1765 has 1 MA's), (30, 1825), (31, 1828), (83, 2158), (101, 2314), (118, 2407), (161, 2704), (166, 2743), (167, 2749), (175, 2800), (176, 2806),

Gene: Cici\_4 Start: 1644, Stop: 2729, Start Num: 12

Candidate Starts for Cici\_4:

(Start: 12 @1644 has 364 MA's), (Start: 22 @1752 has 2 MA's), (33, 1848), (59, 1962), (70, 2034), (167, 2658), (175, 2715), (176, 2721),

Gene: Cindaradix\_4 Start: 1642, Stop: 2718, Start Num: 12

Candidate Starts for Cindaradix\_4:

(Start: 12 @1642 has 364 MA's), (Start: 22 @1750 has 2 MA's), (33, 1846), (59, 1960), (167, 2647), (175, 2704), (176, 2710),

Gene: Cintron\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Cintron\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (165, 2629), (167, 2647), (175, 2704), (176, 2710),

Gene: Citius\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Citius\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Clammy\_3 Start: 1612, Stop: 2826, Start Num: 12

Candidate Starts for Clammy\_3:

(Start: 12 @1612 has 364 MA's), (25, 1747), (49, 1885), (70, 1999), (158, 2641), (165, 2743), (166, 2755), (175, 2812), (176, 2818),

Gene: Clarenza\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Clarenza\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: ClownCar\_4 Start: 1685, Stop: 2884, Start Num: 12

Candidate Starts for ClownCar\_4:

(Start: 10 @1658 has 2 MA's), (Start: 12 @1685 has 364 MA's), (35, 1865), (49, 1913), (95, 2309), (165, 2798), (167, 2816), (175, 2870), (176, 2876),

Gene: Cocoaberry\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Cocoaberry\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Colbster\_4 Start: 1681, Stop: 2625, Start Num: 12

Candidate Starts for Colbster\_4:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (152, 2539), (155, 2611), (156, 2617),

Gene: Colin\_8 Start: 4293, Stop: 5243, Start Num: 12

Candidate Starts for Colin\_8:

(Start: 12 @4293 has 364 MA's), (Start: 15 @4362 has 1 MA's), (47, 4575), (105, 5013), (109, 5034), (162, 5139), (166, 5172), (169, 5202), (175, 5229), (176, 5235),

Gene: Commander\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Commander\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Connomayer\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Connomayer\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Conquerage\_7 Start: 4189, Stop: 5220, Start Num: 12

Candidate Starts for Conquerage\_7:

(Start: 10 @4162 has 2 MA's), (Start: 12 @4189 has 364 MA's), (165, 5137), (166, 5149), (175, 5206), (176, 5212),

Gene: Conspiracy\_4 Start: 2386, Stop: 3441, Start Num: 12

Candidate Starts for Conspiracy\_4:

(11, 2374), (Start: 12 @2386 has 364 MA's), (Start: 22 @2497 has 2 MA's), (36, 2614), (41, 2662), (71, 2854), (73, 2902), (85, 3016), (86, 3019), (90, 3058), (93, 3100), (124, 3301), (137, 3364), (139, 3370), (148, 3433),

Gene: Croquant\_5 Start: 1681, Stop: 2625, Start Num: 12

Candidate Starts for Croquant\_5:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (152, 2539), (155, 2611), (156, 2617),

Gene: Cullens\_4 Start: 1681, Stop: 2625, Start Num: 12

Candidate Starts for Cullens\_4:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (152, 2539), (155, 2611), (156, 2617),

Gene: DaHudson\_4 Start: 1681, Stop: 2886, Start Num: 12

Candidate Starts for DaHudson\_4:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (165, 2800), (175, 2872), (176, 2878),

Gene: Danforth\_3 Start: 2306, Stop: 3358, Start Num: 12

Candidate Starts for Danforth\_3:

(4, 2147), (Start: 12 @2306 has 364 MA's), (36, 2543), (71, 2783), (73, 2831), (93, 3029), (108, 3131), (127, 3239), (148, 3350),

Gene: Darrell\_7 Start: 4069, Stop: 5115, Start Num: 12

Candidate Starts for Darrell\_7:

(Start: 12 @4069 has 364 MA's), (23, 4186), (48, 4354), (54, 4372), (165, 5029), (167, 5047), (175, 5101), (176, 5107),

Gene: DARTHPhader\_7 Start: 4505, Stop: 5314, Start Num: 12

Candidate Starts for DARTHPhader\_7:

(Start: 12 @4505 has 364 MA's), (16, 4577), (18, 4586), (28, 4697), (64, 4865), (100, 5201), (117, 5300), (119, 5306),

Gene: Datway\_4 Start: 1644, Stop: 2729, Start Num: 12

Candidate Starts for Datway\_4:

(Start: 12 @1644 has 364 MA's), (Start: 22 @1752 has 2 MA's), (33, 1848), (59, 1962), (70, 2034), (167, 2658), (175, 2715), (176, 2721),

Gene: Deano\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Deano\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: DekHockey33\_7 Start: 3561, Stop: 4553, Start Num: 12

Candidate Starts for DekHockey33\_7:

(3, 3348), (4, 3393), (5, 3474), (Start: 12 @3561 has 364 MA's), (29, 3747), (44, 3867), (45, 3870), (111, 4326), (119, 4383), (132, 4449), (137, 4479), (147, 4542),

Gene: Dhanush\_4 Start: 1644, Stop: 2717, Start Num: 12

Candidate Starts for Dhanush\_4:

(7, 1584), (Start: 12 @1644 has 364 MA's), (Start: 22 @1752 has 2 MA's), (33, 1848), (59, 1962), (163, 2610), (167, 2646), (175, 2703), (176, 2709),

Gene: Dieselweasel\_4 Start: 1681, Stop: 2895, Start Num: 12

Candidate Starts for Dieselweasel\_4:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (165, 2809), (175, 2881), (176, 2887),

Gene: DirtyDunning\_4 Start: 1643, Stop: 2716, Start Num: 12

Candidate Starts for DirtyDunning\_4:

(7, 1583), (Start: 12 @1643 has 364 MA's), (Start: 22 @1751 has 2 MA's), (33, 1847), (59, 1961), (165, 2627), (167, 2645), (175, 2702), (176, 2708),

Gene: Dixon\_4 Start: 2307, Stop: 3344, Start Num: 12

Candidate Starts for Dixon\_4:

(4, 2148), (Start: 12 @2307 has 364 MA's), (36, 2544), (57, 2691), (128, 3237), (139, 3276), (143, 3300), (148, 3336),

Gene: DropBear\_4 Start: 1605, Stop: 2909, Start Num: 12

Candidate Starts for DropBear\_4:

(Start: 12 @1605 has 364 MA's), (25, 1740), (46, 1863), (49, 1878), (56, 1911), (165, 2826), (175, 2895), (176, 2901),

Gene: Druantia\_4 Start: 1646, Stop: 2719, Start Num: 12

Candidate Starts for Druantia\_4:

(7, 1586), (Start: 12 @1646 has 364 MA's), (Start: 22 @1754 has 2 MA's), (33, 1850), (59, 1964), (163, 2612), (167, 2648), (175, 2705), (176, 2711),

Gene: DustyMartin\_5 Start: 1860, Stop: 2750, Start Num: 30

Candidate Starts for DustyMartin\_5:

(Start: 12 @1668 has 364 MA's), (Start: 24 @1800 has 1 MA's), (26, 1833), (30, 1860), (31, 1863), (101, 2349), (121, 2463), (165, 2667), (166, 2679), (167, 2685), (175, 2736), (176, 2742),

Gene: EZMoney23\_7 Start: 4151, Stop: 5341, Start Num: 12

Candidate Starts for EZMoney23\_7:

(Start: 12 @4151 has 364 MA's), (58, 4484), (92, 4796), (161, 5231), (165, 5258), (167, 5276), (171, 5309), (175, 5327), (176, 5333),

Gene: Eagle\_3 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Eagle\_3:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: EagleEye\_7 Start: 3969, Stop: 4871, Start Num: 12

Candidate Starts for EagleEye\_7:

(Start: 12 @3969 has 364 MA's), (36, 4197), (37, 4212), (88, 4479), (92, 4536), (94, 4551), (108, 4644), (124, 4743), (143, 4827), (148, 4863),

Gene: Eapen\_4 Start: 1647, Stop: 2720, Start Num: 12

Candidate Starts for Eapen\_4:

(7, 1587), (Start: 12 @1647 has 364 MA's), (Start: 22 @1755 has 2 MA's), (33, 1851), (59, 1965), (163, 2613), (167, 2649), (175, 2706), (176, 2712),

Gene: Edison31\_4 Start: 1662, Stop: 2834, Start Num: 12

Candidate Starts for Edison31\_4:

(Start: 12 @1662 has 364 MA's), (26, 1827), (30, 1854), (31, 1857), (49, 1935), (77, 2154), (87, 2208), (101, 2343), (125, 2478), (165, 2751), (166, 2763), (167, 2769), (175, 2820), (176, 2826),

Gene: EdogawaKiddo\_5 Start: 4192, Stop: 5235, Start Num: 12

Candidate Starts for EdogawaKiddo\_5:

(Start: 12 @4192 has 364 MA's), (58, 4525), (165, 5152), (166, 5164), (175, 5221),

Gene: Eidsmoe\_7 Start: 4189, Stop: 5220, Start Num: 12

Candidate Starts for Eidsmoe\_7:

(Start: 10 @4162 has 2 MA's), (Start: 12 @4189 has 364 MA's), (165, 5137), (166, 5149), (175, 5206), (176, 5212),

Gene: EITiger69\_4 Start: 2354, Stop: 3403, Start Num: 12

Candidate Starts for EITiger69\_4:

(5, 2276), (11, 2342), (Start: 12 @2354 has 364 MA's), (Start: 22 @2465 has 2 MA's), (35, 2585), (36, 2591), (57, 2738), (65, 2774), (73, 2879), (82, 2972), (84, 2981), (89, 3005), (93, 3065), (107, 3161), (127, 3275), (134, 3317), (139, 3335), (144, 3362), (146, 3389), (148, 3395),

Gene: Elephantoon\_7 Start: 3947, Stop: 4801, Start Num: 12

Candidate Starts for Elephantoon\_7:

(Start: 12 @3947 has 364 MA's), (23, 4064), (48, 4232), (64, 4310), (175, 4787), (176, 4793),

Gene: Elle\_7 Start: 3244, Stop: 4311, Start Num: 10

Candidate Starts for Elle\_7:

(Start: 10 @3244 has 2 MA's), (Start: 12 @3277 has 364 MA's), (29, 3460), (36, 3508), (39, 3538), (44, 3580), (45, 3583), (74, 3802), (75, 3808), (80, 3862), (99, 4021), (146, 4297), (147, 4300),

Gene: EmyBug\_7 Start: 4189, Stop: 5220, Start Num: 12

Candidate Starts for EmyBug\_7:

(Start: 12 @4189 has 364 MA's), (165, 5137), (166, 5149), (175, 5206), (176, 5212),

Gene: EpicPhail\_4 Start: 1681, Stop: 2625, Start Num: 12

Candidate Starts for EpicPhail\_4:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (152, 2539), (155, 2611), (156, 2617),

Gene: Epsocamisio\_7 Start: 3414, Stop: 4406, Start Num: 12

Candidate Starts for Epsocamisio\_7:

