



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 304680 Report

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

Pham number 304680 has 262 members, 23 are drafts.

Phages represented in each track:

- Track 1 : Rajelicia\_39, Seabiscuit\_41, Crispicous1\_39, Fenn\_41, Marcell\_39, Michley\_39, Tasp14\_41, GrecoEtereo\_41, ILeeKay\_43, Naira\_41, Wheeler\_41, Carlyle\_40, Fajezeel\_42, Kugel\_42, Cueyllyss\_41, JC27\_41, Seanderson\_42, Gachnar\_41, DirtDevil\_41, Greg\_42, IgnatiusPatJac\_39, Blue\_40, Bexan\_38, U2\_39, PinkPlastic\_38, Traft412\_41, Snazzy\_38, PascalRango\_40, Trouble\_41, BillKnuckles\_40, Mryolo\_38, Jorgensen\_40, CatBus\_41, Inyanga\_38, Sandaddy\_40, Kykar\_40, Makemake\_40, Eyeball\_41, Arcanine\_39, Ajay\_40, Parliament\_39, McGuire\_40, EnzoK\_39, MPlant7149\_39, Ashballer\_42, StewieG\_39, Pinto\_41, JuliaChild\_41, AFIS\_39, Puppet\_41, Gwendoluna\_42, Switzer\_40, Perseus\_41, Ruotula\_42, Nerujay\_42, KikiBouba\_42, Norz\_41, Sanya\_39, Pepe\_37, Hope4ever\_41, DrFeelGood\_39, Lopton\_41, Doom\_41, Rufus\_41, Manatee\_40, DreamCatcher\_42, Scowl\_40, Oogway\_38, Lesedi\_38, Pippin\_42, Abbysshoes\_43, Bob3\_38, Swole\_41, GroundGoblin\_41, Slagathor\_40, Adahisdi\_40, Treddle\_42, Buttons\_39, Barriga\_40, Sibs6\_41, Paraselene\_38, BeesKnees\_40, TheloniousMonk\_41, BaconJack\_43, Papez\_42, PowerRanger\_41, Tripl3t\_40, Gyzlar\_37, Pelly\_40, Squee\_40, KyMonks1A\_43, Anglerfish\_41, Zephyr\_40, Dulcie\_39, Acme\_43, Rubeus\_40, HarryOW\_39, Petruchio\_40, Sunshine924\_41, NEHalo\_39, Rhynn\_39, Ciao\_40, Dynamix\_40, Lamina13\_40, Sorpresa\_40, GMonster\_38, PSullivan\_40, Target\_41, QTRlifeCrisis\_41, Applejack\_36, CartmannCramer\_40, Edtherson\_41, Pita2\_43, Hami1\_35, Whispit\_38, Noxious\_42, Abrogate\_400, StrongArm\_39, Tote\_36, SpikeBT\_41, Ichabod\_40, Beatrix\_39, RidgeCB\_40, Ringer\_41, Briton15\_41, Licorice\_43, Gandalf20\_41, Arlo\_38, Nhonho\_40, LunarLander\_42, MaryBeth\_40, Hermia\_42, PattyP\_41, Atkinbua\_41, GageAP\_41, DD5\_40, Topgun\_40, Lockley\_40, Smairt\_42, MetalQZJ\_40, STLscum\_41, Kenmech\_44, Phlippers\_39, PherrisBueller\_40
- Track 2 : Forsytheast\_40, ConceptII\_42, Payneful\_40, SwissCheese\_42, Marchy\_35, Raid\_40, BarrowTuph\_40, Corvo\_41, PhineBark\_39, Moose\_40, Kanely\_41, Levia\_37
- Track 3 : BluSpix\_37, Bethlehem\_39, Dussy\_42, Euphoria\_39, Bxb1\_37, BigPaolini\_40, Blesser\_39, Graduation\_43, Fushigi\_38, HanShotFirst\_39, A6\_37, Dexes\_40, Aeneas\_42, Mkhusele\_40, BK1\_37, Rutherford\_42, Iqorha\_38, Alsfro\_44, PhrostyMug\_40, Monet\_44, Espresso\_40, Pari\_40, Zeuska\_40, Mule\_38, Solon\_40, Watermelon\_42, Aldrich\_41
- Track 4 : Burton\_40, Zeeculate\_39, Museum\_41, Magnito\_38, BigMau\_41, JackSparrow\_42, Petp2012\_41, Bigchungji\_39, Niza\_42, Molly\_41, ShortQueendom\_36, LilBib\_40, Big3\_39, TwoPeat\_40, Rohr\_41, Jerm2\_41, Marco3\_41, HermioneGrange\_40, Turj99\_38

- Track 5 : McSinger\_41, Blackflame\_40, Altman\_42, Violet\_38, Chanagan\_38, Teodoridan\_38
- Track 6 : Peterson\_44
- Track 7 : Killigrew\_39
- Track 8 : Thor\_39, SarFire\_39, Smeagol\_41
- Track 9 : SkiPole\_43
- Track 10 : Marge\_40
- Track 11 : Jasper\_40, ProMouse\_37, Dreamboat\_40
- Track 12 : Paphu\_39
- Track 13 : Bruns\_39, MrGordo\_39
- Track 14 : Richo\_64, Dartin\_64, Shaobing\_64, Niklas\_64, McMater\_64, Peanam\_64
- Track 15 : Guanica15\_66, Efra2\_67, Yunkel11\_66, TingHuaYa\_65, LastHope\_66
- Track 16 : Nibb\_64
- Track 17 : LeMond\_66, MarkPhew\_65, Scarlett\_67, KiSi\_67, Oscar\_66
- Track 18 : Chavito\_64
- Track 19 : Validus\_66
- Track 20 : Keshu\_64, TribbleTrouble\_62
- Track 21 : Pixie\_61
- Track 22 : ShedlockHolmes\_63
- Track 23 : Hurricane\_62
- Track 24 : MacnCheese\_64
- Track 25 : Lea83\_62
- Track 26 : Pharb\_61
- Track 27 : Ximenita\_67
- Track 28 : Yuna\_67
- Track 29 : Cain\_65, Phrank\_65, Tierra\_65, Bryler\_65
- Track 30 : Shadow1\_66, Sunflower1121\_67
- Track 31 : PhelpsODU\_63, Unicorn\_63
- Track 32 : SirPhilip\_63
- Track 33 : Krueger\_66
- Track 34 : Syra333\_65
- Track 35 : Tigress9\_66

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

The start number called the most often in the published annotations is 15, it was called in 172 of the 239 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AFIS\_39, Abbyshoes\_43, Abrogate\_400, Acme\_43, Adahisdi\_40, Ajay\_40, Anglerfish\_41, Applejack\_36, Arcanine\_39, Arlo\_38, Ashballer\_42, Atkinbua\_41, BaconJack\_43, Barriga\_40, BarrowTuph\_40, Beatrix\_39, BeesKnees\_40, Bexan\_38, Big3\_39, BigMau\_41, Bigchungi\_39, BillKnuckles\_40, Blue\_40, Bob3\_38, Briton15\_41, Burton\_40, Buttons\_39, Carlyle\_40, CartmannCramer\_40, CatBus\_41, Ciao\_40, Conceptll\_42, Corvo\_41, Crispicous1\_39, Cueyllyss\_41, DD5\_40, DirtDevil\_41, Doom\_41, DrFeelGood\_39, DreamCatcher\_42, Dreamboat\_40, Dulcie\_39, Dynamix\_40, Edtherson\_41, EnzoK\_39, Eyeball\_41, Fajezeel\_42, Fenn\_41, Forsytheast\_40, GMonster\_38, Gachnar\_41, GageAP\_41, Gandalf20\_41, GrecoEtereo\_41, Greg\_42, GroundGoblin\_41, Gwendoluna\_42, Gyzlar\_37, Hami1\_35, HarryOW\_39, Hermia\_42, HermioneGrange\_40, Hope4ever\_41,

ILeeKay\_43, Ichabod\_40, IgnatiusPatJac\_39, Inyanga\_38, JC27\_41, JackSparrow\_42, Jasper\_40, Jerm2\_41, Jorgensen\_40, JuliaChild\_41, Kanely\_41, Kenmech\_44, KikiBouba\_42, Killigrew\_39, Kugel\_42, KyMonks1A\_43, Kykar\_40, Lamina13\_40, Lesedi\_38, Levia\_37, Licorice\_43, LilBib\_40, Lockley\_40, Lopton\_41, LunarLander\_42, MPlant7149\_39, Magnito\_38, Makemake\_40, Manatee\_40, Marcell\_39, Marchy\_35, Marco3\_41, MaryBeth\_40, McGuire\_40, MetalQZJ\_40, Michley\_39, Molly\_41, Moose\_40, Mryolo\_38, Museum\_41, NEHalo\_39, Naira\_41, Nerujay\_42, Nhonho\_40, Niza\_42, Norz\_41, Noxious\_42, Oogway\_38, PSullivan\_40, Papez\_42, Paphu\_39, Paraselene\_38, Parliament\_39, PascalRango\_40, PattyP\_41, Payneful\_40, Pelly\_40, Pepe\_37, Perseus\_41, Peterson\_44, Petp2012\_41, Petruccio\_40, PherrisBueller\_40, PhineBark\_39, Phlippers\_39, PinkPlastic\_38, Pinto\_41, Pippin\_42, Pita2\_43, PowerRanger\_41, ProMouse\_37, Puppet\_41, QTRlifeCrisis\_41, Raid\_40, Rajelicia\_39, Rhynn\_39, RidgeCB\_40, Ringer\_41, Rohr\_41, Rubeus\_40, Rufus\_41, Ruotula\_42, STLscum\_41, Sandaddy\_40, Sanya\_39, SarFire\_39, Scowl\_40, Seabiscuit\_41, Seanderson\_42, ShortQueendom\_36, Sibs6\_41, Slagathor\_40, Smairt\_42, Smeagol\_41, Snazzy\_38, Sorpresa\_40, SpikeBT\_41, Squee\_40, StewieG\_39, StrongArm\_39, Sunshine924\_41, SwissCheese\_42, Switzer\_40, Swole\_41, Target\_41, Tasp14\_41, TheloniousMonk\_41, Thor\_39, Topgun\_40, Tote\_36, Traft412\_41, Treddle\_42, Tripl3t\_40, Trouble\_41, Turj99\_38, TwoPeat\_40, U2\_39, Wheeler\_41, Whitspit\_38, Zeeculate\_39, Zephyr\_40,

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

- A6\_37, Aeneas\_42, Aldrich\_41, Alsfro\_44, Altman\_42, BK1\_37, Bethlehem\_39, BigPaolini\_40, Blackflame\_40, Blesser\_39, BluSpix\_37, Bruns\_39, Bxb1\_37, Chanagan\_38, Dexes\_40, Dussy\_42, Espresso\_40, Euphoria\_39, Fushigi\_38, Graduation\_43, HanShotFirst\_39, Iqorha\_38, Marge\_40, McSinger\_41, Mkhuseli\_40, Monet\_44, MrGordo\_39, Mule\_38, Pari\_40, PhrostyMug\_40, Rutherford\_42, Solon\_40, Teodoridan\_38, Violet\_38, Watermelon\_42, Zeuska\_40,

