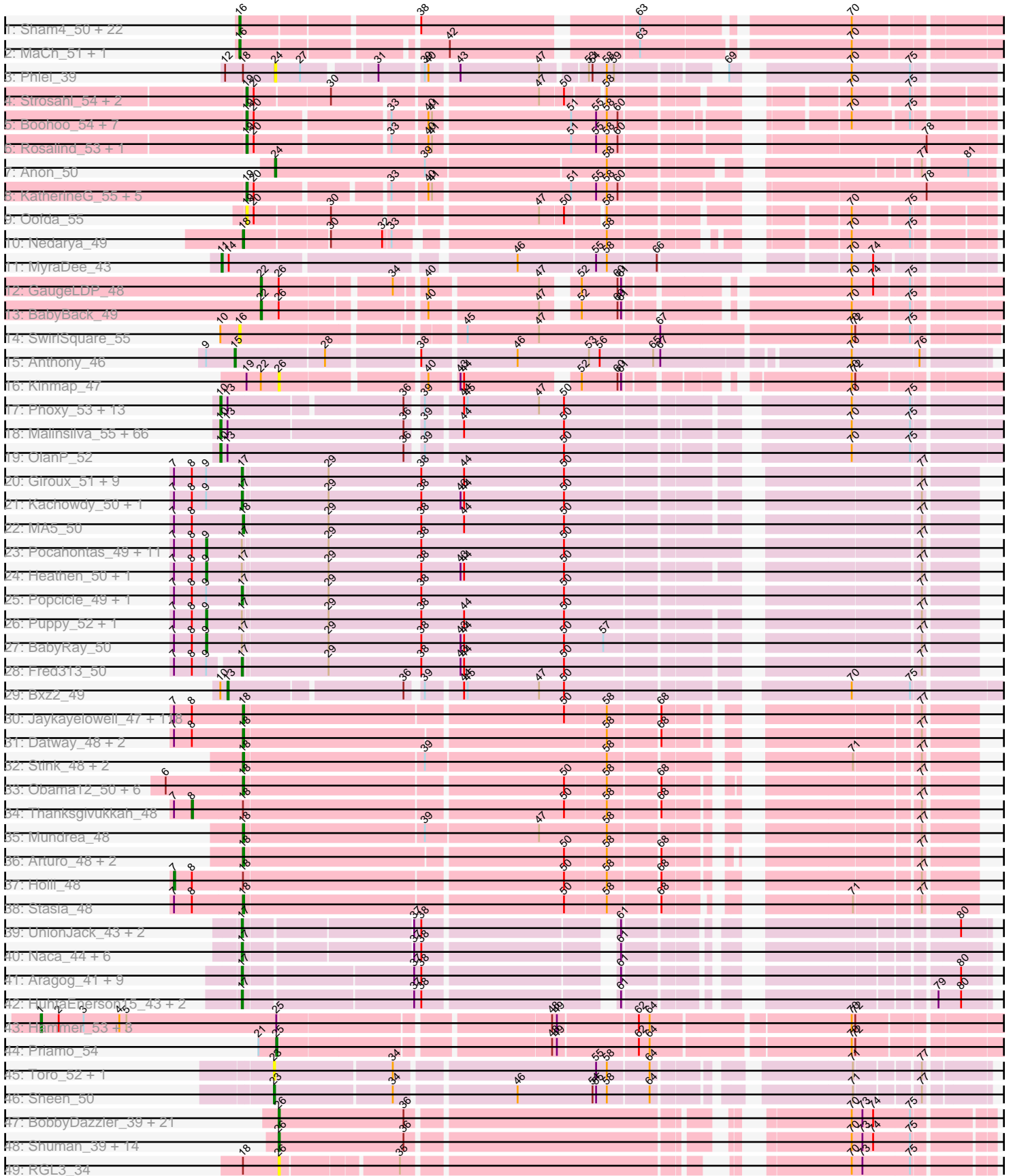


Pham 195346



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 195346 Report

This analysis was run 12/09/24 on database version 580.

Pham number 195346 has 378 members, 22 are drafts.

Phages represented in each track:

- Track 1 : Sham4\_50, Orange\_50, Snape\_50, Mabel\_50, TinyTimmy\_50, Jabith\_51, Et2Brutus\_49, Fibonacci\_50, Bud\_50, Mulciber\_50, Insomnia\_51, Flaverint\_51, Petersenfast\_49, Bowtie\_51, Timothy\_50, Joselito\_51, Hutc2\_50, Ebony\_50, Munch\_51, Gilberta\_51, Salz\_49, Aneem\_51, Lucivia\_51
- Track 2 : MaCh\_51, Bachome\_52
- Track 3 : Phlei\_39
- Track 4 : Strosahl\_54, Waits\_54, Remus\_54
- Track 5 : Boohoo\_54, LastResort\_53, JSwag\_53, Nebulosus\_53, Looper\_54, ReMo\_53, Epsocamisio\_52, Anaysia\_54
- Track 6 : Rosalind\_53, ShayRa\_55
- Track 7 : Anon\_50
- Track 8 : KatherineG\_55, MinecraftSteve\_55, Soups\_55, DekHockey33\_54, Switzerland\_54, Battleship\_56
- Track 9 : Oofda\_55
- Track 10 : Nedarya\_49
- Track 11 : MyraDee\_43
- Track 12 : GaugeLDP\_48
- Track 13 : BabyBack\_49
- Track 14 : SwirlSquare\_55
- Track 15 : Anthony\_46
- Track 16 : Kinmap\_47
- Track 17 : Phoxy\_53, Spike509\_53, Methuselah\_49, BuzzBuzz\_51, LarryKay\_53, Daishi\_52, KADY\_53, HashRod\_54, Misomonster\_54, Farber\_53, AgronaGT15\_52, Rummer\_52, Louie6\_52, Soshari\_55
- Track 18 : Malinsilva\_55, Hercules11\_53, Wooldri\_55, SoilDragon\_53, Fernando\_53, Sabia\_53, Lilith\_54, Watson\_53, Snickers\_53, Grub\_53, Beauxregard13\_53, Anubis\_56, LugYA\_56, PotatoSplit\_55, Ollie\_53, Zetzy\_52, P28Green\_54, Reba\_53, Kalb97\_54, Vix\_53, SoYo\_53, DaHudson\_53, MadMarie\_53, StepMih\_53, Tiffany\_53, BreSam8\_53, MoneyMay\_53, Manu\_53, Calvinny\_53, PGHhamlin\_55, HaveUMetTed\_54, Marie\_53, Sabinator\_52, MuchMore\_56, Marius\_54, Phoebe\_54, Dieselweasel\_54, Microwolf\_53, Heliosoles\_52, Taurus\_54, JHC117\_53, Penny1\_54, Grif\_53, Colbster\_53, PurpleHaze\_53, PhishRPhriends\_51, EpicPhail\_54, JeppNRM\_54, MarQuardt\_53, Pembroke\_53, Aglet\_54, Jobu08\_52, GingkoMaracino\_53, Grum1\_53, ACFishhook\_52, AugsMagnumOpus\_56, Kalnoky\_54, Groupthink\_54, LBerry\_54, Pawn\_53, Gemma\_52, GtownJaz\_53, Phranny\_54, Stagni\_53, JenCasNa\_54, Mainiac\_53, Cullens\_53

- Track 19 : OlanP\_52
- Track 20 : Giroux\_51, SaturnRing\_51, DropBear\_50, Chiqui\_48, Pistachio\_52, TNguyen7\_51, BabyJohn\_48, Bugatti\_51, Marchesa\_50, BlueBird\_52
- Track 21 : Kachowdy\_50, HelDan\_50
- Track 22 : MA5\_50
- Track 23 : Pocahontas\_49, Noella\_49, Margo\_49, QuinnKiro\_48, Norbert\_48, Veracruz\_48, Lambert1\_49, Caviar\_49, Hookmount\_49, ResDef\_49, Todacoro\_49, Texage\_48
- Track 24 : Heathen\_50, Scout\_50
- Track 25 : Popcicle\_49, Panamaxus\_47
- Track 26 : Puppy\_52, Idleandcovert\_51
- Track 27 : BabyRay\_50
- Track 28 : Fred313\_50
- Track 29 : Bxz2\_49
- Track 30 : Jaykayelowell\_47, Relief\_48, Morpher26\_48, Cici\_48, HamSlice\_48, Deano\_48, TroyPia\_50, Wander\_49, Blackmoor\_49, Clarenza\_48, Shaka\_49, Annyong\_49, Eurydice\_50, Xena\_47, Baby16\_49, Tinybot\_48, Huxley\_49, LappelDuVide\_49, Broseidon\_49, Cocoaberry\_49, Koreni\_48, Perplexer\_48, Gadost\_49, Avle17\_49, NotAPhaseMom\_49, Cindaradix\_46, BellusTerra\_50, Lemur\_49, Bruiser\_48, JetBlade\_49, Houdini22\_49, DirtyDunning\_48, Iceman\_49, Achebe\_47, Ohfah\_50, Pumbaa\_49, Badger\_47, BubbleTrouble\_48, Kingmustik0402\_49, TinaFeyge\_49, Kremtemulon\_49, Florean\_49, LeoAvram\_49, Nemo27\_49, PeterPeter\_49, Roosevelt\_48, MeeZee\_49, Spino\_48, Bombshell\_49, Pipcraft\_47, Dhanush\_49, Polymorphads\_50, Ruin\_49, NorthStar\_48, Nebs\_50, Rosa24\_48, Connomayer\_49, Alberto7\_50, Bumblebee11\_47, KFPoly\_48, Lunsford\_50, Morrow\_50, Romney\_49, Chaph\_49, Camperdownii\_47, Scamp\_49, AbbysRanger\_48, Backyardigan\_47, Iracema64\_50, Peaches\_49, Maxo\_50, Eros\_49, LittleGuy\_49, Eapen\_49, CentreCat\_49, Citius\_49, PetiteSangsue\_48, Sparxx\_50, Phontbonne\_49, Palestino\_48, Kampy\_49, Kyee\_49, Funston\_48, Nyxis\_49, Caelakin\_49, LochMonster\_50, OKaNui\_49, ICleared\_49, Melvin\_51, Wilbur\_49, Katalie136\_48, Ulysses\_48, Mazhar510\_49, JoongJeon\_48, TygerBlood\_49, Millski\_48, Phelipe\_50, LittleB\_49, Medusa\_49, Phacado\_49, Druantia\_49, Sabertooth\_49, Wizard007\_49, Skipitt\_48, Bartimeaus\_49, Burger\_47, Albee\_49, Wile\_48, Flux\_49, Cintron\_48, Abdiel\_49, Eris\_48, Maverick\_49, Eagle\_49, Commander\_49, Lorenzo\_49, TiroTheta9\_49, Taquarus\_49, YoSam321\_49
- Track 31 : Datway\_48, Noelle\_49, Shygu2\_48
- Track 32 : Stink\_48, AvatarAhPeg\_47, Miramae\_47
- Track 33 : Obama12\_50, LHTSCC\_51, BangNhom\_50, Cerulean\_50, Happiness\_48, ChampagnePapi\_51, SheldonCooper\_51
- Track 34 : Thanksgivukkah\_48
- Track 35 : Mundrea\_48
- Track 36 : Arturo\_48, Kratak\_49, Phighter1804\_49
- Track 37 : Holli\_48
- Track 38 : Stasia\_48
- Track 39 : UnionJack\_43, Jabiru\_43, PickleBack\_42
- Track 40 : Naca\_44, EITiger69\_44, Scorpia\_46, Airmid\_43, PetterN\_46, Chadwick\_46, Benedict\_45
- Track 41 : Aragog\_41, Discoknowium\_41, Milcery\_43, Tarynearal\_41, George\_42, Micasa\_44, Phlorence\_41, Cuco\_42, Archetta\_42, Swirley\_45
- Track 42 : HuhtaEnerson15\_43, LittleCherry\_43, Bonamassa\_43
- Track 43 : Hammer\_53, Blue7\_54, Gladiator\_50, Artemis2UCLA\_52
- Track 44 : Priamo\_54

- Track 45 : Toro\_52, FlyCatcher\_54
- Track 46 : Sheen\_50
- Track 47 : BobbyDazzler\_39, PhailMary\_38, Bradshaw\_39, Partridge\_39, Yogi\_39, Lillie\_39, StCroix\_39, RexFury\_39, Rhodalysa\_39, Krishelle\_39, Rasputin\_39, Naiad\_39, Gollum\_39, RER2\_32, Swann\_39, CosmicSans\_39, Hiro\_39, TWAMP\_39, Phrankenstein\_39, Alpacados\_38, Bonanza\_39, Alatin\_39
- Track 48 : Shuman\_39, AppleCloud\_37, Bryce\_39, Natosaleda\_39, Erik\_39, Nancinator\_39, Jester\_39, Espica\_39, Belenaria\_39, UhSalsa\_39, Harlequin\_39, Takoda\_39, Yoncess\_39, Dinger\_39, AngryOrchard\_37
- Track 49 : RGL3\_34

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

The start number called the most often in the published annotations is 18, it was called in 137 of the 356 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AbbysRanger\_48, Abdiel\_49, Achebe\_47, Albee\_49, Alberto7\_50, Annyong\_49, Arturo\_48, AvatarAhPeg\_47, Avle17\_49, Baby16\_49, Backyardigan\_47, Badger\_47, BangNhom\_50, Bartimeaus\_49, BellusTerra\_50, Blackmoor\_49, Bombshell\_49, Broseidon\_49, Bruiser\_48, BubbleTrouble\_48, Bumblebee11\_47, Burger\_47, Caelakin\_49, Camperdownii\_47, CentreCat\_49, Cerulean\_50, ChampagnePapi\_51, Chaph\_49, Cici\_48, Cindaradix\_46, Cintron\_48, Citius\_49, Clarenza\_48, Cocoaberry\_49, Commander\_49, Connomayer\_49, Datway\_48, Deano\_48, Dhanush\_49, DirtyDunning\_48, Druantia\_49, Eagle\_49, Eapen\_49, Eris\_48, Eros\_49, Eurydice\_50, Floean\_49, Flux\_49, Funston\_48, Gadost\_49, HamSlice\_48, Happiness\_48, Houdini22\_49, Huxley\_49, ICleared\_49, Iceman\_49, Iracema64\_50, Jaykayelowell\_47, JetBlade\_49, JoongJeon\_48, KFPoly\_48, Kampy\_49, Katalie136\_48, Kingmustik0402\_49, Koreni\_48, Kratark\_49, Kremtemulon\_49, Kyee\_49, LHTSCC\_51, LappelDuVide\_49, Lemur\_49, LeoAvram\_49, LittleB\_49, LittleGuy\_49, LochMonster\_50, Lorenzo\_49, Lunsford\_50, MA5\_50, Maverick\_49, Maxo\_50, Mazhar510\_49, Medusa\_49, MeeZee\_49, Melvin\_51, Millski\_48, Miramae\_47, Morpher26\_48, Morrow\_50, Mundrea\_48, Nebs\_50, Nedarya\_49, Nemo27\_49, Noelle\_49, NorthStar\_48, NotAPhaseMom\_49, Nyxis\_49, OKaNui\_49, Obama12\_50, Ohfah\_50, Palestino\_48, Peaches\_49, Perplexer\_48, PeterPeter\_49, PetiteSangsue\_48, Phacado\_49, Phelipe\_50, Phighter1804\_49, Phontbonne\_49, Pipcraft\_47, Polymorphads\_50, Pumbaa\_49, Relief\_48, Romney\_49, Roosevelt\_48, Rosa24\_48, Ruin\_49, Sabertooth\_49, Scamp\_49, Shaka\_49, SheldonCooper\_51, Shygu2\_48, Skipitt\_48, Sparxx\_50, Spino\_48, Stasia\_48, Stink\_48, Taquarus\_49, TinaFeyge\_49, Tinybot\_48, TiroTheta9\_49, TroyPia\_50, TygerBlood\_49, Ulysses\_48, Wander\_49, Wilbur\_49, Wile\_48, Wizard007\_49, Xena\_47, YoSam321\_49,

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

- Holli\_48, Phlei\_39, RGL3\_34, Thanksgivukkah\_48,

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

- ACFishhook\_52, Aglet\_54, AgronaGT15\_52, Airmid\_43, Alatin\_39, Alpacados\_38, Anaysia\_54, Aneem\_51, AngryOrchard\_37, Anon\_50, Anthony\_46, Anubis\_56, AppleCloud\_37, Aragog\_41, Archetta\_42, Artemis2UCLA\_52, AugsMagnumOpus\_56, BabyBack\_49, BabyJohn\_48, BabyRay\_50, Bachome\_52,

Battleship\_56, Beauxregard13\_53, Belenaria\_39, Benedict\_45, Blue7\_54, BlueBird\_52, BobbyDazzler\_39, Bonamassa\_43, Bonanza\_39, Boohoo\_54, Bowtie\_51, Bradshaw\_39, BreSam8\_53, Bryce\_39, Bud\_50, Bugatti\_51, BuzzBuzz\_51, Bxz2\_49, Calvinny\_53, Caviar\_49, Chadwick\_46, Chiqui\_48, Colbster\_53, CosmicSans\_39, Cuco\_42, Cullens\_53, DaHudson\_53, Daishi\_52, DekHockey33\_54, Dieselweasel\_54, Dinger\_39, Discoknowium\_41, DropBear\_50, Ebony\_50, ElTiger69\_44, EpicPhail\_54, Epsocamisio\_52, Erik\_39, Espica\_39, Et2Brutus\_49, Farber\_53, Fernando\_53, Fibonacci\_50, Flaverint\_51, FlyCatcher\_54, Fred313\_50, GaugeLDP\_48, Gemma\_52, George\_42, Gilberta\_51, GingkoMaracino\_53, Giroux\_51, Gladiator\_50, Gollum\_39, Grif\_53, Groupthink\_54, Grub\_53, Grum1\_53, GtownJaz\_53, Hammer\_53, Harlequin\_39, HashRod\_54, HaveUMetTed\_54, Heathen\_50, HelDan\_50, Heliosoles\_52, Hercules11\_53, Hiro\_39, Hookmount\_49, HuhtaEnerson15\_43, Hutc2\_50, Idleandcovert\_51, Insomnia\_51, JHC117\_53, JSwag\_53, Jabiru\_43, Jabith\_51, JenCasNa\_54, JeppNRM\_54, Jester\_39, Jobu08\_52, Joselito\_51, KADY\_53, Kachowdy\_50, Kalb97\_54, Kalnoky\_54, KatherineG\_55, Kinmap\_47, Krishelle\_39, LBerry\_54, Lambert1\_49, LarryKay\_53, LastResort\_53, Lilith\_54, Lillie\_39, LittleCherry\_43, Looper\_54, Louie6\_52, Lucivia\_51, LugYA\_56, MaCh\_51, Mabel\_50, MadMarie\_53, Mainiac\_53, Malinsilva\_55, Manu\_53, MarQuardt\_53, Marchesa\_50, Margo\_49, Marie\_53, Marius\_54, Methuselah\_49, Micasa\_44, Microwolf\_53, Milcery\_43, MinecraftSteve\_55, Misomonster\_54, MoneyMay\_53, MuchMore\_56, Mulciber\_50, Munch\_51, MyraDee\_43, Naca\_44, Naiad\_39, Nancinator\_39, Natosaleda\_39, Nebulosus\_53, Noella\_49, Norbert\_48, OlanP\_52, Ollie\_53, Oofda\_55, Orange\_50, P28Green\_54, PGHhamlin\_55, Panamaxus\_47, Partridge\_39, Pawn\_53, Pembroke\_53, Penny1\_54, Petersenfast\_49, PetterN\_46, PhailMary\_38, PhishRPhriends\_51, Phlorence\_41, Phoebe\_54, Phoxy\_53, Phrankenstein\_39, Phranny\_54, PickleBack\_42, Pistachio\_52, Pocahontas\_49, Popcicle\_49, PotatoSplit\_55, Priamo\_54, Puppy\_52, PurpleHaze\_53, QuinnKiro\_48, RER2\_32, Rasputin\_39, ReMo\_53, Reba\_53, Remus\_54, ResDef\_49, RexFury\_39, Rhodalysa\_39, Rosalind\_53, Rummer\_52, Sabia\_53, Sabinator\_52, Salz\_49, SaturnRing\_51, Scorpia\_46, Scout\_50, Sham4\_50, ShayRa\_55, Sheen\_50, Shuman\_39, Snape\_50, Snickers\_53, SoYo\_53, SoilDragon\_53, Soshari\_55, Soups\_55, Spike509\_53, StCroix\_39, Stagni\_53, StepMih\_53, Strosahl\_54, Swann\_39, SwirlSquare\_55, Swirley\_45, Switzerland\_54, TNguyen7\_51, TWAMP\_39, Takoda\_39, Tarynearal\_41, Taurus\_54, Texage\_48, Tiffany\_53, Timothy\_50, TinyTimmy\_50, Todacoro\_49, Toro\_52, UhSalsa\_39, UnionJack\_43, Veracruz\_48, Vix\_53, Waits\_54, Watson\_53, Wooldri\_55, Yogi\_39, Yoncess\_39, Zetzy\_52,