(1, 3147), (3, 3201), (4, 3246), (5, 3327), (Start: 12 @3414 has 364 MA's), (29, 3600), (40, 3690), (45, 3723), (60, 3795), (70, 3870), (111, 4179), (119, 4236), (132, 4302), (137, 4332), (147, 4395),

Gene: Eris\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Eris\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Eros\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Eros\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: EtoileNova\_3 Start: 1633, Stop: 2760, Start Num: 12

Candidate Starts for EtoileNova\_3:

(6, 1570), (8, 1579), (Start: 12 @1633 has 364 MA's), (13, 1663), (19, 1720), (Start: 24 @1765 has 1 MA's), (49, 1906), (69, 2014), (98, 2302), (165, 2674), (167, 2692), (175, 2746), (176, 2752),

Gene: Eurydice\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Eurydice\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Expelliarmus\_3 Start: 2307, Stop: 3344, Start Num: 12

Candidate Starts for Expelliarmus\_3:

(4, 2148), (Start: 12 @2307 has 364 MA's), (36, 2544), (57, 2691), (128, 3237), (139, 3276), (143, 3300), (148, 3336),

Gene: ExplosioNervosa\_7 Start: 4192, Stop: 5223, Start Num: 12

Candidate Starts for ExplosioNervosa\_7:

(Start: 12 @4192 has 364 MA's), (165, 5140), (166, 5152), (175, 5209), (176, 5215),

Gene: Farber\_4 Start: 1682, Stop: 2887, Start Num: 12

Candidate Starts for Farber\_4:

(Start: 10 @1655 has 2 MA's), (Start: 12 @1682 has 364 MA's), (49, 1910), (165, 2801), (175, 2873), (176, 2879),

Gene: Fayely\_7 Start: 4192, Stop: 5223, Start Num: 12

Candidate Starts for Fayely\_7:

(Start: 12 @4192 has 364 MA's), (165, 5140), (166, 5152), (175, 5209), (176, 5215),

Gene: Fernando\_4 Start: 1681, Stop: 2625, Start Num: 12

Candidate Starts for Fernando\_4:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (152, 2539), (155, 2611), (156, 2617),

Gene: Florean\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Florean\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Florence1\_4 Start: 2354, Stop: 3409, Start Num: 12

Candidate Starts for Florence1\_4:

(11, 2342), (Start: 12 @2354 has 364 MA's), (Start: 22 @2465 has 2 MA's), (36, 2582), (41, 2630), (71, 2822), (73, 2870), (85, 2984), (86, 2987), (90, 3026), (93, 3068), (124, 3269), (137, 3332), (139, 3338), (148, 3401),

Gene: Florence4\_4 Start: 2354, Stop: 3409, Start Num: 12

Candidate Starts for Florence4\_4:

(11, 2342), (Start: 12 @2354 has 364 MA's), (Start: 22 @2465 has 2 MA's), (36, 2582), (41, 2630), (71, 2822), (73, 2870), (85, 2984), (86, 2987), (90, 3026), (93, 3068), (124, 3269), (137, 3332), (139, 3338), (148, 3401),

Gene: Flux\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Flux\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: ForGetIt\_4 Start: 2412, Stop: 3467, Start Num: 12

Candidate Starts for ForGetIt\_4:

(11, 2400), (Start: 12 @2412 has 364 MA's), (Start: 22 @2523 has 2 MA's), (36, 2640), (41, 2688), (71, 2880), (73, 2928), (85, 3042), (86, 3045), (90, 3084), (93, 3126), (124, 3327), (137, 3390), (139, 3396), (148, 3459),

Gene: ForesterFrank\_6 Start: 4143, Stop: 5327, Start Num: 12

Candidate Starts for ForesterFrank\_6:

(Start: 12 @4143 has 364 MA's), (Start: 15 @4212 has 1 MA's), (58, 4476), (92, 4788), (97, 4842), (138, 5055), (165, 5244), (167, 5262), (169, 5286), (171, 5295), (175, 5313), (176, 5319),

Gene: Fred313\_4 Start: 1605, Stop: 2732, Start Num: 12

Candidate Starts for Fred313\_4:

(Start: 12 @1605 has 364 MA's), (25, 1740), (46, 1863), (49, 1878), (56, 1911), (165, 2646), (175, 2718), (176, 2724),

Gene: Funston\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Funston\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Gadost\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Gadost\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: GaugeLDP\_7 Start: 3954, Stop: 4844, Start Num: 12

Candidate Starts for GaugeLDP\_7:

(Start: 12 @3954 has 364 MA's), (Start: 22 @4062 has 2 MA's), (49, 4230), (130, 4761), (136, 4773), (145, 4830),

Gene: Gemma\_4 Start: 1685, Stop: 2884, Start Num: 12

Candidate Starts for Gemma\_4:

(Start: 10 @1658 has 2 MA's), (Start: 12 @1685 has 364 MA's), (35, 1865), (49, 1913), (95, 2309), (165, 2798), (167, 2816), (175, 2870), (176, 2876),

Gene: GingkoMaracino\_4 Start: 1681, Stop: 2805, Start Num: 12

Candidate Starts for GingkoMaracino\_4:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (165, 2719), (175, 2791), (176, 2797),

Gene: Giroux\_4 Start: 1612, Stop: 2826, Start Num: 12

Candidate Starts for Giroux\_4:

(Start: 12 @1612 has 364 MA's), (25, 1747), (49, 1885), (70, 1999), (158, 2641), (165, 2743), (166, 2755), (175, 2812), (176, 2818),

Gene: Goose\_4 Start: 1635, Stop: 2816, Start Num: 12

Candidate Starts for Goose\_4:

(Start: 12 @1635 has 364 MA's), (20, 1737), (Start: 24 @1767 has 1 MA's), (30, 1827), (31, 1830), (83, 2160), (101, 2316), (118, 2409), (161, 2706), (166, 2745), (167, 2751), (175, 2802), (176, 2808),

Gene: Grif\_4 Start: 1681, Stop: 2715, Start Num: 12

Candidate Starts for Grif\_4:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (154, 2629), (159, 2701), (160, 2707),

Gene: Groundhog\_3 Start: 2308, Stop: 3345, Start Num: 12

Candidate Starts for Groundhog\_3:

(4, 2149), (Start: 12 @2308 has 364 MA's), (36, 2545), (57, 2692), (128, 3238), (139, 3277), (143, 3301), (148, 3337),

Gene: Groupthink\_5 Start: 1685, Stop: 2884, Start Num: 12

Candidate Starts for Groupthink\_5:

(Start: 10 @1658 has 2 MA's), (Start: 12 @1685 has 364 MA's), (35, 1865), (49, 1913), (95, 2309), (165, 2798), (167, 2816), (175, 2870), (176, 2876),

Gene: Grub\_4 Start: 1681, Stop: 2886, Start Num: 12

Candidate Starts for Grub\_4:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (165, 2800), (175, 2872), (176, 2878),

Gene: Grum1\_4 Start: 1681, Stop: 2625, Start Num: 12

Candidate Starts for Grum1\_4:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (152, 2539), (155, 2611), (156, 2617),

Gene: GtownJaz\_4 Start: 1681, Stop: 2895, Start Num: 12

Candidate Starts for GtownJaz\_4:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (165, 2809), (175, 2881), (176, 2887),

Gene: Gwennie\_3 Start: 1681, Stop: 2625, Start Num: 12

Candidate Starts for Gwennie\_3:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (152, 2539), (155, 2611), (156, 2617),

Gene: HamSlice\_3 Start: 1646, Stop: 2719, Start Num: 12

Candidate Starts for HamSlice\_3:

(7, 1586), (Start: 12 @1646 has 364 MA's), (Start: 22 @1754 has 2 MA's), (25, 1781), (33, 1850), (59, 1964), (163, 2612), (167, 2648), (175, 2705), (176, 2711),

Gene: Hanray\_6 Start: 4192, Stop: 5226, Start Num: 12

Candidate Starts for Hanray\_6:

(Start: 12 @4192 has 364 MA's), (47, 4474), (54, 4495), (165, 5143), (166, 5155), (175, 5212), (176, 5218),

Gene: Happiness\_4 Start: 1644, Stop: 2720, Start Num: 12

Candidate Starts for Happiness\_4:

(7, 1584), (Start: 12 @1644 has 364 MA's), (Start: 22 @1752 has 2 MA's), (33, 1848), (59, 1962), (165, 2631), (167, 2649), (175, 2706), (176, 2712),

Gene: HashRod\_5 Start: 1682, Stop: 2716, Start Num: 12

Candidate Starts for HashRod\_5:

(Start: 10 @1655 has 2 MA's), (Start: 12 @1682 has 364 MA's), (49, 1910), (154, 2630), (159, 2702), (160, 2708),

Gene: HaveUMetTed\_5 Start: 1685, Stop: 2884, Start Num: 12

Candidate Starts for HaveUMetTed\_5:

(Start: 10 @1658 has 2 MA's), (Start: 12 @1685 has 364 MA's), (35, 1865), (49, 1913), (95, 2309), (165, 2798), (167, 2816), (175, 2870), (176, 2876),

Gene: Heathen\_4 Start: 1605, Stop: 2657, Start Num: 12

Candidate Starts for Heathen\_4:

(Start: 12 @1605 has 364 MA's), (25, 1740), (46, 1863), (49, 1878), (56, 1911), (151, 2574), (153, 2643), (154, 2649),

Gene: Heffalump\_8 Start: 4531, Stop: 5598, Start Num: 12

Candidate Starts for Heffalump\_8:

(Start: 12 @4531 has 364 MA's), (Start: 15 @4600 has 1 MA's), (32, 4732), (165, 5512), (167, 5530), (170, 5560), (173, 5566), (175, 5584),

Gene: HelDan\_4 Start: 1605, Stop: 2909, Start Num: 12

Candidate Starts for HelDan\_4:

(8, 1551), (Start: 12 @1605 has 364 MA's), (25, 1740), (46, 1863), (49, 1878), (56, 1911), (165, 2826), (175, 2895), (176, 2901),

Gene: Heliosoles\_4 Start: 1685, Stop: 2884, Start Num: 12

Candidate Starts for Heliosoles\_4:

(Start: 10 @1658 has 2 MA's), (Start: 12 @1685 has 364 MA's), (35, 1865), (49, 1913), (95, 2309), (165, 2798), (167, 2816), (175, 2870), (176, 2876),

Gene: Hercules11\_4 Start: 1681, Stop: 2634, Start Num: 12

Candidate Starts for Hercules11\_4:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (152, 2548), (155, 2620), (156, 2626),

Gene: HippoHollow\_7 Start: 4448, Stop: 5308, Start Num: 34

Candidate Starts for HippoHollow\_7:

(Start: 12 @4232 has 364 MA's), (Start: 15 @4301 has 1 MA's), (34, 4448), (92, 4862), (112, 4985), (165, 5225), (175, 5294), (176, 5300),

Gene: Horex\_6 Start: 4192, Stop: 5226, Start Num: 12

Candidate Starts for Horex\_6:

(Start: 12 @4192 has 364 MA's), (47, 4474), (54, 4495), (165, 5143), (166, 5155), (175, 5212), (176, 5218),

Gene: Holli\_4 Start: 1645, Stop: 2511, Start Num: 12

Candidate Starts for Holli\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2404), (167, 2440), (175, 2497), (176, 2503),

Gene: Hookmount\_4 Start: 1633, Stop: 2760, Start Num: 12

Candidate Starts for Hookmount\_4:

(6, 1570), (8, 1579), (Start: 12 @1633 has 364 MA's), (13, 1663), (19, 1720), (Start: 24 @1765 has 1 MA's), (49, 1906), (69, 2014), (98, 2302), (165, 2674), (167, 2692), (175, 2746), (176, 2752),