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

- Bryler\_65, Cain\_65, Chavito\_64, Dartin\_64, Efra2\_67, Guanica15\_66, Hurricane\_62, Keshu\_64, KiSi\_67, Krueger\_66, LastHope\_66, LeMond\_66, Lea83\_62, MacnCheese\_64, MarkPhew\_65, McMater\_64, Nibb\_64, Niklas\_64, Oscar\_66, Peanam\_64, Pharb\_61, PhelpsODU\_63, Phrank\_65, Pixie\_61, Richo\_64, Scarlett\_67, Shadow1\_66, Shaobing\_64, ShedlockHolmes\_63, SirPhilip\_63, SkiPole\_43, Sunflower1121\_67, Syra333\_65, Tierra\_65, Tigress9\_66, TingHuaYa\_65, TribbleTrouble\_62, Unicorn\_63, Validus\_66, Ximenita\_67, Yuna\_67, Yunkel11\_66,

### Summary by start number:

Start 9:

- Found in 34 of 262 ( 13.0% ) of genes in pham
- Manual Annotations of this start: 2 of 239
- Called 5.9% of time when present
- Phage (with cluster) where this start called: Pixie\_61 (K3), ShedlockHolmes\_63 (K3),

Start 10:

- Found in 1 of 262 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 239
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Hurricane\_62 (K3),

Start 11:

- Found in 41 of 262 ( 15.6% ) of genes in pham
- Manual Annotations of this start: 33 of 239
- Called 92.7% of time when present
- Phage (with cluster) where this start called: Bryler\_65 (K6), Cain\_65 (K6), Chavito\_64 (K1), Dartin\_64 (K1), Efra2\_67 (K1), Guanica15\_66 (K1), Keshu\_64 (K3), KiSi\_67 (K1), Krueger\_66 (K6), LastHope\_66 (K1), LeMond\_66 (K1), Lea83\_62 (K3), MacnCheese\_64 (K3), MarkPhew\_65 (K1), McMater\_64 (K1), Nibb\_64 (K1), Niklas\_64 (K1), Oscar\_66 (K1), Peanam\_64 (K1), Pharb\_61 (K3), PHELPSODU\_63 (K6), Phrank\_65 (K6), Richo\_64 (K1), Scarlett\_67 (K1), Shadow1\_66 (K6), Shaobing\_64 (K1), SirPhilip\_63 (K6), Sunflower1121\_67 (K6), Syra333\_65 (K6), Tierra\_65 (K6), Tigress9\_66 (K6), TingHuaYa\_65 (K1), TripleTrouble\_62 (K3), Unicorn\_63 (K6), Validus\_66 (K1), Ximenita\_67 (K6), Yuna\_67 (K6), Yunkel11\_66 (K1),

Start 12:

- Found in 1 of 262 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 239
- Called 100.0% of time when present
- Phage (with cluster) where this start called: SkiPole\_43 (A1),

Start 13:

- Found in 211 of 262 ( 80.5% ) of genes in pham
- Manual Annotations of this start: 30 of 239
- Called 17.1% of time when present
- Phage (with cluster) where this start called: A6\_37 (A1), Aeneas\_42 (A1), Aldrich\_41 (A1), Alsfro\_44 (A1), Altman\_42 (A1), BK1\_37 (A1), Bethlehem\_39 (A1), BigPaolini\_40 (A1), Blackflame\_40 (A1), Blesser\_39 (A1), BluSpix\_37 (A1), Bruns\_39 (A1), Bxb1\_37 (A1), Chanagan\_38 (A1), Dexes\_40 (A1), Dussy\_42 (A1), Espresso\_40 (A1), Euphoria\_39 (A1), Fushigi\_38 (A1), Graduation\_43 (A1), HanShotFirst\_39 (A1), Iqorha\_38 (A1), Marge\_40 (A1), McSinger\_41 (A1), Mkhusele\_40 (A1), Monet\_44 (A1), MrGordo\_39 (A1), Mule\_38 (A1), Pari\_40 (A1), PhrostyMug\_40 (A1), Rutherford\_42 (A1), Solon\_40 (A1), Teodoridan\_38 (A1), Violet\_38 (A1), Watermelon\_42 (A1), Zeuska\_40 (A1),

Start 15:

- Found in 220 of 262 ( 84.0% ) of genes in pham
- Manual Annotations of this start: 172 of 239
- Called 83.6% of time when present
- Phage (with cluster) where this start called: AFIS\_39 (A1), Abbyshoes\_43 (A1), Abrogate\_400 (A1), Acme\_43 (A1), Adahisdi\_40 (A1), Ajay\_40 (A1), Anglerfish\_41 (A1), Applejack\_36 (A1), Arcanine\_39 (A1), Arlo\_38 (A1), Ashballer\_42 (A1), Atkinbua\_41 (A1), BaconJack\_43 (A1), Barriga\_40 (A1), BarrowTuph\_40 (A1), Beatrix\_39 (A1), BeesKnees\_40 (A1), Bexan\_38 (A1), Big3\_39 (A1), BigMau\_41 (A1), Bigchungu\_39 (A1), BillKnuckles\_40 (A1), Blue\_40 (A1), Bob3\_38 (A1), Briton15\_41 (A1), Burton\_40 (A1), Buttons\_39 (A1), Carlyle\_40 (A1), CartmannCramer\_40 (A1), CatBus\_41 (A1), Ciao\_40 (A1), ConceptII\_42 (A1), Corvo\_41 (A1), Crispicous1\_39 (A1), Cueyllyss\_41 (A1), DD5\_40 (A1), DirtDevil\_41 (A1), Doom\_41 (A1), DrFeelGood\_39 (A1), DreamCatcher\_42 (A1), Dreamboat\_40 (A1), Dulcie\_39 (A1), Dynamix\_40 (A1), Edtherson\_41 (A1), EnzoK\_39 (A1), Eyeball\_41 (A1), Fajezeel\_42 (A1), Fenn\_41 (A1), Forsytheast\_40 (A1), GMonster\_38 (A1), Gachnar\_41 (A1), GageAP\_41 (A1), Gandalf20\_41 (A1),

GrecoEtereo\_41 (A1), Greg\_42 (A1), GroundGoblin\_41 (A1), Gwendoluna\_42 (A1), Gyzlar\_37 (A1), Hami1\_35 (A1), HarryOW\_39 (A1), Hermia\_42 (A1), HermioneGrange\_40 (A1), Hope4ever\_41 (A1), ILeeKay\_43 (A1), Ichabod\_40 (A1), IgnatiusPatJac\_39 (A1), Inyanga\_38 (A1), JC27\_41 (A1), JackSparrow\_42 (A1), Jasper\_40 (A1), Jerm2\_41 (A1), Jorgensen\_40 (A1), JuliaChild\_41 (A1), Kanely\_41 (A1), Kenmech\_44 (A1), KikiBouba\_42 (A1), Killigrew\_39 (A1), Kugel\_42 (A1), KyMonks1A\_43 (A1), Kykar\_40 (A1), Lamina13\_40 (A1), Lesedi\_38 (A1), Levia\_37 (A1), Licorice\_43 (A1), LilBib\_40 (A1), Lockley\_40 (A1), Lopton\_41 (A1), LunarLander\_42 (A1), MPlant7149\_39 (A1), Magnito\_38 (A1), Makemake\_40 (A1), Manatee\_40 (A1), Marcell\_39 (A1), Marchy\_35 (A1), Marco3\_41 (A1), MaryBeth\_40 (A1), McGuire\_40 (A1), MetalQZJ\_40 (A1), Michley\_39 (A1), Molly\_41 (A1), Moose\_40 (A1), Mryolo\_38 (A1), Museum\_41 (A1), NEHalo\_39 (A1), Naira\_41 (A1), Nerujay\_42 (A1), Nhonho\_40 (A1), Niza\_42 (A1), Norz\_41 (A1), Noxious\_42 (A1), Oogway\_38 (A1), PSullivan\_40 (A1), Papez\_42 (A1), Paphu\_39 (A1), Paraselene\_38 (A1), Parliament\_39 (A1), PascalRango\_40 (A1), PattyP\_41 (A1), Payneful\_40 (A1), Pelly\_40 (A1), Pepe\_37 (A1), Perseus\_41 (A1), Peterson\_44 (A1), Petp2012\_41 (A1), Petruccio\_40 (A1), PherrisBueller\_40 (A1), PhineBark\_39 (A1), Phlippers\_39 (A1), PinkPlastic\_38 (A1), Pinto\_41 (A1), Pippin\_42 (A1), Pita2\_43 (A1), PowerRanger\_41 (A1), ProMouse\_37 (A1), Puppet\_41 (A1), QTRlifeCrisis\_41 (A1), Raid\_40 (A1), Rajelicia\_39 (A1), Rhynn\_39 (A1), RidgeCB\_40 (A1), Ringer\_41 (A1), Rohr\_41 (A1), Rubeus\_40 (A1), Rufus\_41 (A1), Ruotula\_42 (A1), STLscum\_41 (A1), Sandaddy\_40 (A1), Sanya\_39 (A1), SarFire\_39 (A1), Scowl\_40 (A1), Seabiscuit\_41 (A1), Seanderson\_42 (A1), ShortQueendom\_36 (A1), Sibs6\_41 (A1), Slagathor\_40 (A1), Smairt\_42 (A1), Smeagol\_41 (A1), Snazzy\_38 (A1), Sorpresa\_40 (A1), SpikeBT\_41 (A1), Squee\_40 (A1), StewieG\_39 (A1), StrongArm\_39 (A1), Sunshine924\_41 (A1), SwissCheese\_42 (A1), Switzer\_40 (A1), Swole\_41 (A1), Target\_41 (A1), Tasp14\_41 (A1), TheloniousMonk\_41 (A1), Thor\_39 (A1), Topgun\_40 (A1), Tote\_36 (A1), Traft412\_41 (A1), Treddle\_42 (A1), Tripl3t\_40 (A1), Trouble\_41 (A1), Turj99\_38 (A1), TwoPeat\_40 (A1), U2\_39 (A1), Wheeler\_41 (A1), Whitspit\_38 (A1), Zeeculate\_39 (A1), Zephyr\_40 (A1),

### Summary by clusters:

There are 4 clusters represented in this pham: A1, K3, K1, K6,

Info for manual annotations of cluster A1:

- Start number 12 was manually annotated 1 time for cluster A1.
- Start number 13 was manually annotated 30 times for cluster A1.
- Start number 15 was manually annotated 172 times for cluster A1.

Info for manual annotations of cluster K1:

- Start number 11 was manually annotated 14 times for cluster K1.

