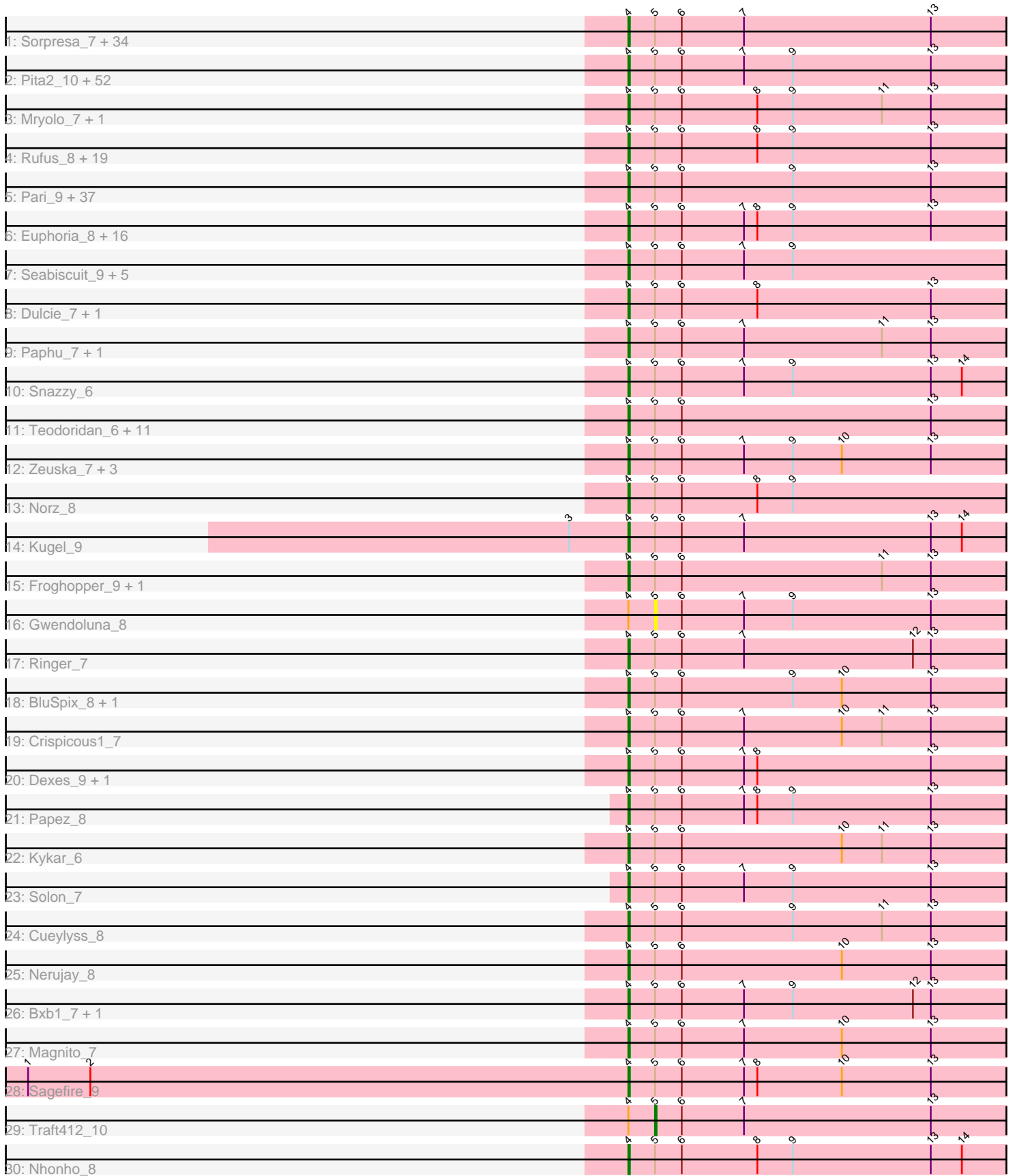


Pham 338



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 338 Report

This analysis was run 07/09/24 on database version 566.

Pham number 338 has 214 members, 14 are drafts.

Phages represented in each track:

- Track 1 : Sorpresa\_7, Fascinus\_7, Ashballer\_6, Zephyr\_8, Beatrix\_7, Bexan\_7, BillKnuckles\_8, LilBib\_7, Makemake\_8, Francis47\_8, Ciao\_8, Niza\_9, Carlyle\_10, Greg\_9, SpikeBT\_8, Sandaddy\_7, Chanagan\_7, Oogway\_7, Barriga\_8, PacerPaul\_8, StrongArm\_7, JC27\_9, Treddle\_8, MPlant7149\_7, Big3\_8, Magnar\_8, Hermia\_9, Fajezeel\_9, Edtherson\_8, CactusRose\_7, Rubeus\_8, Adahisdi\_9, Violet\_7, Rajelicia\_7, Sibs6\_9
- Track 2 : Pita2\_10, Doom\_8, Hami1\_8, Alvin\_9, Pippin\_9, Marchy\_6, Payneful\_7, Swole\_10, DrFeelGood\_7, Zeeculate\_7, Applejack\_8, Altman\_9, Slagathor\_8, JackSparrow\_8, QTRlifeCrisis\_7, GageAP\_9, StewieG\_7, Perseus\_9, SwissCheese\_8, Seanderson\_9, Marge\_8, ShortQueendom\_6, Trouble\_8, Homines\_8, TwoPeat\_9, DD5\_8, Monet\_8, Museum\_9, Pelly\_9, KBG\_8, Smeagol\_9, GrecoEtereo\_9, PhrostyMug\_7, Watermelon\_10, Tote\_10, JuliaChild\_10, Sanya\_7, Pepe\_9, Kanely\_9, Sunshine924\_7, Anglerfish\_8, Fushigi\_8, Mule\_7, HarryOW\_9, Acme\_9, PSullivan\_10, Lamina13\_8, Alsfro\_12, Aeneas\_9, Forsytheast\_7, Eyeball\_8, Smairt\_9, Moose\_7
- Track 3 : Mryolo\_7, Tripl3t\_9
- Track 4 : Rufus\_8, Kenmech\_9, Bruns\_6, Paraselene\_7, NEHalo\_8, Parliament\_7, Sumter\_7, MrGordo\_8, Lopton\_9, Briton15\_9, Fenn\_8, HanShotFirst\_8, Graduation\_9, PinkPlastic\_6, Rohr\_9, HermioneGrange\_9, Naira\_8, KSSJEB\_7, Espresso\_8, Tasp14\_9
- Track 5 : Pari\_9, Jerm2\_8, Petp2012\_10, Topgun\_8, Bob3\_7, Molly\_9, PherrisBueller\_9, Jorgensen\_8, Licorice\_10, Rutherferd\_9, Dreamboat\_9, Agaliana\_8, Bones\_8, Gompeii16\_8, PascalRango\_7, Burton\_8, Bircsak\_8, BPBiebs31\_9, Abrogate\_90, KyMonks1A\_10, Buttons\_8, Gyzlar\_9, BigMau\_9, Rhynn\_8, Michley\_8, Abbysshoes\_9, ConceptII\_8, Dussy\_9, Squee\_7, Arcanine\_8, Marsha\_8, ILeeKay\_10, Ichabod\_8, AFIS\_8, Wilkins\_8, Peterson\_10, Pinto\_10, Turj99\_7
- Track 6 : Euphoria\_8, Blue\_8, Jasper\_9, DreamCatcher\_9, Atkinbua\_8, RidgeCB\_8, Switzer\_8, Manatee\_8, SarFire\_8, Arlo\_7, A6\_06, Hope4ever\_8, Lesedi\_7, BaconJack\_9, U2\_7, BK1\_06, Thor\_8
- Track 7 : Seabiscuit\_9, Target\_9, Killigrew\_6, Dynamix\_8, McGuire\_8, BeesKnees\_8
- Track 8 : Dulcie\_7, PattyP\_9
- Track 9 : Paphu\_7, TheloniousMonk\_8
- Track 10 : Snazzy\_6
- Track 11 : Teodoridan\_6, Scowl\_9, Ajay\_8, MetalQZJ\_8, Lockley\_8, Corvo\_8, MaryBeth\_8, STLscum\_9, SkiPole\_10, Ohno789\_7, Marcell\_8, Bethlehem\_8

- Track 12 : Zeuska\_7, Wheeler\_8, Bigfoot\_7, Ruotula\_7
- Track 13 : Norz\_8
- Track 14 : Kugel\_9
- Track 15 : Froghopper\_9, Petruchio\_8
- Track 16 : Gwendoluna\_8
- Track 17 : Ringer\_7
- Track 18 : BluSpix\_8, IgnatiusPatJac\_7
- Track 19 : Crispicous1\_7
- Track 20 : Dexes\_9, Maroc7\_7
- Track 21 : Papez\_8
- Track 22 : Kykar\_6
- Track 23 : Solon\_7
- Track 24 : Cueylyss\_8
- Track 25 : Nerujay\_8
- Track 26 : Bxb1\_7, BigPaolini\_9
- Track 27 : Magnito\_7
- Track 28 : Sagefire\_9
- Track 29 : Traft412\_10
- Track 30 : Nhonho\_8