### Summary by start number:

#### Start 1:

- Found in 4 of 378 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 4 of 356
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Artemis2UCLA\_52 (A6), Blue7\_54 (A6), Gladiator\_50 (A6), Hammer\_53 (A6),

#### Start 7:

- Found in 158 of 378 ( 41.8% ) of genes in pham
- Manual Annotations of this start: 1 of 356
- Called 0.6% of time when present
- Phage (with cluster) where this start called: Holli\_48 (A4),

Start 8:

- Found in 158 of 378 ( 41.8% ) of genes in pham
- Manual Annotations of this start: 1 of 356
- Called 0.6% of time when present
- Phage (with cluster) where this start called: Thanksgivukkah\_48 (A4),

Start 9:

- Found in 33 of 378 ( 8.7% ) of genes in pham
- Manual Annotations of this start: 17 of 356
- Called 51.5% of time when present
- Phage (with cluster) where this start called: BabyRay\_50 (A3), Caviar\_49 (A3), Heathen\_50 (A3), Hookmount\_49 (A3), Idleandcovert\_51 (A3), Lambert1\_49 (A3), Margo\_49 (A3), Noella\_49 (A3), Norbert\_48 (A3), Pocahontas\_49 (A3), Puppy\_52 (A3), QuinnKiro\_48 (A3), ResDef\_49 (A3), Scout\_50 (A3), Texage\_48 (A3), Todacoro\_49 (A3), Veracruz\_48 (A3),

Start 10:

- Found in 84 of 378 ( 22.2% ) of genes in pham
- Manual Annotations of this start: 79 of 356
- Called 97.6% of time when present
- Phage (with cluster) where this start called: ACFishhook\_52 (A3), Aglet\_54 (A3), AgronaGT15\_52 (A3), Anubis\_56 (A3), AugsMagnumOpus\_56 (A3), Beauxregard13\_53 (A3), BreSam8\_53 (A3), BuzzBuzz\_51 (A3), Calvinny\_53 (A3), Colbster\_53 (A3), Cullens\_53 (A3), DaHudson\_53 (A3), Daishi\_52 (A3), Dieselweasel\_54 (A3), EpicPhail\_54 (A3), Farber\_53 (A3), Fernando\_53 (A3), Gemma\_52 (A3), GingkoMaracino\_53 (A3), Grif\_53 (A3), Groupthink\_54 (A3), Grub\_53 (A3), Grum1\_53 (A3), GtownJaz\_53 (A3), HashRod\_54 (A3), HaveUMetTed\_54 (A3), Heliosoles\_52 (A3), Hercules11\_53 (A3), JHC117\_53 (A3), JenCasNa\_54 (A3), JeppNRM\_54 (A3), Jobu08\_52 (A3), KADY\_53 (A3), Kalb97\_54 (A3), Kalnoky\_54 (A3), LBerry\_54 (A3), LarryKay\_53 (A3), Lilith\_54 (A3), Louie6\_52 (A3), LugYA\_56 (A3), MadMarie\_53 (A3), Mainiac\_53 (A3), Malinsilva\_55 (A3), Manu\_53 (A3), MarQuardt\_53 (A3), Marie\_53 (A3), Marius\_54 (A3), Methuselah\_49 (A3), Microwolf\_53 (A3), Misomonster\_54 (A3), MoneyMay\_53 (A3), MuchMore\_56 (A3), OlanP\_52 (A3), Ollie\_53 (A3), P28Green\_54 (A3), PGHhamlin\_55 (A3), Pawn\_53 (A3), Pembroke\_53 (A3), Penny1\_54 (A3), PhishRPhriends\_51 (A3), Phoebe\_54 (A3), Phoxy\_53 (A3), Phranny\_54 (A3), PotatoSplit\_55 (A3), PurpleHaze\_53 (A3), Reba\_53 (A3), Rummer\_52 (A3), Sabia\_53 (A3), Sabinator\_52 (A3), Snickers\_53 (A3), SoYo\_53 (A3), SoilDragon\_53 (A3), Soshari\_55 (A3), Spike509\_53 (A3), Stagni\_53 (A3), StepMih\_53 (A3), Taurus\_54 (A3), Tiffany\_53 (A3), Vix\_53 (A3), Watson\_53 (A3), Wooldri\_55 (A3), Zetzy\_52 (A3),

Start 11:

- Found in 1 of 378 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 356
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MyraDee\_43 (A18),

Start 13:

- Found in 83 of 378 ( 22.0% ) of genes in pham
- Manual Annotations of this start: 1 of 356
- Called 1.2% of time when present
- Phage (with cluster) where this start called: Bxz2\_49 (A3),

Start 15:

- Found in 1 of 378 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 356
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Anthony\_46 (A20),

Start 16:

- Found in 26 of 378 ( 6.9% ) of genes in pham
- Manual Annotations of this start: 24 of 356
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aneem\_51 (A11), Bachome\_52 (A11), Bowtie\_51 (A11), Bud\_50 (A11), Ebony\_50 (A11), Et2Brutus\_49 (A11), Fibonacci\_50 (A11), Flaverint\_51 (A11), Gilberta\_51 (A11), Hutc2\_50 (A11), Insomnia\_51 (A11), Jabith\_51 (A11), Joselito\_51 (A11), Lucivia\_51 (A11), MaCh\_51 (A11), Mabel\_50 (A11), Mulciber\_50 (A11), Munch\_51 (A11), Orange\_50 (A11), Petersenfast\_49 (A11), Salz\_49 (A11), Sham4\_50 (A11), Snape\_50 (A11), SwirlSquare\_55 (A2), Timothy\_50 (A11), TinyTimmy\_50 (A11),

Start 17:

- Found in 55 of 378 ( 14.6% ) of genes in pham
- Manual Annotations of this start: 30 of 356
- Called 69.1% of time when present
- Phage (with cluster) where this start called: Airmid\_43 (A5), Aragog\_41 (A5), Archetta\_42 (A5), BabyJohn\_48 (A3), Benedict\_45 (A5), BlueBird\_52 (A3), Bonamassa\_43 (A5), Bugatti\_51 (A3), Chadwick\_46 (A5), Chiqui\_48 (A3), Cuco\_42 (A5), Discoknowium\_41 (A5), DropBear\_50 (A3), ElTiger69\_44 (A5), Fred313\_50 (A3), George\_42 (A5), Giroux\_51 (A3), HelDan\_50 (A3), HuhtaEnerson15\_43 (A5), Jabiru\_43 (A5), Kachowdy\_50 (A3), LittleCherry\_43 (A5), Marchesa\_50 (A3), Micasa\_44 (A5), Milcery\_43 (A5), Naca\_44 (A5), Panamaxus\_47 (A3), PetterN\_46 (A5), Phlorence\_41 (A5), PickleBack\_42 (A5), Pistachio\_52 (A3), Popcicle\_49 (A3), SaturnRing\_51 (A3), Scorpia\_46 (A5), Swirley\_45 (A5), TNguyen7\_51 (A3), Tarynearal\_41 (A5), UnionJack\_43 (A5),

Start 18:

- Found in 143 of 378 ( 37.8% ) of genes in pham
- Manual Annotations of this start: 137 of 356
- Called 97.2% of time when present
- Phage (with cluster) where this start called: AbbysRanger\_48 (A4), Abdiel\_49 (A4), Achebe\_47 (A4), Albee\_49 (A4), Alberto7\_50 (A4), Annyong\_49 (A4), Arturo\_48 (A4), AvatarAhPeg\_47 (A4), Avle17\_49 (A4), Baby16\_49 (A4), Backyardigan\_47 (A4), Badger\_47 (A4), BangNhom\_50 (A4), Bartimeaus\_49 (A4), BellusTerra\_50 (A4), Blackmoor\_49 (A4), Bombshell\_49 (A4), Broseidon\_49 (A4), Bruiser\_48 (A4), BubbleTrouble\_48 (A4), Bumblebee11\_47 (A4), Burger\_47 (A4), Caelakin\_49 (A4), Camperdownii\_47 (A4), CentreCat\_49 (A4), Cerulean\_50 (A4), ChampagnePapi\_51 (A4), Chaph\_49 (A4), Cici\_48 (A4), Cindaradix\_46 (A4), Cintron\_48 (A4), Citius\_49 (A4), Clarenza\_48 (A4), Cocoaberry\_49 (A4), Commander\_49 (A4), Connomayer\_49 (A4), Datway\_48 (A4), Deano\_48 (A4), Dhanush\_49 (A4), DirtyDunning\_48 (A4), Druantia\_49 (A4), Eagle\_49 (A4), Eapen\_49 (A4), Eris\_48 (A4), Eros\_49 (A4), Eurydice\_50 (A4), Florean\_49 (A4), Flux\_49 (A4), Funston\_48 (A4), Gadost\_49 (A4), HamSlice\_48 (A4), Happiness\_48 (A4), Houdini22\_49 (A4), Huxley\_49 (A4), ICleared\_49 (A4), Iceman\_49 (A4), Iracema64\_50 (A4), Jaykayelowell\_47 (A4), JetBlade\_49 (A4), JoongJeon\_48 (A4), KFPoly\_48 (A4), Kampy\_49 (A4),

Katalie136\_48 (A4), Kingmustik0402\_49 (A4), Koreni\_48 (A4), Kratark\_49 (A4), Kremtemulon\_49 (A4), Kyee\_49 (A4), LHTSCC\_51 (A4), LappelDuVide\_49 (A4), Lemur\_49 (A4), LeoAvram\_49 (A4), LittleB\_49 (A4), LittleGuy\_49 (A4), LochMonster\_50 (A4), Lorenzo\_49 (A4), Lunsford\_50 (A4), MA5\_50 (A3), Maverick\_49 (A4), Maxo\_50 (A4), Mazhar510\_49 (A4), Medusa\_49 (A4), MeeZee\_49 (A4), Melvin\_51 (A4), Millski\_48 (A4), Miramae\_47 (A4), Morpher26\_48 (A4), Morrow\_50 (A4), Mundrea\_48 (A4), Nebs\_50 (A4), Nedarya\_49 (A15), Nemo27\_49 (A4), Noelle\_49 (A4), NorthStar\_48 (A4), NotAPhaseMom\_49 (A4), Nyxis\_49 (A4), OKaNui\_49 (A4), Obama12\_50 (A4), Ohfah\_50 (A4), Palestino\_48 (A4), Peaches\_49 (A4), Perplexer\_48 (A4), PeterPeter\_49 (A4), PetiteSangsue\_48 (A4), Phacado\_49 (A4), Phelipe\_50 (A4), Phighter1804\_49 (A4), Phontbonne\_49 (A4), Pipcraft\_47 (A4), Polymorphads\_50 (A4), Pumbaa\_49 (A4), Relief\_48 (A4), Romney\_49 (A4), Roosevelt\_48 (A4), Rosa24\_48 (A4), Ruin\_49 (A4), Sabertooth\_49 (A4), Scamp\_49 (A4), Shaka\_49 (A4), SheldonCooper\_51 (A4), Shygu2\_48 (A4), Skipitt\_48 (A4), Sparxx\_50 (A4), Spino\_48 (A4), Stasia\_48 (A4), Stink\_48 (A4), Taquarus\_49 (A4), TinaFeyge\_49 (A4), Tinybot\_48 (A4), TiroTheta9\_49 (A4), TroyPia\_50 (A4), TygerBlood\_49 (A4), Ulysses\_48 (A4), Wander\_49 (A4), Wilbur\_49 (A4), Wile\_48 (A4), Wizard007\_49 (A4), Xena\_47 (A4), YoSam321\_49 (A4),

#### Start 19:

- Found in 21 of 378 ( 5.6% ) of genes in pham
- Manual Annotations of this start: 19 of 356
- Called 95.2% of time when present
- Phage (with cluster) where this start called: Anaysia\_54 (A15), Battleship\_56 (A15), Boohoo\_54 (A15), DekHockey33\_54 (A15), Epsocamisio\_52 (A15), JSwag\_53 (A15), KatherineG\_55 (A15), LastResort\_53 (A15), Looper\_54 (A15), MinecraftSteve\_55 (A15), Nebulosus\_53 (A15), Oofda\_55 (A15), ReMo\_53 (A15), Remus\_54 (A15), Rosalind\_53 (A15), ShayRa\_55 (A15), Soups\_55 (A15), Strosahl\_54 (A15), Switzerland\_54 (A15), Waits\_54 (A15),

#### Start 22:

- Found in 3 of 378 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 2 of 356
- Called 66.7% of time when present
- Phage (with cluster) where this start called: BabyBack\_49 (A2), GaugeLDP\_48 (A2),

#### Start 23:

- Found in 3 of 378 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 356
- Called 100.0% of time when present
- Phage (with cluster) where this start called: FlyCatcher\_54 (A7), Sheen\_50 (A7), Toro\_52 (A7),

#### Start 24:

- Found in 2 of 378 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 356
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Anon\_50 (A15), Phlei\_39 (A13),

#### Start 25:

- Found in 5 of 378 ( 1.3% ) of genes in pham
- Manual Annotations of this start: 1 of 356
- Called 20.0% of time when present



- Phage (with cluster) where this start called: Priamo\_54 (A6),

Start 26:

- Found in 41 of 378 ( 10.8% ) of genes in pham
- Manual Annotations of this start: 36 of 356
- Called 95.1% of time when present
- Phage (with cluster) where this start called: Alatin\_39 (CA), Alpacados\_38 (CA), AngryOrchard\_37 (CA), AppleCloud\_37 (CA), Belenaria\_39 (CA), BobbyDazzler\_39 (CA), Bonanza\_39 (CA), Bradshaw\_39 (CA), Bryce\_39 (CA), CosmicSans\_39 (CA), Dinger\_39 (CA), Erik\_39 (CA), Espica\_39 (CA), Gollum\_39 (CA), Harlequin\_39 (CA), Hiro\_39 (CA), Jester\_39 (CA), Kinmap\_47 (A21), Krishelle\_39 (CA), Lillie\_39 (CA), Naiad\_39 (CA), Nancinator\_39 (CA), Natosaleda\_39 (CA), Partridge\_39 (CA), PhailMary\_38 (CA), Phrankenstein\_39 (CA), RER2\_32 (CA), RGL3\_34 (CA), Rasputin\_39 (CA), RexFury\_39 (CA), Rhodalysa\_39 (CA), Shuman\_39 (CA), StCroix\_39 (CA), Swann\_39 (CA), TWAMP\_39 (CA), Takoda\_39 (CA), UhSalsa\_39 (CA), Yogi\_39 (CA), Yoncess\_39 (CA),

### Summary by clusters:

There are 13 clusters represented in this pham: A15, A21, A11, A13, CA, A18, A20, A3, A2, A5, A4, A7, A6,

Info for manual annotations of cluster A11:

- Start number 16 was manually annotated 24 times for cluster A11.

Info for manual annotations of cluster A15:

- Start number 18 was manually annotated 1 time for cluster A15.
- Start number 19 was manually annotated 19 times for cluster A15.
- Start number 24 was manually annotated 1 time for cluster A15.

Info for manual annotations of cluster A18:

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

Info for manual annotations of cluster A2:

- Start number 22 was manually annotated 2 times for cluster A2.

Info for manual annotations of cluster A20:

- Start number 15 was manually annotated 1 time for cluster A20.

Info for manual annotations of cluster A3:

- Start number 9 was manually annotated 17 times for cluster A3.
- Start number 10 was manually annotated 79 times for cluster A3.
- Start number 13 was manually annotated 1 time for cluster A3.
- Start number 17 was manually annotated 7 times for cluster A3.
- Start number 18 was manually annotated 1 time for cluster A3.

Info for manual annotations of cluster A4:

- Start number 7 was manually annotated 1 time for cluster A4.
- Start number 8 was manually annotated 1 time for cluster A4.
- Start number 18 was manually annotated 135 times for cluster A4.

Info for manual annotations of cluster A5:

- Start number 17 was manually annotated 23 times for cluster A5.

Info for manual annotations of cluster A6:

- Start number 1 was manually annotated 4 times for cluster A6.
- Start number 25 was manually annotated 1 time for cluster A6.

Info for manual annotations of cluster A7:

- Start number 23 was manually annotated 1 time for cluster A7.

Info for manual annotations of cluster CA:

- Start number 26 was manually annotated 36 times for cluster CA.