Gene: HortumSL17\_7 Start: 4192, Stop: 5235, Start Num: 12

Candidate Starts for HortumSL17\_7:

(Start: 12 @4192 has 364 MA's), (58, 4525), (165, 5152), (166, 5164), (175, 5221), (176, 5227),

Gene: Houdini22\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Houdini22\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Huxley\_4 Start: 1645, Stop: 2802, Start Num: 12

Candidate Starts for Huxley\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (167, 2731), (175, 2788), (176, 2794),

Gene: ICleared\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for ICleared\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Iceman\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Iceman\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Idleandcovert\_3 Start: 1612, Stop: 2826, Start Num: 12

Candidate Starts for Idleandcovert\_3:

(Start: 12 @1612 has 364 MA's), (25, 1747), (49, 1885), (70, 1999), (158, 2641), (165, 2743), (166, 2755), (175, 2812), (176, 2818),

Gene: Iracema64\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Iracema64\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (165, 2629), (167, 2647), (175, 2704), (176, 2710),

Gene: IronMan\_7 Start: 3972, Stop: 5072, Start Num: 12

Candidate Starts for IronMan\_7:

(Start: 12 @3972 has 364 MA's), (67, 4347), (76, 4482), (92, 4611), (167, 5001), (175, 5058), (176, 5064),

Gene: Isca\_4 Start: 1610, Stop: 2746, Start Num: 12

Candidate Starts for Isca\_4:

(6, 1547), (Start: 12 @1610 has 364 MA's), (25, 1745), (46, 1868), (49, 1883), (70, 1997), (165, 2660), (175, 2732), (176, 2738),

Gene: JF2\_4 Start: 1608, Stop: 2510, Start Num: 12

Candidate Starts for JF2\_4:

(Start: 12 @1608 has 364 MA's), (25, 1743), (46, 1866), (49, 1881), (70, 1995), (165, 2424), (175, 2496), (176, 2502),

Gene: JF4\_4 Start: 1608, Stop: 2510, Start Num: 12

Candidate Starts for JF4\_4:

(Start: 12 @1608 has 364 MA's), (25, 1743), (46, 1866), (49, 1881), (70, 1995), (165, 2424), (175, 2496), (176, 2502),

Gene: JHC117\_4 Start: 1654, Stop: 2625, Start Num: 10

Candidate Starts for JHC117\_4:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (152, 2539), (155, 2611), (156, 2617),

Gene: JSwag\_7 Start: 3414, Stop: 4406, Start Num: 12

Candidate Starts for JSwag\_7:

(1, 3147), (3, 3201), (4, 3246), (5, 3327), (Start: 12 @3414 has 364 MA's), (29, 3600), (40, 3690), (45, 3723), (60, 3795), (70, 3870), (111, 4179), (119, 4236), (132, 4302), (137, 4332), (147, 4395),

Gene: Jaan\_7 Start: 3968, Stop: 5068, Start Num: 12

Candidate Starts for Jaan\_7:

(5, 3887), (Start: 12 @3968 has 364 MA's), (27, 4139), (32, 4169), (62, 4310), (67, 4343), (92, 4607), (175, 5054), (176, 5060),

Gene: Jabiru\_4 Start: 2354, Stop: 3403, Start Num: 12

Candidate Starts for Jabiru\_4:

(5, 2276), (11, 2342), (Start: 12 @2354 has 364 MA's), (Start: 22 @2465 has 2 MA's), (35, 2585), (36, 2591), (57, 2738), (65, 2774), (73, 2879), (82, 2972), (84, 2981), (89, 3005), (93, 3065), (107, 3161), (127, 3275), (134, 3317), (139, 3335), (144, 3362), (146, 3389), (148, 3395),

Gene: Jaykayelowell\_4 Start: 1644, Stop: 2717, Start Num: 12

Candidate Starts for Jaykayelowell\_4:

(7, 1584), (Start: 12 @1644 has 364 MA's), (Start: 22 @1752 has 2 MA's), (33, 1848), (59, 1962), (163, 2610), (167, 2646), (175, 2703), (176, 2709),

Gene: JenCasNa\_4 Start: 1681, Stop: 2625, Start Num: 12

Candidate Starts for JenCasNa\_4:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (152, 2539), (155, 2611), (156, 2617),

Gene: JeppNRM\_5 Start: 1685, Stop: 2884, Start Num: 12

Candidate Starts for JeppNRM\_5:

(Start: 10 @1658 has 2 MA's), (Start: 12 @1685 has 364 MA's), (35, 1865), (49, 1913), (95, 2309), (165, 2798), (167, 2816), (175, 2870), (176, 2876),

Gene: JetBlade\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for JetBlade\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Jiawan\_6 Start: 4192, Stop: 5226, Start Num: 12

Candidate Starts for Jiawan\_6:

(Start: 12 @4192 has 364 MA's), (47, 4474), (54, 4495), (165, 5143), (166, 5155), (175, 5212), (176, 5218),

Gene: Jobu08\_4 Start: 1681, Stop: 2958, Start Num: 12

Candidate Starts for Jobu08\_4:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (35, 1861), (49, 1909), (95, 2305), (165, 2875), (166, 2887), (167, 2893), (175, 2944), (176, 2950),

Gene: JoongJeon\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for JoongJeon\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: KADY\_5 Start: 1682, Stop: 2716, Start Num: 12

Candidate Starts for KADY\_5:

(Start: 10 @1655 has 2 MA's), (Start: 12 @1682 has 364 MA's), (49, 1910), (154, 2630), (159, 2702), (160, 2708),

Gene: KFPoly\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for KFPoly\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (81, 2176), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Kachowdy\_4 Start: 1605, Stop: 2909, Start Num: 12

Candidate Starts for Kachowdy\_4:

(Start: 12 @1605 has 364 MA's), (25, 1740), (46, 1863), (49, 1878), (56, 1911), (165, 2826), (175, 2895), (176, 2901),

Gene: Kalb97\_5 Start: 1683, Stop: 2882, Start Num: 12

Candidate Starts for Kalb97\_5:

(Start: 10 @1656 has 2 MA's), (Start: 12 @1683 has 364 MA's), (35, 1863), (49, 1911), (95, 2307), (165, 2796), (167, 2814), (175, 2868), (176, 2874),

Gene: Kalnoky\_5 Start: 1685, Stop: 2884, Start Num: 12

Candidate Starts for Kalnoky\_5:

(Start: 10 @1658 has 2 MA's), (Start: 12 @1685 has 364 MA's), (35, 1865), (49, 1913), (95, 2309), (165, 2798), (167, 2816), (175, 2870), (176, 2876),

Gene: Kalpine\_7 Start: 4413, Stop: 5363, Start Num: 12

Candidate Starts for Kalpine\_7:

(Start: 12 @4413 has 364 MA's), (Start: 15 @4482 has 1 MA's), (47, 4695), (105, 5133), (109, 5154), (162, 5259), (166, 5292), (169, 5322), (175, 5349), (176, 5355),

Gene: Kampy\_4 Start: 1646, Stop: 2719, Start Num: 12

Candidate Starts for Kampy\_4:

(7, 1586), (Start: 12 @1646 has 364 MA's), (Start: 22 @1754 has 2 MA's), (33, 1850), (59, 1964), (163, 2612), (167, 2648), (175, 2705), (176, 2711),

Gene: Katalie136\_4 Start: 1644, Stop: 2729, Start Num: 12

Candidate Starts for Katalie136\_4:

(Start: 12 @1644 has 364 MA's), (Start: 22 @1752 has 2 MA's), (33, 1848), (59, 1962), (70, 2034), (167, 2658), (175, 2715), (176, 2721),

Gene: KatherineG\_7 Start: 3561, Stop: 4553, Start Num: 12

Candidate Starts for KatherineG\_7:

(3, 3348), (4, 3393), (5, 3474), (Start: 12 @3561 has 364 MA's), (29, 3747), (44, 3867), (45, 3870), (111, 4326), (119, 4383), (132, 4449), (137, 4479), (147, 4542),

Gene: KekoraPapaka\_3 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for KekoraPapaka\_3:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Kingmustik0402\_4 Start: 1646, Stop: 2710, Start Num: 12

Candidate Starts for Kingmustik0402\_4:

(7, 1586), (Start: 12 @1646 has 364 MA's), (Start: 22 @1754 has 2 MA's), (33, 1850), (59, 1964), (163, 2603), (167, 2639), (175, 2696), (176, 2702),

Gene: Koan\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Koan\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Koreni\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Koreni\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (164, 2623), (165, 2629), (167, 2647), (175, 2704), (176, 2710),

Gene: Kratark\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Kratark\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Kristoff\_5 Start: 1827, Stop: 2999, Start Num: 12

Candidate Starts for Kristoff\_5:

(Start: 12 @1827 has 364 MA's), (26, 1992), (30, 2019), (31, 2022), (49, 2100), (77, 2319), (87, 2373), (101, 2508), (125, 2643), (165, 2916), (166, 2928), (167, 2934), (175, 2985), (176, 2991),

Gene: Kyee\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Kyee\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: LBerry\_4 Start: 1681, Stop: 2625, Start Num: 12

Candidate Starts for LBerry\_4:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (152, 2539), (155, 2611), (156, 2617),

Gene: LHTSCC\_4 Start: 1642, Stop: 2718, Start Num: 12

Candidate Starts for LHTSCC\_4:

(7, 1582), (Start: 12 @1642 has 364 MA's), (Start: 22 @1750 has 2 MA's), (33, 1846), (59, 1960), (165, 2629), (167, 2647), (175, 2704), (176, 2710),

Gene: Lambert1\_4 Start: 1633, Stop: 2760, Start Num: 12

Candidate Starts for Lambert1\_4:

(6, 1570), (8, 1579), (Start: 12 @1633 has 364 MA's), (13, 1663), (19, 1720), (Start: 24 @1765 has 1 MA's), (49, 1906), (69, 2014), (98, 2302), (165, 2674), (167, 2692), (175, 2746), (176, 2752),

Gene: Landor\_7 Start: 3970, Stop: 5070, Start Num: 12

Candidate Starts for Landor\_7:

(5, 3889), (Start: 12 @3970 has 364 MA's), (27, 4141), (32, 4171), (58, 4297), (62, 4312), (67, 4345), (92, 4609), (175, 5056), (176, 5062),

Gene: LappelDuVide\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for LappelDuVide\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: LarryKay\_4 Start: 1682, Stop: 2716, Start Num: 12

Candidate Starts for LarryKay\_4:

(Start: 10 @1655 has 2 MA's), (Start: 12 @1682 has 364 MA's), (49, 1910), (154, 2630), (159, 2702), (160, 2708),

Gene: LastResort\_7 Start: 3414, Stop: 4406, Start Num: 12

Candidate Starts for LastResort\_7:

(1, 3147), (3, 3201), (4, 3246), (5, 3327), (Start: 12 @3414 has 364 MA's), (29, 3600), (40, 3690), (45, 3723), (60, 3795), (70, 3870), (111, 4179), (119, 4236), (132, 4302), (137, 4332), (147, 4395),

Gene: Lemur\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Lemur\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: LeoAvram\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for LeoAvram\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Leogania\_7 Start: 4183, Stop: 5397, Start Num: 12

Candidate Starts for Leogania\_7:

(5, 4102), (Start: 12 @4183 has 364 MA's), (Start: 15 @4252 has 1 MA's), (92, 4822), (167, 5329),