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

The start number called the most often in the published annotations is 4, it was called in 199 of the 200 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- A6\_06, AFIS\_8, Abbyshoes\_9, Abrogate\_90, Acme\_9, Adahisdi\_9, Aeneas\_9, Agaliana\_8, Ajay\_8, Alsfro\_12, Altman\_9, Alvin\_9, Anglerfish\_8, Applejack\_8, Arcanine\_8, Arlo\_7, Ashballer\_6, Atkinbua\_8, BK1\_06, BPBiebs31\_9, BaconJack\_9, Barriga\_8, Beatrix\_7, BeesKnees\_8, Bethlehem\_8, Bexan\_7, Big3\_8, BigMau\_9, BigPaolini\_9, Bigfoot\_7, BillKnuckles\_8, Bircsak\_8, BluSpix\_8, Blue\_8, Bob3\_7, Bones\_8, Briton15\_9, Bruns\_6, Burton\_8, Buttons\_8, Bxb1\_7, CactusRose\_7, Carlyle\_10, Chanagan\_7, Ciao\_8, Conceptll\_8, Corvo\_8, Crispicous1\_7, Cueylyss\_8, DD5\_8, Dexes\_9, Doom\_8, DrFeelGood\_7, DreamCatcher\_9, Dreamboat\_9, Dulcie\_7, Dussy\_9, Dynamix\_8, Edtherson\_8, Espresso\_8, Euphoria\_8, Eyeball\_8, Fajezeel\_9, Fascinus\_7, Fenn\_8, Forsytheast\_7, Francis47\_8, Froghopper\_9, Fushigi\_8, GageAP\_9, Gompeii16\_8, Graduation\_9, GrecoEtereo\_9, Greg\_9, Gyzlar\_9, Hami1\_8, HanShotFirst\_8, HarryOW\_9, Hermia\_9, HermioneGrange\_9, Homines\_8, Hope4ever\_8, ILeeKay\_10, Ichabod\_8, IgnatiusPatJac\_7, JC27\_9, JackSparrow\_8, Jasper\_9, Jerm2\_8, Jorgensen\_8, JuliaChild\_10, KBG\_8, KSSJEB\_7, Kanely\_9, Kenmech\_9, Killigrew\_6, Kugel\_9, KyMonks1A\_10, Kykar\_6, Lamina13\_8, Lesedi\_7, Licorice\_10, LilBib\_7, Lockley\_8, Lopton\_9, MPlant7149\_7, Magnar\_8, Magnito\_7, Makemake\_8, Manatee\_8, Marcell\_8, Marchy\_6, Marge\_8, Maroc7\_7, Marsha\_8, MaryBeth\_8, McGuire\_8, MetalQZJ\_8, Michley\_8, Molly\_9, Monet\_8, Moose\_7, MrGordo\_8, Mryolo\_7, Mule\_7, Museum\_9, NEHalo\_8, Naira\_8, Nerujay\_8, Nhonho\_8, Niza\_9, Norz\_8, Ohno789\_7, Oogway\_7, PSullivan\_10, PacerPaul\_8, Papez\_8, Paphu\_7, Paraselene\_7, Pari\_9, Parliament\_7, PascalRango\_7, PattyP\_9, Payneful\_7, Pelly\_9, Pepe\_9, Perseus\_9, Peterson\_10, Petp2012\_10, Petruchio\_8, PherrisBueller\_9, PhrostyMug\_7, PinkPlastic\_6, Pinto\_10, Pippin\_9, Pita2\_10, QTRlifeCrisis\_7, Rajelicia\_7, Rhynn\_8, RidgeCB\_8,

Ringer\_7, Rohr\_9, Rubeus\_8, Rufus\_8, Ruotula\_7, Rutherferd\_9, STLscum\_9, Sagefire\_9, Sandaddy\_7, Sanya\_7, SarFire\_8, Scowl\_9, Seabiscuit\_9, Seanderson\_9, ShortQueendom\_6, Sibs6\_9, SkiPole\_10, Slagathor\_8, Smairt\_9, Smeagol\_9, Snazzy\_6, Solon\_7, Sorpresa\_7, SpikeBT\_8, Squee\_7, StewieG\_7, StrongArm\_7, Sumter\_7, Sunshine924\_7, SwissCheese\_8, Switzer\_8, Swole\_10, Target\_9, Tasp14\_9, Teodoridan\_6, TheloniousMonk\_8, Thor\_8, Topgun\_8, Tote\_10, Treddle\_8, Tripl3t\_9, Trouble\_8, Turj99\_7, TwoPeat\_9, U2\_7, Violet\_7, Watermelon\_10, Wheeler\_8, Wilkins\_8, Zeeculate\_7, Zephyr\_8, Zeuska\_7,

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

- Gwendoluna\_8, Traft412\_10,

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

- 

### Summary by start number:

Start 4:

- Found in 214 of 214 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 199 of 200
- Called 99.1% of time when present
- Phage (with cluster) where this start called: A6\_06 (A1), AFIS\_8 (A1), Abbyshoes\_9 (A1), Abrogate\_90 (A1), Acme\_9 (A1), Adahisdi\_9 (A1), Aeneas\_9 (A1), Agaliana\_8 (A1), Ajay\_8 (A1), Alsfro\_12 (A1), Altman\_9 (A1), Alvin\_9 (A1), Anglerfish\_8 (A1), Applejack\_8 (A1), Arcanine\_8 (A1), Arlo\_7 (A1), Ashballer\_6 (A1), Atkinbua\_8 (A1), BK1\_06 (A1), BPBiobs31\_9 (A1), BaconJack\_9 (A1), Barriga\_8 (A1), Beatrix\_7 (A1), BeesKnees\_8 (A1), Bethlehem\_8 (A1), Bexan\_7 (A1), Big3\_8 (A1), BigMau\_9 (A1), BigPaolini\_9 (A1), Bigfoot\_7 (A1), BillKnuckles\_8 (A1), Bircsak\_8 (A1), BluSpix\_8 (A1), Blue\_8 (A1), Bob3\_7 (A1), Bones\_8 (A1), Briton15\_9 (A1), Bruns\_6 (A1), Burton\_8 (A1), Buttons\_8 (A1), Bxb1\_7 (A1), CactusRose\_7 (A1), Carlyle\_10 (A1), Chanagan\_7 (A1), Ciao\_8 (A1), Conceptll\_8 (A1), Corvo\_8 (A1), Crispicious1\_7 (A1), Cueyllyss\_8 (A1), DD5\_8 (A1), Dexes\_9 (A1), Doom\_8 (A1), DrFeelGood\_7 (A1), DreamCatcher\_9 (A1), Dreamboat\_9 (A1), Dulcie\_7 (A1), Dussy\_9 (A1), Dynamix\_8 (A1), Edtherson\_8 (A1), Espresso\_8 (A1), Euphoria\_8 (A1), Eyeball\_8 (A1), Fajezeel\_9 (A1), Fascinus\_7 (A1), Fenn\_8 (A1), Forsytheast\_7 (A1), Francis47\_8 (A1), Froghopper\_9 (A1), Fushigi\_8 (A1), GageAP\_9 (A1), Gompeii16\_8 (A1), Graduation\_9 (A1), GrecoEtereo\_9 (A1), Greg\_9 (A1), Gyzlar\_9 (A1), Hami1\_8 (A1), HanShotFirst\_8 (A1), HarryOW\_9 (A1), Hermia\_9 (A1), HermioneGrange\_9 (A1), Homines\_8 (A1), Hope4ever\_8 (A1), ILeeKay\_10 (A1), Ichabod\_8 (A1), IgnatiusPatJac\_7 (A1), JC27\_9 (A1), JackSparrow\_8 (A1), Jasper\_9 (A1), Jerm2\_8 (A1), Jorgensen\_8 (A1), JuliaChild\_10 (A1), KBG\_8 (A1), KSSJEB\_7 (A1), Kanely\_9 (A1), Kenmech\_9 (A1), Killigrew\_6 (A1), Kugel\_9 (A1), KyMonks1A\_10 (A1), Kykar\_6 (A1), Lamina13\_8 (A1), Lesedi\_7 (A1), Licorice\_10 (A1), LilBib\_7 (A1), Lockley\_8 (A1), Lopton\_9 (A1), MPlant7149\_7 (A1), Magnar\_8 (A1), Magnito\_7 (A1), Makemake\_8 (A1), Manatee\_8 (A1), Marcell\_8 (A1), Marchy\_6 (A1), Marge\_8 (A1), Maroc7\_7 (A1), Marsha\_8 (A1), MaryBeth\_8 (A1), McGuire\_8 (A1), MetalQZJ\_8 (A1), Michley\_8 (A1), Molly\_9 (A1), Monet\_8 (A1), Moose\_7 (A1), MrGordo\_8 (A1), Mryolo\_7 (A1), Mule\_7 (A1), Museum\_9 (A1), NEHalo\_8 (A1), Naira\_8 (A1), Nerujay\_8 (A1), Nhonho\_8 (A1), Niza\_9 (A1), Norz\_8 (A1), Ohno789\_7 (A1), Oogway\_7 (A1), PSullivan\_10 (A1), PacerPaul\_8 (A1), Papez\_8 (A1), Paphu\_7 (A1), Paraselene\_7 (A1), Pari\_9 (A1), Parliament\_7 (A1), PascalRango\_7 (A1), PattyP\_9 (A1), Payneful\_7 (A1), Pelly\_9 (A1), Pepe\_9 (A1), Perseus\_9 (A1), Peterson\_10 (A1), Petp2012\_10 (A1), Petruchio\_8 (A1), PherrisBueller\_9 (A1), PhrostyMug\_7 (A1),

PinkPlastic\_6 (A1), Pinto\_10 (A1), Pippin\_9 (A1), Pita2\_10 (A1), QTRlifeCrisis\_7 (A1), Rajelicia\_7 (A1), Rhynn\_8 (A1), RidgeCB\_8 (A1), Ringer\_7 (A1), Rohr\_9 (A1), Rubeus\_8 (A1), Rufus\_8 (A1), Ruotula\_7 (A1), Rutherferd\_9 (A1), STLscum\_9 (A1), Sagefire\_9 (A1), Sandaddy\_7 (A1), Sanya\_7 (A1), SarFire\_8 (A1), Scowl\_9 (A1), Seabiscuit\_9 (A1), Seanderson\_9 (A1), ShortQueendom\_6 (A1), Sibs6\_9 (A1), SkiPole\_10 (A1), Slagathor\_8 (A1), Smairt\_9 (A1), Smeagol\_9 (A1), Snazzy\_6 (A1), Solon\_7 (A1), Sorpresa\_7 (A1), SpikeBT\_8 (A1), Squee\_7 (A1), StewieG\_7 (A1), StrongArm\_7 (A1), Sumter\_7 (A1), Sunshine924\_7 (A1), SwissCheese\_8 (A1), Switzer\_8 (A1), Swole\_10 (A1), Target\_9 (A1), Tasp14\_9 (A1), Teodoridan\_6 (A1), TheloniousMonk\_8 (A1), Thor\_8 (A1), Topgun\_8 (A1), Tote\_10 (A1), Treddle\_8 (A1), Tripl3t\_9 (A1), Trouble\_8 (A1), Turj99\_7 (A1), TwoPeat\_9 (A1), U2\_7 (A1), Violet\_7 (A1), Watermelon\_10 (A1), Wheeler\_8 (A1), Wilkins\_8 (A1), Zeeculate\_7 (A1), Zephyr\_8 (A1), Zeuska\_7 (A1),

Start 5:

- Found in 214 of 214 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 1 of 200
- Called 0.9% of time when present
- Phage (with cluster) where this start called: Gwendoluna\_8 (A1), Traft412\_10 (A1),

### Summary by clusters:

There is one cluster represented in this pham: A1

Info for manual annotations of cluster A1:

- Start number 4 was manually annotated 199 times for cluster A1.
- Start number 5 was manually annotated 1 time for cluster A1.

