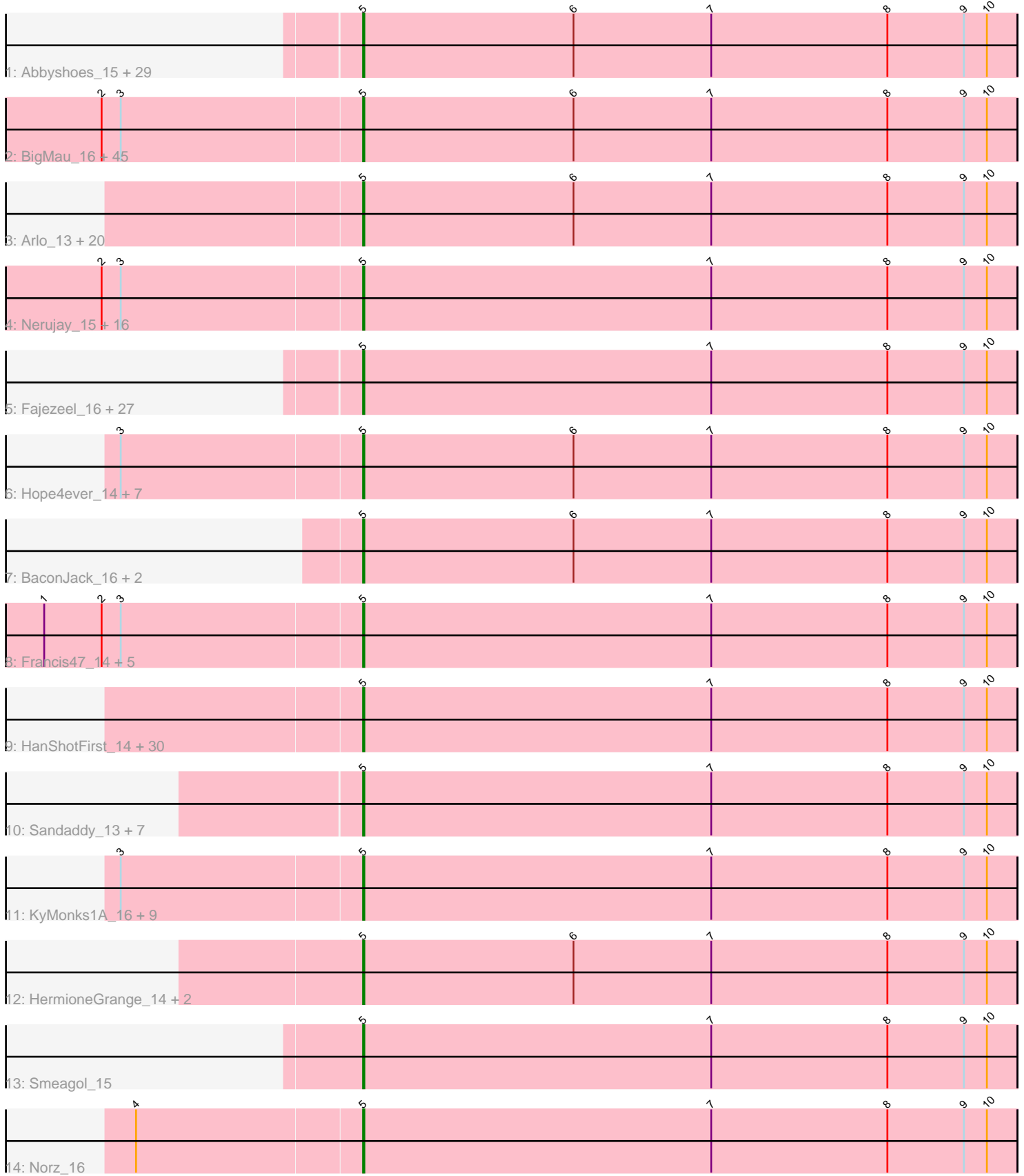


Pham 191053



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 191053 Report

This analysis was run 11/02/24 on database version 579.

Pham number 191053 has 213 members, 10 are drafts.

Phages represented in each track:

- Track 1 : Abbyshoes\_15, Petruccio\_14, Anglerfish\_15, TheloniousMonk\_16, Pari\_15, Zephyr\_14, Kenmech\_17, Barriga\_14, Makemake\_14, A6\_12, Squee\_15, U2\_14, Espresso\_14, Marsha\_14, Froghopper\_15, ShortQueendom\_13, Tripl3t\_15, Parliament\_13, Inyanga\_13, Hermia\_16, StewieG\_13, Magnar\_14, Corvo\_14, Euphoria\_14, Dussy\_15, Switzer\_15, DreamCatcher\_17, Michley\_14, Lesedi\_13, BK1\_12
- Track 2 : BigMau\_16, Molly\_15, Pippin\_16, KSSJEB\_14, Tote\_16, Altman\_15, Bircsak\_14, Lopton\_15, Petp2012\_16, Ciao\_14, Monet\_16, Gompeii16\_14, Alvin\_15, BPBi3bs31\_15, STLscum\_15, Papez\_16, Thor\_14, HarryOW\_15, Sibs6\_16, Ichabod\_15, Acme\_16, Slagathor\_15, QTRLifeCrisis\_14, Jerm2\_15, Homines\_14, ConceptII\_14, JC27\_16, Gyzlar\_16, Rohr\_15, Swole\_16, SarFire\_14, GrecoEtereo\_15, Marge\_15, Nhonho\_14, JuliaChild\_16, JackSparrow\_15, PattyP\_16, Rufus\_15, Museum\_16, Zeeculate\_13, MPlant7149\_13, Marcell\_14, Magnito\_13, Wheeler\_14, Burton\_15, Pinto\_16
- Track 3 : Arlo\_13, Bob3\_13, Scowl\_15, Paraselene\_13, Arcanine\_15, DrFeelGood\_13, Abrogate\_150, TwoPeat\_15, Rubeus\_15, Bruns\_13, Briton15\_16, Jasper\_15, Sagefire\_15, Rajelicia\_14, Dreamboat\_15, Bethlehem\_14, Doom\_14, ProMouse\_13, Seanderson\_15, Mryolo\_13, Rhynn\_14
- Track 4 : Nerujay\_15, Pepe\_15, Dexes\_15, LilBib\_15, Dulcie\_13, Pita2\_16, Maroc7\_13, Agaliana\_14, PSullivan\_16, SkiPole\_16, Fascinus\_13, Blue\_14, BluSpix\_14, Rutherferd\_16, Graduation\_16, Ringer\_14, IgnatiusPatJac\_13
- Track 5 : Fajezeel\_16, PacerPaul\_14, Perseus\_15, Mule\_14, Turj99\_13, Kanely\_15, Moose\_13, Adahisdi\_15, Killigrew\_12, Atkinbua\_15, Niza\_16, Bones\_14, Tasp14\_15, Beatrix\_13, Greg\_16, SwissCheese\_14, Gandalf20\_15, Paphu\_13, Forsytheast\_13, Aeneas\_16, Solon\_14, Manatee\_15, Oogway\_13, Chanagan\_13, PinkPlastic\_13, Sumter\_13, PhrostyMug\_14, Ashballer\_13
- Track 6 : Hope4ever\_14, Naira\_15, Fenn\_15, Fushigi\_15, Smairt\_15, Mkhuseli\_15, RidgeCB\_14, Traft412\_16
- Track 7 : BaconJack\_16, Buttons\_15, Licorice\_16
- Track 8 : Francis47\_14, Ajay\_14, Wilkins\_14, Violet\_13, Eyeball\_14, Topgun\_14
- Track 9 : HanShotFirst\_14, DD5\_15, Teodoridan\_12, Pelly\_15, BeesKnees\_15, Zeuska\_15, Marchy\_13, GageAP\_16, Lockley\_14, Lamina13\_14, Big3\_14, Dynamix\_15, PherrisBueller\_15, NEHalo\_14, Snazzy\_12, MrGordo\_14, Trouble\_14, McGuire\_15, StrongArm\_13, KBG\_15, Jorgensen\_14, MaryBeth\_14, Carlyle\_16, Seabiscuit\_16, CactusRose\_13, MetalQZJ\_14, Hami1\_16, Alsfro\_18, SpikeBT\_16, Bexan\_13, Payneful\_14

- Track 10 : Sandaddy\_13, Sorpresa\_14, PascalRango\_13, Ruotula\_13, Sanya\_13, BigPaolini\_15, Gwendoluna\_16, Peterson\_17
- Track 11 : KyMonks1A\_16, Treddle\_16, Applejack\_14, Edtherson\_15, Cueylyss\_14, Watermelon\_16, AFIS\_14, ILeeKay\_16, Bigfoot\_13, Sunshine924\_13
- Track 12 : HermioneGrange\_14, Crispicous1\_13, Ohno789\_14
- Track 13 : Smeagol\_15
- Track 14 : Norz\_16

