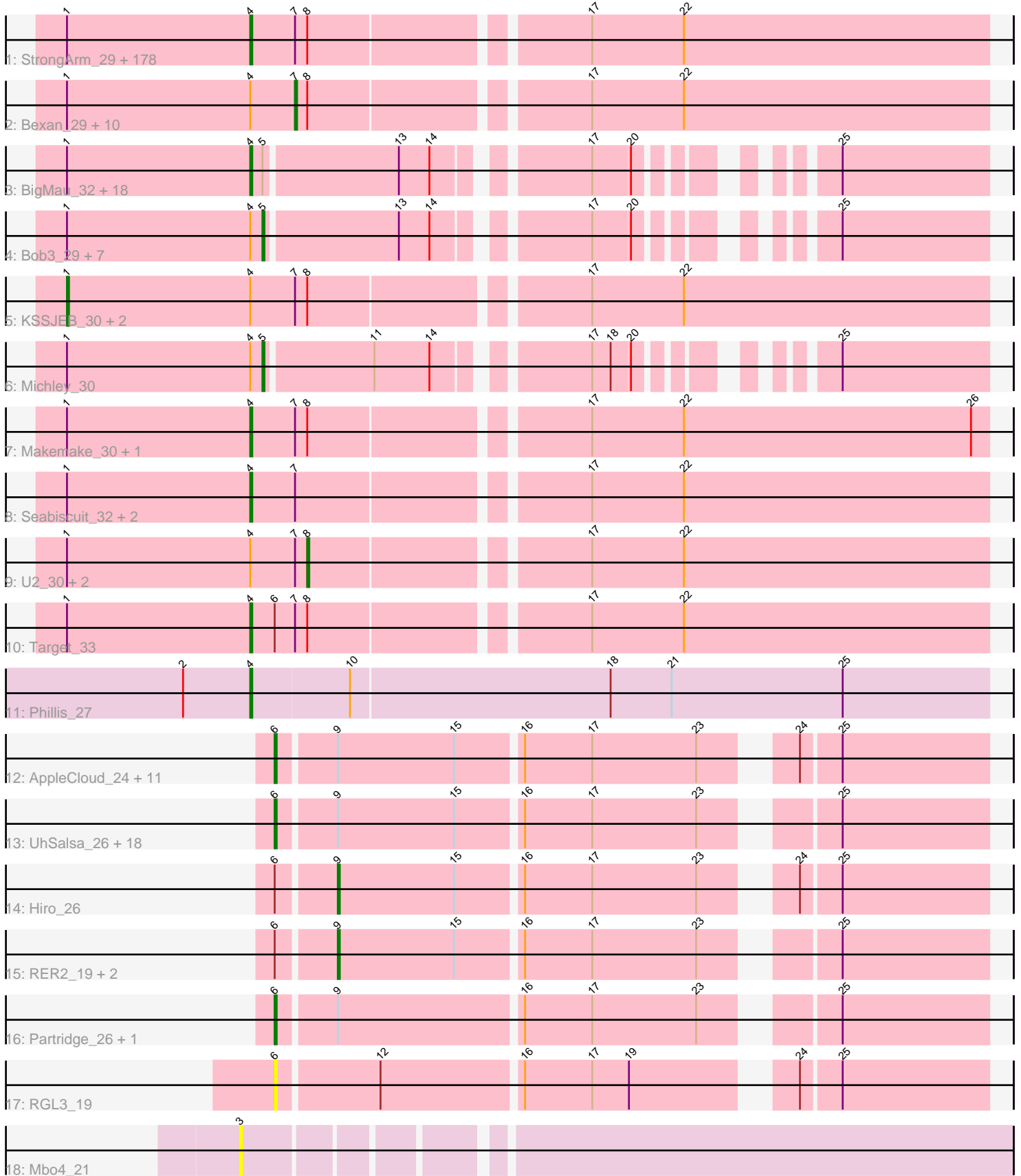


Pham 217564



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 217564 Report

This analysis was run 03/28/25 on database version 593.

Pham number 217564 has 270 members, 24 are drafts.

Phages represented in each track:

- Track 1 : StrongArm\_29, Aeneas\_32, PinkPlastic\_29, Solon\_30, BigPaolini\_31, Blue\_30, Rajelicia\_30, BluSpix\_31, Euphoria\_30, Zeuska\_31, PhrostyMug\_30, Ringer\_30, Museum\_32, LilBib\_31, Sorpresa\_30, JC27\_32, GageAP\_32, Kugel\_31, STLscum\_31, Mryolo\_29, Sunshine924\_31, Zeeculate\_30, GrecoEtereo\_32, MetalQZJ\_30, Ruotula\_29, Big3\_30, Thor\_30, Eyeball\_30, Tasp14\_31, Norz\_32, Alsfro\_34, Pita2\_32, PascalRango\_31, Manatee\_31, Agaliana\_31, QTRlifeCrisis\_30, Altman\_32, Sandaddy\_29, Acme\_32, Lopton\_31, Nhonho\_30, Nerujay\_31, Carlyle\_32, ProMouse\_29, Chanagan\_29, Kenmech\_33, Molly\_31, Scowl\_31, Pippin\_32, SwissCheese\_32, Greg\_32, Arcanine\_31, BK1\_28, Watermelon\_32, Fushigi\_31, Magnito\_29, EnzoK\_30, TheloniousMonk\_32, Naira\_31, Jasper\_31, HanShotFirst\_30, Gandalf20\_31, PherrisBueller\_31, Bircsak\_30, Inyanga\_29, Marcell\_30, Forsytheast\_30, Gwendoluna\_32, Pepe\_31, ConceptII\_32, Bruns\_29, McGuire\_31, Gyzlar\_32, Parliament\_29, PhineBark\_30, BaconJack\_33, Monet\_32, Seanderson\_31, Applejack\_30, Turj99\_29, JuliaChild\_32, MaryBeth\_30, TwoPeat\_31, Gompeii16\_30, ILeeKay\_32, A6\_28, Marco3\_30, Homines\_30, Violet\_29, BeesKnees\_31, DrFeelGood\_29, Mule\_30, Rufus\_31, Dulcie\_29, Marge\_31, PattyP\_32, Lockley\_30, Doom\_31, Froghopper\_31, Alvin\_31, Sumter\_29, Lamina13\_30, Topgun\_30, Teodoridan\_28, Ciao\_30, Iqorha\_29, Abrogate\_310, SpikeBT\_32, Atkinbua\_32, Barriga\_30, Dexes\_31, JackSparrow\_31, BPBiebs31\_31, Zephyr\_30, Pari\_31, Hermia\_33, Arlo\_29, Licorice\_32, Ohno789\_30, Crispicous1\_29, Oogway\_29, Petruccio\_31, Sibs6\_32, Ichabod\_31, Ashballer\_32, Dreamboat\_31, Dynamix\_31, Payneful\_30, Rubeus\_31, Slagathor\_31, Pinto\_33, Burton\_31, Phlippers\_29, Anglerfish\_31, Bxb1\_28, Pelly\_31, Killigrew\_28, Levia\_29, PSullivan\_32, Paraselene\_29, Briton15\_32, Hope4ever\_30, NEHalo\_30, Maroc7\_29, SkiPole\_32, HarryOW\_31, MrGordo\_30, Magnar\_30, Rhynn\_30, Trouble\_31, Ajay\_31, Niza\_32, Tote\_32, Abbyshoes\_31, AFIS\_30, Jorgensen\_30, KyMonks1A\_32, Dussy\_31, Tripl3t\_31, Corvo\_31, Sanya\_29, BarrowTuph\_29, McSinger\_31, Swole\_32, Sagefire\_31, Lesedi\_29, Bigchungu\_30, Petp2012\_32, GMonster\_29, Mkhuseleli\_31, Fajezeel\_32, Moose\_30, Papez\_32, Kanely\_31, BillKnuckles\_31, Wheeler\_30, Marchy\_29, Beatrix\_30, Switzer\_31
- Track 2 : Bexan\_29, Bethlehem\_30, Hami1\_32, IgnatiusPatJac\_30, Kykar\_30, StewieG\_29, Buttons\_32, KBG\_31, Rutherferd\_32, Raid\_31, ShortQueendom\_29
- Track 3 : BigMau\_32, Marsha\_30, Graduation\_32, Snazzy\_29, DreamCatcher\_33, Jerm2\_31, Fenn\_31, Rohr\_31, RidgeCB\_30, Wilkins\_30, Adahisdi\_31, PacerPaul\_30, Francis47\_30, Paphu\_29, Smairt\_31, Cueylyss\_30, Bigfoot\_29, CactusRose\_29, HermioneGrange\_30

- Track 4 : Bob3\_29, Edtherson\_31, Bones\_30, LunarLander\_32, Traft412\_32, Fascinus\_29, Treddle\_32, MPlant7149\_29
- Track 5 : KSSJEB\_30, SarFire\_30, DD5\_31
- Track 6 : Michley\_30
- Track 7 : Makemake\_30, Espresso\_30
- Track 8 : Seabiscuit\_32, Smeagol\_32, Peterson\_33
- Track 9 : U2\_30, Squee\_31, Perseus\_32
- Track 10 : Target\_33
- Track 11 : Phillis\_27
- Track 12 : AppleCloud\_24, Harlequin\_26, Yogi\_26, Bryce\_26, Krishelle\_26, PhailMary\_25, Alpacados\_25, Jester\_26, Yoncess\_26, Rasputin\_26, Bonanza\_26, BobbyDazzler\_26
- Track 13 : UhSalsa\_26, Naiad\_26, Alatin\_26, Erik\_26, Bradshaw\_26, Swann\_26, CosmicSans\_26, Rhodalysa\_26, TWAMP\_26, Takoda\_26, Lillie\_26, Espica\_26, Phrankenstien\_26, Shuman\_26, Belenaria\_26, Gollum\_26, StCroix\_26, Nancinator\_26, Natosaleda\_26
- Track 14 : Hiro\_26
- Track 15 : RER2\_19, AngryOrchard\_25, RexFury\_26
- Track 16 : Partridge\_26, Dinger\_26
- Track 17 : RGL3\_19
- Track 18 : Mbo4\_21

***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 188 of the 246 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- A6\_28, AFIS\_30, Abbyshoes\_31, Abrogate\_310, Acme\_32, Adahisdi\_31, Aeneas\_32, Agaliana\_31, Ajay\_31, Alsfro\_34, Altman\_32, Alvin\_31, Anglerfish\_31, Applejack\_30, Arcanine\_31, Arlo\_29, Ashballer\_32, Atkinbua\_32, BK1\_28, BPBiebs31\_31, BaconJack\_33, Barriga\_30, BarrowTuph\_29, Beatrix\_30, BeesKnees\_31, Big3\_30, BigMau\_32, BigPaolini\_31, Bigchungji\_30, Bigfoot\_29, BillKnuckles\_31, Bircsak\_30, BluSpix\_31, Blue\_30, Briton15\_32, Bruns\_29, Burton\_31, Bxb1\_28, CactusRose\_29, Carlyle\_32, Chanagan\_29, Ciao\_30, ConceptII\_32, Corvo\_31, Crispicous1\_29, Cueyllyss\_30, Dexes\_31, Doom\_31, DrFeelGood\_29, DreamCatcher\_33, Dreamboat\_31, Dulcie\_29, Dussy\_31, Dynamix\_31, EnzoK\_30, Espresso\_30, Euphoria\_30, Eyeball\_30, Fajezeel\_32, Fenn\_31, Forsytheast\_30, Francis47\_30, Froghopper\_31, Fushigi\_31, GMonster\_29, GageAP\_32, Gandalf20\_31, Gompeii16\_30, Graduation\_32, GrecoEtereo\_32, Greg\_32, Gwendoluna\_32, Gyzlar\_32, HanShotFirst\_30, HarryOW\_31, Hermia\_33, HermioneGrange\_30, Homines\_30, Hope4ever\_30, ILeeKay\_32, Ichabod\_31, Inyanga\_29, Iqorha\_29, JC27\_32, JackSparrow\_31, Jasper\_31, Jerm2\_31, Jorgensen\_30, JuliaChild\_32, Kanely\_31, Kenmech\_33, Killigrew\_28, Kugel\_31, KyMonks1A\_32, Lamina13\_30, Lesedi\_29, Levia\_29, Licorice\_32, LilBib\_31, Lockley\_30, Lopton\_31, Magnar\_30, Magnito\_29, Makemake\_30, Manatee\_31, Marcell\_30, Marchy\_29, Marco3\_30, Marge\_31, Maroc7\_29, Marsha\_30, MaryBeth\_30, McGuire\_31, McSinger\_31, MetalQZJ\_30, Mkhuseleli\_31, Molly\_31, Monet\_32, Moose\_30, MrGordo\_30, Mryolo\_29, Mule\_30, Museum\_32, NEHalo\_30, Naira\_31, Nerujay\_31, Nhonho\_30, Niza\_32, Norz\_32, Ohno789\_30, Oogway\_29,

PSullivan\_32, PacerPaul\_30, Papez\_32, Paphu\_29, Paraselene\_29, Pari\_31, Parliament\_29, PascalRango\_31, PattyP\_32, Payneful\_30, Pelly\_31, Pepe\_31, Peterson\_33, Petp2012\_32, Petruchio\_31, PherrisBueller\_31, Phillis\_27, PhineBark\_30, Phlippers\_29, PhrostyMug\_30, PinkPlastic\_29, Pinto\_33, Pippin\_32, Pita2\_32, ProMouse\_29, QTRlifeCrisis\_30, Rajelicia\_30, Rhynn\_30, RidgeCB\_30, Ringer\_30, Rohr\_31, Rubeus\_31, Rufus\_31, Ruotula\_29, STLscum\_31, Sagefire\_31, Sandaddy\_29, Sanya\_29, Scowl\_31, Seabiscuit\_32, Seanderson\_31, Sibs6\_32, SkiPole\_32, Slagathor\_31, Smairt\_31, Smeagol\_32, Snazzy\_29, Solon\_30, Sorpresa\_30, SpikeBT\_32, StrongArm\_29, Sumter\_29, Sunshine924\_31, SwissCheese\_32, Switzer\_31, Swole\_32, Target\_33, Tasp14\_31, Teodoridan\_28, TheloniousMonk\_32, Thor\_30, Topgun\_30, Tote\_32, Tripl3t\_31, Trouble\_31, Turj99\_29, TwoPeat\_31, Violet\_29, Watermelon\_32, Wheeler\_30, Wilkins\_30, Zeeculate\_30, Zephyr\_30, Zeuska\_31,

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

- Bethlehem\_30, Bexan\_29, Bob3\_29, Bones\_30, Buttons\_32, DD5\_31, Edtherson\_31, Fascinus\_29, Hami1\_32, IgnatiusPatJac\_30, KBG\_31, KSSJEB\_30, Kykar\_30, LunarLander\_32, MPlant7149\_29, Michley\_30, Perseus\_32, Raid\_31, Rutherford\_32, SarFire\_30, ShortQueendom\_29, Squee\_31, StewieG\_29, Traft412\_32, Treddle\_32, U2\_30,