### Gene Information:

Gene: A6\_06 Start: 3913, Stop: 4170, Start Num: 4

Candidate Starts for A6\_06:

(Start: 4 @3913 has 199 MA's), (Start: 5 @3931 has 1 MA's), (6, 3949), (7, 3991), (8, 4000), (9, 4024), (13, 4117),

Gene: AFIS\_8 Start: 4271, Stop: 4528, Start Num: 4

Candidate Starts for AFIS\_8:

(Start: 4 @4271 has 199 MA's), (Start: 5 @4289 has 1 MA's), (6, 4307), (9, 4382), (13, 4475),

Gene: Abbyshoes\_9 Start: 4360, Stop: 4617, Start Num: 4

Candidate Starts for Abbyshoes\_9:

(Start: 4 @4360 has 199 MA's), (Start: 5 @4378 has 1 MA's), (6, 4396), (9, 4471), (13, 4564),

Gene: Abrogate\_90 Start: 4995, Stop: 5252, Start Num: 4

Candidate Starts for Abrogate\_90:

(Start: 4 @4995 has 199 MA's), (Start: 5 @5013 has 1 MA's), (6, 5031), (9, 5106), (13, 5199),

Gene: Acme\_9 Start: 4184, Stop: 4441, Start Num: 4

Candidate Starts for Acme\_9:

(Start: 4 @4184 has 199 MA's), (Start: 5 @4202 has 1 MA's), (6, 4220), (7, 4262), (9, 4295), (13, 4388),

Gene: Adahisdi\_9 Start: 4578, Stop: 4835, Start Num: 4

Candidate Starts for Adahisdi\_9:

(Start: 4 @4578 has 199 MA's), (Start: 5 @4596 has 1 MA's), (6, 4614), (7, 4656), (13, 4782),

Gene: Aeneas\_9 Start: 4463, Stop: 4720, Start Num: 4

Candidate Starts for Aeneas\_9:

(Start: 4 @4463 has 199 MA's), (Start: 5 @4481 has 1 MA's), (6, 4499), (7, 4541), (9, 4574), (13, 4667),

Gene: Agaliana\_8 Start: 4387, Stop: 4644, Start Num: 4

Candidate Starts for Agaliana\_8:

(Start: 4 @4387 has 199 MA's), (Start: 5 @4405 has 1 MA's), (6, 4423), (9, 4498), (13, 4591),

Gene: Ajay\_8 Start: 4404, Stop: 4661, Start Num: 4

Candidate Starts for Ajay\_8:

(Start: 4 @4404 has 199 MA's), (Start: 5 @4422 has 1 MA's), (6, 4440), (13, 4608),

Gene: Alsfro\_12 Start: 5088, Stop: 5345, Start Num: 4

Candidate Starts for Alsfro\_12:

(Start: 4 @5088 has 199 MA's), (Start: 5 @5106 has 1 MA's), (6, 5124), (7, 5166), (9, 5199), (13, 5292),

Gene: Altman\_9 Start: 4921, Stop: 5178, Start Num: 4

Candidate Starts for Altman\_9:

(Start: 4 @4921 has 199 MA's), (Start: 5 @4939 has 1 MA's), (6, 4957), (7, 4999), (9, 5032), (13, 5125),

Gene: Alvin\_9 Start: 4615, Stop: 4872, Start Num: 4

Candidate Starts for Alvin\_9:

(Start: 4 @4615 has 199 MA's), (Start: 5 @4633 has 1 MA's), (6, 4651), (7, 4693), (9, 4726), (13, 4819),

Gene: Anglerfish\_8 Start: 3955, Stop: 4212, Start Num: 4

Candidate Starts for Anglerfish\_8:

(Start: 4 @3955 has 199 MA's), (Start: 5 @3973 has 1 MA's), (6, 3991), (7, 4033), (9, 4066), (13, 4159),

Gene: Applejack\_8 Start: 4321, Stop: 4578, Start Num: 4

Candidate Starts for Applejack\_8:

(Start: 4 @4321 has 199 MA's), (Start: 5 @4339 has 1 MA's), (6, 4357), (7, 4399), (9, 4432), (13, 4525),

Gene: Arcanine\_8 Start: 3921, Stop: 4178, Start Num: 4

Candidate Starts for Arcanine\_8:

(Start: 4 @3921 has 199 MA's), (Start: 5 @3939 has 1 MA's), (6, 3957), (9, 4032), (13, 4125),

Gene: Arlo\_7 Start: 3946, Stop: 4203, Start Num: 4

Candidate Starts for Arlo\_7:

(Start: 4 @3946 has 199 MA's), (Start: 5 @3964 has 1 MA's), (6, 3982), (7, 4024), (8, 4033), (9, 4057), (13, 4150),

Gene: Ashballer\_6 Start: 3824, Stop: 4081, Start Num: 4

Candidate Starts for Ashballer\_6:

(Start: 4 @3824 has 199 MA's), (Start: 5 @3842 has 1 MA's), (6, 3860), (7, 3902), (13, 4028),

Gene: Atkinbua\_8 Start: 3968, Stop: 4225, Start Num: 4

Candidate Starts for Atkinbua\_8:

(Start: 4 @3968 has 199 MA's), (Start: 5 @3986 has 1 MA's), (6, 4004), (7, 4046), (8, 4055), (9, 4079), (13, 4172),

Gene: BK1\_06 Start: 3913, Stop: 4170, Start Num: 4

Candidate Starts for BK1\_06:

(Start: 4 @3913 has 199 MA's), (Start: 5 @3931 has 1 MA's), (6, 3949), (7, 3991), (8, 4000), (9, 4024), (13, 4117),

Gene: BPBiebs31\_9 Start: 4585, Stop: 4842, Start Num: 4

Candidate Starts for BPBiebs31\_9:

(Start: 4 @4585 has 199 MA's), (Start: 5 @4603 has 1 MA's), (6, 4621), (9, 4696), (13, 4789),

Gene: BaconJack\_9 Start: 4169, Stop: 4426, Start Num: 4

Candidate Starts for BaconJack\_9:

(Start: 4 @4169 has 199 MA's), (Start: 5 @4187 has 1 MA's), (6, 4205), (7, 4247), (8, 4256), (9, 4280), (13, 4373),

Gene: Barriga\_8 Start: 4201, Stop: 4458, Start Num: 4

Candidate Starts for Barriga\_8:

(Start: 4 @4201 has 199 MA's), (Start: 5 @4219 has 1 MA's), (6, 4237), (7, 4279), (13, 4405),

Gene: Beatrix\_7 Start: 4006, Stop: 4263, Start Num: 4

Candidate Starts for Beatrix\_7:

(Start: 4 @4006 has 199 MA's), (Start: 5 @4024 has 1 MA's), (6, 4042), (7, 4084), (13, 4210),

Gene: BeesKnees\_8 Start: 4050, Stop: 4307, Start Num: 4

Candidate Starts for BeesKnees\_8:

(Start: 4 @4050 has 199 MA's), (Start: 5 @4068 has 1 MA's), (6, 4086), (7, 4128), (9, 4161),

Gene: Bethlehem\_8 Start: 4592, Stop: 4849, Start Num: 4

Candidate Starts for Bethlehem\_8:

(Start: 4 @4592 has 199 MA's), (Start: 5 @4610 has 1 MA's), (6, 4628), (13, 4796),

Gene: Bexan\_7 Start: 4006, Stop: 4263, Start Num: 4

Candidate Starts for Bexan\_7:

(Start: 4 @4006 has 199 MA's), (Start: 5 @4024 has 1 MA's), (6, 4042), (7, 4084), (13, 4210),

Gene: Big3\_8 Start: 3949, Stop: 4206, Start Num: 4

Candidate Starts for Big3\_8:

(Start: 4 @3949 has 199 MA's), (Start: 5 @3967 has 1 MA's), (6, 3985), (7, 4027), (13, 4153),

Gene: BigMau\_9 Start: 4053, Stop: 4310, Start Num: 4

Candidate Starts for BigMau\_9:

(Start: 4 @4053 has 199 MA's), (Start: 5 @4071 has 1 MA's), (6, 4089), (9, 4164), (13, 4257),

Gene: BigPaolini\_9 Start: 4978, Stop: 5235, Start Num: 4

Candidate Starts for BigPaolini\_9:

(Start: 4 @4978 has 199 MA's), (Start: 5 @4996 has 1 MA's), (6, 5014), (7, 5056), (9, 5089), (12, 5170), (13, 5182),

Gene: Bigfoot\_7 Start: 4077, Stop: 4334, Start Num: 4

Candidate Starts for Bigfoot\_7:

(Start: 4 @4077 has 199 MA's), (Start: 5 @4095 has 1 MA's), (6, 4113), (7, 4155), (9, 4188), (10, 4221), (13, 4281),

Gene: BillKnuckles\_8 Start: 4452, Stop: 4709, Start Num: 4

Candidate Starts for BillKnuckles\_8:

(Start: 4 @4452 has 199 MA's), (Start: 5 @4470 has 1 MA's), (6, 4488), (7, 4530), (13, 4656),

Gene: Bircsak\_8 Start: 4538, Stop: 4795, Start Num: 4

Candidate Starts for Bircsak\_8:

(Start: 4 @4538 has 199 MA's), (Start: 5 @4556 has 1 MA's), (6, 4574), (9, 4649), (13, 4742),

Gene: BluSpix\_8 Start: 4337, Stop: 4594, Start Num: 4

Candidate Starts for BluSpix\_8:

(Start: 4 @4337 has 199 MA's), (Start: 5 @4355 has 1 MA's), (6, 4373), (9, 4448), (10, 4481), (13, 4541),

Gene: Blue\_8 Start: 4446, Stop: 4703, Start Num: 4

Candidate Starts for Blue\_8:

(Start: 4 @4446 has 199 MA's), (Start: 5 @4464 has 1 MA's), (6, 4482), (7, 4524), (8, 4533), (9, 4557), (13, 4650),

Gene: Bob3\_7 Start: 3893, Stop: 4150, Start Num: 4

Candidate Starts for Bob3\_7:

(Start: 4 @3893 has 199 MA's), (Start: 5 @3911 has 1 MA's), (6, 3929), (9, 4004), (13, 4097),