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

The start number called the most often in the published annotations is 5, it was called in 203 of the 203 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- A6\_12, AFIS\_14, Abbyshoes\_15, Abrogate\_150, Acme\_16, Adahisdi\_15, Aeneas\_16, Agaliana\_14, Ajay\_14, Alsfro\_18, Altman\_15, Alvin\_15, Anglerfish\_15, Applejack\_14, Arcanine\_15, Arlo\_13, Ashballer\_13, Atkinbua\_15, BK1\_12, BPBiebs31\_15, BaconJack\_16, Barriga\_14, Beatrix\_13, BeesKnees\_15, Bethlehem\_14, Bexan\_13, Big3\_14, BigMau\_16, BigPaolini\_15, Bigfoot\_13, Bircsak\_14, BluSpix\_14, Blue\_14, Bob3\_13, Bones\_14, Briton15\_16, Bruns\_13, Burton\_15, Buttons\_15, CactusRose\_13, Carlyle\_16, Chanagan\_13, Ciao\_14, Conceptll\_14, Corvo\_14, Crispicous1\_13, Cueylyss\_14, DD5\_15, Dexes\_15, Doom\_14, DrFeelGood\_13, DreamCatcher\_17, Dreamboat\_15, Dulcie\_13, Dussy\_15, Dynamix\_15, Edtherson\_15, Espresso\_14, Euphoria\_14, Eyeball\_14, Fajezeel\_16, Fascinus\_13, Fenn\_15, Forsytheast\_13, Francis47\_14, Froghopper\_15, Fushigi\_15, GageAP\_16, Gandalf20\_15, Gompeii16\_14, Graduation\_16, GrecoEtereo\_15, Greg\_16, Gwendoluna\_16, Gyzlar\_16, Hami1\_16, HanShotFirst\_14, HarryOW\_15, Hermia\_16, HermioneGrange\_14, Homines\_14, Hope4ever\_14, ILeeKay\_16, Ichabod\_15, IgnatiusPatJac\_13, Inyanga\_13, JC27\_16, JackSparrow\_15, Jasper\_15, Jerm2\_15, Jorgensen\_14, JuliaChild\_16, KBG\_15, KSSJEB\_14, Kanely\_15, Kenmech\_17, Killigrew\_12, KyMonks1A\_16, Lamina13\_14, Lesedi\_13, Licorice\_16, LilBib\_15, Lockley\_14, Lopton\_15, MPlant7149\_13, Magnar\_14, Magnito\_13, Makemake\_14, Manatee\_15, Marcell\_14, Marchy\_13, Marge\_15, Maroc7\_13, Marsha\_14, MaryBeth\_14, McGuire\_15, MetalQZJ\_14, Michley\_14, Mkhuseli\_15, Molly\_15, Monet\_16, Moose\_13, MrGordo\_14, Mryolo\_13, Mule\_14, Museum\_16, NEHalo\_14, Naira\_15, Nerujay\_15, Nhonho\_14, Niza\_16, Norz\_16, Ohno789\_14, Oogway\_13, PSullivan\_16, PacerPaul\_14, Papez\_16, Paphu\_13, Paraselene\_13, Pari\_15, Parliament\_13, PascalRango\_13, PattyP\_16, Payneful\_14, Pelly\_15, Pepe\_15, Perseus\_15, Peterson\_17, Petp2012\_16, Petruccio\_14, PherrisBueller\_15, PhrostyMug\_14, PinkPlastic\_13, Pinto\_16, Pippin\_16, Pita2\_16, ProMouse\_13, QTRlifeCrisis\_14, Rajelicia\_14, Rhynn\_14, RidgeCB\_14, Ringer\_14, Rohr\_15, Rubeus\_15, Rufus\_15, Ruotula\_13, Rutherford\_16, STLscum\_15, Sagefire\_15, Sandaddy\_13, Sanya\_13, SarFire\_14, Scowl\_15, Seabiscuit\_16, Seanderson\_15, ShortQueendom\_13, Sibs6\_16, SkiPole\_16, Slagathor\_15, Smairt\_15, Smeagol\_15, Snazzy\_12, Solon\_14, Sorpresa\_14, SpikeBT\_16, Squee\_15, StewieG\_13, StrongArm\_13, Sumter\_13, Sunshine924\_13, SwissCheese\_14, Switzer\_15, Swole\_16, Tasp14\_15, Teodoridan\_12, TheloniousMonk\_16, Thor\_14, Topgun\_14, Tote\_16, Traft412\_16, Treddle\_16, Tripl3t\_15, Trouble\_14, Turj99\_13, TwoPeat\_15, U2\_14, Violet\_13, Watermelon\_16, Wheeler\_14, Wilkins\_14, Zeeculate\_13, Zephyr\_14, Zeuska\_15,

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

- 

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

- 

### Summary by start number:

Start 5:

- Found in 213 of 213 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 203 of 203
- Called 100.0% of time when present
- Phage (with cluster) where this start called: A6\_12 (A1), AFIS\_14 (A1), Abbyshoes\_15 (A1), Abrogate\_150 (A1), Acme\_16 (A1), Adahisdi\_15 (A1), Aeneas\_16 (A1), Agaliana\_14 (A1), Ajay\_14 (A1), Alsfro\_18 (A1), Altman\_15 (A1), Alvin\_15 (A1), Anglerfish\_15 (A1), Applejack\_14 (A1), Arcanine\_15 (A1), Arlo\_13 (A1), Ashballer\_13 (A1), Atkinbua\_15 (A1), BK1\_12 (A1), BPBiebs31\_15 (A1), BaconJack\_16 (A1), Barriga\_14 (A1), Beatrix\_13 (A1), BeesKnees\_15 (A1), Bethlehem\_14 (A1), Bexan\_13 (A1), Big3\_14 (A1), BigMau\_16 (A1), BigPaolini\_15 (A1), Bigfoot\_13 (A1), Bircsak\_14 (A1), BluSpix\_14 (A1), Blue\_14 (A1), Bob3\_13 (A1), Bones\_14 (A1), Briton15\_16 (A1), Bruns\_13 (A1), Burton\_15 (A1), Buttons\_15 (A1), CactusRose\_13 (A1), Carlyle\_16 (A1), Chanagan\_13 (A1), Ciao\_14 (A1), Conceptll\_14 (A1), Corvo\_14 (A1), Crispicous1\_13 (A1), Cueylyss\_14 (A1), DD5\_15 (A1), Dexes\_15 (A1), Doom\_14 (A1), DrFeelGood\_13 (A1), DreamCatcher\_17 (A1), Dreamboat\_15 (A1), Dulcie\_13 (A1), Dussy\_15 (A1), Dynamix\_15 (A1), Edtherson\_15 (A1), Espresso\_14 (A1), Euphoria\_14 (A1), Eyeball\_14 (A1), Fajezeel\_16 (A1), Fascinus\_13 (A1), Fenn\_15 (A1), Forsytheast\_13 (A1), Francis47\_14 (A1), Frogopper\_15 (A1), Fushigi\_15 (A1), GageAP\_16 (A1), Gandalf20\_15 (A1), Gompeii16\_14 (A1), Graduation\_16 (A1), GrecoEtereo\_15 (A1), Greg\_16 (A1), Gwendoluna\_16 (A1), Gyzlar\_16 (A1), Hami1\_16 (A1), HanShotFirst\_14 (A1), HarryOW\_15 (A1), Hermia\_16 (A1), HermioneGrange\_14 (A1), Homines\_14 (A1), Hope4ever\_14 (A1), ILeeKay\_16 (A1), Ichabod\_15 (A1), IgnatiusPatJac\_13 (A1), Inyanga\_13 (A1), JC27\_16 (A1), JackSparrow\_15 (A1), Jasper\_15 (A1), Jerm2\_15 (A1), Jorgensen\_14 (A1), JuliaChild\_16 (A1), KBG\_15 (A1), KSSJEB\_14 (A1), Kanely\_15 (A1), Kenmech\_17 (A1), Killigrew\_12 (A1), KyMonks1A\_16 (A1), Lamina13\_14 (A1), Lesedi\_13 (A1), Licorice\_16 (A1), LilBib\_15 (A1), Lockley\_14 (A1), Lopton\_15 (A1), MPlant7149\_13 (A1), Magnar\_14 (A1), Magnito\_13 (A1), Makemake\_14 (A1), Manatee\_15 (A1), Marcell\_14 (A1), Marchy\_13 (A1), Marge\_15 (A1), Maroc7\_13 (A1), Marsha\_14 (A1), MaryBeth\_14 (A1), McGuire\_15 (A1), MetalQZJ\_14 (A1), Michley\_14 (A1), Mkhusei\_15 (A1), Molly\_15 (A1), Monet\_16 (A1), Moose\_13 (A1), MrGordo\_14 (A1), Mryolo\_13 (A1), Mule\_14 (A1), Museum\_16 (A1), NEHalo\_14 (A1), Naira\_15 (A1), Nerujay\_15 (A1), Nhonho\_14 (A1), Niza\_16 (A1), Norz\_16 (A1), Ohno789\_14 (A1), Oogway\_13 (A1), PSullivan\_16 (A1), PacerPaul\_14 (A1), Papez\_16 (A1), Paphu\_13 (A1), Paraselene\_13 (A1), Pari\_15 (A1), Parliament\_13 (A1), PascalRango\_13 (A1), PattyP\_16 (A1), Payneful\_14 (A1), Pelly\_15 (A1), Pepe\_15 (A1), Perseus\_15 (A1), Peterson\_17 (A1), Petp2012\_16 (A1), Petruccio\_14 (A1), PherrisBueller\_15 (A1), PhrostyMug\_14 (A1), PinkPlastic\_13 (A1), Pinto\_16 (A1), Pippin\_16 (A1), Pita2\_16 (A1), ProMouse\_13 (A1), QTRlifeCrisis\_14 (A1), Rajelicia\_14 (A1), Rhynn\_14 (A1), RidgeCB\_14 (A1), Ringer\_14 (A1), Rohr\_15 (A1), Rubeus\_15 (A1), Rufus\_15 (A1), Ruotula\_13 (A1), Rutherferd\_16 (A1), STLscum\_15 (A1), Sagefire\_15 (A1), Sandaddy\_13 (A1), Sanya\_13 (A1), SarFire\_14 (A1), Scowl\_15 (A1), Seabiscuit\_16

(A1), Seanderson\_15 (A1), ShortQueendom\_13 (A1), Sibs6\_16 (A1), SkiPole\_16 (A1), Slagathor\_15 (A1), Smairt\_15 (A1), Smeagol\_15 (A1), Snazzy\_12 (A1), Solon\_14 (A1), Sorpresa\_14 (A1), SpikeBT\_16 (A1), Squee\_15 (A1), StewieG\_13 (A1), StrongArm\_13 (A1), Sumter\_13 (A1), Sunshine924\_13 (A1), SwissCheese\_14 (A1), Switzer\_15 (A1), Swole\_16 (A1), Tasp14\_15 (A1), Teodoridan\_12 (A1), ThelioniousMonk\_16 (A1), Thor\_14 (A1), Topgun\_14 (A1), Tote\_16 (A1), Traft412\_16 (A1), Treddle\_16 (A1), Tripl3t\_15 (A1), Trouble\_14 (A1), Turj99\_13 (A1), TwoPeat\_15 (A1), U2\_14 (A1), Violet\_13 (A1), Watermelon\_16 (A1), Wheeler\_14 (A1), Wilkins\_14 (A1), Zeeculate\_13 (A1), Zephyr\_14 (A1), Zeuska\_15 (A1),

### **Summary by clusters:**

There is one cluster represented in this pham: A1

Info for manual annotations of cluster A1:

- Start number 5 was manually annotated 203 times for cluster A1.

