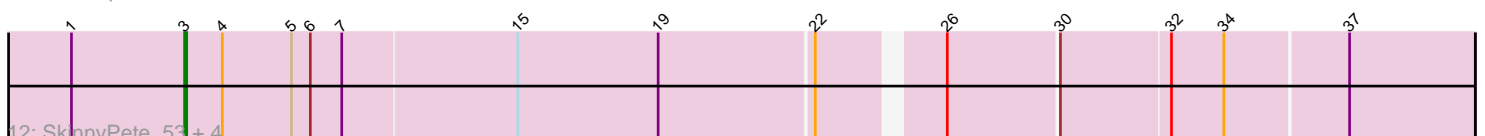
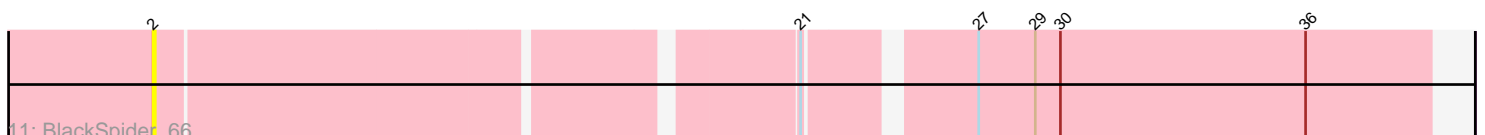
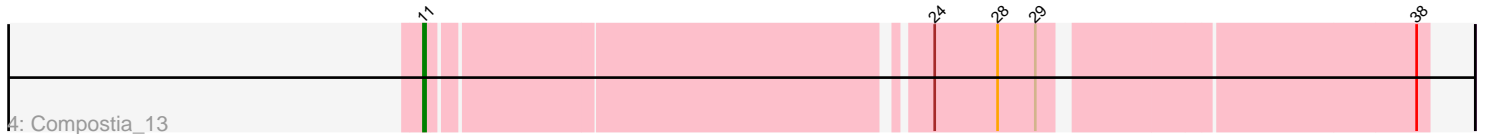
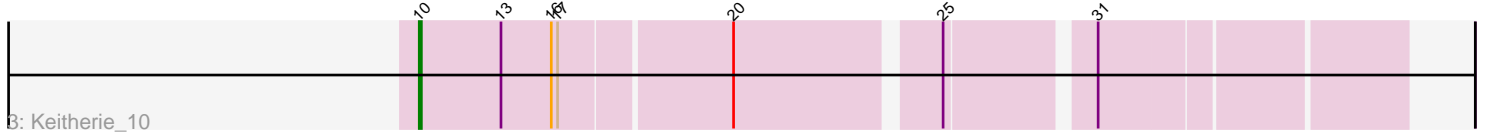
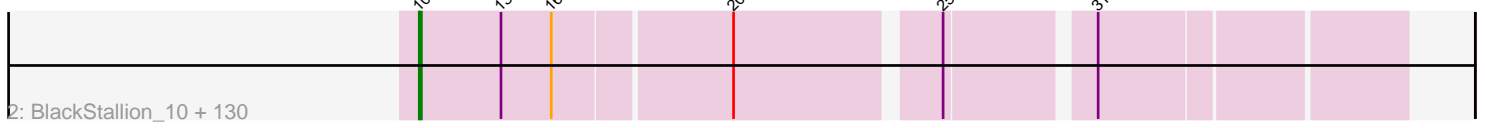
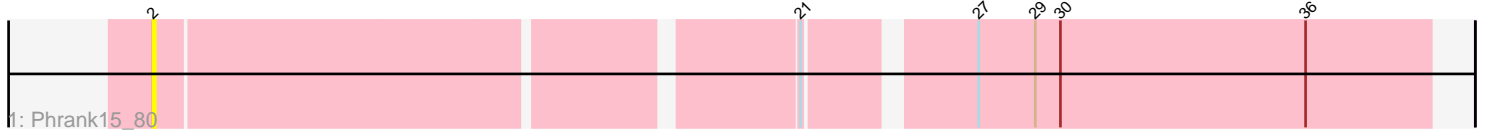


# Pham 154525



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 154525 Report

This analysis was run 04/12/24 on database version 558.

Pham number 154525 has 156 members, 3 are drafts.

Phages represented in each track:

- Track 1 : Phrank15\_80
- Track 2 : BlackStallion\_10, Pops\_10, Puhltonio\_10, Durga\_10, Sigman\_10, Chunky\_10, Riggan\_10, Soto\_10, Inchworm\_10, HSavage\_10, SDcharge11\_10, Lego3393\_10, Zaider\_11, Mesh1\_10, Gyarad\_0010, Swish\_10, Dingo\_10, Etye\_10, Fringe\_10, Haimas\_10, TomBombadil\_10, Oosterbaan\_10, Numberten\_10, DirtJuice\_10, Anderson\_10, Roliet\_10, JacAttac\_10, Phipps\_10, Harvey\_10, Pherdinand\_10, Craff\_10, Phamished\_10, OliverWalter\_10, Tomlarah\_10, Phunky\_10, Waterdiva\_10, FluffyNinja\_10, PhrodoBaggins\_105, Surely\_10, Yoshand\_10, Chah\_10, LeeLot\_10, Hetaeria\_10, Inverness\_10, Slatt\_10, Hertubise\_10, Vivaldi\_10, Zelda\_10, Plmatters\_10, Mikota\_10, EmpTee\_10, Melc17\_10, Newman\_10, KLucky39\_10, Kikipoo\_10, Badfish\_10, Podrick\_10, Morty\_10, Cannibal\_10, FriarPreacher\_10, Scoot17C\_10, Adriana\_10, Nacho\_0010, Lasso\_10, Thora\_10, Valjean\_10, CheetO\_10, Spartan300\_10, Sheila\_10, Virapocalypse\_10, Pipsqueak\_10, Samaymay\_10, CamL\_10, Frankicide\_10, GeneCoco\_10, Eremos\_10, Roscoe\_11, Basato\_11, Tooj\_10, MiniBoss\_10, Daka\_10, Fang\_10, Weher20\_10, Serpentine\_0010, ABU\_10, KlimbOn\_10, BlueHusk\_10, Hamish\_10, Prickles\_10, Olive\_10, Suffolk\_10, AltPhacts\_10, IsaacEli\_10, Buckeye\_10, Orion\_10, OSmaximus\_10, Lulwa\_10, Colbert\_10, UAch1\_10, Trypo\_10, Vista\_10, Gophee\_10, Emiris\_10, ThreeOh3D2\_10, Kailash\_10, Charles1\_10, Horchata\_10, ProfessorX\_10, PG1\_10, Megatron\_10, Cobra\_10, Skippy\_10, Usavi\_10, QueenBeane\_10, Magic8\_10, PhatLouie\_10, Katniss\_10, Omniscient\_10, Zonia\_10, Nicole21\_10, YouGoGlencoco\_10, Boehler\_10, ShiVal\_10, Murdoc\_10, JangoPhett\_10, Iridoclysis\_10, Kloppinator\_10, KingVeVeVe\_10, DoesntMatter\_10, PhatCats2014\_10, Serendipity\_10
- Track 3 : Keitherie\_10
- Track 4 : Compostia\_13
- Track 5 : Lennon\_20, Vivi2\_18
- Track 6 : Fosterous\_16, Love\_20, Paries\_19, BobBob\_16, Galadriel\_20, Bibwit\_19, Tangent\_16, Keitabear\_20, Charming\_16, Nordenberg\_13
- Track 7 : YorkOnyx\_19
- Track 8 : Rofo\_18
- Track 9 : Barsten\_19
- Track 10 : Sitar\_20
- Track 11 : BlackSpider\_66
- Track 12 : SkinnyPete\_53, DocMcStuffins\_73, Misha28\_72, Awesomesauce\_74, TootsiePop\_72

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

The start number called the most often in the published annotations is 10, it was called in 132 of the 153 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ABU\_10, Adriana\_10, AltPhacts\_10, Anderson\_10, Badfish\_10, Basato\_11, BlackStallion\_10, BlueHusk\_10, Boehler\_10, Buckeye\_10, CamL\_10, Cannibal\_10, Chah\_10, Charles1\_10, CheetO\_10, Chunky\_10, Cobra\_10, Colbert\_10, Craff\_10, Daka\_10, Dingo\_10, DirtJuice\_10, DoesntMatter\_10, Durga\_10, Emiris\_10, EmpTee\_10, Eremos\_10, Etaye\_10, Fang\_10, FluffyNinja\_10, Frankicide\_10, FriarPreacher\_10, Fringe\_10, GeneCoco\_10, Gophee\_10, Gyarad\_0010, HSavage\_10, Haimas\_10, Hamish\_10, Harvey\_10, Hertubise\_10, Hetaeria\_10, Horchata\_10, Inchworm\_10, Inverness\_10, Iridoclysis\_10, IsaacEli\_10, JacAttac\_10, JangoPhett\_10, KLucky39\_10, Kailash\_10, Katniss\_10, Keitherie\_10, Kikipoo\_10, KingVeVeVe\_10, KlimbOn\_10, Kloppinator\_10, Lasso\_10, LeeLot\_10, Lego3393\_10, Lulwa\_10, Magic8\_10, Megatron\_10, Melc17\_10, Mesh1\_10, Mikota\_10, MiniBoss\_10, Morty\_10, Murdoc\_10, Nacho\_0010, Newman\_10, Nicole21\_10, Numberten\_10, OSmaximus\_10, Olive\_10, OliverWalter\_10, Omniscient\_10, Oosterbaan\_10, Orion\_10, PG1\_10, Phamished\_10, PhatCats2014\_10, PhatLouie\_10, Pherdinand\_10, Phipps\_10, PhrodoBaggins\_105, Phunky\_10, Pipsqueak\_10, Plmatters\_10, Podrick\_10, Pops\_10, Prickles\_10, ProfessorX\_10, Puhltonio\_10, QueenBeane\_10, Riggan\_10, Roliet\_10, Roscoe\_11, SDcharge11\_10, Samaymay\_10, Scoot17C\_10, Serendipity\_10, Serpentine\_0010, Sheila\_10, ShiVal\_10, Sigman\_10, Skippy\_10, Slatt\_10, Soto\_10, Spartan300\_10, Suffolk\_10, Surely\_10, Swish\_10, Thora\_10, ThreeOh3D2\_10, TomBombadil\_10, Tomlarah\_10, Tooj\_10, Trypo\_10, UAch1\_10, Usavi\_10, Valjean\_10, Virapocalypse\_10, Vista\_10, Vivaldi\_10, Waterdiva\_10, Weher20\_10, Yoshand\_10, YouGoGlencoco\_10, Zaider\_11, Zelda\_10, Zonia\_10,

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

- 

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

- Awesomesauce\_74, Barsten\_19, Bibwit\_19, BlackSpider\_66, BobBob\_16, Charming\_16, Compostia\_13, DocMcStuffins\_73, Fosterous\_16, Galadriel\_20, Keitabear\_20, Lennon\_20, Love\_20, Misha28\_72, Nordenberg\_13, Paries\_19, Phrank15\_80, Rofo\_18, Sitar\_20, SkinnyPete\_53, Tangent\_16, TootsiePop\_72, Vivi2\_18, YorkOnyx\_19,

### **Summary by start number:**

Start 2:

- Found in 2 of 156 ( 1.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BlackSpider\_66 (FN), Phrank15\_80 (AY),