Gene: Bones\_8 Start: 4088, Stop: 4345, Start Num: 4

Candidate Starts for Bones\_8:

(Start: 4 @4088 has 199 MA's), (Start: 5 @4106 has 1 MA's), (6, 4124), (9, 4199), (13, 4292),

Gene: Briton15\_9 Start: 4104, Stop: 4361, Start Num: 4

Candidate Starts for Briton15\_9:

(Start: 4 @4104 has 199 MA's), (Start: 5 @4122 has 1 MA's), (6, 4140), (8, 4191), (9, 4215), (13, 4308),

Gene: Bruns\_6 Start: 3756, Stop: 4013, Start Num: 4

Candidate Starts for Bruns\_6:

(Start: 4 @3756 has 199 MA's), (Start: 5 @3774 has 1 MA's), (6, 3792), (8, 3843), (9, 3867), (13, 3960),

Gene: Burton\_8 Start: 3954, Stop: 4211, Start Num: 4

Candidate Starts for Burton\_8:

(Start: 4 @3954 has 199 MA's), (Start: 5 @3972 has 1 MA's), (6, 3990), (9, 4065), (13, 4158),

Gene: Buttons\_8 Start: 3963, Stop: 4220, Start Num: 4

Candidate Starts for Buttons\_8:

(Start: 4 @3963 has 199 MA's), (Start: 5 @3981 has 1 MA's), (6, 3999), (9, 4074), (13, 4167),

Gene: Bxb1\_7 Start: 4363, Stop: 4620, Start Num: 4



Candidate Starts for Bxb1\_7:

(Start: 4 @4363 has 199 MA's), (Start: 5 @4381 has 1 MA's), (6, 4399), (7, 4441), (9, 4474), (12, 4555), (13, 4567),

Gene: CactusRose\_7 Start: 4076, Stop: 4333, Start Num: 4

Candidate Starts for CactusRose\_7:

(Start: 4 @4076 has 199 MA's), (Start: 5 @4094 has 1 MA's), (6, 4112), (7, 4154), (13, 4280),

Gene: Carlyle\_10 Start: 4926, Stop: 5183, Start Num: 4

Candidate Starts for Carlyle\_10:

(Start: 4 @4926 has 199 MA's), (Start: 5 @4944 has 1 MA's), (6, 4962), (7, 5004), (13, 5130),

Gene: Chanagan\_7 Start: 3920, Stop: 4177, Start Num: 4

Candidate Starts for Chanagan\_7:

(Start: 4 @3920 has 199 MA's), (Start: 5 @3938 has 1 MA's), (6, 3956), (7, 3998), (13, 4124),

Gene: Ciao\_8 Start: 4308, Stop: 4565, Start Num: 4

Candidate Starts for Ciao\_8:

(Start: 4 @4308 has 199 MA's), (Start: 5 @4326 has 1 MA's), (6, 4344), (7, 4386), (13, 4512),

Gene: ConceptII\_8 Start: 4557, Stop: 4814, Start Num: 4

Candidate Starts for ConceptII\_8:

(Start: 4 @4557 has 199 MA's), (Start: 5 @4575 has 1 MA's), (6, 4593), (9, 4668), (13, 4761),

Gene: Corvo\_8 Start: 4503, Stop: 4760, Start Num: 4

Candidate Starts for Corvo\_8:

(Start: 4 @4503 has 199 MA's), (Start: 5 @4521 has 1 MA's), (6, 4539), (13, 4707),

Gene: Crispicous1\_7 Start: 3785, Stop: 4042, Start Num: 4

Candidate Starts for Crispicous1\_7:

(Start: 4 @3785 has 199 MA's), (Start: 5 @3803 has 1 MA's), (6, 3821), (7, 3863), (10, 3929), (11, 3956), (13, 3989),

Gene: Cueyllyss\_8 Start: 4454, Stop: 4711, Start Num: 4

Candidate Starts for Cueyllyss\_8:

(Start: 4 @4454 has 199 MA's), (Start: 5 @4472 has 1 MA's), (6, 4490), (9, 4565), (11, 4625), (13, 4658),

Gene: DD5\_8 Start: 4494, Stop: 4751, Start Num: 4

Candidate Starts for DD5\_8:

(Start: 4 @4494 has 199 MA's), (Start: 5 @4512 has 1 MA's), (6, 4530), (7, 4572), (9, 4605), (13, 4698),

Gene: Dexes\_9 Start: 4941, Stop: 5198, Start Num: 4

Candidate Starts for Dexes\_9:

(Start: 4 @4941 has 199 MA's), (Start: 5 @4959 has 1 MA's), (6, 4977), (7, 5019), (8, 5028), (13, 5145),

Gene: Doom\_8 Start: 4579, Stop: 4836, Start Num: 4

Candidate Starts for Doom\_8:

(Start: 4 @4579 has 199 MA's), (Start: 5 @4597 has 1 MA's), (6, 4615), (7, 4657), (9, 4690), (13, 4783),

Gene: DrFeelGood\_7 Start: 4103, Stop: 4360, Start Num: 4

Candidate Starts for DrFeelGood\_7:

(Start: 4 @4103 has 199 MA's), (Start: 5 @4121 has 1 MA's), (6, 4139), (7, 4181), (9, 4214), (13, 4307),

Gene: DreamCatcher\_9 Start: 4697, Stop: 4954, Start Num: 4

Candidate Starts for DreamCatcher\_9:

(Start: 4 @4697 has 199 MA's), (Start: 5 @4715 has 1 MA's), (6, 4733), (7, 4775), (8, 4784), (9, 4808), (13, 4901),

Gene: Dreamboat\_9 Start: 4195, Stop: 4452, Start Num: 4

Candidate Starts for Dreamboat\_9:

(Start: 4 @4195 has 199 MA's), (Start: 5 @4213 has 1 MA's), (6, 4231), (9, 4306), (13, 4399),

Gene: Dulcie\_7 Start: 3999, Stop: 4256, Start Num: 4

Candidate Starts for Dulcie\_7:

(Start: 4 @3999 has 199 MA's), (Start: 5 @4017 has 1 MA's), (6, 4035), (8, 4086), (13, 4203),

Gene: Dussy\_9 Start: 4360, Stop: 4617, Start Num: 4

Candidate Starts for Dussy\_9:

(Start: 4 @4360 has 199 MA's), (Start: 5 @4378 has 1 MA's), (6, 4396), (9, 4471), (13, 4564),

Gene: Dynamix\_8 Start: 4052, Stop: 4309, Start Num: 4

Candidate Starts for Dynamix\_8:

(Start: 4 @4052 has 199 MA's), (Start: 5 @4070 has 1 MA's), (6, 4088), (7, 4130), (9, 4163),

Gene: Edtherson\_8 Start: 4273, Stop: 4530, Start Num: 4

Candidate Starts for Edtherson\_8:

(Start: 4 @4273 has 199 MA's), (Start: 5 @4291 has 1 MA's), (6, 4309), (7, 4351), (13, 4477),

Gene: Espresso\_8 Start: 4432, Stop: 4689, Start Num: 4

Candidate Starts for Espresso\_8:

(Start: 4 @4432 has 199 MA's), (Start: 5 @4450 has 1 MA's), (6, 4468), (8, 4519), (9, 4543), (13, 4636),

Gene: Euphoria\_8 Start: 4330, Stop: 4587, Start Num: 4

Candidate Starts for Euphoria\_8:

(Start: 4 @4330 has 199 MA's), (Start: 5 @4348 has 1 MA's), (6, 4366), (7, 4408), (8, 4417), (9, 4441), (13, 4534),

Gene: Eyeball\_8 Start: 4096, Stop: 4353, Start Num: 4

Candidate Starts for Eyeball\_8:

(Start: 4 @4096 has 199 MA's), (Start: 5 @4114 has 1 MA's), (6, 4132), (7, 4174), (9, 4207), (13, 4300),

Gene: Fajezeel\_9 Start: 4152, Stop: 4409, Start Num: 4

Candidate Starts for Fajezeel\_9:

(Start: 4 @4152 has 199 MA's), (Start: 5 @4170 has 1 MA's), (6, 4188), (7, 4230), (13, 4356),

Gene: Fascinus\_7 Start: 4078, Stop: 4335, Start Num: 4

Candidate Starts for Fascinus\_7:

(Start: 4 @4078 has 199 MA's), (Start: 5 @4096 has 1 MA's), (6, 4114), (7, 4156), (13, 4282),

Gene: Fenn\_8 Start: 4282, Stop: 4539, Start Num: 4  
Candidate Starts for Fenn\_8:  
(Start: 4 @4282 has 199 MA's), (Start: 5 @4300 has 1 MA's), (6, 4318), (8, 4369), (9, 4393), (13, 4486),

Gene: Forsytheast\_7 Start: 4342, Stop: 4599, Start Num: 4  
Candidate Starts for Forsytheast\_7:  
(Start: 4 @4342 has 199 MA's), (Start: 5 @4360 has 1 MA's), (6, 4378), (7, 4420), (9, 4453), (13, 4546),

Gene: Francis47\_8 Start: 4600, Stop: 4857, Start Num: 4  
Candidate Starts for Francis47\_8:  
(Start: 4 @4600 has 199 MA's), (Start: 5 @4618 has 1 MA's), (6, 4636), (7, 4678), (13, 4804),

Gene: Froghopper\_9 Start: 4021, Stop: 4278, Start Num: 4  
Candidate Starts for Froghopper\_9:  
(Start: 4 @4021 has 199 MA's), (Start: 5 @4039 has 1 MA's), (6, 4057), (11, 4192), (13, 4225),

Gene: Fushigi\_8 Start: 4241, Stop: 4498, Start Num: 4  
Candidate Starts for Fushigi\_8:  
(Start: 4 @4241 has 199 MA's), (Start: 5 @4259 has 1 MA's), (6, 4277), (7, 4319), (9, 4352), (13, 4445),

Gene: GageAP\_9 Start: 4566, Stop: 4823, Start Num: 4  
Candidate Starts for GageAP\_9:  
(Start: 4 @4566 has 199 MA's), (Start: 5 @4584 has 1 MA's), (6, 4602), (7, 4644), (9, 4677), (13, 4770),

Gene: Gompeii16\_8 Start: 4539, Stop: 4796, Start Num: 4  
Candidate Starts for Gompeii16\_8:  
(Start: 4 @4539 has 199 MA's), (Start: 5 @4557 has 1 MA's), (6, 4575), (9, 4650), (13, 4743),