Gene: Lev2\_4 Start: 2385, Stop: 3440, Start Num: 12

Candidate Starts for Lev2\_4:

(11, 2373), (Start: 12 @2385 has 364 MA's), (Start: 22 @2496 has 2 MA's), (36, 2613), (41, 2661), (71, 2853), (73, 2901), (85, 3015), (86, 3018), (90, 3057), (93, 3099), (124, 3300), (137, 3363), (139, 3369), (148, 3432),

Gene: Lilith\_4 Start: 1682, Stop: 2887, Start Num: 12

Candidate Starts for Lilith\_4:

(Start: 10 @1655 has 2 MA's), (Start: 12 @1682 has 364 MA's), (49, 1910), (165, 2801), (175, 2873), (176, 2879),

Gene: Lilleskat\_5 Start: 4192, Stop: 5235, Start Num: 12

Candidate Starts for Lilleskat\_5:

(Start: 12 @4192 has 364 MA's), (58, 4525), (165, 5152), (166, 5164), (175, 5221), (176, 5227),

Gene: LionsBait\_7 Start: 4442, Stop: 5302, Start Num: 34

Candidate Starts for LionsBait\_7:

(Start: 12 @4226 has 364 MA's), (Start: 15 @4295 has 1 MA's), (34, 4442), (92, 4856), (165, 5219), (175, 5288), (176, 5294),

Gene: LittleB\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for LittleB\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: LittleGuy\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for LittleGuy\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: LochMonster\_4 Start: 1643, Stop: 2716, Start Num: 12

Candidate Starts for LochMonster\_4:

(7, 1583), (Start: 12 @1643 has 364 MA's), (Start: 22 @1751 has 2 MA's), (33, 1847), (59, 1961), (165, 2627), (167, 2645), (175, 2702), (176, 2708),

Gene: Lokk\_8 Start: 4396, Stop: 5382, Start Num: 12

Candidate Starts for Lokk\_8:

(Start: 12 @4396 has 364 MA's), (70, 4795), (106, 5113), (166, 5308), (172, 5350), (175, 5368), (176, 5374),

Gene: LoneWolf\_7 Start: 3950, Stop: 4993, Start Num: 12

Candidate Starts for LoneWolf\_7:

(Start: 12 @3950 has 364 MA's), (175, 4979), (176, 4985),

Gene: Looper\_7 Start: 3414, Stop: 4406, Start Num: 12

Candidate Starts for Looper\_7:

(1, 3147), (3, 3201), (4, 3246), (5, 3327), (Start: 12 @3414 has 364 MA's), (29, 3600), (40, 3690), (45, 3723), (60, 3795), (70, 3870), (111, 4179), (119, 4236), (132, 4302), (137, 4332), (147, 4395),

Gene: Lorenzo\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Lorenzo\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Loser\_7 Start: 4131, Stop: 5249, Start Num: 12

Candidate Starts for Loser\_7:

(Start: 12 @4131 has 364 MA's), (47, 4413), (50, 4419), (92, 4776), (109, 4878), (161, 5139), (165, 5166), (166, 5178), (175, 5235), (176, 5241),

Gene: Louie6\_4 Start: 1682, Stop: 2716, Start Num: 12

Candidate Starts for Louie6\_4:

(Start: 10 @1655 has 2 MA's), (Start: 12 @1682 has 364 MA's), (49, 1910), (154, 2630), (159, 2702), (160, 2708),

Gene: Lowa\_4 Start: 1681, Stop: 2886, Start Num: 12

Candidate Starts for Lowa\_4:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (165, 2800), (175, 2872), (176, 2878),

Gene: Lucyedi\_7 Start: 3969, Stop: 4871, Start Num: 12

Candidate Starts for Lucyedi\_7:

(Start: 12 @3969 has 364 MA's), (36, 4197), (88, 4479), (92, 4536), (94, 4551), (108, 4644), (124, 4743), (148, 4863),

Gene: LugYA\_6 Start: 1681, Stop: 2625, Start Num: 12

Candidate Starts for LugYA\_6:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (152, 2539), (155, 2611), (156, 2617),

Gene: Lunsford\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Lunsford\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: MA5\_4 Start: 1622, Stop: 2464, Start Num: 12

Candidate Starts for MA5\_4:

(Start: 12 @1622 has 364 MA's), (25, 1757), (120, 2381), (126, 2399), (140, 2450), (142, 2456),

Gene: MK4\_4 Start: 1608, Stop: 2744, Start Num: 12

Candidate Starts for MK4\_4:

(Start: 12 @1608 has 364 MA's), (25, 1743), (46, 1866), (49, 1881), (70, 1995), (165, 2658), (175, 2730), (176, 2736),

Gene: MadMarie\_4 Start: 1682, Stop: 2896, Start Num: 12

Candidate Starts for MadMarie\_4:

(Start: 10 @1655 has 2 MA's), (Start: 12 @1682 has 364 MA's), (49, 1910), (165, 2810), (175, 2882), (176, 2888),

Gene: Mainiac\_4 Start: 1682, Stop: 2887, Start Num: 12

Candidate Starts for Mainiac\_4:

(Start: 10 @1655 has 2 MA's), (Start: 12 @1682 has 364 MA's), (49, 1910), (165, 2801), (175, 2873), (176, 2879),

Gene: Malinsilva\_6 Start: 1681, Stop: 2886, Start Num: 12

Candidate Starts for Malinsilva\_6:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (165, 2800), (175, 2872), (176, 2878),

Gene: Maminiaina\_7 Start: 3953, Stop: 4984, Start Num: 12

Candidate Starts for Maminiaina\_7:

(Start: 12 @3953 has 364 MA's), (165, 4901), (166, 4913), (175, 4970), (176, 4976),

Gene: Manu\_5 Start: 1685, Stop: 2884, Start Num: 12

Candidate Starts for Manu\_5:

(Start: 10 @1658 has 2 MA's), (Start: 12 @1685 has 364 MA's), (35, 1865), (49, 1913), (95, 2309), (165, 2798), (167, 2816), (175, 2870), (176, 2876),

Gene: MarQuardt\_4 Start: 1681, Stop: 2895, Start Num: 12

Candidate Starts for MarQuardt\_4:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (165, 2809), (175, 2881), (176, 2887),

Gene: Marchesa\_4 Start: 1605, Stop: 2909, Start Num: 12

Candidate Starts for Marchesa\_4:

(Start: 12 @1605 has 364 MA's), (25, 1740), (46, 1863), (49, 1878), (56, 1911), (165, 2826), (175, 2895), (176, 2901),

Gene: Margo\_4 Start: 1633, Stop: 2760, Start Num: 12

Candidate Starts for Margo\_4:

(6, 1570), (8, 1579), (Start: 12 @1633 has 364 MA's), (13, 1663), (19, 1720), (Start: 24 @1765 has 1 MA's), (49, 1906), (69, 2014), (98, 2302), (165, 2674), (175, 2746), (176, 2752),

Gene: Marie\_4 Start: 1681, Stop: 2625, Start Num: 12

Candidate Starts for Marie\_4:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (152, 2539), (155, 2611), (156, 2617),

Gene: Marius\_5 Start: 1685, Stop: 2884, Start Num: 12

Candidate Starts for Marius\_5:

(Start: 10 @1658 has 2 MA's), (Start: 12 @1685 has 364 MA's), (35, 1865), (49, 1913), (95, 2309), (165, 2798), (167, 2816), (175, 2870), (176, 2876),

Gene: Maverick\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Maverick\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Maxo\_4 Start: 1646, Stop: 2719, Start Num: 12

Candidate Starts for Maxo\_4:

(7, 1586), (Start: 12 @1646 has 364 MA's), (Start: 22 @1754 has 2 MA's), (33, 1850), (59, 1964), (163, 2612), (167, 2648), (175, 2705), (176, 2711),

Gene: Mayonnaise\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Mayonnaise\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Mazhar510\_4 Start: 1646, Stop: 2719, Start Num: 12

Candidate Starts for Mazhar510\_4:

(7, 1586), (Start: 12 @1646 has 364 MA's), (Start: 22 @1754 has 2 MA's), (33, 1850), (59, 1964), (163, 2612), (167, 2648), (175, 2705), (176, 2711),

Gene: Medusa\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Medusa\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: MeeZee\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for MeeZee\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Melvin\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Melvin\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Methuselah\_4 Start: 1682, Stop: 2716, Start Num: 12

Candidate Starts for Methuselah\_4:

(Start: 10 @1655 has 2 MA's), (Start: 12 @1682 has 364 MA's), (49, 1910), (154, 2630), (159, 2702), (160, 2708),

Gene: Microwolf\_4 Start: 1681, Stop: 2895, Start Num: 12

Candidate Starts for Microwolf\_4:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (165, 2809), (175, 2881), (176, 2887),

Gene: Miko\_8 Start: 4374, Stop: 5360, Start Num: 12

Candidate Starts for Miko\_8:

(Start: 12 @4374 has 364 MA's), (70, 4773), (106, 5091), (166, 5286), (172, 5328), (175, 5346), (176, 5352),

Gene: Millski\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Millski\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: MinecraftSteve\_8 Start: 3561, Stop: 4553, Start Num: 12

Candidate Starts for MinecraftSteve\_8:

(1, 3294), (3, 3348), (4, 3393), (5, 3474), (Start: 12 @3561 has 364 MA's), (29, 3747), (44, 3867), (45, 3870), (111, 4326), (119, 4383), (132, 4449), (137, 4479), (147, 4542),

Gene: Miramae\_4 Start: 1638, Stop: 2714, Start Num: 12

Candidate Starts for Miramae\_4:

(7, 1578), (Start: 12 @1638 has 364 MA's), (Start: 22 @1746 has 2 MA's), (33, 1842), (59, 1956), (165, 2625), (167, 2643), (175, 2700), (176, 2706),

Gene: Misomonster\_6 Start: 1681, Stop: 2715, Start Num: 12

Candidate Starts for Misomonster\_6:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (154, 2629), (159, 2701), (160, 2707),

Gene: MoneyMay\_4 Start: 1681, Stop: 2625, Start Num: 12

Candidate Starts for MoneyMay\_4:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (152, 2539), (155, 2611), (156, 2617),

Gene: Montavir\_3 Start: 1681, Stop: 2625, Start Num: 12

Candidate Starts for Montavir\_3:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (152, 2539), (155, 2611), (156, 2617),

Gene: Morpher26\_4 Start: 1644, Stop: 2729, Start Num: 12

Candidate Starts for Morpher26\_4:

(Start: 12 @1644 has 364 MA's), (Start: 22 @1752 has 2 MA's), (33, 1848), (59, 1962), (70, 2034), (167, 2658), (175, 2715), (176, 2721),

Gene: Morrow\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Morrow\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: MuchMore\_6 Start: 1681, Stop: 2886, Start Num: 12

Candidate Starts for MuchMore\_6:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (165, 2800), (175, 2872), (176, 2878),

Gene: Mundrea\_4 Start: 1642, Stop: 2709, Start Num: 12

Candidate Starts for Mundrea\_4:

(Start: 12 @1642 has 364 MA's), (Start: 22 @1750 has 2 MA's), (33, 1846), (59, 1960), (165, 2620), (167, 2638), (175, 2695), (176, 2701),

Gene: MyraDee\_4 Start: 1517, Stop: 2386, Start Num: 12

Candidate Starts for MyraDee\_4:

(Start: 12 @1517 has 364 MA's), (13, 1547), (14, 1556), (113, 2345), (117, 2372), (119, 2378),