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

- Alatin\_26, Alpacados\_25, AngryOrchard\_25, AppleCloud\_24, Belenaria\_26, BobbyDazzler\_26, Bonanza\_26, Bradshaw\_26, Bryce\_26, CosmicSans\_26, Dinger\_26, Erik\_26, Espica\_26, Gollum\_26, Harlequin\_26, Hiro\_26, Jester\_26, Krishelle\_26, Lillie\_26, Mbo4\_21, Naiad\_26, Nancinator\_26, Natosaleda\_26, Partridge\_26, PhailMary\_25, Phrankenstein\_26, RER2\_19, RGL3\_19, Rasputin\_26, RexFury\_26, Rhodalysa\_26, Shuman\_26, StCroix\_26, Swann\_26, TWAMP\_26, Takoda\_26, UhSalsa\_26, Yogi\_26, Yoncess\_26,

### Summary by start number:

Start 1:

- Found in 230 of 270 ( 85.2% ) of genes in pham
- Manual Annotations of this start: 3 of 246
- Called 1.3% of time when present
- Phage (with cluster) where this start called: DD5\_31 (A1), KSSJEB\_30 (A1), SarFire\_30 (A1),

Start 3:

- Found in 1 of 270 ( 0.4% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Mbo4\_21 (singleton),

Start 4:

- Found in 231 of 270 ( 85.6% ) of genes in pham
- Manual Annotations of this start: 188 of 246
- Called 88.7% of time when present
- Phage (with cluster) where this start called: A6\_28 (A1), AFIS\_30 (A1), Abbyshoes\_31 (A1), Abrogate\_310 (A1), Acme\_32 (A1), Adahisdi\_31 (A1), Aeneas\_32 (A1), Agaliana\_31 (A1), Ajay\_31 (A1), Alsfro\_34 (A1), Altman\_32 (A1), Alvin\_31 (A1), Anglerfish\_31 (A1), Applejack\_30 (A1), Arcanine\_31 (A1), Arlo\_29

(A1), Ashballer\_32 (A1), Atkinbua\_32 (A1), BK1\_28 (A1), BPBiebs31\_31 (A1), BaconJack\_33 (A1), Barriga\_30 (A1), BarrowTuph\_29 (A1), Beatrix\_30 (A1), BeesKnees\_31 (A1), Big3\_30 (A1), BigMau\_32 (A1), BigPaolini\_31 (A1), Bigchung\_30 (A1), Bigfoot\_29 (A1), BillKnuckles\_31 (A1), Bircsak\_30 (A1), BluSpix\_31 (A1), Blue\_30 (A1), Briton15\_32 (A1), Bruns\_29 (A1), Burton\_31 (A1), Bxb1\_28 (A1), CactusRose\_29 (A1), Carlyle\_32 (A1), Chanagan\_29 (A1), Ciao\_30 (A1), Conceptll\_32 (A1), Corvo\_31 (A1), Crispicous1\_29 (A1), Cueylyss\_30 (A1), Dexes\_31 (A1), Doom\_31 (A1), DrFeelGood\_29 (A1), DreamCatcher\_33 (A1), Dreamboat\_31 (A1), Dulcie\_29 (A1), Dussy\_31 (A1), Dynamix\_31 (A1), EnzoK\_30 (A1), Espresso\_30 (A1), Euphoria\_30 (A1), Eyeball\_30 (A1), Fajezeel\_32 (A1), Fenn\_31 (A1), Forsytheast\_30 (A1), Francis47\_30 (A1), Froghopper\_31 (A1), Fushigi\_31 (A1), GMonster\_29 (A1), GageAP\_32 (A1), Gandalf20\_31 (A1), Gompeii16\_30 (A1), Graduation\_32 (A1), GrecoEtereo\_32 (A1), Greg\_32 (A1), Gwendoluna\_32 (A1), Gyzlar\_32 (A1), HanShotFirst\_30 (A1), HarryOW\_31 (A1), Hermia\_33 (A1), HermioneGrange\_30 (A1), Homines\_30 (A1), Hope4ever\_30 (A1), ILeeKay\_32 (A1), Ichabod\_31 (A1), Inyanga\_29 (A1), Iqorha\_29 (A1), JC27\_32 (A1), JackSparrow\_31 (A1), Jasper\_31 (A1), Jerm2\_31 (A1), Jorgensen\_30 (A1), JuliaChild\_32 (A1), Kanely\_31 (A1), Kenmech\_33 (A1), Killigrew\_28 (A1), Kugel\_31 (A1), KyMonks1A\_32 (A1), Lamina13\_30 (A1), Lesedi\_29 (A1), Levia\_29 (A1), Licorice\_32 (A1), LilBib\_31 (A1), Lockley\_30 (A1), Lopton\_31 (A1), Magnar\_30 (A1), Magnito\_29 (A1), Makemake\_30 (A1), Manatee\_31 (A1), Marcell\_30 (A1), Marchy\_29 (A1), Marco3\_30 (A1), Marge\_31 (A1), Maroc7\_29 (A1), Marsha\_30 (A1), MaryBeth\_30 (A1), McGuire\_31 (A1), McSinger\_31 (A1), MetalQZJ\_30 (A1), Mkhusei\_31 (A1), Molly\_31 (A1), Monet\_32 (A1), Moose\_30 (A1), MrGordo\_30 (A1), Mryolo\_29 (A1), Mule\_30 (A1), Museum\_32 (A1), NEHalo\_30 (A1), Naira\_31 (A1), Nerujay\_31 (A1), Nhonho\_30 (A1), Niza\_32 (A1), Norz\_32 (A1), Ohno789\_30 (A1), Oogway\_29 (A1), PSullivan\_32 (A1), PacerPaul\_30 (A1), Papez\_32 (A1), Paphu\_29 (A1), Paraselene\_29 (A1), Pari\_31 (A1), Parliament\_29 (A1), PascalRango\_31 (A1), PattyP\_32 (A1), Payneful\_30 (A1), Pelly\_31 (A1), Pepe\_31 (A1), Peterson\_33 (A1), Petp2012\_32 (A1), Petruccio\_31 (A1), PherrisBueller\_31 (A1), Phillis\_27 (A8), PhineBark\_30 (A1), Phlippers\_29 (A1), PhrostyMug\_30 (A1), PinkPlastic\_29 (A1), Pinto\_33 (A1), Pippin\_32 (A1), Pita2\_32 (A1), ProMouse\_29 (A1), QTRLifeCrisis\_30 (A1), Rajelicia\_30 (A1), Rhynn\_30 (A1), RidgeCB\_30 (A1), Ringer\_30 (A1), Rohr\_31 (A1), Rubeus\_31 (A1), Rufus\_31 (A1), Ruotula\_29 (A1), STLscum\_31 (A1), Sagefire\_31 (A1), Sandaddy\_29 (A1), Sanya\_29 (A1), Scowl\_31 (A1), Seabiscuit\_32 (A1), Seanderson\_31 (A1), Sibs6\_32 (A1), SkiPole\_32 (A1), Slagathor\_31 (A1), Smairt\_31 (A1), Smeagol\_32 (A1), Snazzy\_29 (A1), Solon\_30 (A1), Sorpresa\_30 (A1), SpikeBT\_32 (A1), StrongArm\_29 (A1), Sumter\_29 (A1), Sunshine924\_31 (A1), SwissCheese\_32 (A1), Switzer\_31 (A1), Swole\_32 (A1), Target\_33 (A1), Tasp14\_31 (A1), Teodoridan\_28 (A1), TheloniousMonk\_32 (A1), Thor\_30 (A1), Topgun\_30 (A1), Tote\_32 (A1), Tripl3t\_31 (A1), Trouble\_31 (A1), Turj99\_29 (A1), TwoPeat\_31 (A1), Violet\_29 (A1), Watermelon\_32 (A1), Wheeler\_30 (A1), Wilkins\_30 (A1), Zeeculate\_30 (A1), Zephyr\_30 (A1), Zeuska\_31 (A1),

#### Start 5:

- Found in 28 of 270 ( 10.4% ) of genes in pham
- Manual Annotations of this start: 8 of 246
- Called 32.1% of time when present
- Phage (with cluster) where this start called: Bob3\_29 (A1), Bones\_30 (A1), Edtherson\_31 (A1), Fascinus\_29 (A1), LunarLander\_32 (A1), MPlant7149\_29 (A1), Michley\_30 (A1), Traft412\_32 (A1), Treddle\_32 (A1),

#### Start 6:

- Found in 39 of 270 ( 14.4% ) of genes in pham
- Manual Annotations of this start: 33 of 246
- Called 87.2% of time when present
- Phage (with cluster) where this start called: Alatin\_26 (CA), Alpacados\_25 (CA), AppleCloud\_24 (CA), Belenaria\_26 (CA), BobbyDazzler\_26 (CA), Bonanza\_26 (CA), Bradshaw\_26 (CA), Bryce\_26 (CA), CosmicSans\_26 (CA), Dinger\_26 (CA), Erik\_26 (CA), Espica\_26 (CA), Gollum\_26 (CA), Harlequin\_26 (CA), Jester\_26 (CA), Krishelle\_26 (CA), Lillie\_26 (CA), Naiad\_26 (CA), Nancinator\_26 (CA), Natosaleda\_26 (CA), Partridge\_26 (CA), PhailMary\_25 (CA), Phrankenstein\_26 (CA), RGL3\_19 (CA), Rasputin\_26 (CA), Rhodalysa\_26 (CA), Shuman\_26 (CA), StCroix\_26 (CA), Swann\_26 (CA), TWAMP\_26 (CA), Takoda\_26 (CA), UhSalsa\_26 (CA), Yogi\_26 (CA), Yoncess\_26 (CA),

#### Start 7:

- Found in 202 of 270 ( 74.8% ) of genes in pham
- Manual Annotations of this start: 8 of 246
- Called 5.4% of time when present
- Phage (with cluster) where this start called: Bethlehem\_30 (A1), Bexan\_29 (A1), Buttons\_32 (A1), Hami1\_32 (A1), IgnatiusPatJac\_30 (A1), KBG\_31 (A1), Kykar\_30 (A1), Raid\_31 (A1), Rutherferd\_32 (A1), ShortQueendom\_29 (A1), StewieG\_29 (A1),

#### Start 8:

- Found in 199 of 270 ( 73.7% ) of genes in pham
- Manual Annotations of this start: 3 of 246
- Called 1.5% of time when present
- Phage (with cluster) where this start called: Perseus\_32 (A1), Squee\_31 (A1), U2\_30 (A1),

#### Start 9:

- Found in 37 of 270 ( 13.7% ) of genes in pham
- Manual Annotations of this start: 3 of 246
- Called 10.8% of time when present
- Phage (with cluster) where this start called: AngryOrchard\_25 (CA), Hiro\_26 (CA), RER2\_19 (CA), RexFury\_26 (CA),

### Summary by clusters:

There are 4 clusters represented in this pham: A1, A8, CA, singleton,

#### Info for manual annotations of cluster A1:

- Start number 1 was manually annotated 3 times for cluster A1.
- Start number 4 was manually annotated 187 times for cluster A1.
- Start number 5 was manually annotated 8 times for cluster A1.
- Start number 7 was manually annotated 8 times for cluster A1.
- Start number 8 was manually annotated 3 times for cluster A1.

#### Info for manual annotations of cluster A8:

- Start number 4 was manually annotated 1 time for cluster A8.

#### Info for manual annotations of cluster CA:

- Start number 6 was manually annotated 33 times for cluster CA.
- Start number 9 was manually annotated 3 times for cluster CA.

**Gene Information:**

Gene: A6\_28 Start: 23288, Stop: 23635, Start Num: 4

Candidate Starts for A6\_28:

(Start: 1 @23198 has 3 MA's), (Start: 4 @23288 has 188 MA's), (Start: 7 @23309 has 8 MA's), (Start: 8 @23315 has 3 MA's), (17, 23441), (22, 23486),

Gene: AFIS\_30 Start: 23831, Stop: 24178, Start Num: 4

Candidate Starts for AFIS\_30:

(Start: 1 @23741 has 3 MA's), (Start: 4 @23831 has 188 MA's), (Start: 7 @23852 has 8 MA's), (Start: 8 @23858 has 3 MA's), (17, 23984), (22, 24029),

Gene: Abbyshoes\_31 Start: 23946, Stop: 24293, Start Num: 4

Candidate Starts for Abbyshoes\_31:

(Start: 1 @23856 has 3 MA's), (Start: 4 @23946 has 188 MA's), (Start: 7 @23967 has 8 MA's), (Start: 8 @23973 has 3 MA's), (17, 24099), (22, 24144),

Gene: Abrogate\_310 Start: 24506, Stop: 24853, Start Num: 4

Candidate Starts for Abrogate\_310:

(Start: 1 @24416 has 3 MA's), (Start: 4 @24506 has 188 MA's), (Start: 7 @24527 has 8 MA's), (Start: 8 @24533 has 3 MA's), (17, 24659), (22, 24704),

Gene: Acme\_32 Start: 24047, Stop: 24394, Start Num: 4

Candidate Starts for Acme\_32:

(Start: 1 @23957 has 3 MA's), (Start: 4 @24047 has 188 MA's), (Start: 7 @24068 has 8 MA's), (Start: 8 @24074 has 3 MA's), (17, 24200), (22, 24245),

Gene: Adahisdi\_31 Start: 23954, Stop: 24253, Start Num: 4

Candidate Starts for Adahisdi\_31:

(Start: 1 @23864 has 3 MA's), (Start: 4 @23954 has 188 MA's), (Start: 5 @23960 has 8 MA's), (13, 24023), (14, 24038), (17, 24101), (20, 24119), (25, 24182),

Gene: Aeneas\_32 Start: 24083, Stop: 24430, Start Num: 4

Candidate Starts for Aeneas\_32:

(Start: 1 @23993 has 3 MA's), (Start: 4 @24083 has 188 MA's), (Start: 7 @24104 has 8 MA's), (Start: 8 @24110 has 3 MA's), (17, 24236), (22, 24281),

Gene: Agaliana\_31 Start: 24027, Stop: 24374, Start Num: 4

Candidate Starts for Agaliana\_31:

(Start: 1 @23937 has 3 MA's), (Start: 4 @24027 has 188 MA's), (Start: 7 @24048 has 8 MA's), (Start: 8 @24054 has 3 MA's), (17, 24180), (22, 24225),

Gene: Ajay\_31 Start: 24259, Stop: 24606, Start Num: 4

Candidate Starts for Ajay\_31:

(Start: 1 @24169 has 3 MA's), (Start: 4 @24259 has 188 MA's), (Start: 7 @24280 has 8 MA's), (Start: 8 @24286 has 3 MA's), (17, 24412), (22, 24457),

Gene: Alatin\_26 Start: 18760, Stop: 19080, Start Num: 6

Candidate Starts for Alatin\_26:

(Start: 6 @18760 has 33 MA's), (Start: 9 @18787 has 3 MA's), (15, 18844), (16, 18874), (17, 18907), (23, 18958), (25, 19009),

Gene: Alpacados\_25 Start: 18696, Stop: 19016, Start Num: 6

Candidate Starts for Alpacados\_25:

(Start: 6 @18696 has 33 MA's), (Start: 9 @18723 has 3 MA's), (15, 18780), (16, 18810), (17, 18843), (23, 18894), (24, 18927), (25, 18945),

Gene: Alsfro\_34 Start: 24492, Stop: 24839, Start Num: 4

Candidate Starts for Alsfro\_34:

(Start: 1 @24402 has 3 MA's), (Start: 4 @24492 has 188 MA's), (Start: 7 @24513 has 8 MA's), (Start: 8 @24519 has 3 MA's), (17, 24645), (22, 24690),

Gene: Altman\_32 Start: 24550, Stop: 24897, Start Num: 4

Candidate Starts for Altman\_32:

(Start: 1 @24460 has 3 MA's), (Start: 4 @24550 has 188 MA's), (Start: 7 @24571 has 8 MA's), (Start: 8 @24577 has 3 MA's), (17, 24703), (22, 24748),

Gene: Alvin\_31 Start: 24319, Stop: 24666, Start Num: 4

Candidate Starts for Alvin\_31:

(Start: 1 @24229 has 3 MA's), (Start: 4 @24319 has 188 MA's), (Start: 7 @24340 has 8 MA's), (Start: 8 @24346 has 3 MA's), (17, 24472), (22, 24517),

Gene: Anglerfish\_31 Start: 24463, Stop: 24810, Start Num: 4

Candidate Starts for Anglerfish\_31:

(Start: 1 @24373 has 3 MA's), (Start: 4 @24463 has 188 MA's), (Start: 7 @24484 has 8 MA's), (Start: 8 @24490 has 3 MA's), (17, 24616), (22, 24661),

Gene: AngryOrchard\_25 Start: 18706, Stop: 18999, Start Num: 9

Candidate Starts for AngryOrchard\_25:

(Start: 6 @18679 has 33 MA's), (Start: 9 @18706 has 3 MA's), (15, 18763), (16, 18793), (17, 18826), (23, 18877), (25, 18928),

Gene: AppleCloud\_24 Start: 18725, Stop: 19045, Start Num: 6

Candidate Starts for AppleCloud\_24:

(Start: 6 @18725 has 33 MA's), (Start: 9 @18752 has 3 MA's), (15, 18809), (16, 18839), (17, 18872), (23, 18923), (24, 18956), (25, 18974),

Gene: Applejack\_30 Start: 23724, Stop: 24071, Start Num: 4

Candidate Starts for Applejack\_30:

(Start: 1 @23634 has 3 MA's), (Start: 4 @23724 has 188 MA's), (Start: 7 @23745 has 8 MA's), (Start: 8 @23751 has 3 MA's), (17, 23877), (22, 23922),

Gene: Arcanine\_31 Start: 23477, Stop: 23824, Start Num: 4

Candidate Starts for Arcanine\_31:

(Start: 1 @23387 has 3 MA's), (Start: 4 @23477 has 188 MA's), (Start: 7 @23498 has 8 MA's), (Start: 8 @23504 has 3 MA's), (17, 23630), (22, 23675),

Gene: Arlo\_29 Start: 23353, Stop: 23700, Start Num: 4

Candidate Starts for Arlo\_29:

(Start: 1 @23263 has 3 MA's), (Start: 4 @23353 has 188 MA's), (Start: 7 @23374 has 8 MA's), (Start: 8 @23380 has 3 MA's), (17, 23506), (22, 23551),

Gene: Ashballer\_32 Start: 24477, Stop: 24824, Start Num: 4

Candidate Starts for Ashballer\_32:



(Start: 1 @24387 has 3 MA's), (Start: 4 @24477 has 188 MA's), (Start: 7 @24498 has 8 MA's), (Start: 8 @24504 has 3 MA's), (17, 24630), (22, 24675),

Gene: Atkinbua\_32 Start: 24177, Stop: 24524, Start Num: 4

Candidate Starts for Atkinbua\_32:

(Start: 1 @24087 has 3 MA's), (Start: 4 @24177 has 188 MA's), (Start: 7 @24198 has 8 MA's), (Start: 8 @24204 has 3 MA's), (17, 24330), (22, 24375),

Gene: BK1\_28 Start: 23288, Stop: 23635, Start Num: 4

Candidate Starts for BK1\_28:

(Start: 1 @23198 has 3 MA's), (Start: 4 @23288 has 188 MA's), (Start: 7 @23309 has 8 MA's), (Start: 8 @23315 has 3 MA's), (17, 23441), (22, 23486),

Gene: BPBiebs31\_31 Start: 24048, Stop: 24395, Start Num: 4

Candidate Starts for BPBiebs31\_31:

(Start: 1 @23958 has 3 MA's), (Start: 4 @24048 has 188 MA's), (Start: 7 @24069 has 8 MA's), (Start: 8 @24075 has 3 MA's), (17, 24201), (22, 24246),

Gene: BaconJack\_33 Start: 24246, Stop: 24593, Start Num: 4

Candidate Starts for BaconJack\_33:

(Start: 1 @24156 has 3 MA's), (Start: 4 @24246 has 188 MA's), (Start: 7 @24267 has 8 MA's), (Start: 8 @24273 has 3 MA's), (17, 24399), (22, 24444),

Gene: Barriga\_30 Start: 23579, Stop: 23926, Start Num: 4

Candidate Starts for Barriga\_30:

(Start: 1 @23489 has 3 MA's), (Start: 4 @23579 has 188 MA's), (Start: 7 @23600 has 8 MA's), (Start: 8 @23606 has 3 MA's), (17, 23732), (22, 23777),

Gene: BarrowTuph\_29 Start: 23600, Stop: 23947, Start Num: 4

Candidate Starts for BarrowTuph\_29:

(Start: 1 @23510 has 3 MA's), (Start: 4 @23600 has 188 MA's), (Start: 7 @23621 has 8 MA's), (Start: 8 @23627 has 3 MA's), (17, 23753), (22, 23798),

Gene: Beatrix\_30 Start: 25161, Stop: 25508, Start Num: 4

Candidate Starts for Beatrix\_30:

(Start: 1 @25071 has 3 MA's), (Start: 4 @25161 has 188 MA's), (Start: 7 @25182 has 8 MA's), (Start: 8 @25188 has 3 MA's), (17, 25314), (22, 25359),

Gene: BeesKnees\_31 Start: 23778, Stop: 24125, Start Num: 4

Candidate Starts for BeesKnees\_31:

(Start: 1 @23688 has 3 MA's), (Start: 4 @23778 has 188 MA's), (Start: 7 @23799 has 8 MA's), (Start: 8 @23805 has 3 MA's), (17, 23931), (22, 23976),

Gene: Belenaria\_26 Start: 18760, Stop: 19080, Start Num: 6

Candidate Starts for Belenaria\_26:

(Start: 6 @18760 has 33 MA's), (Start: 9 @18787 has 3 MA's), (15, 18844), (16, 18874), (17, 18907), (23, 18958), (25, 19009),

Gene: Bethlehem\_30 Start: 25025, Stop: 25351, Start Num: 7

Candidate Starts for Bethlehem\_30:

(Start: 1 @24914 has 3 MA's), (Start: 4 @25004 has 188 MA's), (Start: 7 @25025 has 8 MA's), (Start: 8 @25031 has 3 MA's), (17, 25157), (22, 25202),

Gene: Bexan\_29 Start: 24749, Stop: 25075, Start Num: 7

Candidate Starts for Bexan\_29:

(Start: 1 @24638 has 3 MA's), (Start: 4 @24728 has 188 MA's), (Start: 7 @24749 has 8 MA's), (Start: 8 @24755 has 3 MA's), (17, 24881), (22, 24926),

Gene: Big3\_30 Start: 24359, Stop: 24706, Start Num: 4

Candidate Starts for Big3\_30:

(Start: 1 @24269 has 3 MA's), (Start: 4 @24359 has 188 MA's), (Start: 7 @24380 has 8 MA's), (Start: 8 @24386 has 3 MA's), (17, 24512), (22, 24557),

Gene: BigMau\_32 Start: 23960, Stop: 24259, Start Num: 4

Candidate Starts for BigMau\_32:

(Start: 1 @23870 has 3 MA's), (Start: 4 @23960 has 188 MA's), (Start: 5 @23966 has 8 MA's), (13, 24029), (14, 24044), (17, 24107), (20, 24125), (25, 24188),

Gene: BigPaolini\_31 Start: 24357, Stop: 24704, Start Num: 4

Candidate Starts for BigPaolini\_31:

(Start: 1 @24267 has 3 MA's), (Start: 4 @24357 has 188 MA's), (Start: 7 @24378 has 8 MA's), (Start: 8 @24384 has 3 MA's), (17, 24510), (22, 24555),

Gene: Bigchungji\_30 Start: 23730, Stop: 24077, Start Num: 4

Candidate Starts for Bigchungji\_30:

(Start: 1 @23640 has 3 MA's), (Start: 4 @23730 has 188 MA's), (Start: 7 @23751 has 8 MA's), (Start: 8 @23757 has 3 MA's), (17, 23883), (22, 23928),

Gene: Bigfoot\_29 Start: 23566, Stop: 23865, Start Num: 4

Candidate Starts for Bigfoot\_29:

(Start: 1 @23476 has 3 MA's), (Start: 4 @23566 has 188 MA's), (Start: 5 @23572 has 8 MA's), (13, 23635), (14, 23650), (17, 23713), (20, 23731), (25, 23794),

Gene: BillKnuckles\_31 Start: 24444, Stop: 24791, Start Num: 4

Candidate Starts for BillKnuckles\_31:

(Start: 1 @24354 has 3 MA's), (Start: 4 @24444 has 188 MA's), (Start: 7 @24465 has 8 MA's), (Start: 8 @24471 has 3 MA's), (17, 24597), (22, 24642),

Gene: Bircsak\_30 Start: 24216, Stop: 24563, Start Num: 4

Candidate Starts for Bircsak\_30:

(Start: 1 @24126 has 3 MA's), (Start: 4 @24216 has 188 MA's), (Start: 7 @24237 has 8 MA's), (Start: 8 @24243 has 3 MA's), (17, 24369), (22, 24414),

Gene: BluSpix\_31 Start: 23974, Stop: 24321, Start Num: 4

Candidate Starts for BluSpix\_31:

(Start: 1 @23884 has 3 MA's), (Start: 4 @23974 has 188 MA's), (Start: 7 @23995 has 8 MA's), (Start: 8 @24001 has 3 MA's), (17, 24127), (22, 24172),

Gene: Blue\_30 Start: 24212, Stop: 24559, Start Num: 4

Candidate Starts for Blue\_30:

(Start: 1 @24122 has 3 MA's), (Start: 4 @24212 has 188 MA's), (Start: 7 @24233 has 8 MA's), (Start: 8 @24239 has 3 MA's), (17, 24365), (22, 24410),

Gene: Bob3\_29 Start: 23306, Stop: 23599, Start Num: 5

Candidate Starts for Bob3\_29:

(Start: 1 @23210 has 3 MA's), (Start: 4 @23300 has 188 MA's), (Start: 5 @23306 has 8 MA's), (13, 23369), (14, 23384), (17, 23447), (20, 23465), (25, 23528),

Gene: BobbyDazzler\_26 Start: 18805, Stop: 19125, Start Num: 6

Candidate Starts for BobbyDazzler\_26:

(Start: 6 @18805 has 33 MA's), (Start: 9 @18832 has 3 MA's), (15, 18889), (16, 18919), (17, 18952), (23, 19003), (24, 19036), (25, 19054),

Gene: Bonanza\_26 Start: 18734, Stop: 19054, Start Num: 6

Candidate Starts for Bonanza\_26:

(Start: 6 @18734 has 33 MA's), (Start: 9 @18761 has 3 MA's), (15, 18818), (16, 18848), (17, 18881), (23, 18932), (24, 18965), (25, 18983),

Gene: Bones\_30 Start: 23672, Stop: 23965, Start Num: 5

Candidate Starts for Bones\_30:

(Start: 1 @23576 has 3 MA's), (Start: 4 @23666 has 188 MA's), (Start: 5 @23672 has 8 MA's), (13, 23735), (14, 23750), (17, 23813), (20, 23831), (25, 23894),

Gene: Bradshaw\_26 Start: 18760, Stop: 19080, Start Num: 6

Candidate Starts for Bradshaw\_26:

(Start: 6 @18760 has 33 MA's), (Start: 9 @18787 has 3 MA's), (15, 18844), (16, 18874), (17, 18907), (23, 18958), (25, 19009),

Gene: Briton15\_32 Start: 24011, Stop: 24358, Start Num: 4

Candidate Starts for Briton15\_32:

(Start: 1 @23921 has 3 MA's), (Start: 4 @24011 has 188 MA's), (Start: 7 @24032 has 8 MA's), (Start: 8 @24038 has 3 MA's), (17, 24164), (22, 24209),

Gene: Bruns\_29 Start: 23641, Stop: 23988, Start Num: 4

Candidate Starts for Bruns\_29:

(Start: 1 @23551 has 3 MA's), (Start: 4 @23641 has 188 MA's), (Start: 7 @23662 has 8 MA's), (Start: 8 @23668 has 3 MA's), (17, 23794), (22, 23839),

Gene: Bryce\_26 Start: 18734, Stop: 19054, Start Num: 6

Candidate Starts for Bryce\_26:

(Start: 6 @18734 has 33 MA's), (Start: 9 @18761 has 3 MA's), (15, 18818), (16, 18848), (17, 18881), (23, 18932), (24, 18965), (25, 18983),

Gene: Burton\_31 Start: 23861, Stop: 24208, Start Num: 4

Candidate Starts for Burton\_31:

(Start: 1 @23771 has 3 MA's), (Start: 4 @23861 has 188 MA's), (Start: 7 @23882 has 8 MA's), (Start: 8 @23888 has 3 MA's), (17, 24014), (22, 24059),

Gene: Buttons\_32 Start: 24723, Stop: 25049, Start Num: 7

Candidate Starts for Buttons\_32:

(Start: 1 @24612 has 3 MA's), (Start: 4 @24702 has 188 MA's), (Start: 7 @24723 has 8 MA's), (Start: 8 @24729 has 3 MA's), (17, 24855), (22, 24900),

Gene: Bxb1\_28 Start: 23812, Stop: 24159, Start Num: 4

Candidate Starts for Bxb1\_28:

(Start: 1 @23722 has 3 MA's), (Start: 4 @23812 has 188 MA's), (Start: 7 @23833 has 8 MA's), (Start: 8 @23839 has 3 MA's), (17, 23965), (22, 24010),

Gene: CactusRose\_29 Start: 23661, Stop: 23960, Start Num: 4

Candidate Starts for CactusRose\_29:

(Start: 1 @23571 has 3 MA's), (Start: 4 @23661 has 188 MA's), (Start: 5 @23667 has 8 MA's), (13, 23730), (14, 23745), (17, 23808), (20, 23826), (25, 23889),

Gene: Carlyle\_32 Start: 24541, Stop: 24888, Start Num: 4

Candidate Starts for Carlyle\_32:

(Start: 1 @24451 has 3 MA's), (Start: 4 @24541 has 188 MA's), (Start: 7 @24562 has 8 MA's), (Start: 8 @24568 has 3 MA's), (17, 24694), (22, 24739),

Gene: Chanagan\_29 Start: 23326, Stop: 23673, Start Num: 4

Candidate Starts for Chanagan\_29:

(Start: 1 @23236 has 3 MA's), (Start: 4 @23326 has 188 MA's), (Start: 7 @23347 has 8 MA's), (Start: 8 @23353 has 3 MA's), (17, 23479), (22, 23524),

Gene: Ciao\_30 Start: 23669, Stop: 24016, Start Num: 4

Candidate Starts for Ciao\_30:

(Start: 1 @23579 has 3 MA's), (Start: 4 @23669 has 188 MA's), (Start: 7 @23690 has 8 MA's), (Start: 8 @23696 has 3 MA's), (17, 23822), (22, 23867),

Gene: ConceptII\_32 Start: 24683, Stop: 25030, Start Num: 4

Candidate Starts for ConceptII\_32:

(Start: 1 @24593 has 3 MA's), (Start: 4 @24683 has 188 MA's), (Start: 7 @24704 has 8 MA's), (Start: 8 @24710 has 3 MA's), (17, 24836), (22, 24881),

Gene: Corvo\_31 Start: 24678, Stop: 25025, Start Num: 4

Candidate Starts for Corvo\_31:

(Start: 1 @24588 has 3 MA's), (Start: 4 @24678 has 188 MA's), (Start: 7 @24699 has 8 MA's), (Start: 8 @24705 has 3 MA's), (17, 24831), (22, 24876),

Gene: CosmicSans\_26 Start: 18760, Stop: 19080, Start Num: 6

Candidate Starts for CosmicSans\_26:

(Start: 6 @18760 has 33 MA's), (Start: 9 @18787 has 3 MA's), (15, 18844), (16, 18874), (17, 18907), (23, 18958), (25, 19009),

Gene: Crispicous1\_29 Start: 23255, Stop: 23602, Start Num: 4

Candidate Starts for Crispicous1\_29:

(Start: 1 @23165 has 3 MA's), (Start: 4 @23255 has 188 MA's), (Start: 7 @23276 has 8 MA's), (Start: 8 @23282 has 3 MA's), (17, 23408), (22, 23453),

Gene: Cueylyss\_30 Start: 23899, Stop: 24198, Start Num: 4

Candidate Starts for Cueylyss\_30:

(Start: 1 @23809 has 3 MA's), (Start: 4 @23899 has 188 MA's), (Start: 5 @23905 has 8 MA's), (13, 23968), (14, 23983), (17, 24046), (20, 24064), (25, 24127),

Gene: DD5\_31 Start: 24355, Stop: 24792, Start Num: 1

Candidate Starts for DD5\_31:

(Start: 1 @24355 has 3 MA's), (Start: 4 @24445 has 188 MA's), (Start: 7 @24466 has 8 MA's), (Start: 8 @24472 has 3 MA's), (17, 24598), (22, 24643),

Gene: Dexes\_31 Start: 24407, Stop: 24754, Start Num: 4

Candidate Starts for Dexes\_31:

(Start: 1 @24317 has 3 MA's), (Start: 4 @24407 has 188 MA's), (Start: 7 @24428 has 8 MA's), (Start: 8 @24434 has 3 MA's), (17, 24560), (22, 24605),

Gene: Dinger\_26 Start: 18730, Stop: 19050, Start Num: 6

Candidate Starts for Dinger\_26:

(Start: 6 @18730 has 33 MA's), (Start: 9 @18757 has 3 MA's), (16, 18844), (17, 18877), (23, 18928), (25, 18979),

Gene: Doom\_31 Start: 24515, Stop: 24862, Start Num: 4

Candidate Starts for Doom\_31:

(Start: 1 @24425 has 3 MA's), (Start: 4 @24515 has 188 MA's), (Start: 7 @24536 has 8 MA's), (Start: 8 @24542 has 3 MA's), (17, 24668), (22, 24713),

Gene: DrFeelGood\_29 Start: 24118, Stop: 24465, Start Num: 4

Candidate Starts for DrFeelGood\_29:

(Start: 1 @24028 has 3 MA's), (Start: 4 @24118 has 188 MA's), (Start: 7 @24139 has 8 MA's), (Start: 8 @24145 has 3 MA's), (17, 24271), (22, 24316),

Gene: DreamCatcher\_33 Start: 25132, Stop: 25431, Start Num: 4

Candidate Starts for DreamCatcher\_33:

(Start: 1 @25042 has 3 MA's), (Start: 4 @25132 has 188 MA's), (Start: 5 @25138 has 8 MA's), (13, 25201), (14, 25216), (17, 25279), (20, 25297), (25, 25360),

Gene: Dreamboat\_31 Start: 23684, Stop: 24031, Start Num: 4

Candidate Starts for Dreamboat\_31:

(Start: 1 @23594 has 3 MA's), (Start: 4 @23684 has 188 MA's), (Start: 7 @23705 has 8 MA's), (Start: 8 @23711 has 3 MA's), (17, 23837), (22, 23882),

Gene: Dulcie\_29 Start: 23381, Stop: 23728, Start Num: 4

Candidate Starts for Dulcie\_29:

(Start: 1 @23291 has 3 MA's), (Start: 4 @23381 has 188 MA's), (Start: 7 @23402 has 8 MA's), (Start: 8 @23408 has 3 MA's), (17, 23534), (22, 23579),

Gene: Dussy\_31 Start: 23946, Stop: 24293, Start Num: 4

Candidate Starts for Dussy\_31:

(Start: 1 @23856 has 3 MA's), (Start: 4 @23946 has 188 MA's), (Start: 7 @23967 has 8 MA's), (Start: 8 @23973 has 3 MA's), (17, 24099), (22, 24144),

Gene: Dynamix\_31 Start: 23763, Stop: 24110, Start Num: 4

Candidate Starts for Dynamix\_31:

(Start: 1 @23673 has 3 MA's), (Start: 4 @23763 has 188 MA's), (Start: 7 @23784 has 8 MA's), (Start: 8 @23790 has 3 MA's), (17, 23916), (22, 23961),

Gene: Edtherson\_31 Start: 24516, Stop: 24809, Start Num: 5

Candidate Starts for Edtherson\_31:

(Start: 1 @24420 has 3 MA's), (Start: 4 @24510 has 188 MA's), (Start: 5 @24516 has 8 MA's), (13, 24579), (14, 24594), (17, 24657), (20, 24675), (25, 24738),

Gene: EnzoK\_30 Start: 23935, Stop: 24282, Start Num: 4

Candidate Starts for EnzoK\_30:

(Start: 1 @23845 has 3 MA's), (Start: 4 @23935 has 188 MA's), (Start: 7 @23956 has 8 MA's), (Start: 8 @23962 has 3 MA's), (17, 24088), (22, 24133),

Gene: Erik\_26 Start: 18759, Stop: 19079, Start Num: 6

Candidate Starts for Erik\_26:

(Start: 6 @18759 has 33 MA's), (Start: 9 @18786 has 3 MA's), (15, 18843), (16, 18873), (17, 18906), (23, 18957), (25, 19008),

Gene: Espica\_26 Start: 18760, Stop: 19080, Start Num: 6

Candidate Starts for Espica\_26:

(Start: 6 @18760 has 33 MA's), (Start: 9 @18787 has 3 MA's), (15, 18844), (16, 18874), (17, 18907), (23, 18958), (25, 19009),

Gene: Espresso\_30 Start: 23827, Stop: 24174, Start Num: 4

Candidate Starts for Espresso\_30:

(Start: 1 @23737 has 3 MA's), (Start: 4 @23827 has 188 MA's), (Start: 7 @23848 has 8 MA's), (Start: 8 @23854 has 3 MA's), (17, 23980), (22, 24025), (26, 24166),

Gene: Euphoria\_30 Start: 23717, Stop: 24064, Start Num: 4

Candidate Starts for Euphoria\_30:

(Start: 1 @23627 has 3 MA's), (Start: 4 @23717 has 188 MA's), (Start: 7 @23738 has 8 MA's), (Start: 8 @23744 has 3 MA's), (17, 23870), (22, 23915),

Gene: Eyeball\_30 Start: 23522, Stop: 23869, Start Num: 4

Candidate Starts for Eyeball\_30:

(Start: 1 @23432 has 3 MA's), (Start: 4 @23522 has 188 MA's), (Start: 7 @23543 has 8 MA's), (Start: 8 @23549 has 3 MA's), (17, 23675), (22, 23720),

Gene: Fajezeel\_32 Start: 24032, Stop: 24379, Start Num: 4

Candidate Starts for Fajezeel\_32:

(Start: 1 @23942 has 3 MA's), (Start: 4 @24032 has 188 MA's), (Start: 7 @24053 has 8 MA's), (Start: 8 @24059 has 3 MA's), (17, 24185), (22, 24230),

Gene: Fascinus\_29 Start: 23592, Stop: 23885, Start Num: 5

Candidate Starts for Fascinus\_29:

(Start: 1 @23496 has 3 MA's), (Start: 4 @23586 has 188 MA's), (Start: 5 @23592 has 8 MA's), (13, 23655), (14, 23670), (17, 23733), (20, 23751), (25, 23814),

Gene: Fenn\_31 Start: 25397, Stop: 25696, Start Num: 4

Candidate Starts for Fenn\_31:

(Start: 1 @25307 has 3 MA's), (Start: 4 @25397 has 188 MA's), (Start: 5 @25403 has 8 MA's), (13, 25466), (14, 25481), (17, 25544), (20, 25562), (25, 25625),

Gene: Forsytheast\_30 Start: 23956, Stop: 24303, Start Num: 4

Candidate Starts for Forsytheast\_30:

(Start: 1 @23866 has 3 MA's), (Start: 4 @23956 has 188 MA's), (Start: 7 @23977 has 8 MA's), (Start: 8 @23983 has 3 MA's), (17, 24109), (22, 24154),

Gene: Francis47\_30 Start: 24269, Stop: 24568, Start Num: 4

Candidate Starts for Francis47\_30:

(Start: 1 @24179 has 3 MA's), (Start: 4 @24269 has 188 MA's), (Start: 5 @24275 has 8 MA's), (13, 24338), (14, 24353), (17, 24416), (20, 24434), (25, 24497),

Gene: Froghopper\_31 Start: 23684, Stop: 24031, Start Num: 4

Candidate Starts for Froghopper\_31:

(Start: 1 @23594 has 3 MA's), (Start: 4 @23684 has 188 MA's), (Start: 7 @23705 has 8 MA's), (Start: 8 @23711 has 3 MA's), (17, 23837), (22, 23882),

Gene: Fushigi\_31 Start: 24141, Stop: 24488, Start Num: 4

Candidate Starts for Fushigi\_31:

(Start: 1 @24051 has 3 MA's), (Start: 4 @24141 has 188 MA's), (Start: 7 @24162 has 8 MA's), (Start: 8 @24168 has 3 MA's), (17, 24294), (22, 24339),

Gene: GMonster\_29 Start: 23101, Stop: 23448, Start Num: 4

Candidate Starts for GMonster\_29:

(Start: 1 @23011 has 3 MA's), (Start: 4 @23101 has 188 MA's), (Start: 7 @23122 has 8 MA's), (Start: 8 @23128 has 3 MA's), (17, 23254), (22, 23299),

Gene: GageAP\_32 Start: 24455, Stop: 24802, Start Num: 4

Candidate Starts for GageAP\_32:

(Start: 1 @24365 has 3 MA's), (Start: 4 @24455 has 188 MA's), (Start: 7 @24476 has 8 MA's), (Start: 8 @24482 has 3 MA's), (17, 24608), (22, 24653),

Gene: Gandalf20\_31 Start: 24560, Stop: 24907, Start Num: 4

Candidate Starts for Gandalf20\_31:

(Start: 1 @24470 has 3 MA's), (Start: 4 @24560 has 188 MA's), (Start: 7 @24581 has 8 MA's), (Start: 8 @24587 has 3 MA's), (17, 24713), (22, 24758),

Gene: Gollum\_26 Start: 18760, Stop: 19080, Start Num: 6

Candidate Starts for Gollum\_26:

(Start: 6 @18760 has 33 MA's), (Start: 9 @18787 has 3 MA's), (15, 18844), (16, 18874), (17, 18907), (23, 18958), (25, 19009),

Gene: Gompeii16\_30 Start: 24217, Stop: 24564, Start Num: 4

Candidate Starts for Gompeii16\_30:

(Start: 1 @24127 has 3 MA's), (Start: 4 @24217 has 188 MA's), (Start: 7 @24238 has 8 MA's), (Start: 8 @24244 has 3 MA's), (17, 24370), (22, 24415),

Gene: Graduation\_32 Start: 24486, Stop: 24785, Start Num: 4

Candidate Starts for Graduation\_32:

(Start: 1 @24396 has 3 MA's), (Start: 4 @24486 has 188 MA's), (Start: 5 @24492 has 8 MA's), (13, 24555), (14, 24570), (17, 24633), (20, 24651), (25, 24714),

Gene: GrecoEtereo\_32 Start: 24526, Stop: 24873, Start Num: 4

Candidate Starts for GrecoEtereo\_32:

(Start: 1 @24436 has 3 MA's), (Start: 4 @24526 has 188 MA's), (Start: 7 @24547 has 8 MA's), (Start: 8 @24553 has 3 MA's), (17, 24679), (22, 24724),

Gene: Greg\_32 Start: 24032, Stop: 24379, Start Num: 4

Candidate Starts for Greg\_32:

(Start: 1 @23942 has 3 MA's), (Start: 4 @24032 has 188 MA's), (Start: 7 @24053 has 8 MA's), (Start: 8 @24059 has 3 MA's), (17, 24185), (22, 24230),

Gene: Gwendoluna\_32 Start: 25674, Stop: 26021, Start Num: 4

Candidate Starts for Gwendoluna\_32:

(Start: 1 @25584 has 3 MA's), (Start: 4 @25674 has 188 MA's), (Start: 7 @25695 has 8 MA's), (Start: 8 @25701 has 3 MA's), (17, 25827), (22, 25872),

Gene: Gyzlar\_32 Start: 24980, Stop: 25327, Start Num: 4

Candidate Starts for Gyzlar\_32:

(Start: 1 @24890 has 3 MA's), (Start: 4 @24980 has 188 MA's), (Start: 7 @25001 has 8 MA's), (Start: 8 @25007 has 3 MA's), (17, 25133), (22, 25178),

Gene: Hami1\_32 Start: 24147, Stop: 24473, Start Num: 7

Candidate Starts for Hami1\_32:

(Start: 1 @24036 has 3 MA's), (Start: 4 @24126 has 188 MA's), (Start: 7 @24147 has 8 MA's), (Start: 8 @24153 has 3 MA's), (17, 24279), (22, 24324),

Gene: HanShotFirst\_30 Start: 23660, Stop: 24007, Start Num: 4

Candidate Starts for HanShotFirst\_30:

(Start: 1 @23570 has 3 MA's), (Start: 4 @23660 has 188 MA's), (Start: 7 @23681 has 8 MA's), (Start: 8 @23687 has 3 MA's), (17, 23813), (22, 23858),

Gene: Harlequin\_26 Start: 18710, Stop: 19030, Start Num: 6

Candidate Starts for Harlequin\_26:

(Start: 6 @18710 has 33 MA's), (Start: 9 @18737 has 3 MA's), (15, 18794), (16, 18824), (17, 18857), (23, 18908), (24, 18941), (25, 18959),

Gene: HarryOW\_31 Start: 24114, Stop: 24461, Start Num: 4

Candidate Starts for HarryOW\_31:

(Start: 1 @24024 has 3 MA's), (Start: 4 @24114 has 188 MA's), (Start: 7 @24135 has 8 MA's), (Start: 8 @24141 has 3 MA's), (17, 24267), (22, 24312),

Gene: Hermia\_33 Start: 25242, Stop: 25589, Start Num: 4

Candidate Starts for Hermia\_33:

(Start: 1 @25152 has 3 MA's), (Start: 4 @25242 has 188 MA's), (Start: 7 @25263 has 8 MA's), (Start: 8 @25269 has 3 MA's), (17, 25395), (22, 25440),

Gene: HermioneGrange\_30 Start: 23688, Stop: 23987, Start Num: 4

Candidate Starts for HermioneGrange\_30:

(Start: 1 @23598 has 3 MA's), (Start: 4 @23688 has 188 MA's), (Start: 5 @23694 has 8 MA's), (13, 23757), (14, 23772), (17, 23835), (20, 23853), (25, 23916),

Gene: Hiro\_26 Start: 19043, Stop: 19336, Start Num: 9

Candidate Starts for Hiro\_26:

(Start: 6 @19016 has 33 MA's), (Start: 9 @19043 has 3 MA's), (15, 19100), (16, 19130), (17, 19163), (23, 19214), (24, 19247), (25, 19265),

Gene: Homines\_30 Start: 24013, Stop: 24360, Start Num: 4

Candidate Starts for Homines\_30:

(Start: 1 @23923 has 3 MA's), (Start: 4 @24013 has 188 MA's), (Start: 7 @24034 has 8 MA's), (Start: 8 @24040 has 3 MA's), (17, 24166), (22, 24211),

Gene: Hope4ever\_30 Start: 24129, Stop: 24476, Start Num: 4

Candidate Starts for Hope4ever\_30:

(Start: 1 @24039 has 3 MA's), (Start: 4 @24129 has 188 MA's), (Start: 7 @24150 has 8 MA's), (Start: 8 @24156 has 3 MA's), (17, 24282), (22, 24327),

Gene: ILeeKay\_32 Start: 23893, Stop: 24240, Start Num: 4

Candidate Starts for ILeeKay\_32:



(Start: 1 @23803 has 3 MA's), (Start: 4 @23893 has 188 MA's), (Start: 7 @23914 has 8 MA's), (Start: 8 @23920 has 3 MA's), (17, 24046), (22, 24091),

Gene: Ichabod\_31 Start: 23917, Stop: 24264, Start Num: 4

Candidate Starts for Ichabod\_31:

(Start: 1 @23827 has 3 MA's), (Start: 4 @23917 has 188 MA's), (Start: 7 @23938 has 8 MA's), (Start: 8 @23944 has 3 MA's), (17, 24070), (22, 24115),

Gene: IgnatiusPatJac\_30 Start: 23996, Stop: 24322, Start Num: 7

Candidate Starts for IgnatiusPatJac\_30:

(Start: 1 @23885 has 3 MA's), (Start: 4 @23975 has 188 MA's), (Start: 7 @23996 has 8 MA's), (Start: 8 @24002 has 3 MA's), (17, 24128), (22, 24173),

Gene: Inyanga\_29 Start: 23496, Stop: 23843, Start Num: 4

Candidate Starts for Inyanga\_29:

(Start: 1 @23406 has 3 MA's), (Start: 4 @23496 has 188 MA's), (Start: 7 @23517 has 8 MA's), (Start: 8 @23523 has 3 MA's), (17, 23649), (22, 23694),

Gene: Iqorha\_29 Start: 23495, Stop: 23842, Start Num: 4

Candidate Starts for Iqorha\_29:

(Start: 1 @23405 has 3 MA's), (Start: 4 @23495 has 188 MA's), (Start: 7 @23516 has 8 MA's), (Start: 8 @23522 has 3 MA's), (17, 23648), (22, 23693),

Gene: JC27\_32 Start: 24629, Stop: 24976, Start Num: 4

Candidate Starts for JC27\_32:

(Start: 1 @24539 has 3 MA's), (Start: 4 @24629 has 188 MA's), (Start: 7 @24650 has 8 MA's), (Start: 8 @24656 has 3 MA's), (17, 24782), (22, 24827),

Gene: JackSparrow\_31 Start: 24091, Stop: 24438, Start Num: 4

Candidate Starts for JackSparrow\_31:

(Start: 1 @24001 has 3 MA's), (Start: 4 @24091 has 188 MA's), (Start: 7 @24112 has 8 MA's), (Start: 8 @24118 has 3 MA's), (17, 24244), (22, 24289),

Gene: Jasper\_31 Start: 23570, Stop: 23917, Start Num: 4

Candidate Starts for Jasper\_31:

(Start: 1 @23480 has 3 MA's), (Start: 4 @23570 has 188 MA's), (Start: 7 @23591 has 8 MA's), (Start: 8 @23597 has 3 MA's), (17, 23723), (22, 23768),

Gene: Jerm2\_31 Start: 23960, Stop: 24259, Start Num: 4

Candidate Starts for Jerm2\_31:

(Start: 1 @23870 has 3 MA's), (Start: 4 @23960 has 188 MA's), (Start: 5 @23966 has 8 MA's), (13, 24029), (14, 24044), (17, 24107), (20, 24125), (25, 24188),

Gene: Jester\_26 Start: 18704, Stop: 19024, Start Num: 6

Candidate Starts for Jester\_26:

(Start: 6 @18704 has 33 MA's), (Start: 9 @18731 has 3 MA's), (15, 18788), (16, 18818), (17, 18851), (23, 18902), (24, 18935), (25, 18953),

Gene: Jorgensen\_30 Start: 23624, Stop: 23971, Start Num: 4

Candidate Starts for Jorgensen\_30:

(Start: 1 @23534 has 3 MA's), (Start: 4 @23624 has 188 MA's), (Start: 7 @23645 has 8 MA's), (Start: 8 @23651 has 3 MA's), (17, 23777), (22, 23822),

Gene: JuliaChild\_32 Start: 24269, Stop: 24616, Start Num: 4  
Candidate Starts for JuliaChild\_32:  
(Start: 1 @24179 has 3 MA's), (Start: 4 @24269 has 188 MA's), (Start: 7 @24290 has 8 MA's), (Start: 8 @24296 has 3 MA's), (17, 24422), (22, 24467),

Gene: KBG\_31 Start: 24644, Stop: 24970, Start Num: 7  
Candidate Starts for KBG\_31:  
(Start: 1 @24533 has 3 MA's), (Start: 4 @24623 has 188 MA's), (Start: 7 @24644 has 8 MA's), (Start: 8 @24650 has 3 MA's), (17, 24776), (22, 24821),

Gene: KSSJEB\_30 Start: 23427, Stop: 23864, Start Num: 1  
Candidate Starts for KSSJEB\_30:  
(Start: 1 @23427 has 3 MA's), (Start: 4 @23517 has 188 MA's), (Start: 7 @23538 has 8 MA's), (Start: 8 @23544 has 3 MA's), (17, 23670), (22, 23715),

Gene: Kanely\_31 Start: 24327, Stop: 24674, Start Num: 4  
Candidate Starts for Kanely\_31:  
(Start: 1 @24237 has 3 MA's), (Start: 4 @24327 has 188 MA's), (Start: 7 @24348 has 8 MA's), (Start: 8 @24354 has 3 MA's), (17, 24480), (22, 24525),

Gene: Kenmech\_33 Start: 25033, Stop: 25380, Start Num: 4  
Candidate Starts for Kenmech\_33:  
(Start: 1 @24943 has 3 MA's), (Start: 4 @25033 has 188 MA's), (Start: 7 @25054 has 8 MA's), (Start: 8 @25060 has 3 MA's), (17, 25186), (22, 25231),

Gene: Killigrew\_28 Start: 23239, Stop: 23586, Start Num: 4  
Candidate Starts for Killigrew\_28:  
(Start: 1 @23149 has 3 MA's), (Start: 4 @23239 has 188 MA's), (Start: 7 @23260 has 8 MA's), (Start: 8 @23266 has 3 MA's), (17, 23392), (22, 23437),

Gene: Krishelle\_26 Start: 19031, Stop: 19351, Start Num: 6  
Candidate Starts for Krishelle\_26:  
(Start: 6 @19031 has 33 MA's), (Start: 9 @19058 has 3 MA's), (15, 19115), (16, 19145), (17, 19178), (23, 19229), (24, 19262), (25, 19280),

Gene: Kugel\_31 Start: 23900, Stop: 24247, Start Num: 4  
Candidate Starts for Kugel\_31:  
(Start: 1 @23810 has 3 MA's), (Start: 4 @23900 has 188 MA's), (Start: 7 @23921 has 8 MA's), (Start: 8 @23927 has 3 MA's), (17, 24053), (22, 24098),

Gene: KyMonks1A\_32 Start: 24066, Stop: 24413, Start Num: 4  
Candidate Starts for KyMonks1A\_32:  
(Start: 1 @23976 has 3 MA's), (Start: 4 @24066 has 188 MA's), (Start: 7 @24087 has 8 MA's), (Start: 8 @24093 has 3 MA's), (17, 24219), (22, 24264),

Gene: Kykar\_30 Start: 23709, Stop: 24035, Start Num: 7  
Candidate Starts for Kykar\_30:  
(Start: 1 @23598 has 3 MA's), (Start: 4 @23688 has 188 MA's), (Start: 7 @23709 has 8 MA's), (Start: 8 @23715 has 3 MA's), (17, 23841), (22, 23886),

Gene: Lamina13\_30 Start: 23337, Stop: 23684, Start Num: 4  
Candidate Starts for Lamina13\_30:

(Start: 1 @23247 has 3 MA's), (Start: 4 @23337 has 188 MA's), (Start: 7 @23358 has 8 MA's), (Start: 8 @23364 has 3 MA's), (17, 23490), (22, 23535),

Gene: Lesedi\_29 Start: 23495, Stop: 23842, Start Num: 4

Candidate Starts for Lesedi\_29:

(Start: 1 @23405 has 3 MA's), (Start: 4 @23495 has 188 MA's), (Start: 7 @23516 has 8 MA's), (Start: 8 @23522 has 3 MA's), (17, 23648), (22, 23693),

Gene: Levia\_29 Start: 24484, Stop: 24831, Start Num: 4

Candidate Starts for Levia\_29:

(Start: 1 @24394 has 3 MA's), (Start: 4 @24484 has 188 MA's), (Start: 7 @24505 has 8 MA's), (Start: 8 @24511 has 3 MA's), (17, 24637), (22, 24682),

Gene: Licorice\_32 Start: 24724, Stop: 25071, Start Num: 4

Candidate Starts for Licorice\_32:

(Start: 1 @24634 has 3 MA's), (Start: 4 @24724 has 188 MA's), (Start: 7 @24745 has 8 MA's), (Start: 8 @24751 has 3 MA's), (17, 24877), (22, 24922),

Gene: LilBib\_31 Start: 24937, Stop: 25284, Start Num: 4

Candidate Starts for LilBib\_31:

(Start: 1 @24847 has 3 MA's), (Start: 4 @24937 has 188 MA's), (Start: 7 @24958 has 8 MA's), (Start: 8 @24964 has 3 MA's), (17, 25090), (22, 25135),

Gene: Lillie\_26 Start: 18760, Stop: 19080, Start Num: 6

Candidate Starts for Lillie\_26:

(Start: 6 @18760 has 33 MA's), (Start: 9 @18787 has 3 MA's), (15, 18844), (16, 18874), (17, 18907), (23, 18958), (25, 19009),

Gene: Lockley\_30 Start: 23678, Stop: 24025, Start Num: 4

Candidate Starts for Lockley\_30:

(Start: 1 @23588 has 3 MA's), (Start: 4 @23678 has 188 MA's), (Start: 7 @23699 has 8 MA's), (Start: 8 @23705 has 3 MA's), (17, 23831), (22, 23876),

Gene: Lopton\_31 Start: 25139, Stop: 25486, Start Num: 4

Candidate Starts for Lopton\_31:

(Start: 1 @25049 has 3 MA's), (Start: 4 @25139 has 188 MA's), (Start: 7 @25160 has 8 MA's), (Start: 8 @25166 has 3 MA's), (17, 25292), (22, 25337),

Gene: LunarLander\_32 Start: 23893, Stop: 24186, Start Num: 5

Candidate Starts for LunarLander\_32:

(Start: 1 @23797 has 3 MA's), (Start: 4 @23887 has 188 MA's), (Start: 5 @23893 has 8 MA's), (13, 23956), (14, 23971), (17, 24034), (20, 24052), (25, 24115),

Gene: MPlant7149\_29 Start: 23320, Stop: 23613, Start Num: 5

Candidate Starts for MPlant7149\_29:

(Start: 1 @23224 has 3 MA's), (Start: 4 @23314 has 188 MA's), (Start: 5 @23320 has 8 MA's), (13, 23383), (14, 23398), (17, 23461), (20, 23479), (25, 23542),

Gene: Magnar\_30 Start: 23464, Stop: 23811, Start Num: 4

Candidate Starts for Magnar\_30:

(Start: 1 @23374 has 3 MA's), (Start: 4 @23464 has 188 MA's), (Start: 7 @23485 has 8 MA's), (Start: 8 @23491 has 3 MA's), (17, 23617), (22, 23662),

Gene: Magnito\_29 Start: 23216, Stop: 23563, Start Num: 4  
Candidate Starts for Magnito\_29:  
(Start: 1 @23126 has 3 MA's), (Start: 4 @23216 has 188 MA's), (Start: 7 @23237 has 8 MA's), (Start: 8 @23243 has 3 MA's), (17, 23369), (22, 23414),

Gene: Makemake\_30 Start: 24932, Stop: 25279, Start Num: 4  
Candidate Starts for Makemake\_30:  
(Start: 1 @24842 has 3 MA's), (Start: 4 @24932 has 188 MA's), (Start: 7 @24953 has 8 MA's), (Start: 8 @24959 has 3 MA's), (17, 25085), (22, 25130), (26, 25271),

Gene: Manatee\_31 Start: 23462, Stop: 23809, Start Num: 4  
Candidate Starts for Manatee\_31:  
(Start: 1 @23372 has 3 MA's), (Start: 4 @23462 has 188 MA's), (Start: 7 @23483 has 8 MA's), (Start: 8 @23489 has 3 MA's), (17, 23615), (22, 23660),

