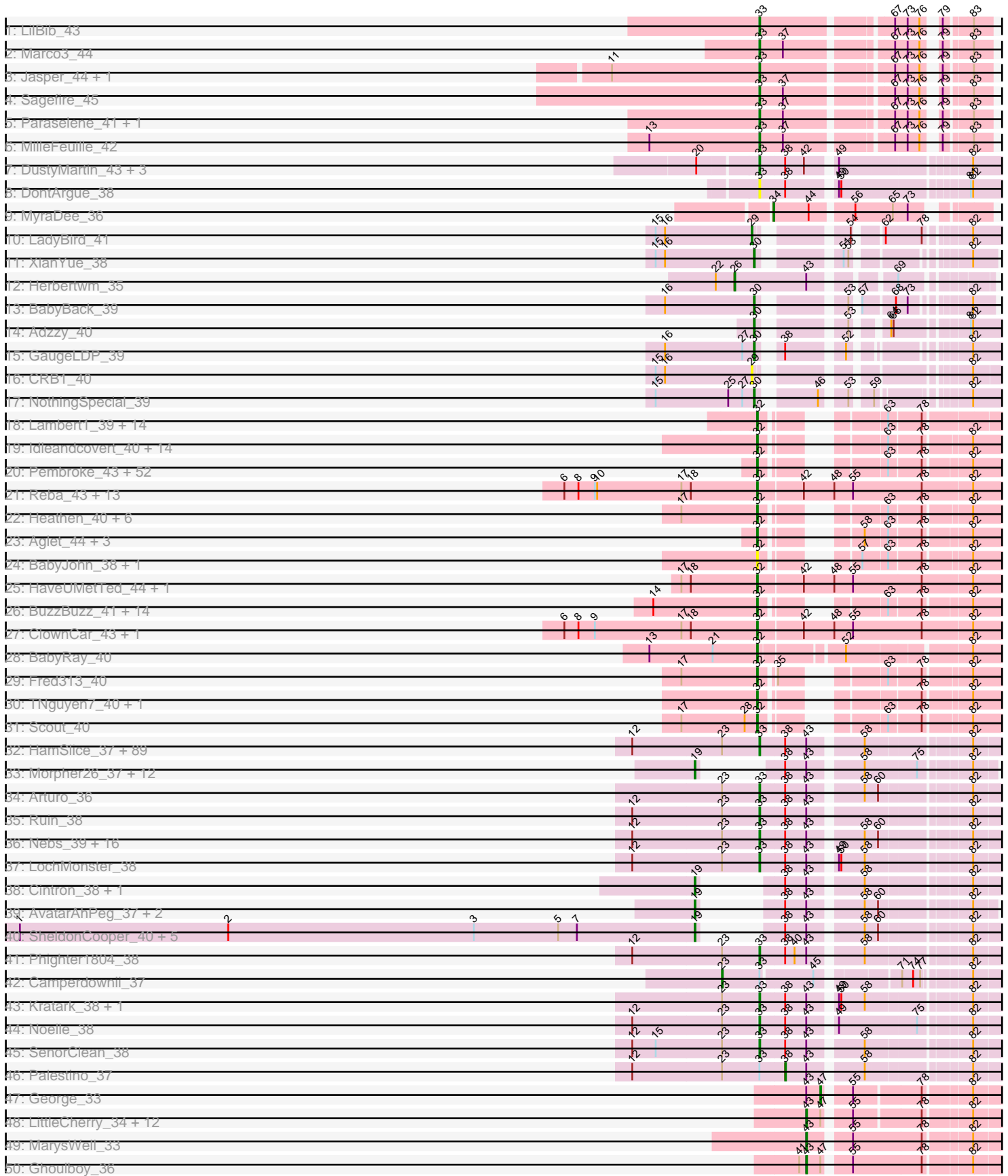


Pham 311119



Pham 311119



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 311119 Report

This analysis was run 06/27/26 on database version 652.

Pham number 311119 has 351 members, 34 are drafts.

Phages represented in each track:

- Track 1 : LilBib\_43
- Track 2 : Marco3\_44
- Track 3 : Jasper\_44, Dreamboat\_44
- Track 4 : Sagefire\_45
- Track 5 : Paraselene\_41, Rutherford\_45
- Track 6 : MilleFeuille\_42
- Track 7 : DustyMartin\_43, Shapes\_43, RhynO\_40, Rowdy\_43
- Track 8 : DontArgue\_38
- Track 9 : MyraDee\_36
- Track 10 : LadyBird\_41
- Track 11 : XianYue\_38
- Track 12 : Herbertwm\_35
- Track 13 : BabyBack\_39
- Track 14 : Adzzy\_40
- Track 15 : GaugeLDP\_39
- Track 16 : CRB1\_40
- Track 17 : NothingSpecial\_39
- Track 18 : Lambert1\_39, Todacoro\_39, Hookmount\_39, EtoileNova\_40, Caviar\_39, Texage\_38, Margo\_39, QuinnKiro\_38, Noella\_39, ResDef\_39, Norbert\_38, Popcicle\_39, Panamaxus\_37, Pocahontas\_39, Veracruz\_38
- Track 19 : Idleandcovert\_40, Pistachio\_41, MA5\_40, Clammy\_40, JF2\_40, SaturnRing\_40, BlueBird\_41, Giroux\_41, MK4\_40, Isca\_39, Rockstar\_40, Bugatti\_40, JF4\_40, Phantastic\_40, B1\_37
- Track 20 : Pembroke\_43, MarQuardt\_43, SoYo\_43, DaHudson\_43, StepMih\_43, MadMarie\_43, BreSam8\_43, Marie\_43, Tiffany\_43, Farber\_43, JenCasNa\_44, Lowa\_43, JHC117\_43, Bigflo\_43, Hercules11\_43, Microwolf\_43, Montavir\_42, Taurus\_44, Colbster\_43, Grif\_43, Jobu08\_42, Grum1\_43, PotatoSplit\_45, AugsMagnumOpus\_46, MuchMore\_46, LBerry\_44, P28Green\_44, GtownJaz\_43, Vix\_43, Stagni\_43, MoneyMay\_43, Mainiac\_43, Cullens\_43, Malinsilva\_45, Sabinator\_42, Wooldri\_45, SoilDragon\_43, Croquant\_44, Sabia\_43, Lilith\_44, Watson\_43, Snickers\_43, Phoebe\_44, Grub\_43, Dieselweasel\_44, Beauxregard13\_43, Gwennie\_42, LugYA\_46, Zetzy\_42, Fernando\_43, PGHhamlin\_45, Penny1\_44, EpicPhail\_44
- Track 21 : Reba\_43, Calvinny\_43, Marius\_44, Groupthink\_44, PurpleHaze\_43, Kalb97\_44, JeppNRM\_44, Pawn\_43, Phranny\_44, Heliosoles\_42, Manu\_43, PhishRPhriends\_41, Kalnoky\_44, Gemma\_42

- Track 22 : Heathen\_40, Roimos\_40, Zarafa\_40, DropBear\_40, Kachowdy\_40, HelDan\_40, Marchesa\_40
- Track 23 : Aglet\_44, GingkoMaracino\_43, Ollie\_43, Anubis\_46
- Track 24 : BabyJohn\_38, Chiqui\_38
- Track 25 : HaveUMetTed\_44, OlanP\_42
- Track 26 : BuzzBuzz\_41, Soshari\_45, Daishi\_42, Misomonster\_44, LarryKay\_43, Rummer\_42, KADY\_43, HashRod\_44, Methuselah\_41, Louie6\_42, Phoxy\_43, Bxz2\_39, Spike509\_43, TinyPebbles\_42, AgronaGT15\_42
- Track 27 : ClownCar\_43, ACFishhook\_42
- Track 28 : BabyRay\_40
- Track 29 : Fred313\_40
- Track 30 : TNguyen7\_40, Puppy\_41
- Track 31 : Scout\_40
- Track 32 : HamSlice\_37, Pumbaa\_38, Melvin\_40, Bartimeaus\_38, Wilbur\_38, Bruiser\_37, Koreni\_37, Albee\_38, TygerBlood\_38, SteMason\_38, RockieBear\_38, Flux\_38, Phontbonne\_38, Mazhar510\_38, Bombshell\_38, TiroTheta9\_38, Sparxx\_39, Sabertooth\_38, KekoraPapaka\_39, OKaNui\_39, JoongJeon\_38, Millski\_37, PeterPeter\_38, Broseidon\_38, Phelipe\_39, Lorenzo\_38, Avle17\_38, Alberto7\_39, Tinybot\_37, Relief\_37, TinaFeyge\_39, CentreCat\_38, Deano\_38, Thanksgivukkah\_38, Nemo27\_38, Lemur\_38, Eris\_37, LittleB\_38, Caelakin\_38, Druantia\_38, Wander\_38, Holli\_37, Skipitt\_37, Kingmustik0402\_38, Romney\_38, Jaykayelowell\_37, BubbleTrouble\_38, Huxley\_38, Spino\_38, Roosevelt\_37, Cocoaberry\_38, TroyPia\_39, Taquarus\_38, Kyee\_38, Baby16\_38, Scamp\_38, Commander\_38, Chaph\_38, Nyxis\_38, Ulysses\_37, ICleared\_38, Maverick\_38, Iceman\_39, Phacado\_38, Koan\_37, Peaches\_38, Eapen\_38, Shaka\_38, Mayonnaise\_38, JetBlade\_38, Connomayer\_38, KFPoly\_38, Florean\_38, Dhanush\_38, Gadost\_38, Funston\_38, LittleGuy\_38, Wizard007\_38, Lunsford\_39, NotAPhaseMom\_38, Sultana\_38, MeeZee\_38, Blackmoor\_38, Houdini22\_38, Happiness\_37, Eros\_38, Burger\_36, Clarenza\_38, YoSam321\_38, LappelDuVide\_38
- Track 33 : Morpher26\_37, Datway\_37, PetiteSangsue\_37, Katalie136\_37, Wile\_37, AbbysRanger\_37, Achebe\_36, Perplexer\_37, Backyardigan\_36, Badger\_36, Bumblebee11\_36, Xena\_36, Cici\_37
- Track 34 : Arturo\_36
- Track 35 : Ruin\_38
- Track 36 : Nebs\_39, Abdiel\_38, Maxo\_39, Mundrea\_36, Kampy\_38, Rosa24\_38, BellusTerra\_39, Eurydice\_39, Eagle\_38, NorthStar\_37, Ohfah\_39, LeoAvram\_38, Polymorphads\_39, Citius\_38, Medusa\_38, Morrow\_39, Iracema64\_39
- Track 37 : LochMonster\_38
- Track 38 : Cintron\_38, Shygu2\_37
- Track 39 : AvatarAhPeg\_37, Stink\_38, Miramae\_37
- Track 40 : SheldonCooper\_40, LHTSCC\_40, Obama12\_39, ChampagnePapi\_40, BangNhom\_39, Cerulean\_39
- Track 41 : Phighter1804\_38
- Track 42 : Camperdownii\_37
- Track 43 : Kratark\_38, Kremtemulon\_38
- Track 44 : Noelle\_38
- Track 45 : SeniorClean\_38
- Track 46 : Palestino\_37
- Track 47 : George\_33
- Track 48 : LittleCherry\_34, Prinasha11\_35, Coog\_34, Bonamassa\_34, HuhtaEnerson15\_34, Micasa\_36, Archetta\_34, Cuco\_34, Milcery\_34, Twigg\_34, Tarynearal\_33, Midas2\_34, Theia\_32
- Track 49 : MarysWell\_33

- Track 50 : Ghoulboy\_36
- Track 51 : Naca\_35, EITiger69\_35, PetterN\_36, Jabiru\_35
- Track 52 : Airmid\_35
- Track 53 : Scorpia\_36, Chadwick\_36
- Track 54 : Zolita\_35, SydNat\_36
- Track 55 : UnionJack\_34
- Track 56 : Benedict\_35
- Track 57 : Swirley\_36
- Track 58 : Sheen\_38
- Track 59 : Toro\_41, FlyCatcher\_43
- Track 60 : Toro\_38, FlyCatcher\_40
- Track 61 : DroogsArmy\_37
- Track 62 : Phillis\_35
- Track 63 : NearlyHeadless\_35, Stephig9\_35, Groundhog\_34, Roary\_35, Danforth\_34, Astro\_35, Dixon\_35, Smeadley\_35, Caitlin\_35, Expelliarmus\_34
- Track 64 : Ugenie5\_38, Scherzo\_41
- Track 65 : LoneWolf\_41
- Track 66 : Klodlith\_39, Charm\_38, DreamTeam1\_38
- Track 67 : MegTheThird\_38, Celestialunch\_38
- Track 68 : Toaka\_39

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

The start number called the most often in the published annotations is 33, it was called in 121 of the 317 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Abdiel\_38, Albee\_38, Alberto7\_39, Arturo\_36, Avle17\_38, Baby16\_38, Bartimeaus\_38, BellusTerra\_39, Blackmoor\_38, Bombshell\_38, Broseidon\_38, Bruiser\_37, BubbleTrouble\_38, Burger\_36, Caelakin\_38, CentreCat\_38, Chaph\_38, Citius\_38, Clarenza\_38, Cocoaberry\_38, Commander\_38, Connomayer\_38, Deano\_38, Dhanush\_38, DontArgue\_38, Dreamboat\_44, Druantia\_38, DustyMartin\_43, Eagle\_38, Eapen\_38, Eris\_37, Eros\_38, Eurydice\_39, Florean\_38, Flux\_38, Funston\_38, Gadost\_38, HamSlice\_37, Happiness\_37, Holli\_37, Houdini22\_38, Huxley\_38, ICleared\_38, Iceman\_39, Iracema64\_39, Jasper\_44, Jaykayelowell\_37, JetBlade\_38, JoongJeon\_38, KFPoly\_38, Kampy\_38, KekoraPapaka\_39, Kingmustik0402\_38, Koan\_37, Koreni\_37, Kratark\_38, Kremtemulon\_38, Kyee\_38, LappelDuVide\_38, Lemur\_38, LeoAvram\_38, LilBib\_43, LittleB\_38, LittleGuy\_38, LochMonster\_38, Lorenzo\_38, Lunsford\_39, Marco3\_44, Maverick\_38, Maxo\_39, Mayonnaise\_38, Mazhar510\_38, Medusa\_38, MeeZee\_38, Melvin\_40, MilleFeuille\_42, Millski\_37, Morrow\_39, Mundrea\_36, Nebs\_39, Nemo27\_38, Noelle\_38, NorthStar\_37, NotAPhaseMom\_38, Nyxis\_38, OKaNui\_39, Ohfah\_39, Paraselene\_41, Peaches\_38, PeterPeter\_38, Phacado\_38, Phelipe\_39, Phighter1804\_38, Phontbonne\_38, Polymorphads\_39, Pumbaa\_38, Relief\_37, RhynO\_40, RockieBear\_38, Romney\_38, Roosevelt\_37, Rosa24\_38, Rowdy\_43, Ruin\_38, Rutherford\_45, Sabertooth\_38, Sagefire\_45, Scamp\_38, SeniorClean\_38, Shaka\_38, Shapes\_43, Skipitt\_37, Sparxx\_39, Spino\_38, SteMason\_38, Sultana\_38, Taquarus\_38, Thanksgivukkah\_38, TinaFeyge\_39, Tinybot\_37, TiroTheta9\_38, TroyPia\_39, TygerBlood\_38, Ulysses\_37, Wander\_38, Wilbur\_38, Wizard007\_38, YoSam321\_38,