Gene: Myxus\_7 Start: 4192, Stop: 5235, Start Num: 12

Candidate Starts for Myxus\_7:

(Start: 12 @4192 has 364 MA's), (58, 4525), (165, 5152), (166, 5164), (175, 5221), (176, 5227),

Gene: NearlyHeadless\_4 Start: 2306, Stop: 3358, Start Num: 12

Candidate Starts for NearlyHeadless\_4:

(Start: 12 @2306 has 364 MA's), (36, 2543), (79, 2912), (93, 3029), (108, 3131), (127, 3239), (135, 3284), (148, 3350),

Gene: Nebs\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Nebs\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Nebulosus\_7 Start: 3414, Stop: 4406, Start Num: 12

Candidate Starts for Nebulosus\_7:

(1, 3147), (3, 3201), (4, 3246), (5, 3327), (Start: 12 @3414 has 364 MA's), (29, 3600), (40, 3690), (45, 3723), (60, 3795), (70, 3870), (111, 4179), (119, 4236), (132, 4302), (137, 4332), (147, 4395),

Gene: Nemo27\_4 Start: 1644, Stop: 2717, Start Num: 12

Candidate Starts for Nemo27\_4:

(7, 1584), (Start: 12 @1644 has 364 MA's), (Start: 22 @1752 has 2 MA's), (33, 1848), (59, 1962), (163, 2610), (167, 2646), (175, 2703), (176, 2709),

Gene: NicoleTera\_7 Start: 4172, Stop: 5248, Start Num: 12

Candidate Starts for NicoleTera\_7:

(5, 4091), (Start: 12 @4172 has 364 MA's), (26, 4340), (59, 4496), (61, 4502), (133, 4988), (167, 5180), (175, 5234),

Gene: Noella\_4 Start: 1633, Stop: 2760, Start Num: 12

Candidate Starts for Noella\_4:

(6, 1570), (8, 1579), (Start: 12 @1633 has 364 MA's), (13, 1663), (19, 1720), (Start: 24 @1765 has 1 MA's), (49, 1906), (69, 2014), (98, 2302), (165, 2674), (167, 2692), (175, 2746), (176, 2752),

Gene: Noelle\_4 Start: 1629, Stop: 2783, Start Num: 12

Candidate Starts for Noelle\_4:

(Start: 12 @1629 has 364 MA's), (31, 1824), (59, 1947), (70, 2016), (163, 2676), (167, 2712), (175, 2769), (176, 2775),

Gene: Norbert\_3 Start: 1633, Stop: 2760, Start Num: 12

Candidate Starts for Norbert\_3:

(6, 1570), (8, 1579), (Start: 12 @1633 has 364 MA's), (13, 1663), (19, 1720), (Start: 24 @1765 has 1 MA's), (49, 1906), (69, 2014), (98, 2302), (165, 2674), (167, 2692), (175, 2746), (176, 2752),

Gene: NorthStar\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for NorthStar\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: NotAPhaseMom\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for NotAPhaseMom\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: NothingSpecial\_6 Start: 4006, Stop: 5202, Start Num: 12

Candidate Starts for NothingSpecial\_6:

(5, 3925), (Start: 12 @4006 has 364 MA's), (17, 4084), (92, 4645), (161, 5089), (165, 5116), (167, 5134),

Gene: Nyxis\_4 Start: 1648, Stop: 2721, Start Num: 12

Candidate Starts for Nyxis\_4:

(7, 1588), (Start: 12 @1648 has 364 MA's), (Start: 22 @1756 has 2 MA's), (33, 1852), (59, 1966), (163, 2614), (167, 2650), (175, 2707), (176, 2713),

Gene: OKCentral2016\_4 Start: 1637, Stop: 2374, Start Num: 12

Candidate Starts for OKCentral2016\_4:

(Start: 12 @1637 has 364 MA's), (20, 1739), (Start: 24 @1769 has 1 MA's), (30, 1829), (31, 1832), (95, 2264), (102, 2303), (104, 2309), (113, 2360), (115, 2366),

Gene: OKaNui\_4 Start: 1644, Stop: 2483, Start Num: 12

Candidate Starts for OKaNui\_4:

(7, 1584), (Start: 12 @1644 has 364 MA's), (Start: 22 @1752 has 2 MA's), (33, 1848), (59, 1962), (110, 2376), (116, 2412), (129, 2469), (131, 2475),

Gene: Obama12\_4 Start: 1644, Stop: 2720, Start Num: 12

Candidate Starts for Obama12\_4:

(7, 1584), (Start: 12 @1644 has 364 MA's), (Start: 22 @1752 has 2 MA's), (33, 1848), (59, 1962), (165, 2631), (167, 2649), (175, 2706), (176, 2712),

Gene: Ohfah\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Ohfah\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: OlanP\_4 Start: 1864, Stop: 3102, Start Num: 12

Candidate Starts for OlanP\_4:

(Start: 10 @1837 has 2 MA's), (Start: 12 @1864 has 364 MA's), (35, 2044), (49, 2092), (95, 2488), (165, 2977), (167, 2995), (175, 3049), (176, 3055), (177, 3061),

Gene: Ollie\_4 Start: 1681, Stop: 2805, Start Num: 12

Candidate Starts for Ollie\_4:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (165, 2719), (175, 2791), (176, 2797),

Gene: Oofda\_7 Start: 3417, Stop: 4409, Start Num: 12

Candidate Starts for Oofda\_7:

(3, 3204), (4, 3249), (5, 3330), (Start: 12 @3417 has 364 MA's), (29, 3603), (36, 3651), (51, 3759), (72, 3885), (111, 4182), (119, 4239), (132, 4305), (137, 4335), (147, 4398),

Gene: P28Green\_4 Start: 1682, Stop: 2626, Start Num: 12  
Candidate Starts for P28Green\_4:  
(Start: 10 @1655 has 2 MA's), (Start: 12 @1682 has 364 MA's), (49, 1910), (152, 2540), (155, 2612), (156, 2618),

Gene: PGHhamlin\_6 Start: 1681, Stop: 2886, Start Num: 12  
Candidate Starts for PGHhamlin\_6:  
(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (165, 2800), (175, 2872), (176, 2878),

Gene: PackMan\_7 Start: 4192, Stop: 5235, Start Num: 12  
Candidate Starts for PackMan\_7:  
(Start: 12 @4192 has 364 MA's), (58, 4525), (165, 5152), (166, 5164), (175, 5221), (176, 5227),

Gene: PainterBoy\_7 Start: 3969, Stop: 4871, Start Num: 12  
Candidate Starts for PainterBoy\_7:  
(Start: 12 @3969 has 364 MA's), (36, 4197), (88, 4479), (92, 4536), (94, 4551), (108, 4644), (124, 4743), (148, 4863),

Gene: Palestino\_4 Start: 1645, Stop: 2718, Start Num: 12  
Candidate Starts for Palestino\_4:  
(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Panamaxus\_4 Start: 1633, Stop: 2760, Start Num: 12  
Candidate Starts for Panamaxus\_4:  
(6, 1570), (8, 1579), (Start: 12 @1633 has 364 MA's), (13, 1663), (19, 1720), (Start: 24 @1765 has 1 MA's), (49, 1906), (69, 2014), (98, 2302), (165, 2674), (167, 2692), (175, 2746), (176, 2752),

Gene: Pawn\_4 Start: 1685, Stop: 2884, Start Num: 12  
Candidate Starts for Pawn\_4:  
(Start: 10 @1658 has 2 MA's), (Start: 12 @1685 has 364 MA's), (35, 1865), (49, 1913), (95, 2309), (165, 2798), (167, 2816), (175, 2870), (176, 2876),

Gene: Peaches\_4 Start: 1645, Stop: 2718, Start Num: 12  
Candidate Starts for Peaches\_4:  
(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Pembroke\_4 Start: 1681, Stop: 2886, Start Num: 12  
Candidate Starts for Pembroke\_4:  
(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (165, 2800), (175, 2872), (176, 2878),

Gene: Penny1\_4 Start: 1681, Stop: 2625, Start Num: 12  
Candidate Starts for Penny1\_4:  
(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (152, 2539), (155, 2611), (156, 2617),

Gene: Perplexer\_4 Start: 1644, Stop: 2729, Start Num: 12  
Candidate Starts for Perplexer\_4:  
(Start: 12 @1644 has 364 MA's), (Start: 22 @1752 has 2 MA's), (33, 1848), (59, 1962), (70, 2034), (167, 2658), (175, 2715), (176, 2721),

Gene: PeterPeter\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for PeterPeter\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: PetiteSangsue\_4 Start: 1644, Stop: 2729, Start Num: 12

Candidate Starts for PetiteSangsue\_4:

(Start: 12 @1644 has 364 MA's), (Start: 22 @1752 has 2 MA's), (33, 1848), (59, 1962), (70, 2034), (167, 2658), (175, 2715), (176, 2721),

Gene: PetterN\_4 Start: 2354, Stop: 3403, Start Num: 12

Candidate Starts for PetterN\_4:

(11, 2342), (Start: 12 @2354 has 364 MA's), (Start: 22 @2465 has 2 MA's), (35, 2585), (36, 2591), (57, 2738), (65, 2774), (73, 2879), (82, 2972), (84, 2981), (89, 3005), (93, 3065), (107, 3161), (127, 3275), (134, 3317), (139, 3335), (144, 3362), (146, 3389), (148, 3395),

Gene: Phacado\_4 Start: 1644, Stop: 2717, Start Num: 12

Candidate Starts for Phacado\_4:

(7, 1584), (Start: 12 @1644 has 364 MA's), (Start: 22 @1752 has 2 MA's), (33, 1848), (59, 1962), (163, 2610), (167, 2646), (175, 2703), (176, 2709),

Gene: Phaded\_7 Start: 3967, Stop: 5067, Start Num: 12

Candidate Starts for Phaded\_7:

(5, 3886), (Start: 12 @3967 has 364 MA's), (27, 4138), (32, 4168), (62, 4309), (67, 4342), (92, 4606), (175, 5053), (176, 5059),

Gene: Phaeder\_7 Start: 4192, Stop: 5235, Start Num: 12

Candidate Starts for Phaeder\_7:

(Start: 12 @4192 has 364 MA's), (58, 4525), (165, 5152), (166, 5164), (175, 5221), (176, 5227),

Gene: Phantastic\_4 Start: 1617, Stop: 2831, Start Num: 12

Candidate Starts for Phantastic\_4:

(Start: 12 @1617 has 364 MA's), (25, 1752), (33, 1821), (49, 1890), (114, 2376), (167, 2766), (175, 2817), (176, 2823),

Gene: Pharaoh\_7 Start: 4476, Stop: 5333, Start Num: 12

Candidate Starts for Pharaoh\_7:

(Start: 12 @4476 has 364 MA's), (Start: 22 @4584 has 2 MA's), (38, 4746), (52, 4845), (71, 4968), (117, 5319), (119, 5325),

Gene: Phelipe\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Phelipe\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Phighter1804\_4 Start: 1644, Stop: 2717, Start Num: 12

Candidate Starts for Phighter1804\_4:

(7, 1584), (Start: 12 @1644 has 364 MA's), (Start: 22 @1752 has 2 MA's), (33, 1848), (59, 1962), (165, 2628), (167, 2646), (175, 2703), (176, 2709),

Gene: Phillis\_4 Start: 2306, Stop: 3343, Start Num: 12

Candidate Starts for Phillis\_4:

(4, 2147), (Start: 12 @2306 has 364 MA's), (36, 2543), (57, 2690), (128, 3236), (139, 3275), (143, 3299), (148, 3335),