Info for manual annotations of cluster K3:

- Start number 9 was manually annotated 2 times for cluster K3.
- Start number 10 was manually annotated 1 time for cluster K3.
- Start number 11 was manually annotated 5 times for cluster K3.

Info for manual annotations of cluster K6:

- Start number 11 was manually annotated 14 times for cluster K6.

**Gene Information:**

Gene: A6\_37 Start: 30984, Stop: 30805, Start Num: 13

Candidate Starts for A6\_37:

(Start: 13 @30984 has 30 MA's), (Start: 15 @30975 has 172 MA's), (18, 30903),

Gene: AFIS\_39 Start: 31765, Stop: 31595, Start Num: 15

Candidate Starts for AFIS\_39:

(Start: 13 @31774 has 30 MA's), (Start: 15 @31765 has 172 MA's), (18, 31693),

Gene: Abbyshoes\_43 Start: 32174, Stop: 32004, Start Num: 15

Candidate Starts for Abbyshoes\_43:

(Start: 13 @32183 has 30 MA's), (Start: 15 @32174 has 172 MA's), (18, 32102),

Gene: Abrogate\_400 Start: 32452, Stop: 32282, Start Num: 15

Candidate Starts for Abrogate\_400:

(Start: 13 @32461 has 30 MA's), (Start: 15 @32452 has 172 MA's), (18, 32380),

Gene: Acme\_43 Start: 32292, Stop: 32122, Start Num: 15

Candidate Starts for Acme\_43:

(Start: 13 @32301 has 30 MA's), (Start: 15 @32292 has 172 MA's), (18, 32220),

Gene: Adahisdi\_40 Start: 31815, Stop: 31645, Start Num: 15

Candidate Starts for Adahisdi\_40:

(Start: 13 @31824 has 30 MA's), (Start: 15 @31815 has 172 MA's), (18, 31743),

Gene: Aeneas\_42 Start: 31975, Stop: 31796, Start Num: 13

Candidate Starts for Aeneas\_42:

(Start: 13 @31975 has 30 MA's), (Start: 15 @31966 has 172 MA's), (18, 31894),

Gene: Ajay\_40 Start: 31606, Stop: 31436, Start Num: 15

Candidate Starts for Ajay\_40:

(Start: 13 @31615 has 30 MA's), (Start: 15 @31606 has 172 MA's), (18, 31534),

Gene: Aldrich\_41 Start: 32787, Stop: 32608, Start Num: 13

Candidate Starts for Aldrich\_41:

(Start: 13 @32787 has 30 MA's), (Start: 15 @32778 has 172 MA's), (18, 32706),

Gene: Alsfro\_44 Start: 32364, Stop: 32185, Start Num: 13

Candidate Starts for Alsfro\_44:

(Start: 13 @32364 has 30 MA's), (Start: 15 @32355 has 172 MA's), (18, 32283),

Gene: Altman\_42 Start: 32620, Stop: 32441, Start Num: 13

Candidate Starts for Altman\_42:

(Start: 13 @32620 has 30 MA's), (Start: 15 @32611 has 172 MA's), (17, 32575), (18, 32539),

Gene: Anglerfish\_41 Start: 31868, Stop: 31698, Start Num: 15

Candidate Starts for Anglerfish\_41:

(Start: 13 @31877 has 30 MA's), (Start: 15 @31868 has 172 MA's), (18, 31796),

Gene: Applejack\_36 Start: 28682, Stop: 28512, Start Num: 15

Candidate Starts for Applejack\_36:

(Start: 13 @28691 has 30 MA's), (Start: 15 @28682 has 172 MA's), (18, 28610),

Gene: Arcanine\_39 Start: 30988, Stop: 30818, Start Num: 15  
Candidate Starts for Arcanine\_39:  
(Start: 13 @30997 has 30 MA's), (Start: 15 @30988 has 172 MA's), (18, 30916),

Gene: Arlo\_38 Start: 31496, Stop: 31326, Start Num: 15  
Candidate Starts for Arlo\_38:  
(Start: 13 @31505 has 30 MA's), (Start: 15 @31496 has 172 MA's), (18, 31424),

Gene: Ashballer\_42 Start: 32748, Stop: 32578, Start Num: 15  
Candidate Starts for Ashballer\_42:  
(Start: 13 @32757 has 30 MA's), (Start: 15 @32748 has 172 MA's), (18, 32676),

Gene: Atkinbua\_41 Start: 31944, Stop: 31774, Start Num: 15  
Candidate Starts for Atkinbua\_41:  
(Start: 13 @31953 has 30 MA's), (Start: 15 @31944 has 172 MA's), (18, 31872),

Gene: BK1\_37 Start: 30984, Stop: 30805, Start Num: 13  
Candidate Starts for BK1\_37:  
(Start: 13 @30984 has 30 MA's), (Start: 15 @30975 has 172 MA's), (18, 30903),

Gene: BaconJack\_43 Start: 32721, Stop: 32551, Start Num: 15  
Candidate Starts for BaconJack\_43:  
(Start: 13 @32730 has 30 MA's), (Start: 15 @32721 has 172 MA's), (18, 32649),

Gene: Barriga\_40 Start: 31470, Stop: 31300, Start Num: 15  
Candidate Starts for Barriga\_40:  
(Start: 13 @31479 has 30 MA's), (Start: 15 @31470 has 172 MA's), (18, 31398),

Gene: BarrowTuph\_40 Start: 31925, Stop: 31755, Start Num: 15  
Candidate Starts for BarrowTuph\_40:  
(Start: 13 @31934 has 30 MA's), (Start: 15 @31925 has 172 MA's), (17, 31889), (18, 31853),

Gene: Beatrix\_39 Start: 32941, Stop: 32771, Start Num: 15  
Candidate Starts for Beatrix\_39:  
(Start: 13 @32950 has 30 MA's), (Start: 15 @32941 has 172 MA's), (18, 32869),

Gene: BeesKnees\_40 Start: 31526, Stop: 31356, Start Num: 15  
Candidate Starts for BeesKnees\_40:  
(Start: 13 @31535 has 30 MA's), (Start: 15 @31526 has 172 MA's), (18, 31454),

Gene: Bethlehem\_39 Start: 32238, Stop: 32059, Start Num: 13  
Candidate Starts for Bethlehem\_39:  
(Start: 13 @32238 has 30 MA's), (Start: 15 @32229 has 172 MA's), (18, 32157),

Gene: Bexan\_38 Start: 32629, Stop: 32459, Start Num: 15  
Candidate Starts for Bexan\_38:  
(Start: 13 @32638 has 30 MA's), (Start: 15 @32629 has 172 MA's), (18, 32557),

Gene: Big3\_39 Start: 32107, Stop: 31937, Start Num: 15  
Candidate Starts for Big3\_39:  
(Start: 13 @32116 has 30 MA's), (Start: 15 @32107 has 172 MA's), (18, 32035),

Gene: BigMau\_41 Start: 31603, Stop: 31433, Start Num: 15  
Candidate Starts for BigMau\_41:  
(Start: 13 @31612 has 30 MA's), (Start: 15 @31603 has 172 MA's), (18, 31531),

Gene: BigPaolini\_40 Start: 30608, Stop: 30429, Start Num: 13  
Candidate Starts for BigPaolini\_40:  
(Start: 13 @30608 has 30 MA's), (Start: 15 @30599 has 172 MA's), (18, 30527),

Gene: Bigchungj\_39 Start: 31219, Stop: 31049, Start Num: 15  
Candidate Starts for Bigchungj\_39:  
(Start: 13 @31228 has 30 MA's), (Start: 15 @31219 has 172 MA's), (18, 31147),

Gene: BillKnuckles\_40 Start: 32329, Stop: 32159, Start Num: 15  
Candidate Starts for BillKnuckles\_40:  
(Start: 13 @32338 has 30 MA's), (Start: 15 @32329 has 172 MA's), (18, 32257),

Gene: Blackflame\_40 Start: 31312, Stop: 31133, Start Num: 13  
Candidate Starts for Blackflame\_40:  
(Start: 13 @31312 has 30 MA's), (Start: 15 @31303 has 172 MA's), (17, 31267), (18, 31231),

Gene: Blesser\_39 Start: 32011, Stop: 31832, Start Num: 13  
Candidate Starts for Blesser\_39:  
(Start: 13 @32011 has 30 MA's), (Start: 15 @32002 has 172 MA's), (18, 31930),

Gene: BluSpix\_37 Start: 27712, Stop: 27533, Start Num: 13  
Candidate Starts for BluSpix\_37:  
(Start: 13 @27712 has 30 MA's), (Start: 15 @27703 has 172 MA's), (18, 27631),

Gene: Blue\_40 Start: 32387, Stop: 32217, Start Num: 15  
Candidate Starts for Blue\_40:  
(Start: 13 @32396 has 30 MA's), (Start: 15 @32387 has 172 MA's), (18, 32315),

Gene: Bob3\_38 Start: 30953, Stop: 30783, Start Num: 15  
Candidate Starts for Bob3\_38:  
(Start: 13 @30962 has 30 MA's), (Start: 15 @30953 has 172 MA's), (18, 30881),

Gene: Briton15\_41 Start: 31779, Stop: 31609, Start Num: 15  
Candidate Starts for Briton15\_41:  
(Start: 13 @31788 has 30 MA's), (Start: 15 @31779 has 172 MA's), (18, 31707),

Gene: Bruns\_39 Start: 31694, Stop: 31509, Start Num: 13  
Candidate Starts for Bruns\_39:  
(Start: 13 @31694 has 30 MA's), (Start: 15 @31685 has 172 MA's), (18, 31613),

Gene: Bryler\_65 Start: 41993, Stop: 42184, Start Num: 11  
Candidate Starts for Bryler\_65:  
(Start: 9 @41963 has 2 MA's), (Start: 11 @41993 has 33 MA's), (16, 42029), (18, 42083),

Gene: Burton\_40 Start: 31523, Stop: 31353, Start Num: 15  
Candidate Starts for Burton\_40:  
(Start: 13 @31532 has 30 MA's), (Start: 15 @31523 has 172 MA's), (18, 31451),

Gene: Buttons\_39 Start: 30491, Stop: 30321, Start Num: 15

Candidate Starts for Buttons\_39:

(Start: 13 @30500 has 30 MA's), (Start: 15 @30491 has 172 MA's), (18, 30419),

Gene: Bxb1\_37 Start: 31562, Stop: 31383, Start Num: 13

Candidate Starts for Bxb1\_37:

(Start: 13 @31562 has 30 MA's), (Start: 15 @31553 has 172 MA's), (18, 31481),

Gene: Cain\_65 Start: 41981, Stop: 42172, Start Num: 11

Candidate Starts for Cain\_65:

(Start: 9 @41951 has 2 MA's), (Start: 11 @41981 has 33 MA's), (16, 42017), (18, 42071),