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

- Camperdownii\_37, Palestino\_37,

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

- ACFishhook\_42, AbbysRanger\_37, Achebe\_36, Adzzy\_40, Aglet\_44, AgronaGT15\_42, Airmid\_35, Anubis\_46, Archetta\_34, Astro\_35, AugsMagnumOpus\_46, AvatarAhPeg\_37, B1\_37, BabyBack\_39, BabyJohn\_38, BabyRay\_40, Backyardigan\_36, Badger\_36, BangNhom\_39, Beauxregard13\_43, Benedict\_35, Bigflo\_43, BlueBird\_41, Bonamassa\_34, BreSam8\_43, Bugatti\_40, Bumblebee11\_36, BuzzBuzz\_41, Bxz2\_39, CRB1\_40, Caitlin\_35, Calvinny\_43, Caviar\_39, Celestiallunch\_38, Cerulean\_39, Chadwick\_36, ChampagnePapi\_40, Charm\_38, Chiqui\_38, Cici\_37, Cintron\_38, Clammy\_40, ClownCar\_43, Colbster\_43, Coog\_34, Croquant\_44, Cuco\_34, Cullens\_43, DaHudson\_43, Daishi\_42, Danforth\_34, Datway\_37, Dieselweasel\_44, Dixon\_35, DreamTeam1\_38, DroogsArmy\_37, DropBear\_40, EITiger69\_35, EpicPhail\_44, EtoileNova\_40, Expelliarmus\_34, Farber\_43, Fernando\_43, FlyCatcher\_40, FlyCatcher\_43, Fred313\_40, GaugeLDP\_39, Gemma\_42, George\_33, Ghoulboy\_36, GingkoMaracino\_43, Giroux\_41, Grif\_43, Groundhog\_34, Groupthink\_44, Grub\_43, Grum1\_43, GtownJaz\_43, Gwennie\_42, HashRod\_44, HaveUMetTed\_44, Heathen\_40, HelDan\_40, Heliosoles\_42, Herbertwm\_35, Hercules11\_43, Hookmount\_39, HuhtaEnerson15\_34, Idleandcovert\_40, Isca\_39, JF2\_40, JF4\_40, JHC117\_43, Jabiru\_35, JenCasNa\_44, JeppNRM\_44, Jobu08\_42, KADY\_43, Kachowdy\_40, Kalb97\_44, Kalnoky\_44, Katalie136\_37, Klodlith\_39, LBerry\_44, LHTSCC\_40, LadyBird\_41, Lambert1\_39, LarryKay\_43, Lilith\_44, LittleCherry\_34, LoneWolf\_41, Louie6\_42, Lowa\_43, LugYA\_46, MA5\_40, MK4\_40, MadMarie\_43, Mainiac\_43, Malinsilva\_45, Manu\_43, MarQuardt\_43, Marchesa\_40, Margo\_39, Marie\_43, Marius\_44, MarysWell\_33, MegTheThird\_38, Methuselah\_41, Micasa\_36, Microwolf\_43, Midas2\_34, Milcery\_34, Miramae\_37, Misomonster\_44, MoneyMay\_43, Montavir\_42, Morpher26\_37, MuchMore\_46, MyraDee\_36, Naca\_35, NearlyHeadless\_35, Noella\_39, Norbert\_38, NothingSpecial\_39, Obama12\_39, OlanP\_42, Ollie\_43, P28Green\_44, PGHhamlin\_45, Panamaxus\_37, Pawn\_43, Pembroke\_43, Penny1\_44, Perplexer\_37, PetiteSangsue\_37, PetterN\_36, Phantastic\_40, Phillis\_35, PhishRPhriends\_41, Phoebe\_44, Phoxy\_43, Phranny\_44, Pistachio\_41, Pocahontas\_39, Popcicle\_39, PotatoSplit\_45, Prinashe11\_35, Puppy\_41, PurpleHaze\_43, QuinnKiro\_38, Reba\_43, ResDef\_39, Roary\_35, Rockstar\_40, Roimos\_40, Rummer\_42, Sabia\_43, Sabinator\_42, SaturnRing\_40, Scherzo\_41, Scorpia\_36, Scout\_40, Sheen\_38, SheldonCooper\_40, Shygu2\_37, Smeadley\_35, Snickers\_43, SoYo\_43, SoilDragon\_43, Soshari\_45, Spike509\_43, Stagni\_43, StepMih\_43, Stephig9\_35, Stink\_38, Swirley\_36, SydNat\_36, TNguyen7\_40, Tarynearal\_33, Taurus\_44, Texage\_38, Theia\_32, Tiffany\_43, TinyPebbles\_42, Toaka\_39, Todacoro\_39, Toro\_38, Toro\_41, Twigg\_34, Ugenie5\_38, UnionJack\_34, Veracruz\_38, Vix\_43, Watson\_43, Wile\_37, Wooldri\_45, Xena\_36, XianYue\_38, Zarafa\_40, Zetzy\_42, Zolita\_35,

### Summary by start number:

Start 19:

- Found in 24 of 351 ( 6.8% ) of genes in pham
- Manual Annotations of this start: 24 of 317
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AbbysRanger\_37 (A4), Achebe\_36 (A4), AvatarAhPeg\_37 (A4), Backyardigan\_36 (A4), Badger\_36 (A4), BangNhom\_39 (A4),

Bumblebee11\_36 (A4), Cerulean\_39 (A4), ChampagnePapi\_40 (A4), Cici\_37 (A4), Cintron\_38 (A4), Datway\_37 (A4), Katalie136\_37 (A4), LHTSCC\_40 (A4), Miramae\_37 (A4), Morpher26\_37 (A4), Obama12\_39 (A4), Perplexer\_37 (A4), PetiteSangsue\_37 (A4), SheldonCooper\_40 (A4), Shygu2\_37 (A4), Stink\_38 (A4), Wile\_37 (A4), Xena\_36 (A4),

#### Start 23:

- Found in 117 of 351 ( 33.3% ) of genes in pham
- Manual Annotations of this start: 1 of 317
- Called 0.9% of time when present
- Phage (with cluster) where this start called: Camperdownii\_37 (A4),

#### Start 24:

- Found in 4 of 351 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 2 of 317
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DroogsArmy\_37 (A7), FlyCatcher\_40 (A7), Sheen\_38 (A7), Toro\_38 (A7),

#### Start 26:

- Found in 1 of 351 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 317
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Herbertwm\_35 (A2),

#### Start 27:

- Found in 6 of 351 ( 1.7% ) of genes in pham
- Manual Annotations of this start: 4 of 317
- Called 66.7% of time when present
- Phage (with cluster) where this start called: LoneWolf\_41 (A9), Scherzo\_41 (A9), Toaka\_39 (A9), Ugenie5\_38 (A9),

#### Start 29:

- Found in 2 of 351 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 1 of 317
- Called 100.0% of time when present
- Phage (with cluster) where this start called: CRB1\_40 (A2), LadyBird\_41 (A2),

#### Start 30:

- Found in 8 of 351 ( 2.3% ) of genes in pham
- Manual Annotations of this start: 7 of 317
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Adzzy\_40 (A2), BabyBack\_39 (A2), Charm\_38 (A9), DreamTeam1\_38 (A9), GaugeLDP\_39 (A2), Klodlith\_39 (A9), NothingSpecial\_39 (A2), XianYue\_38 (A2),

#### Start 31:

- Found in 11 of 351 ( 3.1% ) of genes in pham
- Manual Annotations of this start: 11 of 317
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Astro\_35 (A8), Caitlin\_35 (A8), Danforth\_34 (A8), Dixon\_35 (A8), Expelliarmus\_34 (A8), Groundhog\_34 (A8), NearlyHeadless\_35 (A8), Phillis\_35 (A8), Roary\_35 (A8), Smeadley\_35 (A8),

Stephig9\_35 (A8),

Start 32:

- Found in 138 of 351 ( 39.3% ) of genes in pham
- Manual Annotations of this start: 116 of 317
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ACFishhook\_42 (A3), Aglet\_44 (A3), AgronaGT15\_42 (A3), Anubis\_46 (A3), AugsMagnumOpus\_46 (A3), B1\_37 (A3), BabyJohn\_38 (A3), BabyRay\_40 (A3), Beauxregard13\_43 (A3), Bigflo\_43 (A3), BlueBird\_41 (A3), BreSam8\_43 (A3), Bugatti\_40 (A3), BuzzBuzz\_41 (A3), Bxz2\_39 (A3), Calvinny\_43 (A3), Caviar\_39 (A3), Celestiallunch\_38 (A9), Chiqui\_38 (A3), Clammy\_40 (A3), ClownCar\_43 (A3), Colbster\_43 (A3), Croquant\_44 (A3), Cullens\_43 (A3), DaHudson\_43 (A3), Daishi\_42 (A3), Dieselweasel\_44 (A3), DropBear\_40 (A3), EpicPhail\_44 (A3), EtoileNova\_40 (A3), Farber\_43 (A3), Fernando\_43 (A3), FlyCatcher\_43 (A7), Fred313\_40 (A3), Gemma\_42 (A3), GingkoMaracino\_43 (A3), Giroux\_41 (A3), Grif\_43 (A3), Groupthink\_44 (A3), Grub\_43 (A3), Grum1\_43 (A3), GtownJaz\_43 (A3), Gwennie\_42 (A3), HashRod\_44 (A3), HaveUMetTed\_44 (A3), Heathen\_40 (A3), HelDan\_40 (A3), Heliosoles\_42 (A3), Hercules11\_43 (A3), Hookmount\_39 (A3), Idleandcovert\_40 (A3), Isca\_39 (A3), JF2\_40 (A3), JF4\_40 (A3), JHC117\_43 (A3), JenCasNa\_44 (A3), JeppNRM\_44 (A3), Jobu08\_42 (A3), KADY\_43 (A3), Kachowdy\_40 (A3), Kalb97\_44 (A3), Kalnoky\_44 (A3), LBerry\_44 (A3), Lambert1\_39 (A3), LarryKay\_43 (A3), Lilith\_44 (A3), Louie6\_42 (A3), Iowa\_43 (A3), LugYA\_46 (A3), MA5\_40 (A3), MK4\_40 (A3), MadMarie\_43 (A3), Mainiac\_43 (A3), Malinsilva\_45 (A3), Manu\_43 (A3), MarQuardt\_43 (A3), Marchesa\_40 (A3), Margo\_39 (A3), Marie\_43 (A3), Marius\_44 (A3), MegTheThird\_38 (A9), Methuselah\_41 (A3), Microwolf\_43 (A3), Misomonster\_44 (A3), MoneyMay\_43 (A3), Montavir\_42 (A3), MuchMore\_46 (A3), Noella\_39 (A3), Norbert\_38 (A3), OlanP\_42 (A3), Ollie\_43 (A3), P28Green\_44 (A3), PGHhamlin\_45 (A3), Panamaxus\_37 (A3), Pawn\_43 (A3), Pembroke\_43 (A3), Penny1\_44 (A3), Phantastic\_40 (A3), PhishRPhriends\_41 (A3), Phoebe\_44 (A3), Phoxy\_43 (A3), Phranny\_44 (A3), Pistachio\_41 (A3), Pocahontas\_39 (A3), Popcicle\_39 (A3), PotatoSplit\_45 (A3), Puppy\_41 (A3), PurpleHaze\_43 (A3), QuinnKiro\_38 (A3), Reba\_43 (A3), ResDef\_39 (A3), Rockstar\_40 (A3), Roimos\_40 (A3), Rummer\_42 (A3), Sabia\_43 (A3), Sabinator\_42 (A3), SaturnRing\_40 (A3), Scout\_40 (A3), Snickers\_43 (A3), SoYo\_43 (A3), SoilDragon\_43 (A3), Soshari\_45 (A3), Spike509\_43 (A3), Stagni\_43 (A3), StepMih\_43 (A3), TNguyen7\_40 (A3), Taurus\_44 (A3), Texage\_38 (A3), Tiffany\_43 (A3), TinyPebbles\_42 (A3), Todacoro\_39 (A3), Toro\_41 (A7), Veracruz\_38 (A3), Vix\_43 (A3), Watson\_43 (A3), Wooldri\_45 (A3), Zarafa\_40 (A3), Zetzy\_42 (A3),

Start 33:

- Found in 130 of 351 ( 37.0% ) of genes in pham
- Manual Annotations of this start: 121 of 317
- Called 98.5% of time when present
- Phage (with cluster) where this start called: Abdiel\_38 (A4), Albee\_38 (A4), Alberto7\_39 (A4), Arturo\_36 (A4), Avle17\_38 (A4), Baby16\_38 (A4), Bartimeaus\_38 (A4), BellusTerra\_39 (A4), Blackmoor\_38 (A4), Bombshell\_38 (A4), Broseidon\_38 (A4), Bruiser\_37 (A4), BubbleTrouble\_38 (A4), Burger\_36 (A4), Caelakin\_38 (A4), CentreCat\_38 (A4), Chaph\_38 (A4), Citius\_38 (A4), Clarenza\_38 (A4), Cocoaberry\_38 (A4), Commander\_38 (A4), Connomayer\_38 (A4), Deano\_38 (A4), Dhanush\_38 (A4), DontArgue\_38 (A10), Dreamboat\_44 (A1), Druantia\_38 (A4), DustyMartin\_43 (A10), Eagle\_38 (A4), Eapen\_38 (A4), Eris\_37 (A4), Eros\_38 (A4), Eurydice\_39 (A4), Florean\_38 (A4), Flux\_38 (A4), Funston\_38 (A4), Gadost\_38 (A4),

HamSlice\_37 (A4), Happiness\_37 (A4), Holli\_37 (A4), Houdini22\_38 (A4), Huxley\_38 (A4), ICleared\_38 (A4), Iceman\_39 (A4), Iracema64\_39 (A4), Jasper\_44 (A1), Jaykayelowell\_37 (A4), JetBlade\_38 (A4), JoongJeon\_38 (A4), KFPoly\_38 (A4), Kamy\_38 (A4), KekoraPapaka\_39 (A4), Kingmustik0402\_38 (A4), Koan\_37 (A4), Koreni\_37 (A4), Kratak\_38 (A4), Kremtemulon\_38 (A4), Kye\_38 (A4), LappelDuVide\_38 (A4), Lemur\_38 (A4), LeoAvram\_38 (A4), LilBib\_43 (A1), LittleB\_38 (A4), LittleGuy\_38 (A4), LochMonster\_38 (A4), Lorenzo\_38 (A4), Lunsford\_39 (A4), Marco3\_44 (A1), Maverick\_38 (A4), Maxo\_39 (A4), Mayonnaise\_38 (A4), Mazhar510\_38 (A4), Medusa\_38 (A4), MeeZee\_38 (A4), Melvin\_40 (A4), MilleFeuille\_42 (A1), Millski\_37 (A4), Morrow\_39 (A4), Mundrea\_36 (A4), Nebs\_39 (A4), Nemo27\_38 (A4), Noelle\_38 (A4), NorthStar\_37 (A4), NotAPhaseMom\_38 (A4), Nyxis\_38 (A4), OKaNui\_39 (A4), Ohfah\_39 (A4), Paraselene\_41 (A1), Peaches\_38 (A4), PeterPeter\_38 (A4), Phacado\_38 (A4), Felipe\_39 (A4), Phighter1804\_38 (A4), Phontbonne\_38 (A4), Polymorphads\_39 (A4), Pumbaa\_38 (A4), Relief\_37 (A4), RhynO\_40 (A10), RockieBear\_38 (A4), Romney\_38 (A4), Roosevelt\_37 (A4), Rosa24\_38 (A4), Rowdy\_43 (A10), Ruin\_38 (A4), Rutherford\_45 (A1), Sabertooth\_38 (A4), Sagefire\_45 (A1), Scamp\_38 (A4), SenorClean\_38 (A4), Shaka\_38 (A4), Shapes\_43 (A10), Skipitt\_37 (A4), Sparxx\_39 (A4), Spino\_38 (A4), SteMason\_38 (A4), Sultana\_38 (A4), Taquarus\_38 (A4), Thanksgivukkah\_38 (A4), TinaFeyge\_39 (A4), Tinybot\_37 (A4), TiroTheta9\_38 (A4), TroyPia\_39 (A4), TygerBlood\_38 (A4), Ulysses\_37 (A4), Wander\_38 (A4), Wilbur\_38 (A4), Wizard007\_38 (A4), YoSam321\_38 (A4),

#### Start 34:

- Found in 1 of 351 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 317
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MyraDee\_36 (A18),

#### Start 38:

- Found in 146 of 351 ( 41.6% ) of genes in pham
- Manual Annotations of this start: 1 of 317
- Called 0.7% of time when present
- Phage (with cluster) where this start called: Palestino\_37 (A4),

#### Start 39:

- Found in 1 of 351 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 317
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Airmid\_35 (A5),

#### Start 41:

- Found in 3 of 351 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 2 of 317
- Called 66.7% of time when present
- Phage (with cluster) where this start called: SydNat\_36 (A5), Zolita\_35 (A5),

#### Start 43:

- Found in 169 of 351 ( 48.1% ) of genes in pham
- Manual Annotations of this start: 23 of 317
- Called 14.2% of time when present
- Phage (with cluster) where this start called: Archetta\_34 (A5), Benedict\_35 (A5), Bonamassa\_34 (A5), Chadwick\_36 (A5), Coog\_34 (A5), Cucu\_34 (A5), EITiger69\_35

(A5), Ghoulboy\_36 (A5), HuhtaEnerson15\_34 (A5), Jabiru\_35 (A5), LittleCherry\_34 (A5), MarysWell\_33 (A5), Micasa\_36 (A5), Midas2\_34 (A5), Milcery\_34 (A5), Naca\_35 (A5), PetterN\_36 (A5), Prinash11\_35 (A5), Scorpio\_36 (A5), Swirley\_36 (A5), Tarynearal\_33 (A5), Theia\_32 (A5), Twigg\_34 (A5), UnionJack\_34 (A5),

Start 47:

- Found in 20 of 351 ( 5.7% ) of genes in pham
- Manual Annotations of this start: 1 of 317
- Called 5.0% of time when present
- Phage (with cluster) where this start called: George\_33 (A5),

### **Summary by clusters:**

There are 10 clusters represented in this pham: A10, A18, A1, A3, A2, A5, A4, A7, A9, A8,

Info for manual annotations of cluster A1:

- Start number 33 was manually annotated 8 times for cluster A1.

Info for manual annotations of cluster A10:

- Start number 33 was manually annotated 1 time for cluster A10.

Info for manual annotations of cluster A18:

- Start number 34 was manually annotated 1 time for cluster A18.

Info for manual annotations of cluster A2:

- Start number 26 was manually annotated 1 time for cluster A2.
- Start number 29 was manually annotated 1 time for cluster A2.
- Start number 30 was manually annotated 5 times for cluster A2.

Info for manual annotations of cluster A3:

- Start number 32 was manually annotated 116 times for cluster A3.

Info for manual annotations of cluster A4:

- Start number 19 was manually annotated 24 times for cluster A4.
- Start number 23 was manually annotated 1 time for cluster A4.
- Start number 33 was manually annotated 112 times for cluster A4.
- Start number 38 was manually annotated 1 time for cluster A4.

Info for manual annotations of cluster A5:

- Start number 39 was manually annotated 1 time for cluster A5.
- Start number 41 was manually annotated 2 times for cluster A5.
- Start number 43 was manually annotated 23 times for cluster A5.
- Start number 47 was manually annotated 1 time for cluster A5.

Info for manual annotations of cluster A7:

- Start number 24 was manually annotated 2 times for cluster A7.

Info for manual annotations of cluster A8:

- Start number 31 was manually annotated 11 times for cluster A8.