Gene: PhishRPhriends\_4 Start: 1686, Stop: 2396, Start Num: 12

Candidate Starts for PhishRPhriends\_4:

(Start: 10 @1659 has 2 MA's), (Start: 12 @1686 has 364 MA's), (35, 1866), (49, 1914), (103, 2310), (109, 2328), (122, 2382), (123, 2388),

Gene: Phoebe\_4 Start: 1681, Stop: 2625, Start Num: 12

Candidate Starts for Phoebe\_4:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (152, 2539), (155, 2611), (156, 2617),

Gene: Phonnegut\_7 Start: 4192, Stop: 5223, Start Num: 12

Candidate Starts for Phonnegut\_7:

(Start: 12 @4192 has 364 MA's), (165, 5140), (166, 5152), (175, 5209), (176, 5215),

Gene: Phontbonne\_4 Start: 1643, Stop: 2716, Start Num: 12

Candidate Starts for Phontbonne\_4:

(7, 1583), (Start: 12 @1643 has 364 MA's), (Start: 22 @1751 has 2 MA's), (33, 1847), (59, 1961), (163, 2609), (167, 2645), (175, 2702), (176, 2708),

Gene: Phoxy\_4 Start: 1682, Stop: 2716, Start Num: 12

Candidate Starts for Phoxy\_4:

(Start: 10 @1655 has 2 MA's), (Start: 12 @1682 has 364 MA's), (49, 1910), (154, 2630), (159, 2702), (160, 2708),

Gene: Phranny\_5 Start: 1685, Stop: 2884, Start Num: 12

Candidate Starts for Phranny\_5:

(Start: 10 @1658 has 2 MA's), (Start: 12 @1685 has 364 MA's), (35, 1865), (49, 1913), (95, 2309), (165, 2798), (167, 2816), (175, 2870), (176, 2876),

Gene: PickleBack\_4 Start: 2386, Stop: 3441, Start Num: 12

Candidate Starts for PickleBack\_4:

(11, 2374), (Start: 12 @2386 has 364 MA's), (Start: 22 @2497 has 2 MA's), (36, 2614), (41, 2662), (71, 2854), (73, 2902), (85, 3016), (86, 3019), (90, 3058), (93, 3100), (124, 3301), (137, 3364), (139, 3370), (148, 3433),

Gene: Pioneer\_7 Start: 4192, Stop: 5223, Start Num: 12

Candidate Starts for Pioneer\_7:

(Start: 12 @4192 has 364 MA's), (165, 5140), (166, 5152), (175, 5209), (176, 5215),

Gene: Pipcraft\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Pipcraft\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Pistachio\_4 Start: 1612, Stop: 2373, Start Num: 12

Candidate Starts for Pistachio\_4:

(Start: 12 @1612 has 364 MA's), (25, 1747), (49, 1885), (70, 1999), (158, 2188), (165, 2290), (166, 2302), (175, 2359), (176, 2365),

Gene: Pocahontas\_4 Start: 1633, Stop: 2760, Start Num: 12

Candidate Starts for Pocahontas\_4:

(6, 1570), (8, 1579), (Start: 12 @1633 has 364 MA's), (13, 1663), (19, 1720), (Start: 24 @1765 has 1 MA's), (49, 1906), (69, 2014), (98, 2302), (165, 2674), (167, 2692), (175, 2746), (176, 2752),

Gene: Polymorphads\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Polymorphads\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Popcicle\_4 Start: 1633, Stop: 2760, Start Num: 12

Candidate Starts for Popcicle\_4:

(6, 1570), (8, 1579), (Start: 12 @1633 has 364 MA's), (13, 1663), (19, 1720), (Start: 24 @1765 has 1 MA's), (49, 1906), (69, 2014), (98, 2302), (165, 2674), (167, 2692), (175, 2746), (176, 2752),

Gene: PotatoSplit\_5 Start: 1681, Stop: 2625, Start Num: 12

Candidate Starts for PotatoSplit\_5:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (152, 2539), (155, 2611), (156, 2617),

Gene: Priya\_7 Start: 4190, Stop: 5221, Start Num: 12

Candidate Starts for Priya\_7:

(Start: 10 @4163 has 2 MA's), (Start: 12 @4190 has 364 MA's), (165, 5138), (166, 5150), (175, 5207), (176, 5213),

Gene: Prudy\_6 Start: 4154, Stop: 5263, Start Num: 12

Candidate Starts for Prudy\_6:

(5, 4073), (Start: 12 @4154 has 364 MA's), (Start: 15 @4223 has 1 MA's), (47, 4436), (92, 4793), (167, 5192), (175, 5249), (176, 5255),

Gene: Pukovnik\_7 Start: 3940, Stop: 5010, Start Num: 12

Candidate Starts for Pukovnik\_7:

(5, 3859), (Start: 12 @3940 has 364 MA's), (33, 4147), (55, 4246), (59, 4261), (165, 4927), (166, 4939), (175, 4996), (176, 5002),

Gene: Pumbaa\_4 Start: 1643, Stop: 2716, Start Num: 12

Candidate Starts for Pumbaa\_4:

(7, 1583), (Start: 12 @1643 has 364 MA's), (Start: 22 @1751 has 2 MA's), (25, 1778), (33, 1847), (59, 1961), (165, 2627), (167, 2645), (175, 2702), (176, 2708),

Gene: Puppy\_4 Start: 1612, Stop: 2445, Start Num: 12

Candidate Starts for Puppy\_4:

(Start: 12 @1612 has 364 MA's), (25, 1747), (49, 1885), (70, 1999), (158, 2260), (166, 2374), (175, 2431), (176, 2437),

Gene: PurpleHaze\_4 Start: 1684, Stop: 2883, Start Num: 12

Candidate Starts for PurpleHaze\_4:

(Start: 10 @1657 has 2 MA's), (Start: 12 @1684 has 364 MA's), (35, 1864), (49, 1912), (95, 2308), (165, 2797), (167, 2815), (175, 2869), (176, 2875),

Gene: Qobbit\_7 Start: 4189, Stop: 5220, Start Num: 12

Candidate Starts for Qobbit\_7:

(Start: 10 @4162 has 2 MA's), (Start: 12 @4189 has 364 MA's), (165, 5137), (166, 5149), (175, 5206), (176, 5212),

Gene: QuinnKiro\_3 Start: 1633, Stop: 2760, Start Num: 12

Candidate Starts for QuinnKiro\_3:

(6, 1570), (8, 1579), (Start: 12 @1633 has 364 MA's), (13, 1663), (19, 1720), (Start: 24 @1765 has 1 MA's), (49, 1906), (69, 2014), (98, 2302), (165, 2674), (167, 2692), (175, 2746), (176, 2752),

Gene: Rachaly\_8 Start: 4394, Stop: 5380, Start Num: 12

Candidate Starts for Rachaly\_8:

(Start: 12 @4394 has 364 MA's), (70, 4793), (166, 5306), (172, 5348), (175, 5366), (176, 5372),

Gene: Ravana\_7 Start: 3414, Stop: 4406, Start Num: 12

Candidate Starts for Ravana\_7:

(1, 3147), (3, 3201), (4, 3246), (5, 3327), (Start: 12 @3414 has 364 MA's), (29, 3600), (36, 3648), (39, 3678), (41, 3696), (51, 3756), (53, 3762), (70, 3870), (72, 3882), (91, 4053), (111, 4179), (119, 4236), (132, 4302), (137, 4332), (147, 4395),

Gene: ReMo\_7 Start: 3414, Stop: 4406, Start Num: 12

Candidate Starts for ReMo\_7:

(1, 3147), (3, 3201), (4, 3246), (5, 3327), (Start: 12 @3414 has 364 MA's), (29, 3600), (40, 3690), (45, 3723), (60, 3795), (70, 3870), (111, 4179), (119, 4236), (132, 4302), (137, 4332), (147, 4395),

Gene: Reba\_5 Start: 1685, Stop: 2557, Start Num: 12

Candidate Starts for Reba\_5:

(Start: 10 @1658 has 2 MA's), (Start: 12 @1685 has 364 MA's), (35, 1865), (49, 1913), (165, 2471), (167, 2489), (175, 2543), (176, 2549),

Gene: Rebeuca\_5 Start: 1828, Stop: 3000, Start Num: 12

Candidate Starts for Rebeuca\_5:

(Start: 12 @1828 has 364 MA's), (26, 1993), (30, 2020), (31, 2023), (49, 2101), (77, 2320), (87, 2374), (101, 2509), (125, 2644), (165, 2917), (166, 2929), (167, 2935), (175, 2986), (176, 2992),

Gene: RedRock\_7 Start: 4133, Stop: 5242, Start Num: 12

Candidate Starts for RedRock\_7:

(Start: 12 @4133 has 364 MA's), (Start: 15 @4202 has 1 MA's), (47, 4415), (50, 4421), (92, 4778), (109, 4880), (166, 5171), (175, 5228), (176, 5234),

Gene: Relief\_4 Start: 1646, Stop: 2719, Start Num: 12

Candidate Starts for Relief\_4:

(7, 1586), (Start: 12 @1646 has 364 MA's), (Start: 22 @1754 has 2 MA's), (33, 1850), (59, 1964), (163, 2612), (167, 2648), (175, 2705), (176, 2711),

Gene: Remus\_7 Start: 3414, Stop: 4406, Start Num: 12

Candidate Starts for Remus\_7:

(3, 3201), (4, 3246), (5, 3327), (Start: 12 @3414 has 364 MA's), (29, 3600), (44, 3720), (45, 3723), (111, 4179), (119, 4236), (132, 4302), (137, 4332), (147, 4395),

Gene: ResDef\_4 Start: 1633, Stop: 2760, Start Num: 12

Candidate Starts for ResDef\_4:

(6, 1570), (8, 1579), (Start: 12 @1633 has 364 MA's), (13, 1663), (19, 1720), (Start: 24 @1765 has 1 MA's), (49, 1906), (69, 2014), (98, 2302), (165, 2674), (167, 2692), (175, 2746), (176, 2752),

Gene: RhynO\_4 Start: 1673, Stop: 2839, Start Num: 12

Candidate Starts for RhynO\_4:

(Start: 12 @1673 has 364 MA's), (20, 1775), (21, 1778), (Start: 22 @1781 has 2 MA's), (25, 1811), (26, 1841), (49, 1949), (101, 2357), (121, 2471), (125, 2492), (165, 2756), (166, 2768), (167, 2774), (175, 2825), (176, 2831),

Gene: Roary\_4 Start: 2306, Stop: 3343, Start Num: 12

Candidate Starts for Roary\_4:

(4, 2147), (Start: 12 @2306 has 364 MA's), (36, 2543), (57, 2690), (128, 3236), (139, 3275), (143, 3299), (148, 3335),

Gene: RockieBear\_3 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for RockieBear\_3:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Rockstar\_4 Start: 1608, Stop: 2744, Start Num: 12

Candidate Starts for Rockstar\_4:

(Start: 12 @1608 has 364 MA's), (25, 1743), (46, 1866), (49, 1881), (70, 1995), (165, 2658), (175, 2730), (176, 2736),

Gene: Roimos\_4 Start: 1607, Stop: 2821, Start Num: 12

Candidate Starts for Roimos\_4:

(Start: 12 @1607 has 364 MA's), (25, 1742), (49, 1880), (70, 1994), (158, 2636), (165, 2738), (166, 2750), (175, 2807), (176, 2813),