Start 3:

- Found in 5 of 156 ( 3.2% ) of genes in pham
- Manual Annotations of this start: 4 of 153
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Awesomesauce\_74 (F1), DocMcStuffins\_73 (F1), Misha28\_72 (F1), SkinnyPete\_53 (N), TootsiePop\_72 (F1),

#### Start 8:

- Found in 16 of 156 ( 10.3% ) of genes in pham
- Manual Annotations of this start: 2 of 153
- Called 12.5% of time when present
- Phage (with cluster) where this start called: Lennon\_20 (DE1), Vivi2\_18 (DE1),

#### Start 9:

- Found in 16 of 156 ( 10.3% ) of genes in pham
- Manual Annotations of this start: 1 of 153
- Called 6.2% of time when present
- Phage (with cluster) where this start called: Sitar\_20 (DE1),

#### Start 10:

- Found in 132 of 156 ( 84.6% ) of genes in pham
- Manual Annotations of this start: 132 of 153
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ABU\_10 (B1), Adriana\_10 (B1), AltPhacts\_10 (B1), Anderson\_10 (B1), Badfish\_10 (B1), Basato\_11 (B1), BlackStallion\_10 (B1), BlueHusk\_10 (B1), Boehler\_10 (B1), Buckeye\_10 (B1), CamL\_10 (B1), Cannibal\_10 (B1), Chah\_10 (B1), Charles1\_10 (B1), CheetO\_10 (B1), Chunky\_10 (B1), Cobra\_10 (B1), Colbert\_10 (B1), Craff\_10 (B1), Daka\_10 (B1), Dingo\_10 (B1), DirtJuice\_10 (B1), DoesntMatter\_10 (B1), Durga\_10 (B1), Emiris\_10 (B1), EmpTee\_10 (B1), Eremos\_10 (B1), Etaye\_10 (B1), Fang\_10 (B1), FluffyNinja\_10 (B1), Frankicide\_10 (B1), FriarPreacher\_10 (B1), Fringe\_10 (B1), GeneCoco\_10 (B1), Gophee\_10 (B1), Gyarad\_0010 (B1), HSavage\_10 (B1), Haimas\_10 (B1), Hamish\_10 (B1), Harvey\_10 (B1), Hertubise\_10 (B1), Hetaeria\_10 (B1), Horchata\_10 (B1), Inchworm\_10 (B1), Inverness\_10 (B1), Iridoclysis\_10 (B1), IsaacEli\_10 (B1), JacAttac\_10 (B1), JangoPhett\_10 (B1), KLucky39\_10 (B1), Kailash\_10 (B1), Katniss\_10 (B1), Keitherie\_10 (B1), Kikipoo\_10 (B1), KingVeVeVe\_10 (B1), KlimbOn\_10 (B1), Kloppinator\_10 (B1), Lasso\_10 (B1), LeeLot\_10 (B1), Lego3393\_10 (B1), Lulwa\_10 (B1), Magic8\_10 (B1), Megatron\_10 (B1), Melc17\_10 (B1), Mesh1\_10 (B1), Mikota\_10 (B1), MiniBoss\_10 (B1), Morty\_10 (B1), Murdoc\_10 (B1), Nacho\_0010 (B1), Newman\_10 (B1), Nicole21\_10 (B1), Numberten\_10 (B1), OSmaximus\_10 (B1), Olive\_10 (B1), OliverWalter\_10 (B1), Omniscient\_10 (B1), Oosterbaan\_10 (B1), Orion\_10 (B1), PG1\_10 (B1), Phamished\_10 (B1), PhatCats2014\_10 (B1), PhatLouie\_10 (B1), Pherdinand\_10 (B1), Phipps\_10 (B1), PhrodoBaggins\_105 (B1), Phunky\_10 (B1), Pipsqueak\_10 (B1), Plmatters\_10 (B1), Podrick\_10 (B1), Pops\_10 (B1), Prickles\_10 (B1), ProfessorX\_10 (B1), Puhltonio\_10 (B1), QueenBeane\_10 (B1), Riggan\_10 (B1), Roliet\_10 (B1), Roscoe\_11 (B1), SDcharge11\_10 (B1), Samaymay\_10 (B1), Scoot17C\_10 (B1), Serendipity\_10 (B1), Serpentine\_0010 (B1), Sheila\_10 (B1), ShiVal\_10 (B1), Sigman\_10 (B1), Skippy\_10 (B1), Slatt\_10 (B1), Soto\_10 (B1), Spartan300\_10 (B1), Suffolk\_10 (B1), Surely\_10 (B1), Swish\_10 (B1), Thora\_10 (B1), ThreeOh3D2\_10 (B1), TomBombadil\_10 (B1), Tomlarah\_10 (B1), Tooj\_10 (B1), Trypo\_10 (B1), UAch1\_10 (B1), Usavi\_10 (B1), Valjean\_10 (B1), Virapocalypse\_10 (B1), Vista\_10 (B1), Vivaldi\_10 (B1), Waterdiva\_10 (B1), Weher20\_10 (B1), Yoshand\_10 (B1), YouGoGlencoco\_10 (B1), Zaider\_11 (B1), Zelda\_10 (B1),

Zonia\_10 (B1),

Start 11:

- Found in 17 of 156 ( 10.9% ) of genes in pham
- Manual Annotations of this start: 13 of 153
- Called 76.5% of time when present
- Phage (with cluster) where this start called: Barsten\_19 (DE1), Bibwit\_19 (DE1), BobBob\_16 (DE1), Charming\_16 (DE1), Compostia\_13 (B3), Fosterous\_16 (DE1), Galadriel\_20 (DE1), Keitabear\_20 (DE1), Love\_20 (DE1), Nordenberg\_13 (DE1), Paries\_19 (DE1), Tangent\_16 (DE1), YorkOnyx\_19 (DE1),

Start 12:

- Found in 16 of 156 ( 10.3% ) of genes in pham
- Manual Annotations of this start: 1 of 153
- Called 6.2% of time when present
- Phage (with cluster) where this start called: Rofo\_18 (DE1),

### **Summary by clusters:**

There are 7 clusters represented in this pham: F1, DE1, N, B1, B3, AY, FN,

Info for manual annotations of cluster B1:

- Start number 10 was manually annotated 132 times for cluster B1.