Info for manual annotations of cluster A9:

- Start number 27 was manually annotated 4 times for cluster A9.

- Start number 30 was manually annotated 2 times for cluster A9.

### **Gene Information:**

Gene: ACFishhook\_42 Start: 29061, Stop: 28756, Start Num: 32

Candidate Starts for ACFishhook\_42:

(6, 29307), (8, 29289), (9, 29268), (17, 29157), (18, 29145), (Start: 32 @29061 has 116 MA's), (42, 29007), (48, 28968), (55, 28944), (78, 28857), (82, 28794),

Gene: AbbysRanger\_37 Start: 28220, Stop: 27960, Start Num: 19

Candidate Starts for AbbysRanger\_37:

(Start: 19 @28220 has 24 MA's), (Start: 38 @28193 has 1 MA's), (Start: 43 @28166 has 23 MA's), (58, 28106), (75, 28043), (82, 27986),

Gene: Abdiel\_38 Start: 28375, Stop: 28109, Start Num: 33

Candidate Starts for Abdiel\_38:

(12, 28537), (Start: 23 @28423 has 1 MA's), (Start: 33 @28375 has 121 MA's), (Start: 38 @28345 has 1 MA's), (Start: 43 @28318 has 23 MA's), (58, 28258), (60, 28243), (82, 28141),

Gene: Achebe\_36 Start: 28203, Stop: 27943, Start Num: 19

Candidate Starts for Achebe\_36:

(Start: 19 @28203 has 24 MA's), (Start: 38 @28176 has 1 MA's), (Start: 43 @28149 has 23 MA's), (58, 28089), (75, 28026), (82, 27969),

Gene: Adzzy\_40 Start: 26940, Stop: 26704, Start Num: 30

Candidate Starts for Adzzy\_40:

(Start: 30 @26940 has 7 MA's), (53, 26856), (64, 26826), (66, 26823), (81, 26742), (82, 26739),

Gene: Aglet\_44 Start: 29103, Stop: 28864, Start Num: 32

Candidate Starts for Aglet\_44:

(Start: 32 @29103 has 116 MA's), (58, 29022), (63, 28995), (78, 28956), (82, 28902),

Gene: AgronaGT15\_42 Start: 28921, Stop: 28682, Start Num: 32

Candidate Starts for AgronaGT15\_42:

(14, 29053), (Start: 32 @28921 has 116 MA's), (63, 28813), (78, 28774), (82, 28720),

Gene: Airmid\_35 Start: 27047, Stop: 26814, Start Num: 39

Candidate Starts for Airmid\_35:

(Start: 39 @27047 has 1 MA's), (Start: 43 @27023 has 23 MA's), (78, 26897), (82, 26843),

Gene: Albee\_38 Start: 28374, Stop: 28108, Start Num: 33

Candidate Starts for Albee\_38:

(12, 28536), (Start: 23 @28422 has 1 MA's), (Start: 33 @28374 has 121 MA's), (Start: 38 @28344 has 1 MA's), (Start: 43 @28317 has 23 MA's), (58, 28257), (82, 28140),

Gene: Alberto7\_39 Start: 28714, Stop: 28448, Start Num: 33

Candidate Starts for Alberto7\_39:

(12, 28876), (Start: 23 @28762 has 1 MA's), (Start: 33 @28714 has 121 MA's), (Start: 38 @28684 has 1 MA's), (Start: 43 @28657 has 23 MA's), (58, 28597), (82, 28480),

Gene: Anubis\_46 Start: 28988, Stop: 28749, Start Num: 32

Candidate Starts for Anubis\_46:

(Start: 32 @28988 has 116 MA's), (58, 28907), (63, 28880), (78, 28841), (82, 28787),

Gene: Archetta\_34 Start: 27563, Stop: 27351, Start Num: 43

Candidate Starts for Archetta\_34:

(Start: 43 @27563 has 23 MA's), (Start: 47 @27545 has 1 MA's), (55, 27518), (78, 27437), (82, 27383),

Gene: Arturo\_36 Start: 28433, Stop: 28167, Start Num: 33

Candidate Starts for Arturo\_36:

(Start: 23 @28481 has 1 MA's), (Start: 33 @28433 has 121 MA's), (Start: 38 @28403 has 1 MA's),  
(Start: 43 @28376 has 23 MA's), (58, 28316), (60, 28301), (82, 28199),

Gene: Astro\_35 Start: 26960, Stop: 26682, Start Num: 31

Candidate Starts for Astro\_35:

(Start: 31 @26960 has 11 MA's), (55, 26855), (61, 26816), (78, 26768), (82, 26714),

Gene: AugsMagnumOpus\_46 Start: 29094, Stop: 28855, Start Num: 32

Candidate Starts for AugsMagnumOpus\_46:

(Start: 32 @29094 has 116 MA's), (63, 28986), (78, 28947), (82, 28893),

Gene: AvatarAhPeg\_37 Start: 28735, Stop: 28475, Start Num: 19

Candidate Starts for AvatarAhPeg\_37:

(Start: 19 @28735 has 24 MA's), (Start: 38 @28705 has 1 MA's), (Start: 43 @28678 has 23 MA's), (58, 28618), (60, 28603), (82, 28501),

Gene: Avle17\_38 Start: 28374, Stop: 28108, Start Num: 33

Candidate Starts for Avle17\_38:

(12, 28536), (Start: 23 @28422 has 1 MA's), (Start: 33 @28374 has 121 MA's), (Start: 38 @28344 has 1 MA's), (Start: 43 @28317 has 23 MA's), (58, 28257), (82, 28140),

Gene: B1\_37 Start: 27979, Stop: 27740, Start Num: 32

Candidate Starts for B1\_37:

(Start: 32 @27979 has 116 MA's), (63, 27871), (78, 27832), (82, 27778),

Gene: Baby16\_38 Start: 28385, Stop: 28119, Start Num: 33

Candidate Starts for Baby16\_38:

(12, 28547), (Start: 23 @28433 has 1 MA's), (Start: 33 @28385 has 121 MA's), (Start: 38 @28355 has 1 MA's), (Start: 43 @28328 has 23 MA's), (58, 28268), (82, 28151),

Gene: BabyBack\_39 Start: 29153, Stop: 28929, Start Num: 30

Candidate Starts for BabyBack\_39:

(16, 29267), (Start: 30 @29153 has 7 MA's), (53, 29069), (57, 29063), (68, 29027), (73, 29012), (82, 28955),

Gene: BabyJohn\_38 Start: 28749, Stop: 28510, Start Num: 32

Candidate Starts for BabyJohn\_38:

(Start: 32 @28749 has 116 MA's), (57, 28671), (63, 28641), (78, 28602), (82, 28548),

Gene: BabyRay\_40 Start: 28714, Stop: 28439, Start Num: 32

Candidate Starts for BabyRay\_40:

(13, 28852), (21, 28771), (Start: 32 @28714 has 116 MA's), (52, 28621), (82, 28477),

Gene: Backyardigan\_36 Start: 28236, Stop: 27976, Start Num: 19

Candidate Starts for Backyardigan\_36:

(Start: 19 @28236 has 24 MA's), (Start: 38 @28209 has 1 MA's), (Start: 43 @28182 has 23 MA's), (58, 28122), (75, 28059), (82, 28002),

Gene: Badger\_36 Start: 28204, Stop: 27944, Start Num: 19

Candidate Starts for Badger\_36:

(Start: 19 @28204 has 24 MA's), (Start: 38 @28177 has 1 MA's), (Start: 43 @28150 has 23 MA's), (58, 28090), (75, 28027), (82, 27970),

Gene: BangNhom\_39 Start: 28676, Stop: 28410, Start Num: 19

Candidate Starts for BangNhom\_39:

(1, 29540), (2, 29273), (3, 28958), (5, 28850), (7, 28826), (Start: 19 @28676 has 24 MA's), (Start: 38 @28646 has 1 MA's), (Start: 43 @28619 has 23 MA's), (58, 28559), (60, 28544), (82, 28442),

Gene: Bartimeaus\_38 Start: 28376, Stop: 28110, Start Num: 33

Candidate Starts for Bartimeaus\_38:

(12, 28538), (Start: 23 @28424 has 1 MA's), (Start: 33 @28376 has 121 MA's), (Start: 38 @28346 has 1 MA's), (Start: 43 @28319 has 23 MA's), (58, 28259), (82, 28142),

Gene: Beauxregard13\_43 Start: 29105, Stop: 28866, Start Num: 32

Candidate Starts for Beauxregard13\_43:

(Start: 32 @29105 has 116 MA's), (63, 28997), (78, 28958), (82, 28904),

Gene: BellusTerra\_39 Start: 28375, Stop: 28109, Start Num: 33

Candidate Starts for BellusTerra\_39:

(12, 28537), (Start: 23 @28423 has 1 MA's), (Start: 33 @28375 has 121 MA's), (Start: 38 @28345 has 1 MA's), (Start: 43 @28318 has 23 MA's), (58, 28258), (60, 28243), (82, 28141),

Gene: Benedict\_35 Start: 27023, Stop: 26814, Start Num: 43

Candidate Starts for Benedict\_35:

(Start: 43 @27023 has 23 MA's), (Start: 47 @27005 has 1 MA's), (78, 26897), (82, 26843),

Gene: Bigflo\_43 Start: 29101, Stop: 28862, Start Num: 32

Candidate Starts for Bigflo\_43:

(Start: 32 @29101 has 116 MA's), (63, 28993), (78, 28954), (82, 28900),

Gene: Blackmoor\_38 Start: 28376, Stop: 28110, Start Num: 33

Candidate Starts for Blackmoor\_38:

(12, 28538), (Start: 23 @28424 has 1 MA's), (Start: 33 @28376 has 121 MA's), (Start: 38 @28346 has 1 MA's), (Start: 43 @28319 has 23 MA's), (58, 28259), (82, 28142),

Gene: BlueBird\_41 Start: 28604, Stop: 28365, Start Num: 32

Candidate Starts for BlueBird\_41:

(Start: 32 @28604 has 116 MA's), (63, 28496), (78, 28457), (82, 28403),

Gene: Bombshell\_38 Start: 28374, Stop: 28108, Start Num: 33

Candidate Starts for Bombshell\_38:

(12, 28536), (Start: 23 @28422 has 1 MA's), (Start: 33 @28374 has 121 MA's), (Start: 38 @28344 has 1 MA's), (Start: 43 @28317 has 23 MA's), (58, 28257), (82, 28140),

Gene: Bonamassa\_34 Start: 27357, Stop: 27145, Start Num: 43

Candidate Starts for Bonamassa\_34:

(Start: 43 @27357 has 23 MA's), (Start: 47 @27339 has 1 MA's), (55, 27312), (78, 27231), (82, 27177),

Gene: BreSam8\_43 Start: 29095, Stop: 28856, Start Num: 32  
Candidate Starts for BreSam8\_43:  
(Start: 32 @29095 has 116 MA's), (63, 28987), (78, 28948), (82, 28894),

Gene: Broseidon\_38 Start: 28376, Stop: 28110, Start Num: 33  
Candidate Starts for Broseidon\_38:  
(12, 28538), (Start: 23 @28424 has 1 MA's), (Start: 33 @28376 has 121 MA's), (Start: 38 @28346 has 1 MA's), (Start: 43 @28319 has 23 MA's), (58, 28259), (82, 28142),

Gene: Bruiser\_37 Start: 28374, Stop: 28108, Start Num: 33  
Candidate Starts for Bruiser\_37:  
(12, 28536), (Start: 23 @28422 has 1 MA's), (Start: 33 @28374 has 121 MA's), (Start: 38 @28344 has 1 MA's), (Start: 43 @28317 has 23 MA's), (58, 28257), (82, 28140),

Gene: BubbleTrouble\_38 Start: 28374, Stop: 28108, Start Num: 33  
Candidate Starts for BubbleTrouble\_38:  
(12, 28536), (Start: 23 @28422 has 1 MA's), (Start: 33 @28374 has 121 MA's), (Start: 38 @28344 has 1 MA's), (Start: 43 @28317 has 23 MA's), (58, 28257), (82, 28140),

Gene: Bugatti\_40 Start: 28604, Stop: 28365, Start Num: 32  
Candidate Starts for Bugatti\_40:  
(Start: 32 @28604 has 116 MA's), (63, 28496), (78, 28457), (82, 28403),

Gene: Bumblebee11\_36 Start: 28206, Stop: 27946, Start Num: 19  
Candidate Starts for Bumblebee11\_36:  
(Start: 19 @28206 has 24 MA's), (Start: 38 @28179 has 1 MA's), (Start: 43 @28152 has 23 MA's), (58, 28092), (75, 28029), (82, 27972),

Gene: Burger\_36 Start: 28374, Stop: 28108, Start Num: 33  
Candidate Starts for Burger\_36:  
(12, 28536), (Start: 23 @28422 has 1 MA's), (Start: 33 @28374 has 121 MA's), (Start: 38 @28344 has 1 MA's), (Start: 43 @28317 has 23 MA's), (58, 28257), (82, 28140),

Gene: BuzzBuzz\_41 Start: 29100, Stop: 28861, Start Num: 32  
Candidate Starts for BuzzBuzz\_41:  
(14, 29232), (Start: 32 @29100 has 116 MA's), (63, 28992), (78, 28953), (82, 28899),

Gene: Bxz2\_39 Start: 29107, Stop: 28868, Start Num: 32  
Candidate Starts for Bxz2\_39:  
(14, 29239), (Start: 32 @29107 has 116 MA's), (63, 28999), (78, 28960), (82, 28906),

Gene: CRB1\_40 Start: 28593, Stop: 28357, Start Num: 29  
Candidate Starts for CRB1\_40:  
(15, 28716), (16, 28704), (Start: 29 @28593 has 1 MA's), (82, 28389),

Gene: Caelakin\_38 Start: 28374, Stop: 28108, Start Num: 33  
Candidate Starts for Caelakin\_38:  
(12, 28536), (Start: 23 @28422 has 1 MA's), (Start: 33 @28374 has 121 MA's), (Start: 38 @28344 has 1 MA's), (Start: 43 @28317 has 23 MA's), (58, 28257), (82, 28140),

Gene: Caitlin\_35 Start: 26953, Stop: 26675, Start Num: 31  
Candidate Starts for Caitlin\_35:

(Start: 31 @26953 has 11 MA's), (55, 26848), (61, 26809), (78, 26761), (82, 26707),

Gene: Calvinny\_43 Start: 28989, Stop: 28684, Start Num: 32

Candidate Starts for Calvinny\_43:

(6, 29235), (8, 29217), (9, 29196), (10, 29193), (17, 29085), (18, 29073), (Start: 32 @28989 has 116 MA's), (42, 28935), (48, 28896), (55, 28872), (78, 28785), (82, 28722),

Gene: Camperdownii\_37 Start: 28095, Stop: 27802, Start Num: 23

Candidate Starts for Camperdownii\_37:

(Start: 23 @28095 has 1 MA's), (Start: 33 @28047 has 121 MA's), (45, 27987), (71, 27903), (74, 27891), (77, 27882), (82, 27834),

Gene: Caviar\_39 Start: 28759, Stop: 28520, Start Num: 32

Candidate Starts for Caviar\_39:

(Start: 32 @28759 has 116 MA's), (63, 28651), (78, 28612),

Gene: Celestiallunch\_38 Start: 28004, Stop: 27747, Start Num: 32

Candidate Starts for Celestiallunch\_38:

(Start: 32 @28004 has 116 MA's), (69, 27848), (73, 27836), (80, 27794),

Gene: CentreCat\_38 Start: 28377, Stop: 28111, Start Num: 33

Candidate Starts for CentreCat\_38:

(12, 28539), (Start: 23 @28425 has 1 MA's), (Start: 33 @28377 has 121 MA's), (Start: 38 @28347 has 1 MA's), (Start: 43 @28320 has 23 MA's), (58, 28260), (82, 28143),

Gene: Cerulean\_39 Start: 28677, Stop: 28411, Start Num: 19

Candidate Starts for Cerulean\_39:

(1, 29541), (2, 29274), (3, 28959), (5, 28851), (7, 28827), (Start: 19 @28677 has 24 MA's), (Start: 38 @28647 has 1 MA's), (Start: 43 @28620 has 23 MA's), (58, 28560), (60, 28545), (82, 28443),

Gene: Chadwick\_36 Start: 26926, Stop: 26717, Start Num: 43

Candidate Starts for Chadwick\_36:

(Start: 43 @26926 has 23 MA's), (78, 26800), (82, 26746),

Gene: ChampagnePapi\_40 Start: 28676, Stop: 28410, Start Num: 19

Candidate Starts for ChampagnePapi\_40:

(1, 29540), (2, 29273), (3, 28958), (5, 28850), (7, 28826), (Start: 19 @28676 has 24 MA's), (Start: 38 @28646 has 1 MA's), (Start: 43 @28619 has 23 MA's), (58, 28559), (60, 28544), (82, 28442),

Gene: Chaph\_38 Start: 28385, Stop: 28119, Start Num: 33

Candidate Starts for Chaph\_38:

(12, 28547), (Start: 23 @28433 has 1 MA's), (Start: 33 @28385 has 121 MA's), (Start: 38 @28355 has 1 MA's), (Start: 43 @28328 has 23 MA's), (58, 28268), (82, 28151),

Gene: Charm\_38 Start: 28141, Stop: 27875, Start Num: 30

Candidate Starts for Charm\_38:

(Start: 30 @28141 has 7 MA's), (69, 27976), (73, 27964), (82, 27901),

Gene: Chiqui\_38 Start: 28758, Stop: 28519, Start Num: 32

Candidate Starts for Chiqui\_38:

(Start: 32 @28758 has 116 MA's), (57, 28680), (63, 28650), (78, 28611), (82, 28557),

Gene: Cici\_37 Start: 28221, Stop: 27961, Start Num: 19

Candidate Starts for Cici\_37:

(Start: 19 @28221 has 24 MA's), (Start: 38 @28194 has 1 MA's), (Start: 43 @28167 has 23 MA's), (58, 28107), (75, 28044), (82, 27987),

Gene: Cintron\_38 Start: 28440, Stop: 28174, Start Num: 19

Candidate Starts for Cintron\_38:

(Start: 19 @28440 has 24 MA's), (Start: 38 @28410 has 1 MA's), (Start: 43 @28383 has 23 MA's), (58, 28323), (82, 28206),

Gene: Citius\_38 Start: 28395, Stop: 28129, Start Num: 33

Candidate Starts for Citius\_38:

(12, 28557), (Start: 23 @28443 has 1 MA's), (Start: 33 @28395 has 121 MA's), (Start: 38 @28365 has 1 MA's), (Start: 43 @28338 has 23 MA's), (58, 28278), (60, 28263), (82, 28161),

Gene: Clammy\_40 Start: 28604, Stop: 28365, Start Num: 32

Candidate Starts for Clammy\_40:

(Start: 32 @28604 has 116 MA's), (63, 28496), (78, 28457), (82, 28403),

Gene: Clarenza\_38 Start: 28371, Stop: 28105, Start Num: 33

Candidate Starts for Clarenza\_38:

(12, 28533), (Start: 23 @28419 has 1 MA's), (Start: 33 @28371 has 121 MA's), (Start: 38 @28341 has 1 MA's), (Start: 43 @28314 has 23 MA's), (58, 28254), (82, 28137),

Gene: ClownCar\_43 Start: 28982, Stop: 28677, Start Num: 32

Candidate Starts for ClownCar\_43:

(6, 29228), (8, 29210), (9, 29189), (17, 29078), (18, 29066), (Start: 32 @28982 has 116 MA's), (42, 28928), (48, 28889), (55, 28865), (78, 28778), (82, 28715),

Gene: Cocoaberry\_38 Start: 28378, Stop: 28112, Start Num: 33

Candidate Starts for Cocoaberry\_38:

(12, 28540), (Start: 23 @28426 has 1 MA's), (Start: 33 @28378 has 121 MA's), (Start: 38 @28348 has 1 MA's), (Start: 43 @28321 has 23 MA's), (58, 28261), (82, 28144),

Gene: Colbster\_43 Start: 29105, Stop: 28866, Start Num: 32

Candidate Starts for Colbster\_43:

(Start: 32 @29105 has 116 MA's), (63, 28997), (78, 28958), (82, 28904),

Gene: Commander\_38 Start: 28373, Stop: 28107, Start Num: 33

Candidate Starts for Commander\_38:

(12, 28535), (Start: 23 @28421 has 1 MA's), (Start: 33 @28373 has 121 MA's), (Start: 38 @28343 has 1 MA's), (Start: 43 @28316 has 23 MA's), (58, 28256), (82, 28139),

Gene: Connomayer\_38 Start: 28374, Stop: 28108, Start Num: 33

Candidate Starts for Connomayer\_38:

(12, 28536), (Start: 23 @28422 has 1 MA's), (Start: 33 @28374 has 121 MA's), (Start: 38 @28344 has 1 MA's), (Start: 43 @28317 has 23 MA's), (58, 28257), (82, 28140),

Gene: Coog\_34 Start: 27403, Stop: 27185, Start Num: 43

Candidate Starts for Coog\_34:

(Start: 43 @27403 has 23 MA's), (Start: 47 @27385 has 1 MA's), (55, 27358), (78, 27271), (82, 27217),

Gene: Croquant\_44 Start: 29100, Stop: 28861, Start Num: 32

Candidate Starts for Croquant\_44:

(Start: 32 @29100 has 116 MA's), (63, 28992), (78, 28953), (82, 28899),

Gene: Cuco\_34 Start: 27356, Stop: 27144, Start Num: 43

Candidate Starts for Cuco\_34:

(Start: 43 @27356 has 23 MA's), (Start: 47 @27338 has 1 MA's), (55, 27311), (78, 27230), (82, 27176),

Gene: Cullens\_43 Start: 29101, Stop: 28862, Start Num: 32

Candidate Starts for Cullens\_43:

(Start: 32 @29101 has 116 MA's), (63, 28993), (78, 28954), (82, 28900),

Gene: DaHudson\_43 Start: 29094, Stop: 28855, Start Num: 32

Candidate Starts for DaHudson\_43:

(Start: 32 @29094 has 116 MA's), (63, 28986), (78, 28947), (82, 28893),

Gene: Daishi\_42 Start: 27941, Stop: 27702, Start Num: 32

Candidate Starts for Daishi\_42:

(14, 28073), (Start: 32 @27941 has 116 MA's), (63, 27833), (78, 27794), (82, 27740),

Gene: Danforth\_34 Start: 26845, Stop: 26567, Start Num: 31

Candidate Starts for Danforth\_34:

(Start: 31 @26845 has 11 MA's), (55, 26740), (61, 26701), (78, 26653), (82, 26599),

Gene: Datway\_37 Start: 28192, Stop: 27932, Start Num: 19

Candidate Starts for Datway\_37:

(Start: 19 @28192 has 24 MA's), (Start: 38 @28165 has 1 MA's), (Start: 43 @28138 has 23 MA's), (58, 28078), (75, 28015), (82, 27958),

Gene: Deano\_38 Start: 28382, Stop: 28116, Start Num: 33

Candidate Starts for Deano\_38:

(12, 28544), (Start: 23 @28430 has 1 MA's), (Start: 33 @28382 has 121 MA's), (Start: 38 @28352 has 1 MA's), (Start: 43 @28325 has 23 MA's), (58, 28265), (82, 28148),

Gene: Dhanush\_38 Start: 28377, Stop: 28111, Start Num: 33

Candidate Starts for Dhanush\_38:

(12, 28539), (Start: 23 @28425 has 1 MA's), (Start: 33 @28377 has 121 MA's), (Start: 38 @28347 has 1 MA's), (Start: 43 @28320 has 23 MA's), (58, 28260), (82, 28143),

Gene: Dieselweasel\_44 Start: 29104, Stop: 28865, Start Num: 32

Candidate Starts for Dieselweasel\_44:

(Start: 32 @29104 has 116 MA's), (63, 28996), (78, 28957), (82, 28903),

Gene: Dixon\_35 Start: 26954, Stop: 26676, Start Num: 31

Candidate Starts for Dixon\_35:

(Start: 31 @26954 has 11 MA's), (55, 26849), (61, 26810), (78, 26762), (82, 26708),

Gene: DontArgue\_38 Start: 27488, Stop: 27219, Start Num: 33

Candidate Starts for DontArgue\_38:

(Start: 33 @27488 has 121 MA's), (Start: 38 @27458 has 1 MA's), (49, 27404), (50, 27401), (81, 27257), (82, 27254),

Gene: DreamTeam1\_38 Start: 28024, Stop: 27758, Start Num: 30

Candidate Starts for DreamTeam1\_38:

(Start: 30 @28024 has 7 MA's), (69, 27859), (73, 27847), (82, 27784),

Gene: Dreamboat\_44 Start: 32205, Stop: 31960, Start Num: 33

Candidate Starts for Dreamboat\_44:

(11, 32394), (Start: 33 @32205 has 121 MA's), (67, 32055), (73, 32040), (76, 32025), (79, 32013), (83, 31983),

Gene: DroogsArmy\_37 Start: 30255, Stop: 29989, Start Num: 24

Candidate Starts for DroogsArmy\_37:

(Start: 24 @30255 has 2 MA's), (46, 30168), (70, 30084), (72, 30078), (84, 30006),

Gene: DropBear\_40 Start: 28671, Stop: 28432, Start Num: 32

Candidate Starts for DropBear\_40:

(17, 28767), (Start: 32 @28671 has 116 MA's), (63, 28563), (78, 28524), (82, 28470),

Gene: Druantia\_38 Start: 28377, Stop: 28111, Start Num: 33

Candidate Starts for Druantia\_38:

(12, 28539), (Start: 23 @28425 has 1 MA's), (Start: 33 @28377 has 121 MA's), (Start: 38 @28347 has 1 MA's), (Start: 43 @28320 has 23 MA's), (58, 28260), (82, 28143),

Gene: DustyMartin\_43 Start: 28322, Stop: 28053, Start Num: 33

Candidate Starts for DustyMartin\_43:

(20, 28382), (Start: 33 @28322 has 121 MA's), (Start: 38 @28292 has 1 MA's), (42, 28268), (49, 28238), (82, 28088),

Gene: Eagle\_38 Start: 28399, Stop: 28133, Start Num: 33

Candidate Starts for Eagle\_38:

(12, 28561), (Start: 23 @28447 has 1 MA's), (Start: 33 @28399 has 121 MA's), (Start: 38 @28369 has 1 MA's), (Start: 43 @28342 has 23 MA's), (58, 28282), (60, 28267), (82, 28165),

Gene: Eapen\_38 Start: 28372, Stop: 28106, Start Num: 33

Candidate Starts for Eapen\_38:

(12, 28534), (Start: 23 @28420 has 1 MA's), (Start: 33 @28372 has 121 MA's), (Start: 38 @28342 has 1 MA's), (Start: 43 @28315 has 23 MA's), (58, 28255), (82, 28138),

Gene: EITiger69\_35 Start: 27021, Stop: 26812, Start Num: 43

Candidate Starts for EITiger69\_35:

(Start: 43 @27021 has 23 MA's), (78, 26895), (82, 26841),

Gene: EpicPhail\_44 Start: 29105, Stop: 28866, Start Num: 32

Candidate Starts for EpicPhail\_44:

(Start: 32 @29105 has 116 MA's), (63, 28997), (78, 28958), (82, 28904),

Gene: Eris\_37 Start: 28374, Stop: 28108, Start Num: 33

Candidate Starts for Eris\_37:

(12, 28536), (Start: 23 @28422 has 1 MA's), (Start: 33 @28374 has 121 MA's), (Start: 38 @28344 has 1 MA's), (Start: 43 @28317 has 23 MA's), (58, 28257), (82, 28140),

Gene: Eros\_38 Start: 28376, Stop: 28110, Start Num: 33

Candidate Starts for Eros\_38:

(12, 28538), (Start: 23 @28424 has 1 MA's), (Start: 33 @28376 has 121 MA's), (Start: 38 @28346 has 1 MA's), (Start: 43 @28319 has 23 MA's), (58, 28259), (82, 28142),

Gene: EtoileNova\_40 Start: 28763, Stop: 28524, Start Num: 32

Candidate Starts for EtoileNova\_40:

(Start: 32 @28763 has 116 MA's), (63, 28655), (78, 28616),

Gene: Eurydice\_39 Start: 28374, Stop: 28108, Start Num: 33

Candidate Starts for Eurydice\_39:

(12, 28536), (Start: 23 @28422 has 1 MA's), (Start: 33 @28374 has 121 MA's), (Start: 38 @28344 has 1 MA's), (Start: 43 @28317 has 23 MA's), (58, 28257), (60, 28242), (82, 28140),

Gene: Expelliarmus\_34 Start: 26831, Stop: 26553, Start Num: 31

Candidate Starts for Expelliarmus\_34:

(Start: 31 @26831 has 11 MA's), (55, 26726), (61, 26687), (78, 26639), (82, 26585),

Gene: Farber\_43 Start: 29095, Stop: 28856, Start Num: 32

Candidate Starts for Farber\_43:

(Start: 32 @29095 has 116 MA's), (63, 28987), (78, 28948), (82, 28894),

Gene: Fernando\_43 Start: 29101, Stop: 28862, Start Num: 32

Candidate Starts for Fernando\_43:

(Start: 32 @29101 has 116 MA's), (63, 28993), (78, 28954), (82, 28900),

Gene: Florean\_38 Start: 28373, Stop: 28107, Start Num: 33

Candidate Starts for Florean\_38:

(12, 28535), (Start: 23 @28421 has 1 MA's), (Start: 33 @28373 has 121 MA's), (Start: 38 @28343 has 1 MA's), (Start: 43 @28316 has 23 MA's), (58, 28256), (82, 28139),

Gene: Flux\_38 Start: 28376, Stop: 28110, Start Num: 33

Candidate Starts for Flux\_38:

(12, 28538), (Start: 23 @28424 has 1 MA's), (Start: 33 @28376 has 121 MA's), (Start: 38 @28346 has 1 MA's), (Start: 43 @28319 has 23 MA's), (58, 28259), (82, 28142),

Gene: FlyCatcher\_43 Start: 30738, Stop: 30514, Start Num: 32

Candidate Starts for FlyCatcher\_43:

(Start: 32 @30738 has 116 MA's), (36, 30720), (63, 30630), (78, 30591), (84, 30531),

Gene: FlyCatcher\_40 Start: 30159, Stop: 29860, Start Num: 24

Candidate Starts for FlyCatcher\_40:

(Start: 24 @30159 has 2 MA's),

Gene: Fred313\_40 Start: 28356, Stop: 28117, Start Num: 32

Candidate Starts for Fred313\_40:

(17, 28452), (Start: 32 @28356 has 116 MA's), (35, 28341), (63, 28248), (78, 28209), (82, 28155),

Gene: Funston\_38 Start: 28374, Stop: 28108, Start Num: 33

Candidate Starts for Funston\_38:

(12, 28536), (Start: 23 @28422 has 1 MA's), (Start: 33 @28374 has 121 MA's), (Start: 38 @28344 has 1 MA's), (Start: 43 @28317 has 23 MA's), (58, 28257), (82, 28140),

Gene: Gadost\_38 Start: 28378, Stop: 28112, Start Num: 33

Candidate Starts for Gadost\_38:

(12, 28540), (Start: 23 @28426 has 1 MA's), (Start: 33 @28378 has 121 MA's), (Start: 38 @28348 has 1 MA's), (Start: 43 @28321 has 23 MA's), (58, 28261), (82, 28144),

Gene: GaugeLDP\_39 Start: 29059, Stop: 28823, Start Num: 30

Candidate Starts for GaugeLDP\_39:

(16, 29173), (Start: 27 @29074 has 4 MA's), (Start: 30 @29059 has 7 MA's), (Start: 38 @29041 has 1 MA's), (52, 28978), (82, 28867),

Gene: Gemma\_42 Start: 28985, Stop: 28680, Start Num: 32

Candidate Starts for Gemma\_42:

(6, 29231), (8, 29213), (9, 29192), (10, 29189), (17, 29081), (18, 29069), (Start: 32 @28985 has 116 MA's), (42, 28931), (48, 28892), (55, 28868), (78, 28781), (82, 28718),

Gene: George\_33 Start: 27339, Stop: 27145, Start Num: 47

Candidate Starts for George\_33:

(Start: 43 @27357 has 23 MA's), (Start: 47 @27339 has 1 MA's), (55, 27312), (78, 27231), (82, 27177),

Gene: Ghouboy\_36 Start: 27962, Stop: 27744, Start Num: 43

Candidate Starts for Ghouboy\_36:

(Start: 41 @27971 has 2 MA's), (Start: 43 @27962 has 23 MA's), (Start: 47 @27944 has 1 MA's), (55, 27917), (78, 27830), (82, 27776),

Gene: GingkoMaracino\_43 Start: 28988, Stop: 28749, Start Num: 32

Candidate Starts for GingkoMaracino\_43:

(Start: 32 @28988 has 116 MA's), (58, 28907), (63, 28880), (78, 28841), (82, 28787),

Gene: Giroux\_41 Start: 28603, Stop: 28364, Start Num: 32

Candidate Starts for Giroux\_41:

(Start: 32 @28603 has 116 MA's), (63, 28495), (78, 28456), (82, 28402),

Gene: Grif\_43 Start: 29176, Stop: 28937, Start Num: 32

Candidate Starts for Grif\_43:

(Start: 32 @29176 has 116 MA's), (63, 29068), (78, 29029), (82, 28975),

Gene: Groundhog\_34 Start: 26925, Stop: 26647, Start Num: 31

Candidate Starts for Groundhog\_34:

(Start: 31 @26925 has 11 MA's), (55, 26820), (61, 26781), (78, 26733), (82, 26679),

Gene: Groupthink\_44 Start: 28989, Stop: 28684, Start Num: 32

Candidate Starts for Groupthink\_44:

(6, 29235), (8, 29217), (9, 29196), (10, 29193), (17, 29085), (18, 29073), (Start: 32 @28989 has 116 MA's), (42, 28935), (48, 28896), (55, 28872), (78, 28785), (82, 28722),

Gene: Grub\_43 Start: 29094, Stop: 28855, Start Num: 32

Candidate Starts for Grub\_43:

(Start: 32 @29094 has 116 MA's), (63, 28986), (78, 28947), (82, 28893),

Gene: Grum1\_43 Start: 29101, Stop: 28862, Start Num: 32

Candidate Starts for Grum1\_43:

(Start: 32 @29101 has 116 MA's), (63, 28993), (78, 28954), (82, 28900),

Gene: GtownJaz\_43 Start: 29103, Stop: 28864, Start Num: 32

Candidate Starts for GtownJaz\_43:

(Start: 32 @29103 has 116 MA's), (63, 28995), (78, 28956), (82, 28902),

Gene: Gwennie\_42 Start: 29105, Stop: 28866, Start Num: 32

Candidate Starts for Gwennie\_42:

(Start: 32 @29105 has 116 MA's), (63, 28997), (78, 28958), (82, 28904),

Gene: HamSlice\_37 Start: 28372, Stop: 28106, Start Num: 33

Candidate Starts for HamSlice\_37:

(12, 28534), (Start: 23 @28420 has 1 MA's), (Start: 33 @28372 has 121 MA's), (Start: 38 @28342 has 1 MA's), (Start: 43 @28315 has 23 MA's), (58, 28255), (82, 28138),

Gene: Happiness\_37 Start: 28379, Stop: 28113, Start Num: 33

Candidate Starts for Happiness\_37:

(12, 28541), (Start: 23 @28427 has 1 MA's), (Start: 33 @28379 has 121 MA's), (Start: 38 @28349 has 1 MA's), (Start: 43 @28322 has 23 MA's), (58, 28262), (82, 28145),

Gene: HashRod\_44 Start: 29100, Stop: 28861, Start Num: 32

Candidate Starts for HashRod\_44:

(14, 29232), (Start: 32 @29100 has 116 MA's), (63, 28992), (78, 28953), (82, 28899),

Gene: HaveUMetTed\_44 Start: 28983, Stop: 28678, Start Num: 32

Candidate Starts for HaveUMetTed\_44:

(17, 29079), (18, 29067), (Start: 32 @28983 has 116 MA's), (42, 28929), (48, 28890), (55, 28866), (78, 28779), (82, 28716),

Gene: Heathen\_40 Start: 28412, Stop: 28173, Start Num: 32

Candidate Starts for Heathen\_40:

(17, 28508), (Start: 32 @28412 has 116 MA's), (63, 28304), (78, 28265), (82, 28211),

Gene: HelDan\_40 Start: 28664, Stop: 28425, Start Num: 32

Candidate Starts for HelDan\_40:

(17, 28760), (Start: 32 @28664 has 116 MA's), (63, 28556), (78, 28517), (82, 28463),

Gene: Heliosoles\_42 Start: 28992, Stop: 28687, Start Num: 32

Candidate Starts for Heliosoles\_42:

(6, 29238), (8, 29220), (9, 29199), (10, 29196), (17, 29088), (18, 29076), (Start: 32 @28992 has 116 MA's), (42, 28938), (48, 28899), (55, 28875), (78, 28788), (82, 28725),

Gene: Herbertwm\_35 Start: 26820, Stop: 26551, Start Num: 26

Candidate Starts for Herbertwm\_35:

(22, 26844), (Start: 26 @26820 has 1 MA's), (Start: 43 @26730 has 23 MA's), (69, 26646),

Gene: Hercules11\_43 Start: 29110, Stop: 28871, Start Num: 32

Candidate Starts for Hercules11\_43:

(Start: 32 @29110 has 116 MA's), (63, 29002), (78, 28963), (82, 28909),

Gene: Holli\_37 Start: 28164, Stop: 27898, Start Num: 33

Candidate Starts for Holli\_37:

(12, 28326), (Start: 23 @28212 has 1 MA's), (Start: 33 @28164 has 121 MA's), (Start: 38 @28134 has 1 MA's), (Start: 43 @28107 has 23 MA's), (58, 28047), (82, 27930),

Gene: Hookmount\_39 Start: 28760, Stop: 28521, Start Num: 32

Candidate Starts for Hookmount\_39:

(Start: 32 @28760 has 116 MA's), (63, 28652), (78, 28613),

Gene: Houdini22\_38 Start: 28378, Stop: 28112, Start Num: 33

Candidate Starts for Houdini22\_38:

(12, 28540), (Start: 23 @28426 has 1 MA's), (Start: 33 @28378 has 121 MA's), (Start: 38 @28348 has 1 MA's), (Start: 43 @28321 has 23 MA's), (58, 28261), (82, 28144),

Gene: HuhtaEnerson15\_34 Start: 27348, Stop: 27136, Start Num: 43

Candidate Starts for HuhtaEnerson15\_34:

(Start: 43 @27348 has 23 MA's), (Start: 47 @27330 has 1 MA's), (55, 27303), (78, 27222), (82, 27168),

Gene: Huxley\_38 Start: 28435, Stop: 28169, Start Num: 33

Candidate Starts for Huxley\_38:

(12, 28597), (Start: 23 @28483 has 1 MA's), (Start: 33 @28435 has 121 MA's), (Start: 38 @28405 has 1 MA's), (Start: 43 @28378 has 23 MA's), (58, 28318), (82, 28201),

Gene: ICleared\_38 Start: 28406, Stop: 28140, Start Num: 33

Candidate Starts for ICleared\_38:

(12, 28568), (Start: 23 @28454 has 1 MA's), (Start: 33 @28406 has 121 MA's), (Start: 38 @28376 has 1 MA's), (Start: 43 @28349 has 23 MA's), (58, 28289), (82, 28172),

Gene: Iceman\_39 Start: 28663, Stop: 28397, Start Num: 33

Candidate Starts for Iceman\_39:

(12, 28825), (Start: 23 @28711 has 1 MA's), (Start: 33 @28663 has 121 MA's), (Start: 38 @28633 has 1 MA's), (Start: 43 @28606 has 23 MA's), (58, 28546), (82, 28429),

Gene: Idleandcovert\_40 Start: 28604, Stop: 28365, Start Num: 32

Candidate Starts for Idleandcovert\_40:

(Start: 32 @28604 has 116 MA's), (63, 28496), (78, 28457), (82, 28403),

Gene: Iracema64\_39 Start: 28638, Stop: 28372, Start Num: 33

Candidate Starts for Iracema64\_39:

(12, 28800), (Start: 23 @28686 has 1 MA's), (Start: 33 @28638 has 121 MA's), (Start: 38 @28608 has 1 MA's), (Start: 43 @28581 has 23 MA's), (58, 28521), (60, 28506), (82, 28404),

Gene: Isca\_39 Start: 28228, Stop: 27989, Start Num: 32

Candidate Starts for Isca\_39:

(Start: 32 @28228 has 116 MA's), (63, 28120), (78, 28081), (82, 28027),

Gene: JF2\_40 Start: 27979, Stop: 27740, Start Num: 32

Candidate Starts for JF2\_40:

(Start: 32 @27979 has 116 MA's), (63, 27871), (78, 27832), (82, 27778),

Gene: JF4\_40 Start: 27979, Stop: 27740, Start Num: 32

Candidate Starts for JF4\_40:

(Start: 32 @27979 has 116 MA's), (63, 27871), (78, 27832), (82, 27778),

Gene: JHC117\_43 Start: 29100, Stop: 28861, Start Num: 32

Candidate Starts for JHC117\_43:

(Start: 32 @29100 has 116 MA's), (63, 28992), (78, 28953), (82, 28899),

Gene: Jabiru\_35 Start: 27070, Stop: 26861, Start Num: 43

Candidate Starts for Jabiru\_35:

(Start: 43 @27070 has 23 MA's), (78, 26944), (82, 26890),

Gene: Jasper\_44 Start: 32091, Stop: 31846, Start Num: 33

Candidate Starts for Jasper\_44:

(11, 32280), (Start: 33 @32091 has 121 MA's), (67, 31941), (73, 31926), (76, 31911), (79, 31899), (83, 31869),

Gene: Jaykayelowell\_37 Start: 28370, Stop: 28104, Start Num: 33

Candidate Starts for Jaykayelowell\_37:

(12, 28532), (Start: 23 @28418 has 1 MA's), (Start: 33 @28370 has 121 MA's), (Start: 38 @28340 has 1 MA's), (Start: 43 @28313 has 23 MA's), (58, 28253), (82, 28136),

Gene: JenCasNa\_44 Start: 29101, Stop: 28862, Start Num: 32

Candidate Starts for JenCasNa\_44:

(Start: 32 @29101 has 116 MA's), (63, 28993), (78, 28954), (82, 28900),

Gene: JeppNRM\_44 Start: 28990, Stop: 28685, Start Num: 32

Candidate Starts for JeppNRM\_44:

(6, 29236), (8, 29218), (9, 29197), (10, 29194), (17, 29086), (18, 29074), (Start: 32 @28990 has 116 MA's), (42, 28936), (48, 28897), (55, 28873), (78, 28786), (82, 28723),

Gene: JetBlade\_38 Start: 28371, Stop: 28105, Start Num: 33

Candidate Starts for JetBlade\_38:

(12, 28533), (Start: 23 @28419 has 1 MA's), (Start: 33 @28371 has 121 MA's), (Start: 38 @28341 has 1 MA's), (Start: 43 @28314 has 23 MA's), (58, 28254), (82, 28137),

Gene: Jobu08\_42 Start: 28934, Stop: 28692, Start Num: 32

Candidate Starts for Jobu08\_42:

(Start: 32 @28934 has 116 MA's), (63, 28826), (78, 28787), (82, 28730),

Gene: JoongJeon\_38 Start: 28374, Stop: 28108, Start Num: 33

Candidate Starts for JoongJeon\_38:

(12, 28536), (Start: 23 @28422 has 1 MA's), (Start: 33 @28374 has 121 MA's), (Start: 38 @28344 has 1 MA's), (Start: 43 @28317 has 23 MA's), (58, 28257), (82, 28140),

Gene: KADY\_43 Start: 29100, Stop: 28861, Start Num: 32

Candidate Starts for KADY\_43:

(14, 29232), (Start: 32 @29100 has 116 MA's), (63, 28992), (78, 28953), (82, 28899),

Gene: KFPoly\_38 Start: 28371, Stop: 28105, Start Num: 33

Candidate Starts for KFPoly\_38:

(12, 28533), (Start: 23 @28419 has 1 MA's), (Start: 33 @28371 has 121 MA's), (Start: 38 @28341 has 1 MA's), (Start: 43 @28314 has 23 MA's), (58, 28254), (82, 28137),

Gene: Kachowdy\_40 Start: 28664, Stop: 28425, Start Num: 32

Candidate Starts for Kachowdy\_40:

(17, 28760), (Start: 32 @28664 has 116 MA's), (63, 28556), (78, 28517), (82, 28463),

Gene: Kalb97\_44 Start: 28988, Stop: 28683, Start Num: 32

Candidate Starts for Kalb97\_44:

(6, 29234), (8, 29216), (9, 29195), (10, 29192), (17, 29084), (18, 29072), (Start: 32 @28988 has 116 MA's), (42, 28934), (48, 28895), (55, 28871), (78, 28784), (82, 28721),

Gene: Kalnoky\_44 Start: 28986, Stop: 28681, Start Num: 32

Candidate Starts for Kalnoky\_44:

(6, 29232), (8, 29214), (9, 29193), (10, 29190), (17, 29082), (18, 29070), (Start: 32 @28986 has 116 MA's), (42, 28932), (48, 28893), (55, 28869), (78, 28782), (82, 28719),

Gene: Kamy\_38 Start: 28376, Stop: 28110, Start Num: 33

Candidate Starts for Kamy\_38:

(12, 28538), (Start: 23 @28424 has 1 MA's), (Start: 33 @28376 has 121 MA's), (Start: 38 @28346 has 1 MA's), (Start: 43 @28319 has 23 MA's), (58, 28259), (60, 28244), (82, 28142),

Gene: Katalie136\_37 Start: 28206, Stop: 27946, Start Num: 19

Candidate Starts for Katalie136\_37:

(Start: 19 @28206 has 24 MA's), (Start: 38 @28179 has 1 MA's), (Start: 43 @28152 has 23 MA's), (58, 28092), (75, 28029), (82, 27972),

Gene: KekoraPapaka\_39 Start: 28374, Stop: 28108, Start Num: 33

Candidate Starts for KekoraPapaka\_39:

(12, 28536), (Start: 23 @28422 has 1 MA's), (Start: 33 @28374 has 121 MA's), (Start: 38 @28344 has 1 MA's), (Start: 43 @28317 has 23 MA's), (58, 28257), (82, 28140),

Gene: Kingmustik0402\_38 Start: 28366, Stop: 28100, Start Num: 33

Candidate Starts for Kingmustik0402\_38:

(12, 28528), (Start: 23 @28414 has 1 MA's), (Start: 33 @28366 has 121 MA's), (Start: 38 @28336 has 1 MA's), (Start: 43 @28309 has 23 MA's), (58, 28249), (82, 28132),

Gene: Klodlith\_39 Start: 28041, Stop: 27775, Start Num: 30

Candidate Starts for Klodlith\_39:

(Start: 30 @28041 has 7 MA's), (69, 27876), (73, 27864), (82, 27801),

Gene: Koan\_37 Start: 28374, Stop: 28108, Start Num: 33

Candidate Starts for Koan\_37:

(12, 28536), (Start: 23 @28422 has 1 MA's), (Start: 33 @28374 has 121 MA's), (Start: 38 @28344 has 1 MA's), (Start: 43 @28317 has 23 MA's), (58, 28257), (82, 28140),

Gene: Koreni\_37 Start: 28055, Stop: 27789, Start Num: 33

Candidate Starts for Koreni\_37:

(12, 28217), (Start: 23 @28103 has 1 MA's), (Start: 33 @28055 has 121 MA's), (Start: 38 @28025 has 1 MA's), (Start: 43 @27998 has 23 MA's), (58, 27938), (82, 27821),

Gene: Kratak\_38 Start: 28316, Stop: 28050, Start Num: 33

Candidate Starts for Kratak\_38:

(Start: 23 @28364 has 1 MA's), (Start: 33 @28316 has 121 MA's), (Start: 38 @28286 has 1 MA's), (Start: 43 @28259 has 23 MA's), (49, 28232), (50, 28229), (58, 28199), (82, 28082),

Gene: Kremtemulon\_38 Start: 28328, Stop: 28062, Start Num: 33

Candidate Starts for Kremtemulon\_38:

(Start: 23 @28376 has 1 MA's), (Start: 33 @28328 has 121 MA's), (Start: 38 @28298 has 1 MA's), (Start: 43 @28271 has 23 MA's), (49, 28244), (50, 28241), (58, 28211), (82, 28094),

Gene: Kyee\_38 Start: 28372, Stop: 28106, Start Num: 33

Candidate Starts for Kyee\_38:

(12, 28534), (Start: 23 @28420 has 1 MA's), (Start: 33 @28372 has 121 MA's), (Start: 38 @28342 has 1 MA's), (Start: 43 @28315 has 23 MA's), (58, 28255), (82, 28138),

Gene: LBerry\_44 Start: 29105, Stop: 28866, Start Num: 32

Candidate Starts for LBerry\_44:

(Start: 32 @29105 has 116 MA's), (63, 28997), (78, 28958), (82, 28904),

Gene: LHTSCC\_40 Start: 28676, Stop: 28410, Start Num: 19

Candidate Starts for LHTSCC\_40:

(1, 29540), (2, 29273), (3, 28958), (5, 28850), (7, 28826), (Start: 19 @28676 has 24 MA's), (Start: 38 @28646 has 1 MA's), (Start: 43 @28619 has 23 MA's), (58, 28559), (60, 28544), (82, 28442),

Gene: LadyBird\_41 Start: 28555, Stop: 28316, Start Num: 29

Candidate Starts for LadyBird\_41:

(15, 28678), (16, 28666), (Start: 29 @28555 has 1 MA's), (54, 28468), (62, 28441), (78, 28396), (82, 28351),

Gene: Lambert1\_39 Start: 28759, Stop: 28520, Start Num: 32

Candidate Starts for Lambert1\_39:

(Start: 32 @28759 has 116 MA's), (63, 28651), (78, 28612),

Gene: LappelDuVide\_38 Start: 28373, Stop: 28107, Start Num: 33

Candidate Starts for LappelDuVide\_38:

(12, 28535), (Start: 23 @28421 has 1 MA's), (Start: 33 @28373 has 121 MA's), (Start: 38 @28343 has 1 MA's), (Start: 43 @28316 has 23 MA's), (58, 28256), (82, 28139),

Gene: LarryKay\_43 Start: 29102, Stop: 28863, Start Num: 32

Candidate Starts for LarryKay\_43:

(14, 29234), (Start: 32 @29102 has 116 MA's), (63, 28994), (78, 28955), (82, 28901),

Gene: Lemur\_38 Start: 28371, Stop: 28105, Start Num: 33

Candidate Starts for Lemur\_38:

(12, 28533), (Start: 23 @28419 has 1 MA's), (Start: 33 @28371 has 121 MA's), (Start: 38 @28341 has 1 MA's), (Start: 43 @28314 has 23 MA's), (58, 28254), (82, 28137),

Gene: LeoAvram\_38 Start: 28374, Stop: 28108, Start Num: 33

Candidate Starts for LeoAvram\_38:

(12, 28536), (Start: 23 @28422 has 1 MA's), (Start: 33 @28374 has 121 MA's), (Start: 38 @28344 has 1 MA's), (Start: 43 @28317 has 23 MA's), (58, 28257), (60, 28242), (82, 28140),

Gene: LilBib\_43 Start: 33080, Stop: 32835, Start Num: 33

Candidate Starts for LilBib\_43:

(Start: 33 @33080 has 121 MA's), (67, 32930), (73, 32915), (76, 32900), (79, 32888), (83, 32858),

Gene: Lilith\_44 Start: 29095, Stop: 28856, Start Num: 32

Candidate Starts for Lilith\_44:

(Start: 32 @29095 has 116 MA's), (63, 28987), (78, 28948), (82, 28894),

Gene: LittleB\_38 Start: 28375, Stop: 28109, Start Num: 33

Candidate Starts for LittleB\_38:

(12, 28537), (Start: 23 @28423 has 1 MA's), (Start: 33 @28375 has 121 MA's), (Start: 38 @28345 has 1 MA's), (Start: 43 @28318 has 23 MA's), (58, 28258), (82, 28141),