### **Gene Information:**

Gene: ACFishhook\_52 Start: 33821, Stop: 33231, Start Num: 10

Candidate Starts for ACFishhook\_52:

(Start: 10 @33821 has 79 MA's), (Start: 13 @33815 has 1 MA's), (36, 33671), (39, 33662), (44, 33635), (50, 33551), (70, 33347), (75, 33299),

Gene: AbbysRanger\_48 Start: 33378, Stop: 32839, Start Num: 18

Candidate Starts for AbbysRanger\_48:

(Start: 7 @33435 has 1 MA's), (Start: 8 @33420 has 1 MA's), (Start: 18 @33378 has 137 MA's), (50, 33120), (58, 33087), (68, 33048), (77, 32880),

Gene: Abdiel\_49 Start: 33389, Stop: 32850, Start Num: 18

Candidate Starts for Abdiel\_49:

(Start: 7 @33446 has 1 MA's), (Start: 8 @33431 has 1 MA's), (Start: 18 @33389 has 137 MA's), (50, 33131), (58, 33098), (68, 33059), (77, 32891),

Gene: Achebe\_47 Start: 33361, Stop: 32822, Start Num: 18

Candidate Starts for Achebe\_47:

(Start: 7 @33418 has 1 MA's), (Start: 8 @33403 has 1 MA's), (Start: 18 @33361 has 137 MA's), (50, 33103), (58, 33070), (68, 33031), (77, 32863),

Gene: Aglet\_54 Start: 33857, Stop: 33267, Start Num: 10

Candidate Starts for Aglet\_54:

(Start: 10 @33857 has 79 MA's), (Start: 13 @33851 has 1 MA's), (36, 33707), (39, 33698), (44, 33671), (50, 33587), (70, 33383), (75, 33335),

Gene: AgronaGT15\_52 Start: 33705, Stop: 33118, Start Num: 10

Candidate Starts for AgronaGT15\_52:

(Start: 10 @33705 has 79 MA's), (Start: 13 @33699 has 1 MA's), (36, 33561), (39, 33552), (44, 33525), (45, 33522), (47, 33462), (50, 33441), (70, 33234), (75, 33186),

Gene: Airmid\_43 Start: 32100, Stop: 31576, Start Num: 17

Candidate Starts for Airmid\_43:

(Start: 17 @32100 has 30 MA's), (37, 31968), (38, 31962), (61, 31818),

Gene: Alatin\_39 Start: 29865, Stop: 29341, Start Num: 26

Candidate Starts for Alatin\_39:

(Start: 26 @29865 has 36 MA's), (36, 29760), (70, 29448), (73, 29439), (74, 29430), (75, 29400),

Gene: Albee\_49 Start: 33388, Stop: 32849, Start Num: 18

Candidate Starts for Albee\_49:

(Start: 7 @33445 has 1 MA's), (Start: 8 @33430 has 1 MA's), (Start: 18 @33388 has 137 MA's), (50, 33130), (58, 33097), (68, 33058), (77, 32890),

Gene: Alberto7\_50 Start: 33725, Stop: 33186, Start Num: 18

Candidate Starts for Alberto7\_50:

(Start: 7 @33782 has 1 MA's), (Start: 8 @33767 has 1 MA's), (Start: 18 @33725 has 137 MA's), (50, 33467), (58, 33434), (68, 33395), (77, 33227),

Gene: Alpacados\_38 Start: 29770, Stop: 29246, Start Num: 26

Candidate Starts for Alpacados\_38:

(Start: 26 @29770 has 36 MA's), (36, 29665), (70, 29353), (73, 29344), (74, 29335), (75, 29305),

Gene: Anaysia\_54 Start: 32758, Stop: 32216, Start Num: 19

Candidate Starts for Anaysia\_54:

(Start: 19 @32758 has 19 MA's), (20, 32752), (33, 32647), (40, 32620), (41, 32617), (51, 32506), (55, 32485), (58, 32476), (60, 32467), (70, 32320), (75, 32275),

Gene: Aneem\_51 Start: 33271, Stop: 32702, Start Num: 16

Candidate Starts for Aneem\_51:

(Start: 16 @33271 has 24 MA's), (38, 33136), (63, 32971), (70, 32815),

Gene: AngryOrchard\_37 Start: 29729, Stop: 29205, Start Num: 26

Candidate Starts for AngryOrchard\_37:

(Start: 26 @29729 has 36 MA's), (36, 29624), (70, 29312), (73, 29303), (74, 29294), (75, 29264),

Gene: Annyong\_49 Start: 33433, Stop: 32894, Start Num: 18

Candidate Starts for Annyong\_49:

(Start: 7 @33490 has 1 MA's), (Start: 8 @33475 has 1 MA's), (Start: 18 @33433 has 137 MA's), (50, 33175), (58, 33142), (68, 33103), (77, 32935),

Gene: Anon\_50 Start: 32020, Stop: 31481, Start Num: 24

Candidate Starts for Anon\_50:

(Start: 24 @32020 has 1 MA's), (39, 31894), (58, 31747), (77, 31534), (81, 31501),

Gene: Anthony\_46 Start: 31582, Stop: 31001, Start Num: 15

Candidate Starts for Anthony\_46:

(Start: 9 @31606 has 17 MA's), (Start: 15 @31582 has 1 MA's), (28, 31510), (38, 31441), (46, 31366), (53, 31306), (56, 31297), (65, 31255), (67, 31249), (70, 31108), (76, 31054),

Gene: Anubis\_56 Start: 33743, Stop: 33153, Start Num: 10

Candidate Starts for Anubis\_56:

(Start: 10 @33743 has 79 MA's), (Start: 13 @33737 has 1 MA's), (36, 33593), (39, 33584), (44, 33557), (50, 33473), (70, 33269), (75, 33221),

Gene: AppleCloud\_37 Start: 29816, Stop: 29292, Start Num: 26

Candidate Starts for AppleCloud\_37:

(Start: 26 @29816 has 36 MA's), (36, 29711), (70, 29399), (73, 29390), (74, 29381), (75, 29351),

Gene: Aragog\_41 Start: 32083, Stop: 31556, Start Num: 17

Candidate Starts for Aragog\_41:

(Start: 17 @32083 has 30 MA's), (37, 31948), (38, 31942), (61, 31798), (80, 31579),

Gene: Archetta\_42 Start: 32613, Stop: 32086, Start Num: 17

Candidate Starts for Archetta\_42:

(Start: 17 @32613 has 30 MA's), (37, 32478), (38, 32472), (61, 32328), (80, 32109),

Gene: Artemis2UCLA\_52 Start: 32678, Stop: 31923, Start Num: 1

Candidate Starts for Artemis2UCLA\_52:

(Start: 1 @32678 has 4 MA's), (2, 32663), (3, 32642), (4, 32612), (5, 32606), (Start: 25 @32480 has 1 MA's), (48, 32270), (49, 32267), (62, 32204), (64, 32195), (70, 32033), (72, 32030),

Gene: Arturo\_48 Start: 33662, Stop: 33129, Start Num: 18

Candidate Starts for Arturo\_48:

(Start: 18 @33662 has 137 MA's), (50, 33404), (58, 33371), (68, 33332), (77, 33170),

Gene: AugsMagnumOpus\_56 Start: 33848, Stop: 33258, Start Num: 10

Candidate Starts for AugsMagnumOpus\_56:

(Start: 10 @33848 has 79 MA's), (Start: 13 @33842 has 1 MA's), (36, 33698), (39, 33689), (44, 33662), (50, 33578), (70, 33374), (75, 33326),

Gene: AvatarAhPeg\_47 Start: 33169, Stop: 32621, Start Num: 18

Candidate Starts for AvatarAhPeg\_47:

(Start: 18 @33169 has 137 MA's), (39, 33022), (58, 32872), (71, 32710), (77, 32662),

Gene: Avle17\_49 Start: 33385, Stop: 32846, Start Num: 18

Candidate Starts for Avle17\_49:

(Start: 7 @33442 has 1 MA's), (Start: 8 @33427 has 1 MA's), (Start: 18 @33385 has 137 MA's), (50, 33127), (58, 33094), (68, 33055), (77, 32887),

Gene: Baby16\_49 Start: 33399, Stop: 32860, Start Num: 18

Candidate Starts for Baby16\_49:

(Start: 7 @33456 has 1 MA's), (Start: 8 @33441 has 1 MA's), (Start: 18 @33399 has 137 MA's), (50, 33141), (58, 33108), (68, 33069), (77, 32901),

Gene: BabyBack\_49 Start: 34396, Stop: 33866, Start Num: 22

Candidate Starts for BabyBack\_49:

(Start: 22 @34396 has 2 MA's), (Start: 26 @34381 has 36 MA's), (40, 34276), (47, 34189), (52, 34168), (60, 34138), (61, 34135), (70, 33976), (75, 33931),

Gene: BabyJohn\_48 Start: 33689, Stop: 33126, Start Num: 17

Candidate Starts for BabyJohn\_48:

(Start: 7 @33746 has 1 MA's), (Start: 8 @33731 has 1 MA's), (Start: 9 @33719 has 17 MA's), (Start: 17 @33689 has 30 MA's), (29, 33620), (38, 33542), (44, 33506), (50, 33422), (77, 33167),

Gene: BabyRay\_50 Start: 33653, Stop: 33060, Start Num: 9

Candidate Starts for BabyRay\_50:

(Start: 7 @33680 has 1 MA's), (Start: 8 @33665 has 1 MA's), (Start: 9 @33653 has 17 MA's), (Start: 17 @33623 has 30 MA's), (29, 33554), (38, 33476), (43, 33443), (44, 33440), (50, 33356), (57, 33323), (77, 33101),

Gene: Bachome\_52 Start: 33251, Stop: 32685, Start Num: 16

Candidate Starts for Bachome\_52:

(Start: 16 @33251 has 24 MA's), (42, 33098), (63, 32957), (70, 32798),

Gene: Backyardigan\_47 Start: 33394, Stop: 32855, Start Num: 18

Candidate Starts for Backyardigan\_47:

(Start: 7 @33451 has 1 MA's), (Start: 8 @33436 has 1 MA's), (Start: 18 @33394 has 137 MA's), (50, 33136), (58, 33103), (68, 33064), (77, 32896),

Gene: Badger\_47 Start: 33362, Stop: 32823, Start Num: 18

Candidate Starts for Badger\_47:

(Start: 7 @33419 has 1 MA's), (Start: 8 @33404 has 1 MA's), (Start: 18 @33362 has 137 MA's), (50, 33104), (58, 33071), (68, 33032), (77, 32864),

Gene: BangNhom\_50 Start: 33807, Stop: 33271, Start Num: 18

Candidate Starts for BangNhom\_50:

(6, 33870), (Start: 18 @33807 has 137 MA's), (50, 33549), (58, 33516), (68, 33477), (77, 33312),

Gene: Bartimeaus\_49 Start: 33390, Stop: 32851, Start Num: 18

Candidate Starts for Bartimeaus\_49:

(Start: 7 @33447 has 1 MA's), (Start: 8 @33432 has 1 MA's), (Start: 18 @33390 has 137 MA's), (50, 33132), (58, 33099), (68, 33060), (77, 32892),

Gene: Battleship\_56 Start: 33029, Stop: 32463, Start Num: 19

Candidate Starts for Battleship\_56:

(Start: 19 @33029 has 19 MA's), (20, 33023), (33, 32918), (40, 32891), (41, 32888), (51, 32777), (55, 32756), (58, 32747), (60, 32738), (78, 32519),

Gene: Beauxregard13\_53 Start: 33860, Stop: 33270, Start Num: 10

Candidate Starts for Beauxregard13\_53:

(Start: 10 @33860 has 79 MA's), (Start: 13 @33854 has 1 MA's), (36, 33710), (39, 33701), (44, 33674), (50, 33590), (70, 33386), (75, 33338),

Gene: Belenaria\_39 Start: 29797, Stop: 29273, Start Num: 26

Candidate Starts for Belenaria\_39:

(Start: 26 @29797 has 36 MA's), (36, 29692), (70, 29380), (73, 29371), (74, 29362), (75, 29332),

Gene: BellusTerra\_50 Start: 33389, Stop: 32850, Start Num: 18

Candidate Starts for BellusTerra\_50:

(Start: 7 @33446 has 1 MA's), (Start: 8 @33431 has 1 MA's), (Start: 18 @33389 has 137 MA's), (50, 33131), (58, 33098), (68, 33059), (77, 32891),

Gene: Benedict\_45 Start: 32275, Stop: 31751, Start Num: 17

Candidate Starts for Benedict\_45:

(Start: 17 @32275 has 30 MA's), (37, 32143), (38, 32137), (61, 31993),

Gene: Blackmoor\_49 Start: 33390, Stop: 32851, Start Num: 18

Candidate Starts for Blackmoor\_49:

(Start: 7 @33447 has 1 MA's), (Start: 8 @33432 has 1 MA's), (Start: 18 @33390 has 137 MA's), (50, 33132), (58, 33099), (68, 33060), (77, 32892),

Gene: Blue7\_54 Start: 32748, Stop: 32002, Start Num: 1

Candidate Starts for Blue7\_54:

(Start: 1 @32748 has 4 MA's), (2, 32733), (3, 32712), (4, 32682), (5, 32676), (Start: 25 @32550 has 1 MA's), (48, 32340), (49, 32337), (62, 32274), (64, 32265), (70, 32112), (72, 32109),

Gene: BlueBird\_52 Start: 33721, Stop: 33158, Start Num: 17

Candidate Starts for BlueBird\_52:

(Start: 7 @33778 has 1 MA's), (Start: 8 @33763 has 1 MA's), (Start: 9 @33751 has 17 MA's), (Start: 17 @33721 has 30 MA's), (29, 33652), (38, 33574), (44, 33538), (50, 33454), (77, 33199),

Gene: BobbyDazzler\_39 Start: 29844, Stop: 29320, Start Num: 26

Candidate Starts for BobbyDazzler\_39:

(Start: 26 @29844 has 36 MA's), (36, 29739), (70, 29427), (73, 29418), (74, 29409), (75, 29379),

Gene: Bombshell\_49 Start: 33385, Stop: 32846, Start Num: 18

Candidate Starts for Bombshell\_49:

(Start: 7 @33442 has 1 MA's), (Start: 8 @33427 has 1 MA's), (Start: 18 @33385 has 137 MA's), (50, 33127), (58, 33094), (68, 33055), (77, 32887),

Gene: Bonamassa\_43 Start: 32602, Stop: 32075, Start Num: 17

Candidate Starts for Bonamassa\_43:

(Start: 17 @32602 has 30 MA's), (37, 32467), (38, 32461), (61, 32317), (79, 32116), (80, 32098),

Gene: Bonanza\_39 Start: 29772, Stop: 29248, Start Num: 26

Candidate Starts for Bonanza\_39:

(Start: 26 @29772 has 36 MA's), (36, 29667), (70, 29355), (73, 29346), (74, 29337), (75, 29307),

Gene: Boohoo\_54 Start: 32758, Stop: 32216, Start Num: 19

Candidate Starts for Boohoo\_54:

(Start: 19 @32758 has 19 MA's), (20, 32752), (33, 32647), (40, 32620), (41, 32617), (51, 32506), (55, 32485), (58, 32476), (60, 32467), (70, 32320), (75, 32275),

Gene: Bowtie\_51 Start: 33278, Stop: 32709, Start Num: 16

Candidate Starts for Bowtie\_51:

(Start: 16 @33278 has 24 MA's), (38, 33143), (63, 32978), (70, 32822),

Gene: Bradshaw\_39 Start: 29798, Stop: 29274, Start Num: 26

Candidate Starts for Bradshaw\_39:

(Start: 26 @29798 has 36 MA's), (36, 29693), (70, 29381), (73, 29372), (74, 29363), (75, 29333),

Gene: BreSam8\_53 Start: 33850, Stop: 33260, Start Num: 10

Candidate Starts for BreSam8\_53:

(Start: 10 @33850 has 79 MA's), (Start: 13 @33844 has 1 MA's), (36, 33700), (39, 33691), (44, 33664), (50, 33580), (70, 33376), (75, 33328),

Gene: Broseidon\_49 Start: 33390, Stop: 32851, Start Num: 18

Candidate Starts for Broseidon\_49:

(Start: 7 @33447 has 1 MA's), (Start: 8 @33432 has 1 MA's), (Start: 18 @33390 has 137 MA's), (50, 33132), (58, 33099), (68, 33060), (77, 32892),

Gene: Bruiser\_48 Start: 33388, Stop: 32849, Start Num: 18

Candidate Starts for Bruiser\_48:

(Start: 7 @33445 has 1 MA's), (Start: 8 @33430 has 1 MA's), (Start: 18 @33388 has 137 MA's), (50, 33130), (58, 33097), (68, 33058), (77, 32890),

Gene: Bryce\_39 Start: 29773, Stop: 29249, Start Num: 26

Candidate Starts for Bryce\_39:

(Start: 26 @29773 has 36 MA's), (36, 29668), (70, 29356), (73, 29347), (74, 29338), (75, 29308),

Gene: BubbleTrouble\_48 Start: 33388, Stop: 32849, Start Num: 18

Candidate Starts for BubbleTrouble\_48:

(Start: 7 @33445 has 1 MA's), (Start: 8 @33430 has 1 MA's), (Start: 18 @33388 has 137 MA's), (50, 33130), (58, 33097), (68, 33058), (77, 32890),

Gene: Bud\_50 Start: 32828, Stop: 32259, Start Num: 16

Candidate Starts for Bud\_50:

(Start: 16 @32828 has 24 MA's), (38, 32693), (63, 32528), (70, 32372),

Gene: Bugatti\_51 Start: 33721, Stop: 33158, Start Num: 17

Candidate Starts for Bugatti\_51:

(Start: 7 @33778 has 1 MA's), (Start: 8 @33763 has 1 MA's), (Start: 9 @33751 has 17 MA's), (Start: 17 @33721 has 30 MA's), (29, 33652), (38, 33574), (44, 33538), (50, 33454), (77, 33199),

Gene: Bumblebee11\_47 Start: 33364, Stop: 32825, Start Num: 18

Candidate Starts for Bumblebee11\_47:

(Start: 7 @33421 has 1 MA's), (Start: 8 @33406 has 1 MA's), (Start: 18 @33364 has 137 MA's), (50, 33106), (58, 33073), (68, 33034), (77, 32866),

Gene: Burger\_47 Start: 33388, Stop: 32849, Start Num: 18

Candidate Starts for Burger\_47:

(Start: 7 @33445 has 1 MA's), (Start: 8 @33430 has 1 MA's), (Start: 18 @33388 has 137 MA's), (50, 33130), (58, 33097), (68, 33058), (77, 32890),

Gene: BuzzBuzz\_51 Start: 33884, Stop: 33297, Start Num: 10

Candidate Starts for BuzzBuzz\_51:

(Start: 10 @33884 has 79 MA's), (Start: 13 @33878 has 1 MA's), (36, 33740), (39, 33731), (44, 33704), (45, 33701), (47, 33641), (50, 33620), (70, 33413), (75, 33365),

Gene: Bxz2\_49 Start: 33885, Stop: 33304, Start Num: 13

Candidate Starts for Bxz2\_49:

(Start: 10 @33891 has 79 MA's), (Start: 13 @33885 has 1 MA's), (36, 33747), (39, 33738), (44, 33711), (45, 33708), (47, 33648), (50, 33627), (70, 33420), (75, 33372),

Gene: Caelakin\_49 Start: 33388, Stop: 32849, Start Num: 18

Candidate Starts for Caelakin\_49:

(Start: 7 @33445 has 1 MA's), (Start: 8 @33430 has 1 MA's), (Start: 18 @33388 has 137 MA's), (50, 33130), (58, 33097), (68, 33058), (77, 32890),

Gene: Calvinny\_53 Start: 33749, Stop: 33159, Start Num: 10

Candidate Starts for Calvinny\_53:

(Start: 10 @33749 has 79 MA's), (Start: 13 @33743 has 1 MA's), (36, 33599), (39, 33590), (44, 33563), (50, 33479), (70, 33275), (75, 33227),

Gene: Camperdownii\_47 Start: 33062, Stop: 32523, Start Num: 18

Candidate Starts for Camperdownii\_47:

(Start: 7 @33119 has 1 MA's), (Start: 8 @33104 has 1 MA's), (Start: 18 @33062 has 137 MA's), (50, 32804), (58, 32771), (68, 32732), (77, 32564),

Gene: Caviar\_49 Start: 33695, Stop: 33096, Start Num: 9

Candidate Starts for Caviar\_49:

(Start: 7 @33722 has 1 MA's), (Start: 8 @33707 has 1 MA's), (Start: 9 @33695 has 17 MA's), (Start: 17 @33665 has 30 MA's), (29, 33596), (38, 33518), (50, 33398), (77, 33137),

Gene: CentreCat\_49 Start: 33391, Stop: 32852, Start Num: 18

Candidate Starts for CentreCat\_49:

(Start: 7 @33448 has 1 MA's), (Start: 8 @33433 has 1 MA's), (Start: 18 @33391 has 137 MA's), (50, 33133), (58, 33100), (68, 33061), (77, 32893),

Gene: Cerulean\_50 Start: 33808, Stop: 33272, Start Num: 18

Candidate Starts for Cerulean\_50:

(6, 33871), (Start: 18 @33808 has 137 MA's), (50, 33550), (58, 33517), (68, 33478), (77, 33313),

Gene: Chadwick\_46 Start: 32252, Stop: 31728, Start Num: 17

Candidate Starts for Chadwick\_46:

(Start: 17 @32252 has 30 MA's), (37, 32120), (38, 32114), (61, 31970),

Gene: ChampagnePapi\_51 Start: 33807, Stop: 33271, Start Num: 18

Candidate Starts for ChampagnePapi\_51:

(6, 33870), (Start: 18 @33807 has 137 MA's), (50, 33549), (58, 33516), (68, 33477), (77, 33312),

Gene: Chaph\_49 Start: 33399, Stop: 32860, Start Num: 18

Candidate Starts for Chaph\_49:

(Start: 7 @33456 has 1 MA's), (Start: 8 @33441 has 1 MA's), (Start: 18 @33399 has 137 MA's), (50, 33141), (58, 33108), (68, 33069), (77, 32901),

Gene: Chiqui\_48 Start: 33698, Stop: 33135, Start Num: 17

Candidate Starts for Chiqui\_48:

(Start: 7 @33755 has 1 MA's), (Start: 8 @33740 has 1 MA's), (Start: 9 @33728 has 17 MA's), (Start: 17 @33698 has 30 MA's), (29, 33629), (38, 33551), (44, 33515), (50, 33431), (77, 33176),

Gene: Cici\_48 Start: 33379, Stop: 32840, Start Num: 18

Candidate Starts for Cici\_48:

(Start: 7 @33436 has 1 MA's), (Start: 8 @33421 has 1 MA's), (Start: 18 @33379 has 137 MA's), (50, 33121), (58, 33088), (68, 33049), (77, 32881),

Gene: Cindaradix\_46 Start: 33000, Stop: 32467, Start Num: 18

Candidate Starts for Cindaradix\_46:

(Start: 7 @33057 has 1 MA's), (Start: 8 @33042 has 1 MA's), (Start: 18 @33000 has 137 MA's), (50, 32742), (58, 32709), (68, 32670), (77, 32508),

Gene: Cintron\_48 Start: 33365, Stop: 32829, Start Num: 18

Candidate Starts for Cintron\_48:

(Start: 7 @33422 has 1 MA's), (Start: 8 @33407 has 1 MA's), (Start: 18 @33365 has 137 MA's), (50, 33107), (58, 33074), (68, 33035), (77, 32870),

Gene: Citius\_49 Start: 33409, Stop: 32870, Start Num: 18

Candidate Starts for Citius\_49:

(Start: 7 @33466 has 1 MA's), (Start: 8 @33451 has 1 MA's), (Start: 18 @33409 has 137 MA's), (50, 33151), (58, 33118), (68, 33079), (77, 32911),

Gene: Clarenza\_48 Start: 33385, Stop: 32846, Start Num: 18

Candidate Starts for Clarenza\_48:



(Start: 7 @33442 has 1 MA's), (Start: 8 @33427 has 1 MA's), (Start: 18 @33385 has 137 MA's), (50, 33127), (58, 33094), (68, 33055), (77, 32887),

Gene: Cocoaberry\_49 Start: 33392, Stop: 32853, Start Num: 18

Candidate Starts for Cocoaberry\_49:

(Start: 7 @33449 has 1 MA's), (Start: 8 @33434 has 1 MA's), (Start: 18 @33392 has 137 MA's), (50, 33134), (58, 33101), (68, 33062), (77, 32894),

Gene: Colbster\_53 Start: 33860, Stop: 33270, Start Num: 10

Candidate Starts for Colbster\_53:

(Start: 10 @33860 has 79 MA's), (Start: 13 @33854 has 1 MA's), (36, 33710), (39, 33701), (44, 33674), (50, 33590), (70, 33386), (75, 33338),

Gene: Commander\_49 Start: 33387, Stop: 32848, Start Num: 18

Candidate Starts for Commander\_49:

(Start: 7 @33444 has 1 MA's), (Start: 8 @33429 has 1 MA's), (Start: 18 @33387 has 137 MA's), (50, 33129), (58, 33096), (68, 33057), (77, 32889),

Gene: Connomayer\_49 Start: 33388, Stop: 32849, Start Num: 18

Candidate Starts for Connomayer\_49:

(Start: 7 @33445 has 1 MA's), (Start: 8 @33430 has 1 MA's), (Start: 18 @33388 has 137 MA's), (50, 33130), (58, 33097), (68, 33058), (77, 32890),

Gene: CosmicSans\_39 Start: 29798, Stop: 29274, Start Num: 26

Candidate Starts for CosmicSans\_39:

(Start: 26 @29798 has 36 MA's), (36, 29693), (70, 29381), (73, 29372), (74, 29363), (75, 29333),

Gene: Cuco\_42 Start: 32356, Stop: 31829, Start Num: 17

Candidate Starts for Cuco\_42:

(Start: 17 @32356 has 30 MA's), (37, 32221), (38, 32215), (61, 32071), (80, 31852),

Gene: Cullens\_53 Start: 33856, Stop: 33266, Start Num: 10

Candidate Starts for Cullens\_53:

(Start: 10 @33856 has 79 MA's), (Start: 13 @33850 has 1 MA's), (36, 33706), (39, 33697), (44, 33670), (50, 33586), (70, 33382), (75, 33334),

Gene: DaHudson\_53 Start: 33849, Stop: 33259, Start Num: 10

Candidate Starts for DaHudson\_53:

(Start: 10 @33849 has 79 MA's), (Start: 13 @33843 has 1 MA's), (36, 33699), (39, 33690), (44, 33663), (50, 33579), (70, 33375), (75, 33327),

Gene: Daishi\_52 Start: 32725, Stop: 32138, Start Num: 10

Candidate Starts for Daishi\_52:

(Start: 10 @32725 has 79 MA's), (Start: 13 @32719 has 1 MA's), (36, 32581), (39, 32572), (44, 32545), (45, 32542), (47, 32482), (50, 32461), (70, 32254), (75, 32206),

Gene: Datway\_48 Start: 33350, Stop: 32811, Start Num: 18

Candidate Starts for Datway\_48:

(Start: 7 @33407 has 1 MA's), (Start: 8 @33392 has 1 MA's), (Start: 18 @33350 has 137 MA's), (58, 33059), (68, 33020), (77, 32852),

Gene: Deano\_48 Start: 33396, Stop: 32857, Start Num: 18

Candidate Starts for Deano\_48:

(Start: 7 @33453 has 1 MA's), (Start: 8 @33438 has 1 MA's), (Start: 18 @33396 has 137 MA's), (50, 33138), (58, 33105), (68, 33066), (77, 32898),

Gene: DekHockey33\_54 Start: 33050, Stop: 32484, Start Num: 19

Candidate Starts for DekHockey33\_54:

(Start: 19 @33050 has 19 MA's), (20, 33044), (33, 32939), (40, 32912), (41, 32909), (51, 32798), (55, 32777), (58, 32768), (60, 32759), (78, 32540),

Gene: Dhanush\_49 Start: 33391, Stop: 32852, Start Num: 18

Candidate Starts for Dhanush\_49:

(Start: 7 @33448 has 1 MA's), (Start: 8 @33433 has 1 MA's), (Start: 18 @33391 has 137 MA's), (50, 33133), (58, 33100), (68, 33061), (77, 32893),

Gene: Dieselweasel\_54 Start: 33859, Stop: 33269, Start Num: 10

Candidate Starts for Dieselweasel\_54:

(Start: 10 @33859 has 79 MA's), (Start: 13 @33853 has 1 MA's), (36, 33709), (39, 33700), (44, 33673), (50, 33589), (70, 33385), (75, 33337),

Gene: Dinger\_39 Start: 29859, Stop: 29335, Start Num: 26

Candidate Starts for Dinger\_39:

(Start: 26 @29859 has 36 MA's), (36, 29754), (70, 29442), (73, 29433), (74, 29424), (75, 29394),

Gene: DirtyDunning\_48 Start: 33403, Stop: 32870, Start Num: 18

Candidate Starts for DirtyDunning\_48:

(Start: 7 @33460 has 1 MA's), (Start: 8 @33445 has 1 MA's), (Start: 18 @33403 has 137 MA's), (50, 33145), (58, 33112), (68, 33073), (77, 32911),

Gene: Discoknowium\_41 Start: 32092, Stop: 31565, Start Num: 17

Candidate Starts for Discoknowium\_41:

(Start: 17 @32092 has 30 MA's), (37, 31957), (38, 31951), (61, 31807), (80, 31588),

Gene: DropBear\_50 Start: 33590, Stop: 33039, Start Num: 17

Candidate Starts for DropBear\_50:

(Start: 7 @33647 has 1 MA's), (Start: 8 @33632 has 1 MA's), (Start: 9 @33620 has 17 MA's), (Start: 17 @33590 has 30 MA's), (29, 33521), (38, 33443), (44, 33407), (50, 33323), (77, 33080),

Gene: Druantia\_49 Start: 33391, Stop: 32852, Start Num: 18

Candidate Starts for Druantia\_49:

(Start: 7 @33448 has 1 MA's), (Start: 8 @33433 has 1 MA's), (Start: 18 @33391 has 137 MA's), (50, 33133), (58, 33100), (68, 33061), (77, 32893),

Gene: Eagle\_49 Start: 33413, Stop: 32874, Start Num: 18

Candidate Starts for Eagle\_49:

(Start: 7 @33470 has 1 MA's), (Start: 8 @33455 has 1 MA's), (Start: 18 @33413 has 137 MA's), (50, 33155), (58, 33122), (68, 33083), (77, 32915),

Gene: Eapen\_49 Start: 33383, Stop: 32844, Start Num: 18

Candidate Starts for Eapen\_49:

(Start: 7 @33440 has 1 MA's), (Start: 8 @33425 has 1 MA's), (Start: 18 @33383 has 137 MA's), (50, 33125), (58, 33092), (68, 33053), (77, 32885),

Gene: Ebony\_50 Start: 32845, Stop: 32276, Start Num: 16

Candidate Starts for Ebony\_50:

(Start: 16 @32845 has 24 MA's), (38, 32710), (63, 32545), (70, 32389),

Gene: EITiger69\_44 Start: 32269, Stop: 31745, Start Num: 17

Candidate Starts for EITiger69\_44:

(Start: 17 @32269 has 30 MA's), (37, 32137), (38, 32131), (61, 31987),

Gene: EpicPhail\_54 Start: 33860, Stop: 33270, Start Num: 10

Candidate Starts for EpicPhail\_54:

(Start: 10 @33860 has 79 MA's), (Start: 13 @33854 has 1 MA's), (36, 33710), (39, 33701), (44, 33674), (50, 33590), (70, 33386), (75, 33338),

Gene: Epsocamisio\_52 Start: 32293, Stop: 31751, Start Num: 19

Candidate Starts for Epsocamisio\_52:

(Start: 19 @32293 has 19 MA's), (20, 32287), (33, 32182), (40, 32155), (41, 32152), (51, 32041), (55, 32020), (58, 32011), (60, 32002), (70, 31855), (75, 31810),

Gene: Erik\_39 Start: 29796, Stop: 29272, Start Num: 26

Candidate Starts for Erik\_39:

(Start: 26 @29796 has 36 MA's), (36, 29691), (70, 29379), (73, 29370), (74, 29361), (75, 29331),

Gene: Eris\_48 Start: 33388, Stop: 32849, Start Num: 18

Candidate Starts for Eris\_48:

(Start: 7 @33445 has 1 MA's), (Start: 8 @33430 has 1 MA's), (Start: 18 @33388 has 137 MA's), (50, 33130), (58, 33097), (68, 33058), (77, 32890),

Gene: Eros\_49 Start: 33390, Stop: 32851, Start Num: 18

Candidate Starts for Eros\_49:

(Start: 7 @33447 has 1 MA's), (Start: 8 @33432 has 1 MA's), (Start: 18 @33390 has 137 MA's), (50, 33132), (58, 33099), (68, 33060), (77, 32892),

Gene: Espica\_39 Start: 29797, Stop: 29273, Start Num: 26

Candidate Starts for Espica\_39:

(Start: 26 @29797 has 36 MA's), (36, 29692), (70, 29380), (73, 29371), (74, 29362), (75, 29332),

Gene: Et2Brutus\_49 Start: 32805, Stop: 32236, Start Num: 16

Candidate Starts for Et2Brutus\_49:

(Start: 16 @32805 has 24 MA's), (38, 32670), (63, 32505), (70, 32349),

Gene: Eurydice\_50 Start: 33385, Stop: 32846, Start Num: 18

Candidate Starts for Eurydice\_50:

(Start: 7 @33442 has 1 MA's), (Start: 8 @33427 has 1 MA's), (Start: 18 @33385 has 137 MA's), (50, 33127), (58, 33094), (68, 33055), (77, 32887),

Gene: Farber\_53 Start: 33846, Stop: 33259, Start Num: 10

Candidate Starts for Farber\_53:

(Start: 10 @33846 has 79 MA's), (Start: 13 @33840 has 1 MA's), (36, 33702), (39, 33693), (44, 33666), (45, 33663), (47, 33603), (50, 33582), (70, 33375), (75, 33327),

Gene: Fernando\_53 Start: 33856, Stop: 33266, Start Num: 10

Candidate Starts for Fernando\_53:

(Start: 10 @33856 has 79 MA's), (Start: 13 @33850 has 1 MA's), (36, 33706), (39, 33697), (44, 33670), (50, 33586), (70, 33382), (75, 33334),

Gene: Fibonacci\_50 Start: 32814, Stop: 32251, Start Num: 16  
Candidate Starts for Fibonacci\_50:  
(Start: 16 @32814 has 24 MA's), (38, 32685), (63, 32520), (70, 32364),

Gene: Flaverint\_51 Start: 33272, Stop: 32703, Start Num: 16  
Candidate Starts for Flaverint\_51:  
(Start: 16 @33272 has 24 MA's), (38, 33137), (63, 32972), (70, 32816),

Gene: Florean\_49 Start: 33387, Stop: 32848, Start Num: 18  
Candidate Starts for Florean\_49:  
(Start: 7 @33444 has 1 MA's), (Start: 8 @33429 has 1 MA's), (Start: 18 @33387 has 137 MA's), (50, 33129), (58, 33096), (68, 33057), (77, 32889),

Gene: Flux\_49 Start: 33387, Stop: 32848, Start Num: 18  
Candidate Starts for Flux\_49:  
(Start: 7 @33444 has 1 MA's), (Start: 8 @33429 has 1 MA's), (Start: 18 @33387 has 137 MA's), (50, 33129), (58, 33096), (68, 33057), (77, 32889),

Gene: FlyCatcher\_54 Start: 35717, Stop: 35193, Start Num: 23  
Candidate Starts for FlyCatcher\_54:  
(Start: 23 @35717 has 1 MA's), (34, 35621), (55, 35462), (58, 35453), (64, 35420), (71, 35285), (77, 35240),

Gene: Fred313\_50 Start: 33287, Stop: 32724, Start Num: 17  
Candidate Starts for Fred313\_50:  
(Start: 7 @33338 has 1 MA's), (Start: 8 @33323 has 1 MA's), (Start: 9 @33311 has 17 MA's), (Start: 17 @33287 has 30 MA's), (29, 33218), (38, 33140), (43, 33107), (44, 33104), (50, 33020), (77, 32765),

Gene: Funston\_48 Start: 33388, Stop: 32849, Start Num: 18  
Candidate Starts for Funston\_48:  
(Start: 7 @33445 has 1 MA's), (Start: 8 @33430 has 1 MA's), (Start: 18 @33388 has 137 MA's), (50, 33130), (58, 33097), (68, 33058), (77, 32890),

Gene: Gadost\_49 Start: 33392, Stop: 32853, Start Num: 18  
Candidate Starts for Gadost\_49:  
(Start: 7 @33449 has 1 MA's), (Start: 8 @33434 has 1 MA's), (Start: 18 @33392 has 137 MA's), (50, 33134), (58, 33101), (68, 33062), (77, 32894),

Gene: GaugeLDP\_48 Start: 33987, Stop: 33457, Start Num: 22  
Candidate Starts for GaugeLDP\_48:  
(Start: 22 @33987 has 2 MA's), (Start: 26 @33972 has 36 MA's), (34, 33888), (40, 33867), (47, 33780), (52, 33759), (60, 33729), (61, 33726), (70, 33567), (74, 33549), (75, 33522),

Gene: Gemma\_52 Start: 33745, Stop: 33155, Start Num: 10  
Candidate Starts for Gemma\_52:  
(Start: 10 @33745 has 79 MA's), (Start: 13 @33739 has 1 MA's), (36, 33595), (39, 33586), (44, 33559), (50, 33475), (70, 33271), (75, 33223),

Gene: George\_42 Start: 32544, Stop: 32017, Start Num: 17  
Candidate Starts for George\_42:  
(Start: 17 @32544 has 30 MA's), (37, 32409), (38, 32403), (61, 32259), (80, 32040),

Gene: Gilberta\_51 Start: 33262, Stop: 32693, Start Num: 16

Candidate Starts for Gilberta\_51:

(Start: 16 @33262 has 24 MA's), (38, 33127), (63, 32962), (70, 32806),

Gene: GingkoMaracino\_53 Start: 33742, Stop: 33152, Start Num: 10

Candidate Starts for GingkoMaracino\_53:

(Start: 10 @33742 has 79 MA's), (Start: 13 @33736 has 1 MA's), (36, 33592), (39, 33583), (44, 33556), (50, 33472), (70, 33268), (75, 33220),

Gene: Giroux\_51 Start: 33720, Stop: 33157, Start Num: 17

Candidate Starts for Giroux\_51:

(Start: 7 @33777 has 1 MA's), (Start: 8 @33762 has 1 MA's), (Start: 9 @33750 has 17 MA's), (Start: 17 @33720 has 30 MA's), (29, 33651), (38, 33573), (44, 33537), (50, 33453), (77, 33198),

Gene: Gladiator\_50 Start: 32270, Stop: 31527, Start Num: 1

Candidate Starts for Gladiator\_50:

(Start: 1 @32270 has 4 MA's), (2, 32255), (3, 32234), (4, 32204), (5, 32198), (Start: 25 @32072 has 1 MA's), (48, 31862), (49, 31859), (62, 31796), (64, 31787), (70, 31637), (72, 31634),

Gene: Gollum\_39 Start: 29796, Stop: 29272, Start Num: 26

Candidate Starts for Gollum\_39:

(Start: 26 @29796 has 36 MA's), (36, 29691), (70, 29379), (73, 29370), (74, 29361), (75, 29331),

Gene: Grif\_53 Start: 33931, Stop: 33341, Start Num: 10

Candidate Starts for Grif\_53:

(Start: 10 @33931 has 79 MA's), (Start: 13 @33925 has 1 MA's), (36, 33781), (39, 33772), (44, 33745), (50, 33661), (70, 33457), (75, 33409),

Gene: Groupthink\_54 Start: 33749, Stop: 33159, Start Num: 10

Candidate Starts for Groupthink\_54:

(Start: 10 @33749 has 79 MA's), (Start: 13 @33743 has 1 MA's), (36, 33599), (39, 33590), (44, 33563), (50, 33479), (70, 33275), (75, 33227),

Gene: Grub\_53 Start: 33848, Stop: 33258, Start Num: 10

Candidate Starts for Grub\_53:

(Start: 10 @33848 has 79 MA's), (Start: 13 @33842 has 1 MA's), (36, 33698), (39, 33689), (44, 33662), (50, 33578), (70, 33374), (75, 33326),

Gene: Grum1\_53 Start: 33856, Stop: 33266, Start Num: 10

Candidate Starts for Grum1\_53:

(Start: 10 @33856 has 79 MA's), (Start: 13 @33850 has 1 MA's), (36, 33706), (39, 33697), (44, 33670), (50, 33586), (70, 33382), (75, 33334),

Gene: GtownJaz\_53 Start: 33858, Stop: 33268, Start Num: 10

Candidate Starts for GtownJaz\_53:

(Start: 10 @33858 has 79 MA's), (Start: 13 @33852 has 1 MA's), (36, 33708), (39, 33699), (44, 33672), (50, 33588), (70, 33384), (75, 33336),

Gene: HamSlice\_48 Start: 33386, Stop: 32847, Start Num: 18

Candidate Starts for HamSlice\_48:

(Start: 7 @33443 has 1 MA's), (Start: 8 @33428 has 1 MA's), (Start: 18 @33386 has 137 MA's), (50, 33128), (58, 33095), (68, 33056), (77, 32888),

Gene: Hammer\_53 Start: 32552, Stop: 31803, Start Num: 1

Candidate Starts for Hammer\_53:

(Start: 1 @32552 has 4 MA's), (2, 32537), (3, 32516), (4, 32486), (5, 32480), (Start: 25 @32354 has 1 MA's), (48, 32144), (49, 32141), (62, 32078), (64, 32069), (70, 31913), (72, 31910),

Gene: Happiness\_48 Start: 33390, Stop: 32854, Start Num: 18

Candidate Starts for Happiness\_48:

(6, 33453), (Start: 18 @33390 has 137 MA's), (50, 33132), (58, 33099), (68, 33060), (77, 32895),

Gene: Harlequin\_39 Start: 29803, Stop: 29279, Start Num: 26

Candidate Starts for Harlequin\_39:

(Start: 26 @29803 has 36 MA's), (36, 29698), (70, 29386), (73, 29377), (74, 29368), (75, 29338),

Gene: HashRod\_54 Start: 33884, Stop: 33297, Start Num: 10

Candidate Starts for HashRod\_54:

(Start: 10 @33884 has 79 MA's), (Start: 13 @33878 has 1 MA's), (36, 33740), (39, 33731), (44, 33704), (45, 33701), (47, 33641), (50, 33620), (70, 33413), (75, 33365),

Gene: HaveUMetTed\_54 Start: 33734, Stop: 33141, Start Num: 10

Candidate Starts for HaveUMetTed\_54:

(Start: 10 @33734 has 79 MA's), (Start: 13 @33728 has 1 MA's), (36, 33581), (39, 33572), (44, 33545), (50, 33461), (70, 33257), (75, 33209),

Gene: Heathen\_50 Start: 33373, Stop: 32780, Start Num: 9

Candidate Starts for Heathen\_50:

(Start: 7 @33400 has 1 MA's), (Start: 8 @33385 has 1 MA's), (Start: 9 @33373 has 17 MA's), (Start: 17 @33343 has 30 MA's), (29, 33274), (38, 33196), (43, 33163), (44, 33160), (50, 33076), (77, 32821),

Gene: HelDan\_50 Start: 33595, Stop: 33032, Start Num: 17

Candidate Starts for HelDan\_50:

(Start: 7 @33652 has 1 MA's), (Start: 8 @33637 has 1 MA's), (Start: 9 @33625 has 17 MA's), (Start: 17 @33595 has 30 MA's), (29, 33526), (38, 33448), (43, 33415), (44, 33412), (50, 33328), (77, 33073),

Gene: Heliosoles\_52 Start: 33752, Stop: 33162, Start Num: 10

Candidate Starts for Heliosoles\_52:

(Start: 10 @33752 has 79 MA's), (Start: 13 @33746 has 1 MA's), (36, 33602), (39, 33593), (44, 33566), (50, 33482), (70, 33278), (75, 33230),

Gene: Hercules11\_53 Start: 33865, Stop: 33275, Start Num: 10

Candidate Starts for Hercules11\_53:

(Start: 10 @33865 has 79 MA's), (Start: 13 @33859 has 1 MA's), (36, 33715), (39, 33706), (44, 33679), (50, 33595), (70, 33391), (75, 33343),

Gene: Hiro\_39 Start: 30058, Stop: 29534, Start Num: 26

Candidate Starts for Hiro\_39:

(Start: 26 @30058 has 36 MA's), (36, 29953), (70, 29641), (73, 29632), (74, 29623), (75, 29593),

Gene: Holli\_48 Start: 33235, Stop: 32639, Start Num: 7

Candidate Starts for Holli\_48:

(Start: 7 @33235 has 1 MA's), (Start: 8 @33220 has 1 MA's), (Start: 18 @33178 has 137 MA's), (50, 32920), (58, 32887), (68, 32848), (77, 32680),

Gene: Hookmount\_49 Start: 33696, Stop: 33097, Start Num: 9

Candidate Starts for Hookmount\_49:

(Start: 7 @33723 has 1 MA's), (Start: 8 @33708 has 1 MA's), (Start: 9 @33696 has 17 MA's), (Start: 17 @33666 has 30 MA's), (29, 33597), (38, 33519), (50, 33399), (77, 33138),

Gene: Houdini22\_49 Start: 33392, Stop: 32853, Start Num: 18

Candidate Starts for Houdini22\_49:

(Start: 7 @33449 has 1 MA's), (Start: 8 @33434 has 1 MA's), (Start: 18 @33392 has 137 MA's), (50, 33134), (58, 33101), (68, 33062), (77, 32894),

Gene: HuhtaEnerson15\_43 Start: 32535, Stop: 32008, Start Num: 17

Candidate Starts for HuhtaEnerson15\_43:

(Start: 17 @32535 has 30 MA's), (37, 32400), (38, 32394), (61, 32250), (79, 32049), (80, 32031),

Gene: Hutc2\_50 Start: 32814, Stop: 32251, Start Num: 16

Candidate Starts for Hutc2\_50:

(Start: 16 @32814 has 24 MA's), (38, 32685), (63, 32520), (70, 32364),

Gene: Huxley\_49 Start: 33449, Stop: 32910, Start Num: 18

Candidate Starts for Huxley\_49:

(Start: 7 @33506 has 1 MA's), (Start: 8 @33491 has 1 MA's), (Start: 18 @33449 has 137 MA's), (50, 33191), (58, 33158), (68, 33119), (77, 32951),

Gene: ICleared\_49 Start: 33417, Stop: 32878, Start Num: 18

Candidate Starts for ICleared\_49:

(Start: 7 @33474 has 1 MA's), (Start: 8 @33459 has 1 MA's), (Start: 18 @33417 has 137 MA's), (50, 33159), (58, 33126), (68, 33087), (77, 32919),

Gene: Iceman\_49 Start: 33674, Stop: 33135, Start Num: 18

Candidate Starts for Iceman\_49:

(Start: 7 @33731 has 1 MA's), (Start: 8 @33716 has 1 MA's), (Start: 18 @33674 has 137 MA's), (50, 33416), (58, 33383), (68, 33344), (77, 33176),

Gene: Idleandcovert\_51 Start: 33751, Stop: 33158, Start Num: 9

Candidate Starts for Idleandcovert\_51:

(Start: 7 @33778 has 1 MA's), (Start: 8 @33763 has 1 MA's), (Start: 9 @33751 has 17 MA's), (Start: 17 @33721 has 30 MA's), (29, 33652), (38, 33574), (44, 33538), (50, 33454), (77, 33199),

Gene: Insomnia\_51 Start: 33325, Stop: 32756, Start Num: 16

Candidate Starts for Insomnia\_51:

(Start: 16 @33325 has 24 MA's), (38, 33190), (63, 33025), (70, 32869),

Gene: Iracema64\_50 Start: 33652, Stop: 33113, Start Num: 18

Candidate Starts for Iracema64\_50:

(Start: 7 @33709 has 1 MA's), (Start: 8 @33694 has 1 MA's), (Start: 18 @33652 has 137 MA's), (50, 33394), (58, 33361), (68, 33322), (77, 33154),

Gene: JHC117\_53 Start: 33855, Stop: 33265, Start Num: 10

Candidate Starts for JHC117\_53:

(Start: 10 @33855 has 79 MA's), (Start: 13 @33849 has 1 MA's), (36, 33705), (39, 33696), (44, 33669), (50, 33585), (70, 33381), (75, 33333),

Gene: JSwag\_53 Start: 32482, Stop: 31940, Start Num: 19

Candidate Starts for JSwag\_53:

(Start: 19 @32482 has 19 MA's), (20, 32476), (33, 32371), (40, 32344), (41, 32341), (51, 32230), (55, 32209), (58, 32200), (60, 32191), (70, 32044), (75, 31999),

Gene: Jabiru\_43 Start: 32142, Stop: 31618, Start Num: 17

Candidate Starts for Jabiru\_43:

(Start: 17 @32142 has 30 MA's), (37, 32010), (38, 32004), (61, 31860), (80, 31641),

Gene: Jabith\_51 Start: 33326, Stop: 32757, Start Num: 16

Candidate Starts for Jabith\_51:

(Start: 16 @33326 has 24 MA's), (38, 33191), (63, 33026), (70, 32870),

Gene: Jaykayelowell\_47 Start: 33381, Stop: 32842, Start Num: 18

Candidate Starts for Jaykayelowell\_47:

(Start: 7 @33438 has 1 MA's), (Start: 8 @33423 has 1 MA's), (Start: 18 @33381 has 137 MA's), (50, 33123), (58, 33090), (68, 33051), (77, 32883),

Gene: JenCasNa\_54 Start: 33856, Stop: 33266, Start Num: 10

Candidate Starts for JenCasNa\_54:

(Start: 10 @33856 has 79 MA's), (Start: 13 @33850 has 1 MA's), (36, 33706), (39, 33697), (44, 33670), (50, 33586), (70, 33382), (75, 33334),

Gene: JeppNRM\_54 Start: 33750, Stop: 33160, Start Num: 10

Candidate Starts for JeppNRM\_54:

(Start: 10 @33750 has 79 MA's), (Start: 13 @33744 has 1 MA's), (36, 33600), (39, 33591), (44, 33564), (50, 33480), (70, 33276), (75, 33228),

Gene: Jester\_39 Start: 29734, Stop: 29210, Start Num: 26

Candidate Starts for Jester\_39:

(Start: 26 @29734 has 36 MA's), (36, 29629), (70, 29317), (73, 29308), (74, 29299), (75, 29269),

Gene: JetBlade\_49 Start: 33382, Stop: 32843, Start Num: 18

Candidate Starts for JetBlade\_49:

(Start: 7 @33439 has 1 MA's), (Start: 8 @33424 has 1 MA's), (Start: 18 @33382 has 137 MA's), (50, 33124), (58, 33091), (68, 33052), (77, 32884),

Gene: Jobu08\_52 Start: 33688, Stop: 33098, Start Num: 10

Candidate Starts for Jobu08\_52:

(Start: 10 @33688 has 79 MA's), (Start: 13 @33682 has 1 MA's), (36, 33538), (39, 33529), (44, 33502), (50, 33418), (70, 33214), (75, 33166),

Gene: JoongJeon\_48 Start: 33385, Stop: 32846, Start Num: 18

Candidate Starts for JoongJeon\_48:

(Start: 7 @33442 has 1 MA's), (Start: 8 @33427 has 1 MA's), (Start: 18 @33385 has 137 MA's), (50, 33127), (58, 33094), (68, 33055), (77, 32887),

Gene: Joselito\_51 Start: 33271, Stop: 32702, Start Num: 16

Candidate Starts for Joselito\_51:

(Start: 16 @33271 has 24 MA's), (38, 33136), (63, 32971), (70, 32815),

Gene: KADY\_53 Start: 33884, Stop: 33297, Start Num: 10

Candidate Starts for KADY\_53:

(Start: 10 @33884 has 79 MA's), (Start: 13 @33878 has 1 MA's), (36, 33740), (39, 33731), (44, 33704), (45, 33701), (47, 33641), (50, 33620), (70, 33413), (75, 33365),



Gene: KFPoly\_48 Start: 33382, Stop: 32843, Start Num: 18

Candidate Starts for KFPoly\_48:

(Start: 7 @33439 has 1 MA's), (Start: 8 @33424 has 1 MA's), (Start: 18 @33382 has 137 MA's), (50, 33124), (58, 33091), (68, 33052), (77, 32884),

Gene: Kachowdy\_50 Start: 33595, Stop: 33032, Start Num: 17

Candidate Starts for Kachowdy\_50:

(Start: 7 @33652 has 1 MA's), (Start: 8 @33637 has 1 MA's), (Start: 9 @33625 has 17 MA's), (Start: 17 @33595 has 30 MA's), (29, 33526), (38, 33448), (43, 33415), (44, 33412), (50, 33328), (77, 33073),

Gene: Kalb97\_54 Start: 33748, Stop: 33158, Start Num: 10

Candidate Starts for Kalb97\_54:

(Start: 10 @33748 has 79 MA's), (Start: 13 @33742 has 1 MA's), (36, 33598), (39, 33589), (44, 33562), (50, 33478), (70, 33274), (75, 33226),

Gene: Kalnoky\_54 Start: 33746, Stop: 33156, Start Num: 10

Candidate Starts for Kalnoky\_54:

(Start: 10 @33746 has 79 MA's), (Start: 13 @33740 has 1 MA's), (36, 33596), (39, 33587), (44, 33560), (50, 33476), (70, 33272), (75, 33224),

Gene: Kampy\_49 Start: 33390, Stop: 32851, Start Num: 18

Candidate Starts for Kampy\_49:

(Start: 7 @33447 has 1 MA's), (Start: 8 @33432 has 1 MA's), (Start: 18 @33390 has 137 MA's), (50, 33132), (58, 33099), (68, 33060), (77, 32892),

Gene: Katalie136\_48 Start: 33364, Stop: 32825, Start Num: 18

Candidate Starts for Katalie136\_48:

(Start: 7 @33421 has 1 MA's), (Start: 8 @33406 has 1 MA's), (Start: 18 @33364 has 137 MA's), (50, 33106), (58, 33073), (68, 33034), (77, 32866),

Gene: KatherineG\_55 Start: 33020, Stop: 32460, Start Num: 19

Candidate Starts for KatherineG\_55:

(Start: 19 @33020 has 19 MA's), (20, 33014), (33, 32915), (40, 32888), (41, 32885), (51, 32774), (55, 32753), (58, 32744), (60, 32735), (78, 32516),

Gene: Kingmustik0402\_49 Start: 33377, Stop: 32838, Start Num: 18

Candidate Starts for Kingmustik0402\_49:

(Start: 7 @33434 has 1 MA's), (Start: 8 @33419 has 1 MA's), (Start: 18 @33377 has 137 MA's), (50, 33119), (58, 33086), (68, 33047), (77, 32879),

Gene: Kinmap\_47 Start: 32221, Stop: 31706, Start Num: 26

Candidate Starts for Kinmap\_47:

(Start: 19 @32248 has 19 MA's), (Start: 22 @32236 has 2 MA's), (Start: 26 @32221 has 36 MA's), (40, 32110), (43, 32089), (44, 32086), (52, 32002), (60, 31972), (61, 31969), (70, 31816), (72, 31813),

Gene: Koreni\_48 Start: 33069, Stop: 32530, Start Num: 18

Candidate Starts for Koreni\_48:

(Start: 7 @33126 has 1 MA's), (Start: 8 @33111 has 1 MA's), (Start: 18 @33069 has 137 MA's), (50, 32811), (58, 32778), (68, 32739), (77, 32571),

Gene: Kratark\_49 Start: 33545, Stop: 33012, Start Num: 18

Candidate Starts for Kratark\_49:

(Start: 18 @33545 has 137 MA's), (50, 33287), (58, 33254), (68, 33215), (77, 33053),

Gene: Kremtemulon\_49 Start: 33336, Stop: 32800, Start Num: 18

Candidate Starts for Kremtemulon\_49:

(Start: 7 @33393 has 1 MA's), (Start: 8 @33378 has 1 MA's), (Start: 18 @33336 has 137 MA's), (50, 33078), (58, 33045), (68, 33006), (77, 32841),

Gene: Krishelle\_39 Start: 30158, Stop: 29634, Start Num: 26

Candidate Starts for Krishelle\_39:

(Start: 26 @30158 has 36 MA's), (36, 30053), (70, 29741), (73, 29732), (74, 29723), (75, 29693),

Gene: Kyee\_49 Start: 33386, Stop: 32847, Start Num: 18

Candidate Starts for Kyee\_49:

(Start: 7 @33443 has 1 MA's), (Start: 8 @33428 has 1 MA's), (Start: 18 @33386 has 137 MA's), (50, 33128), (58, 33095), (68, 33056), (77, 32888),

Gene: LBerry\_54 Start: 33860, Stop: 33270, Start Num: 10

Candidate Starts for LBerry\_54:

(Start: 10 @33860 has 79 MA's), (Start: 13 @33854 has 1 MA's), (36, 33710), (39, 33701), (44, 33674), (50, 33590), (70, 33386), (75, 33338),

Gene: LHTSCC\_51 Start: 33807, Stop: 33271, Start Num: 18

Candidate Starts for LHTSCC\_51:

(6, 33870), (Start: 18 @33807 has 137 MA's), (50, 33549), (58, 33516), (68, 33477), (77, 33312),

Gene: Lambert1\_49 Start: 33695, Stop: 33096, Start Num: 9

Candidate Starts for Lambert1\_49:

(Start: 7 @33722 has 1 MA's), (Start: 8 @33707 has 1 MA's), (Start: 9 @33695 has 17 MA's), (Start: 17 @33665 has 30 MA's), (29, 33596), (38, 33518), (50, 33398), (77, 33137),

Gene: LappelDuVide\_49 Start: 33387, Stop: 32848, Start Num: 18

Candidate Starts for LappelDuVide\_49:

(Start: 7 @33444 has 1 MA's), (Start: 8 @33429 has 1 MA's), (Start: 18 @33387 has 137 MA's), (50, 33129), (58, 33096), (68, 33057), (77, 32889),

Gene: LarryKay\_53 Start: 33886, Stop: 33299, Start Num: 10

Candidate Starts for LarryKay\_53:

(Start: 10 @33886 has 79 MA's), (Start: 13 @33880 has 1 MA's), (36, 33742), (39, 33733), (44, 33706), (45, 33703), (47, 33643), (50, 33622), (70, 33415), (75, 33367),

Gene: LastResort\_53 Start: 32534, Stop: 31992, Start Num: 19

Candidate Starts for LastResort\_53:

(Start: 19 @32534 has 19 MA's), (20, 32528), (33, 32423), (40, 32396), (41, 32393), (51, 32282), (55, 32261), (58, 32252), (60, 32243), (70, 32096), (75, 32051),

Gene: Lemur\_49 Start: 33385, Stop: 32846, Start Num: 18

Candidate Starts for Lemur\_49:

(Start: 7 @33442 has 1 MA's), (Start: 8 @33427 has 1 MA's), (Start: 18 @33385 has 137 MA's), (50, 33127), (58, 33094), (68, 33055), (77, 32887),

Gene: LeoAvram\_49 Start: 33388, Stop: 32849, Start Num: 18

Candidate Starts for LeoAvram\_49:

(Start: 7 @33445 has 1 MA's), (Start: 8 @33430 has 1 MA's), (Start: 18 @33388 has 137 MA's), (50, 33130), (58, 33097), (68, 33058), (77, 32890),

Gene: Lilith\_54 Start: 33849, Stop: 33259, Start Num: 10

Candidate Starts for Lilith\_54:

(Start: 10 @33849 has 79 MA's), (Start: 13 @33843 has 1 MA's), (36, 33699), (39, 33690), (44, 33663), (50, 33579), (70, 33375), (75, 33327),

Gene: Lillie\_39 Start: 29798, Stop: 29274, Start Num: 26

Candidate Starts for Lillie\_39:

(Start: 26 @29798 has 36 MA's), (36, 29693), (70, 29381), (73, 29372), (74, 29363), (75, 29333),

Gene: LittleB\_49 Start: 33389, Stop: 32850, Start Num: 18

Candidate Starts for LittleB\_49:

(Start: 7 @33446 has 1 MA's), (Start: 8 @33431 has 1 MA's), (Start: 18 @33389 has 137 MA's), (50, 33131), (58, 33098), (68, 33059), (77, 32891),

Gene: LittleCherry\_43 Start: 32555, Stop: 32028, Start Num: 17

Candidate Starts for LittleCherry\_43:

(Start: 17 @32555 has 30 MA's), (37, 32420), (38, 32414), (61, 32270), (79, 32069), (80, 32051),

Gene: LittleGuy\_49 Start: 33284, Stop: 32745, Start Num: 18

Candidate Starts for LittleGuy\_49:

(Start: 7 @33341 has 1 MA's), (Start: 8 @33326 has 1 MA's), (Start: 18 @33284 has 137 MA's), (50, 33026), (58, 32993), (68, 32954), (77, 32786),