### **Gene Information:**

Gene: A6\_12 Start: 10644, Stop: 11156, Start Num: 5

Candidate Starts for A6\_12:

(Start: 5 @10644 has 203 MA's), (6, 10809), (7, 10917), (8, 11055), (9, 11115), (10, 11133),

Gene: AFIS\_14 Start: 10982, Stop: 11494, Start Num: 5

Candidate Starts for AFIS\_14:

(3, 10796), (Start: 5 @10982 has 203 MA's), (7, 11255), (8, 11393), (9, 11453), (10, 11471),

Gene: Abbyshoes\_15 Start: 11070, Stop: 11582, Start Num: 5

Candidate Starts for Abbyshoes\_15:

(Start: 5 @11070 has 203 MA's), (6, 11235), (7, 11343), (8, 11481), (9, 11541), (10, 11559),

Gene: Abrogate\_150 Start: 11727, Stop: 12239, Start Num: 5

Candidate Starts for Abrogate\_150:

(Start: 5 @11727 has 203 MA's), (6, 11892), (7, 12000), (8, 12138), (9, 12198), (10, 12216),

Gene: Acme\_16 Start: 11418, Stop: 11930, Start Num: 5

Candidate Starts for Acme\_16:

(2, 11217), (3, 11232), (Start: 5 @11418 has 203 MA's), (6, 11583), (7, 11691), (8, 11829), (9, 11889), (10, 11907),

Gene: Adahisdi\_15 Start: 11309, Stop: 11821, Start Num: 5

Candidate Starts for Adahisdi\_15:

(Start: 5 @11309 has 203 MA's), (7, 11582), (8, 11720), (9, 11780), (10, 11798),

Gene: Aeneas\_16 Start: 11404, Stop: 11916, Start Num: 5

Candidate Starts for Aeneas\_16:

(Start: 5 @11404 has 203 MA's), (7, 11677), (8, 11815), (9, 11875), (10, 11893),

Gene: Agaliana\_14 Start: 11119, Stop: 11631, Start Num: 5

Candidate Starts for Agaliana\_14:

(2, 10918), (3, 10933), (Start: 5 @11119 has 203 MA's), (7, 11392), (8, 11530), (9, 11590), (10, 11608),

Gene: Ajay\_14 Start: 11115, Stop: 11627, Start Num: 5

Candidate Starts for Ajay\_14:

(1, 10869), (2, 10914), (3, 10929), (Start: 5 @11115 has 203 MA's), (7, 11388), (8, 11526), (9, 11586), (10, 11604),

Gene: Alsfro\_18 Start: 11858, Stop: 12370, Start Num: 5

Candidate Starts for Alsfro\_18:

(Start: 5 @11858 has 203 MA's), (7, 12131), (8, 12269), (9, 12329), (10, 12347),

Gene: Altman\_15 Start: 11653, Stop: 12165, Start Num: 5

Candidate Starts for Altman\_15:

(2, 11452), (3, 11467), (Start: 5 @11653 has 203 MA's), (6, 11818), (7, 11926), (8, 12064), (9, 12124), (10, 12142),

Gene: Alvin\_15 Start: 11326, Stop: 11838, Start Num: 5

Candidate Starts for Alvin\_15:

(2, 11125), (3, 11140), (Start: 5 @11326 has 203 MA's), (6, 11491), (7, 11599), (8, 11737), (9, 11797), (10, 11815),

Gene: Anglerfish\_15 Start: 12039, Stop: 12551, Start Num: 5

Candidate Starts for Anglerfish\_15:

(Start: 5 @12039 has 203 MA's), (6, 12204), (7, 12312), (8, 12450), (9, 12510), (10, 12528),

Gene: Applejack\_14 Start: 11053, Stop: 11565, Start Num: 5

Candidate Starts for Applejack\_14:

(3, 10867), (Start: 5 @11053 has 203 MA's), (7, 11326), (8, 11464), (9, 11524), (10, 11542),

Gene: Arcanine\_15 Start: 10989, Stop: 11501, Start Num: 5

Candidate Starts for Arcanine\_15:

(Start: 5 @10989 has 203 MA's), (6, 11154), (7, 11262), (8, 11400), (9, 11460), (10, 11478),

Gene: Arlo\_13 Start: 10678, Stop: 11190, Start Num: 5

Candidate Starts for Arlo\_13:

(Start: 5 @10678 has 203 MA's), (6, 10843), (7, 10951), (8, 11089), (9, 11149), (10, 11167),

Gene: Ashballer\_13 Start: 11057, Stop: 11569, Start Num: 5

Candidate Starts for Ashballer\_13:

(Start: 5 @11057 has 203 MA's), (7, 11330), (8, 11468), (9, 11528), (10, 11546),

Gene: Atkinbua\_15 Start: 11032, Stop: 11544, Start Num: 5

Candidate Starts for Atkinbua\_15:

(Start: 5 @11032 has 203 MA's), (7, 11305), (8, 11443), (9, 11503), (10, 11521),

Gene: BK1\_12 Start: 10644, Stop: 11156, Start Num: 5

Candidate Starts for BK1\_12:

(Start: 5 @10644 has 203 MA's), (6, 10809), (7, 10917), (8, 11055), (9, 11115), (10, 11133),

Gene: BPBiabs31\_15 Start: 11317, Stop: 11829, Start Num: 5

Candidate Starts for BPBiabs31\_15:

(2, 11116), (3, 11131), (Start: 5 @11317 has 203 MA's), (6, 11482), (7, 11590), (8, 11728), (9, 11788), (10, 11806),

Gene: BaconJack\_16 Start: 11096, Stop: 11608, Start Num: 5

Candidate Starts for BaconJack\_16:

(Start: 5 @11096 has 203 MA's), (6, 11261), (7, 11369), (8, 11507), (9, 11567), (10, 11585),

Gene: Barriga\_14 Start: 10920, Stop: 11432, Start Num: 5

Candidate Starts for Barriga\_14:

(Start: 5 @10920 has 203 MA's), (6, 11085), (7, 11193), (8, 11331), (9, 11391), (10, 11409),

Gene: Beatrix\_13 Start: 11760, Stop: 12272, Start Num: 5

Candidate Starts for Beatrix\_13:

(Start: 5 @11760 has 203 MA's), (7, 12033), (8, 12171), (9, 12231), (10, 12249),

Gene: BeesKnees\_15 Start: 11119, Stop: 11631, Start Num: 5

Candidate Starts for BeesKnees\_15:

(Start: 5 @11119 has 203 MA's), (7, 11392), (8, 11530), (9, 11590), (10, 11608),

Gene: Bethlehem\_14 Start: 12347, Stop: 12859, Start Num: 5

Candidate Starts for Bethlehem\_14:

(Start: 5 @12347 has 203 MA's), (6, 12512), (7, 12620), (8, 12758), (9, 12818), (10, 12836),

Gene: Bexan\_13 Start: 11761, Stop: 12273, Start Num: 5

Candidate Starts for Bexan\_13:

(Start: 5 @11761 has 203 MA's), (7, 12034), (8, 12172), (9, 12232), (10, 12250),

Gene: Big3\_14 Start: 11704, Stop: 12216, Start Num: 5

Candidate Starts for Big3\_14:

(Start: 5 @11704 has 203 MA's), (7, 11977), (8, 12115), (9, 12175), (10, 12193),

Gene: BigMau\_16 Start: 11285, Stop: 11797, Start Num: 5

Candidate Starts for BigMau\_16:

(2, 11084), (3, 11099), (Start: 5 @11285 has 203 MA's), (6, 11450), (7, 11558), (8, 11696), (9, 11756), (10, 11774),

Gene: BigPaolini\_15 Start: 11711, Stop: 12223, Start Num: 5

Candidate Starts for BigPaolini\_15:

(Start: 5 @11711 has 203 MA's), (7, 11984), (8, 12122), (9, 12182), (10, 12200),

Gene: Bigfoot\_13 Start: 10809, Stop: 11321, Start Num: 5

Candidate Starts for Bigfoot\_13:

(3, 10623), (Start: 5 @10809 has 203 MA's), (7, 11082), (8, 11220), (9, 11280), (10, 11298),

Gene: Bircsak\_14 Start: 11270, Stop: 11782, Start Num: 5

Candidate Starts for Bircsak\_14:

(2, 11069), (3, 11084), (Start: 5 @11270 has 203 MA's), (6, 11435), (7, 11543), (8, 11681), (9, 11741), (10, 11759),

Gene: BluSpix\_14 Start: 11069, Stop: 11581, Start Num: 5

Candidate Starts for BluSpix\_14:

(2, 10868), (3, 10883), (Start: 5 @11069 has 203 MA's), (7, 11342), (8, 11480), (9, 11540), (10, 11558),

Gene: Blue\_14 Start: 11176, Stop: 11688, Start Num: 5  
Candidate Starts for Blue\_14:  
(2, 10975), (3, 10990), (Start: 5 @11176 has 203 MA's), (7, 11449), (8, 11587), (9, 11647), (10, 11665),