Gene: Carlyle\_40 Start: 30235, Stop: 30065, Start Num: 15

Candidate Starts for Carlyle\_40:

(Start: 13 @30244 has 30 MA's), (Start: 15 @30235 has 172 MA's), (18, 30163),

Gene: CartmannCramer\_40 Start: 34096, Stop: 33926, Start Num: 15

Candidate Starts for CartmannCramer\_40:

(Start: 13 @34105 has 30 MA's), (Start: 15 @34096 has 172 MA's), (18, 34024),

Gene: CatBus\_41 Start: 32970, Stop: 32800, Start Num: 15

Candidate Starts for CatBus\_41:

(Start: 13 @32979 has 30 MA's), (Start: 15 @32970 has 172 MA's), (18, 32898),

Gene: Chanagan\_38 Start: 31084, Stop: 30905, Start Num: 13

Candidate Starts for Chanagan\_38:

(Start: 13 @31084 has 30 MA's), (Start: 15 @31075 has 172 MA's), (17, 31039), (18, 31003),

Gene: Chavito\_64 Start: 43106, Stop: 43297, Start Num: 11

Candidate Starts for Chavito\_64:

(Start: 9 @43076 has 2 MA's), (Start: 11 @43106 has 33 MA's), (14, 43121),

Gene: Ciao\_40 Start: 31748, Stop: 31578, Start Num: 15

Candidate Starts for Ciao\_40:

(Start: 13 @31757 has 30 MA's), (Start: 15 @31748 has 172 MA's), (18, 31676),

Gene: ConceptII\_42 Start: 32765, Stop: 32595, Start Num: 15

Candidate Starts for ConceptII\_42:

(Start: 13 @32774 has 30 MA's), (Start: 15 @32765 has 172 MA's), (17, 32729), (18, 32693),

Gene: Corvo\_41 Start: 32625, Stop: 32455, Start Num: 15

Candidate Starts for Corvo\_41:

(Start: 13 @32634 has 30 MA's), (Start: 15 @32625 has 172 MA's), (17, 32589), (18, 32553),

Gene: Crispicous1\_39 Start: 31389, Stop: 31219, Start Num: 15

Candidate Starts for Crispicous1\_39:

(Start: 13 @31398 has 30 MA's), (Start: 15 @31389 has 172 MA's), (18, 31317),

Gene: Cueyllyss\_41 Start: 32327, Stop: 32157, Start Num: 15

Candidate Starts for Cueyllyss\_41:

(Start: 13 @32336 has 30 MA's), (Start: 15 @32327 has 172 MA's), (18, 32255),

Gene: DD5\_40 Start: 32631, Stop: 32461, Start Num: 15

Candidate Starts for DD5\_40:

(Start: 13 @32640 has 30 MA's), (Start: 15 @32631 has 172 MA's), (18, 32559),

Gene: Dartin\_64 Start: 42605, Stop: 42799, Start Num: 11

Candidate Starts for Dartin\_64:

(Start: 9 @42575 has 2 MA's), (Start: 11 @42605 has 33 MA's), (14, 42620),

Gene: Dexes\_40 Start: 32374, Stop: 32195, Start Num: 13

Candidate Starts for Dexes\_40:

(Start: 13 @32374 has 30 MA's), (Start: 15 @32365 has 172 MA's), (18, 32293),

Gene: DirtDevil\_41 Start: 32778, Stop: 32608, Start Num: 15

Candidate Starts for DirtDevil\_41:

(Start: 13 @32787 has 30 MA's), (Start: 15 @32778 has 172 MA's), (18, 32706),

Gene: Doom\_41 Start: 32520, Stop: 32350, Start Num: 15

Candidate Starts for Doom\_41:

(Start: 13 @32529 has 30 MA's), (Start: 15 @32520 has 172 MA's), (18, 32448),

Gene: DrFeelGood\_39 Start: 32261, Stop: 32091, Start Num: 15

Candidate Starts for DrFeelGood\_39:

(Start: 13 @32270 has 30 MA's), (Start: 15 @32261 has 172 MA's), (18, 32189),

Gene: DreamCatcher\_42 Start: 32827, Stop: 32657, Start Num: 15

Candidate Starts for DreamCatcher\_42:

(Start: 13 @32836 has 30 MA's), (Start: 15 @32827 has 172 MA's), (18, 32755),

Gene: Dreamboat\_40 Start: 31450, Stop: 31283, Start Num: 15

Candidate Starts for Dreamboat\_40:

(Start: 15 @31450 has 172 MA's), (18, 31381),

Gene: Dulcie\_39 Start: 31502, Stop: 31332, Start Num: 15

Candidate Starts for Dulcie\_39:

(Start: 13 @31511 has 30 MA's), (Start: 15 @31502 has 172 MA's), (18, 31430),

Gene: Dussy\_42 Start: 32203, Stop: 32024, Start Num: 13

Candidate Starts for Dussy\_42:

(Start: 13 @32203 has 30 MA's), (Start: 15 @32194 has 172 MA's), (18, 32122),

Gene: Dynamix\_40 Start: 31512, Stop: 31342, Start Num: 15

Candidate Starts for Dynamix\_40:

(Start: 13 @31521 has 30 MA's), (Start: 15 @31512 has 172 MA's), (18, 31440),

Gene: Edtherson\_41 Start: 32705, Stop: 32535, Start Num: 15

Candidate Starts for Edtherson\_41:

(Start: 13 @32714 has 30 MA's), (Start: 15 @32705 has 172 MA's), (18, 32633),

Gene: Efra2\_67 Start: 42478, Stop: 42672, Start Num: 11

Candidate Starts for Efra2\_67:

(Start: 11 @42478 has 33 MA's), (17, 42538),

Gene: EnzoK\_39 Start: 29800, Stop: 29630, Start Num: 15

Candidate Starts for EnzoK\_39:

(Start: 13 @29809 has 30 MA's), (Start: 15 @29800 has 172 MA's), (18, 29728),

Gene: Espresso\_40 Start: 32091, Stop: 31912, Start Num: 13

Candidate Starts for Espresso\_40:

(Start: 13 @32091 has 30 MA's), (Start: 15 @32082 has 172 MA's), (18, 32010),

Gene: Euphoria\_39 Start: 31555, Stop: 31376, Start Num: 13

Candidate Starts for Euphoria\_39:

(Start: 13 @31555 has 30 MA's), (Start: 15 @31546 has 172 MA's), (18, 31474),

Gene: Eyeball\_41 Start: 31997, Stop: 31827, Start Num: 15

Candidate Starts for Eyeball\_41:

(Start: 13 @32006 has 30 MA's), (Start: 15 @31997 has 172 MA's), (18, 31925),

Gene: Fajezeel\_42 Start: 32121, Stop: 31951, Start Num: 15

Candidate Starts for Fajezeel\_42:

(Start: 13 @32130 has 30 MA's), (Start: 15 @32121 has 172 MA's), (18, 32049),

Gene: Fenn\_41 Start: 33445, Stop: 33275, Start Num: 15

Candidate Starts for Fenn\_41:

(Start: 13 @33454 has 30 MA's), (Start: 15 @33445 has 172 MA's), (18, 33373),

Gene: Forsytheast\_40 Start: 31903, Stop: 31733, Start Num: 15

Candidate Starts for Forsytheast\_40:

(Start: 13 @31912 has 30 MA's), (Start: 15 @31903 has 172 MA's), (17, 31867), (18, 31831),

Gene: Fushigi\_38 Start: 29740, Stop: 29561, Start Num: 13

Candidate Starts for Fushigi\_38:

(Start: 13 @29740 has 30 MA's), (Start: 15 @29731 has 172 MA's), (18, 29659),

Gene: GMonster\_38 Start: 30848, Stop: 30678, Start Num: 15

Candidate Starts for GMonster\_38:

(Start: 13 @30857 has 30 MA's), (Start: 15 @30848 has 172 MA's), (18, 30776),

Gene: Gachnar\_41 Start: 31620, Stop: 31450, Start Num: 15

Candidate Starts for Gachnar\_41:

(Start: 13 @31629 has 30 MA's), (Start: 15 @31620 has 172 MA's), (18, 31548),

Gene: GageAP\_41 Start: 31831, Stop: 31661, Start Num: 15

Candidate Starts for GageAP\_41:

(Start: 13 @31840 has 30 MA's), (Start: 15 @31831 has 172 MA's), (18, 31759),

Gene: Gandalf20\_41 Start: 32600, Stop: 32430, Start Num: 15

Candidate Starts for Gandalf20\_41:

(Start: 13 @32609 has 30 MA's), (Start: 15 @32600 has 172 MA's), (18, 32528),

Gene: Graduation\_43 Start: 32923, Stop: 32744, Start Num: 13

Candidate Starts for Graduation\_43:

(Start: 13 @32923 has 30 MA's), (Start: 15 @32914 has 172 MA's), (18, 32842),

Gene: GrecoEtereo\_41 Start: 32242, Stop: 32072, Start Num: 15

Candidate Starts for GrecoEtereo\_41:

(Start: 13 @32251 has 30 MA's), (Start: 15 @32242 has 172 MA's), (18, 32170),

Gene: Greg\_42 Start: 32121, Stop: 31951, Start Num: 15

Candidate Starts for Greg\_42:

(Start: 13 @32130 has 30 MA's), (Start: 15 @32121 has 172 MA's), (18, 32049),

Gene: GroundGoblin\_41 Start: 32920, Stop: 32750, Start Num: 15

Candidate Starts for GroundGoblin\_41:

(Start: 13 @32929 has 30 MA's), (Start: 15 @32920 has 172 MA's), (18, 32848),

Gene: Guanica15\_66 Start: 42219, Stop: 42413, Start Num: 11

Candidate Starts for Guanica15\_66:

(Start: 11 @42219 has 33 MA's), (17, 42279),

Gene: Gwendoluna\_42 Start: 33699, Stop: 33529, Start Num: 15

Candidate Starts for Gwendoluna\_42:

(Start: 13 @33708 has 30 MA's), (Start: 15 @33699 has 172 MA's), (18, 33627),

Gene: Gyzlar\_37 Start: 30222, Stop: 30052, Start Num: 15

Candidate Starts for Gyzlar\_37:

(Start: 13 @30231 has 30 MA's), (Start: 15 @30222 has 172 MA's), (18, 30150),

Gene: Hami1\_35 Start: 26660, Stop: 26490, Start Num: 15

Candidate Starts for Hami1\_35:

(Start: 13 @26669 has 30 MA's), (Start: 15 @26660 has 172 MA's), (18, 26588),

Gene: HanShotFirst\_39 Start: 31264, Stop: 31085, Start Num: 13

Candidate Starts for HanShotFirst\_39:

(Start: 13 @31264 has 30 MA's), (Start: 15 @31255 has 172 MA's), (18, 31183),

Gene: HarryOW\_39 Start: 31414, Stop: 31244, Start Num: 15

Candidate Starts for HarryOW\_39:

(Start: 13 @31423 has 30 MA's), (Start: 15 @31414 has 172 MA's), (18, 31342),

Gene: Hermia\_42 Start: 32970, Stop: 32800, Start Num: 15

Candidate Starts for Hermia\_42:

(Start: 13 @32979 has 30 MA's), (Start: 15 @32970 has 172 MA's), (18, 32898),

Gene: HermioneGrange\_40 Start: 32097, Stop: 31927, Start Num: 15

Candidate Starts for HermioneGrange\_40:

(Start: 13 @32106 has 30 MA's), (Start: 15 @32097 has 172 MA's), (18, 32025),

Gene: Hope4ever\_41 Start: 32288, Stop: 32118, Start Num: 15

Candidate Starts for Hope4ever\_41:

(Start: 13 @32297 has 30 MA's), (Start: 15 @32288 has 172 MA's), (18, 32216),

Gene: Hurricane\_62 Start: 42432, Stop: 42641, Start Num: 10

Candidate Starts for Hurricane\_62:

(Start: 9 @42420 has 2 MA's), (Start: 10 @42432 has 1 MA's), (Start: 11 @42450 has 33 MA's),

Gene: ILeeKay\_43 Start: 32364, Stop: 32194, Start Num: 15

Candidate Starts for ILeeKay\_43:

(Start: 13 @32373 has 30 MA's), (Start: 15 @32364 has 172 MA's), (18, 32292),

Gene: Ichabod\_40 Start: 31653, Stop: 31483, Start Num: 15

Candidate Starts for Ichabod\_40:  
(Start: 13 @31662 has 30 MA's), (Start: 15 @31653 has 172 MA's), (18, 31581),

Gene: IgnatiusPatJac\_39 Start: 31648, Stop: 31478, Start Num: 15  
Candidate Starts for IgnatiusPatJac\_39:  
(Start: 13 @31657 has 30 MA's), (Start: 15 @31648 has 172 MA's), (18, 31576),

Gene: Inyanga\_38 Start: 30994, Stop: 30824, Start Num: 15  
Candidate Starts for Inyanga\_38:  
(Start: 13 @31003 has 30 MA's), (Start: 15 @30994 has 172 MA's), (18, 30922),

Gene: Iqorha\_38 Start: 31002, Stop: 30823, Start Num: 13  
Candidate Starts for Iqorha\_38:  
(Start: 13 @31002 has 30 MA's), (Start: 15 @30993 has 172 MA's), (18, 30921),

Gene: JC27\_41 Start: 32318, Stop: 32148, Start Num: 15  
Candidate Starts for JC27\_41:  
(Start: 13 @32327 has 30 MA's), (Start: 15 @32318 has 172 MA's), (18, 32246),

Gene: JackSparrow\_42 Start: 32628, Stop: 32458, Start Num: 15  
Candidate Starts for JackSparrow\_42:  
(Start: 13 @32637 has 30 MA's), (Start: 15 @32628 has 172 MA's), (18, 32556),

Gene: Jasper\_40 Start: 31336, Stop: 31169, Start Num: 15  
Candidate Starts for Jasper\_40:  
(Start: 15 @31336 has 172 MA's), (18, 31267),

Gene: Jerm2\_41 Start: 32352, Stop: 32182, Start Num: 15  
Candidate Starts for Jerm2\_41:  
(Start: 13 @32361 has 30 MA's), (Start: 15 @32352 has 172 MA's), (18, 32280),

Gene: Jorgensen\_40 Start: 31743, Stop: 31573, Start Num: 15  
Candidate Starts for Jorgensen\_40:  
(Start: 13 @31752 has 30 MA's), (Start: 15 @31743 has 172 MA's), (18, 31671),

Gene: JuliaChild\_41 Start: 32088, Stop: 31918, Start Num: 15  
Candidate Starts for JuliaChild\_41:  
(Start: 13 @32097 has 30 MA's), (Start: 15 @32088 has 172 MA's), (18, 32016),

Gene: Kanely\_41 Start: 32387, Stop: 32217, Start Num: 15  
Candidate Starts for Kanely\_41:  
(Start: 13 @32396 has 30 MA's), (Start: 15 @32387 has 172 MA's), (17, 32351), (18, 32315),

Gene: Kenmech\_44 Start: 33320, Stop: 33150, Start Num: 15  
Candidate Starts for Kenmech\_44:  
(Start: 13 @33329 has 30 MA's), (Start: 15 @33320 has 172 MA's), (18, 33248),

Gene: Keshu\_64 Start: 42548, Stop: 42739, Start Num: 11  
Candidate Starts for Keshu\_64:  
(Start: 9 @42518 has 2 MA's), (Start: 11 @42548 has 33 MA's),

Gene: KiSi\_67 Start: 43442, Stop: 43639, Start Num: 11  
Candidate Starts for KiSi\_67:

(Start: 9 @43412 has 2 MA's), (Start: 11 @43442 has 33 MA's), (18, 43529),

Gene: KikiBouba\_42 Start: 32779, Stop: 32609, Start Num: 15

Candidate Starts for KikiBouba\_42:

(Start: 13 @32788 has 30 MA's), (Start: 15 @32779 has 172 MA's), (18, 32707),

Gene: Killigrew\_39 Start: 31871, Stop: 31704, Start Num: 15

Candidate Starts for Killigrew\_39:

(Start: 15 @31871 has 172 MA's), (18, 31802),

Gene: Krueger\_66 Start: 42279, Stop: 42470, Start Num: 11

Candidate Starts for Krueger\_66:

(1, 42165), (5, 42210), (7, 42240), (Start: 9 @42249 has 2 MA's), (Start: 11 @42279 has 33 MA's), (16, 42315), (18, 42369),

Gene: Kugel\_42 Start: 32536, Stop: 32366, Start Num: 15

Candidate Starts for Kugel\_42:

(Start: 13 @32545 has 30 MA's), (Start: 15 @32536 has 172 MA's), (18, 32464),

Gene: KyMonks1A\_43 Start: 32408, Stop: 32238, Start Num: 15

Candidate Starts for KyMonks1A\_43:

(Start: 13 @32417 has 30 MA's), (Start: 15 @32408 has 172 MA's), (18, 32336),

Gene: Kykar\_40 Start: 31704, Stop: 31534, Start Num: 15

Candidate Starts for Kykar\_40:

(Start: 13 @31713 has 30 MA's), (Start: 15 @31704 has 172 MA's), (18, 31632),

Gene: Lamina13\_40 Start: 31497, Stop: 31327, Start Num: 15

Candidate Starts for Lamina13\_40:

(Start: 13 @31506 has 30 MA's), (Start: 15 @31497 has 172 MA's), (18, 31425),

Gene: LastHope\_66 Start: 41540, Stop: 41734, Start Num: 11

Candidate Starts for LastHope\_66:

(Start: 11 @41540 has 33 MA's), (17, 41600),

Gene: LeMond\_66 Start: 43076, Stop: 43273, Start Num: 11

Candidate Starts for LeMond\_66:

(Start: 9 @43046 has 2 MA's), (Start: 11 @43076 has 33 MA's), (18, 43163),

Gene: Lea83\_62 Start: 42485, Stop: 42676, Start Num: 11

Candidate Starts for Lea83\_62:

(Start: 9 @42455 has 2 MA's), (Start: 11 @42485 has 33 MA's), (18, 42554),

Gene: Lesedi\_38 Start: 31377, Stop: 31207, Start Num: 15

Candidate Starts for Lesedi\_38:

(Start: 13 @31386 has 30 MA's), (Start: 15 @31377 has 172 MA's), (18, 31305),

Gene: Levia\_37 Start: 31546, Stop: 31376, Start Num: 15

Candidate Starts for Levia\_37:

(Start: 13 @31555 has 30 MA's), (Start: 15 @31546 has 172 MA's), (17, 31510), (18, 31474),

Gene: Licorice\_43 Start: 33195, Stop: 33025, Start Num: 15

Candidate Starts for Licorice\_43:

(Start: 13 @33204 has 30 MA's), (Start: 15 @33195 has 172 MA's), (18, 33123),

Gene: LilBib\_40 Start: 32462, Stop: 32292, Start Num: 15

Candidate Starts for LilBib\_40:

(Start: 13 @32471 has 30 MA's), (Start: 15 @32462 has 172 MA's), (18, 32390),

Gene: Lockley\_40 Start: 31793, Stop: 31623, Start Num: 15

Candidate Starts for Lockley\_40:

(Start: 13 @31802 has 30 MA's), (Start: 15 @31793 has 172 MA's), (18, 31721),

Gene: Lopton\_41 Start: 33294, Stop: 33112, Start Num: 15

Candidate Starts for Lopton\_41:

(Start: 13 @33303 has 30 MA's), (Start: 15 @33294 has 172 MA's), (18, 33222),

Gene: LunarLander\_42 Start: 32321, Stop: 32151, Start Num: 15

Candidate Starts for LunarLander\_42:

(Start: 13 @32330 has 30 MA's), (Start: 15 @32321 has 172 MA's), (18, 32249),

Gene: MPlant7149\_39 Start: 31162, Stop: 30992, Start Num: 15

Candidate Starts for MPlant7149\_39:

(Start: 13 @31171 has 30 MA's), (Start: 15 @31162 has 172 MA's), (18, 31090),

Gene: MacnCheese\_64 Start: 43048, Stop: 43242, Start Num: 11

Candidate Starts for MacnCheese\_64:

(Start: 11 @43048 has 33 MA's),

Gene: Magnito\_38 Start: 31167, Stop: 30985, Start Num: 15

Candidate Starts for Magnito\_38:

(Start: 13 @31176 has 30 MA's), (Start: 15 @31167 has 172 MA's), (18, 31095),

Gene: Makemake\_40 Start: 32809, Stop: 32639, Start Num: 15

Candidate Starts for Makemake\_40:

(Start: 13 @32818 has 30 MA's), (Start: 15 @32809 has 172 MA's), (18, 32737),

Gene: Manatee\_40 Start: 31188, Stop: 31018, Start Num: 15

Candidate Starts for Manatee\_40:

(Start: 13 @31197 has 30 MA's), (Start: 15 @31188 has 172 MA's), (18, 31116),

Gene: Marcell\_39 Start: 31852, Stop: 31682, Start Num: 15

Candidate Starts for Marcell\_39:

(Start: 13 @31861 has 30 MA's), (Start: 15 @31852 has 172 MA's), (18, 31780),

Gene: Marchy\_35 Start: 28627, Stop: 28457, Start Num: 15

Candidate Starts for Marchy\_35:

(Start: 13 @28636 has 30 MA's), (Start: 15 @28627 has 172 MA's), (17, 28591), (18, 28555),

Gene: Marco3\_41 Start: 32215, Stop: 32045, Start Num: 15

Candidate Starts for Marco3\_41:

(Start: 13 @32224 has 30 MA's), (Start: 15 @32215 has 172 MA's), (18, 32143),

Gene: Marge\_40 Start: 32249, Stop: 32070, Start Num: 13

Candidate Starts for Marge\_40:

(Start: 13 @32249 has 30 MA's), (Start: 15 @32240 has 172 MA's),

Gene: MarkPhew\_65 Start: 42579, Stop: 42773, Start Num: 11  
Candidate Starts for MarkPhew\_65:  
(Start: 9 @42549 has 2 MA's), (Start: 11 @42579 has 33 MA's), (18, 42663),

Gene: MaryBeth\_40 Start: 31842, Stop: 31672, Start Num: 15  
Candidate Starts for MaryBeth\_40:  
(Start: 13 @31851 has 30 MA's), (Start: 15 @31842 has 172 MA's), (18, 31770),

Gene: McGuire\_40 Start: 31484, Stop: 31314, Start Num: 15  
Candidate Starts for McGuire\_40:  
(Start: 13 @31493 has 30 MA's), (Start: 15 @31484 has 172 MA's), (18, 31412),

Gene: McMater\_64 Start: 42605, Stop: 42799, Start Num: 11  
Candidate Starts for McMater\_64:  
(Start: 9 @42575 has 2 MA's), (Start: 11 @42605 has 33 MA's), (14, 42620),

Gene: McSinger\_41 Start: 32237, Stop: 32058, Start Num: 13  
Candidate Starts for McSinger\_41:  
(Start: 13 @32237 has 30 MA's), (Start: 15 @32228 has 172 MA's), (17, 32192), (18, 32156),

Gene: MetalQZJ\_40 Start: 31842, Stop: 31672, Start Num: 15  
Candidate Starts for MetalQZJ\_40:  
(Start: 13 @31851 has 30 MA's), (Start: 15 @31842 has 172 MA's), (18, 31770),

Gene: Michley\_39 Start: 31329, Stop: 31159, Start Num: 15  
Candidate Starts for Michley\_39:  
(Start: 13 @31338 has 30 MA's), (Start: 15 @31329 has 172 MA's), (18, 31257),

Gene: Mkhuseleli\_40 Start: 31537, Stop: 31358, Start Num: 13  
Candidate Starts for Mkhuseleli\_40:  
(Start: 13 @31537 has 30 MA's), (Start: 15 @31528 has 172 MA's), (18, 31456),

Gene: Molly\_41 Start: 31396, Stop: 31226, Start Num: 15  
Candidate Starts for Molly\_41:  
(Start: 13 @31405 has 30 MA's), (Start: 15 @31396 has 172 MA's), (18, 31324),

Gene: Monet\_44 Start: 33667, Stop: 33488, Start Num: 13  
Candidate Starts for Monet\_44:  
(Start: 13 @33667 has 30 MA's), (Start: 15 @33658 has 172 MA's), (18, 33586),

Gene: Moose\_40 Start: 31903, Stop: 31733, Start Num: 15  
Candidate Starts for Moose\_40:  
(Start: 13 @31912 has 30 MA's), (Start: 15 @31903 has 172 MA's), (17, 31867), (18, 31831),

Gene: MrGordo\_39 Start: 31201, Stop: 31022, Start Num: 13  
Candidate Starts for MrGordo\_39:  
(Start: 13 @31201 has 30 MA's), (Start: 15 @31192 has 172 MA's), (18, 31120),

Gene: Mryolo\_38 Start: 31387, Stop: 31217, Start Num: 15  
Candidate Starts for Mryolo\_38:  
(Start: 13 @31396 has 30 MA's), (Start: 15 @31387 has 172 MA's), (18, 31315),

Gene: Mule\_38 Start: 29717, Stop: 29538, Start Num: 13  
Candidate Starts for Mule\_38:  
(Start: 13 @29717 has 30 MA's), (Start: 15 @29708 has 172 MA's), (18, 29636),

Gene: Museum\_41 Start: 31462, Stop: 31292, Start Num: 15  
Candidate Starts for Museum\_41:  
(Start: 13 @31471 has 30 MA's), (Start: 15 @31462 has 172 MA's), (18, 31390),

Gene: NEHalo\_39 Start: 31421, Stop: 31251, Start Num: 15  
Candidate Starts for NEHalo\_39:  
(Start: 13 @31430 has 30 MA's), (Start: 15 @31421 has 172 MA's), (18, 31349),

Gene: Naira\_41 Start: 33492, Stop: 33322, Start Num: 15  
Candidate Starts for Naira\_41:  
(Start: 13 @33501 has 30 MA's), (Start: 15 @33492 has 172 MA's), (18, 33420),

Gene: Nerujay\_42 Start: 32529, Stop: 32359, Start Num: 15  
Candidate Starts for Nerujay\_42:  
(Start: 13 @32538 has 30 MA's), (Start: 15 @32529 has 172 MA's), (18, 32457),

Gene: Nhonho\_40 Start: 32214, Stop: 32044, Start Num: 15  
Candidate Starts for Nhonho\_40:  
(Start: 13 @32223 has 30 MA's), (Start: 15 @32214 has 172 MA's), (18, 32142),

Gene: Nibb\_64 Start: 42433, Stop: 42618, Start Num: 11  
Candidate Starts for Nibb\_64:  
(4, 42358), (Start: 9 @42403 has 2 MA's), (Start: 11 @42433 has 33 MA's), (18, 42514),

Gene: Niklas\_64 Start: 42666, Stop: 42860, Start Num: 11  
Candidate Starts for Niklas\_64:  
(Start: 9 @42636 has 2 MA's), (Start: 11 @42666 has 33 MA's), (14, 42681),

Gene: Niza\_42 Start: 32891, Stop: 32709, Start Num: 15  
Candidate Starts for Niza\_42:  
(Start: 13 @32900 has 30 MA's), (Start: 15 @32891 has 172 MA's), (18, 32819),

Gene: Norz\_41 Start: 32339, Stop: 32169, Start Num: 15  
Candidate Starts for Norz\_41:  
(Start: 13 @32348 has 30 MA's), (Start: 15 @32339 has 172 MA's), (18, 32267),

Gene: Noxious\_42 Start: 32970, Stop: 32800, Start Num: 15  
Candidate Starts for Noxious\_42:  
(Start: 13 @32979 has 30 MA's), (Start: 15 @32970 has 172 MA's), (18, 32898),

Gene: Oogway\_38 Start: 31022, Stop: 30852, Start Num: 15  
Candidate Starts for Oogway\_38:  
(Start: 13 @31031 has 30 MA's), (Start: 15 @31022 has 172 MA's), (18, 30950),

Gene: Oscar\_66 Start: 42993, Stop: 43190, Start Num: 11  
Candidate Starts for Oscar\_66:  
(Start: 9 @42963 has 2 MA's), (Start: 11 @42993 has 33 MA's), (18, 43080),

Gene: PSullivan\_40 Start: 31416, Stop: 31246, Start Num: 15

Candidate Starts for PSullivan\_40:

(Start: 13 @31425 has 30 MA's), (Start: 15 @31416 has 172 MA's), (18, 31344),

Gene: Papez\_42 Start: 33553, Stop: 33383, Start Num: 15

Candidate Starts for Papez\_42:

(Start: 13 @33562 has 30 MA's), (Start: 15 @33553 has 172 MA's), (18, 33481),

Gene: Paphu\_39 Start: 31605, Stop: 31435, Start Num: 15

Candidate Starts for Paphu\_39:

(Start: 15 @31605 has 172 MA's), (18, 31533),

Gene: Paraselene\_38 Start: 31889, Stop: 31719, Start Num: 15

Candidate Starts for Paraselene\_38:

(Start: 13 @31898 has 30 MA's), (Start: 15 @31889 has 172 MA's), (18, 31817),

Gene: Pari\_40 Start: 31263, Stop: 31084, Start Num: 13

Candidate Starts for Pari\_40:

(Start: 13 @31263 has 30 MA's), (Start: 15 @31254 has 172 MA's), (18, 31182),

Gene: Parliament\_39 Start: 32031, Stop: 31861, Start Num: 15

Candidate Starts for Parliament\_39:

(Start: 13 @32040 has 30 MA's), (Start: 15 @32031 has 172 MA's), (18, 31959),

Gene: PascalRango\_40 Start: 31562, Stop: 31392, Start Num: 15

Candidate Starts for PascalRango\_40:

(Start: 13 @31571 has 30 MA's), (Start: 15 @31562 has 172 MA's), (18, 31490),

Gene: PattyP\_41 Start: 31752, Stop: 31582, Start Num: 15

Candidate Starts for PattyP\_41:

(Start: 13 @31761 has 30 MA's), (Start: 15 @31752 has 172 MA's), (18, 31680),

Gene: Payneful\_40 Start: 31344, Stop: 31174, Start Num: 15

Candidate Starts for Payneful\_40:

(Start: 13 @31353 has 30 MA's), (Start: 15 @31344 has 172 MA's), (17, 31308), (18, 31272),

Gene: Peanam\_64 Start: 42624, Stop: 42818, Start Num: 11

Candidate Starts for Peanam\_64:

(Start: 9 @42594 has 2 MA's), (Start: 11 @42624 has 33 MA's), (14, 42639),

Gene: Pelly\_40 Start: 32286, Stop: 32116, Start Num: 15

Candidate Starts for Pelly\_40:

(Start: 13 @32295 has 30 MA's), (Start: 15 @32286 has 172 MA's), (18, 32214),

Gene: Pepe\_37 Start: 30001, Stop: 29831, Start Num: 15

Candidate Starts for Pepe\_37:

(Start: 13 @30010 has 30 MA's), (Start: 15 @30001 has 172 MA's), (18, 29929),

Gene: Perseus\_41 Start: 32568, Stop: 32398, Start Num: 15

Candidate Starts for Perseus\_41:

(Start: 13 @32577 has 30 MA's), (Start: 15 @32568 has 172 MA's), (18, 32496),

Gene: Peterson\_44 Start: 34140, Stop: 33970, Start Num: 15

Candidate Starts for Peterson\_44:

(Start: 15 @34140 has 172 MA's), (18, 34068),

Gene: Petp2012\_41 Start: 32380, Stop: 32210, Start Num: 15

Candidate Starts for Petp2012\_41:

(Start: 13 @32389 has 30 MA's), (Start: 15 @32380 has 172 MA's), (18, 32308),

Gene: Petruchio\_40 Start: 31734, Stop: 31564, Start Num: 15

Candidate Starts for Petruchio\_40:

(Start: 13 @31743 has 30 MA's), (Start: 15 @31734 has 172 MA's), (18, 31662),

Gene: Pharb\_61 Start: 41781, Stop: 41975, Start Num: 11

Candidate Starts for Pharb\_61:

(Start: 9 @41751 has 2 MA's), (Start: 11 @41781 has 33 MA's), (16, 41817), (18, 41871),