Gene: Marcell\_30 Start: 23952, Stop: 24299, Start Num: 4  
Candidate Starts for Marcell\_30:  
(Start: 1 @23862 has 3 MA's), (Start: 4 @23952 has 188 MA's), (Start: 7 @23973 has 8 MA's), (Start: 8 @23979 has 3 MA's), (17, 24105), (22, 24150),

Gene: Marchy\_29 Start: 23257, Stop: 23604, Start Num: 4  
Candidate Starts for Marchy\_29:  
(Start: 1 @23167 has 3 MA's), (Start: 4 @23257 has 188 MA's), (Start: 7 @23278 has 8 MA's), (Start: 8 @23284 has 3 MA's), (17, 23410), (22, 23455),

Gene: Marco3\_30 Start: 23852, Stop: 24199, Start Num: 4  
Candidate Starts for Marco3\_30:  
(Start: 1 @23762 has 3 MA's), (Start: 4 @23852 has 188 MA's), (Start: 7 @23873 has 8 MA's), (Start: 8 @23879 has 3 MA's), (17, 24005), (22, 24050),

Gene: Marge\_31 Start: 24352, Stop: 24699, Start Num: 4  
Candidate Starts for Marge\_31:  
(Start: 1 @24262 has 3 MA's), (Start: 4 @24352 has 188 MA's), (Start: 7 @24373 has 8 MA's), (Start: 8 @24379 has 3 MA's), (17, 24505), (22, 24550),

Gene: Maroc7\_29 Start: 23456, Stop: 23803, Start Num: 4  
Candidate Starts for Maroc7\_29:  
(Start: 1 @23366 has 3 MA's), (Start: 4 @23456 has 188 MA's), (Start: 7 @23477 has 8 MA's), (Start: 8 @23483 has 3 MA's), (17, 23609), (22, 23654),

Gene: Marsha\_30 Start: 24578, Stop: 24877, Start Num: 4  
Candidate Starts for Marsha\_30:  
(Start: 1 @24488 has 3 MA's), (Start: 4 @24578 has 188 MA's), (Start: 5 @24584 has 8 MA's), (13, 24647), (14, 24662), (17, 24725), (20, 24743), (25, 24806),

Gene: MaryBeth\_30 Start: 23884, Stop: 24231, Start Num: 4  
Candidate Starts for MaryBeth\_30:  
(Start: 1 @23794 has 3 MA's), (Start: 4 @23884 has 188 MA's), (Start: 7 @23905 has 8 MA's), (Start: 8 @23911 has 3 MA's), (17, 24037), (22, 24082),

Gene: Mbo4\_21 Start: 19372, Stop: 19725, Start Num: 3  
Candidate Starts for Mbo4\_21:  
(3, 19372),

Gene: McGuire\_31 Start: 23754, Stop: 24101, Start Num: 4

Candidate Starts for McGuire\_31:

(Start: 1 @23664 has 3 MA's), (Start: 4 @23754 has 188 MA's), (Start: 7 @23775 has 8 MA's), (Start: 8 @23781 has 3 MA's), (17, 23907), (22, 23952),

Gene: McSinger\_31 Start: 24146, Stop: 24493, Start Num: 4

Candidate Starts for McSinger\_31:

(Start: 1 @24056 has 3 MA's), (Start: 4 @24146 has 188 MA's), (Start: 7 @24167 has 8 MA's), (Start: 8 @24173 has 3 MA's), (17, 24299), (22, 24344),

Gene: MetalQZJ\_30 Start: 23884, Stop: 24231, Start Num: 4

Candidate Starts for MetalQZJ\_30:

(Start: 1 @23794 has 3 MA's), (Start: 4 @23884 has 188 MA's), (Start: 7 @23905 has 8 MA's), (Start: 8 @23911 has 3 MA's), (17, 24037), (22, 24082),

Gene: Michley\_30 Start: 23635, Stop: 23928, Start Num: 5

Candidate Starts for Michley\_30:

(Start: 1 @23539 has 3 MA's), (Start: 4 @23629 has 188 MA's), (Start: 5 @23635 has 8 MA's), (11, 23686), (14, 23713), (17, 23776), (18, 23785), (20, 23794), (25, 23857),

Gene: Mkhuseleli\_31 Start: 23779, Stop: 24126, Start Num: 4

Candidate Starts for Mkhuseleli\_31:

(Start: 1 @23689 has 3 MA's), (Start: 4 @23779 has 188 MA's), (Start: 7 @23800 has 8 MA's), (Start: 8 @23806 has 3 MA's), (17, 23932), (22, 23977),

Gene: Molly\_31 Start: 23552, Stop: 23899, Start Num: 4

Candidate Starts for Molly\_31:

(Start: 1 @23462 has 3 MA's), (Start: 4 @23552 has 188 MA's), (Start: 7 @23573 has 8 MA's), (Start: 8 @23579 has 3 MA's), (17, 23705), (22, 23750),

Gene: Monet\_32 Start: 24980, Stop: 25327, Start Num: 4

Candidate Starts for Monet\_32:

(Start: 1 @24890 has 3 MA's), (Start: 4 @24980 has 188 MA's), (Start: 7 @25001 has 8 MA's), (Start: 8 @25007 has 3 MA's), (17, 25133), (22, 25178),

Gene: Moose\_30 Start: 23956, Stop: 24303, Start Num: 4

Candidate Starts for Moose\_30:

(Start: 1 @23866 has 3 MA's), (Start: 4 @23956 has 188 MA's), (Start: 7 @23977 has 8 MA's), (Start: 8 @23983 has 3 MA's), (17, 24109), (22, 24154),

Gene: MrGordo\_30 Start: 23444, Stop: 23791, Start Num: 4

Candidate Starts for MrGordo\_30:

(Start: 1 @23354 has 3 MA's), (Start: 4 @23444 has 188 MA's), (Start: 7 @23465 has 8 MA's), (Start: 8 @23471 has 3 MA's), (17, 23597), (22, 23642),

Gene: Mryolo\_29 Start: 23481, Stop: 23828, Start Num: 4

Candidate Starts for Mryolo\_29:

(Start: 1 @23391 has 3 MA's), (Start: 4 @23481 has 188 MA's), (Start: 7 @23502 has 8 MA's), (Start: 8 @23508 has 3 MA's), (17, 23634), (22, 23679),

Gene: Mule\_30 Start: 23790, Stop: 24137, Start Num: 4

Candidate Starts for Mule\_30:

(Start: 1 @23700 has 3 MA's), (Start: 4 @23790 has 188 MA's), (Start: 7 @23811 has 8 MA's), (Start: 8 @23817 has 3 MA's), (17, 23943), (22, 23988),

Gene: Museum\_32 Start: 23800, Stop: 24147, Start Num: 4

Candidate Starts for Museum\_32:

(Start: 1 @23710 has 3 MA's), (Start: 4 @23800 has 188 MA's), (Start: 7 @23821 has 8 MA's), (Start: 8 @23827 has 3 MA's), (17, 23953), (22, 23998),

Gene: NEHalo\_30 Start: 23538, Stop: 23885, Start Num: 4

Candidate Starts for NEHalo\_30:

(Start: 1 @23448 has 3 MA's), (Start: 4 @23538 has 188 MA's), (Start: 7 @23559 has 8 MA's), (Start: 8 @23565 has 3 MA's), (17, 23691), (22, 23736),

Gene: Naiad\_26 Start: 18760, Stop: 19080, Start Num: 6

Candidate Starts for Naiad\_26:

(Start: 6 @18760 has 33 MA's), (Start: 9 @18787 has 3 MA's), (15, 18844), (16, 18874), (17, 18907), (23, 18958), (25, 19009),

Gene: Naira\_31 Start: 25397, Stop: 25744, Start Num: 4

Candidate Starts for Naira\_31:

(Start: 1 @25307 has 3 MA's), (Start: 4 @25397 has 188 MA's), (Start: 7 @25418 has 8 MA's), (Start: 8 @25424 has 3 MA's), (17, 25550), (22, 25595),

Gene: Nancinator\_26 Start: 18760, Stop: 19080, Start Num: 6

Candidate Starts for Nancinator\_26:

(Start: 6 @18760 has 33 MA's), (Start: 9 @18787 has 3 MA's), (15, 18844), (16, 18874), (17, 18907), (23, 18958), (25, 19009),

Gene: Natosaleda\_26 Start: 18760, Stop: 19080, Start Num: 6

Candidate Starts for Natosaleda\_26:

(Start: 6 @18760 has 33 MA's), (Start: 9 @18787 has 3 MA's), (15, 18844), (16, 18874), (17, 18907), (23, 18958), (25, 19009),

Gene: Nerujay\_31 Start: 24206, Stop: 24553, Start Num: 4

Candidate Starts for Nerujay\_31:

(Start: 1 @24116 has 3 MA's), (Start: 4 @24206 has 188 MA's), (Start: 7 @24227 has 8 MA's), (Start: 8 @24233 has 3 MA's), (17, 24359), (22, 24404),

Gene: Nhonho\_30 Start: 23957, Stop: 24304, Start Num: 4

Candidate Starts for Nhonho\_30:

(Start: 1 @23867 has 3 MA's), (Start: 4 @23957 has 188 MA's), (Start: 7 @23978 has 8 MA's), (Start: 8 @23984 has 3 MA's), (17, 24110), (22, 24155),

Gene: Niza\_32 Start: 24834, Stop: 25181, Start Num: 4

Candidate Starts for Niza\_32:

(Start: 1 @24744 has 3 MA's), (Start: 4 @24834 has 188 MA's), (Start: 7 @24855 has 8 MA's), (Start: 8 @24861 has 3 MA's), (17, 24987), (22, 25032),

Gene: Norz\_32 Start: 24613, Stop: 24960, Start Num: 4

Candidate Starts for Norz\_32:

(Start: 1 @24523 has 3 MA's), (Start: 4 @24613 has 188 MA's), (Start: 7 @24634 has 8 MA's), (Start: 8 @24640 has 3 MA's), (17, 24766), (22, 24811),

Gene: Ohno789\_30 Start: 23599, Stop: 23946, Start Num: 4  
Candidate Starts for Ohno789\_30:  
(Start: 1 @23509 has 3 MA's), (Start: 4 @23599 has 188 MA's), (Start: 7 @23620 has 8 MA's), (Start: 8 @23626 has 3 MA's), (17, 23752), (22, 23797),

Gene: Oogway\_29 Start: 23721, Stop: 24068, Start Num: 4  
Candidate Starts for Oogway\_29:  
(Start: 1 @23631 has 3 MA's), (Start: 4 @23721 has 188 MA's), (Start: 7 @23742 has 8 MA's), (Start: 8 @23748 has 3 MA's), (17, 23874), (22, 23919),

Gene: PSullivan\_32 Start: 24269, Stop: 24616, Start Num: 4  
Candidate Starts for PSullivan\_32:  
(Start: 1 @24179 has 3 MA's), (Start: 4 @24269 has 188 MA's), (Start: 7 @24290 has 8 MA's), (Start: 8 @24296 has 3 MA's), (17, 24422), (22, 24467),

Gene: PacerPaul\_30 Start: 24000, Stop: 24299, Start Num: 4  
Candidate Starts for PacerPaul\_30:  
(Start: 1 @23910 has 3 MA's), (Start: 4 @24000 has 188 MA's), (Start: 5 @24006 has 8 MA's), (13, 24069), (14, 24084), (17, 24147), (20, 24165), (25, 24228),

Gene: Papez\_32 Start: 25437, Stop: 25784, Start Num: 4  
Candidate Starts for Papez\_32:  
(Start: 1 @25347 has 3 MA's), (Start: 4 @25437 has 188 MA's), (Start: 7 @25458 has 8 MA's), (Start: 8 @25464 has 3 MA's), (17, 25590), (22, 25635),

Gene: Paphu\_29 Start: 23513, Stop: 23812, Start Num: 4  
Candidate Starts for Paphu\_29:  
(Start: 1 @23423 has 3 MA's), (Start: 4 @23513 has 188 MA's), (Start: 5 @23519 has 8 MA's), (13, 23582), (14, 23597), (17, 23660), (20, 23678), (25, 23741),

Gene: Paraselene\_29 Start: 23941, Stop: 24288, Start Num: 4  
Candidate Starts for Paraselene\_29:  
(Start: 1 @23851 has 3 MA's), (Start: 4 @23941 has 188 MA's), (Start: 7 @23962 has 8 MA's), (Start: 8 @23968 has 3 MA's), (17, 24094), (22, 24139),

Gene: Pari\_31 Start: 23473, Stop: 23820, Start Num: 4  
Candidate Starts for Pari\_31:  
(Start: 1 @23383 has 3 MA's), (Start: 4 @23473 has 188 MA's), (Start: 7 @23494 has 8 MA's), (Start: 8 @23500 has 3 MA's), (17, 23626), (22, 23671),

Gene: Parliament\_29 Start: 23808, Stop: 24155, Start Num: 4  
Candidate Starts for Parliament\_29:  
(Start: 1 @23718 has 3 MA's), (Start: 4 @23808 has 188 MA's), (Start: 7 @23829 has 8 MA's), (Start: 8 @23835 has 3 MA's), (17, 23961), (22, 24006),

Gene: Partridge\_26 Start: 18793, Stop: 19113, Start Num: 6  
Candidate Starts for Partridge\_26:  
(Start: 6 @18793 has 33 MA's), (Start: 9 @18820 has 3 MA's), (16, 18907), (17, 18940), (23, 18991), (25, 19042),

Gene: PascalRango\_31 Start: 23776, Stop: 24123, Start Num: 4  
Candidate Starts for PascalRango\_31:

(Start: 1 @23686 has 3 MA's), (Start: 4 @23776 has 188 MA's), (Start: 7 @23797 has 8 MA's), (Start: 8 @23803 has 3 MA's), (17, 23929), (22, 23974),

Gene: PattyP\_32 Start: 24009, Stop: 24356, Start Num: 4

Candidate Starts for PattyP\_32:

(Start: 1 @23919 has 3 MA's), (Start: 4 @24009 has 188 MA's), (Start: 7 @24030 has 8 MA's), (Start: 8 @24036 has 3 MA's), (17, 24162), (22, 24207),

Gene: Payneful\_30 Start: 23257, Stop: 23604, Start Num: 4

Candidate Starts for Payneful\_30:

(Start: 1 @23167 has 3 MA's), (Start: 4 @23257 has 188 MA's), (Start: 7 @23278 has 8 MA's), (Start: 8 @23284 has 3 MA's), (17, 23410), (22, 23455),

Gene: Pelly\_31 Start: 24428, Stop: 24775, Start Num: 4

Candidate Starts for Pelly\_31:

(Start: 1 @24338 has 3 MA's), (Start: 4 @24428 has 188 MA's), (Start: 7 @24449 has 8 MA's), (Start: 8 @24455 has 3 MA's), (17, 24581), (22, 24626),

Gene: Pepe\_31 Start: 24610, Stop: 24957, Start Num: 4

Candidate Starts for Pepe\_31:

(Start: 1 @24520 has 3 MA's), (Start: 4 @24610 has 188 MA's), (Start: 7 @24631 has 8 MA's), (Start: 8 @24637 has 3 MA's), (17, 24763), (22, 24808),