Gene: Bob3\_13 Start: 10625, Stop: 11137, Start Num: 5  
Candidate Starts for Bob3\_13:  
(Start: 5 @10625 has 203 MA's), (6, 10790), (7, 10898), (8, 11036), (9, 11096), (10, 11114),

Gene: Bones\_14 Start: 10819, Stop: 11331, Start Num: 5  
Candidate Starts for Bones\_14:  
(Start: 5 @10819 has 203 MA's), (7, 11092), (8, 11230), (9, 11290), (10, 11308),

Gene: Briton15\_16 Start: 11131, Stop: 11643, Start Num: 5  
Candidate Starts for Briton15\_16:  
(Start: 5 @11131 has 203 MA's), (6, 11296), (7, 11404), (8, 11542), (9, 11602), (10, 11620),

Gene: Bruns\_13 Start: 10988, Stop: 11500, Start Num: 5  
Candidate Starts for Bruns\_13:  
(Start: 5 @10988 has 203 MA's), (6, 11153), (7, 11261), (8, 11399), (9, 11459), (10, 11477),

Gene: Burton\_15 Start: 11188, Stop: 11700, Start Num: 5  
Candidate Starts for Burton\_15:  
(2, 10987), (3, 11002), (Start: 5 @11188 has 203 MA's), (6, 11353), (7, 11461), (8, 11599), (9, 11659), (10, 11677),

Gene: Buttons\_15 Start: 11258, Stop: 11770, Start Num: 5  
Candidate Starts for Buttons\_15:  
(Start: 5 @11258 has 203 MA's), (6, 11423), (7, 11531), (8, 11669), (9, 11729), (10, 11747),

Gene: CactusRose\_13 Start: 10808, Stop: 11320, Start Num: 5  
Candidate Starts for CactusRose\_13:  
(Start: 5 @10808 has 203 MA's), (7, 11081), (8, 11219), (9, 11279), (10, 11297),

Gene: Carlyle\_16 Start: 11656, Stop: 12168, Start Num: 5  
Candidate Starts for Carlyle\_16:  
(Start: 5 @11656 has 203 MA's), (7, 11929), (8, 12067), (9, 12127), (10, 12145),

Gene: Chanagan\_13 Start: 10651, Stop: 11163, Start Num: 5  
Candidate Starts for Chanagan\_13:  
(Start: 5 @10651 has 203 MA's), (7, 10924), (8, 11062), (9, 11122), (10, 11140),

Gene: Ciao\_14 Start: 11038, Stop: 11550, Start Num: 5  
Candidate Starts for Ciao\_14:  
(2, 10837), (3, 10852), (Start: 5 @11038 has 203 MA's), (6, 11203), (7, 11311), (8, 11449), (9, 11509), (10, 11527),

Gene: ConceptII\_14 Start: 11289, Stop: 11801, Start Num: 5  
Candidate Starts for ConceptII\_14:  
(2, 11088), (3, 11103), (Start: 5 @11289 has 203 MA's), (6, 11454), (7, 11562), (8, 11700), (9, 11760), (10, 11778),



Gene: Corvo\_14 Start: 11232, Stop: 11744, Start Num: 5

Candidate Starts for Corvo\_14:

(Start: 5 @11232 has 203 MA's), (6, 11397), (7, 11505), (8, 11643), (9, 11703), (10, 11721),

Gene: Crispicous1\_13 Start: 10518, Stop: 11030, Start Num: 5

Candidate Starts for Crispicous1\_13:

(Start: 5 @10518 has 203 MA's), (6, 10683), (7, 10791), (8, 10929), (9, 10989), (10, 11007),

Gene: Cueyllyss\_14 Start: 11228, Stop: 11740, Start Num: 5

Candidate Starts for Cueyllyss\_14:

(3, 11042), (Start: 5 @11228 has 203 MA's), (7, 11501), (8, 11639), (9, 11699), (10, 11717),

Gene: DD5\_15 Start: 11768, Stop: 12280, Start Num: 5

Candidate Starts for DD5\_15:

(Start: 5 @11768 has 203 MA's), (7, 12041), (8, 12179), (9, 12239), (10, 12257),

Gene: Dexes\_15 Start: 11733, Stop: 12245, Start Num: 5

Candidate Starts for Dexes\_15:

(2, 11532), (3, 11547), (Start: 5 @11733 has 203 MA's), (7, 12006), (8, 12144), (9, 12204), (10, 12222),

Gene: Doom\_14 Start: 11311, Stop: 11823, Start Num: 5

Candidate Starts for Doom\_14:

(Start: 5 @11311 has 203 MA's), (6, 11476), (7, 11584), (8, 11722), (9, 11782), (10, 11800),

Gene: DrFeelGood\_13 Start: 10835, Stop: 11347, Start Num: 5

Candidate Starts for DrFeelGood\_13:

(Start: 5 @10835 has 203 MA's), (6, 11000), (7, 11108), (8, 11246), (9, 11306), (10, 11324),

Gene: DreamCatcher\_17 Start: 12264, Stop: 12776, Start Num: 5

Candidate Starts for DreamCatcher\_17:

(Start: 5 @12264 has 203 MA's), (6, 12429), (7, 12537), (8, 12675), (9, 12735), (10, 12753),

Gene: Dreamboat\_15 Start: 10963, Stop: 11475, Start Num: 5

Candidate Starts for Dreamboat\_15:

(Start: 5 @10963 has 203 MA's), (6, 11128), (7, 11236), (8, 11374), (9, 11434), (10, 11452),

Gene: Dulcie\_13 Start: 10710, Stop: 11222, Start Num: 5

Candidate Starts for Dulcie\_13:

(2, 10509), (3, 10524), (Start: 5 @10710 has 203 MA's), (7, 10983), (8, 11121), (9, 11181), (10, 11199),

Gene: Dussy\_15 Start: 11070, Stop: 11582, Start Num: 5

Candidate Starts for Dussy\_15:

(Start: 5 @11070 has 203 MA's), (6, 11235), (7, 11343), (8, 11481), (9, 11541), (10, 11559),

Gene: Dynamix\_15 Start: 11120, Stop: 11632, Start Num: 5

Candidate Starts for Dynamix\_15:

(Start: 5 @11120 has 203 MA's), (7, 11393), (8, 11531), (9, 11591), (10, 11609),

Gene: Edtherson\_15 Start: 11568, Stop: 12080, Start Num: 5

Candidate Starts for Edtherson\_15:

(3, 11382), (Start: 5 @11568 has 203 MA's), (7, 11841), (8, 11979), (9, 12039), (10, 12057),

Gene: Espresso\_14 Start: 11163, Stop: 11675, Start Num: 5

Candidate Starts for Espresso\_14:

(Start: 5 @11163 has 203 MA's), (6, 11328), (7, 11436), (8, 11574), (9, 11634), (10, 11652),

Gene: Euphoria\_14 Start: 11059, Stop: 11571, Start Num: 5

Candidate Starts for Euphoria\_14:

(Start: 5 @11059 has 203 MA's), (6, 11224), (7, 11332), (8, 11470), (9, 11530), (10, 11548),

Gene: Eyeball\_14 Start: 10807, Stop: 11319, Start Num: 5

Candidate Starts for Eyeball\_14:

(1, 10561), (2, 10606), (3, 10621), (Start: 5 @10807 has 203 MA's), (7, 11080), (8, 11218), (9, 11278), (10, 11296),

Gene: Fajezeel\_16 Start: 11383, Stop: 11895, Start Num: 5

Candidate Starts for Fajezeel\_16:

(Start: 5 @11383 has 203 MA's), (7, 11656), (8, 11794), (9, 11854), (10, 11872),

Gene: Fascinus\_13 Start: 10810, Stop: 11322, Start Num: 5

Candidate Starts for Fascinus\_13:

(2, 10609), (3, 10624), (Start: 5 @10810 has 203 MA's), (7, 11083), (8, 11221), (9, 11281), (10, 11299),

Gene: Fenn\_15 Start: 12374, Stop: 12886, Start Num: 5

Candidate Starts for Fenn\_15:

(3, 12188), (Start: 5 @12374 has 203 MA's), (6, 12539), (7, 12647), (8, 12785), (9, 12845), (10, 12863),

Gene: Forsytheast\_13 Start: 11073, Stop: 11585, Start Num: 5

Candidate Starts for Forsytheast\_13:

(Start: 5 @11073 has 203 MA's), (7, 11346), (8, 11484), (9, 11544), (10, 11562),

Gene: Francis47\_14 Start: 11311, Stop: 11823, Start Num: 5

Candidate Starts for Francis47\_14:

(1, 11065), (2, 11110), (3, 11125), (Start: 5 @11311 has 203 MA's), (7, 11584), (8, 11722), (9, 11782), (10, 11800),

Gene: Froghopper\_15 Start: 10752, Stop: 11264, Start Num: 5

Candidate Starts for Froghopper\_15:

(Start: 5 @10752 has 203 MA's), (6, 10917), (7, 11025), (8, 11163), (9, 11223), (10, 11241),

Gene: Fushigi\_15 Start: 11475, Stop: 11987, Start Num: 5

Candidate Starts for Fushigi\_15:

(3, 11289), (Start: 5 @11475 has 203 MA's), (6, 11640), (7, 11748), (8, 11886), (9, 11946), (10, 11964),

Gene: GageAP\_16 Start: 11800, Stop: 12312, Start Num: 5

Candidate Starts for GageAP\_16:

(Start: 5 @11800 has 203 MA's), (7, 12073), (8, 12211), (9, 12271), (10, 12289),

Gene: Gandalf20\_15 Start: 11867, Stop: 12379, Start Num: 5

Candidate Starts for Gandalf20\_15:

(Start: 5 @11867 has 203 MA's), (7, 12140), (8, 12278), (9, 12338), (10, 12356),

Gene: Gompeii16\_14 Start: 11271, Stop: 11783, Start Num: 5

Candidate Starts for Gompeii16\_14:

(2, 11070), (3, 11085), (Start: 5 @11271 has 203 MA's), (6, 11436), (7, 11544), (8, 11682), (9, 11742), (10, 11760),

Gene: Graduation\_16 Start: 11833, Stop: 12345, Start Num: 5

Candidate Starts for Graduation\_16:

(2, 11632), (3, 11647), (Start: 5 @11833 has 203 MA's), (7, 12106), (8, 12244), (9, 12304), (10, 12322),

Gene: GrecoEtereo\_15 Start: 11371, Stop: 11883, Start Num: 5

Candidate Starts for GrecoEtereo\_15:

(2, 11170), (3, 11185), (Start: 5 @11371 has 203 MA's), (6, 11536), (7, 11644), (8, 11782), (9, 11842), (10, 11860),

Gene: Greg\_16 Start: 11383, Stop: 11895, Start Num: 5

Candidate Starts for Greg\_16:

(Start: 5 @11383 has 203 MA's), (7, 11656), (8, 11794), (9, 11854), (10, 11872),

Gene: Gwendoluna\_16 Start: 12253, Stop: 12765, Start Num: 5

Candidate Starts for Gwendoluna\_16:

(Start: 5 @12253 has 203 MA's), (7, 12526), (8, 12664), (9, 12724), (10, 12742),

Gene: Gyzlar\_16 Start: 12014, Stop: 12526, Start Num: 5

Candidate Starts for Gyzlar\_16:

(2, 11813), (3, 11828), (Start: 5 @12014 has 203 MA's), (6, 12179), (7, 12287), (8, 12425), (9, 12485), (10, 12503),

Gene: Hami1\_16 Start: 11455, Stop: 11967, Start Num: 5

Candidate Starts for Hami1\_16:

(Start: 5 @11455 has 203 MA's), (7, 11728), (8, 11866), (9, 11926), (10, 11944),

Gene: HanShotFirst\_14 Start: 10675, Stop: 11187, Start Num: 5

Candidate Starts for HanShotFirst\_14:

(Start: 5 @10675 has 203 MA's), (7, 10948), (8, 11086), (9, 11146), (10, 11164),

Gene: HarryOW\_15 Start: 11371, Stop: 11883, Start Num: 5

Candidate Starts for HarryOW\_15:

(2, 11170), (3, 11185), (Start: 5 @11371 has 203 MA's), (6, 11536), (7, 11644), (8, 11782), (9, 11842), (10, 11860),

Gene: Hermia\_16 Start: 11814, Stop: 12326, Start Num: 5

Candidate Starts for Hermia\_16:

(Start: 5 @11814 has 203 MA's), (6, 11979), (7, 12087), (8, 12225), (9, 12285), (10, 12303),

Gene: HermioneGrange\_14 Start: 10785, Stop: 11297, Start Num: 5

Candidate Starts for HermioneGrange\_14:

(Start: 5 @10785 has 203 MA's), (6, 10950), (7, 11058), (8, 11196), (9, 11256), (10, 11274),

Gene: Homines\_14 Start: 11090, Stop: 11602, Start Num: 5

Candidate Starts for Homines\_14:

(2, 10889), (3, 10904), (Start: 5 @11090 has 203 MA's), (6, 11255), (7, 11363), (8, 11501), (9, 11561), (10, 11579),

Gene: Hope4ever\_14 Start: 11192, Stop: 11704, Start Num: 5

Candidate Starts for Hope4ever\_14:

(3, 11006), (Start: 5 @11192 has 203 MA's), (6, 11357), (7, 11465), (8, 11603), (9, 11663), (10, 11681),

Gene: ILeeKay\_16 Start: 11244, Stop: 11756, Start Num: 5

Candidate Starts for ILeeKay\_16:

(3, 11058), (Start: 5 @11244 has 203 MA's), (7, 11517), (8, 11655), (9, 11715), (10, 11733),

Gene: Ichabod\_15 Start: 11096, Stop: 11608, Start Num: 5

Candidate Starts for Ichabod\_15:

(2, 10895), (3, 10910), (Start: 5 @11096 has 203 MA's), (6, 11261), (7, 11369), (8, 11507), (9, 11567), (10, 11585),

Gene: IgnatiusPatJac\_13 Start: 11070, Stop: 11582, Start Num: 5

Candidate Starts for IgnatiusPatJac\_13:

(2, 10869), (3, 10884), (Start: 5 @11070 has 203 MA's), (7, 11343), (8, 11481), (9, 11541), (10, 11559),

Gene: Inyanga\_13 Start: 10858, Stop: 11370, Start Num: 5

Candidate Starts for Inyanga\_13:

(Start: 5 @10858 has 203 MA's), (6, 11023), (7, 11131), (8, 11269), (9, 11329), (10, 11347),

Gene: JC27\_16 Start: 11696, Stop: 12208, Start Num: 5

Candidate Starts for JC27\_16:

(2, 11495), (3, 11510), (Start: 5 @11696 has 203 MA's), (6, 11861), (7, 11969), (8, 12107), (9, 12167), (10, 12185),

Gene: JackSparrow\_15 Start: 11412, Stop: 11924, Start Num: 5

Candidate Starts for JackSparrow\_15:

(2, 11211), (3, 11226), (Start: 5 @11412 has 203 MA's), (6, 11577), (7, 11685), (8, 11823), (9, 11883), (10, 11901),

Gene: Jasper\_15 Start: 10907, Stop: 11419, Start Num: 5

Candidate Starts for Jasper\_15:

(Start: 5 @10907 has 203 MA's), (6, 11072), (7, 11180), (8, 11318), (9, 11378), (10, 11396),

Gene: Jerm2\_15 Start: 11285, Stop: 11797, Start Num: 5

Candidate Starts for Jerm2\_15:

(2, 11084), (3, 11099), (Start: 5 @11285 has 203 MA's), (6, 11450), (7, 11558), (8, 11696), (9, 11756), (10, 11774),

Gene: Jorgensen\_14 Start: 10868, Stop: 11380, Start Num: 5

Candidate Starts for Jorgensen\_14:

(Start: 5 @10868 has 203 MA's), (7, 11141), (8, 11279), (9, 11339), (10, 11357),

Gene: JuliaChild\_16 Start: 11543, Stop: 12055, Start Num: 5

Candidate Starts for JuliaChild\_16:

(2, 11342), (3, 11357), (Start: 5 @11543 has 203 MA's), (6, 11708), (7, 11816), (8, 11954), (9, 12014), (10, 12032),

Gene: KBG\_15 Start: 11976, Stop: 12488, Start Num: 5

Candidate Starts for KBG\_15:

(Start: 5 @11976 has 203 MA's), (7, 12249), (8, 12387), (9, 12447), (10, 12465),

Gene: KSSJEB\_14 Start: 10881, Stop: 11393, Start Num: 5

Candidate Starts for KSSJEB\_14:

(2, 10680), (3, 10695), (Start: 5 @10881 has 203 MA's), (6, 11046), (7, 11154), (8, 11292), (9, 11352), (10, 11370),

Gene: Kanely\_15 Start: 11652, Stop: 12164, Start Num: 5

Candidate Starts for Kanely\_15:

(Start: 5 @11652 has 203 MA's), (7, 11925), (8, 12063), (9, 12123), (10, 12141),

Gene: Kenmech\_17 Start: 12156, Stop: 12668, Start Num: 5

Candidate Starts for Kenmech\_17:

(Start: 5 @12156 has 203 MA's), (6, 12321), (7, 12429), (8, 12567), (9, 12627), (10, 12645),

Gene: Killigrew\_12 Start: 10517, Stop: 11029, Start Num: 5

Candidate Starts for Killigrew\_12:

(Start: 5 @10517 has 203 MA's), (7, 10790), (8, 10928), (9, 10988), (10, 11006),

Gene: KyMonks1A\_16 Start: 11387, Stop: 11899, Start Num: 5

Candidate Starts for KyMonks1A\_16:

(3, 11201), (Start: 5 @11387 has 203 MA's), (7, 11660), (8, 11798), (9, 11858), (10, 11876),

Gene: Lamina13\_14 Start: 10663, Stop: 11175, Start Num: 5

Candidate Starts for Lamina13\_14:

(Start: 5 @10663 has 203 MA's), (7, 10936), (8, 11074), (9, 11134), (10, 11152),

Gene: Lesedi\_13 Start: 10821, Stop: 11333, Start Num: 5

Candidate Starts for Lesedi\_13:

(Start: 5 @10821 has 203 MA's), (6, 10986), (7, 11094), (8, 11232), (9, 11292), (10, 11310),

Gene: Licorice\_16 Start: 11679, Stop: 12191, Start Num: 5

Candidate Starts for Licorice\_16:

(Start: 5 @11679 has 203 MA's), (6, 11844), (7, 11952), (8, 12090), (9, 12150), (10, 12168),

Gene: LilBib\_15 Start: 11622, Stop: 12134, Start Num: 5

Candidate Starts for LilBib\_15:

(2, 11421), (3, 11436), (Start: 5 @11622 has 203 MA's), (7, 11895), (8, 12033), (9, 12093), (10, 12111),

Gene: Lockley\_14 Start: 11001, Stop: 11513, Start Num: 5

Candidate Starts for Lockley\_14:

(Start: 5 @11001 has 203 MA's), (7, 11274), (8, 11412), (9, 11472), (10, 11490),

Gene: Lopton\_15 Start: 12429, Stop: 12941, Start Num: 5

Candidate Starts for Lopton\_15:

(2, 12228), (3, 12243), (Start: 5 @12429 has 203 MA's), (6, 12594), (7, 12702), (8, 12840), (9, 12900), (10, 12918),

Gene: MPlant7149\_13 Start: 10639, Stop: 11151, Start Num: 5

Candidate Starts for MPlant7149\_13:

(2, 10438), (3, 10453), (Start: 5 @10639 has 203 MA's), (6, 10804), (7, 10912), (8, 11050), (9, 11110), (10, 11128),