Gene: PhelpsODU\_63 Start: 41907, Stop: 42098, Start Num: 11

Candidate Starts for PhelpsODU\_63:

(3, 41829), (Start: 9 @41877 has 2 MA's), (Start: 11 @41907 has 33 MA's), (16, 41943), (18, 41997),

Gene: PherrisBueller\_40 Start: 31350, Stop: 31180, Start Num: 15

Candidate Starts for PherrisBueller\_40:

(Start: 13 @31359 has 30 MA's), (Start: 15 @31350 has 172 MA's), (18, 31278),

Gene: PhineBark\_39 Start: 32564, Stop: 32394, Start Num: 15

Candidate Starts for PhineBark\_39:

(Start: 13 @32573 has 30 MA's), (Start: 15 @32564 has 172 MA's), (17, 32528), (18, 32492),

Gene: Phlippers\_39 Start: 32782, Stop: 32612, Start Num: 15

Candidate Starts for Phlippers\_39:

(Start: 13 @32791 has 30 MA's), (Start: 15 @32782 has 172 MA's), (18, 32710),

Gene: Phrank\_65 Start: 41971, Stop: 42162, Start Num: 11

Candidate Starts for Phrank\_65:

(Start: 9 @41941 has 2 MA's), (Start: 11 @41971 has 33 MA's), (16, 42007), (18, 42061),

Gene: PhrostyMug\_40 Start: 31873, Stop: 31694, Start Num: 13

Candidate Starts for PhrostyMug\_40:

(Start: 13 @31873 has 30 MA's), (Start: 15 @31864 has 172 MA's), (18, 31792),

Gene: PinkPlastic\_38 Start: 31264, Stop: 31094, Start Num: 15

Candidate Starts for PinkPlastic\_38:

(Start: 13 @31273 has 30 MA's), (Start: 15 @31264 has 172 MA's), (18, 31192),

Gene: Pinto\_41 Start: 31696, Stop: 31526, Start Num: 15

Candidate Starts for Pinto\_41:

(Start: 13 @31705 has 30 MA's), (Start: 15 @31696 has 172 MA's), (18, 31624),

Gene: Pippin\_42 Start: 32165, Stop: 31995, Start Num: 15

Candidate Starts for Pippin\_42:

(Start: 13 @32174 has 30 MA's), (Start: 15 @32165 has 172 MA's), (18, 32093),

Gene: Pita2\_43 Start: 32913, Stop: 32743, Start Num: 15

Candidate Starts for Pita2\_43:

(Start: 13 @32922 has 30 MA's), (Start: 15 @32913 has 172 MA's), (18, 32841),

Gene: Pixie\_61 Start: 41940, Stop: 42161, Start Num: 9

Candidate Starts for Pixie\_61:

(Start: 9 @41940 has 2 MA's), (Start: 11 @41970 has 33 MA's),

Gene: PowerRanger\_41 Start: 32907, Stop: 32737, Start Num: 15

Candidate Starts for PowerRanger\_41:

(Start: 13 @32916 has 30 MA's), (Start: 15 @32907 has 172 MA's), (18, 32835),

Gene: ProMouse\_37 Start: 31713, Stop: 31546, Start Num: 15

Candidate Starts for ProMouse\_37:

(Start: 15 @31713 has 172 MA's), (18, 31644),

Gene: Puppet\_41 Start: 32267, Stop: 32097, Start Num: 15

Candidate Starts for Puppet\_41:

(Start: 13 @32276 has 30 MA's), (Start: 15 @32267 has 172 MA's), (18, 32195),

Gene: QTRlifeCrisis\_41 Start: 32687, Stop: 32517, Start Num: 15

Candidate Starts for QTRlifeCrisis\_41:

(Start: 13 @32696 has 30 MA's), (Start: 15 @32687 has 172 MA's), (18, 32615),

Gene: Raid\_40 Start: 32144, Stop: 31965, Start Num: 15

Candidate Starts for Raid\_40:

(Start: 13 @32153 has 30 MA's), (Start: 15 @32144 has 172 MA's), (17, 32111), (18, 32075),

Gene: Rajelicia\_39 Start: 31650, Stop: 31480, Start Num: 15

Candidate Starts for Rajelicia\_39:

(Start: 13 @31659 has 30 MA's), (Start: 15 @31650 has 172 MA's), (18, 31578),

Gene: Rhynn\_39 Start: 31665, Stop: 31495, Start Num: 15

Candidate Starts for Rhynn\_39:

(Start: 13 @31674 has 30 MA's), (Start: 15 @31665 has 172 MA's), (18, 31593),

Gene: Richo\_64 Start: 42605, Stop: 42799, Start Num: 11

Candidate Starts for Richo\_64:

(Start: 9 @42575 has 2 MA's), (Start: 11 @42605 has 33 MA's), (14, 42620),

Gene: RidgeCB\_40 Start: 31700, Stop: 31530, Start Num: 15

Candidate Starts for RidgeCB\_40:

(Start: 13 @31709 has 30 MA's), (Start: 15 @31700 has 172 MA's), (18, 31628),

Gene: Ringer\_41 Start: 32553, Stop: 32383, Start Num: 15

Candidate Starts for Ringer\_41:

(Start: 13 @32562 has 30 MA's), (Start: 15 @32553 has 172 MA's), (18, 32481),

Gene: Rohr\_41 Start: 32398, Stop: 32228, Start Num: 15

Candidate Starts for Rohr\_41:

(Start: 13 @32407 has 30 MA's), (Start: 15 @32398 has 172 MA's), (18, 32326),

Gene: Rubeus\_40 Start: 30178, Stop: 30008, Start Num: 15

Candidate Starts for Rubeus\_40:

(Start: 13 @30187 has 30 MA's), (Start: 15 @30178 has 172 MA's), (18, 30106),

Gene: Rufus\_41 Start: 32021, Stop: 31851, Start Num: 15  
Candidate Starts for Rufus\_41:  
(Start: 13 @32030 has 30 MA's), (Start: 15 @32021 has 172 MA's), (18, 31949),

Gene: Ruotula\_42 Start: 33002, Stop: 32832, Start Num: 15  
Candidate Starts for Ruotula\_42:  
(Start: 13 @33011 has 30 MA's), (Start: 15 @33002 has 172 MA's), (18, 32930),

Gene: Rutherferd\_42 Start: 32941, Stop: 32762, Start Num: 13  
Candidate Starts for Rutherferd\_42:  
(Start: 13 @32941 has 30 MA's), (Start: 15 @32932 has 172 MA's), (18, 32860),

Gene: STLscum\_41 Start: 32737, Stop: 32531, Start Num: 15  
Candidate Starts for STLscum\_41:  
(Start: 13 @32746 has 30 MA's), (Start: 15 @32737 has 172 MA's), (18, 32665),

Gene: Sandaddy\_40 Start: 32305, Stop: 32135, Start Num: 15  
Candidate Starts for Sandaddy\_40:  
(Start: 13 @32314 has 30 MA's), (Start: 15 @32305 has 172 MA's), (18, 32233),

Gene: Sanya\_39 Start: 32598, Stop: 32428, Start Num: 15  
Candidate Starts for Sanya\_39:  
(Start: 13 @32607 has 30 MA's), (Start: 15 @32598 has 172 MA's), (18, 32526),

Gene: SarFire\_39 Start: 31724, Stop: 31554, Start Num: 15  
Candidate Starts for SarFire\_39:  
(2, 31826), (8, 31778), (Start: 15 @31724 has 172 MA's), (18, 31652),

Gene: Scarlett\_67 Start: 43320, Stop: 43517, Start Num: 11  
Candidate Starts for Scarlett\_67:  
(Start: 9 @43290 has 2 MA's), (Start: 11 @43320 has 33 MA's), (18, 43407),

Gene: Scowl\_40 Start: 32373, Stop: 32203, Start Num: 15  
Candidate Starts for Scowl\_40:  
(Start: 13 @32382 has 30 MA's), (Start: 15 @32373 has 172 MA's), (18, 32301),

Gene: Seabiscuit\_41 Start: 31495, Stop: 31325, Start Num: 15  
Candidate Starts for Seabiscuit\_41:  
(Start: 13 @31504 has 30 MA's), (Start: 15 @31495 has 172 MA's), (18, 31423),

Gene: Seanderson\_42 Start: 32707, Stop: 32537, Start Num: 15  
Candidate Starts for Seanderson\_42:  
(Start: 13 @32716 has 30 MA's), (Start: 15 @32707 has 172 MA's), (18, 32635),

Gene: Shadow1\_66 Start: 42432, Stop: 42623, Start Num: 11  
Candidate Starts for Shadow1\_66:  
(7, 42393), (Start: 9 @42402 has 2 MA's), (Start: 11 @42432 has 33 MA's), (16, 42468), (18, 42522),

Gene: Shaobing\_64 Start: 42642, Stop: 42836, Start Num: 11  
Candidate Starts for Shaobing\_64:  
(Start: 9 @42612 has 2 MA's), (Start: 11 @42642 has 33 MA's), (14, 42657),

Gene: ShedlockHolmes\_63 Start: 42459, Stop: 42680, Start Num: 9

Candidate Starts for ShedlockHolmes\_63:  
(Start: 9 @42459 has 2 MA's), (Start: 11 @42489 has 33 MA's),

Gene: ShortQueendom\_36 Start: 28384, Stop: 28214, Start Num: 15  
Candidate Starts for ShortQueendom\_36:  
(Start: 13 @28393 has 30 MA's), (Start: 15 @28384 has 172 MA's), (18, 28312),

Gene: Sibs6\_41 Start: 31048, Stop: 30878, Start Num: 15  
Candidate Starts for Sibs6\_41:  
(Start: 13 @31057 has 30 MA's), (Start: 15 @31048 has 172 MA's), (18, 30976),

Gene: SirPhilip\_63 Start: 43069, Stop: 43278, Start Num: 11  
Candidate Starts for SirPhilip\_63:  
(Start: 11 @43069 has 33 MA's), (16, 43105), (18, 43159),

Gene: SkiPole\_43 Start: 32265, Stop: 32086, Start Num: 12  
Candidate Starts for SkiPole\_43:  
(Start: 12 @32265 has 1 MA's), (17, 32217), (18, 32184),

Gene: Slagathor\_40 Start: 31575, Stop: 31405, Start Num: 15  
Candidate Starts for Slagathor\_40:  
(Start: 13 @31584 has 30 MA's), (Start: 15 @31575 has 172 MA's), (18, 31503),

Gene: Smairt\_42 Start: 32415, Stop: 32245, Start Num: 15  
Candidate Starts for Smairt\_42:  
(Start: 13 @32424 has 30 MA's), (Start: 15 @32415 has 172 MA's), (18, 32343),

Gene: Smeagol\_41 Start: 32897, Stop: 32727, Start Num: 15  
Candidate Starts for Smeagol\_41:  
(2, 32999), (8, 32951), (Start: 15 @32897 has 172 MA's), (18, 32825),