Info for manual annotations of cluster B3:

- Start number 11 was manually annotated 1 time for cluster B3.

Info for manual annotations of cluster DE1:

- Start number 8 was manually annotated 2 times for cluster DE1.
- Start number 9 was manually annotated 1 time for cluster DE1.
- Start number 11 was manually annotated 12 times for cluster DE1.
- Start number 12 was manually annotated 1 time for cluster DE1.

Info for manual annotations of cluster F1:

- Start number 3 was manually annotated 3 times for cluster F1.

Info for manual annotations of cluster N:

- Start number 3 was manually annotated 1 time for cluster N.

### **Gene Information:**

Gene: ABU\_10 Start: 8941, Stop: 9375, Start Num: 10

Candidate Starts for ABU\_10:

(Start: 10 @8941 has 132 MA's), (13, 8980), (16, 9004), (20, 9085), (25, 9175), (31, 9238),

Gene: Adriana\_10 Start: 8943, Stop: 9377, Start Num: 10

Candidate Starts for Adriana\_10:

(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: AltPhacts\_10 Start: 8944, Stop: 9378, Start Num: 10  
Candidate Starts for AltPhacts\_10:  
(Start: 10 @8944 has 132 MA's), (13, 8983), (16, 9007), (20, 9088), (25, 9178), (31, 9241),

Gene: Anderson\_10 Start: 8943, Stop: 9377, Start Num: 10  
Candidate Starts for Anderson\_10:  
(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Awesomesauce\_74 Start: 45209, Stop: 45796, Start Num: 3  
Candidate Starts for Awesomesauce\_74:  
(1, 45155), (Start: 3 @45209 has 4 MA's), (4, 45227), (5, 45260), (6, 45269), (7, 45284), (15, 45365),  
(19, 45431), (22, 45503), (26, 45554), (30, 45605), (32, 45656), (34, 45680), (37, 45737),

Gene: Badfish\_10 Start: 8943, Stop: 9377, Start Num: 10  
Candidate Starts for Badfish\_10:  
(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Barsten\_19 Start: 14612, Stop: 15058, Start Num: 11  
Candidate Starts for Barsten\_19:  
(Start: 8 @14591 has 2 MA's), (Start: 9 @14603 has 1 MA's), (Start: 11 @14612 has 13 MA's), (Start:  
12 @14642 has 1 MA's), (14, 14651), (23, 14822), (26, 14855), (29, 14897), (31, 14918), (33, 14963),

Gene: Basato\_11 Start: 9177, Stop: 9611, Start Num: 10  
Candidate Starts for Basato\_11:  
(Start: 10 @9177 has 132 MA's), (13, 9216), (16, 9240), (20, 9321), (25, 9411), (31, 9474),

Gene: Bibwit\_19 Start: 14856, Stop: 15302, Start Num: 11  
Candidate Starts for Bibwit\_19:  
(Start: 8 @14835 has 2 MA's), (Start: 9 @14847 has 1 MA's), (Start: 11 @14856 has 13 MA's), (Start:  
12 @14886 has 1 MA's), (14, 14895), (23, 15066), (26, 15099), (29, 15141), (31, 15162), (33, 15207),  
(35, 15243),

Gene: BlackSpider\_66 Start: 38978, Stop: 39544, Start Num: 2  
Candidate Starts for BlackSpider\_66:  
(2, 38978), (21, 39260), (27, 39329), (29, 39356), (30, 39368), (36, 39485),

Gene: BlackStallion\_10 Start: 8941, Stop: 9375, Start Num: 10  
Candidate Starts for BlackStallion\_10:  
(Start: 10 @8941 has 132 MA's), (13, 8980), (16, 9004), (20, 9085), (25, 9175), (31, 9238),

Gene: BlueHusk\_10 Start: 8940, Stop: 9374, Start Num: 10  
Candidate Starts for BlueHusk\_10:  
(Start: 10 @8940 has 132 MA's), (13, 8979), (16, 9003), (20, 9084), (25, 9174), (31, 9237),

Gene: BobBob\_16 Start: 13466, Stop: 13912, Start Num: 11  
Candidate Starts for BobBob\_16:  
(Start: 8 @13445 has 2 MA's), (Start: 9 @13457 has 1 MA's), (Start: 11 @13466 has 13 MA's), (Start:  
12 @13496 has 1 MA's), (14, 13505), (23, 13676), (26, 13709), (29, 13751), (31, 13772), (33, 13817),  
(35, 13853),

Gene: Boehler\_10 Start: 8943, Stop: 9377, Start Num: 10  
Candidate Starts for Boehler\_10:  
(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Buckeye\_10 Start: 8945, Stop: 9379, Start Num: 10

Candidate Starts for Buckeye\_10:

(Start: 10 @8945 has 132 MA's), (13, 8984), (16, 9008), (20, 9089), (25, 9179), (31, 9242),

Gene: CamL\_10 Start: 8940, Stop: 9374, Start Num: 10

Candidate Starts for CamL\_10:

(Start: 10 @8940 has 132 MA's), (13, 8979), (16, 9003), (20, 9084), (25, 9174), (31, 9237),

Gene: Cannibal\_10 Start: 8943, Stop: 9377, Start Num: 10

Candidate Starts for Cannibal\_10:

(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Chah\_10 Start: 8941, Stop: 9375, Start Num: 10

Candidate Starts for Chah\_10:

(Start: 10 @8941 has 132 MA's), (13, 8980), (16, 9004), (20, 9085), (25, 9175), (31, 9238),

Gene: Charles1\_10 Start: 8943, Stop: 9377, Start Num: 10

Candidate Starts for Charles1\_10:

(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Charming\_16 Start: 13468, Stop: 13914, Start Num: 11

Candidate Starts for Charming\_16:

(Start: 8 @13447 has 2 MA's), (Start: 9 @13459 has 1 MA's), (Start: 11 @13468 has 13 MA's), (Start: 12 @13498 has 1 MA's), (14, 13507), (23, 13678), (26, 13711), (29, 13753), (31, 13774), (33, 13819), (35, 13855),

Gene: CheetO\_10 Start: 8943, Stop: 9377, Start Num: 10

Candidate Starts for CheetO\_10:

(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Chunky\_10 Start: 8943, Stop: 9377, Start Num: 10

Candidate Starts for Chunky\_10:

(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Cobra\_10 Start: 8940, Stop: 9374, Start Num: 10

Candidate Starts for Cobra\_10:

(Start: 10 @8940 has 132 MA's), (13, 8979), (16, 9003), (20, 9084), (25, 9174), (31, 9237),

Gene: Colbert\_10 Start: 8940, Stop: 9374, Start Num: 10

Candidate Starts for Colbert\_10:

(Start: 10 @8940 has 132 MA's), (13, 8979), (16, 9003), (20, 9084), (25, 9174), (31, 9237),

Gene: Compostia\_13 Start: 10667, Stop: 11107, Start Num: 11

Candidate Starts for Compostia\_13:

(Start: 11 @10667 has 13 MA's), (24, 10889), (28, 10919), (29, 10937), (38, 11102),

Gene: Craff\_10 Start: 8943, Stop: 9377, Start Num: 10

Candidate Starts for Craff\_10:

(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Daka\_10 Start: 8946, Stop: 9380, Start Num: 10

Candidate Starts for Daka\_10:

(Start: 10 @8946 has 132 MA's), (13, 8985), (16, 9009), (20, 9090), (25, 9180), (31, 9243),

Gene: Dingo\_10 Start: 8940, Stop: 9374, Start Num: 10

Candidate Starts for Dingo\_10:

(Start: 10 @8940 has 132 MA's), (13, 8979), (16, 9003), (20, 9084), (25, 9174), (31, 9237),

Gene: DirtJuice\_10 Start: 8943, Stop: 9377, Start Num: 10

Candidate Starts for DirtJuice\_10:

(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: DocMcStuffins\_73 Start: 46126, Stop: 46713, Start Num: 3

Candidate Starts for DocMcStuffins\_73:

(1, 46072), (Start: 3 @46126 has 4 MA's), (4, 46144), (5, 46177), (6, 46186), (7, 46201), (15, 46282), (19, 46348), (22, 46420), (26, 46471), (30, 46522), (32, 46573), (34, 46597), (37, 46654),

Gene: DoesntMatter\_10 Start: 8940, Stop: 9374, Start Num: 10

Candidate Starts for DoesntMatter\_10:

(Start: 10 @8940 has 132 MA's), (13, 8979), (16, 9003), (20, 9084), (25, 9174), (31, 9237),

Gene: Durga\_10 Start: 8957, Stop: 9391, Start Num: 10

Candidate Starts for Durga\_10:

(Start: 10 @8957 has 132 MA's), (13, 8996), (16, 9020), (20, 9101), (25, 9191), (31, 9254),

Gene: Emiris\_10 Start: 8944, Stop: 9378, Start Num: 10

Candidate Starts for Emiris\_10:

(Start: 10 @8944 has 132 MA's), (13, 8983), (16, 9007), (20, 9088), (25, 9178), (31, 9241),

Gene: EmpTee\_10 Start: 8944, Stop: 9378, Start Num: 10

Candidate Starts for EmpTee\_10:

(Start: 10 @8944 has 132 MA's), (13, 8983), (16, 9007), (20, 9088), (25, 9178), (31, 9241),

Gene: Eremos\_10 Start: 8937, Stop: 9371, Start Num: 10

Candidate Starts for Eremos\_10:

(Start: 10 @8937 has 132 MA's), (13, 8976), (16, 9000), (20, 9081), (25, 9171), (31, 9234),

Gene: Etaye\_10 Start: 8940, Stop: 9374, Start Num: 10

Candidate Starts for Etaye\_10:

(Start: 10 @8940 has 132 MA's), (13, 8979), (16, 9003), (20, 9084), (25, 9174), (31, 9237),

Gene: Fang\_10 Start: 8944, Stop: 9378, Start Num: 10

Candidate Starts for Fang\_10:

(Start: 10 @8944 has 132 MA's), (13, 8983), (16, 9007), (20, 9088), (25, 9178), (31, 9241),

Gene: FluffyNinja\_10 Start: 8941, Stop: 9375, Start Num: 10

Candidate Starts for FluffyNinja\_10:

(Start: 10 @8941 has 132 MA's), (13, 8980), (16, 9004), (20, 9085), (25, 9175), (31, 9238),

Gene: Fosterous\_16 Start: 14357, Stop: 14803, Start Num: 11

Candidate Starts for Fosterous\_16:

(Start: 8 @14336 has 2 MA's), (Start: 9 @14348 has 1 MA's), (Start: 11 @14357 has 13 MA's), (Start: 12 @14387 has 1 MA's), (14, 14396), (23, 14567), (26, 14600), (29, 14642), (31, 14663), (33, 14708), (35, 14744),