Gene: Magnar\_14 Start: 10786, Stop: 11298, Start Num: 5

Candidate Starts for Magnar\_14:

(Start: 5 @10786 has 203 MA's), (6, 10951), (7, 11059), (8, 11197), (9, 11257), (10, 11275),

Gene: Magnito\_13 Start: 10538, Stop: 11050, Start Num: 5

Candidate Starts for Magnito\_13:

(2, 10337), (3, 10352), (Start: 5 @10538 has 203 MA's), (6, 10703), (7, 10811), (8, 10949), (9, 11009), (10, 11027),

Gene: Makemake\_14 Start: 12270, Stop: 12782, Start Num: 5

Candidate Starts for Makemake\_14:

(Start: 5 @12270 has 203 MA's), (6, 12435), (7, 12543), (8, 12681), (9, 12741), (10, 12759),

Gene: Manatee\_15 Start: 11070, Stop: 11582, Start Num: 5

Candidate Starts for Manatee\_15:

(Start: 5 @11070 has 203 MA's), (7, 11343), (8, 11481), (9, 11541), (10, 11559),

Gene: Marcell\_14 Start: 10998, Stop: 11510, Start Num: 5

Candidate Starts for Marcell\_14:

(2, 10797), (3, 10812), (Start: 5 @10998 has 203 MA's), (6, 11163), (7, 11271), (8, 11409), (9, 11469), (10, 11487),

Gene: Marchy\_13 Start: 10625, Stop: 11137, Start Num: 5

Candidate Starts for Marchy\_13:

(Start: 5 @10625 has 203 MA's), (7, 10898), (8, 11036), (9, 11096), (10, 11114),

Gene: Marge\_15 Start: 11521, Stop: 12033, Start Num: 5

Candidate Starts for Marge\_15:

(2, 11320), (3, 11335), (Start: 5 @11521 has 203 MA's), (6, 11686), (7, 11794), (8, 11932), (9, 11992), (10, 12010),

Gene: Maroc7\_13 Start: 10811, Stop: 11323, Start Num: 5

Candidate Starts for Maroc7\_13:

(2, 10610), (3, 10625), (Start: 5 @10811 has 203 MA's), (7, 11084), (8, 11222), (9, 11282), (10, 11300),

Gene: Marsha\_14 Start: 11254, Stop: 11766, Start Num: 5

Candidate Starts for Marsha\_14:

(Start: 5 @11254 has 203 MA's), (6, 11419), (7, 11527), (8, 11665), (9, 11725), (10, 11743),

Gene: MaryBeth\_14 Start: 11233, Stop: 11745, Start Num: 5

Candidate Starts for MaryBeth\_14:

(Start: 5 @11233 has 203 MA's), (7, 11506), (8, 11644), (9, 11704), (10, 11722),

Gene: McGuire\_15 Start: 11116, Stop: 11628, Start Num: 5

Candidate Starts for McGuire\_15:

(Start: 5 @11116 has 203 MA's), (7, 11389), (8, 11527), (9, 11587), (10, 11605),

Gene: MetalQZJ\_14 Start: 11233, Stop: 11745, Start Num: 5

Candidate Starts for MetalQZJ\_14:

(Start: 5 @11233 has 203 MA's), (7, 11506), (8, 11644), (9, 11704), (10, 11722),

Gene: Michley\_14 Start: 10980, Stop: 11492, Start Num: 5

Candidate Starts for Michley\_14:

(Start: 5 @10980 has 203 MA's), (6, 11145), (7, 11253), (8, 11391), (9, 11451), (10, 11469),

Gene: Mkhuseleli\_15 Start: 11142, Stop: 11654, Start Num: 5

Candidate Starts for Mkhuseleli\_15:

(3, 10956), (Start: 5 @11142 has 203 MA's), (6, 11307), (7, 11415), (8, 11553), (9, 11613), (10, 11631),

Gene: Molly\_15 Start: 10841, Stop: 11353, Start Num: 5

Candidate Starts for Molly\_15:

(2, 10640), (3, 10655), (Start: 5 @10841 has 203 MA's), (6, 11006), (7, 11114), (8, 11252), (9, 11312), (10, 11330),

Gene: Monet\_16 Start: 12038, Stop: 12550, Start Num: 5

Candidate Starts for Monet\_16:

(2, 11837), (3, 11852), (Start: 5 @12038 has 203 MA's), (6, 12203), (7, 12311), (8, 12449), (9, 12509), (10, 12527),

Gene: Moose\_13 Start: 11073, Stop: 11585, Start Num: 5

Candidate Starts for Moose\_13:

(Start: 5 @11073 has 203 MA's), (7, 11346), (8, 11484), (9, 11544), (10, 11562),

Gene: MrGordo\_14 Start: 10793, Stop: 11305, Start Num: 5

Candidate Starts for MrGordo\_14:

(Start: 5 @10793 has 203 MA's), (7, 11066), (8, 11204), (9, 11264), (10, 11282),

Gene: Mryolo\_13 Start: 10823, Stop: 11335, Start Num: 5

Candidate Starts for Mryolo\_13:

(Start: 5 @10823 has 203 MA's), (6, 10988), (7, 11096), (8, 11234), (9, 11294), (10, 11312),

Gene: Mule\_14 Start: 11108, Stop: 11620, Start Num: 5

Candidate Starts for Mule\_14:

(Start: 5 @11108 has 203 MA's), (7, 11381), (8, 11519), (9, 11579), (10, 11597),

Gene: Museum\_16 Start: 11127, Stop: 11639, Start Num: 5

Candidate Starts for Museum\_16:

(2, 10926), (3, 10941), (Start: 5 @11127 has 203 MA's), (6, 11292), (7, 11400), (8, 11538), (9, 11598), (10, 11616),

Gene: NEHalo\_14 Start: 10635, Stop: 11147, Start Num: 5

Candidate Starts for NEHalo\_14:

(Start: 5 @10635 has 203 MA's), (7, 10908), (8, 11046), (9, 11106), (10, 11124),

Gene: Naira\_15 Start: 12374, Stop: 12886, Start Num: 5

Candidate Starts for Naira\_15:

(3, 12188), (Start: 5 @12374 has 203 MA's), (6, 12539), (7, 12647), (8, 12785), (9, 12845), (10, 12863),

Gene: Nerujay\_15 Start: 11530, Stop: 12042, Start Num: 5

Candidate Starts for Nerujay\_15:

(2, 11329), (3, 11344), (Start: 5 @11530 has 203 MA's), (7, 11803), (8, 11941), (9, 12001), (10, 12019),

Gene: Nhonho\_14 Start: 10979, Stop: 11491, Start Num: 5

Candidate Starts for Nhonho\_14:

(2, 10778), (3, 10793), (Start: 5 @10979 has 203 MA's), (6, 11144), (7, 11252), (8, 11390), (9, 11450), (10, 11468),

Gene: Niza\_16 Start: 12146, Stop: 12658, Start Num: 5

Candidate Starts for Niza\_16:

(Start: 5 @12146 has 203 MA's), (7, 12419), (8, 12557), (9, 12617), (10, 12635),

Gene: Norz\_16 Start: 11782, Stop: 12294, Start Num: 5

Candidate Starts for Norz\_16:

(4, 11608), (Start: 5 @11782 has 203 MA's), (7, 12055), (8, 12193), (9, 12253), (10, 12271),

Gene: Ohno789\_14 Start: 10925, Stop: 11437, Start Num: 5

Candidate Starts for Ohno789\_14:

(Start: 5 @10925 has 203 MA's), (6, 11090), (7, 11198), (8, 11336), (9, 11396), (10, 11414),

Gene: Oogway\_13 Start: 11054, Stop: 11566, Start Num: 5

Candidate Starts for Oogway\_13:

(Start: 5 @11054 has 203 MA's), (7, 11327), (8, 11465), (9, 11525), (10, 11543),

Gene: PSullivan\_16 Start: 11543, Stop: 12055, Start Num: 5

Candidate Starts for PSullivan\_16:

(2, 11342), (3, 11357), (Start: 5 @11543 has 203 MA's), (7, 11816), (8, 11954), (9, 12014), (10, 12032),

Gene: PacerPaul\_14 Start: 11310, Stop: 11822, Start Num: 5

Candidate Starts for PacerPaul\_14:

(Start: 5 @11310 has 203 MA's), (7, 11583), (8, 11721), (9, 11781), (10, 11799),

Gene: Papez\_16 Start: 12506, Stop: 13018, Start Num: 5

Candidate Starts for Papez\_16:

(2, 12305), (3, 12320), (Start: 5 @12506 has 203 MA's), (6, 12671), (7, 12779), (8, 12917), (9, 12977), (10, 12995),

Gene: Paphu\_13 Start: 10499, Stop: 11011, Start Num: 5

Candidate Starts for Paphu\_13:

(Start: 5 @10499 has 203 MA's), (7, 10772), (8, 10910), (9, 10970), (10, 10988),

Gene: Paraselene\_13 Start: 10812, Stop: 11324, Start Num: 5

Candidate Starts for Paraselene\_13:

(Start: 5 @10812 has 203 MA's), (6, 10977), (7, 11085), (8, 11223), (9, 11283), (10, 11301),

Gene: Pari\_15 Start: 11278, Stop: 11790, Start Num: 5

Candidate Starts for Pari\_15:

(Start: 5 @11278 has 203 MA's), (6, 11443), (7, 11551), (8, 11689), (9, 11749), (10, 11767),

Gene: Parliament\_13 Start: 10881, Stop: 11393, Start Num: 5

Candidate Starts for Parliament\_13:



(Start: 5 @10881 has 203 MA's), (6, 11046), (7, 11154), (8, 11292), (9, 11352), (10, 11370),

Gene: PascalRango\_13 Start: 10739, Stop: 11251, Start Num: 5

Candidate Starts for PascalRango\_13:

(Start: 5 @10739 has 203 MA's), (7, 11012), (8, 11150), (9, 11210), (10, 11228),

Gene: PattyP\_16 Start: 11336, Stop: 11848, Start Num: 5

Candidate Starts for PattyP\_16:

(2, 11135), (3, 11150), (Start: 5 @11336 has 203 MA's), (6, 11501), (7, 11609), (8, 11747), (9, 11807), (10, 11825),

Gene: Payneful\_14 Start: 10625, Stop: 11137, Start Num: 5

Candidate Starts for Payneful\_14:

(Start: 5 @10625 has 203 MA's), (7, 10898), (8, 11036), (9, 11096), (10, 11114),

Gene: Pelly\_15 Start: 11571, Stop: 12083, Start Num: 5

Candidate Starts for Pelly\_15:

(Start: 5 @11571 has 203 MA's), (7, 11844), (8, 11982), (9, 12042), (10, 12060),

Gene: Pepe\_15 Start: 11534, Stop: 12046, Start Num: 5

Candidate Starts for Pepe\_15:

(2, 11333), (3, 11348), (Start: 5 @11534 has 203 MA's), (7, 11807), (8, 11945), (9, 12005), (10, 12023),

Gene: Perseus\_15 Start: 11194, Stop: 11706, Start Num: 5

Candidate Starts for Perseus\_15:

(Start: 5 @11194 has 203 MA's), (7, 11467), (8, 11605), (9, 11665), (10, 11683),

Gene: Peterson\_17 Start: 12495, Stop: 13007, Start Num: 5

Candidate Starts for Peterson\_17:

(Start: 5 @12495 has 203 MA's), (7, 12768), (8, 12906), (9, 12966), (10, 12984),

Gene: Petp2012\_16 Start: 12010, Stop: 12522, Start Num: 5

Candidate Starts for Petp2012\_16:

(2, 11809), (3, 11824), (Start: 5 @12010 has 203 MA's), (6, 12175), (7, 12283), (8, 12421), (9, 12481), (10, 12499),

Gene: Petruccio\_14 Start: 10752, Stop: 11264, Start Num: 5

Candidate Starts for Petruccio\_14:

(Start: 5 @10752 has 203 MA's), (6, 10917), (7, 11025), (8, 11163), (9, 11223), (10, 11241),

Gene: PherrisBueller\_15 Start: 10963, Stop: 11475, Start Num: 5

Candidate Starts for PherrisBueller\_15:

(Start: 5 @10963 has 203 MA's), (7, 11236), (8, 11374), (9, 11434), (10, 11452),

Gene: PhrostyMug\_14 Start: 11108, Stop: 11620, Start Num: 5

Candidate Starts for PhrostyMug\_14:

(Start: 5 @11108 has 203 MA's), (7, 11381), (8, 11519), (9, 11579), (10, 11597),

Gene: PinkPlastic\_13 Start: 10877, Stop: 11389, Start Num: 5

Candidate Starts for PinkPlastic\_13:

(Start: 5 @10877 has 203 MA's), (7, 11150), (8, 11288), (9, 11348), (10, 11366),

Gene: Pinto\_16 Start: 11185, Stop: 11697, Start Num: 5

Candidate Starts for Pinto\_16:

(2, 10984), (3, 10999), (Start: 5 @11185 has 203 MA's), (6, 11350), (7, 11458), (8, 11596), (9, 11656), (10, 11674),

Gene: Pippin\_16 Start: 11446, Stop: 11958, Start Num: 5

Candidate Starts for Pippin\_16:

(2, 11245), (3, 11260), (Start: 5 @11446 has 203 MA's), (6, 11611), (7, 11719), (8, 11857), (9, 11917), (10, 11935),

Gene: Pita2\_16 Start: 11543, Stop: 12055, Start Num: 5

Candidate Starts for Pita2\_16:

(2, 11342), (3, 11357), (Start: 5 @11543 has 203 MA's), (7, 11816), (8, 11954), (9, 12014), (10, 12032),

Gene: ProMouse\_13 Start: 11506, Stop: 12018, Start Num: 5

Candidate Starts for ProMouse\_13:

(Start: 5 @11506 has 203 MA's), (6, 11671), (7, 11779), (8, 11917), (9, 11977), (10, 11995),

Gene: QTRlifeCrisis\_14 Start: 11511, Stop: 12023, Start Num: 5

Candidate Starts for QTRlifeCrisis\_14:

(2, 11310), (3, 11325), (Start: 5 @11511 has 203 MA's), (6, 11676), (7, 11784), (8, 11922), (9, 11982), (10, 12000),

Gene: Rajelicia\_14 Start: 11018, Stop: 11530, Start Num: 5

Candidate Starts for Rajelicia\_14:

(Start: 5 @11018 has 203 MA's), (6, 11183), (7, 11291), (8, 11429), (9, 11489), (10, 11507),

Gene: Rhynn\_14 Start: 11112, Stop: 11624, Start Num: 5

Candidate Starts for Rhynn\_14:

(Start: 5 @11112 has 203 MA's), (6, 11277), (7, 11385), (8, 11523), (9, 11583), (10, 11601),

Gene: RidgeCB\_14 Start: 10639, Stop: 11151, Start Num: 5

Candidate Starts for RidgeCB\_14:

(3, 10453), (Start: 5 @10639 has 203 MA's), (6, 10804), (7, 10912), (8, 11050), (9, 11110), (10, 11128),

Gene: Ringer\_14 Start: 11370, Stop: 11882, Start Num: 5

Candidate Starts for Ringer\_14:

(2, 11169), (3, 11184), (Start: 5 @11370 has 203 MA's), (7, 11643), (8, 11781), (9, 11841), (10, 11859),

Gene: Rohr\_15 Start: 11318, Stop: 11830, Start Num: 5

Candidate Starts for Rohr\_15:

(2, 11117), (3, 11132), (Start: 5 @11318 has 203 MA's), (6, 11483), (7, 11591), (8, 11729), (9, 11789), (10, 11807),

Gene: Rubeus\_15 Start: 11144, Stop: 11656, Start Num: 5

Candidate Starts for Rubeus\_15:

(Start: 5 @11144 has 203 MA's), (6, 11309), (7, 11417), (8, 11555), (9, 11615), (10, 11633),

Gene: Rufus\_15 Start: 11201, Stop: 11713, Start Num: 5

Candidate Starts for Rufus\_15:

(2, 11000), (3, 11015), (Start: 5 @11201 has 203 MA's), (6, 11366), (7, 11474), (8, 11612), (9, 11672), (10, 11690),

Gene: Ruotula\_13 Start: 11321, Stop: 11833, Start Num: 5

Candidate Starts for Ruotula\_13:

(Start: 5 @11321 has 203 MA's), (7, 11594), (8, 11732), (9, 11792), (10, 11810),

Gene: Rutherferd\_16 Start: 11662, Stop: 12174, Start Num: 5

Candidate Starts for Rutherferd\_16:

(2, 11461), (3, 11476), (Start: 5 @11662 has 203 MA's), (7, 11935), (8, 12073), (9, 12133), (10, 12151),

Gene: STLscum\_15 Start: 11231, Stop: 11743, Start Num: 5

Candidate Starts for STLscum\_15:

(2, 11030), (3, 11045), (Start: 5 @11231 has 203 MA's), (6, 11396), (7, 11504), (8, 11642), (9, 11702), (10, 11720),

Gene: Sagefire\_15 Start: 11913, Stop: 12425, Start Num: 5

Candidate Starts for Sagefire\_15:

(Start: 5 @11913 has 203 MA's), (6, 12078), (7, 12186), (8, 12324), (9, 12384), (10, 12402),

Gene: Sandaddy\_13 Start: 11037, Stop: 11549, Start Num: 5

Candidate Starts for Sandaddy\_13:

(Start: 5 @11037 has 203 MA's), (7, 11310), (8, 11448), (9, 11508), (10, 11526),

Gene: Sanya\_13 Start: 11699, Stop: 12211, Start Num: 5

Candidate Starts for Sanya\_13:

(Start: 5 @11699 has 203 MA's), (7, 11972), (8, 12110), (9, 12170), (10, 12188),

Gene: SarFire\_14 Start: 10897, Stop: 11409, Start Num: 5

Candidate Starts for SarFire\_14:

(2, 10696), (3, 10711), (Start: 5 @10897 has 203 MA's), (6, 11062), (7, 11170), (8, 11308), (9, 11368), (10, 11386),

Gene: Scowl\_15 Start: 11589, Stop: 12101, Start Num: 5

Candidate Starts for Scowl\_15:

(Start: 5 @11589 has 203 MA's), (6, 11754), (7, 11862), (8, 12000), (9, 12060), (10, 12078),

Gene: Seabiscuit\_16 Start: 11118, Stop: 11630, Start Num: 5

Candidate Starts for Seabiscuit\_16:

(Start: 5 @11118 has 203 MA's), (7, 11391), (8, 11529), (9, 11589), (10, 11607),

Gene: Seanderson\_15 Start: 11562, Stop: 12074, Start Num: 5

Candidate Starts for Seanderson\_15:

(Start: 5 @11562 has 203 MA's), (6, 11727), (7, 11835), (8, 11973), (9, 12033), (10, 12051),

Gene: ShortQueendom\_13 Start: 10703, Stop: 11215, Start Num: 5

Candidate Starts for ShortQueendom\_13:

(Start: 5 @10703 has 203 MA's), (6, 10868), (7, 10976), (8, 11114), (9, 11174), (10, 11192),

Gene: Sibs6\_16 Start: 11337, Stop: 11849, Start Num: 5

Candidate Starts for Sibs6\_16:

(2, 11136), (3, 11151), (Start: 5 @11337 has 203 MA's), (6, 11502), (7, 11610), (8, 11748), (9, 11808), (10, 11826),