Gene: Snazzy\_38 Start: 31451, Stop: 31281, Start Num: 15  
Candidate Starts for Snazzy\_38:  
(Start: 13 @31460 has 30 MA's), (Start: 15 @31451 has 172 MA's), (18, 31379),

Gene: Solon\_40 Start: 32186, Stop: 32007, Start Num: 13  
Candidate Starts for Solon\_40:  
(Start: 13 @32186 has 30 MA's), (Start: 15 @32177 has 172 MA's), (18, 32105),

Gene: Sorpresa\_40 Start: 32307, Stop: 32137, Start Num: 15  
Candidate Starts for Sorpresa\_40:  
(Start: 13 @32316 has 30 MA's), (Start: 15 @32307 has 172 MA's), (18, 32235),

Gene: SpikeBT\_41 Start: 32528, Stop: 32358, Start Num: 15  
Candidate Starts for SpikeBT\_41:  
(Start: 13 @32537 has 30 MA's), (Start: 15 @32528 has 172 MA's), (18, 32456),

Gene: Squee\_40 Start: 32302, Stop: 32132, Start Num: 15  
Candidate Starts for Squee\_40:  
(Start: 13 @32311 has 30 MA's), (Start: 15 @32302 has 172 MA's), (18, 32230),

Gene: StewieG\_39 Start: 29735, Stop: 29565, Start Num: 15  
Candidate Starts for StewieG\_39:

(Start: 13 @29744 has 30 MA's), (Start: 15 @29735 has 172 MA's), (18, 29663),

Gene: StrongArm\_39 Start: 32757, Stop: 32587, Start Num: 15

Candidate Starts for StrongArm\_39:

(Start: 13 @32766 has 30 MA's), (Start: 15 @32757 has 172 MA's), (18, 32685),

Gene: Sunflower1121\_67 Start: 42578, Stop: 42769, Start Num: 11

Candidate Starts for Sunflower1121\_67:

(7, 42539), (Start: 9 @42548 has 2 MA's), (Start: 11 @42578 has 33 MA's), (16, 42614), (18, 42668),

Gene: Sunshine924\_41 Start: 31586, Stop: 31416, Start Num: 15

Candidate Starts for Sunshine924\_41:

(Start: 13 @31595 has 30 MA's), (Start: 15 @31586 has 172 MA's), (18, 31514),

Gene: SwissCheese\_42 Start: 32403, Stop: 32233, Start Num: 15

Candidate Starts for SwissCheese\_42:

(Start: 13 @32412 has 30 MA's), (Start: 15 @32403 has 172 MA's), (17, 32367), (18, 32331),

Gene: Switzer\_40 Start: 31591, Stop: 31421, Start Num: 15

Candidate Starts for Switzer\_40:

(Start: 13 @31600 has 30 MA's), (Start: 15 @31591 has 172 MA's), (18, 31519),

Gene: Swole\_41 Start: 31563, Stop: 31393, Start Num: 15

Candidate Starts for Swole\_41:

(Start: 13 @31572 has 30 MA's), (Start: 15 @31563 has 172 MA's), (18, 31491),

Gene: Syra333\_65 Start: 42291, Stop: 42482, Start Num: 11

Candidate Starts for Syra333\_65:

(Start: 9 @42261 has 2 MA's), (Start: 11 @42291 has 33 MA's), (16, 42327),

Gene: Target\_41 Start: 30960, Stop: 30790, Start Num: 15

Candidate Starts for Target\_41:

(Start: 13 @30969 has 30 MA's), (Start: 15 @30960 has 172 MA's), (18, 30888),

Gene: Tasp14\_41 Start: 32121, Stop: 31951, Start Num: 15

Candidate Starts for Tasp14\_41:

(Start: 13 @32130 has 30 MA's), (Start: 15 @32121 has 172 MA's), (18, 32049),

Gene: Teodoridan\_38 Start: 31202, Stop: 31023, Start Num: 13

Candidate Starts for Teodoridan\_38:

(Start: 13 @31202 has 30 MA's), (Start: 15 @31193 has 172 MA's), (17, 31157), (18, 31121),

Gene: TheloniousMonk\_41 Start: 33133, Stop: 32963, Start Num: 15

Candidate Starts for TheloniousMonk\_41:

(Start: 13 @33142 has 30 MA's), (Start: 15 @33133 has 172 MA's), (18, 33061),

Gene: Thor\_39 Start: 31082, Stop: 30912, Start Num: 15

Candidate Starts for Thor\_39:

(2, 31184), (8, 31136), (Start: 15 @31082 has 172 MA's), (18, 31010),

Gene: Tierra\_65 Start: 42782, Stop: 42973, Start Num: 11

Candidate Starts for Tierra\_65:

(Start: 9 @42752 has 2 MA's), (Start: 11 @42782 has 33 MA's), (16, 42818), (18, 42872),

Gene: Tigress9\_66 Start: 42608, Stop: 42799, Start Num: 11  
Candidate Starts for Tigress9\_66:  
(1, 42494), (5, 42539), (Start: 9 @42578 has 2 MA's), (Start: 11 @42608 has 33 MA's), (16, 42644),  
(18, 42698),

Gene: TingHuaYa\_65 Start: 41708, Stop: 41902, Start Num: 11  
Candidate Starts for TingHuaYa\_65:  
(Start: 11 @41708 has 33 MA's), (17, 41768),

Gene: Topgun\_40 Start: 31721, Stop: 31551, Start Num: 15  
Candidate Starts for Topgun\_40:  
(Start: 13 @31730 has 30 MA's), (Start: 15 @31721 has 172 MA's), (18, 31649),

Gene: Tote\_36 Start: 28830, Stop: 28660, Start Num: 15  
Candidate Starts for Tote\_36:  
(Start: 13 @28839 has 30 MA's), (Start: 15 @28830 has 172 MA's), (18, 28758),

Gene: Traft412\_41 Start: 32653, Stop: 32483, Start Num: 15  
Candidate Starts for Traft412\_41:  
(Start: 13 @32662 has 30 MA's), (Start: 15 @32653 has 172 MA's), (18, 32581),

Gene: Treddle\_42 Start: 33176, Stop: 33006, Start Num: 15  
Candidate Starts for Treddle\_42:  
(Start: 13 @33185 has 30 MA's), (Start: 15 @33176 has 172 MA's), (18, 33104),

Gene: TribelTrouble\_62 Start: 42947, Stop: 43141, Start Num: 11  
Candidate Starts for TribelTrouble\_62:  
(Start: 9 @42917 has 2 MA's), (Start: 11 @42947 has 33 MA's),

Gene: Tripl3t\_40 Start: 32581, Stop: 32411, Start Num: 15  
Candidate Starts for Tripl3t\_40:  
(Start: 13 @32590 has 30 MA's), (Start: 15 @32581 has 172 MA's), (18, 32509),

Gene: Trouble\_41 Start: 32820, Stop: 32650, Start Num: 15  
Candidate Starts for Trouble\_41:  
(Start: 13 @32829 has 30 MA's), (Start: 15 @32820 has 172 MA's), (18, 32748),

Gene: Turj99\_38 Start: 31437, Stop: 31255, Start Num: 15  
Candidate Starts for Turj99\_38:  
(Start: 13 @31446 has 30 MA's), (Start: 15 @31437 has 172 MA's), (18, 31365),

Gene: TwoPeat\_40 Start: 31881, Stop: 31711, Start Num: 15  
Candidate Starts for TwoPeat\_40:  
(Start: 13 @31890 has 30 MA's), (Start: 15 @31881 has 172 MA's), (18, 31809),

Gene: U2\_39 Start: 31574, Stop: 31404, Start Num: 15  
Candidate Starts for U2\_39:  
(Start: 13 @31583 has 30 MA's), (Start: 15 @31574 has 172 MA's), (18, 31502),

Gene: Unicorn\_63 Start: 41907, Stop: 42098, Start Num: 11  
Candidate Starts for Unicorn\_63:  
(3, 41829), (Start: 9 @41877 has 2 MA's), (Start: 11 @41907 has 33 MA's), (16, 41943), (18, 41997),

Gene: Validus\_66 Start: 42988, Stop: 43194, Start Num: 11  
Candidate Starts for Validus\_66:  
(Start: 9 @42958 has 2 MA's), (Start: 11 @42988 has 33 MA's), (14, 43003),

Gene: Violet\_38 Start: 32008, Stop: 31829, Start Num: 13  
Candidate Starts for Violet\_38:  
(Start: 13 @32008 has 30 MA's), (Start: 15 @31999 has 172 MA's), (17, 31963), (18, 31927),

Gene: Watermelon\_42 Start: 32616, Stop: 32437, Start Num: 13  
Candidate Starts for Watermelon\_42:  
(Start: 13 @32616 has 30 MA's), (Start: 15 @32607 has 172 MA's), (18, 32535),

Gene: Wheeler\_41 Start: 32297, Stop: 32127, Start Num: 15  
Candidate Starts for Wheeler\_41:  
(Start: 13 @32306 has 30 MA's), (Start: 15 @32297 has 172 MA's), (18, 32225),

Gene: Whitspit\_38 Start: 30031, Stop: 29861, Start Num: 15  
Candidate Starts for Whitspit\_38:  
(Start: 13 @30040 has 30 MA's), (Start: 15 @30031 has 172 MA's), (18, 29959),

Gene: Ximenita\_67 Start: 42617, Stop: 42808, Start Num: 11  
Candidate Starts for Ximenita\_67:  
(6, 42566), (Start: 9 @42587 has 2 MA's), (Start: 11 @42617 has 33 MA's), (16, 42653), (18, 42707),  
(19, 42740),

Gene: Yuna\_67 Start: 43685, Stop: 43879, Start Num: 11  
Candidate Starts for Yuna\_67:  
(Start: 9 @43655 has 2 MA's), (Start: 11 @43685 has 33 MA's), (18, 43775),

Gene: Yunkel11\_66 Start: 42224, Stop: 42418, Start Num: 11  
Candidate Starts for Yunkel11\_66:  
(Start: 11 @42224 has 33 MA's), (17, 42284),

Gene: Zeeculate\_39 Start: 32272, Stop: 32105, Start Num: 15  
Candidate Starts for Zeeculate\_39:  
(Start: 13 @32281 has 30 MA's), (Start: 15 @32272 has 172 MA's), (18, 32203),

Gene: Zephyr\_40 Start: 31983, Stop: 31813, Start Num: 15  
Candidate Starts for Zephyr\_40:  
(Start: 13 @31992 has 30 MA's), (Start: 15 @31983 has 172 MA's), (18, 31911),

Gene: Zeuska\_40 Start: 32234, Stop: 32055, Start Num: 13  
Candidate Starts for Zeuska\_40:  
(Start: 13 @32234 has 30 MA's), (Start: 15 @32225 has 172 MA's), (18, 32153),