Gene: Frankicide\_10 Start: 8945, Stop: 9379, Start Num: 10  
Candidate Starts for Frankicide\_10:  
(Start: 10 @8945 has 132 MA's), (13, 8984), (16, 9008), (20, 9089), (25, 9179), (31, 9242),

Gene: FriarPreacher\_10 Start: 8946, Stop: 9380, Start Num: 10  
Candidate Starts for FriarPreacher\_10:  
(Start: 10 @8946 has 132 MA's), (13, 8985), (16, 9009), (20, 9090), (25, 9180), (31, 9243),

Gene: Fringe\_10 Start: 8941, Stop: 9375, Start Num: 10  
Candidate Starts for Fringe\_10:  
(Start: 10 @8941 has 132 MA's), (13, 8980), (16, 9004), (20, 9085), (25, 9175), (31, 9238),

Gene: Galadriel\_20 Start: 14216, Stop: 14662, Start Num: 11  
Candidate Starts for Galadriel\_20:  
(Start: 8 @14195 has 2 MA's), (Start: 9 @14207 has 1 MA's), (Start: 11 @14216 has 13 MA's), (Start: 12 @14246 has 1 MA's), (14, 14255), (23, 14426), (26, 14459), (29, 14501), (31, 14522), (33, 14567), (35, 14603),

Gene: GeneCoco\_10 Start: 8949, Stop: 9383, Start Num: 10  
Candidate Starts for GeneCoco\_10:  
(Start: 10 @8949 has 132 MA's), (13, 8988), (16, 9012), (20, 9093), (25, 9183), (31, 9246),

Gene: Gophee\_10 Start: 8943, Stop: 9377, Start Num: 10  
Candidate Starts for Gophee\_10:  
(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Gyarad\_0010 Start: 8943, Stop: 9377, Start Num: 10  
Candidate Starts for Gyarad\_0010:  
(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: HSavage\_10 Start: 8945, Stop: 9379, Start Num: 10  
Candidate Starts for HSavage\_10:  
(Start: 10 @8945 has 132 MA's), (13, 8984), (16, 9008), (20, 9089), (25, 9179), (31, 9242),

Gene: Haimas\_10 Start: 8943, Stop: 9377, Start Num: 10  
Candidate Starts for Haimas\_10:  
(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Hamish\_10 Start: 8943, Stop: 9377, Start Num: 10  
Candidate Starts for Hamish\_10:  
(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Harvey\_10 Start: 8944, Stop: 9378, Start Num: 10  
Candidate Starts for Harvey\_10:  
(Start: 10 @8944 has 132 MA's), (13, 8983), (16, 9007), (20, 9088), (25, 9178), (31, 9241),

Gene: Hertubise\_10 Start: 8943, Stop: 9377, Start Num: 10  
Candidate Starts for Hertubise\_10:  
(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Hetaeria\_10 Start: 8943, Stop: 9377, Start Num: 10  
Candidate Starts for Hetaeria\_10:  
(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Horchata\_10 Start: 8942, Stop: 9376, Start Num: 10

Candidate Starts for Horchata\_10:

(Start: 10 @8942 has 132 MA's), (13, 8981), (16, 9005), (20, 9086), (25, 9176), (31, 9239),

Gene: Inchworm\_10 Start: 8940, Stop: 9374, Start Num: 10

Candidate Starts for Inchworm\_10:

(Start: 10 @8940 has 132 MA's), (13, 8979), (16, 9003), (20, 9084), (25, 9174), (31, 9237),

Gene: Inverness\_10 Start: 8945, Stop: 9379, Start Num: 10

Candidate Starts for Inverness\_10:

(Start: 10 @8945 has 132 MA's), (13, 8984), (16, 9008), (20, 9089), (25, 9179), (31, 9242),

Gene: Iridoclysis\_10 Start: 8947, Stop: 9381, Start Num: 10

Candidate Starts for Iridoclysis\_10:

(Start: 10 @8947 has 132 MA's), (13, 8986), (16, 9010), (20, 9091), (25, 9181), (31, 9244),

Gene: IsaacEli\_10 Start: 8940, Stop: 9374, Start Num: 10

Candidate Starts for IsaacEli\_10:

(Start: 10 @8940 has 132 MA's), (13, 8979), (16, 9003), (20, 9084), (25, 9174), (31, 9237),

Gene: JacAttac\_10 Start: 8940, Stop: 9374, Start Num: 10

Candidate Starts for JacAttac\_10:

(Start: 10 @8940 has 132 MA's), (13, 8979), (16, 9003), (20, 9084), (25, 9174), (31, 9237),

Gene: JangoPhett\_10 Start: 8941, Stop: 9375, Start Num: 10

Candidate Starts for JangoPhett\_10:

(Start: 10 @8941 has 132 MA's), (13, 8980), (16, 9004), (20, 9085), (25, 9175), (31, 9238),

Gene: KLucky39\_10 Start: 8943, Stop: 9377, Start Num: 10

Candidate Starts for KLucky39\_10:

(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Kailash\_10 Start: 8952, Stop: 9386, Start Num: 10

Candidate Starts for Kailash\_10:

(Start: 10 @8952 has 132 MA's), (13, 8991), (16, 9015), (20, 9096), (25, 9186), (31, 9249),

Gene: Katniss\_10 Start: 8944, Stop: 9378, Start Num: 10

Candidate Starts for Katniss\_10:

(Start: 10 @8944 has 132 MA's), (13, 8983), (16, 9007), (20, 9088), (25, 9178), (31, 9241),

Gene: Keitabear\_20 Start: 16560, Stop: 17006, Start Num: 11

Candidate Starts for Keitabear\_20:

(Start: 8 @16539 has 2 MA's), (Start: 9 @16551 has 1 MA's), (Start: 11 @16560 has 13 MA's), (Start: 12 @16590 has 1 MA's), (14, 16599), (23, 16770), (26, 16803), (29, 16845), (31, 16866), (33, 16911), (35, 16947),