Gene: Graduation\_9 Start: 4559, Stop: 4816, Start Num: 4  
Candidate Starts for Graduation\_9:  
(Start: 4 @4559 has 199 MA's), (Start: 5 @4577 has 1 MA's), (6, 4595), (8, 4646), (9, 4670), (13, 4763),

Gene: GrecoEtereo\_9 Start: 4645, Stop: 4902, Start Num: 4  
Candidate Starts for GrecoEtereo\_9:  
(Start: 4 @4645 has 199 MA's), (Start: 5 @4663 has 1 MA's), (6, 4681), (7, 4723), (9, 4756), (13, 4849),

Gene: Greg\_9 Start: 4152, Stop: 4409, Start Num: 4  
Candidate Starts for Greg\_9:  
(Start: 4 @4152 has 199 MA's), (Start: 5 @4170 has 1 MA's), (6, 4188), (7, 4230), (13, 4356),

Gene: Gwendoluna\_8 Start: 4461, Stop: 4700, Start Num: 5  
Candidate Starts for Gwendoluna\_8:  
(Start: 4 @4443 has 199 MA's), (Start: 5 @4461 has 1 MA's), (6, 4479), (7, 4521), (9, 4554), (13, 4647),

Gene: Gyzlar\_9 Start: 4780, Stop: 5037, Start Num: 4  
Candidate Starts for Gyzlar\_9:

(Start: 4 @4780 has 199 MA's), (Start: 5 @4798 has 1 MA's), (6, 4816), (9, 4891), (13, 4984),

Gene: Hami1\_8 Start: 4340, Stop: 4597, Start Num: 4

Candidate Starts for Hami1\_8:

(Start: 4 @4340 has 199 MA's), (Start: 5 @4358 has 1 MA's), (6, 4376), (7, 4418), (9, 4451), (13, 4544),

Gene: HanShotFirst\_8 Start: 3945, Stop: 4202, Start Num: 4

Candidate Starts for HanShotFirst\_8:

(Start: 4 @3945 has 199 MA's), (Start: 5 @3963 has 1 MA's), (6, 3981), (8, 4032), (9, 4056), (13, 4149),

Gene: HarryOW\_9 Start: 4645, Stop: 4902, Start Num: 4

Candidate Starts for HarryOW\_9:

(Start: 4 @4645 has 199 MA's), (Start: 5 @4663 has 1 MA's), (6, 4681), (7, 4723), (9, 4756), (13, 4849),

Gene: Hermia\_9 Start: 4526, Stop: 4783, Start Num: 4

Candidate Starts for Hermia\_9:

(Start: 4 @4526 has 199 MA's), (Start: 5 @4544 has 1 MA's), (6, 4562), (7, 4604), (13, 4730),

Gene: HermioneGrange\_9 Start: 4054, Stop: 4311, Start Num: 4

Candidate Starts for HermioneGrange\_9:

(Start: 4 @4054 has 199 MA's), (Start: 5 @4072 has 1 MA's), (6, 4090), (8, 4141), (9, 4165), (13, 4258),

Gene: Homines\_8 Start: 4358, Stop: 4615, Start Num: 4

Candidate Starts for Homines\_8:

(Start: 4 @4358 has 199 MA's), (Start: 5 @4376 has 1 MA's), (6, 4394), (7, 4436), (9, 4469), (13, 4562),

Gene: Hope4ever\_8 Start: 4460, Stop: 4717, Start Num: 4

Candidate Starts for Hope4ever\_8:

(Start: 4 @4460 has 199 MA's), (Start: 5 @4478 has 1 MA's), (6, 4496), (7, 4538), (8, 4547), (9, 4571), (13, 4664),

Gene: ILeeKay\_10 Start: 4533, Stop: 4790, Start Num: 4

Candidate Starts for ILeeKay\_10:

(Start: 4 @4533 has 199 MA's), (Start: 5 @4551 has 1 MA's), (6, 4569), (9, 4644), (13, 4737),

Gene: Ichabod\_8 Start: 4069, Stop: 4326, Start Num: 4

Candidate Starts for Ichabod\_8:

(Start: 4 @4069 has 199 MA's), (Start: 5 @4087 has 1 MA's), (6, 4105), (9, 4180), (13, 4273),

Gene: IgnatiusPatJac\_7 Start: 4338, Stop: 4595, Start Num: 4

Candidate Starts for IgnatiusPatJac\_7:

(Start: 4 @4338 has 199 MA's), (Start: 5 @4356 has 1 MA's), (6, 4374), (9, 4449), (10, 4482), (13, 4542),

Gene: JC27\_9 Start: 4767, Stop: 5024, Start Num: 4

Candidate Starts for JC27\_9:

(Start: 4 @4767 has 199 MA's), (Start: 5 @4785 has 1 MA's), (6, 4803), (7, 4845), (13, 4971),

Gene: JackSparrow\_8 Start: 4334, Stop: 4591, Start Num: 4

Candidate Starts for JackSparrow\_8:

(Start: 4 @4334 has 199 MA's), (Start: 5 @4352 has 1 MA's), (6, 4370), (7, 4412), (9, 4445), (13, 4538),

Gene: Jasper\_9 Start: 4177, Stop: 4434, Start Num: 4

Candidate Starts for Jasper\_9:

(Start: 4 @4177 has 199 MA's), (Start: 5 @4195 has 1 MA's), (6, 4213), (7, 4255), (8, 4264), (9, 4288), (13, 4381),

Gene: Jerm2\_8 Start: 4053, Stop: 4310, Start Num: 4

Candidate Starts for Jerm2\_8:

(Start: 4 @4053 has 199 MA's), (Start: 5 @4071 has 1 MA's), (6, 4089), (9, 4164), (13, 4257),

Gene: Jorgensen\_8 Start: 4100, Stop: 4357, Start Num: 4

Candidate Starts for Jorgensen\_8:

(Start: 4 @4100 has 199 MA's), (Start: 5 @4118 has 1 MA's), (6, 4136), (9, 4211), (13, 4304),

Gene: JuliaChild\_10 Start: 4811, Stop: 5068, Start Num: 4

Candidate Starts for JuliaChild\_10:

(Start: 4 @4811 has 199 MA's), (Start: 5 @4829 has 1 MA's), (6, 4847), (7, 4889), (9, 4922), (13, 5015),

Gene: KBG\_8 Start: 4702, Stop: 4959, Start Num: 4

Candidate Starts for KBG\_8:

(Start: 4 @4702 has 199 MA's), (Start: 5 @4720 has 1 MA's), (6, 4738), (7, 4780), (9, 4813), (13, 4906),

Gene: KSSJEB\_7 Start: 3811, Stop: 4068, Start Num: 4

Candidate Starts for KSSJEB\_7:

(Start: 4 @3811 has 199 MA's), (Start: 5 @3829 has 1 MA's), (6, 3847), (8, 3898), (9, 3922), (13, 4015),

Gene: Kanely\_9 Start: 4921, Stop: 5178, Start Num: 4

Candidate Starts for Kanely\_9:

(Start: 4 @4921 has 199 MA's), (Start: 5 @4939 has 1 MA's), (6, 4957), (7, 4999), (9, 5032), (13, 5125),

Gene: Kenmech\_9 Start: 4360, Stop: 4617, Start Num: 4

Candidate Starts for Kenmech\_9:

(Start: 4 @4360 has 199 MA's), (Start: 5 @4378 has 1 MA's), (6, 4396), (8, 4447), (9, 4471), (13, 4564),

Gene: Killigrew\_6 Start: 3786, Stop: 4043, Start Num: 4

Candidate Starts for Killigrew\_6:

(Start: 4 @3786 has 199 MA's), (Start: 5 @3804 has 1 MA's), (6, 3822), (7, 3864), (9, 3897),

Gene: Kugel\_9 Start: 4399, Stop: 4656, Start Num: 4

Candidate Starts for Kugel\_9:

(3, 4360), (Start: 4 @4399 has 199 MA's), (Start: 5 @4417 has 1 MA's), (6, 4435), (7, 4477), (13, 4603), (14, 4624),

Gene: KyMonks1A\_10 Start: 4655, Stop: 4912, Start Num: 4

Candidate Starts for KyMonks1A\_10:

(Start: 4 @4655 has 199 MA's), (Start: 5 @4673 has 1 MA's), (6, 4691), (9, 4766), (13, 4859),

Gene: Kykar\_6 Start: 3875, Stop: 4132, Start Num: 4

Candidate Starts for Kykar\_6:

(Start: 4 @3875 has 199 MA's), (Start: 5 @3893 has 1 MA's), (6, 3911), (10, 4019), (11, 4046), (13, 4079),

Gene: Lamina13\_8 Start: 3931, Stop: 4188, Start Num: 4

Candidate Starts for Lamina13\_8:

(Start: 4 @3931 has 199 MA's), (Start: 5 @3949 has 1 MA's), (6, 3967), (7, 4009), (9, 4042), (13, 4135),

Gene: Lesedi\_7 Start: 4090, Stop: 4347, Start Num: 4

Candidate Starts for Lesedi\_7:

(Start: 4 @4090 has 199 MA's), (Start: 5 @4108 has 1 MA's), (6, 4126), (7, 4168), (8, 4177), (9, 4201), (13, 4294),

Gene: Licorice\_10 Start: 4949, Stop: 5206, Start Num: 4

Candidate Starts for Licorice\_10:

(Start: 4 @4949 has 199 MA's), (Start: 5 @4967 has 1 MA's), (6, 4985), (9, 5060), (13, 5153),

Gene: LilBib\_7 Start: 4124, Stop: 4381, Start Num: 4

Candidate Starts for LilBib\_7:

(Start: 4 @4124 has 199 MA's), (Start: 5 @4142 has 1 MA's), (6, 4160), (7, 4202), (13, 4328),

Gene: Lockley\_8 Start: 4271, Stop: 4528, Start Num: 4

Candidate Starts for Lockley\_8:

(Start: 4 @4271 has 199 MA's), (Start: 5 @4289 has 1 MA's), (6, 4307), (13, 4475),

Gene: Lopton\_9 Start: 4676, Stop: 4933, Start Num: 4

Candidate Starts for Lopton\_9:

(Start: 4 @4676 has 199 MA's), (Start: 5 @4694 has 1 MA's), (6, 4712), (8, 4763), (9, 4787), (13, 4880),

Gene: MPlant7149\_7 Start: 3909, Stop: 4166, Start Num: 4

Candidate Starts for MPlant7149\_7:

(Start: 4 @3909 has 199 MA's), (Start: 5 @3927 has 1 MA's), (6, 3945), (7, 3987), (13, 4113),

Gene: Magnar\_8 Start: 4061, Stop: 4318, Start Num: 4

Candidate Starts for Magnar\_8:

(Start: 4 @4061 has 199 MA's), (Start: 5 @4079 has 1 MA's), (6, 4097), (7, 4139), (13, 4265),

Gene: Magnito\_7 Start: 3806, Stop: 4063, Start Num: 4

Candidate Starts for Magnito\_7:

(Start: 4 @3806 has 199 MA's), (Start: 5 @3824 has 1 MA's), (6, 3842), (7, 3884), (10, 3950), (13, 4010),

Gene: Makemake\_8 Start: 4516, Stop: 4773, Start Num: 4

Candidate Starts for Makemake\_8:

(Start: 4 @4516 has 199 MA's), (Start: 5 @4534 has 1 MA's), (6, 4552), (7, 4594), (13, 4720),

Gene: Manatee\_8 Start: 4005, Stop: 4262, Start Num: 4

Candidate Starts for Manatee\_8:

(Start: 4 @4005 has 199 MA's), (Start: 5 @4023 has 1 MA's), (6, 4041), (7, 4083), (8, 4092), (9, 4116), (13, 4209),

Gene: Marcell\_8 Start: 4266, Stop: 4523, Start Num: 4

Candidate Starts for Marcell\_8:

(Start: 4 @4266 has 199 MA's), (Start: 5 @4284 has 1 MA's), (6, 4302), (13, 4470),

Gene: Marchy\_6 Start: 3893, Stop: 4150, Start Num: 4

Candidate Starts for Marchy\_6:

(Start: 4 @3893 has 199 MA's), (Start: 5 @3911 has 1 MA's), (6, 3929), (7, 3971), (9, 4004), (13, 4097),

Gene: Marge\_8 Start: 4287, Stop: 4544, Start Num: 4

Candidate Starts for Marge\_8:

(Start: 4 @4287 has 199 MA's), (Start: 5 @4305 has 1 MA's), (6, 4323), (7, 4365), (9, 4398), (13, 4491),

Gene: Maroc7\_7 Start: 4079, Stop: 4336, Start Num: 4

Candidate Starts for Maroc7\_7:

(Start: 4 @4079 has 199 MA's), (Start: 5 @4097 has 1 MA's), (6, 4115), (7, 4157), (8, 4166), (13, 4283),

Gene: Marsha\_8 Start: 4525, Stop: 4782, Start Num: 4

Candidate Starts for Marsha\_8:

(Start: 4 @4525 has 199 MA's), (Start: 5 @4543 has 1 MA's), (6, 4561), (9, 4636), (13, 4729),

Gene: MaryBeth\_8 Start: 4503, Stop: 4760, Start Num: 4

Candidate Starts for MaryBeth\_8:

(Start: 4 @4503 has 199 MA's), (Start: 5 @4521 has 1 MA's), (6, 4539), (13, 4707),

Gene: McGuire\_8 Start: 4048, Stop: 4305, Start Num: 4

Candidate Starts for McGuire\_8:

(Start: 4 @4048 has 199 MA's), (Start: 5 @4066 has 1 MA's), (6, 4084), (7, 4126), (9, 4159),

Gene: MetalQZJ\_8 Start: 4503, Stop: 4760, Start Num: 4

Candidate Starts for MetalQZJ\_8:

(Start: 4 @4503 has 199 MA's), (Start: 5 @4521 has 1 MA's), (6, 4539), (13, 4707),

Gene: Michley\_8 Start: 4249, Stop: 4506, Start Num: 4

Candidate Starts for Michley\_8:

(Start: 4 @4249 has 199 MA's), (Start: 5 @4267 has 1 MA's), (6, 4285), (9, 4360), (13, 4453),

Gene: Molly\_9 Start: 4109, Stop: 4366, Start Num: 4

Candidate Starts for Molly\_9:

(Start: 4 @4109 has 199 MA's), (Start: 5 @4127 has 1 MA's), (6, 4145), (9, 4220), (13, 4313),

Gene: Monet\_8 Start: 4241, Stop: 4498, Start Num: 4

Candidate Starts for Monet\_8:

(Start: 4 @4241 has 199 MA's), (Start: 5 @4259 has 1 MA's), (6, 4277), (7, 4319), (9, 4352), (13, 4445),

Gene: Moose\_7 Start: 4342, Stop: 4599, Start Num: 4

Candidate Starts for Moose\_7:

(Start: 4 @4342 has 199 MA's), (Start: 5 @4360 has 1 MA's), (6, 4378), (7, 4420), (9, 4453), (13, 4546),

Gene: MrGordo\_8 Start: 4082, Stop: 4339, Start Num: 4

Candidate Starts for MrGordo\_8:

(Start: 4 @4082 has 199 MA's), (Start: 5 @4100 has 1 MA's), (6, 4118), (8, 4169), (9, 4193), (13, 4286),

Gene: Mryolo\_7 Start: 4091, Stop: 4348, Start Num: 4

Candidate Starts for Mryolo\_7:

(Start: 4 @4091 has 199 MA's), (Start: 5 @4109 has 1 MA's), (6, 4127), (8, 4178), (9, 4202), (11, 4262), (13, 4295),

Gene: Mule\_7 Start: 4167, Stop: 4424, Start Num: 4

Candidate Starts for Mule\_7:

(Start: 4 @4167 has 199 MA's), (Start: 5 @4185 has 1 MA's), (6, 4203), (7, 4245), (9, 4278), (13, 4371),

Gene: Museum\_9 Start: 3893, Stop: 4150, Start Num: 4

Candidate Starts for Museum\_9:

(Start: 4 @3893 has 199 MA's), (Start: 5 @3911 has 1 MA's), (6, 3929), (7, 3971), (9, 4004), (13, 4097),

Gene: NEHalo\_8 Start: 3903, Stop: 4160, Start Num: 4

Candidate Starts for NEHalo\_8:

(Start: 4 @3903 has 199 MA's), (Start: 5 @3921 has 1 MA's), (6, 3939), (8, 3990), (9, 4014), (13, 4107),

Gene: Naira\_8 Start: 4282, Stop: 4539, Start Num: 4

Candidate Starts for Naira\_8:

(Start: 4 @4282 has 199 MA's), (Start: 5 @4300 has 1 MA's), (6, 4318), (8, 4369), (9, 4393), (13, 4486),

Gene: Nerujay\_8 Start: 4196, Stop: 4453, Start Num: 4

Candidate Starts for Nerujay\_8:

(Start: 4 @4196 has 199 MA's), (Start: 5 @4214 has 1 MA's), (6, 4232), (10, 4340), (13, 4400),

Gene: Nhonho\_8 Start: 4199, Stop: 4456, Start Num: 4

Candidate Starts for Nhonho\_8:

(Start: 4 @4199 has 199 MA's), (Start: 5 @4217 has 1 MA's), (6, 4235), (8, 4286), (9, 4310), (13, 4403), (14, 4424),

Gene: Niza\_9 Start: 4915, Stop: 5172, Start Num: 4

Candidate Starts for Niza\_9:

(Start: 4 @4915 has 199 MA's), (Start: 5 @4933 has 1 MA's), (6, 4951), (7, 4993), (13, 5119),

Gene: Norz\_8 Start: 4277, Stop: 4534, Start Num: 4

Candidate Starts for Norz\_8:

(Start: 4 @4277 has 199 MA's), (Start: 5 @4295 has 1 MA's), (6, 4313), (8, 4364), (9, 4388),

Gene: Ohno789\_7 Start: 3752, Stop: 4009, Start Num: 4

Candidate Starts for Ohno789\_7:



(Start: 4 @3752 has 199 MA's), (Start: 5 @3770 has 1 MA's), (6, 3788), (13, 3956),

Gene: Oogway\_7 Start: 4323, Stop: 4580, Start Num: 4

Candidate Starts for Oogway\_7:

(Start: 4 @4323 has 199 MA's), (Start: 5 @4341 has 1 MA's), (6, 4359), (7, 4401), (13, 4527),

Gene: PSullivan\_10 Start: 4811, Stop: 5068, Start Num: 4

Candidate Starts for PSullivan\_10:

(Start: 4 @4811 has 199 MA's), (Start: 5 @4829 has 1 MA's), (6, 4847), (7, 4889), (9, 4922), (13, 5015),

Gene: PacerPaul\_8 Start: 4600, Stop: 4857, Start Num: 4

Candidate Starts for PacerPaul\_8:

(Start: 4 @4600 has 199 MA's), (Start: 5 @4618 has 1 MA's), (6, 4636), (7, 4678), (13, 4804),

Gene: Papez\_8 Start: 5014, Stop: 5271, Start Num: 4

Candidate Starts for Papez\_8:

(Start: 4 @5014 has 199 MA's), (Start: 5 @5032 has 1 MA's), (6, 5050), (7, 5092), (8, 5101), (9, 5125), (13, 5218),

Gene: Paphu\_7 Start: 3789, Stop: 4046, Start Num: 4

Candidate Starts for Paphu\_7:

(Start: 4 @3789 has 199 MA's), (Start: 5 @3807 has 1 MA's), (6, 3825), (7, 3867), (11, 3960), (13, 3993),

Gene: Paraselene\_7 Start: 4082, Stop: 4339, Start Num: 4

Candidate Starts for Paraselene\_7:

(Start: 4 @4082 has 199 MA's), (Start: 5 @4100 has 1 MA's), (6, 4118), (8, 4169), (9, 4193), (13, 4286),

Gene: Pari\_9 Start: 4547, Stop: 4804, Start Num: 4

Candidate Starts for Pari\_9:

(Start: 4 @4547 has 199 MA's), (Start: 5 @4565 has 1 MA's), (6, 4583), (9, 4658), (13, 4751),

Gene: Parliament\_7 Start: 4150, Stop: 4407, Start Num: 4

Candidate Starts for Parliament\_7:

(Start: 4 @4150 has 199 MA's), (Start: 5 @4168 has 1 MA's), (6, 4186), (8, 4237), (9, 4261), (13, 4354),

Gene: PascalRango\_7 Start: 3946, Stop: 4203, Start Num: 4

Candidate Starts for PascalRango\_7:

(Start: 4 @3946 has 199 MA's), (Start: 5 @3964 has 1 MA's), (6, 3982), (9, 4057), (13, 4150),