Gene: SkiPole\_16 Start: 11211, Stop: 11723, Start Num: 5

Candidate Starts for SkiPole\_16:

(2, 11010), (3, 11025), (Start: 5 @11211 has 203 MA's), (7, 11484), (8, 11622), (9, 11682), (10, 11700),

Gene: Slagathor\_15 Start: 10989, Stop: 11501, Start Num: 5

Candidate Starts for Slagathor\_15:

(2, 10788), (3, 10803), (Start: 5 @10989 has 203 MA's), (6, 11154), (7, 11262), (8, 11400), (9, 11460), (10, 11478),

Gene: Smairt\_15 Start: 11508, Stop: 12020, Start Num: 5

Candidate Starts for Smairt\_15:

(3, 11322), (Start: 5 @11508 has 203 MA's), (6, 11673), (7, 11781), (8, 11919), (9, 11979), (10, 11997),

Gene: Smeagol\_15 Start: 11925, Stop: 12437, Start Num: 5

Candidate Starts for Smeagol\_15:

(Start: 5 @11925 has 203 MA's), (7, 12198), (8, 12336), (9, 12396), (10, 12414),

Gene: Snazzy\_12 Start: 10518, Stop: 11030, Start Num: 5

Candidate Starts for Snazzy\_12:

(Start: 5 @10518 has 203 MA's), (7, 10791), (8, 10929), (9, 10989), (10, 11007),

Gene: Solon\_14 Start: 11669, Stop: 12181, Start Num: 5

Candidate Starts for Solon\_14:

(Start: 5 @11669 has 203 MA's), (7, 11942), (8, 12080), (9, 12140), (10, 12158),

Gene: Sorpresa\_14 Start: 11037, Stop: 11549, Start Num: 5

Candidate Starts for Sorpresa\_14:

(Start: 5 @11037 has 203 MA's), (7, 11310), (8, 11448), (9, 11508), (10, 11526),

Gene: SpikeBT\_16 Start: 11973, Stop: 12485, Start Num: 5

Candidate Starts for SpikeBT\_16:

(Start: 5 @11973 has 203 MA's), (7, 12246), (8, 12384), (9, 12444), (10, 12462),

Gene: Squee\_15 Start: 11513, Stop: 12025, Start Num: 5

Candidate Starts for Squee\_15:

(Start: 5 @11513 has 203 MA's), (6, 11678), (7, 11786), (8, 11924), (9, 11984), (10, 12002),

Gene: StewieG\_13 Start: 10885, Stop: 11397, Start Num: 5

Candidate Starts for StewieG\_13:

(Start: 5 @10885 has 203 MA's), (6, 11050), (7, 11158), (8, 11296), (9, 11356), (10, 11374),

Gene: StrongArm\_13 Start: 11761, Stop: 12273, Start Num: 5

Candidate Starts for StrongArm\_13:

(Start: 5 @11761 has 203 MA's), (7, 12034), (8, 12172), (9, 12232), (10, 12250),

Gene: Sumter\_13 Start: 10628, Stop: 11140, Start Num: 5

Candidate Starts for Sumter\_13:

(Start: 5 @10628 has 203 MA's), (7, 10901), (8, 11039), (9, 11099), (10, 11117),

Gene: Sunshine924\_13 Start: 10612, Stop: 11124, Start Num: 5  
Candidate Starts for Sunshine924\_13:  
(3, 10426), (Start: 5 @10612 has 203 MA's), (7, 10885), (8, 11023), (9, 11083), (10, 11101),

Gene: SwissCheese\_14 Start: 11073, Stop: 11585, Start Num: 5  
Candidate Starts for SwissCheese\_14:  
(Start: 5 @11073 has 203 MA's), (7, 11346), (8, 11484), (9, 11544), (10, 11562),

Gene: Switzer\_15 Start: 10996, Stop: 11508, Start Num: 5  
Candidate Starts for Switzer\_15:  
(Start: 5 @10996 has 203 MA's), (6, 11161), (7, 11269), (8, 11407), (9, 11467), (10, 11485),

Gene: Swole\_16 Start: 11543, Stop: 12055, Start Num: 5  
Candidate Starts for Swole\_16:  
(2, 11342), (3, 11357), (Start: 5 @11543 has 203 MA's), (6, 11708), (7, 11816), (8, 11954), (9, 12014),  
(10, 12032),

Gene: Tasp14\_15 Start: 11313, Stop: 11825, Start Num: 5  
Candidate Starts for Tasp14\_15:  
(Start: 5 @11313 has 203 MA's), (7, 11586), (8, 11724), (9, 11784), (10, 11802),

Gene: Teodoridan\_12 Start: 10445, Stop: 10957, Start Num: 5  
Candidate Starts for Teodoridan\_12:  
(Start: 5 @10445 has 203 MA's), (7, 10718), (8, 10856), (9, 10916), (10, 10934),

Gene: TheloniousMonk\_16 Start: 12056, Stop: 12568, Start Num: 5  
Candidate Starts for TheloniousMonk\_16:  
(Start: 5 @12056 has 203 MA's), (6, 12221), (7, 12329), (8, 12467), (9, 12527), (10, 12545),

Gene: Thor\_14 Start: 10897, Stop: 11409, Start Num: 5  
Candidate Starts for Thor\_14:  
(2, 10696), (3, 10711), (Start: 5 @10897 has 203 MA's), (6, 11062), (7, 11170), (8, 11308), (9, 11368),  
(10, 11386),

Gene: Topgun\_14 Start: 10802, Stop: 11314, Start Num: 5  
Candidate Starts for Topgun\_14:  
(1, 10556), (2, 10601), (3, 10616), (Start: 5 @10802 has 203 MA's), (7, 11075), (8, 11213), (9, 11273),  
(10, 11291),

Gene: Tote\_16 Start: 11543, Stop: 12055, Start Num: 5  
Candidate Starts for Tote\_16:  
(2, 11342), (3, 11357), (Start: 5 @11543 has 203 MA's), (6, 11708), (7, 11816), (8, 11954), (9, 12014),  
(10, 12032),

Gene: Traft412\_16 Start: 11724, Stop: 12236, Start Num: 5  
Candidate Starts for Traft412\_16:  
(3, 11538), (Start: 5 @11724 has 203 MA's), (6, 11889), (7, 11997), (8, 12135), (9, 12195), (10,  
12213),

Gene: Treddle\_16 Start: 12039, Stop: 12551, Start Num: 5  
Candidate Starts for Treddle\_16:  
(3, 11853), (Start: 5 @12039 has 203 MA's), (7, 12312), (8, 12450), (9, 12510), (10, 12528),

Gene: Tripl3t\_15 Start: 11724, Stop: 12236, Start Num: 5  
Candidate Starts for Tripl3t\_15:  
(Start: 5 @11724 has 203 MA's), (6, 11889), (7, 11997), (8, 12135), (9, 12195), (10, 12213),

Gene: Trouble\_14 Start: 11374, Stop: 11886, Start Num: 5  
Candidate Starts for Trouble\_14:  
(Start: 5 @11374 has 203 MA's), (7, 11647), (8, 11785), (9, 11845), (10, 11863),

Gene: Turj99\_13 Start: 10817, Stop: 11329, Start Num: 5  
Candidate Starts for Turj99\_13:  
(Start: 5 @10817 has 203 MA's), (7, 11090), (8, 11228), (9, 11288), (10, 11306),

Gene: TwoPeat\_15 Start: 11336, Stop: 11848, Start Num: 5  
Candidate Starts for TwoPeat\_15:  
(Start: 5 @11336 has 203 MA's), (6, 11501), (7, 11609), (8, 11747), (9, 11807), (10, 11825),

Gene: U2\_14 Start: 10998, Stop: 11510, Start Num: 5  
Candidate Starts for U2\_14:  
(Start: 5 @10998 has 203 MA's), (6, 11163), (7, 11271), (8, 11409), (9, 11469), (10, 11487),

Gene: Violet\_13 Start: 11633, Stop: 12145, Start Num: 5  
Candidate Starts for Violet\_13:  
(1, 11387), (2, 11432), (3, 11447), (Start: 5 @11633 has 203 MA's), (7, 11906), (8, 12044), (9, 12104),  
(10, 12122),

Gene: Watermelon\_16 Start: 11925, Stop: 12437, Start Num: 5  
Candidate Starts for Watermelon\_16:  
(3, 11739), (Start: 5 @11925 has 203 MA's), (7, 12198), (8, 12336), (9, 12396), (10, 12414),

Gene: Wheeler\_14 Start: 11091, Stop: 11603, Start Num: 5  
Candidate Starts for Wheeler\_14:  
(2, 10890), (3, 10905), (Start: 5 @11091 has 203 MA's), (6, 11256), (7, 11364), (8, 11502), (9, 11562),  
(10, 11580),

Gene: Wilkins\_14 Start: 10802, Stop: 11314, Start Num: 5  
Candidate Starts for Wilkins\_14:  
(1, 10556), (2, 10601), (3, 10616), (Start: 5 @10802 has 203 MA's), (7, 11075), (8, 11213), (9, 11273),  
(10, 11291),

Gene: Zeeculate\_13 Start: 10786, Stop: 11298, Start Num: 5  
Candidate Starts for Zeeculate\_13:  
(2, 10585), (3, 10600), (Start: 5 @10786 has 203 MA's), (6, 10951), (7, 11059), (8, 11197), (9, 11257),  
(10, 11275),

Gene: Zephyr\_14 Start: 10926, Stop: 11438, Start Num: 5  
Candidate Starts for Zephyr\_14:  
(Start: 5 @10926 has 203 MA's), (6, 11091), (7, 11199), (8, 11337), (9, 11397), (10, 11415),

Gene: Zeuska\_15 Start: 11605, Stop: 12117, Start Num: 5  
Candidate Starts for Zeuska\_15:  
(Start: 5 @11605 has 203 MA's), (7, 11878), (8, 12016), (9, 12076), (10, 12094),