Gene: Romney\_4 Start: 1644, Stop: 2717, Start Num: 12

Candidate Starts for Romney\_4:

(7, 1584), (Start: 12 @1644 has 364 MA's), (Start: 22 @1752 has 2 MA's), (33, 1848), (59, 1962), (163, 2610), (167, 2646), (175, 2703), (176, 2709),

Gene: Roosevelt\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Roosevelt\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Rosa24\_3 Start: 1643, Stop: 2716, Start Num: 12

Candidate Starts for Rosa24\_3:

(7, 1583), (Start: 12 @1643 has 364 MA's), (Start: 22 @1751 has 2 MA's), (33, 1847), (59, 1961), (165, 2627), (167, 2645), (175, 2702), (176, 2708),

Gene: Rosalind\_7 Start: 3561, Stop: 4553, Start Num: 12

Candidate Starts for Rosalind\_7:

(1, 3294), (3, 3348), (4, 3393), (5, 3474), (Start: 12 @3561 has 364 MA's), (29, 3747), (44, 3867), (45, 3870), (111, 4326), (119, 4383), (132, 4449), (137, 4479), (147, 4542),

Gene: Rowdy\_5 Start: 1860, Stop: 2750, Start Num: 30

Candidate Starts for Rowdy\_5:

(Start: 12 @1668 has 364 MA's), (Start: 24 @1800 has 1 MA's), (26, 1833), (30, 1860), (31, 1863), (101, 2349), (121, 2463), (165, 2667), (166, 2679), (167, 2685), (175, 2736), (176, 2742),

Gene: Ruin\_4 Start: 1644, Stop: 2717, Start Num: 12

Candidate Starts for Ruin\_4:

(7, 1584), (Start: 12 @1644 has 364 MA's), (Start: 22 @1752 has 2 MA's), (33, 1848), (59, 1962), (163, 2610), (167, 2646), (175, 2703), (176, 2709),

Gene: Rummer\_4 Start: 1682, Stop: 2716, Start Num: 12

Candidate Starts for Rummer\_4:

(Start: 10 @1655 has 2 MA's), (Start: 12 @1682 has 364 MA's), (49, 1910), (154, 2630), (159, 2702), (160, 2708),

Gene: RyeScarlet\_8 Start: 4192, Stop: 5226, Start Num: 12

Candidate Starts for RyeScarlet\_8:

(Start: 12 @4192 has 364 MA's), (47, 4474), (54, 4495), (165, 5143), (166, 5155), (175, 5212), (176, 5218),

Gene: Sabertooth\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Sabertooth\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Sabia\_4 Start: 1682, Stop: 2887, Start Num: 12

Candidate Starts for Sabia\_4:

(Start: 10 @1655 has 2 MA's), (Start: 12 @1682 has 364 MA's), (49, 1910), (165, 2801), (175, 2873), (176, 2879),

Gene: Sabinator\_4 Start: 1681, Stop: 2625, Start Num: 12

Candidate Starts for Sabinator\_4:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (152, 2539), (155, 2611), (156, 2617),

Gene: Sachima\_5 Start: 4192, Stop: 5235, Start Num: 12

Candidate Starts for Sachima\_5:

(Start: 12 @4192 has 364 MA's), (58, 4525), (165, 5152), (166, 5164), (175, 5221),

Gene: Saintus\_4 Start: 2306, Stop: 3358, Start Num: 12

Candidate Starts for Saintus\_4:

(Start: 12 @2306 has 364 MA's), (36, 2543), (42, 2600), (71, 2783), (93, 3029), (108, 3131), (127, 3239), (135, 3284), (148, 3350),

Gene: SaturnRing\_3 Start: 1612, Stop: 2826, Start Num: 12

Candidate Starts for SaturnRing\_3:

(Start: 12 @1612 has 364 MA's), (25, 1747), (49, 1885), (70, 1999), (158, 2641), (165, 2743), (166, 2755), (175, 2812), (176, 2818),

Gene: Scamp\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Scamp\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Scherzo\_7 Start: 4192, Stop: 5223, Start Num: 12

Candidate Starts for Scherzo\_7:

(Start: 12 @4192 has 364 MA's), (165, 5140), (166, 5152), (175, 5209), (176, 5215),

Gene: Scorpia\_4 Start: 2355, Stop: 3404, Start Num: 12

Candidate Starts for Scorpia\_4:

(5, 2277), (11, 2343), (Start: 12 @2355 has 364 MA's), (Start: 22 @2466 has 2 MA's), (36, 2592), (57, 2739), (65, 2775), (73, 2880), (82, 2973), (84, 2982), (89, 3006), (93, 3066), (107, 3162), (127, 3276),

(134, 3318), (139, 3336), (144, 3363), (146, 3390), (148, 3396),

Gene: SenorClean\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for SenorClean\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Shaka\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Shaka\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Shapes\_5 Start: 1668, Stop: 2750, Start Num: 12

Candidate Starts for Shapes\_5:

(Start: 12 @1668 has 364 MA's), (Start: 24 @1800 has 1 MA's), (26, 1833), (30, 1860), (31, 1863), (101, 2349), (121, 2463), (165, 2667), (166, 2679), (167, 2685), (175, 2736), (176, 2742),

Gene: ShayRa\_8 Start: 3561, Stop: 4553, Start Num: 12

Candidate Starts for ShayRa\_8:

(Start: 12 @3561 has 364 MA's), (29, 3747), (44, 3867), (45, 3870), (111, 4326), (119, 4383), (132, 4449), (137, 4479), (147, 4542),

Gene: SheldonCooper\_4 Start: 1643, Stop: 2719, Start Num: 12

Candidate Starts for SheldonCooper\_4:

(7, 1583), (Start: 12 @1643 has 364 MA's), (Start: 22 @1751 has 2 MA's), (33, 1847), (59, 1961), (165, 2630), (167, 2648), (175, 2705), (176, 2711),

Gene: Shygu2\_4 Start: 1644, Stop: 2720, Start Num: 12

Candidate Starts for Shygu2\_4:

(Start: 12 @1644 has 364 MA's), (Start: 22 @1752 has 2 MA's), (33, 1848), (59, 1962), (70, 2034), (165, 2631), (167, 2649), (175, 2706), (176, 2712),

Gene: Skipitt\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Skipitt\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Smeadley\_4 Start: 2306, Stop: 3343, Start Num: 12

Candidate Starts for Smeadley\_4:

(4, 2147), (Start: 12 @2306 has 364 MA's), (36, 2543), (57, 2690), (128, 3236), (139, 3275), (143, 3299), (148, 3335),

Gene: Snickers\_4 Start: 1681, Stop: 2868, Start Num: 12

Candidate Starts for Snickers\_4:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (165, 2782), (175, 2854), (176, 2860),

Gene: SoYo\_4 Start: 1681, Stop: 2805, Start Num: 12

Candidate Starts for SoYo\_4:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (165, 2719), (175, 2791), (176, 2797),

Gene: SoilDragon\_4 Start: 1681, Stop: 2568, Start Num: 12

Candidate Starts for SoilDragon\_4:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (165, 2485), (166, 2497), (167, 2503), (175, 2554), (176, 2560),

Gene: Soshari\_6 Start: 1682, Stop: 2716, Start Num: 12

Candidate Starts for Soshari\_6:

(Start: 10 @1655 has 2 MA's), (Start: 12 @1682 has 364 MA's), (49, 1910), (154, 2630), (159, 2702), (160, 2708),

Gene: Soups\_7 Start: 3561, Stop: 4553, Start Num: 12

Candidate Starts for Soups\_7:

(5, 3474), (Start: 12 @3561 has 364 MA's), (29, 3747), (36, 3795), (41, 3843), (51, 3903), (53, 3909), (70, 4017), (72, 4029), (91, 4200), (111, 4326), (119, 4383), (132, 4449), (137, 4479), (147, 4542),

Gene: Sparxx\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Sparxx\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Spike509\_4 Start: 1682, Stop: 2716, Start Num: 12

Candidate Starts for Spike509\_4:

(Start: 10 @1655 has 2 MA's), (Start: 12 @1682 has 364 MA's), (49, 1910), (154, 2630), (159, 2702), (160, 2708),

Gene: Spino\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for Spino\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Spouty\_7 Start: 4189, Stop: 5220, Start Num: 12

Candidate Starts for Spouty\_7:

(Start: 10 @4162 has 2 MA's), (Start: 12 @4189 has 364 MA's), (165, 5137), (166, 5149), (175, 5206), (176, 5212),

Gene: Stagni\_4 Start: 1682, Stop: 2887, Start Num: 12

Candidate Starts for Stagni\_4:

(Start: 10 @1655 has 2 MA's), (Start: 12 @1682 has 364 MA's), (49, 1910), (165, 2801), (175, 2873), (176, 2879),

Gene: Stasia\_4 Start: 1647, Stop: 2741, Start Num: 12

Candidate Starts for Stasia\_4:

(Start: 12 @1647 has 364 MA's), (Start: 22 @1755 has 2 MA's), (43, 1890), (58, 1968), (63, 1986), (68, 2025), (101, 2316), (118, 2418), (167, 2670), (175, 2727), (176, 2733),

Gene: SteMason\_3 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for SteMason\_3:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: StepMih\_4 Start: 1682, Stop: 2887, Start Num: 12

Candidate Starts for StepMih\_4:

(Start: 10 @1655 has 2 MA's), (Start: 12 @1682 has 364 MA's), (49, 1910), (165, 2801), (175, 2873), (176, 2879),

Gene: Stephig9\_4 Start: 2307, Stop: 3344, Start Num: 12

Candidate Starts for Stephig9\_4:

(4, 2148), (Start: 12 @2307 has 364 MA's), (36, 2544), (57, 2691), (128, 3237), (139, 3276), (143, 3300), (148, 3336),

Gene: Stink\_4 Start: 1639, Stop: 2715, Start Num: 12

Candidate Starts for Stink\_4:

(7, 1579), (Start: 12 @1639 has 364 MA's), (Start: 22 @1747 has 2 MA's), (33, 1843), (59, 1957), (165, 2626), (167, 2644), (175, 2701), (176, 2707),

Gene: Strosahl\_7 Start: 3414, Stop: 4406, Start Num: 12

Candidate Starts for Strosahl\_7:

(3, 3201), (4, 3246), (5, 3327), (Start: 12 @3414 has 364 MA's), (29, 3600), (44, 3720), (45, 3723), (111, 4179), (119, 4236), (132, 4302), (137, 4332), (147, 4395),

Gene: Sultana\_4 Start: 1646, Stop: 2719, Start Num: 12

Candidate Starts for Sultana\_4:

(7, 1586), (Start: 12 @1646 has 364 MA's), (Start: 22 @1754 has 2 MA's), (33, 1850), (59, 1964), (163, 2612), (167, 2648), (175, 2705), (176, 2711),

Gene: Switzerland\_7 Start: 3561, Stop: 4553, Start Num: 12

Candidate Starts for Switzerland\_7:

(1, 3294), (3, 3348), (4, 3393), (5, 3474), (Start: 12 @3561 has 364 MA's), (29, 3747), (44, 3867), (45, 3870), (111, 4326), (119, 4383), (132, 4449), (137, 4479), (147, 4542),

Gene: TNguyen7\_4 Start: 1610, Stop: 2824, Start Num: 12

Candidate Starts for TNguyen7\_4:

(Start: 12 @1610 has 364 MA's), (25, 1745), (49, 1883), (70, 1997), (158, 2639), (165, 2741), (166, 2753), (175, 2810), (176, 2816),