Gene: Perseus\_32 Start: 24652, Stop: 24972, Start Num: 8

Candidate Starts for Perseus\_32:

(Start: 1 @24535 has 3 MA's), (Start: 4 @24625 has 188 MA's), (Start: 7 @24646 has 8 MA's), (Start: 8 @24652 has 3 MA's), (17, 24778), (22, 24823),

Gene: Peterson\_33 Start: 25638, Stop: 25985, Start Num: 4

Candidate Starts for Peterson\_33:

(Start: 1 @25548 has 3 MA's), (Start: 4 @25638 has 188 MA's), (Start: 7 @25659 has 8 MA's), (17, 25791), (22, 25836),

Gene: Petp2012\_32 Start: 24680, Stop: 25027, Start Num: 4

Candidate Starts for Petp2012\_32:

(Start: 1 @24590 has 3 MA's), (Start: 4 @24680 has 188 MA's), (Start: 7 @24701 has 8 MA's), (Start: 8 @24707 has 3 MA's), (17, 24833), (22, 24878),

Gene: Petruccio\_31 Start: 24138, Stop: 24485, Start Num: 4

Candidate Starts for Petruccio\_31:

(Start: 1 @24048 has 3 MA's), (Start: 4 @24138 has 188 MA's), (Start: 7 @24159 has 8 MA's), (Start: 8 @24165 has 3 MA's), (17, 24291), (22, 24336),

Gene: PhailMary\_25 Start: 19082, Stop: 19402, Start Num: 6

Candidate Starts for PhailMary\_25:

(Start: 6 @19082 has 33 MA's), (Start: 9 @19109 has 3 MA's), (15, 19166), (16, 19196), (17, 19229), (23, 19280), (24, 19313), (25, 19331),

Gene: PherrisBueller\_31 Start: 23593, Stop: 23940, Start Num: 4

Candidate Starts for PherrisBueller\_31:

(Start: 1 @23503 has 3 MA's), (Start: 4 @23593 has 188 MA's), (Start: 7 @23614 has 8 MA's), (Start: 8 @23620 has 3 MA's), (17, 23746), (22, 23791),



Gene: Phillis\_27 Start: 21206, Stop: 21565, Start Num: 4  
Candidate Starts for Phillis\_27:  
(2, 21173), (Start: 4 @21206 has 188 MA's), (10, 21254), (18, 21380), (21, 21410), (25, 21494),

Gene: PhineBark\_30 Start: 24484, Stop: 24831, Start Num: 4  
Candidate Starts for PhineBark\_30:  
(Start: 1 @24394 has 3 MA's), (Start: 4 @24484 has 188 MA's), (Start: 7 @24505 has 8 MA's), (Start: 8 @24511 has 3 MA's), (17, 24637), (22, 24682),

Gene: Phlippers\_29 Start: 24809, Stop: 25156, Start Num: 4  
Candidate Starts for Phlippers\_29:  
(Start: 1 @24719 has 3 MA's), (Start: 4 @24809 has 188 MA's), (Start: 7 @24830 has 8 MA's), (Start: 8 @24836 has 3 MA's), (17, 24962), (22, 25007),

Gene: Phrankenstein\_26 Start: 18760, Stop: 19080, Start Num: 6  
Candidate Starts for Phrankenstein\_26:  
(Start: 6 @18760 has 33 MA's), (Start: 9 @18787 has 3 MA's), (15, 18844), (16, 18874), (17, 18907), (23, 18958), (25, 19009),

Gene: PhrostyMug\_30 Start: 23787, Stop: 24134, Start Num: 4  
Candidate Starts for PhrostyMug\_30:  
(Start: 1 @23697 has 3 MA's), (Start: 4 @23787 has 188 MA's), (Start: 7 @23808 has 8 MA's), (Start: 8 @23814 has 3 MA's), (17, 23940), (22, 23985),

Gene: PinkPlastic\_29 Start: 23527, Stop: 23874, Start Num: 4  
Candidate Starts for PinkPlastic\_29:  
(Start: 1 @23437 has 3 MA's), (Start: 4 @23527 has 188 MA's), (Start: 7 @23548 has 8 MA's), (Start: 8 @23554 has 3 MA's), (17, 23680), (22, 23725),

Gene: Pinto\_33 Start: 24340, Stop: 24687, Start Num: 4  
Candidate Starts for Pinto\_33:  
(Start: 1 @24250 has 3 MA's), (Start: 4 @24340 has 188 MA's), (Start: 7 @24361 has 8 MA's), (Start: 8 @24367 has 3 MA's), (17, 24493), (22, 24538),

Gene: Pippin\_32 Start: 24091, Stop: 24438, Start Num: 4  
Candidate Starts for Pippin\_32:  
(Start: 1 @24001 has 3 MA's), (Start: 4 @24091 has 188 MA's), (Start: 7 @24112 has 8 MA's), (Start: 8 @24118 has 3 MA's), (17, 24244), (22, 24289),

Gene: Pita2\_32 Start: 24269, Stop: 24616, Start Num: 4  
Candidate Starts for Pita2\_32:  
(Start: 1 @24179 has 3 MA's), (Start: 4 @24269 has 188 MA's), (Start: 7 @24290 has 8 MA's), (Start: 8 @24296 has 3 MA's), (17, 24422), (22, 24467),

Gene: ProMouse\_29 Start: 24232, Stop: 24579, Start Num: 4  
Candidate Starts for ProMouse\_29:  
(Start: 1 @24142 has 3 MA's), (Start: 4 @24232 has 188 MA's), (Start: 7 @24253 has 8 MA's), (Start: 8 @24259 has 3 MA's), (17, 24385), (22, 24430),

Gene: QTRlifeCrisis\_30 Start: 24347, Stop: 24694, Start Num: 4  
Candidate Starts for QTRlifeCrisis\_30:  
(Start: 1 @24257 has 3 MA's), (Start: 4 @24347 has 188 MA's), (Start: 7 @24368 has 8 MA's), (Start: 8 @24374 has 3 MA's), (17, 24500), (22, 24545),

Gene: RER2\_19 Start: 15659, Stop: 15952, Start Num: 9

Candidate Starts for RER2\_19:

(Start: 6 @15632 has 33 MA's), (Start: 9 @15659 has 3 MA's), (15, 15716), (16, 15746), (17, 15779), (23, 15830), (25, 15881),

Gene: RGL3\_19 Start: 15780, Stop: 16100, Start Num: 6

Candidate Starts for RGL3\_19:

(Start: 6 @15780 has 33 MA's), (12, 15828), (16, 15894), (17, 15927), (19, 15945), (24, 16011), (25, 16029),

Gene: Raid\_31 Start: 23817, Stop: 24143, Start Num: 7

Candidate Starts for Raid\_31:

(Start: 1 @23706 has 3 MA's), (Start: 4 @23796 has 188 MA's), (Start: 7 @23817 has 8 MA's), (Start: 8 @23823 has 3 MA's), (17, 23949), (22, 23994),

Gene: Rajelicia\_30 Start: 23506, Stop: 23853, Start Num: 4

Candidate Starts for Rajelicia\_30:

(Start: 1 @23416 has 3 MA's), (Start: 4 @23506 has 188 MA's), (Start: 7 @23527 has 8 MA's), (Start: 8 @23533 has 3 MA's), (17, 23659), (22, 23704),

Gene: Rasputin\_26 Start: 18728, Stop: 19048, Start Num: 6

Candidate Starts for Rasputin\_26:

(Start: 6 @18728 has 33 MA's), (Start: 9 @18755 has 3 MA's), (15, 18812), (16, 18842), (17, 18875), (23, 18926), (24, 18959), (25, 18977),

Gene: RexFury\_26 Start: 18818, Stop: 19111, Start Num: 9

Candidate Starts for RexFury\_26:

(Start: 6 @18791 has 33 MA's), (Start: 9 @18818 has 3 MA's), (15, 18875), (16, 18905), (17, 18938), (23, 18989), (25, 19040),

Gene: Rhodalysa\_26 Start: 18760, Stop: 19080, Start Num: 6

Candidate Starts for Rhodalysa\_26:

(Start: 6 @18760 has 33 MA's), (Start: 9 @18787 has 3 MA's), (15, 18844), (16, 18874), (17, 18907), (23, 18958), (25, 19009),

Gene: Rhynn\_30 Start: 23796, Stop: 24143, Start Num: 4

Candidate Starts for Rhynn\_30:

(Start: 1 @23706 has 3 MA's), (Start: 4 @23796 has 188 MA's), (Start: 7 @23817 has 8 MA's), (Start: 8 @23823 has 3 MA's), (17, 23949), (22, 23994),

Gene: RidgeCB\_30 Start: 23571, Stop: 23870, Start Num: 4

Candidate Starts for RidgeCB\_30:

(Start: 1 @23481 has 3 MA's), (Start: 4 @23571 has 188 MA's), (Start: 5 @23577 has 8 MA's), (13, 23640), (14, 23655), (17, 23718), (20, 23736), (25, 23799),

Gene: Ringer\_30 Start: 24448, Stop: 24795, Start Num: 4

Candidate Starts for Ringer\_30:

(Start: 1 @24358 has 3 MA's), (Start: 4 @24448 has 188 MA's), (Start: 7 @24469 has 8 MA's), (Start: 8 @24475 has 3 MA's), (17, 24601), (22, 24646),

Gene: Rohr\_31 Start: 23993, Stop: 24292, Start Num: 4

Candidate Starts for Rohr\_31:

(Start: 1 @23903 has 3 MA's), (Start: 4 @23993 has 188 MA's), (Start: 5 @23999 has 8 MA's), (13, 24062), (14, 24077), (17, 24140), (20, 24158), (25, 24221),

Gene: Rubeus\_31 Start: 23831, Stop: 24178, Start Num: 4

Candidate Starts for Rubeus\_31:

(Start: 1 @23741 has 3 MA's), (Start: 4 @23831 has 188 MA's), (Start: 7 @23852 has 8 MA's), (Start: 8 @23858 has 3 MA's), (17, 23984), (22, 24029),

Gene: Rufus\_31 Start: 24133, Stop: 24480, Start Num: 4

Candidate Starts for Rufus\_31:

(Start: 1 @24043 has 3 MA's), (Start: 4 @24133 has 188 MA's), (Start: 7 @24154 has 8 MA's), (Start: 8 @24160 has 3 MA's), (17, 24286), (22, 24331),

Gene: Ruotula\_29 Start: 24337, Stop: 24684, Start Num: 4

Candidate Starts for Ruotula\_29:

(Start: 1 @24247 has 3 MA's), (Start: 4 @24337 has 188 MA's), (Start: 7 @24358 has 8 MA's), (Start: 8 @24364 has 3 MA's), (17, 24490), (22, 24535),

Gene: Rutherferd\_32 Start: 24423, Stop: 24749, Start Num: 7

Candidate Starts for Rutherferd\_32:

(Start: 1 @24312 has 3 MA's), (Start: 4 @24402 has 188 MA's), (Start: 7 @24423 has 8 MA's), (Start: 8 @24429 has 3 MA's), (17, 24555), (22, 24600),

Gene: STLscum\_31 Start: 24540, Stop: 24887, Start Num: 4

Candidate Starts for STLscum\_31:

(Start: 1 @24450 has 3 MA's), (Start: 4 @24540 has 188 MA's), (Start: 7 @24561 has 8 MA's), (Start: 8 @24567 has 3 MA's), (17, 24693), (22, 24738),

Gene: Sagefire\_31 Start: 24573, Stop: 24920, Start Num: 4

Candidate Starts for Sagefire\_31:

(Start: 1 @24483 has 3 MA's), (Start: 4 @24573 has 188 MA's), (Start: 7 @24594 has 8 MA's), (Start: 8 @24600 has 3 MA's), (17, 24726), (22, 24771),

Gene: Sandaddy\_29 Start: 23686, Stop: 24033, Start Num: 4

Candidate Starts for Sandaddy\_29:

(Start: 1 @23596 has 3 MA's), (Start: 4 @23686 has 188 MA's), (Start: 7 @23707 has 8 MA's), (Start: 8 @23713 has 3 MA's), (17, 23839), (22, 23884),

Gene: Sanya\_29 Start: 24370, Stop: 24717, Start Num: 4

Candidate Starts for Sanya\_29:

(Start: 1 @24280 has 3 MA's), (Start: 4 @24370 has 188 MA's), (Start: 7 @24391 has 8 MA's), (Start: 8 @24397 has 3 MA's), (17, 24523), (22, 24568),

Gene: SarFire\_30 Start: 23758, Stop: 24195, Start Num: 1

Candidate Starts for SarFire\_30:

(Start: 1 @23758 has 3 MA's), (Start: 4 @23848 has 188 MA's), (Start: 7 @23869 has 8 MA's), (Start: 8 @23875 has 3 MA's), (17, 24001), (22, 24046),

Gene: Scowl\_31 Start: 24430, Stop: 24777, Start Num: 4

Candidate Starts for Scowl\_31:

(Start: 1 @24340 has 3 MA's), (Start: 4 @24430 has 188 MA's), (Start: 7 @24451 has 8 MA's), (Start: 8 @24457 has 3 MA's), (17, 24583), (22, 24628),

Gene: Seabiscuit\_32 Start: 23754, Stop: 24101, Start Num: 4  
Candidate Starts for Seabiscuit\_32:  
(Start: 1 @23664 has 3 MA's), (Start: 4 @23754 has 188 MA's), (Start: 7 @23775 has 8 MA's), (17, 23907), (22, 23952),

Gene: Seanderson\_31 Start: 24228, Stop: 24575, Start Num: 4  
Candidate Starts for Seanderson\_31:  
(Start: 1 @24138 has 3 MA's), (Start: 4 @24228 has 188 MA's), (Start: 7 @24249 has 8 MA's), (Start: 8 @24255 has 3 MA's), (17, 24381), (22, 24426),

Gene: ShortQueendom\_29 Start: 23689, Stop: 24015, Start Num: 7  
Candidate Starts for ShortQueendom\_29:  
(Start: 1 @23578 has 3 MA's), (Start: 4 @23668 has 188 MA's), (Start: 7 @23689 has 8 MA's), (Start: 8 @23695 has 3 MA's), (17, 23821), (22, 23866),

Gene: Shuman\_26 Start: 18760, Stop: 19080, Start Num: 6  
Candidate Starts for Shuman\_26:  
(Start: 6 @18760 has 33 MA's), (Start: 9 @18787 has 3 MA's), (15, 18844), (16, 18874), (17, 18907), (23, 18958), (25, 19009),

Gene: Sibs6\_32 Start: 24313, Stop: 24660, Start Num: 4  
Candidate Starts for Sibs6\_32:  
(Start: 1 @24223 has 3 MA's), (Start: 4 @24313 has 188 MA's), (Start: 7 @24334 has 8 MA's), (Start: 8 @24340 has 3 MA's), (17, 24466), (22, 24511),

Gene: SkiPole\_32 Start: 24052, Stop: 24399, Start Num: 4  
Candidate Starts for SkiPole\_32:  
(Start: 1 @23962 has 3 MA's), (Start: 4 @24052 has 188 MA's), (Start: 7 @24073 has 8 MA's), (Start: 8 @24079 has 3 MA's), (17, 24205), (22, 24250),