Gene: LittleCherry\_34 Start: 27358, Stop: 27146, Start Num: 43

Candidate Starts for LittleCherry\_34:

(Start: 43 @27358 has 23 MA's), (Start: 47 @27340 has 1 MA's), (55, 27313), (78, 27232), (82, 27178),

Gene: LittleGuy\_38 Start: 28273, Stop: 28007, Start Num: 33

Candidate Starts for LittleGuy\_38:

(12, 28435), (Start: 23 @28321 has 1 MA's), (Start: 33 @28273 has 121 MA's), (Start: 38 @28243 has 1 MA's), (Start: 43 @28216 has 23 MA's), (58, 28156), (82, 28039),

Gene: LochMonster\_38 Start: 28413, Stop: 28147, Start Num: 33

Candidate Starts for LochMonster\_38:

(12, 28575), (Start: 23 @28461 has 1 MA's), (Start: 33 @28413 has 121 MA's), (Start: 38 @28383 has 1 MA's), (Start: 43 @28356 has 23 MA's), (49, 28329), (50, 28326), (58, 28296), (82, 28179),

Gene: LoneWolf\_41 Start: 28735, Stop: 28481, Start Num: 27

Candidate Starts for LoneWolf\_41:

(Start: 27 @28735 has 4 MA's), (50, 28642),

Gene: Lorenzo\_38 Start: 28374, Stop: 28108, Start Num: 33

Candidate Starts for Lorenzo\_38:

(12, 28536), (Start: 23 @28422 has 1 MA's), (Start: 33 @28374 has 121 MA's), (Start: 38 @28344 has 1 MA's), (Start: 43 @28317 has 23 MA's), (58, 28257), (82, 28140),

Gene: Louie6\_42 Start: 29101, Stop: 28862, Start Num: 32

Candidate Starts for Louie6\_42:

(14, 29233), (Start: 32 @29101 has 116 MA's), (63, 28993), (78, 28954), (82, 28900),

Gene: Iowa\_43 Start: 29094, Stop: 28855, Start Num: 32

Candidate Starts for Iowa\_43:

(Start: 32 @29094 has 116 MA's), (63, 28986), (78, 28947), (82, 28893),

Gene: LugYA\_46 Start: 29102, Stop: 28863, Start Num: 32

Candidate Starts for LugYA\_46:

(Start: 32 @29102 has 116 MA's), (63, 28994), (78, 28955), (82, 28901),

Gene: Lunsford\_39 Start: 28371, Stop: 28105, Start Num: 33

Candidate Starts for Lunsford\_39:

(12, 28533), (Start: 23 @28419 has 1 MA's), (Start: 33 @28371 has 121 MA's), (Start: 38 @28341 has 1 MA's), (Start: 43 @28314 has 23 MA's), (58, 28254), (82, 28137),

Gene: MA5\_40 Start: 28108, Stop: 27869, Start Num: 32

Candidate Starts for MA5\_40:

(Start: 32 @28108 has 116 MA's), (63, 28000), (78, 27961), (82, 27907),

Gene: MK4\_40 Start: 28213, Stop: 27974, Start Num: 32

Candidate Starts for MK4\_40:

(Start: 32 @28213 has 116 MA's), (63, 28105), (78, 28066), (82, 28012),

Gene: MadMarie\_43 Start: 29104, Stop: 28865, Start Num: 32

Candidate Starts for MadMarie\_43:

(Start: 32 @29104 has 116 MA's), (63, 28996), (78, 28957), (82, 28903),

Gene: Mainiac\_43 Start: 29095, Stop: 28856, Start Num: 32

Candidate Starts for Mainiac\_43:

(Start: 32 @29095 has 116 MA's), (63, 28987), (78, 28948), (82, 28894),

Gene: Malinsilva\_45 Start: 29094, Stop: 28855, Start Num: 32

Candidate Starts for Malinsilva\_45:

(Start: 32 @29094 has 116 MA's), (63, 28986), (78, 28947), (82, 28893),

Gene: Manu\_43 Start: 28989, Stop: 28684, Start Num: 32  
Candidate Starts for Manu\_43:  
(6, 29235), (8, 29217), (9, 29196), (10, 29193), (17, 29085), (18, 29073), (Start: 32 @28989 has 116 MA's), (42, 28935), (48, 28896), (55, 28872), (78, 28785), (82, 28722),

Gene: MarQuardt\_43 Start: 29103, Stop: 28864, Start Num: 32  
Candidate Starts for MarQuardt\_43:  
(Start: 32 @29103 has 116 MA's), (63, 28995), (78, 28956), (82, 28902),

Gene: Marchesa\_40 Start: 28662, Stop: 28423, Start Num: 32  
Candidate Starts for Marchesa\_40:  
(17, 28758), (Start: 32 @28662 has 116 MA's), (63, 28554), (78, 28515), (82, 28461),

Gene: Marco3\_44 Start: 32839, Stop: 32594, Start Num: 33  
Candidate Starts for Marco3\_44:  
(Start: 33 @32839 has 121 MA's), (37, 32809), (67, 32689), (73, 32674), (76, 32659), (79, 32647), (83, 32617),

Gene: Margo\_39 Start: 28785, Stop: 28546, Start Num: 32  
Candidate Starts for Margo\_39:  
(Start: 32 @28785 has 116 MA's), (63, 28677), (78, 28638),

Gene: Marie\_43 Start: 29101, Stop: 28862, Start Num: 32  
Candidate Starts for Marie\_43:  
(Start: 32 @29101 has 116 MA's), (63, 28993), (78, 28954), (82, 28900),

Gene: Marius\_44 Start: 28986, Stop: 28681, Start Num: 32  
Candidate Starts for Marius\_44:  
(6, 29232), (8, 29214), (9, 29193), (10, 29190), (17, 29082), (18, 29070), (Start: 32 @28986 has 116 MA's), (42, 28932), (48, 28893), (55, 28869), (78, 28782), (82, 28719),

Gene: MarysWell\_33 Start: 27412, Stop: 27194, Start Num: 43  
Candidate Starts for MarysWell\_33:  
(Start: 43 @27412 has 23 MA's), (55, 27367), (78, 27280), (82, 27226),

Gene: Maverick\_38 Start: 28374, Stop: 28108, Start Num: 33  
Candidate Starts for Maverick\_38:  
(12, 28536), (Start: 23 @28422 has 1 MA's), (Start: 33 @28374 has 121 MA's), (Start: 38 @28344 has 1 MA's), (Start: 43 @28317 has 23 MA's), (58, 28257), (82, 28140),

Gene: Maxo\_39 Start: 28376, Stop: 28110, Start Num: 33  
Candidate Starts for Maxo\_39:  
(12, 28538), (Start: 23 @28424 has 1 MA's), (Start: 33 @28376 has 121 MA's), (Start: 38 @28346 has 1 MA's), (Start: 43 @28319 has 23 MA's), (58, 28259), (60, 28244), (82, 28142),

Gene: Mayonnaise\_38 Start: 28374, Stop: 28108, Start Num: 33  
Candidate Starts for Mayonnaise\_38:  
(12, 28536), (Start: 23 @28422 has 1 MA's), (Start: 33 @28374 has 121 MA's), (Start: 38 @28344 has 1 MA's), (Start: 43 @28317 has 23 MA's), (58, 28257), (82, 28140),

Gene: Mazhar510\_38 Start: 28375, Stop: 28109, Start Num: 33  
Candidate Starts for Mazhar510\_38:

(12, 28537), (Start: 23 @28423 has 1 MA's), (Start: 33 @28375 has 121 MA's), (Start: 38 @28345 has 1 MA's), (Start: 43 @28318 has 23 MA's), (58, 28258), (82, 28141),

Gene: Medusa\_38 Start: 28373, Stop: 28107, Start Num: 33

Candidate Starts for Medusa\_38:

(12, 28535), (Start: 23 @28421 has 1 MA's), (Start: 33 @28373 has 121 MA's), (Start: 38 @28343 has 1 MA's), (Start: 43 @28316 has 23 MA's), (58, 28256), (60, 28241), (82, 28139),

Gene: MeeZee\_38 Start: 28374, Stop: 28108, Start Num: 33

Candidate Starts for MeeZee\_38:

(12, 28536), (Start: 23 @28422 has 1 MA's), (Start: 33 @28374 has 121 MA's), (Start: 38 @28344 has 1 MA's), (Start: 43 @28317 has 23 MA's), (58, 28257), (82, 28140),

Gene: MegTheThird\_38 Start: 28003, Stop: 27746, Start Num: 32

Candidate Starts for MegTheThird\_38:

(Start: 32 @28003 has 116 MA's), (69, 27847), (73, 27835), (80, 27793),

Gene: Melvin\_40 Start: 28372, Stop: 28106, Start Num: 33

Candidate Starts for Melvin\_40:

(12, 28534), (Start: 23 @28420 has 1 MA's), (Start: 33 @28372 has 121 MA's), (Start: 38 @28342 has 1 MA's), (Start: 43 @28315 has 23 MA's), (58, 28255), (82, 28138),

Gene: Methuselah\_41 Start: 29096, Stop: 28857, Start Num: 32

Candidate Starts for Methuselah\_41:

(14, 29228), (Start: 32 @29096 has 116 MA's), (63, 28988), (78, 28949), (82, 28895),

Gene: Micasa\_36 Start: 27685, Stop: 27467, Start Num: 43

Candidate Starts for Micasa\_36:

(Start: 43 @27685 has 23 MA's), (Start: 47 @27667 has 1 MA's), (55, 27640), (78, 27553), (82, 27499),

Gene: Microwolf\_43 Start: 29103, Stop: 28864, Start Num: 32

Candidate Starts for Microwolf\_43:

(Start: 32 @29103 has 116 MA's), (63, 28995), (78, 28956), (82, 28902),

Gene: Midas2\_34 Start: 27403, Stop: 27185, Start Num: 43

Candidate Starts for Midas2\_34:

(Start: 43 @27403 has 23 MA's), (Start: 47 @27385 has 1 MA's), (55, 27358), (78, 27271), (82, 27217),

Gene: Milcery\_34 Start: 27362, Stop: 27150, Start Num: 43

Candidate Starts for Milcery\_34:

(Start: 43 @27362 has 23 MA's), (Start: 47 @27344 has 1 MA's), (55, 27317), (78, 27236), (82, 27182),

Gene: MilleFeuille\_42 Start: 32461, Stop: 32216, Start Num: 33

Candidate Starts for MilleFeuille\_42:

(13, 32602), (Start: 33 @32461 has 121 MA's), (37, 32431), (67, 32311), (73, 32296), (76, 32281), (79, 32269), (83, 32239),

Gene: Millski\_37 Start: 28378, Stop: 28112, Start Num: 33

Candidate Starts for Millski\_37:

(12, 28540), (Start: 23 @28426 has 1 MA's), (Start: 33 @28378 has 121 MA's), (Start: 38 @28348 has 1 MA's), (Start: 43 @28321 has 23 MA's), (58, 28261), (82, 28144),

Gene: Miramae\_37 Start: 28397, Stop: 28137, Start Num: 19

Candidate Starts for Miramae\_37:

(Start: 19 @28397 has 24 MA's), (Start: 38 @28367 has 1 MA's), (Start: 43 @28340 has 23 MA's), (58, 28280), (60, 28265), (82, 28163),

Gene: Misomonster\_44 Start: 29099, Stop: 28860, Start Num: 32

Candidate Starts for Misomonster\_44:

(14, 29231), (Start: 32 @29099 has 116 MA's), (63, 28991), (78, 28952), (82, 28898),

Gene: MoneyMay\_43 Start: 29101, Stop: 28862, Start Num: 32

Candidate Starts for MoneyMay\_43:

(Start: 32 @29101 has 116 MA's), (63, 28993), (78, 28954), (82, 28900),

Gene: Montavir\_42 Start: 29102, Stop: 28863, Start Num: 32

Candidate Starts for Montavir\_42:

(Start: 32 @29102 has 116 MA's), (63, 28994), (78, 28955), (82, 28901),

Gene: Morpher26\_37 Start: 28227, Stop: 27967, Start Num: 19

Candidate Starts for Morpher26\_37:

(Start: 19 @28227 has 24 MA's), (Start: 38 @28200 has 1 MA's), (Start: 43 @28173 has 23 MA's), (58, 28113), (75, 28050), (82, 27993),

Gene: Morrow\_39 Start: 28380, Stop: 28114, Start Num: 33

Candidate Starts for Morrow\_39:

(12, 28542), (Start: 23 @28428 has 1 MA's), (Start: 33 @28380 has 121 MA's), (Start: 38 @28350 has 1 MA's), (Start: 43 @28323 has 23 MA's), (58, 28263), (60, 28248), (82, 28146),

Gene: MuchMore\_46 Start: 29094, Stop: 28855, Start Num: 32

Candidate Starts for MuchMore\_46:

(Start: 32 @29094 has 116 MA's), (63, 28986), (78, 28947), (82, 28893),

Gene: Mundrea\_36 Start: 28134, Stop: 27874, Start Num: 33

Candidate Starts for Mundrea\_36:

(12, 28296), (Start: 23 @28182 has 1 MA's), (Start: 33 @28134 has 121 MA's), (Start: 38 @28104 has 1 MA's), (Start: 43 @28077 has 23 MA's), (58, 28017), (60, 28002), (82, 27900),

Gene: MyraDee\_36 Start: 26293, Stop: 26057, Start Num: 34

Candidate Starts for MyraDee\_36:

(Start: 34 @26293 has 1 MA's), (44, 26248), (56, 26200), (65, 26152), (73, 26134),

Gene: Naca\_35 Start: 27563, Stop: 27354, Start Num: 43

Candidate Starts for Naca\_35:

(Start: 43 @27563 has 23 MA's), (78, 27437), (82, 27383),

Gene: NearlyHeadless\_35 Start: 26884, Stop: 26606, Start Num: 31

Candidate Starts for NearlyHeadless\_35:

(Start: 31 @26884 has 11 MA's), (55, 26779), (61, 26740), (78, 26692), (82, 26638),

Gene: Nebs\_39 Start: 28374, Stop: 28108, Start Num: 33

Candidate Starts for Nebs\_39:

(12, 28536), (Start: 23 @28422 has 1 MA's), (Start: 33 @28374 has 121 MA's), (Start: 38 @28344 has 1 MA's), (Start: 43 @28317 has 23 MA's), (58, 28257), (60, 28242), (82, 28140),

Gene: Nemo27\_38 Start: 28373, Stop: 28107, Start Num: 33

Candidate Starts for Nemo27\_38:

(12, 28535), (Start: 23 @28421 has 1 MA's), (Start: 33 @28373 has 121 MA's), (Start: 38 @28343 has 1 MA's), (Start: 43 @28316 has 23 MA's), (58, 28256), (82, 28139),

Gene: Noella\_39 Start: 28760, Stop: 28521, Start Num: 32

Candidate Starts for Noella\_39:

(Start: 32 @28760 has 116 MA's), (63, 28652), (78, 28613),

Gene: Noelle\_38 Start: 28436, Stop: 28167, Start Num: 33

Candidate Starts for Noelle\_38:

(12, 28595), (Start: 23 @28481 has 1 MA's), (Start: 33 @28436 has 121 MA's), (Start: 38 @28406 has 1 MA's), (Start: 43 @28379 has 23 MA's), (49, 28352), (75, 28256), (82, 28199),

Gene: Norbert\_38 Start: 28759, Stop: 28520, Start Num: 32

Candidate Starts for Norbert\_38:

(Start: 32 @28759 has 116 MA's), (63, 28651), (78, 28612),

Gene: NorthStar\_37 Start: 28374, Stop: 28108, Start Num: 33

Candidate Starts for NorthStar\_37:

(12, 28536), (Start: 23 @28422 has 1 MA's), (Start: 33 @28374 has 121 MA's), (Start: 38 @28344 has 1 MA's), (Start: 43 @28317 has 23 MA's), (58, 28257), (60, 28242), (82, 28140),

Gene: NotAPhaseMom\_38 Start: 28378, Stop: 28112, Start Num: 33

Candidate Starts for NotAPhaseMom\_38:

(12, 28540), (Start: 23 @28426 has 1 MA's), (Start: 33 @28378 has 121 MA's), (Start: 38 @28348 has 1 MA's), (Start: 43 @28321 has 23 MA's), (58, 28261), (82, 28144),

Gene: NothingSpecial\_39 Start: 29386, Stop: 29153, Start Num: 30

Candidate Starts for NothingSpecial\_39:

(15, 29512), (25, 29419), (Start: 27 @29401 has 4 MA's), (Start: 30 @29386 has 7 MA's), (46, 29326), (53, 29302), (59, 29281), (82, 29188),

Gene: Nyxis\_38 Start: 28267, Stop: 28001, Start Num: 33

Candidate Starts for Nyxis\_38:

(12, 28429), (Start: 23 @28315 has 1 MA's), (Start: 33 @28267 has 121 MA's), (Start: 38 @28237 has 1 MA's), (Start: 43 @28210 has 23 MA's), (58, 28150), (82, 28033),

Gene: OKaNui\_39 Start: 28427, Stop: 28161, Start Num: 33

Candidate Starts for OKaNui\_39:

(12, 28589), (Start: 23 @28475 has 1 MA's), (Start: 33 @28427 has 121 MA's), (Start: 38 @28397 has 1 MA's), (Start: 43 @28370 has 23 MA's), (58, 28310), (82, 28193),

Gene: Obama12\_39 Start: 28678, Stop: 28412, Start Num: 19

Candidate Starts for Obama12\_39:

(1, 29542), (2, 29275), (3, 28960), (5, 28852), (7, 28828), (Start: 19 @28678 has 24 MA's), (Start: 38 @28648 has 1 MA's), (Start: 43 @28621 has 23 MA's), (58, 28561), (60, 28546), (82, 28444),

Gene: Ohfah\_39 Start: 28374, Stop: 28108, Start Num: 33

Candidate Starts for Ohfah\_39:

(12, 28536), (Start: 23 @28422 has 1 MA's), (Start: 33 @28374 has 121 MA's), (Start: 38 @28344 has 1 MA's), (Start: 43 @28317 has 23 MA's), (58, 28257), (60, 28242), (82, 28140),

Gene: OlanP\_42 Start: 29171, Stop: 28866, Start Num: 32

Candidate Starts for OlanP\_42:

(17, 29267), (18, 29255), (Start: 32 @29171 has 116 MA's), (42, 29117), (48, 29078), (55, 29054), (78, 28967), (82, 28904),

Gene: Ollie\_43 Start: 28973, Stop: 28734, Start Num: 32

Candidate Starts for Ollie\_43:

(Start: 32 @28973 has 116 MA's), (58, 28892), (63, 28865), (78, 28826), (82, 28772),

Gene: P28Green\_44 Start: 29104, Stop: 28865, Start Num: 32

Candidate Starts for P28Green\_44:

(Start: 32 @29104 has 116 MA's), (63, 28996), (78, 28957), (82, 28903),

Gene: PGHhamlin\_45 Start: 29094, Stop: 28855, Start Num: 32

Candidate Starts for PGHhamlin\_45:

(Start: 32 @29094 has 116 MA's), (63, 28986), (78, 28947), (82, 28893),

Gene: Palestino\_37 Start: 28344, Stop: 28108, Start Num: 38

Candidate Starts for Palestino\_37:

(12, 28536), (Start: 23 @28422 has 1 MA's), (Start: 33 @28374 has 121 MA's), (Start: 38 @28344 has 1 MA's), (Start: 43 @28317 has 23 MA's), (58, 28257), (82, 28140),

Gene: Panamaxus\_37 Start: 28759, Stop: 28520, Start Num: 32

Candidate Starts for Panamaxus\_37:

(Start: 32 @28759 has 116 MA's), (63, 28651), (78, 28612),

Gene: Paraselene\_41 Start: 32492, Stop: 32247, Start Num: 33

Candidate Starts for Paraselene\_41:

(Start: 33 @32492 has 121 MA's), (37, 32462), (67, 32342), (73, 32327), (76, 32312), (79, 32300), (83, 32270),

Gene: Pawn\_43 Start: 28993, Stop: 28688, Start Num: 32

Candidate Starts for Pawn\_43:

(6, 29239), (8, 29221), (9, 29200), (10, 29197), (17, 29089), (18, 29077), (Start: 32 @28993 has 116 MA's), (42, 28939), (48, 28900), (55, 28876), (78, 28789), (82, 28726),

Gene: Peaches\_38 Start: 28373, Stop: 28107, Start Num: 33

Candidate Starts for Peaches\_38:

(12, 28535), (Start: 23 @28421 has 1 MA's), (Start: 33 @28373 has 121 MA's), (Start: 38 @28343 has 1 MA's), (Start: 43 @28316 has 23 MA's), (58, 28256), (82, 28139),

Gene: Pembroke\_43 Start: 29103, Stop: 28864, Start Num: 32

Candidate Starts for Pembroke\_43:

(Start: 32 @29103 has 116 MA's), (63, 28995), (78, 28956), (82, 28902),

Gene: Penny1\_44 Start: 29105, Stop: 28866, Start Num: 32

Candidate Starts for Penny1\_44:

(Start: 32 @29105 has 116 MA's), (63, 28997), (78, 28958), (82, 28904),

Gene: Perplexer\_37 Start: 28203, Stop: 27943, Start Num: 19

Candidate Starts for Perplexer\_37:

(Start: 19 @28203 has 24 MA's), (Start: 38 @28176 has 1 MA's), (Start: 43 @28149 has 23 MA's), (58, 28089), (75, 28026), (82, 27969),

Gene: PeterPeter\_38 Start: 28374, Stop: 28108, Start Num: 33  
Candidate Starts for PeterPeter\_38:  
(12, 28536), (Start: 23 @28422 has 1 MA's), (Start: 33 @28374 has 121 MA's), (Start: 38 @28344 has 1 MA's), (Start: 43 @28317 has 23 MA's), (58, 28257), (82, 28140),

Gene: PetiteSangsue\_37 Start: 28206, Stop: 27946, Start Num: 19  
Candidate Starts for PetiteSangsue\_37:  
(Start: 19 @28206 has 24 MA's), (Start: 38 @28179 has 1 MA's), (Start: 43 @28152 has 23 MA's), (58, 28092), (75, 28029), (82, 27972),

Gene: PetterN\_36 Start: 26926, Stop: 26717, Start Num: 43  
Candidate Starts for PetterN\_36:  
(Start: 43 @26926 has 23 MA's), (78, 26800), (82, 26746),

Gene: Phacado\_38 Start: 28373, Stop: 28107, Start Num: 33  
Candidate Starts for Phacado\_38:  
(12, 28535), (Start: 23 @28421 has 1 MA's), (Start: 33 @28373 has 121 MA's), (Start: 38 @28343 has 1 MA's), (Start: 43 @28316 has 23 MA's), (58, 28256), (82, 28139),

Gene: Phantastic\_40 Start: 28244, Stop: 28005, Start Num: 32  
Candidate Starts for Phantastic\_40:  
(Start: 32 @28244 has 116 MA's), (63, 28136), (78, 28097), (82, 28043),

Gene: Phelipe\_39 Start: 28374, Stop: 28108, Start Num: 33  
Candidate Starts for Phelipe\_39:  
(12, 28536), (Start: 23 @28422 has 1 MA's), (Start: 33 @28374 has 121 MA's), (Start: 38 @28344 has 1 MA's), (Start: 43 @28317 has 23 MA's), (58, 28257), (82, 28140),

Gene: Phighter1804\_38 Start: 28416, Stop: 28150, Start Num: 33  
Candidate Starts for Phighter1804\_38:  
(12, 28578), (Start: 23 @28464 has 1 MA's), (Start: 33 @28416 has 121 MA's), (Start: 38 @28386 has 1 MA's), (40, 28374), (Start: 43 @28359 has 23 MA's), (58, 28299), (82, 28182),

Gene: Phillis\_35 Start: 26910, Stop: 26632, Start Num: 31  
Candidate Starts for Phillis\_35:  
(Start: 31 @26910 has 11 MA's), (55, 26805), (78, 26718), (82, 26664),

Gene: PhishRPhriends\_41 Start: 28167, Stop: 27862, Start Num: 32  
Candidate Starts for PhishRPhriends\_41:  
(6, 28413), (8, 28395), (9, 28374), (10, 28371), (17, 28263), (18, 28251), (Start: 32 @28167 has 116 MA's), (42, 28113), (48, 28074), (55, 28050), (78, 27963), (82, 27900),

Gene: Phoebe\_44 Start: 29094, Stop: 28855, Start Num: 32  
Candidate Starts for Phoebe\_44:  
(Start: 32 @29094 has 116 MA's), (63, 28986), (78, 28947), (82, 28893),

Gene: Phontbonne\_38 Start: 28268, Stop: 28002, Start Num: 33  
Candidate Starts for Phontbonne\_38:  
(12, 28430), (Start: 23 @28316 has 1 MA's), (Start: 33 @28268 has 121 MA's), (Start: 38 @28238 has 1 MA's), (Start: 43 @28211 has 23 MA's), (58, 28151), (82, 28034),

Gene: Phoxy\_43 Start: 29097, Stop: 28858, Start Num: 32  
Candidate Starts for Phoxy\_43:

(14, 29229), (Start: 32 @29097 has 116 MA's), (63, 28989), (78, 28950), (82, 28896),

Gene: Phranny\_44 Start: 28975, Stop: 28670, Start Num: 32

Candidate Starts for Phranny\_44:

(6, 29221), (8, 29203), (9, 29182), (10, 29179), (17, 29071), (18, 29059), (Start: 32 @28975 has 116 MA's), (42, 28921), (48, 28882), (55, 28858), (78, 28771), (82, 28708),

Gene: Pistachio\_41 Start: 28151, Stop: 27912, Start Num: 32

Candidate Starts for Pistachio\_41:

(Start: 32 @28151 has 116 MA's), (63, 28043), (78, 28004), (82, 27950),

Gene: Pocahontas\_39 Start: 28756, Stop: 28517, Start Num: 32

Candidate Starts for Pocahontas\_39:

(Start: 32 @28756 has 116 MA's), (63, 28648), (78, 28609),

Gene: Polymorphads\_39 Start: 28367, Stop: 28101, Start Num: 33

Candidate Starts for Polymorphads\_39:

(12, 28529), (Start: 23 @28415 has 1 MA's), (Start: 33 @28367 has 121 MA's), (Start: 38 @28337 has 1 MA's), (Start: 43 @28310 has 23 MA's), (58, 28250), (60, 28235), (82, 28133),

Gene: Popcicle\_39 Start: 28756, Stop: 28517, Start Num: 32

Candidate Starts for Popcicle\_39:

(Start: 32 @28756 has 116 MA's), (63, 28648), (78, 28609),

Gene: PotatoSplit\_45 Start: 29105, Stop: 28866, Start Num: 32

Candidate Starts for PotatoSplit\_45:

(Start: 32 @29105 has 116 MA's), (63, 28997), (78, 28958), (82, 28904),

Gene: Prinashe11\_35 Start: 27325, Stop: 27113, Start Num: 43

Candidate Starts for Prinashe11\_35:

(Start: 43 @27325 has 23 MA's), (Start: 47 @27307 has 1 MA's), (55, 27280), (78, 27199), (82, 27145),

Gene: Pumbaa\_38 Start: 28319, Stop: 28053, Start Num: 33

Candidate Starts for Pumbaa\_38:

(12, 28481), (Start: 23 @28367 has 1 MA's), (Start: 33 @28319 has 121 MA's), (Start: 38 @28289 has 1 MA's), (Start: 43 @28262 has 23 MA's), (58, 28202), (82, 28085),

Gene: Puppy\_41 Start: 28224, Stop: 27985, Start Num: 32

Candidate Starts for Puppy\_41:

(Start: 32 @28224 has 116 MA's), (78, 28077), (82, 28023),

Gene: PurpleHaze\_43 Start: 28988, Stop: 28683, Start Num: 32

Candidate Starts for PurpleHaze\_43:

(6, 29234), (8, 29216), (9, 29195), (10, 29192), (17, 29084), (18, 29072), (Start: 32 @28988 has 116 MA's), (42, 28934), (48, 28895), (55, 28871), (78, 28784), (82, 28721),

Gene: QuinnKiro\_38 Start: 28759, Stop: 28520, Start Num: 32

Candidate Starts for QuinnKiro\_38:

(Start: 32 @28759 has 116 MA's), (63, 28651), (78, 28612),

Gene: Reba\_43 Start: 28648, Stop: 28343, Start Num: 32

Candidate Starts for Reba\_43:

(6, 28894), (8, 28876), (9, 28855), (10, 28852), (17, 28744), (18, 28732), (Start: 32 @28648 has 116 MA's), (42, 28594), (48, 28555), (55, 28531), (78, 28444), (82, 28381),

Gene: Relief\_37 Start: 28374, Stop: 28108, Start Num: 33

Candidate Starts for Relief\_37:

(12, 28536), (Start: 23 @28422 has 1 MA's), (Start: 33 @28374 has 121 MA's), (Start: 38 @28344 has 1 MA's), (Start: 43 @28317 has 23 MA's), (58, 28257), (82, 28140),

Gene: ResDef\_39 Start: 28759, Stop: 28520, Start Num: 32

Candidate Starts for ResDef\_39:

(Start: 32 @28759 has 116 MA's), (63, 28651), (78, 28612),

Gene: RhynO\_40 Start: 28414, Stop: 28145, Start Num: 33

Candidate Starts for RhynO\_40:

(20, 28474), (Start: 33 @28414 has 121 MA's), (Start: 38 @28384 has 1 MA's), (42, 28360), (49, 28330), (82, 28180),

Gene: Roary\_35 Start: 26830, Stop: 26552, Start Num: 31

Candidate Starts for Roary\_35:

(Start: 31 @26830 has 11 MA's), (55, 26725), (61, 26686), (78, 26638), (82, 26584),

Gene: RockieBear\_38 Start: 28374, Stop: 28108, Start Num: 33

Candidate Starts for RockieBear\_38:

(12, 28536), (Start: 23 @28422 has 1 MA's), (Start: 33 @28374 has 121 MA's), (Start: 38 @28344 has 1 MA's), (Start: 43 @28317 has 23 MA's), (58, 28257), (82, 28140),

Gene: Rockstar\_40 Start: 28220, Stop: 27981, Start Num: 32

Candidate Starts for Rockstar\_40:

(Start: 32 @28220 has 116 MA's), (63, 28112), (78, 28073), (82, 28019),

Gene: Roimos\_40 Start: 28580, Stop: 28341, Start Num: 32

Candidate Starts for Roimos\_40:

(17, 28676), (Start: 32 @28580 has 116 MA's), (63, 28472), (78, 28433), (82, 28379),

Gene: Romney\_38 Start: 28374, Stop: 28108, Start Num: 33

Candidate Starts for Romney\_38:

(12, 28536), (Start: 23 @28422 has 1 MA's), (Start: 33 @28374 has 121 MA's), (Start: 38 @28344 has 1 MA's), (Start: 43 @28317 has 23 MA's), (58, 28257), (82, 28140),

Gene: Roosevelt\_37 Start: 28376, Stop: 28110, Start Num: 33

Candidate Starts for Roosevelt\_37:

(12, 28538), (Start: 23 @28424 has 1 MA's), (Start: 33 @28376 has 121 MA's), (Start: 38 @28346 has 1 MA's), (Start: 43 @28319 has 23 MA's), (58, 28259), (82, 28142),

Gene: Rosa24\_38 Start: 28408, Stop: 28142, Start Num: 33

Candidate Starts for Rosa24\_38:

(12, 28570), (Start: 23 @28456 has 1 MA's), (Start: 33 @28408 has 121 MA's), (Start: 38 @28378 has 1 MA's), (Start: 43 @28351 has 23 MA's), (58, 28291), (60, 28276), (82, 28174),

Gene: Rowdy\_43 Start: 28322, Stop: 28053, Start Num: 33

Candidate Starts for Rowdy\_43:

(20, 28382), (Start: 33 @28322 has 121 MA's), (Start: 38 @28292 has 1 MA's), (42, 28268), (49, 28238), (82, 28088),

Gene: Ruin\_38 Start: 28370, Stop: 28104, Start Num: 33

Candidate Starts for Ruin\_38:

(12, 28532), (Start: 23 @28418 has 1 MA's), (Start: 33 @28370 has 121 MA's), (Start: 38 @28340 has 1 MA's), (Start: 43 @28313 has 23 MA's), (82, 28136),

Gene: Rummer\_42 Start: 29100, Stop: 28861, Start Num: 32

Candidate Starts for Rummer\_42:

(14, 29232), (Start: 32 @29100 has 116 MA's), (63, 28992), (78, 28953), (82, 28899),

Gene: Rutherferd\_45 Start: 33535, Stop: 33290, Start Num: 33

Candidate Starts for Rutherferd\_45:

(Start: 33 @33535 has 121 MA's), (37, 33505), (67, 33385), (73, 33370), (76, 33355), (79, 33343), (83, 33313),

Gene: Sabertooth\_38 Start: 28373, Stop: 28107, Start Num: 33

Candidate Starts for Sabertooth\_38:

(12, 28535), (Start: 23 @28421 has 1 MA's), (Start: 33 @28373 has 121 MA's), (Start: 38 @28343 has 1 MA's), (Start: 43 @28316 has 23 MA's), (58, 28256), (82, 28139),

Gene: Sabia\_43 Start: 29095, Stop: 28856, Start Num: 32

Candidate Starts for Sabia\_43:

(Start: 32 @29095 has 116 MA's), (63, 28987), (78, 28948), (82, 28894),

Gene: Sabinator\_42 Start: 29100, Stop: 28861, Start Num: 32

Candidate Starts for Sabinator\_42:

(Start: 32 @29100 has 116 MA's), (63, 28992), (78, 28953), (82, 28899),

Gene: Sagefire\_45 Start: 33468, Stop: 33223, Start Num: 33

Candidate Starts for Sagefire\_45:

(Start: 33 @33468 has 121 MA's), (37, 33438), (67, 33318), (73, 33303), (76, 33288), (79, 33276), (83, 33246),

Gene: SaturnRing\_40 Start: 28604, Stop: 28365, Start Num: 32

Candidate Starts for SaturnRing\_40:

(Start: 32 @28604 has 116 MA's), (63, 28496), (78, 28457), (82, 28403),

Gene: Scamp\_38 Start: 28376, Stop: 28110, Start Num: 33

Candidate Starts for Scamp\_38:

(12, 28538), (Start: 23 @28424 has 1 MA's), (Start: 33 @28376 has 121 MA's), (Start: 38 @28346 has 1 MA's), (Start: 43 @28319 has 23 MA's), (58, 28259), (82, 28142),

Gene: Scherzo\_41 Start: 29158, Stop: 28904, Start Num: 27

Candidate Starts for Scherzo\_41:

(Start: 27 @29158 has 4 MA's), (36, 29131), (50, 29065), (73, 28987),

Gene: Scorpia\_36 Start: 27003, Stop: 26794, Start Num: 43

Candidate Starts for Scorpia\_36:

(Start: 43 @27003 has 23 MA's), (78, 26877), (82, 26823),

Gene: Scout\_40 Start: 27911, Stop: 27672, Start Num: 32

Candidate Starts for Scout\_40:

(17, 28007), (28, 27926), (Start: 32 @27911 has 116 MA's), (63, 27803), (78, 27764), (82, 27710),

Gene: SenorClean\_38 Start: 28374, Stop: 28108, Start Num: 33

Candidate Starts for SenorClean\_38:

(12, 28536), (15, 28506), (Start: 23 @28422 has 1 MA's), (Start: 33 @28374 has 121 MA's), (Start: 38 @28344 has 1 MA's), (Start: 43 @28317 has 23 MA's), (58, 28257), (82, 28140),

Gene: Shaka\_38 Start: 28374, Stop: 28108, Start Num: 33

Candidate Starts for Shaka\_38:

(12, 28536), (Start: 23 @28422 has 1 MA's), (Start: 33 @28374 has 121 MA's), (Start: 38 @28344 has 1 MA's), (Start: 43 @28317 has 23 MA's), (58, 28257), (82, 28140),

Gene: Shapes\_43 Start: 28322, Stop: 28053, Start Num: 33

Candidate Starts for Shapes\_43:

(20, 28382), (Start: 33 @28322 has 121 MA's), (Start: 38 @28292 has 1 MA's), (42, 28268), (49, 28238), (82, 28088),

Gene: Sheen\_38 Start: 30232, Stop: 29933, Start Num: 24

Candidate Starts for Sheen\_38:

(4, 30508), (Start: 24 @30232 has 2 MA's),

Gene: SheldonCooper\_40 Start: 28677, Stop: 28411, Start Num: 19

Candidate Starts for SheldonCooper\_40:

(1, 29541), (2, 29274), (3, 28959), (5, 28851), (7, 28827), (Start: 19 @28677 has 24 MA's), (Start: 38 @28647 has 1 MA's), (Start: 43 @28620 has 23 MA's), (58, 28560), (60, 28545), (82, 28443),

Gene: Shygu2\_37 Start: 28206, Stop: 27946, Start Num: 19

Candidate Starts for Shygu2\_37:

(Start: 19 @28206 has 24 MA's), (Start: 38 @28176 has 1 MA's), (Start: 43 @28149 has 23 MA's), (58, 28089), (82, 27972),

Gene: Skipitt\_37 Start: 28371, Stop: 28105, Start Num: 33

Candidate Starts for Skipitt\_37:

(12, 28533), (Start: 23 @28419 has 1 MA's), (Start: 33 @28371 has 121 MA's), (Start: 38 @28341 has 1 MA's), (Start: 43 @28314 has 23 MA's), (58, 28254), (82, 28137),

Gene: Smeadley\_35 Start: 26953, Stop: 26675, Start Num: 31

Candidate Starts for Smeadley\_35:

(Start: 31 @26953 has 11 MA's), (55, 26848), (61, 26809), (78, 26761), (82, 26707),

Gene: Snickers\_43 Start: 29075, Stop: 28836, Start Num: 32

Candidate Starts for Snickers\_43:

(Start: 32 @29075 has 116 MA's), (63, 28967), (78, 28928), (82, 28874),

Gene: SoYo\_43 Start: 29013, Stop: 28774, Start Num: 32

Candidate Starts for SoYo\_43:

(Start: 32 @29013 has 116 MA's), (63, 28905), (78, 28866), (82, 28812),

Gene: SoilDragon\_43 Start: 28550, Stop: 28308, Start Num: 32

Candidate Starts for SoilDragon\_43:

(Start: 32 @28550 has 116 MA's), (63, 28442), (78, 28403), (82, 28346),

Gene: Soshari\_45 Start: 29096, Stop: 28857, Start Num: 32

Candidate Starts for Soshari\_45:

(14, 29228), (Start: 32 @29096 has 116 MA's), (63, 28988), (78, 28949), (82, 28895),

Gene: Sparxx\_39 Start: 28369, Stop: 28103, Start Num: 33

Candidate Starts for Sparxx\_39:

(12, 28531), (Start: 23 @28417 has 1 MA's), (Start: 33 @28369 has 121 MA's), (Start: 38 @28339 has 1 MA's), (Start: 43 @28312 has 23 MA's), (58, 28252), (82, 28135),

Gene: Spike509\_43 Start: 29097, Stop: 28858, Start Num: 32

Candidate Starts for Spike509\_43:

(14, 29229), (Start: 32 @29097 has 116 MA's), (63, 28989), (78, 28950), (82, 28896),

Gene: Spino\_38 Start: 28374, Stop: 28108, Start Num: 33

Candidate Starts for Spino\_38:

(12, 28536), (Start: 23 @28422 has 1 MA's), (Start: 33 @28374 has 121 MA's), (Start: 38 @28344 has 1 MA's), (Start: 43 @28317 has 23 MA's), (58, 28257), (82, 28140),

Gene: Stagni\_43 Start: 29104, Stop: 28865, Start Num: 32

Candidate Starts for Stagni\_43:

(Start: 32 @29104 has 116 MA's), (63, 28996), (78, 28957), (82, 28903),

Gene: SteMason\_38 Start: 28374, Stop: 28108, Start Num: 33

Candidate Starts for SteMason\_38:

(12, 28536), (Start: 23 @28422 has 1 MA's), (Start: 33 @28374 has 121 MA's), (Start: 38 @28344 has 1 MA's), (Start: 43 @28317 has 23 MA's), (58, 28257), (82, 28140),

Gene: StepMih\_43 Start: 29095, Stop: 28856, Start Num: 32

Candidate Starts for StepMih\_43:

(Start: 32 @29095 has 116 MA's), (63, 28987), (78, 28948), (82, 28894),

Gene: Stephig9\_35 Start: 26858, Stop: 26580, Start Num: 31

Candidate Starts for Stephig9\_35:

(Start: 31 @26858 has 11 MA's), (55, 26753), (61, 26714), (78, 26666), (82, 26612),

Gene: Stink\_38 Start: 28677, Stop: 28417, Start Num: 19

Candidate Starts for Stink\_38:

(Start: 19 @28677 has 24 MA's), (Start: 38 @28647 has 1 MA's), (Start: 43 @28620 has 23 MA's), (58, 28560), (60, 28545), (82, 28443),

Gene: Sultana\_38 Start: 28374, Stop: 28108, Start Num: 33

Candidate Starts for Sultana\_38:

(12, 28536), (Start: 23 @28422 has 1 MA's), (Start: 33 @28374 has 121 MA's), (Start: 38 @28344 has 1 MA's), (Start: 43 @28317 has 23 MA's), (58, 28257), (82, 28140),

Gene: Swirley\_36 Start: 27689, Stop: 27477, Start Num: 43

Candidate Starts for Swirley\_36:

(Start: 43 @27689 has 23 MA's), (Start: 47 @27671 has 1 MA's), (78, 27563), (82, 27509),

Gene: SydNat\_36 Start: 27980, Stop: 27753, Start Num: 41

Candidate Starts for SydNat\_36:

(Start: 41 @27980 has 2 MA's), (Start: 43 @27971 has 23 MA's), (Start: 47 @27953 has 1 MA's), (55, 27926), (78, 27839), (82, 27785),

Gene: TNguyen7\_40 Start: 28571, Stop: 28332, Start Num: 32

Candidate Starts for TNguyen7\_40:  
(Start: 32 @28571 has 116 MA's), (78, 28424), (82, 28370),

Gene: Taquarus\_38 Start: 28377, Stop: 28111, Start Num: 33  
Candidate Starts for Taquarus\_38:  
(12, 28539), (Start: 23 @28425 has 1 MA's), (Start: 33 @28377 has 121 MA's), (Start: 38 @28347 has 1 MA's), (Start: 43 @28320 has 23 MA's), (58, 28260), (82, 28143),

Gene: Tarynearal\_33 Start: 27355, Stop: 27143, Start Num: 43  
Candidate Starts for Tarynearal\_33:  
(Start: 43 @27355 has 23 MA's), (Start: 47 @27337 has 1 MA's), (55, 27310), (78, 27229), (82, 27175),

Gene: Taurus\_44 Start: 29101, Stop: 28862, Start Num: 32  
Candidate Starts for Taurus\_44:  
(Start: 32 @29101 has 116 MA's), (63, 28993), (78, 28954), (82, 28900),

Gene: Texage\_38 Start: 28760, Stop: 28521, Start Num: 32  
Candidate Starts for Texage\_38:  
(Start: 32 @28760 has 116 MA's), (63, 28652), (78, 28613),

Gene: Thanksgivukkah\_38 Start: 28375, Stop: 28109, Start Num: 33  
Candidate Starts for Thanksgivukkah\_38:  
(12, 28537), (Start: 23 @28423 has 1 MA's), (Start: 33 @28375 has 121 MA's), (Start: 38 @28345 has 1 MA's), (Start: 43 @28318 has 23 MA's), (58, 28258), (82, 28141),

Gene: Theia\_32 Start: 27379, Stop: 27167, Start Num: 43  
Candidate Starts for Theia\_32:  
(Start: 43 @27379 has 23 MA's), (Start: 47 @27361 has 1 MA's), (55, 27334), (78, 27253), (82, 27199),

Gene: Tiffany\_43 Start: 28987, Stop: 28748, Start Num: 32  
Candidate Starts for Tiffany\_43:  
(Start: 32 @28987 has 116 MA's), (63, 28879), (78, 28840), (82, 28786),

Gene: TinaFeyge\_39 Start: 28369, Stop: 28103, Start Num: 33  
Candidate Starts for TinaFeyge\_39:  
(12, 28531), (Start: 23 @28417 has 1 MA's), (Start: 33 @28369 has 121 MA's), (Start: 38 @28339 has 1 MA's), (Start: 43 @28312 has 23 MA's), (58, 28252), (82, 28135),

Gene: TinyPebbles\_42 Start: 29102, Stop: 28863, Start Num: 32  
Candidate Starts for TinyPebbles\_42:  
(14, 29234), (Start: 32 @29102 has 116 MA's), (63, 28994), (78, 28955), (82, 28901),

Gene: Tinybot\_37 Start: 28404, Stop: 28138, Start Num: 33  
Candidate Starts for Tinybot\_37:  
(12, 28566), (Start: 23 @28452 has 1 MA's), (Start: 33 @28404 has 121 MA's), (Start: 38 @28374 has 1 MA's), (Start: 43 @28347 has 23 MA's), (58, 28287), (82, 28170),

Gene: TiroTheta9\_38 Start: 28371, Stop: 28105, Start Num: 33  
Candidate Starts for TiroTheta9\_38:  
(12, 28533), (Start: 23 @28419 has 1 MA's), (Start: 33 @28371 has 121 MA's), (Start: 38 @28341 has 1 MA's), (Start: 43 @28314 has 23 MA's), (58, 28254), (82, 28137),

Gene: Toaka\_39 Start: 28247, Stop: 27996, Start Num: 27

Candidate Starts for Toaka\_39:

(Start: 27 @28247 has 4 MA's), (36, 28220), (50, 28154), (73, 28076),

Gene: Todacoro\_39 Start: 28759, Stop: 28520, Start Num: 32

Candidate Starts for Todacoro\_39:

(Start: 32 @28759 has 116 MA's), (63, 28651), (78, 28612),

Gene: Toro\_41 Start: 30738, Stop: 30514, Start Num: 32

Candidate Starts for Toro\_41:

(Start: 32 @30738 has 116 MA's), (36, 30720), (63, 30630), (78, 30591), (84, 30531),

Gene: Toro\_38 Start: 30159, Stop: 29860, Start Num: 24

Candidate Starts for Toro\_38:

(Start: 24 @30159 has 2 MA's),

Gene: TroyPia\_39 Start: 28372, Stop: 28106, Start Num: 33

Candidate Starts for TroyPia\_39:

(12, 28534), (Start: 23 @28420 has 1 MA's), (Start: 33 @28372 has 121 MA's), (Start: 38 @28342 has 1 MA's), (Start: 43 @28315 has 23 MA's), (58, 28255), (82, 28138),

Gene: Twigg\_34 Start: 27328, Stop: 27116, Start Num: 43

Candidate Starts for Twigg\_34:

(Start: 43 @27328 has 23 MA's), (Start: 47 @27310 has 1 MA's), (55, 27283), (78, 27202), (82, 27148),

Gene: TygerBlood\_38 Start: 28374, Stop: 28108, Start Num: 33

Candidate Starts for TygerBlood\_38:

(12, 28536), (Start: 23 @28422 has 1 MA's), (Start: 33 @28374 has 121 MA's), (Start: 38 @28344 has 1 MA's), (Start: 43 @28317 has 23 MA's), (58, 28257), (82, 28140),

Gene: Ugenie5\_38 Start: 29157, Stop: 28903, Start Num: 27

Candidate Starts for Ugenie5\_38:

(Start: 27 @29157 has 4 MA's), (36, 29130), (50, 29064), (73, 28986),

Gene: Ulysses\_37 Start: 28054, Stop: 27788, Start Num: 33

Candidate Starts for Ulysses\_37:

(12, 28216), (Start: 23 @28102 has 1 MA's), (Start: 33 @28054 has 121 MA's), (Start: 38 @28024 has 1 MA's), (Start: 43 @27997 has 23 MA's), (58, 27937), (82, 27820),

Gene: UnionJack\_34 Start: 26537, Stop: 26325, Start Num: 43

Candidate Starts for UnionJack\_34:

(Start: 43 @26537 has 23 MA's), (Start: 47 @26519 has 1 MA's), (78, 26411), (82, 26357),

Gene: Veracruz\_38 Start: 28759, Stop: 28520, Start Num: 32

Candidate Starts for Veracruz\_38:

(Start: 32 @28759 has 116 MA's), (63, 28651), (78, 28612),

Gene: Vix\_43 Start: 29184, Stop: 28945, Start Num: 32

Candidate Starts for Vix\_43:

(Start: 32 @29184 has 116 MA's), (63, 29076), (78, 29037), (82, 28983),

Gene: Wander\_38 Start: 28374, Stop: 28108, Start Num: 33

Candidate Starts for Wander\_38:

(12, 28536), (Start: 23 @28422 has 1 MA's), (Start: 33 @28374 has 121 MA's), (Start: 38 @28344 has 1 MA's), (Start: 43 @28317 has 23 MA's), (58, 28257), (82, 28140),

Gene: Watson\_43 Start: 29094, Stop: 28855, Start Num: 32

Candidate Starts for Watson\_43:

(Start: 32 @29094 has 116 MA's), (63, 28986), (78, 28947), (82, 28893),

Gene: Wilbur\_38 Start: 28374, Stop: 28108, Start Num: 33

Candidate Starts for Wilbur\_38:

(12, 28536), (Start: 23 @28422 has 1 MA's), (Start: 33 @28374 has 121 MA's), (Start: 38 @28344 has 1 MA's), (Start: 43 @28317 has 23 MA's), (58, 28257), (82, 28140),

Gene: Wile\_37 Start: 28237, Stop: 27977, Start Num: 19

Candidate Starts for Wile\_37:

(Start: 19 @28237 has 24 MA's), (Start: 38 @28210 has 1 MA's), (Start: 43 @28183 has 23 MA's), (58, 28123), (75, 28060), (82, 28003),

Gene: Wizard007\_38 Start: 28379, Stop: 28113, Start Num: 33

Candidate Starts for Wizard007\_38:

(12, 28541), (Start: 23 @28427 has 1 MA's), (Start: 33 @28379 has 121 MA's), (Start: 38 @28349 has 1 MA's), (Start: 43 @28322 has 23 MA's), (58, 28262), (82, 28145),

Gene: Wooldri\_45 Start: 29013, Stop: 28774, Start Num: 32

Candidate Starts for Wooldri\_45:

(Start: 32 @29013 has 116 MA's), (63, 28905), (78, 28866), (82, 28812),

Gene: Xena\_36 Start: 28203, Stop: 27943, Start Num: 19

Candidate Starts for Xena\_36:

(Start: 19 @28203 has 24 MA's), (Start: 38 @28176 has 1 MA's), (Start: 43 @28149 has 23 MA's), (58, 28089), (75, 28026), (82, 27969),

Gene: XianYue\_38 Start: 28104, Stop: 27877, Start Num: 30

Candidate Starts for XianYue\_38:

(15, 28230), (16, 28218), (Start: 30 @28104 has 7 MA's), (51, 28026), (53, 28020), (82, 27906),

Gene: YoSam321\_38 Start: 28371, Stop: 28105, Start Num: 33

Candidate Starts for YoSam321\_38:

(12, 28533), (Start: 23 @28419 has 1 MA's), (Start: 33 @28371 has 121 MA's), (Start: 38 @28341 has 1 MA's), (Start: 43 @28314 has 23 MA's), (58, 28254), (82, 28137),

Gene: Zarafa\_40 Start: 28673, Stop: 28434, Start Num: 32

Candidate Starts for Zarafa\_40:

(17, 28769), (Start: 32 @28673 has 116 MA's), (63, 28565), (78, 28526), (82, 28472),

Gene: Zetzy\_42 Start: 28665, Stop: 28426, Start Num: 32

Candidate Starts for Zetzy\_42:

(Start: 32 @28665 has 116 MA's), (63, 28557), (78, 28518), (82, 28464),

Gene: Zolita\_35 Start: 27984, Stop: 27757, Start Num: 41

Candidate Starts for Zolita\_35:

(Start: 41 @27984 has 2 MA's), (Start: 43 @27975 has 23 MA's), (Start: 47 @27957 has 1 MA's), (55, 27930), (78, 27843), (82, 27789),