Gene: LochMonster\_50 Start: 33624, Stop: 33085, Start Num: 18

Candidate Starts for LochMonster\_50:

(Start: 7 @33681 has 1 MA's), (Start: 8 @33666 has 1 MA's), (Start: 18 @33624 has 137 MA's), (50, 33366), (58, 33333), (68, 33294), (77, 33126),

Gene: Looper\_54 Start: 32511, Stop: 31969, Start Num: 19

Candidate Starts for Looper\_54:

(Start: 19 @32511 has 19 MA's), (20, 32505), (33, 32400), (40, 32373), (41, 32370), (51, 32259), (55, 32238), (58, 32229), (60, 32220), (70, 32073), (75, 32028),

Gene: Lorenzo\_49 Start: 33388, Stop: 32849, Start Num: 18

Candidate Starts for Lorenzo\_49:

(Start: 7 @33445 has 1 MA's), (Start: 8 @33430 has 1 MA's), (Start: 18 @33388 has 137 MA's), (50, 33130), (58, 33097), (68, 33058), (77, 32890),

Gene: Louie6\_52 Start: 33885, Stop: 33298, Start Num: 10

Candidate Starts for Louie6\_52:

(Start: 10 @33885 has 79 MA's), (Start: 13 @33879 has 1 MA's), (36, 33741), (39, 33732), (44, 33705), (45, 33702), (47, 33642), (50, 33621), (70, 33414), (75, 33366),

Gene: Lucivia\_51 Start: 33320, Stop: 32751, Start Num: 16

Candidate Starts for Lucivia\_51:

(Start: 16 @33320 has 24 MA's), (38, 33185), (63, 33020), (70, 32864),

Gene: LugYA\_56 Start: 33857, Stop: 33267, Start Num: 10

Candidate Starts for LugYA\_56:

(Start: 10 @33857 has 79 MA's), (Start: 13 @33851 has 1 MA's), (36, 33707), (39, 33698), (44, 33671), (50, 33587), (70, 33383), (75, 33335),

Gene: Lunsford\_50 Start: 33382, Stop: 32843, Start Num: 18

Candidate Starts for Lunsford\_50:

(Start: 7 @33439 has 1 MA's), (Start: 8 @33424 has 1 MA's), (Start: 18 @33382 has 137 MA's), (50, 33124), (58, 33091), (68, 33052), (77, 32884),

Gene: MA5\_50 Start: 33050, Stop: 32487, Start Num: 18

Candidate Starts for MA5\_50:

(Start: 7 @33107 has 1 MA's), (Start: 8 @33092 has 1 MA's), (Start: 18 @33050 has 137 MA's), (29, 32981), (38, 32903), (44, 32867), (50, 32783), (77, 32528),

Gene: MaCh\_51 Start: 33250, Stop: 32684, Start Num: 16

Candidate Starts for MaCh\_51:

(Start: 16 @33250 has 24 MA's), (42, 33097), (63, 32956), (70, 32797),

Gene: Mabel\_50 Start: 32855, Stop: 32286, Start Num: 16

Candidate Starts for Mabel\_50:

(Start: 16 @32855 has 24 MA's), (38, 32720), (63, 32555), (70, 32399),

Gene: MadMarie\_53 Start: 33858, Stop: 33268, Start Num: 10

Candidate Starts for MadMarie\_53:

(Start: 10 @33858 has 79 MA's), (Start: 13 @33852 has 1 MA's), (36, 33708), (39, 33699), (44, 33672), (50, 33588), (70, 33384), (75, 33336),

Gene: Mainiac\_53 Start: 33850, Stop: 33260, Start Num: 10

Candidate Starts for Mainiac\_53:

(Start: 10 @33850 has 79 MA's), (Start: 13 @33844 has 1 MA's), (36, 33700), (39, 33691), (44, 33664), (50, 33580), (70, 33376), (75, 33328),

Gene: Malinsilva\_55 Start: 33848, Stop: 33258, Start Num: 10

Candidate Starts for Malinsilva\_55:

(Start: 10 @33848 has 79 MA's), (Start: 13 @33842 has 1 MA's), (36, 33698), (39, 33689), (44, 33662), (50, 33578), (70, 33374), (75, 33326),

Gene: Manu\_53 Start: 33749, Stop: 33159, Start Num: 10

Candidate Starts for Manu\_53:

(Start: 10 @33749 has 79 MA's), (Start: 13 @33743 has 1 MA's), (36, 33599), (39, 33590), (44, 33563), (50, 33479), (70, 33275), (75, 33227),

Gene: MarQuardt\_53 Start: 33858, Stop: 33268, Start Num: 10

Candidate Starts for MarQuardt\_53:

(Start: 10 @33858 has 79 MA's), (Start: 13 @33852 has 1 MA's), (36, 33708), (39, 33699), (44, 33672), (50, 33588), (70, 33384), (75, 33336),

Gene: Marchesa\_50 Start: 33581, Stop: 33030, Start Num: 17

Candidate Starts for Marchesa\_50:

(Start: 7 @33638 has 1 MA's), (Start: 8 @33623 has 1 MA's), (Start: 9 @33611 has 17 MA's), (Start: 17 @33581 has 30 MA's), (29, 33512), (38, 33434), (44, 33398), (50, 33314), (77, 33071),

Gene: Margo\_49 Start: 33721, Stop: 33122, Start Num: 9

Candidate Starts for Margo\_49:

(Start: 7 @33748 has 1 MA's), (Start: 8 @33733 has 1 MA's), (Start: 9 @33721 has 17 MA's), (Start: 17 @33691 has 30 MA's), (29, 33622), (38, 33544), (50, 33424), (77, 33163),

Gene: Marie\_53 Start: 33856, Stop: 33266, Start Num: 10

Candidate Starts for Marie\_53:

(Start: 10 @33856 has 79 MA's), (Start: 13 @33850 has 1 MA's), (36, 33706), (39, 33697), (44, 33670), (50, 33586), (70, 33382), (75, 33334),

Gene: Marius\_54 Start: 33746, Stop: 33156, Start Num: 10

Candidate Starts for Marius\_54:

(Start: 10 @33746 has 79 MA's), (Start: 13 @33740 has 1 MA's), (36, 33596), (39, 33587), (44, 33560), (50, 33476), (70, 33272), (75, 33224),

Gene: Maverick\_49 Start: 33388, Stop: 32849, Start Num: 18

Candidate Starts for Maverick\_49:

(Start: 7 @33445 has 1 MA's), (Start: 8 @33430 has 1 MA's), (Start: 18 @33388 has 137 MA's), (50, 33130), (58, 33097), (68, 33058), (77, 32890),

Gene: Maxo\_50 Start: 33390, Stop: 32851, Start Num: 18

Candidate Starts for Maxo\_50:

(Start: 7 @33447 has 1 MA's), (Start: 8 @33432 has 1 MA's), (Start: 18 @33390 has 137 MA's), (50, 33132), (58, 33099), (68, 33060), (77, 32892),

Gene: Mazhar510\_49 Start: 33389, Stop: 32850, Start Num: 18

Candidate Starts for Mazhar510\_49:

(Start: 7 @33446 has 1 MA's), (Start: 8 @33431 has 1 MA's), (Start: 18 @33389 has 137 MA's), (50, 33131), (58, 33098), (68, 33059), (77, 32891),

Gene: Medusa\_49 Start: 33387, Stop: 32848, Start Num: 18

Candidate Starts for Medusa\_49:

(Start: 7 @33444 has 1 MA's), (Start: 8 @33429 has 1 MA's), (Start: 18 @33387 has 137 MA's), (50, 33129), (58, 33096), (68, 33057), (77, 32889),

Gene: MeeZee\_49 Start: 33385, Stop: 32846, Start Num: 18

Candidate Starts for MeeZee\_49:

(Start: 7 @33442 has 1 MA's), (Start: 8 @33427 has 1 MA's), (Start: 18 @33385 has 137 MA's), (50, 33127), (58, 33094), (68, 33055), (77, 32887),

Gene: Melvin\_51 Start: 33383, Stop: 32844, Start Num: 18

Candidate Starts for Melvin\_51:

(Start: 7 @33440 has 1 MA's), (Start: 8 @33425 has 1 MA's), (Start: 18 @33383 has 137 MA's), (50, 33125), (58, 33092), (68, 33053), (77, 32885),

Gene: Methuselah\_49 Start: 33880, Stop: 33293, Start Num: 10

Candidate Starts for Methuselah\_49:

(Start: 10 @33880 has 79 MA's), (Start: 13 @33874 has 1 MA's), (36, 33736), (39, 33727), (44, 33700), (45, 33697), (47, 33637), (50, 33616), (70, 33409), (75, 33361),

Gene: Micasa\_44 Start: 32684, Stop: 32157, Start Num: 17

Candidate Starts for Micasa\_44:

(Start: 17 @32684 has 30 MA's), (37, 32549), (38, 32543), (61, 32399), (80, 32180),

Gene: Microwolf\_53 Start: 33872, Stop: 33267, Start Num: 10

Candidate Starts for Microwolf\_53:

(Start: 10 @33872 has 79 MA's), (Start: 13 @33866 has 1 MA's), (36, 33722), (39, 33713), (44, 33686), (50, 33602), (70, 33383), (75, 33335),

Gene: Milcery\_43 Start: 32512, Stop: 31985, Start Num: 17

Candidate Starts for Milcery\_43:

(Start: 17 @32512 has 30 MA's), (37, 32377), (38, 32371), (61, 32227), (80, 32008),

Gene: Millski\_48 Start: 33389, Stop: 32850, Start Num: 18

Candidate Starts for Millski\_48:

(Start: 7 @33446 has 1 MA's), (Start: 8 @33431 has 1 MA's), (Start: 18 @33389 has 137 MA's), (50, 33131), (58, 33098), (68, 33059), (77, 32891),

Gene: MinecraftSteve\_55 Start: 32820, Stop: 32260, Start Num: 19

Candidate Starts for MinecraftSteve\_55:

(Start: 19 @32820 has 19 MA's), (20, 32814), (33, 32715), (40, 32688), (41, 32685), (51, 32574), (55, 32553), (58, 32544), (60, 32535), (78, 32316),

Gene: Miramae\_47 Start: 32831, Stop: 32283, Start Num: 18

Candidate Starts for Miramae\_47:

(Start: 18 @32831 has 137 MA's), (39, 32684), (58, 32534), (71, 32372), (77, 32324),

Gene: Misomonster\_54 Start: 33883, Stop: 33296, Start Num: 10

Candidate Starts for Misomonster\_54:

(Start: 10 @33883 has 79 MA's), (Start: 13 @33877 has 1 MA's), (36, 33739), (39, 33730), (44, 33703), (45, 33700), (47, 33640), (50, 33619), (70, 33412), (75, 33364),

Gene: MoneyMay\_53 Start: 33856, Stop: 33266, Start Num: 10

Candidate Starts for MoneyMay\_53:

(Start: 10 @33856 has 79 MA's), (Start: 13 @33850 has 1 MA's), (36, 33706), (39, 33697), (44, 33670), (50, 33586), (70, 33382), (75, 33334),

Gene: Morpher26\_48 Start: 33385, Stop: 32846, Start Num: 18

Candidate Starts for Morpher26\_48:

(Start: 7 @33442 has 1 MA's), (Start: 8 @33427 has 1 MA's), (Start: 18 @33385 has 137 MA's), (50, 33127), (58, 33094), (68, 33055), (77, 32887),

Gene: Morrow\_50 Start: 33394, Stop: 32855, Start Num: 18

Candidate Starts for Morrow\_50:

(Start: 7 @33451 has 1 MA's), (Start: 8 @33436 has 1 MA's), (Start: 18 @33394 has 137 MA's), (50, 33136), (58, 33103), (68, 33064), (77, 32896),

Gene: MuchMore\_56 Start: 33848, Stop: 33258, Start Num: 10

Candidate Starts for MuchMore\_56:

(Start: 10 @33848 has 79 MA's), (Start: 13 @33842 has 1 MA's), (36, 33698), (39, 33689), (44, 33662), (50, 33578), (70, 33374), (75, 33326),

Gene: Mulciber\_50 Start: 32811, Stop: 32248, Start Num: 16

Candidate Starts for Mulciber\_50:

(Start: 16 @32811 has 24 MA's), (38, 32682), (63, 32517), (70, 32361),

Gene: Munch\_51 Start: 33271, Stop: 32702, Start Num: 16

Candidate Starts for Munch\_51:

(Start: 16 @33271 has 24 MA's), (38, 33136), (63, 32971), (70, 32815),

Gene: Mundrea\_48 Start: 33386, Stop: 32841, Start Num: 18

Candidate Starts for Mundrea\_48:

(Start: 18 @33386 has 137 MA's), (39, 33239), (47, 33146), (58, 33089), (77, 32882),

Gene: MyraDee\_43 Start: 29930, Stop: 29361, Start Num: 11

Candidate Starts for MyraDee\_43:

(Start: 11 @29930 has 1 MA's), (14, 29924), (46, 29705), (55, 29642), (58, 29633), (66, 29594), (70, 29465), (74, 29447),

Gene: Naca\_44 Start: 32823, Stop: 32299, Start Num: 17

Candidate Starts for Naca\_44:

(Start: 17 @32823 has 30 MA's), (37, 32691), (38, 32685), (61, 32541),

Gene: Naiad\_39 Start: 29811, Stop: 29287, Start Num: 26

Candidate Starts for Naiad\_39:

(Start: 26 @29811 has 36 MA's), (36, 29706), (70, 29394), (73, 29385), (74, 29376), (75, 29346),

Gene: Nancinator\_39 Start: 29797, Stop: 29273, Start Num: 26

Candidate Starts for Nancinator\_39:

(Start: 26 @29797 has 36 MA's), (36, 29692), (70, 29380), (73, 29371), (74, 29362), (75, 29332),

Gene: Natosaleda\_39 Start: 29796, Stop: 29272, Start Num: 26

Candidate Starts for Natosaleda\_39:

(Start: 26 @29796 has 36 MA's), (36, 29691), (70, 29379), (73, 29370), (74, 29361), (75, 29331),

Gene: Nebs\_50 Start: 33388, Stop: 32849, Start Num: 18

Candidate Starts for Nebs\_50:

(Start: 7 @33445 has 1 MA's), (Start: 8 @33430 has 1 MA's), (Start: 18 @33388 has 137 MA's), (50, 33130), (58, 33097), (68, 33058), (77, 32890),

Gene: Nebulosus\_53 Start: 32530, Stop: 31988, Start Num: 19

Candidate Starts for Nebulosus\_53:

(Start: 19 @32530 has 19 MA's), (20, 32524), (33, 32419), (40, 32392), (41, 32389), (51, 32278), (55, 32257), (58, 32248), (60, 32239), (70, 32092), (75, 32047),

Gene: Nedarya\_49 Start: 31962, Stop: 31435, Start Num: 18

Candidate Starts for Nedarya\_49:

(Start: 18 @31962 has 137 MA's), (30, 31896), (32, 31854), (33, 31848), (58, 31689), (70, 31542), (75, 31494),

Gene: Nemo27\_49 Start: 33387, Stop: 32848, Start Num: 18

Candidate Starts for Nemo27\_49:

(Start: 7 @33444 has 1 MA's), (Start: 8 @33429 has 1 MA's), (Start: 18 @33387 has 137 MA's), (50, 33129), (58, 33096), (68, 33057), (77, 32889),

Gene: Noella\_49 Start: 33696, Stop: 33097, Start Num: 9

Candidate Starts for Noella\_49:

(Start: 7 @33723 has 1 MA's), (Start: 8 @33708 has 1 MA's), (Start: 9 @33696 has 17 MA's), (Start: 17 @33666 has 30 MA's), (29, 33597), (38, 33519), (50, 33399), (77, 33138),

Gene: Noelle\_49 Start: 33677, Stop: 33135, Start Num: 18

Candidate Starts for Noelle\_49:

(Start: 7 @33734 has 1 MA's), (Start: 8 @33719 has 1 MA's), (Start: 18 @33677 has 137 MA's), (58, 33383), (68, 33344), (77, 33176),

Gene: Norbert\_48 Start: 33695, Stop: 33096, Start Num: 9

Candidate Starts for Norbert\_48:

(Start: 7 @33722 has 1 MA's), (Start: 8 @33707 has 1 MA's), (Start: 9 @33695 has 17 MA's), (Start: 17 @33665 has 30 MA's), (29, 33596), (38, 33518), (50, 33398), (77, 33137),

Gene: NorthStar\_48 Start: 33388, Stop: 32849, Start Num: 18

Candidate Starts for NorthStar\_48:

(Start: 7 @33445 has 1 MA's), (Start: 8 @33430 has 1 MA's), (Start: 18 @33388 has 137 MA's), (50, 33130), (58, 33097), (68, 33058), (77, 32890),

Gene: NotAPhaseMom\_49 Start: 33392, Stop: 32853, Start Num: 18

Candidate Starts for NotAPhaseMom\_49:

(Start: 7 @33449 has 1 MA's), (Start: 8 @33434 has 1 MA's), (Start: 18 @33392 has 137 MA's), (50, 33134), (58, 33101), (68, 33062), (77, 32894),

Gene: Nyxis\_49 Start: 33278, Stop: 32739, Start Num: 18

Candidate Starts for Nyxis\_49:

(Start: 7 @33335 has 1 MA's), (Start: 8 @33320 has 1 MA's), (Start: 18 @33278 has 137 MA's), (50, 33020), (58, 32987), (68, 32948), (77, 32780),

Gene: OKaNui\_49 Start: 33438, Stop: 32899, Start Num: 18

Candidate Starts for OKaNui\_49:

(Start: 7 @33495 has 1 MA's), (Start: 8 @33480 has 1 MA's), (Start: 18 @33438 has 137 MA's), (50, 33180), (58, 33147), (68, 33108), (77, 32940),

Gene: Obama12\_50 Start: 33809, Stop: 33273, Start Num: 18

Candidate Starts for Obama12\_50:

(6, 33872), (Start: 18 @33809 has 137 MA's), (50, 33551), (58, 33518), (68, 33479), (77, 33314),

Gene: Ohfah\_50 Start: 33388, Stop: 32849, Start Num: 18

Candidate Starts for Ohfah\_50:

(Start: 7 @33445 has 1 MA's), (Start: 8 @33430 has 1 MA's), (Start: 18 @33388 has 137 MA's), (50, 33130), (58, 33097), (68, 33058), (77, 32890),

Gene: OlanP\_52 Start: 33922, Stop: 33329, Start Num: 10

Candidate Starts for OlanP\_52:

(Start: 10 @33922 has 79 MA's), (Start: 13 @33916 has 1 MA's), (36, 33769), (39, 33760), (50, 33649), (70, 33445), (75, 33397),

Gene: Ollie\_53 Start: 33727, Stop: 33137, Start Num: 10

Candidate Starts for Ollie\_53:

(Start: 10 @33727 has 79 MA's), (Start: 13 @33721 has 1 MA's), (36, 33577), (39, 33568), (44, 33541), (50, 33457), (70, 33253), (75, 33205),

Gene: Oofda\_55 Start: 32610, Stop: 32080, Start Num: 19

Candidate Starts for Oofda\_55:

(Start: 19 @32610 has 19 MA's), (20, 32604), (30, 32544), (47, 32385), (50, 32367), (58, 32340), (70, 32184), (75, 32139),



Gene: Orange\_50 Start: 32820, Stop: 32251, Start Num: 16  
Candidate Starts for Orange\_50:  
(Start: 16 @32820 has 24 MA's), (38, 32685), (63, 32520), (70, 32364),

Gene: P28Green\_54 Start: 33859, Stop: 33269, Start Num: 10  
Candidate Starts for P28Green\_54:  
(Start: 10 @33859 has 79 MA's), (Start: 13 @33853 has 1 MA's), (36, 33709), (39, 33700), (44, 33673), (50, 33589), (70, 33385), (75, 33337),