Gene: Slagathor\_31 Start: 23713, Stop: 24060, Start Num: 4  
Candidate Starts for Slagathor\_31:  
(Start: 1 @23623 has 3 MA's), (Start: 4 @23713 has 188 MA's), (Start: 7 @23734 has 8 MA's), (Start: 8 @23740 has 3 MA's), (17, 23866), (22, 23911),

Gene: Smairt\_31 Start: 24488, Stop: 24787, Start Num: 4  
Candidate Starts for Smairt\_31:  
(Start: 1 @24398 has 3 MA's), (Start: 4 @24488 has 188 MA's), (Start: 5 @24494 has 8 MA's), (13, 24557), (14, 24572), (17, 24635), (20, 24653), (25, 24716),

Gene: Smeagol\_32 Start: 25067, Stop: 25414, Start Num: 4  
Candidate Starts for Smeagol\_32:  
(Start: 1 @24977 has 3 MA's), (Start: 4 @25067 has 188 MA's), (Start: 7 @25088 has 8 MA's), (17, 25220), (22, 25265),

Gene: Snazzy\_29 Start: 23674, Stop: 23973, Start Num: 4  
Candidate Starts for Snazzy\_29:  
(Start: 1 @23584 has 3 MA's), (Start: 4 @23674 has 188 MA's), (Start: 5 @23680 has 8 MA's), (13, 23743), (14, 23758), (17, 23821), (20, 23839), (25, 23902),

Gene: Solon\_30 Start: 24339, Stop: 24686, Start Num: 4  
Candidate Starts for Solon\_30:

(Start: 1 @24249 has 3 MA's), (Start: 4 @24339 has 188 MA's), (Start: 7 @24360 has 8 MA's), (Start: 8 @24366 has 3 MA's), (17, 24492), (22, 24537),

Gene: Sorpresa\_30 Start: 23686, Stop: 24033, Start Num: 4

Candidate Starts for Sorpresa\_30:

(Start: 1 @23596 has 3 MA's), (Start: 4 @23686 has 188 MA's), (Start: 7 @23707 has 8 MA's), (Start: 8 @23713 has 3 MA's), (17, 23839), (22, 23884),

Gene: SpikeBT\_32 Start: 24644, Stop: 24991, Start Num: 4

Candidate Starts for SpikeBT\_32:

(Start: 1 @24554 has 3 MA's), (Start: 4 @24644 has 188 MA's), (Start: 7 @24665 has 8 MA's), (Start: 8 @24671 has 3 MA's), (17, 24797), (22, 24842),

Gene: Squee\_31 Start: 24620, Stop: 24940, Start Num: 8

Candidate Starts for Squee\_31:

(Start: 1 @24503 has 3 MA's), (Start: 4 @24593 has 188 MA's), (Start: 7 @24614 has 8 MA's), (Start: 8 @24620 has 3 MA's), (17, 24746), (22, 24791),

Gene: StCroix\_26 Start: 18760, Stop: 19080, Start Num: 6

Candidate Starts for StCroix\_26:

(Start: 6 @18760 has 33 MA's), (Start: 9 @18787 has 3 MA's), (15, 18844), (16, 18874), (17, 18907), (23, 18958), (25, 19009),

Gene: StewieG\_29 Start: 23550, Stop: 23876, Start Num: 7

Candidate Starts for StewieG\_29:

(Start: 1 @23439 has 3 MA's), (Start: 4 @23529 has 188 MA's), (Start: 7 @23550 has 8 MA's), (Start: 8 @23556 has 3 MA's), (17, 23682), (22, 23727),

Gene: StrongArm\_29 Start: 24728, Stop: 25075, Start Num: 4

Candidate Starts for StrongArm\_29:

(Start: 1 @24638 has 3 MA's), (Start: 4 @24728 has 188 MA's), (Start: 7 @24749 has 8 MA's), (Start: 8 @24755 has 3 MA's), (17, 24881), (22, 24926),

Gene: Sumter\_29 Start: 23277, Stop: 23624, Start Num: 4

Candidate Starts for Sumter\_29:

(Start: 1 @23187 has 3 MA's), (Start: 4 @23277 has 188 MA's), (Start: 7 @23298 has 8 MA's), (Start: 8 @23304 has 3 MA's), (17, 23430), (22, 23475),

Gene: Sunshine924\_31 Start: 23558, Stop: 23905, Start Num: 4

Candidate Starts for Sunshine924\_31:

(Start: 1 @23468 has 3 MA's), (Start: 4 @23558 has 188 MA's), (Start: 7 @23579 has 8 MA's), (Start: 8 @23585 has 3 MA's), (17, 23711), (22, 23756),

Gene: Swann\_26 Start: 18760, Stop: 19080, Start Num: 6

Candidate Starts for Swann\_26:

(Start: 6 @18760 has 33 MA's), (Start: 9 @18787 has 3 MA's), (15, 18844), (16, 18874), (17, 18907), (23, 18958), (25, 19009),

Gene: SwissCheese\_32 Start: 24456, Stop: 24803, Start Num: 4

Candidate Starts for SwissCheese\_32:

(Start: 1 @24366 has 3 MA's), (Start: 4 @24456 has 188 MA's), (Start: 7 @24477 has 8 MA's), (Start: 8 @24483 has 3 MA's), (17, 24609), (22, 24654),

Gene: Switzer\_31 Start: 23860, Stop: 24207, Start Num: 4

Candidate Starts for Switzer\_31:

(Start: 1 @23770 has 3 MA's), (Start: 4 @23860 has 188 MA's), (Start: 7 @23881 has 8 MA's), (Start: 8 @23887 has 3 MA's), (17, 24013), (22, 24058),

Gene: Swole\_32 Start: 24269, Stop: 24616, Start Num: 4

Candidate Starts for Swole\_32:

(Start: 1 @24179 has 3 MA's), (Start: 4 @24269 has 188 MA's), (Start: 7 @24290 has 8 MA's), (Start: 8 @24296 has 3 MA's), (17, 24422), (22, 24467),

Gene: TWAMP\_26 Start: 18760, Stop: 19080, Start Num: 6

Candidate Starts for TWAMP\_26:

(Start: 6 @18760 has 33 MA's), (Start: 9 @18787 has 3 MA's), (15, 18844), (16, 18874), (17, 18907), (23, 18958), (25, 19009),

Gene: Takoda\_26 Start: 18720, Stop: 19040, Start Num: 6

Candidate Starts for Takoda\_26:

(Start: 6 @18720 has 33 MA's), (Start: 9 @18747 has 3 MA's), (15, 18804), (16, 18834), (17, 18867), (23, 18918), (25, 18969),

Gene: Target\_33 Start: 25243, Stop: 25590, Start Num: 4

Candidate Starts for Target\_33:

(Start: 1 @25153 has 3 MA's), (Start: 4 @25243 has 188 MA's), (Start: 6 @25255 has 33 MA's), (Start: 7 @25264 has 8 MA's), (Start: 8 @25270 has 3 MA's), (17, 25396), (22, 25441),

Gene: Tasp14\_31 Start: 23973, Stop: 24320, Start Num: 4

Candidate Starts for Tasp14\_31:

(Start: 1 @23883 has 3 MA's), (Start: 4 @23973 has 188 MA's), (Start: 7 @23994 has 8 MA's), (Start: 8 @24000 has 3 MA's), (17, 24126), (22, 24171),

Gene: Teodoridan\_28 Start: 23094, Stop: 23441, Start Num: 4

Candidate Starts for Teodoridan\_28:

(Start: 1 @23004 has 3 MA's), (Start: 4 @23094 has 188 MA's), (Start: 7 @23115 has 8 MA's), (Start: 8 @23121 has 3 MA's), (17, 23247), (22, 23292),

Gene: TheloniousMonk\_32 Start: 25387, Stop: 25734, Start Num: 4

Candidate Starts for TheloniousMonk\_32:

(Start: 1 @25297 has 3 MA's), (Start: 4 @25387 has 188 MA's), (Start: 7 @25408 has 8 MA's), (Start: 8 @25414 has 3 MA's), (17, 25540), (22, 25585),

Gene: Thor\_30 Start: 23848, Stop: 24195, Start Num: 4

Candidate Starts for Thor\_30:

(Start: 1 @23758 has 3 MA's), (Start: 4 @23848 has 188 MA's), (Start: 7 @23869 has 8 MA's), (Start: 8 @23875 has 3 MA's), (17, 24001), (22, 24046),

Gene: Topgun\_30 Start: 23601, Stop: 23948, Start Num: 4

Candidate Starts for Topgun\_30:

(Start: 1 @23511 has 3 MA's), (Start: 4 @23601 has 188 MA's), (Start: 7 @23622 has 8 MA's), (Start: 8 @23628 has 3 MA's), (17, 23754), (22, 23799),

Gene: Tote\_32 Start: 24269, Stop: 24616, Start Num: 4

Candidate Starts for Tote\_32:

(Start: 1 @24179 has 3 MA's), (Start: 4 @24269 has 188 MA's), (Start: 7 @24290 has 8 MA's), (Start: 8 @24296 has 3 MA's), (17, 24422), (22, 24467),

Gene: Traft412\_32 Start: 24697, Stop: 24990, Start Num: 5

Candidate Starts for Traft412\_32:

(Start: 1 @24601 has 3 MA's), (Start: 4 @24691 has 188 MA's), (Start: 5 @24697 has 8 MA's), (13, 24760), (14, 24775), (17, 24838), (20, 24856), (25, 24919),

Gene: Treddle\_32 Start: 24987, Stop: 25280, Start Num: 5

Candidate Starts for Treddle\_32:

(Start: 1 @24891 has 3 MA's), (Start: 4 @24981 has 188 MA's), (Start: 5 @24987 has 8 MA's), (13, 25050), (14, 25065), (17, 25128), (20, 25146), (25, 25209),

Gene: Tripl3t\_31 Start: 24600, Stop: 24947, Start Num: 4

Candidate Starts for Tripl3t\_31:

(Start: 1 @24510 has 3 MA's), (Start: 4 @24600 has 188 MA's), (Start: 7 @24621 has 8 MA's), (Start: 8 @24627 has 3 MA's), (17, 24753), (22, 24798),

Gene: Trouble\_31 Start: 24547, Stop: 24894, Start Num: 4

Candidate Starts for Trouble\_31:

(Start: 1 @24457 has 3 MA's), (Start: 4 @24547 has 188 MA's), (Start: 7 @24568 has 8 MA's), (Start: 8 @24574 has 3 MA's), (17, 24700), (22, 24745),

Gene: Turj99\_29 Start: 23487, Stop: 23834, Start Num: 4

Candidate Starts for Turj99\_29:

(Start: 1 @23397 has 3 MA's), (Start: 4 @23487 has 188 MA's), (Start: 7 @23508 has 8 MA's), (Start: 8 @23514 has 3 MA's), (17, 23640), (22, 23685),

Gene: TwoPeat\_31 Start: 24068, Stop: 24415, Start Num: 4

Candidate Starts for TwoPeat\_31:

(Start: 1 @23978 has 3 MA's), (Start: 4 @24068 has 188 MA's), (Start: 7 @24089 has 8 MA's), (Start: 8 @24095 has 3 MA's), (17, 24221), (22, 24266),

Gene: U2\_30 Start: 23893, Stop: 24213, Start Num: 8

Candidate Starts for U2\_30:

(Start: 1 @23776 has 3 MA's), (Start: 4 @23866 has 188 MA's), (Start: 7 @23887 has 8 MA's), (Start: 8 @23893 has 3 MA's), (17, 24019), (22, 24064),

Gene: UhSalsa\_26 Start: 18760, Stop: 19080, Start Num: 6

Candidate Starts for UhSalsa\_26:

(Start: 6 @18760 has 33 MA's), (Start: 9 @18787 has 3 MA's), (15, 18844), (16, 18874), (17, 18907), (23, 18958), (25, 19009),

Gene: Violet\_29 Start: 24273, Stop: 24620, Start Num: 4

Candidate Starts for Violet\_29:

(Start: 1 @24183 has 3 MA's), (Start: 4 @24273 has 188 MA's), (Start: 7 @24294 has 8 MA's), (Start: 8 @24300 has 3 MA's), (17, 24426), (22, 24471),

Gene: Watermelon\_32 Start: 24609, Stop: 24956, Start Num: 4

Candidate Starts for Watermelon\_32:

(Start: 1 @24519 has 3 MA's), (Start: 4 @24609 has 188 MA's), (Start: 7 @24630 has 8 MA's), (Start: 8 @24636 has 3 MA's), (17, 24762), (22, 24807),

Gene: Wheeler\_30 Start: 24041, Stop: 24388, Start Num: 4

Candidate Starts for Wheeler\_30:

(Start: 1 @23951 has 3 MA's), (Start: 4 @24041 has 188 MA's), (Start: 7 @24062 has 8 MA's), (Start: 8 @24068 has 3 MA's), (17, 24194), (22, 24239),

Gene: Wilkins\_30 Start: 23579, Stop: 23878, Start Num: 4

Candidate Starts for Wilkins\_30:

(Start: 1 @23489 has 3 MA's), (Start: 4 @23579 has 188 MA's), (Start: 5 @23585 has 8 MA's), (13, 23648), (14, 23663), (17, 23726), (20, 23744), (25, 23807),

Gene: Yogi\_26 Start: 18734, Stop: 19054, Start Num: 6

Candidate Starts for Yogi\_26:

(Start: 6 @18734 has 33 MA's), (Start: 9 @18761 has 3 MA's), (15, 18818), (16, 18848), (17, 18881), (23, 18932), (24, 18965), (25, 18983),

Gene: Yoncess\_26 Start: 18734, Stop: 19054, Start Num: 6

Candidate Starts for Yoncess\_26:

(Start: 6 @18734 has 33 MA's), (Start: 9 @18761 has 3 MA's), (15, 18818), (16, 18848), (17, 18881), (23, 18932), (24, 18965), (25, 18983),

Gene: Zeeculate\_30 Start: 24480, Stop: 24827, Start Num: 4

Candidate Starts for Zeeculate\_30:

(Start: 1 @24390 has 3 MA's), (Start: 4 @24480 has 188 MA's), (Start: 7 @24501 has 8 MA's), (Start: 8 @24507 has 3 MA's), (17, 24633), (22, 24678),

Gene: Zephyr\_30 Start: 23842, Stop: 24189, Start Num: 4

Candidate Starts for Zephyr\_30:

(Start: 1 @23752 has 3 MA's), (Start: 4 @23842 has 188 MA's), (Start: 7 @23863 has 8 MA's), (Start: 8 @23869 has 3 MA's), (17, 23995), (22, 24040),

Gene: Zeuska\_31 Start: 24276, Stop: 24623, Start Num: 4

Candidate Starts for Zeuska\_31:

(Start: 1 @24186 has 3 MA's), (Start: 4 @24276 has 188 MA's), (Start: 7 @24297 has 8 MA's), (Start: 8 @24303 has 3 MA's), (17, 24429), (22, 24474),