Gene: Taquarus\_4 Start: 1648, Stop: 2721, Start Num: 12

Candidate Starts for Taquarus\_4:

(7, 1588), (Start: 12 @1648 has 364 MA's), (Start: 22 @1756 has 2 MA's), (33, 1852), (59, 1966), (163, 2614), (167, 2650), (175, 2707), (176, 2713),

Gene: Taurus\_4 Start: 1681, Stop: 2625, Start Num: 12

Candidate Starts for Taurus\_4:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (152, 2539), (155, 2611), (156, 2617),

Gene: Texage\_3 Start: 1633, Stop: 2760, Start Num: 12

Candidate Starts for Texage\_3:

(6, 1570), (8, 1579), (Start: 12 @1633 has 364 MA's), (13, 1663), (19, 1720), (Start: 24 @1765 has 1 MA's), (49, 1906), (69, 2014), (98, 2302), (165, 2674), (167, 2692), (175, 2746), (176, 2752),

Gene: Thanksgivukkah\_4 Start: 1646, Stop: 2719, Start Num: 12

Candidate Starts for Thanksgivukkah\_4:

(7, 1586), (Start: 12 @1646 has 364 MA's), (Start: 22 @1754 has 2 MA's), (33, 1850), (59, 1964), (163, 2612), (167, 2648), (175, 2705), (176, 2711),

Gene: Tiffany\_4 Start: 1682, Stop: 2896, Start Num: 12

Candidate Starts for Tiffany\_4:

(Start: 10 @1655 has 2 MA's), (Start: 12 @1682 has 364 MA's), (49, 1910), (157, 2699), (165, 2810), (175, 2882), (176, 2888),

Gene: Tiger\_4 Start: 2385, Stop: 3440, Start Num: 12

Candidate Starts for Tiger\_4:

(11, 2373), (Start: 12 @2385 has 364 MA's), (Start: 22 @2496 has 2 MA's), (36, 2613), (41, 2661), (71, 2853), (73, 2901), (85, 3015), (86, 3018), (90, 3057), (93, 3099), (124, 3300), (137, 3363), (139, 3369), (148, 3432),

Gene: TinaFeyge\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for TinaFeyge\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: TinyPebbles\_4 Start: 1682, Stop: 2716, Start Num: 12

Candidate Starts for TinyPebbles\_4:

(Start: 10 @1655 has 2 MA's), (Start: 12 @1682 has 364 MA's), (49, 1910), (154, 2630), (159, 2702), (160, 2708),

Gene: Tinybot\_3 Start: 1645, Stop: 2721, Start Num: 12

Candidate Starts for Tinybot\_3:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (165, 2632), (167, 2650), (175, 2707), (176, 2713),

Gene: TiroTheta9\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for TiroTheta9\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Todacoro\_4 Start: 1633, Stop: 2760, Start Num: 12

Candidate Starts for Todacoro\_4:

(6, 1570), (8, 1579), (Start: 12 @1633 has 364 MA's), (13, 1663), (19, 1720), (Start: 24 @1765 has 1 MA's), (49, 1906), (69, 2014), (98, 2302), (165, 2674), (167, 2692), (175, 2746), (176, 2752),

Gene: Topanga\_4 Start: 1711, Stop: 2889, Start Num: 12

Candidate Starts for Topanga\_4:

(7, 1651), (Start: 12 @1711 has 364 MA's), (Start: 24 @1843 has 1 MA's), (26, 1876), (30, 1903), (78, 2218), (101, 2398), (125, 2533), (165, 2806), (167, 2824), (169, 2848), (175, 2875), (176, 2881),

Gene: Tristan\_7 Start: 3974, Stop: 5074, Start Num: 12

Candidate Starts for Tristan\_7:

(5, 3893), (Start: 12 @3974 has 364 MA's), (27, 4145), (32, 4175), (62, 4316), (67, 4349), (92, 4613), (175, 5060), (176, 5066),

Gene: Trixie\_7 Start: 4278, Stop: 5228, Start Num: 12

Candidate Starts for Trixie\_7:

(5, 4197), (Start: 12 @4278 has 364 MA's), (Start: 15 @4347 has 1 MA's), (47, 4560), (105, 4998), (109, 5019), (162, 5124), (166, 5157), (175, 5214), (176, 5220),

Gene: TroyPia\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for TroyPia\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Tubs\_7 Start: 4192, Stop: 5235, Start Num: 12  
Candidate Starts for Tubs\_7:  
(Start: 12 @4192 has 364 MA's), (58, 4525), (165, 5152), (166, 5164), (175, 5221), (176, 5227),

Gene: Twister\_4 Start: 1661, Stop: 2833, Start Num: 12  
Candidate Starts for Twister\_4:  
(Start: 12 @1661 has 364 MA's), (26, 1826), (30, 1853), (31, 1856), (49, 1934), (77, 2153), (87, 2207),  
(101, 2342), (125, 2477), (165, 2750), (166, 2762), (167, 2768), (175, 2819), (176, 2825),

Gene: TygerBlood\_4 Start: 1647, Stop: 2720, Start Num: 12  
Candidate Starts for TygerBlood\_4:  
(7, 1587), (Start: 12 @1647 has 364 MA's), (Start: 22 @1755 has 2 MA's), (33, 1851), (59, 1965), (163,  
2613), (167, 2649), (175, 2706), (176, 2712),

Gene: Ugenie5\_5 Start: 4192, Stop: 5223, Start Num: 12  
Candidate Starts for Ugenie5\_5:  
(Start: 12 @4192 has 364 MA's), (165, 5140), (166, 5152), (175, 5209), (176, 5215),

Gene: Ulysses\_4 Start: 1646, Stop: 2719, Start Num: 12  
Candidate Starts for Ulysses\_4:  
(7, 1586), (Start: 12 @1646 has 364 MA's), (Start: 22 @1754 has 2 MA's), (25, 1781), (33, 1850), (59,  
1964), (167, 2648), (175, 2705), (176, 2711),

Gene: UnionJack\_4 Start: 2352, Stop: 3407, Start Num: 12  
Candidate Starts for UnionJack\_4:  
(11, 2340), (Start: 12 @2352 has 364 MA's), (Start: 22 @2463 has 2 MA's), (36, 2580), (41, 2628), (71,  
2820), (73, 2868), (85, 2982), (86, 2985), (90, 3024), (93, 3066), (124, 3267), (137, 3330), (139, 3336),  
(148, 3399),

Gene: Veracruz\_3 Start: 1633, Stop: 2760, Start Num: 12  
Candidate Starts for Veracruz\_3:  
(6, 1570), (8, 1579), (Start: 12 @1633 has 364 MA's), (13, 1663), (19, 1720), (Start: 24 @1765 has 1  
MA's), (49, 1906), (69, 2014), (98, 2302), (165, 2674), (167, 2692), (175, 2746), (176, 2752),

Gene: Vix\_4 Start: 1681, Stop: 2715, Start Num: 12  
Candidate Starts for Vix\_4:  
(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (154, 2629), (159, 2701),  
(160, 2707),

Gene: Waits\_7 Start: 3413, Stop: 4405, Start Num: 12  
Candidate Starts for Waits\_7:  
(3, 3200), (4, 3245), (5, 3326), (Start: 12 @3413 has 364 MA's), (29, 3599), (44, 3719), (45, 3722),  
(111, 4178), (119, 4235), (132, 4301), (137, 4331), (147, 4394),

Gene: WalterMcMickey\_4 Start: 1661, Stop: 2833, Start Num: 12  
Candidate Starts for WalterMcMickey\_4:  
(Start: 12 @1661 has 364 MA's), (26, 1826), (30, 1853), (31, 1856), (49, 1934), (77, 2153), (87, 2207),  
(101, 2342), (125, 2477), (165, 2750), (166, 2762), (167, 2768), (175, 2819), (176, 2825),

Gene: Wander\_4 Start: 1645, Stop: 2718, Start Num: 12  
Candidate Starts for Wander\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Warrior24\_7 Start: 3417, Stop: 4409, Start Num: 12

Candidate Starts for Warrior24\_7:

(3, 3204), (4, 3249), (5, 3330), (Start: 12 @3417 has 364 MA's), (29, 3603), (36, 3651), (51, 3759), (72, 3885), (111, 4182), (119, 4239), (132, 4305), (137, 4335), (147, 4398),

Gene: Watson\_4 Start: 1681, Stop: 2886, Start Num: 12

Candidate Starts for Watson\_4:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (165, 2800), (175, 2872), (176, 2878),

Gene: WeiHuaDA\_8 Start: 4411, Stop: 5442, Start Num: 12

Candidate Starts for WeiHuaDA\_8:

(Start: 12 @4411 has 364 MA's), (Start: 15 @4480 has 1 MA's), (47, 4693), (105, 5131), (109, 5152), (166, 5371), (167, 5377), (175, 5428), (176, 5434),

Gene: Wilbur\_4 Start: 1644, Stop: 2717, Start Num: 12

Candidate Starts for Wilbur\_4:

(7, 1584), (Start: 12 @1644 has 364 MA's), (Start: 22 @1752 has 2 MA's), (33, 1848), (59, 1962), (163, 2610), (167, 2646), (175, 2703), (176, 2709),

Gene: Wile\_4 Start: 1645, Stop: 2730, Start Num: 12

Candidate Starts for Wile\_4:

(Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (70, 2035), (167, 2659), (175, 2716), (176, 2722),

Gene: Wizard007\_4 Start: 1647, Stop: 2720, Start Num: 12

Candidate Starts for Wizard007\_4:

(7, 1587), (Start: 12 @1647 has 364 MA's), (Start: 22 @1755 has 2 MA's), (33, 1851), (59, 1965), (163, 2613), (167, 2649), (175, 2706), (176, 2712),

Gene: Wooldri\_6 Start: 1681, Stop: 2805, Start Num: 12

Candidate Starts for Wooldri\_6:

(Start: 10 @1654 has 2 MA's), (Start: 12 @1681 has 364 MA's), (49, 1909), (165, 2719), (175, 2791), (176, 2797),

Gene: Xena\_4 Start: 1644, Stop: 2729, Start Num: 12

Candidate Starts for Xena\_4:

(Start: 12 @1644 has 364 MA's), (Start: 22 @1752 has 2 MA's), (33, 1848), (59, 1962), (70, 2034), (167, 2658), (175, 2715), (176, 2721),

Gene: YoSam321\_4 Start: 1645, Stop: 2718, Start Num: 12

Candidate Starts for YoSam321\_4:

(7, 1585), (Start: 12 @1645 has 364 MA's), (Start: 22 @1753 has 2 MA's), (33, 1849), (59, 1963), (163, 2611), (167, 2647), (175, 2704), (176, 2710),

Gene: Zarafa\_4 Start: 1605, Stop: 2918, Start Num: 12

Candidate Starts for Zarafa\_4:

(Start: 12 @1605 has 364 MA's), (25, 1740), (46, 1863), (49, 1878), (56, 1911), (165, 2835), (175, 2904), (176, 2910),

Gene: Zetzy\_4 Start: 1683, Stop: 2717, Start Num: 12

Candidate Starts for Zetzy\_4:

(Start: 10 @1656 has 2 MA's), (Start: 12 @1683 has 364 MA's), (49, 1911), (154, 2631), (159, 2703), (160, 2709),

Gene: Zimmer\_7 Start: 4514, Stop: 5293, Start Num: 12

Candidate Starts for Zimmer\_7:

(Start: 12 @4514 has 364 MA's), (13, 4544), (14, 4553), (18, 4595), (28, 4706), (117, 5279),