Gene: PattyP\_9 Start: 4104, Stop: 4361, Start Num: 4

Candidate Starts for PattyP\_9:

(Start: 4 @4104 has 199 MA's), (Start: 5 @4122 has 1 MA's), (6, 4140), (8, 4191), (13, 4308),

Gene: Payneful\_7 Start: 3893, Stop: 4150, Start Num: 4

Candidate Starts for Payneful\_7:

(Start: 4 @3893 has 199 MA's), (Start: 5 @3911 has 1 MA's), (6, 3929), (7, 3971), (9, 4004), (13, 4097),

Gene: Pelly\_9 Start: 4743, Stop: 5000, Start Num: 4

Candidate Starts for Pelly\_9:

(Start: 4 @4743 has 199 MA's), (Start: 5 @4761 has 1 MA's), (6, 4779), (7, 4821), (9, 4854), (13, 4947),

Gene: Pepe\_9 Start: 4766, Stop: 5023, Start Num: 4

Candidate Starts for Pepe\_9:

(Start: 4 @4766 has 199 MA's), (Start: 5 @4784 has 1 MA's), (6, 4802), (7, 4844), (9, 4877), (13, 4970),

Gene: Perseus\_9 Start: 4463, Stop: 4720, Start Num: 4

Candidate Starts for Perseus\_9:

(Start: 4 @4463 has 199 MA's), (Start: 5 @4481 has 1 MA's), (6, 4499), (7, 4541), (9, 4574), (13, 4667),

Gene: Peterson\_10 Start: 5586, Stop: 5843, Start Num: 4

Candidate Starts for Peterson\_10:

(Start: 4 @5586 has 199 MA's), (Start: 5 @5604 has 1 MA's), (6, 5622), (9, 5697), (13, 5790),

Gene: Petp2012\_10 Start: 4255, Stop: 4512, Start Num: 4

Candidate Starts for Petp2012\_10:

(Start: 4 @4255 has 199 MA's), (Start: 5 @4273 has 1 MA's), (6, 4291), (9, 4366), (13, 4459),

Gene: Petruchio\_8 Start: 4021, Stop: 4278, Start Num: 4

Candidate Starts for Petruchio\_8:

(Start: 4 @4021 has 199 MA's), (Start: 5 @4039 has 1 MA's), (6, 4057), (11, 4192), (13, 4225),

Gene: PherrisBueller\_9 Start: 4195, Stop: 4452, Start Num: 4

Candidate Starts for PherrisBueller\_9:

(Start: 4 @4195 has 199 MA's), (Start: 5 @4213 has 1 MA's), (6, 4231), (9, 4306), (13, 4399),

Gene: PhrostyMug\_7 Start: 4167, Stop: 4424, Start Num: 4

Candidate Starts for PhrostyMug\_7:

(Start: 4 @4167 has 199 MA's), (Start: 5 @4185 has 1 MA's), (6, 4203), (7, 4245), (9, 4278), (13, 4371),

Gene: PinkPlastic\_6 Start: 3810, Stop: 4067, Start Num: 4

Candidate Starts for PinkPlastic\_6:

(Start: 4 @3810 has 199 MA's), (Start: 5 @3828 has 1 MA's), (6, 3846), (8, 3897), (9, 3921), (13, 4014),

Gene: Pinto\_10 Start: 4453, Stop: 4710, Start Num: 4

Candidate Starts for Pinto\_10:

(Start: 4 @4453 has 199 MA's), (Start: 5 @4471 has 1 MA's), (6, 4489), (9, 4564), (13, 4657),

Gene: Pippin\_9 Start: 4152, Stop: 4409, Start Num: 4

Candidate Starts for Pippin\_9:

(Start: 4 @4152 has 199 MA's), (Start: 5 @4170 has 1 MA's), (6, 4188), (7, 4230), (9, 4263), (13, 4356),

Gene: Pita2\_10 Start: 4811, Stop: 5068, Start Num: 4

Candidate Starts for Pita2\_10:

(Start: 4 @4811 has 199 MA's), (Start: 5 @4829 has 1 MA's), (6, 4847), (7, 4889), (9, 4922), (13, 5015),

Gene: QTRlifeCrisis\_7 Start: 4237, Stop: 4494, Start Num: 4

Candidate Starts for QTRlifeCrisis\_7:

(Start: 4 @4237 has 199 MA's), (Start: 5 @4255 has 1 MA's), (6, 4273), (7, 4315), (9, 4348), (13, 4441),

Gene: Rajelicia\_7 Start: 3950, Stop: 4207, Start Num: 4

Candidate Starts for Rajelicia\_7:

(Start: 4 @3950 has 199 MA's), (Start: 5 @3968 has 1 MA's), (6, 3986), (7, 4028), (13, 4154),

Gene: Rhynn\_8 Start: 4380, Stop: 4637, Start Num: 4

Candidate Starts for Rhynn\_8:

(Start: 4 @4380 has 199 MA's), (Start: 5 @4398 has 1 MA's), (6, 4416), (9, 4491), (13, 4584),

Gene: RidgeCB\_8 Start: 3909, Stop: 4166, Start Num: 4

Candidate Starts for RidgeCB\_8:

(Start: 4 @3909 has 199 MA's), (Start: 5 @3927 has 1 MA's), (6, 3945), (7, 3987), (8, 3996), (9, 4020), (13, 4113),

Gene: Ringer\_7 Start: 4389, Stop: 4646, Start Num: 4

Candidate Starts for Ringer\_7:

(Start: 4 @4389 has 199 MA's), (Start: 5 @4407 has 1 MA's), (6, 4425), (7, 4467), (12, 4581), (13, 4593),

Gene: Rohr\_9 Start: 4588, Stop: 4845, Start Num: 4

Candidate Starts for Rohr\_9:

(Start: 4 @4588 has 199 MA's), (Start: 5 @4606 has 1 MA's), (6, 4624), (8, 4675), (9, 4699), (13, 4792),

Gene: Rubeus\_8 Start: 3910, Stop: 4167, Start Num: 4

Candidate Starts for Rubeus\_8:

(Start: 4 @3910 has 199 MA's), (Start: 5 @3928 has 1 MA's), (6, 3946), (7, 3988), (13, 4114),

Gene: Rufus\_8 Start: 3967, Stop: 4224, Start Num: 4

Candidate Starts for Rufus\_8:

(Start: 4 @3967 has 199 MA's), (Start: 5 @3985 has 1 MA's), (6, 4003), (8, 4054), (9, 4078), (13, 4171),

Gene: Ruotula\_7 Start: 4528, Stop: 4785, Start Num: 4

Candidate Starts for Ruotula\_7:

(Start: 4 @4528 has 199 MA's), (Start: 5 @4546 has 1 MA's), (6, 4564), (7, 4606), (9, 4639), (10, 4672), (13, 4732),

Gene: Rutherferd\_9 Start: 4428, Stop: 4685, Start Num: 4

Candidate Starts for Rutherferd\_9:

(Start: 4 @4428 has 199 MA's), (Start: 5 @4446 has 1 MA's), (6, 4464), (9, 4539), (13, 4632),

Gene: STLscum\_9 Start: 4520, Stop: 4777, Start Num: 4

Candidate Starts for STLscum\_9:

(Start: 4 @4520 has 199 MA's), (Start: 5 @4538 has 1 MA's), (6, 4556), (13, 4724),

Gene: Sagefire\_9 Start: 5181, Stop: 5438, Start Num: 4

Candidate Starts for Sagefire\_9:

(1, 4776), (2, 4818), (Start: 4 @5181 has 199 MA's), (Start: 5 @5199 has 1 MA's), (6, 5217), (7, 5259), (8, 5268), (10, 5325), (13, 5385),

Gene: Sandaddy\_7 Start: 4304, Stop: 4561, Start Num: 4

Candidate Starts for Sandaddy\_7:

(Start: 4 @4304 has 199 MA's), (Start: 5 @4322 has 1 MA's), (6, 4340), (7, 4382), (13, 4508),

Gene: Sanya\_7 Start: 4966, Stop: 5223, Start Num: 4

Candidate Starts for Sanya\_7:

(Start: 4 @4966 has 199 MA's), (Start: 5 @4984 has 1 MA's), (6, 5002), (7, 5044), (9, 5077), (13, 5170),

Gene: SarFire\_8 Start: 4165, Stop: 4422, Start Num: 4

Candidate Starts for SarFire\_8:

(Start: 4 @4165 has 199 MA's), (Start: 5 @4183 has 1 MA's), (6, 4201), (7, 4243), (8, 4252), (9, 4276), (13, 4369),

Gene: Scowl\_9 Start: 4857, Stop: 5114, Start Num: 4

Candidate Starts for Scowl\_9:

(Start: 4 @4857 has 199 MA's), (Start: 5 @4875 has 1 MA's), (6, 4893), (13, 5061),

Gene: Seabiscuit\_9 Start: 4048, Stop: 4305, Start Num: 4

Candidate Starts for Seabiscuit\_9:

(Start: 4 @4048 has 199 MA's), (Start: 5 @4066 has 1 MA's), (6, 4084), (7, 4126), (9, 4159),

Gene: Seanderson\_9 Start: 4836, Stop: 5093, Start Num: 4

Candidate Starts for Seanderson\_9:

(Start: 4 @4836 has 199 MA's), (Start: 5 @4854 has 1 MA's), (6, 4872), (7, 4914), (9, 4947), (13, 5040),

Gene: ShortQueendom\_6 Start: 3762, Stop: 4019, Start Num: 4

Candidate Starts for ShortQueendom\_6:

(Start: 4 @3762 has 199 MA's), (Start: 5 @3780 has 1 MA's), (6, 3798), (7, 3840), (9, 3873), (13, 3966),

Gene: Sibs6\_9 Start: 4103, Stop: 4360, Start Num: 4

Candidate Starts for Sibs6\_9:

(Start: 4 @4103 has 199 MA's), (Start: 5 @4121 has 1 MA's), (6, 4139), (7, 4181), (13, 4307),

Gene: SkiPole\_10 Start: 4500, Stop: 4757, Start Num: 4

Candidate Starts for SkiPole\_10:

(Start: 4 @4500 has 199 MA's), (Start: 5 @4518 has 1 MA's), (6, 4536), (13, 4704),

Gene: Slagathor\_8 Start: 3921, Stop: 4178, Start Num: 4

Candidate Starts for Slagathor\_8:

(Start: 4 @3921 has 199 MA's), (Start: 5 @3939 has 1 MA's), (6, 3957), (7, 3999), (9, 4032), (13, 4125),

Gene: Smairt\_9 Start: 4776, Stop: 5033, Start Num: 4

Candidate Starts for Smairt\_9:

(Start: 4 @4776 has 199 MA's), (Start: 5 @4794 has 1 MA's), (6, 4812), (7, 4854), (9, 4887), (13, 4980),

Gene: Smeagol\_9 Start: 5215, Stop: 5472, Start Num: 4

Candidate Starts for Smeagol\_9:

(Start: 4 @5215 has 199 MA's), (Start: 5 @5233 has 1 MA's), (6, 5251), (7, 5293), (9, 5326), (13, 5419),

Gene: Snazzy\_6 Start: 3807, Stop: 4064, Start Num: 4

Candidate Starts for Snazzy\_6:

(Start: 4 @3807 has 199 MA's), (Start: 5 @3825 has 1 MA's), (6, 3843), (7, 3885), (9, 3918), (13, 4011), (14, 4032),

Gene: Solon\_7 Start: 4396, Stop: 4653, Start Num: 4

Candidate Starts for Solon\_7:

(Start: 4 @4396 has 199 MA's), (Start: 5 @4414 has 1 MA's), (6, 4432), (7, 4474), (9, 4507), (13, 4600),

Gene: Sorpresa\_7 Start: 4304, Stop: 4561, Start Num: 4

Candidate Starts for Sorpresa\_7:

(Start: 4 @4304 has 199 MA's), (Start: 5 @4322 has 1 MA's), (6, 4340), (7, 4382), (13, 4508),

Gene: SpikeBT\_8 Start: 4176, Stop: 4433, Start Num: 4

Candidate Starts for SpikeBT\_8:

(Start: 4 @4176 has 199 MA's), (Start: 5 @4194 has 1 MA's), (6, 4212), (7, 4254), (13, 4380),

Gene: Squee\_7 Start: 3903, Stop: 4160, Start Num: 4

Candidate Starts for Squee\_7:

(Start: 4 @3903 has 199 MA's), (Start: 5 @3921 has 1 MA's), (6, 3939), (9, 4014), (13, 4107),

Gene: StewieG\_7 Start: 4175, Stop: 4432, Start Num: 4

Candidate Starts for StewieG\_7:

(Start: 4 @4175 has 199 MA's), (Start: 5 @4193 has 1 MA's), (6, 4211), (7, 4253), (9, 4286), (13, 4379),

Gene: StrongArm\_7 Start: 4006, Stop: 4263, Start Num: 4

Candidate Starts for StrongArm\_7:

(Start: 4 @4006 has 199 MA's), (Start: 5 @4024 has 1 MA's), (6, 4042), (7, 4084), (13, 4210),

Gene: Sumter\_7 Start: 3899, Stop: 4156, Start Num: 4

Candidate Starts for Sumter\_7:

(Start: 4 @3899 has 199 MA's), (Start: 5 @3917 has 1 MA's), (6, 3935), (8, 3986), (9, 4010), (13, 4103),

Gene: Sunshine924\_7 Start: 3880, Stop: 4137, Start Num: 4

Candidate Starts for Sunshine924\_7:

(Start: 4 @3880 has 199 MA's), (Start: 5 @3898 has 1 MA's), (6, 3916), (7, 3958), (9, 3991), (13, 4084),

Gene: SwissCheese\_8 Start: 4342, Stop: 4599, Start Num: 4

Candidate Starts for SwissCheese\_8:

(Start: 4 @4342 has 199 MA's), (Start: 5 @4360 has 1 MA's), (6, 4378), (7, 4420), (9, 4453), (13, 4546),

Gene: Switzer\_8 Start: 3927, Stop: 4184, Start Num: 4

Candidate Starts for Switzer\_8:

(Start: 4 @3927 has 199 MA's), (Start: 5 @3945 has 1 MA's), (6, 3963), (7, 4005), (8, 4014), (9, 4038), (13, 4131),

Gene: Swole\_10 Start: 4811, Stop: 5068, Start Num: 4

Candidate Starts for Swole\_10:

(Start: 4 @4811 has 199 MA's), (Start: 5 @4829 has 1 MA's), (6, 4847), (7, 4889), (9, 4922), (13, 5015),

Gene: Target\_9 Start: 4599, Stop: 4856, Start Num: 4

Candidate Starts for Target\_9:

(Start: 4 @4599 has 199 MA's), (Start: 5 @4617 has 1 MA's), (6, 4635), (7, 4677), (9, 4710),

Gene: Tasp14\_9 Start: 4582, Stop: 4839, Start Num: 4

Candidate Starts for Tasp14\_9:

(Start: 4 @4582 has 199 MA's), (Start: 5 @4600 has 1 MA's), (6, 4618), (8, 4669), (9, 4693), (13, 4786),

Gene: Teodoridan\_6 Start: 3734, Stop: 3991, Start Num: 4

Candidate Starts for Teodoridan\_6:

(Start: 4 @3734 has 199 MA's), (Start: 5 @3752 has 1 MA's), (6, 3770), (13, 3938),

Gene: TheloniousMonk\_8 Start: 4227, Stop: 4484, Start Num: 4

Candidate Starts for TheloniousMonk\_8:

(Start: 4 @4227 has 199 MA's), (Start: 5 @4245 has 1 MA's), (6, 4263), (7, 4305), (11, 4398), (13, 4431),

Gene: Thor\_8 Start: 4165, Stop: 4422, Start Num: 4

Candidate Starts for Thor\_8:

(Start: 4 @4165 has 199 MA's), (Start: 5 @4183 has 1 MA's), (6, 4201), (7, 4243), (8, 4252), (9, 4276), (13, 4369),

Gene: Topgun\_8 Start: 4091, Stop: 4348, Start Num: 4

Candidate Starts for Topgun\_8:

(Start: 4 @4091 has 199 MA's), (Start: 5 @4109 has 1 MA's), (6, 4127), (9, 4202), (13, 4295),

Gene: Tote\_10 Start: 4811, Stop: 5068, Start Num: 4

Candidate Starts for Tote\_10:

(Start: 4 @4811 has 199 MA's), (Start: 5 @4829 has 1 MA's), (6, 4847), (7, 4889), (9, 4922), (13, 5015),

Gene: Traft412\_10 Start: 5016, Stop: 5255, Start Num: 5

Candidate Starts for Traft412\_10:

(Start: 4 @4998 has 199 MA's), (Start: 5 @5016 has 1 MA's), (6, 5034), (7, 5076), (13, 5202),

Gene: Treddle\_8 Start: 4242, Stop: 4499, Start Num: 4

Candidate Starts for Treddle\_8:

(Start: 4 @4242 has 199 MA's), (Start: 5 @4260 has 1 MA's), (6, 4278), (7, 4320), (13, 4446),

Gene: Tripl3t\_9 Start: 4993, Stop: 5250, Start Num: 4

Candidate Starts for Tripl3t\_9:

(Start: 4 @4993 has 199 MA's), (Start: 5 @5011 has 1 MA's), (6, 5029), (8, 5080), (9, 5104), (11, 5164), (13, 5197),

Gene: Trouble\_8 Start: 4642, Stop: 4899, Start Num: 4  
Candidate Starts for Trouble\_8:  
(Start: 4 @4642 has 199 MA's), (Start: 5 @4660 has 1 MA's), (6, 4678), (7, 4720), (9, 4753), (13, 4846),

Gene: Turj99\_7 Start: 4086, Stop: 4343, Start Num: 4  
Candidate Starts for Turj99\_7:  
(Start: 4 @4086 has 199 MA's), (Start: 5 @4104 has 1 MA's), (6, 4122), (9, 4197), (13, 4290),

Gene: TwoPeat\_9 Start: 4604, Stop: 4861, Start Num: 4  
Candidate Starts for TwoPeat\_9:  
(Start: 4 @4604 has 199 MA's), (Start: 5 @4622 has 1 MA's), (6, 4640), (7, 4682), (9, 4715), (13, 4808),

Gene: U2\_7 Start: 3929, Stop: 4186, Start Num: 4  
Candidate Starts for U2\_7:  
(Start: 4 @3929 has 199 MA's), (Start: 5 @3947 has 1 MA's), (6, 3965), (7, 4007), (8, 4016), (9, 4040), (13, 4133),

Gene: Violet\_7 Start: 3899, Stop: 4156, Start Num: 4  
Candidate Starts for Violet\_7:  
(Start: 4 @3899 has 199 MA's), (Start: 5 @3917 has 1 MA's), (6, 3935), (7, 3977), (13, 4103),

Gene: Watermelon\_10 Start: 5193, Stop: 5450, Start Num: 4  
Candidate Starts for Watermelon\_10:  
(Start: 4 @5193 has 199 MA's), (Start: 5 @5211 has 1 MA's), (6, 5229), (7, 5271), (9, 5304), (13, 5397),

Gene: Wheeler\_8 Start: 4359, Stop: 4616, Start Num: 4  
Candidate Starts for Wheeler\_8:  
(Start: 4 @4359 has 199 MA's), (Start: 5 @4377 has 1 MA's), (6, 4395), (7, 4437), (9, 4470), (10, 4503), (13, 4563),

Gene: Wilkins\_8 Start: 4091, Stop: 4348, Start Num: 4  
Candidate Starts for Wilkins\_8:  
(Start: 4 @4091 has 199 MA's), (Start: 5 @4109 has 1 MA's), (6, 4127), (9, 4202), (13, 4295),

Gene: Zeeculate\_7 Start: 4054, Stop: 4311, Start Num: 4  
Candidate Starts for Zeeculate\_7:  
(Start: 4 @4054 has 199 MA's), (Start: 5 @4072 has 1 MA's), (6, 4090), (7, 4132), (9, 4165), (13, 4258),

Gene: Zephyr\_8 Start: 4197, Stop: 4454, Start Num: 4  
Candidate Starts for Zephyr\_8:  
(Start: 4 @4197 has 199 MA's), (Start: 5 @4215 has 1 MA's), (6, 4233), (7, 4275), (13, 4401),

Gene: Zeuska\_7 Start: 4121, Stop: 4378, Start Num: 4  
Candidate Starts for Zeuska\_7:  
(Start: 4 @4121 has 199 MA's), (Start: 5 @4139 has 1 MA's), (6, 4157), (7, 4199), (9, 4232), (10, 4265), (13, 4325),