Gene: PGHhamlin\_55 Start: 33848, Stop: 33258, Start Num: 10  
Candidate Starts for PGHhamlin\_55:  
(Start: 10 @33848 has 79 MA's), (Start: 13 @33842 has 1 MA's), (36, 33698), (39, 33689), (44, 33662), (50, 33578), (70, 33374), (75, 33326),

Gene: Palestino\_48 Start: 33388, Stop: 32849, Start Num: 18  
Candidate Starts for Palestino\_48:  
(Start: 7 @33445 has 1 MA's), (Start: 8 @33430 has 1 MA's), (Start: 18 @33388 has 137 MA's), (50, 33130), (58, 33097), (68, 33058), (77, 32890),

Gene: Panamaxus\_47 Start: 33665, Stop: 33096, Start Num: 17  
Candidate Starts for Panamaxus\_47:  
(Start: 7 @33722 has 1 MA's), (Start: 8 @33707 has 1 MA's), (Start: 9 @33695 has 17 MA's), (Start: 17 @33665 has 30 MA's), (29, 33596), (38, 33518), (50, 33398), (77, 33137),

Gene: Partridge\_39 Start: 29958, Stop: 29434, Start Num: 26  
Candidate Starts for Partridge\_39:  
(Start: 26 @29958 has 36 MA's), (36, 29853), (70, 29541), (73, 29532), (74, 29523), (75, 29493),

Gene: Pawn\_53 Start: 33753, Stop: 33163, Start Num: 10  
Candidate Starts for Pawn\_53:  
(Start: 10 @33753 has 79 MA's), (Start: 13 @33747 has 1 MA's), (36, 33603), (39, 33594), (44, 33567), (50, 33483), (70, 33279), (75, 33231),

Gene: Peaches\_49 Start: 33387, Stop: 32848, Start Num: 18  
Candidate Starts for Peaches\_49:  
(Start: 7 @33444 has 1 MA's), (Start: 8 @33429 has 1 MA's), (Start: 18 @33387 has 137 MA's), (50, 33129), (58, 33096), (68, 33057), (77, 32889),

Gene: Pembroke\_53 Start: 33857, Stop: 33267, Start Num: 10  
Candidate Starts for Pembroke\_53:  
(Start: 10 @33857 has 79 MA's), (Start: 13 @33851 has 1 MA's), (36, 33707), (39, 33698), (44, 33671), (50, 33587), (70, 33383), (75, 33335),

Gene: Penny1\_54 Start: 33860, Stop: 33270, Start Num: 10  
Candidate Starts for Penny1\_54:  
(Start: 10 @33860 has 79 MA's), (Start: 13 @33854 has 1 MA's), (36, 33710), (39, 33701), (44, 33674), (50, 33590), (70, 33386), (75, 33338),

Gene: Perplexer\_48 Start: 33361, Stop: 32822, Start Num: 18  
Candidate Starts for Perplexer\_48:  
(Start: 7 @33418 has 1 MA's), (Start: 8 @33403 has 1 MA's), (Start: 18 @33361 has 137 MA's), (50, 33103), (58, 33070), (68, 33031), (77, 32863),

Gene: PeterPeter\_49 Start: 33385, Stop: 32846, Start Num: 18  
Candidate Starts for PeterPeter\_49:  
(Start: 7 @33442 has 1 MA's), (Start: 8 @33427 has 1 MA's), (Start: 18 @33385 has 137 MA's), (50, 33127), (58, 33094), (68, 33055), (77, 32887),

Gene: Petersenfast\_49 Start: 32822, Stop: 32253, Start Num: 16  
Candidate Starts for Petersenfast\_49:  
(Start: 16 @32822 has 24 MA's), (38, 32687), (63, 32522), (70, 32366),

Gene: PetiteSangsue\_48 Start: 33364, Stop: 32825, Start Num: 18  
Candidate Starts for PetiteSangsue\_48:  
(Start: 7 @33421 has 1 MA's), (Start: 8 @33406 has 1 MA's), (Start: 18 @33364 has 137 MA's), (50, 33106), (58, 33073), (68, 33034), (77, 32866),

Gene: PetterN\_46 Start: 32243, Stop: 31719, Start Num: 17  
Candidate Starts for PetterN\_46:  
(Start: 17 @32243 has 30 MA's), (37, 32111), (38, 32105), (61, 31961),

Gene: Phacado\_49 Start: 33387, Stop: 32848, Start Num: 18  
Candidate Starts for Phacado\_49:  
(Start: 7 @33444 has 1 MA's), (Start: 8 @33429 has 1 MA's), (Start: 18 @33387 has 137 MA's), (50, 33129), (58, 33096), (68, 33057), (77, 32889),

Gene: PhailMary\_38 Start: 30120, Stop: 29596, Start Num: 26  
Candidate Starts for PhailMary\_38:  
(Start: 26 @30120 has 36 MA's), (36, 30015), (70, 29703), (73, 29694), (74, 29685), (75, 29655),

Gene: Phelipe\_50 Start: 33388, Stop: 32849, Start Num: 18  
Candidate Starts for Phelipe\_50:  
(Start: 7 @33445 has 1 MA's), (Start: 8 @33430 has 1 MA's), (Start: 18 @33388 has 137 MA's), (50, 33130), (58, 33097), (68, 33058), (77, 32890),

Gene: Phighter1804\_49 Start: 33451, Stop: 32915, Start Num: 18  
Candidate Starts for Phighter1804\_49:  
(Start: 18 @33451 has 137 MA's), (50, 33193), (58, 33160), (68, 33121), (77, 32956),

Gene: PhishRPhriends\_51 Start: 32930, Stop: 32337, Start Num: 10  
Candidate Starts for PhishRPhriends\_51:  
(Start: 10 @32930 has 79 MA's), (Start: 13 @32924 has 1 MA's), (36, 32777), (39, 32768), (44, 32741), (50, 32657), (70, 32453), (75, 32405),

Gene: Phlei\_39 Start: 33153, Stop: 32638, Start Num: 24  
Candidate Starts for Phlei\_39:  
(12, 33195), (Start: 18 @33180 has 137 MA's), (Start: 24 @33153 has 1 MA's), (27, 33132), (31, 33078), (39, 33045), (40, 33042), (43, 33021), (47, 32955), (53, 32922), (54, 32919), (58, 32907), (59, 32901), (69, 32832), (70, 32751), (75, 32703),

Gene: Phlorence\_41 Start: 32083, Stop: 31556, Start Num: 17  
Candidate Starts for Phlorence\_41:  
(Start: 17 @32083 has 30 MA's), (37, 31948), (38, 31942), (61, 31798), (80, 31579),

Gene: Phoebe\_54 Start: 33849, Stop: 33259, Start Num: 10  
Candidate Starts for Phoebe\_54:

(Start: 10 @33849 has 79 MA's), (Start: 13 @33843 has 1 MA's), (36, 33699), (39, 33690), (44, 33663), (50, 33579), (70, 33375), (75, 33327),

Gene: Phontbonne\_49 Start: 33279, Stop: 32740, Start Num: 18

Candidate Starts for Phontbonne\_49:

(Start: 7 @33336 has 1 MA's), (Start: 8 @33321 has 1 MA's), (Start: 18 @33279 has 137 MA's), (50, 33021), (58, 32988), (68, 32949), (77, 32781),

Gene: Phoxy\_53 Start: 33881, Stop: 33294, Start Num: 10

Candidate Starts for Phoxy\_53:

(Start: 10 @33881 has 79 MA's), (Start: 13 @33875 has 1 MA's), (36, 33737), (39, 33728), (44, 33701), (45, 33698), (47, 33638), (50, 33617), (70, 33410), (75, 33362),

Gene: Phrankenstein\_39 Start: 29744, Stop: 29220, Start Num: 26

Candidate Starts for Phrankenstein\_39:

(Start: 26 @29744 has 36 MA's), (36, 29639), (70, 29327), (73, 29318), (74, 29309), (75, 29279),

Gene: Phranny\_54 Start: 33735, Stop: 33145, Start Num: 10

Candidate Starts for Phranny\_54:

(Start: 10 @33735 has 79 MA's), (Start: 13 @33729 has 1 MA's), (36, 33585), (39, 33576), (44, 33549), (50, 33465), (70, 33261), (75, 33213),

Gene: PickleBack\_42 Start: 32212, Stop: 31688, Start Num: 17

Candidate Starts for PickleBack\_42:

(Start: 17 @32212 has 30 MA's), (37, 32080), (38, 32074), (61, 31930), (80, 31711),

Gene: Pipcraft\_47 Start: 33388, Stop: 32849, Start Num: 18

Candidate Starts for Pipcraft\_47:

(Start: 7 @33445 has 1 MA's), (Start: 8 @33430 has 1 MA's), (Start: 18 @33388 has 137 MA's), (50, 33130), (58, 33097), (68, 33058), (77, 32890),

Gene: Pistachio\_52 Start: 33268, Stop: 32705, Start Num: 17

Candidate Starts for Pistachio\_52:

(Start: 7 @33325 has 1 MA's), (Start: 8 @33310 has 1 MA's), (Start: 9 @33298 has 17 MA's), (Start: 17 @33268 has 30 MA's), (29, 33199), (38, 33121), (44, 33085), (50, 33001), (77, 32746),

Gene: Pocahontas\_49 Start: 33692, Stop: 33093, Start Num: 9

Candidate Starts for Pocahontas\_49:

(Start: 7 @33719 has 1 MA's), (Start: 8 @33704 has 1 MA's), (Start: 9 @33692 has 17 MA's), (Start: 17 @33662 has 30 MA's), (29, 33593), (38, 33515), (50, 33395), (77, 33134),

Gene: Polymorphads\_50 Start: 33381, Stop: 32842, Start Num: 18

Candidate Starts for Polymorphads\_50:

(Start: 7 @33438 has 1 MA's), (Start: 8 @33423 has 1 MA's), (Start: 18 @33381 has 137 MA's), (50, 33123), (58, 33090), (68, 33051), (77, 32883),

Gene: Popcicle\_49 Start: 33662, Stop: 33093, Start Num: 17

Candidate Starts for Popcicle\_49:

(Start: 7 @33719 has 1 MA's), (Start: 8 @33704 has 1 MA's), (Start: 9 @33692 has 17 MA's), (Start: 17 @33662 has 30 MA's), (29, 33593), (38, 33515), (50, 33395), (77, 33134),

Gene: PotatoSplit\_55 Start: 33860, Stop: 33270, Start Num: 10

Candidate Starts for PotatoSplit\_55:

(Start: 10 @33860 has 79 MA's), (Start: 13 @33854 has 1 MA's), (36, 33710), (39, 33701), (44, 33674), (50, 33590), (70, 33386), (75, 33338),

Gene: Priamo\_54 Start: 32522, Stop: 31971, Start Num: 25

Candidate Starts for Priamo\_54:

(21, 32537), (Start: 25 @32522 has 1 MA's), (48, 32312), (49, 32309), (62, 32246), (64, 32237), (70, 32081), (72, 32078),

Gene: Pumbaa\_49 Start: 33333, Stop: 32794, Start Num: 18

Candidate Starts for Pumbaa\_49:

(Start: 7 @33390 has 1 MA's), (Start: 8 @33375 has 1 MA's), (Start: 18 @33333 has 137 MA's), (50, 33075), (58, 33042), (68, 33003), (77, 32835),

Gene: Puppy\_52 Start: 33370, Stop: 32777, Start Num: 9

Candidate Starts for Puppy\_52:

(Start: 7 @33397 has 1 MA's), (Start: 8 @33382 has 1 MA's), (Start: 9 @33370 has 17 MA's), (Start: 17 @33340 has 30 MA's), (29, 33271), (38, 33193), (44, 33157), (50, 33073), (77, 32818),

Gene: PurpleHaze\_53 Start: 33748, Stop: 33158, Start Num: 10

Candidate Starts for PurpleHaze\_53:

(Start: 10 @33748 has 79 MA's), (Start: 13 @33742 has 1 MA's), (36, 33598), (39, 33589), (44, 33562), (50, 33478), (70, 33274), (75, 33226),

Gene: QuinnKiro\_48 Start: 33695, Stop: 33096, Start Num: 9

Candidate Starts for QuinnKiro\_48:

(Start: 7 @33722 has 1 MA's), (Start: 8 @33707 has 1 MA's), (Start: 9 @33695 has 17 MA's), (Start: 17 @33665 has 30 MA's), (29, 33596), (38, 33518), (50, 33398), (77, 33137),

Gene: RER2\_32 Start: 26670, Stop: 26146, Start Num: 26

Candidate Starts for RER2\_32:

(Start: 26 @26670 has 36 MA's), (36, 26565), (70, 26253), (73, 26244), (74, 26235), (75, 26205),

Gene: RGL3\_34 Start: 27554, Stop: 27051, Start Num: 26

Candidate Starts for RGL3\_34:

(Start: 18 @27584 has 137 MA's), (Start: 26 @27554 has 36 MA's), (35, 27464), (70, 27158), (73, 27149), (75, 27110),

Gene: Rasputin\_39 Start: 29768, Stop: 29244, Start Num: 26

Candidate Starts for Rasputin\_39:

(Start: 26 @29768 has 36 MA's), (36, 29663), (70, 29351), (73, 29342), (74, 29333), (75, 29303),

Gene: ReMo\_53 Start: 32531, Stop: 31989, Start Num: 19

Candidate Starts for ReMo\_53:

(Start: 19 @32531 has 19 MA's), (20, 32525), (33, 32420), (40, 32393), (41, 32390), (51, 32279), (55, 32258), (58, 32249), (60, 32240), (70, 32093), (75, 32048),

Gene: Reba\_53 Start: 33408, Stop: 32818, Start Num: 10

Candidate Starts for Reba\_53:

(Start: 10 @33408 has 79 MA's), (Start: 13 @33402 has 1 MA's), (36, 33258), (39, 33249), (44, 33222), (50, 33138), (70, 32934), (75, 32886),

Gene: Relief\_48 Start: 33385, Stop: 32846, Start Num: 18

Candidate Starts for Relief\_48:

(Start: 7 @33442 has 1 MA's), (Start: 8 @33427 has 1 MA's), (Start: 18 @33385 has 137 MA's), (50, 33127), (58, 33094), (68, 33055), (77, 32887),

Gene: Remus\_54 Start: 32444, Stop: 31914, Start Num: 19

Candidate Starts for Remus\_54:

(Start: 19 @32444 has 19 MA's), (20, 32438), (30, 32378), (47, 32219), (50, 32201), (58, 32174), (70, 32018), (75, 31973),

Gene: ResDef\_49 Start: 33695, Stop: 33096, Start Num: 9

Candidate Starts for ResDef\_49:

(Start: 7 @33722 has 1 MA's), (Start: 8 @33707 has 1 MA's), (Start: 9 @33695 has 17 MA's), (Start: 17 @33665 has 30 MA's), (29, 33596), (38, 33518), (50, 33398), (77, 33137),

Gene: RexFury\_39 Start: 29829, Stop: 29305, Start Num: 26

Candidate Starts for RexFury\_39:

(Start: 26 @29829 has 36 MA's), (36, 29724), (70, 29412), (73, 29403), (74, 29394), (75, 29364),

Gene: Rhodalysa\_39 Start: 29798, Stop: 29274, Start Num: 26

Candidate Starts for Rhodalysa\_39:

(Start: 26 @29798 has 36 MA's), (36, 29693), (70, 29381), (73, 29372), (74, 29363), (75, 29333),

Gene: Romney\_49 Start: 33385, Stop: 32846, Start Num: 18

Candidate Starts for Romney\_49:

(Start: 7 @33442 has 1 MA's), (Start: 8 @33427 has 1 MA's), (Start: 18 @33385 has 137 MA's), (50, 33127), (58, 33094), (68, 33055), (77, 32887),

Gene: Roosevelt\_48 Start: 33390, Stop: 32851, Start Num: 18

Candidate Starts for Roosevelt\_48:

(Start: 7 @33447 has 1 MA's), (Start: 8 @33432 has 1 MA's), (Start: 18 @33390 has 137 MA's), (50, 33132), (58, 33099), (68, 33060), (77, 32892),

Gene: Rosa24\_48 Start: 33416, Stop: 32880, Start Num: 18

Candidate Starts for Rosa24\_48:

(Start: 7 @33473 has 1 MA's), (Start: 8 @33458 has 1 MA's), (Start: 18 @33416 has 137 MA's), (50, 33158), (58, 33125), (68, 33086), (77, 32921),

Gene: Rosalind\_53 Start: 32742, Stop: 32176, Start Num: 19

Candidate Starts for Rosalind\_53:

(Start: 19 @32742 has 19 MA's), (20, 32736), (33, 32631), (40, 32604), (41, 32601), (51, 32490), (55, 32469), (58, 32460), (60, 32451), (78, 32232),

Gene: Ruin\_49 Start: 33381, Stop: 32842, Start Num: 18

Candidate Starts for Ruin\_49:

(Start: 7 @33438 has 1 MA's), (Start: 8 @33423 has 1 MA's), (Start: 18 @33381 has 137 MA's), (50, 33123), (58, 33090), (68, 33051), (77, 32883),

Gene: Rummer\_52 Start: 33884, Stop: 33297, Start Num: 10

Candidate Starts for Rummer\_52:

(Start: 10 @33884 has 79 MA's), (Start: 13 @33878 has 1 MA's), (36, 33740), (39, 33731), (44, 33704), (45, 33701), (47, 33641), (50, 33620), (70, 33413), (75, 33365),

Gene: Sabertooth\_49 Start: 33390, Stop: 32851, Start Num: 18

Candidate Starts for Sabertooth\_49:

(Start: 7 @33447 has 1 MA's), (Start: 8 @33432 has 1 MA's), (Start: 18 @33390 has 137 MA's), (50, 33132), (58, 33099), (68, 33060), (77, 32892),

Gene: Sabia\_53 Start: 33865, Stop: 33260, Start Num: 10

Candidate Starts for Sabia\_53:

(Start: 10 @33865 has 79 MA's), (Start: 13 @33859 has 1 MA's), (36, 33715), (39, 33706), (44, 33679), (50, 33595), (70, 33376), (75, 33328),

Gene: Sabinator\_52 Start: 33855, Stop: 33265, Start Num: 10

Candidate Starts for Sabinator\_52:

(Start: 10 @33855 has 79 MA's), (Start: 13 @33849 has 1 MA's), (36, 33705), (39, 33696), (44, 33669), (50, 33585), (70, 33381), (75, 33333),

Gene: Salz\_49 Start: 32793, Stop: 32224, Start Num: 16

Candidate Starts for Salz\_49:

(Start: 16 @32793 has 24 MA's), (38, 32658), (63, 32493), (70, 32337),

Gene: SaturnRing\_51 Start: 33721, Stop: 33158, Start Num: 17

Candidate Starts for SaturnRing\_51:

(Start: 7 @33778 has 1 MA's), (Start: 8 @33763 has 1 MA's), (Start: 9 @33751 has 17 MA's), (Start: 17 @33721 has 30 MA's), (29, 33652), (38, 33574), (44, 33538), (50, 33454), (77, 33199),

Gene: Scamp\_49 Start: 33390, Stop: 32851, Start Num: 18

Candidate Starts for Scamp\_49:

(Start: 7 @33447 has 1 MA's), (Start: 8 @33432 has 1 MA's), (Start: 18 @33390 has 137 MA's), (50, 33132), (58, 33099), (68, 33060), (77, 32892),

Gene: Scorpia\_46 Start: 32329, Stop: 31805, Start Num: 17

Candidate Starts for Scorpia\_46:

(Start: 17 @32329 has 30 MA's), (37, 32197), (38, 32191), (61, 32047),

Gene: Scout\_50 Start: 32872, Stop: 32279, Start Num: 9

Candidate Starts for Scout\_50:

(Start: 7 @32899 has 1 MA's), (Start: 8 @32884 has 1 MA's), (Start: 9 @32872 has 17 MA's), (Start: 17 @32842 has 30 MA's), (29, 32773), (38, 32695), (43, 32662), (44, 32659), (50, 32575), (77, 32320),

Gene: Shaka\_49 Start: 33385, Stop: 32846, Start Num: 18

Candidate Starts for Shaka\_49:

(Start: 7 @33442 has 1 MA's), (Start: 8 @33427 has 1 MA's), (Start: 18 @33385 has 137 MA's), (50, 33127), (58, 33094), (68, 33055), (77, 32887),

Gene: Sham4\_50 Start: 32821, Stop: 32252, Start Num: 16

Candidate Starts for Sham4\_50:

(Start: 16 @32821 has 24 MA's), (38, 32686), (63, 32521), (70, 32365),

Gene: ShayRa\_55 Start: 32786, Stop: 32223, Start Num: 19

Candidate Starts for ShayRa\_55:

(Start: 19 @32786 has 19 MA's), (20, 32780), (33, 32678), (40, 32651), (41, 32648), (51, 32537), (55, 32516), (58, 32507), (60, 32498), (78, 32279),

Gene: Sheen\_50 Start: 35605, Stop: 35081, Start Num: 23

Candidate Starts for Sheen\_50:

(Start: 23 @35605 has 1 MA's), (34, 35509), (46, 35416), (54, 35353), (55, 35350), (58, 35341), (64, 35308), (71, 35173), (77, 35128),

Gene: SheldonCooper\_51 Start: 33808, Stop: 33272, Start Num: 18

Candidate Starts for SheldonCooper\_51:

(6, 33871), (Start: 18 @33808 has 137 MA's), (50, 33550), (58, 33517), (68, 33478), (77, 33313),

Gene: Shuman\_39 Start: 29809, Stop: 29285, Start Num: 26

Candidate Starts for Shuman\_39:

(Start: 26 @29809 has 36 MA's), (36, 29704), (70, 29392), (73, 29383), (74, 29374), (75, 29344),

Gene: Shygu2\_48 Start: 33364, Stop: 32825, Start Num: 18

Candidate Starts for Shygu2\_48:

(Start: 7 @33421 has 1 MA's), (Start: 8 @33406 has 1 MA's), (Start: 18 @33364 has 137 MA's), (58, 33073), (68, 33034), (77, 32866),

Gene: Skipitt\_48 Start: 33382, Stop: 32843, Start Num: 18

Candidate Starts for Skipitt\_48:

(Start: 7 @33439 has 1 MA's), (Start: 8 @33424 has 1 MA's), (Start: 18 @33382 has 137 MA's), (50, 33124), (58, 33091), (68, 33052), (77, 32884),

Gene: Snape\_50 Start: 32813, Stop: 32250, Start Num: 16

Candidate Starts for Snape\_50:

(Start: 16 @32813 has 24 MA's), (38, 32684), (63, 32519), (70, 32363),

Gene: Snickers\_53 Start: 33830, Stop: 33240, Start Num: 10

Candidate Starts for Snickers\_53:

(Start: 10 @33830 has 79 MA's), (Start: 13 @33824 has 1 MA's), (36, 33680), (39, 33671), (44, 33644), (50, 33560), (70, 33356), (75, 33308),

Gene: SoYo\_53 Start: 33768, Stop: 33178, Start Num: 10

Candidate Starts for SoYo\_53:

(Start: 10 @33768 has 79 MA's), (Start: 13 @33762 has 1 MA's), (36, 33618), (39, 33609), (44, 33582), (50, 33498), (70, 33294), (75, 33246),

Gene: SoilDragon\_53 Start: 33304, Stop: 32714, Start Num: 10

Candidate Starts for SoilDragon\_53:

(Start: 10 @33304 has 79 MA's), (Start: 13 @33298 has 1 MA's), (36, 33154), (39, 33145), (44, 33118), (50, 33034), (70, 32830), (75, 32782),

Gene: Soshari\_55 Start: 33880, Stop: 33293, Start Num: 10

Candidate Starts for Soshari\_55:

(Start: 10 @33880 has 79 MA's), (Start: 13 @33874 has 1 MA's), (36, 33736), (39, 33727), (44, 33700), (45, 33697), (47, 33637), (50, 33616), (70, 33409), (75, 33361),

Gene: Soups\_55 Start: 33022, Stop: 32456, Start Num: 19

Candidate Starts for Soups\_55:

(Start: 19 @33022 has 19 MA's), (20, 33016), (33, 32911), (40, 32884), (41, 32881), (51, 32770), (55, 32749), (58, 32740), (60, 32731), (78, 32512),

Gene: Sparxx\_50 Start: 33383, Stop: 32844, Start Num: 18

Candidate Starts for Sparxx\_50:

(Start: 7 @33440 has 1 MA's), (Start: 8 @33425 has 1 MA's), (Start: 18 @33383 has 137 MA's), (50, 33125), (58, 33092), (68, 33053), (77, 32885),

Gene: Spike509\_53 Start: 33881, Stop: 33294, Start Num: 10

Candidate Starts for Spike509\_53:

(Start: 10 @33881 has 79 MA's), (Start: 13 @33875 has 1 MA's), (36, 33737), (39, 33728), (44, 33701), (45, 33698), (47, 33638), (50, 33617), (70, 33410), (75, 33362),

Gene: Spino\_48 Start: 33388, Stop: 32849, Start Num: 18

Candidate Starts for Spino\_48:

(Start: 7 @33445 has 1 MA's), (Start: 8 @33430 has 1 MA's), (Start: 18 @33388 has 137 MA's), (50, 33130), (58, 33097), (68, 33058), (77, 32890),

Gene: StCroix\_39 Start: 29811, Stop: 29287, Start Num: 26

Candidate Starts for StCroix\_39:

(Start: 26 @29811 has 36 MA's), (36, 29706), (70, 29394), (73, 29385), (74, 29376), (75, 29346),

Gene: Stagni\_53 Start: 33859, Stop: 33269, Start Num: 10

Candidate Starts for Stagni\_53:

(Start: 10 @33859 has 79 MA's), (Start: 13 @33853 has 1 MA's), (36, 33709), (39, 33700), (44, 33673), (50, 33589), (70, 33385), (75, 33337),

Gene: Stasia\_48 Start: 33264, Stop: 32728, Start Num: 18

Candidate Starts for Stasia\_48:

(Start: 7 @33321 has 1 MA's), (Start: 8 @33306 has 1 MA's), (Start: 18 @33264 has 137 MA's), (50, 33006), (58, 32973), (68, 32934), (71, 32817), (77, 32769),

Gene: StepMih\_53 Start: 33850, Stop: 33260, Start Num: 10

Candidate Starts for StepMih\_53:

(Start: 10 @33850 has 79 MA's), (Start: 13 @33844 has 1 MA's), (36, 33700), (39, 33691), (44, 33664), (50, 33580), (70, 33376), (75, 33328),

Gene: Stink\_48 Start: 33111, Stop: 32563, Start Num: 18

Candidate Starts for Stink\_48:

(Start: 18 @33111 has 137 MA's), (39, 32964), (58, 32814), (71, 32652), (77, 32604),

Gene: Strosahl\_54 Start: 32444, Stop: 31914, Start Num: 19

Candidate Starts for Strosahl\_54:

(Start: 19 @32444 has 19 MA's), (20, 32438), (30, 32378), (47, 32219), (50, 32201), (58, 32174), (70, 32018), (75, 31973),

Gene: Swann\_39 Start: 29796, Stop: 29272, Start Num: 26

Candidate Starts for Swann\_39:

(Start: 26 @29796 has 36 MA's), (36, 29691), (70, 29379), (73, 29370), (74, 29361), (75, 29331),

Gene: SwirlSquare\_55 Start: 33014, Stop: 32430, Start Num: 16

Candidate Starts for SwirlSquare\_55:

(Start: 10 @33029 has 79 MA's), (Start: 16 @33014 has 24 MA's), (45, 32849), (47, 32789), (67, 32690), (70, 32537), (72, 32534), (75, 32492),

Gene: Swirley\_45 Start: 32876, Stop: 32349, Start Num: 17

Candidate Starts for Swirley\_45:

(Start: 17 @32876 has 30 MA's), (37, 32741), (38, 32735), (61, 32591), (80, 32372),



Gene: Switzerland\_54 Start: 32922, Stop: 32356, Start Num: 19

Candidate Starts for Switzerland\_54:

(Start: 19 @32922 has 19 MA's), (20, 32916), (33, 32811), (40, 32784), (41, 32781), (51, 32670), (55, 32649), (58, 32640), (60, 32631), (78, 32412),

Gene: TNguyen7\_51 Start: 33687, Stop: 33124, Start Num: 17

Candidate Starts for TNguyen7\_51:

(Start: 7 @33744 has 1 MA's), (Start: 8 @33729 has 1 MA's), (Start: 9 @33717 has 17 MA's), (Start: 17 @33687 has 30 MA's), (29, 33618), (38, 33540), (44, 33504), (50, 33420), (77, 33165),

Gene: TWAMP\_39 Start: 29798, Stop: 29274, Start Num: 26

Candidate Starts for TWAMP\_39:

(Start: 26 @29798 has 36 MA's), (36, 29693), (70, 29381), (73, 29372), (74, 29363), (75, 29333),

Gene: Takoda\_39 Start: 29771, Stop: 29247, Start Num: 26

Candidate Starts for Takoda\_39:

(Start: 26 @29771 has 36 MA's), (36, 29666), (70, 29354), (73, 29345), (74, 29336), (75, 29306),

Gene: Taquarus\_49 Start: 33391, Stop: 32852, Start Num: 18

Candidate Starts for Taquarus\_49:

(Start: 7 @33448 has 1 MA's), (Start: 8 @33433 has 1 MA's), (Start: 18 @33391 has 137 MA's), (50, 33133), (58, 33100), (68, 33061), (77, 32893),

Gene: Tarynearal\_41 Start: 32318, Stop: 31791, Start Num: 17

Candidate Starts for Tarynearal\_41:

(Start: 17 @32318 has 30 MA's), (37, 32183), (38, 32177), (61, 32033), (80, 31814),

Gene: Taurus\_54 Start: 33856, Stop: 33266, Start Num: 10

Candidate Starts for Taurus\_54:

(Start: 10 @33856 has 79 MA's), (Start: 13 @33850 has 1 MA's), (36, 33706), (39, 33697), (44, 33670), (50, 33586), (70, 33382), (75, 33334),

Gene: Texage\_48 Start: 33696, Stop: 33097, Start Num: 9

Candidate Starts for Texage\_48:

(Start: 7 @33723 has 1 MA's), (Start: 8 @33708 has 1 MA's), (Start: 9 @33696 has 17 MA's), (Start: 17 @33666 has 30 MA's), (29, 33597), (38, 33519), (50, 33399), (77, 33138),

Gene: Thanksgivukkah\_48 Start: 33428, Stop: 32847, Start Num: 8

Candidate Starts for Thanksgivukkah\_48:

(Start: 7 @33443 has 1 MA's), (Start: 8 @33428 has 1 MA's), (Start: 18 @33386 has 137 MA's), (50, 33128), (58, 33095), (68, 33056), (77, 32888),

Gene: Tiffany\_53 Start: 33742, Stop: 33152, Start Num: 10

Candidate Starts for Tiffany\_53:

(Start: 10 @33742 has 79 MA's), (Start: 13 @33736 has 1 MA's), (36, 33592), (39, 33583), (44, 33556), (50, 33472), (70, 33268), (75, 33220),

Gene: Timothy\_50 Start: 32790, Stop: 32227, Start Num: 16

Candidate Starts for Timothy\_50:

(Start: 16 @32790 has 24 MA's), (38, 32661), (63, 32496), (70, 32340),

Gene: TinaFeyge\_49 Start: 33383, Stop: 32844, Start Num: 18

Candidate Starts for TinaFeyge\_49:

(Start: 7 @33440 has 1 MA's), (Start: 8 @33425 has 1 MA's), (Start: 18 @33383 has 137 MA's), (50, 33125), (58, 33092), (68, 33053), (77, 32885),

Gene: TinyTimmy\_50 Start: 32839, Stop: 32270, Start Num: 16

Candidate Starts for TinyTimmy\_50:

(Start: 16 @32839 has 24 MA's), (38, 32704), (63, 32539), (70, 32383),

Gene: Tinybot\_48 Start: 33415, Stop: 32876, Start Num: 18

Candidate Starts for Tinybot\_48:

(Start: 7 @33472 has 1 MA's), (Start: 8 @33457 has 1 MA's), (Start: 18 @33415 has 137 MA's), (50, 33157), (58, 33124), (68, 33085), (77, 32917),

Gene: TiroTheta9\_49 Start: 33382, Stop: 32843, Start Num: 18

Candidate Starts for TiroTheta9\_49:

(Start: 7 @33439 has 1 MA's), (Start: 8 @33424 has 1 MA's), (Start: 18 @33382 has 137 MA's), (50, 33124), (58, 33091), (68, 33052), (77, 32884),

Gene: Todacoro\_49 Start: 33695, Stop: 33096, Start Num: 9

Candidate Starts for Todacoro\_49:

(Start: 7 @33722 has 1 MA's), (Start: 8 @33707 has 1 MA's), (Start: 9 @33695 has 17 MA's), (Start: 17 @33665 has 30 MA's), (29, 33596), (38, 33518), (50, 33398), (77, 33137),

Gene: Toro\_52 Start: 35717, Stop: 35193, Start Num: 23

Candidate Starts for Toro\_52:

(Start: 23 @35717 has 1 MA's), (34, 35621), (55, 35462), (58, 35453), (64, 35420), (71, 35285), (77, 35240),

Gene: TroyPia\_50 Start: 33386, Stop: 32847, Start Num: 18

Candidate Starts for TroyPia\_50:

(Start: 7 @33443 has 1 MA's), (Start: 8 @33428 has 1 MA's), (Start: 18 @33386 has 137 MA's), (50, 33128), (58, 33095), (68, 33056), (77, 32888),

Gene: TygerBlood\_49 Start: 33388, Stop: 32849, Start Num: 18

Candidate Starts for TygerBlood\_49:

(Start: 7 @33445 has 1 MA's), (Start: 8 @33430 has 1 MA's), (Start: 18 @33388 has 137 MA's), (50, 33130), (58, 33097), (68, 33058), (77, 32890),

Gene: UhSalsa\_39 Start: 29797, Stop: 29273, Start Num: 26

Candidate Starts for UhSalsa\_39:

(Start: 26 @29797 has 36 MA's), (36, 29692), (70, 29380), (73, 29371), (74, 29362), (75, 29332),

Gene: Ulysses\_48 Start: 33065, Stop: 32526, Start Num: 18

Candidate Starts for Ulysses\_48:

(Start: 7 @33122 has 1 MA's), (Start: 8 @33107 has 1 MA's), (Start: 18 @33065 has 137 MA's), (50, 32807), (58, 32774), (68, 32735), (77, 32567),

Gene: UnionJack\_43 Start: 31830, Stop: 31306, Start Num: 17

Candidate Starts for UnionJack\_43:

(Start: 17 @31830 has 30 MA's), (37, 31698), (38, 31692), (61, 31548), (80, 31329),

Gene: Veracruz\_48 Start: 33695, Stop: 33096, Start Num: 9

Candidate Starts for Veracruz\_48:

(Start: 7 @33722 has 1 MA's), (Start: 8 @33707 has 1 MA's), (Start: 9 @33695 has 17 MA's), (Start: 17 @33665 has 30 MA's), (29, 33596), (38, 33518), (50, 33398), (77, 33137),

Gene: Vix\_53 Start: 33939, Stop: 33349, Start Num: 10

Candidate Starts for Vix\_53:

(Start: 10 @33939 has 79 MA's), (Start: 13 @33933 has 1 MA's), (36, 33789), (39, 33780), (44, 33753), (50, 33669), (70, 33465), (75, 33417),

Gene: Waits\_54 Start: 32652, Stop: 32116, Start Num: 19

Candidate Starts for Waits\_54:

(Start: 19 @32652 has 19 MA's), (20, 32646), (30, 32586), (47, 32427), (50, 32409), (58, 32382), (70, 32220), (75, 32175),

Gene: Wander\_49 Start: 33385, Stop: 32846, Start Num: 18

Candidate Starts for Wander\_49:

(Start: 7 @33442 has 1 MA's), (Start: 8 @33427 has 1 MA's), (Start: 18 @33385 has 137 MA's), (50, 33127), (58, 33094), (68, 33055), (77, 32887),

Gene: Watson\_53 Start: 33848, Stop: 33258, Start Num: 10

Candidate Starts for Watson\_53:

(Start: 10 @33848 has 79 MA's), (Start: 13 @33842 has 1 MA's), (36, 33698), (39, 33689), (44, 33662), (50, 33578), (70, 33374), (75, 33326),

Gene: Wilbur\_49 Start: 33385, Stop: 32846, Start Num: 18

Candidate Starts for Wilbur\_49:

(Start: 7 @33442 has 1 MA's), (Start: 8 @33427 has 1 MA's), (Start: 18 @33385 has 137 MA's), (50, 33127), (58, 33094), (68, 33055), (77, 32887),

Gene: Wile\_48 Start: 33395, Stop: 32856, Start Num: 18

Candidate Starts for Wile\_48:

(Start: 7 @33452 has 1 MA's), (Start: 8 @33437 has 1 MA's), (Start: 18 @33395 has 137 MA's), (50, 33137), (58, 33104), (68, 33065), (77, 32897),

Gene: Wizard007\_49 Start: 33393, Stop: 32854, Start Num: 18

Candidate Starts for Wizard007\_49:

(Start: 7 @33450 has 1 MA's), (Start: 8 @33435 has 1 MA's), (Start: 18 @33393 has 137 MA's), (50, 33135), (58, 33102), (68, 33063), (77, 32895),

Gene: Wooldri\_55 Start: 33768, Stop: 33178, Start Num: 10

Candidate Starts for Wooldri\_55:

(Start: 10 @33768 has 79 MA's), (Start: 13 @33762 has 1 MA's), (36, 33618), (39, 33609), (44, 33582), (50, 33498), (70, 33294), (75, 33246),

Gene: Xena\_47 Start: 33361, Stop: 32822, Start Num: 18

Candidate Starts for Xena\_47:

(Start: 7 @33418 has 1 MA's), (Start: 8 @33403 has 1 MA's), (Start: 18 @33361 has 137 MA's), (50, 33103), (58, 33070), (68, 33031), (77, 32863),

Gene: YoSam321\_49 Start: 33382, Stop: 32843, Start Num: 18

Candidate Starts for YoSam321\_49:

(Start: 7 @33439 has 1 MA's), (Start: 8 @33424 has 1 MA's), (Start: 18 @33382 has 137 MA's), (50, 33124), (58, 33091), (68, 33052), (77, 32884),

Gene: Yogi\_39 Start: 29772, Stop: 29248, Start Num: 26

Candidate Starts for Yogi\_39:

(Start: 26 @29772 has 36 MA's), (36, 29667), (70, 29355), (73, 29346), (74, 29337), (75, 29307),

Gene: Yoncess\_39 Start: 29773, Stop: 29249, Start Num: 26

Candidate Starts for Yoncess\_39:

(Start: 26 @29773 has 36 MA's), (36, 29668), (70, 29356), (73, 29347), (74, 29338), (75, 29308),

Gene: Zetzy\_52 Start: 33419, Stop: 32829, Start Num: 10

Candidate Starts for Zetzy\_52:

(Start: 10 @33419 has 79 MA's), (Start: 13 @33413 has 1 MA's), (36, 33269), (39, 33260), (44, 33233), (50, 33149), (70, 32945), (75, 32897),