Gene: Keitherie\_10 Start: 8957, Stop: 9391, Start Num: 10

Candidate Starts for Keitherie\_10:

(Start: 10 @8957 has 132 MA's), (13, 8996), (16, 9020), (17, 9023), (20, 9101), (25, 9191), (31, 9254),

Gene: Kikipoo\_10 Start: 8940, Stop: 9374, Start Num: 10

Candidate Starts for Kikipoo\_10:

(Start: 10 @8940 has 132 MA's), (13, 8979), (16, 9003), (20, 9084), (25, 9174), (31, 9237),

Gene: KingVeVeVe\_10 Start: 8944, Stop: 9378, Start Num: 10

Candidate Starts for KingVeVeVe\_10:

(Start: 10 @8944 has 132 MA's), (13, 8983), (16, 9007), (20, 9088), (25, 9178), (31, 9241),

Gene: KlimbOn\_10 Start: 8943, Stop: 9377, Start Num: 10

Candidate Starts for KlimbOn\_10:

(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Kloppinator\_10 Start: 8941, Stop: 9375, Start Num: 10

Candidate Starts for Kloppinator\_10:

(Start: 10 @8941 has 132 MA's), (13, 8980), (16, 9004), (20, 9085), (25, 9175), (31, 9238),

Gene: Lasso\_10 Start: 8943, Stop: 9377, Start Num: 10

Candidate Starts for Lasso\_10:

(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: LeeLot\_10 Start: 8943, Stop: 9377, Start Num: 10

Candidate Starts for LeeLot\_10:

(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Lego3393\_10 Start: 8941, Stop: 9375, Start Num: 10

Candidate Starts for Lego3393\_10:

(Start: 10 @8941 has 132 MA's), (13, 8980), (16, 9004), (20, 9085), (25, 9175), (31, 9238),

Gene: Lennon\_20 Start: 15643, Stop: 16110, Start Num: 8

Candidate Starts for Lennon\_20:

(Start: 8 @15643 has 2 MA's), (Start: 9 @15655 has 1 MA's), (Start: 11 @15664 has 13 MA's), (Start: 12 @15694 has 1 MA's), (14, 15703), (23, 15874), (26, 15907), (29, 15949), (31, 15970), (33, 16015), (35, 16051),

Gene: Love\_20 Start: 14527, Stop: 14973, Start Num: 11

Candidate Starts for Love\_20:

(Start: 8 @14506 has 2 MA's), (Start: 9 @14518 has 1 MA's), (Start: 11 @14527 has 13 MA's), (Start: 12 @14557 has 1 MA's), (14, 14566), (23, 14737), (26, 14770), (29, 14812), (31, 14833), (33, 14878), (35, 14914),

Gene: Lulwa\_10 Start: 8943, Stop: 9377, Start Num: 10

Candidate Starts for Lulwa\_10:

(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Magic8\_10 Start: 8940, Stop: 9374, Start Num: 10

Candidate Starts for Magic8\_10:

(Start: 10 @8940 has 132 MA's), (13, 8979), (16, 9003), (20, 9084), (25, 9174), (31, 9237),

Gene: Megatron\_10 Start: 8940, Stop: 9374, Start Num: 10

Candidate Starts for Megatron\_10:

(Start: 10 @8940 has 132 MA's), (13, 8979), (16, 9003), (20, 9084), (25, 9174), (31, 9237),

Gene: Melc17\_10 Start: 8940, Stop: 9374, Start Num: 10

Candidate Starts for Melc17\_10:

(Start: 10 @8940 has 132 MA's), (13, 8979), (16, 9003), (20, 9084), (25, 9174), (31, 9237),

Gene: Mesh1\_10 Start: 8943, Stop: 9377, Start Num: 10

Candidate Starts for Mesh1\_10:

(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Mikota\_10 Start: 8941, Stop: 9375, Start Num: 10

Candidate Starts for Mikota\_10:

(Start: 10 @8941 has 132 MA's), (13, 8980), (16, 9004), (20, 9085), (25, 9175), (31, 9238),

Gene: MiniBoss\_10 Start: 8943, Stop: 9377, Start Num: 10

Candidate Starts for MiniBoss\_10:

(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Misha28\_72 Start: 45214, Stop: 45801, Start Num: 3

Candidate Starts for Misha28\_72:

(1, 45160), (Start: 3 @45214 has 4 MA's), (4, 45232), (5, 45265), (6, 45274), (7, 45289), (15, 45370), (19, 45436), (22, 45508), (26, 45559), (30, 45610), (32, 45661), (34, 45685), (37, 45742),

Gene: Morty\_10 Start: 8940, Stop: 9374, Start Num: 10

Candidate Starts for Morty\_10:

(Start: 10 @8940 has 132 MA's), (13, 8979), (16, 9003), (20, 9084), (25, 9174), (31, 9237),

Gene: Murdoc\_10 Start: 8943, Stop: 9377, Start Num: 10

Candidate Starts for Murdoc\_10:

(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Nacho\_0010 Start: 8943, Stop: 9377, Start Num: 10

Candidate Starts for Nacho\_0010:

(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Newman\_10 Start: 8943, Stop: 9377, Start Num: 10

Candidate Starts for Newman\_10:

(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Nicole21\_10 Start: 8941, Stop: 9375, Start Num: 10

Candidate Starts for Nicole21\_10:

(Start: 10 @8941 has 132 MA's), (13, 8980), (16, 9004), (20, 9085), (25, 9175), (31, 9238),

Gene: Nordenberg\_13 Start: 12847, Stop: 13293, Start Num: 11

Candidate Starts for Nordenberg\_13:

(Start: 8 @12826 has 2 MA's), (Start: 9 @12838 has 1 MA's), (Start: 11 @12847 has 13 MA's), (Start: 12 @12877 has 1 MA's), (14, 12886), (23, 13057), (26, 13090), (29, 13132), (31, 13153), (33, 13198), (35, 13234),

Gene: Numberten\_10 Start: 8943, Stop: 9377, Start Num: 10

Candidate Starts for Numberten\_10:

(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: OSmaximus\_10 Start: 8941, Stop: 9375, Start Num: 10

Candidate Starts for OSmaximus\_10:

(Start: 10 @8941 has 132 MA's), (13, 8980), (16, 9004), (20, 9085), (25, 9175), (31, 9238),

Gene: Olive\_10 Start: 8940, Stop: 9374, Start Num: 10

Candidate Starts for Olive\_10:

(Start: 10 @8940 has 132 MA's), (13, 8979), (16, 9003), (20, 9084), (25, 9174), (31, 9237),

Gene: OliverWalter\_10 Start: 8939, Stop: 9373, Start Num: 10

Candidate Starts for OliverWalter\_10:

(Start: 10 @8939 has 132 MA's), (13, 8978), (16, 9002), (20, 9083), (25, 9173), (31, 9236),

Gene: Omniscient\_10 Start: 8943, Stop: 9377, Start Num: 10

Candidate Starts for Omniscient\_10:

(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Oosterbaan\_10 Start: 8944, Stop: 9378, Start Num: 10

Candidate Starts for Oosterbaan\_10:

(Start: 10 @8944 has 132 MA's), (13, 8983), (16, 9007), (20, 9088), (25, 9178), (31, 9241),

Gene: Orion\_10 Start: 8941, Stop: 9375, Start Num: 10

Candidate Starts for Orion\_10:

(Start: 10 @8941 has 132 MA's), (13, 8980), (16, 9004), (20, 9085), (25, 9175), (31, 9238),

Gene: PG1\_10 Start: 8941, Stop: 9375, Start Num: 10

Candidate Starts for PG1\_10:

(Start: 10 @8941 has 132 MA's), (13, 8980), (16, 9004), (20, 9085), (25, 9175), (31, 9238),

Gene: Paries\_19 Start: 14215, Stop: 14661, Start Num: 11

Candidate Starts for Paries\_19:

(Start: 8 @14194 has 2 MA's), (Start: 9 @14206 has 1 MA's), (Start: 11 @14215 has 13 MA's), (Start: 12 @14245 has 1 MA's), (14, 14254), (23, 14425), (26, 14458), (29, 14500), (31, 14521), (33, 14566), (35, 14602),

Gene: Phamished\_10 Start: 8940, Stop: 9374, Start Num: 10

Candidate Starts for Phamished\_10:

(Start: 10 @8940 has 132 MA's), (13, 8979), (16, 9003), (20, 9084), (25, 9174), (31, 9237),

Gene: PhatCats2014\_10 Start: 8944, Stop: 9378, Start Num: 10

Candidate Starts for PhatCats2014\_10:

(Start: 10 @8944 has 132 MA's), (13, 8983), (16, 9007), (20, 9088), (25, 9178), (31, 9241),

Gene: PhatLouie\_10 Start: 8943, Stop: 9377, Start Num: 10

Candidate Starts for PhatLouie\_10:

(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Pherdinand\_10 Start: 8941, Stop: 9375, Start Num: 10

Candidate Starts for Pherdinand\_10:

(Start: 10 @8941 has 132 MA's), (13, 8980), (16, 9004), (20, 9085), (25, 9175), (31, 9238),

Gene: Phipps\_10 Start: 8943, Stop: 9377, Start Num: 10

Candidate Starts for Phipps\_10:

(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Phrank15\_80 Start: 42147, Stop: 42713, Start Num: 2

Candidate Starts for Phrank15\_80:

(2, 42147), (21, 42429), (27, 42498), (29, 42525), (30, 42537), (36, 42654),

Gene: PhrodoBaggins\_105 Start: 8943, Stop: 9377, Start Num: 10  
Candidate Starts for PhrodoBaggins\_105:  
(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Phunky\_10 Start: 8943, Stop: 9377, Start Num: 10  
Candidate Starts for Phunky\_10:  
(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Pipsqueak\_10 Start: 8943, Stop: 9377, Start Num: 10  
Candidate Starts for Pipsqueak\_10:  
(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Plmatters\_10 Start: 8943, Stop: 9377, Start Num: 10  
Candidate Starts for Plmatters\_10:  
(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Podrick\_10 Start: 8943, Stop: 9377, Start Num: 10  
Candidate Starts for Podrick\_10:  
(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Pops\_10 Start: 8943, Stop: 9377, Start Num: 10  
Candidate Starts for Pops\_10:  
(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Prickles\_10 Start: 8949, Stop: 9383, Start Num: 10  
Candidate Starts for Prickles\_10:  
(Start: 10 @8949 has 132 MA's), (13, 8988), (16, 9012), (20, 9093), (25, 9183), (31, 9246),

Gene: ProfessorX\_10 Start: 8941, Stop: 9375, Start Num: 10  
Candidate Starts for ProfessorX\_10:  
(Start: 10 @8941 has 132 MA's), (13, 8980), (16, 9004), (20, 9085), (25, 9175), (31, 9238),

Gene: Puhltonio\_10 Start: 8943, Stop: 9377, Start Num: 10  
Candidate Starts for Puhltonio\_10:  
(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: QueenBeane\_10 Start: 8940, Stop: 9374, Start Num: 10  
Candidate Starts for QueenBeane\_10:  
(Start: 10 @8940 has 132 MA's), (13, 8979), (16, 9003), (20, 9084), (25, 9174), (31, 9237),

Gene: Riggan\_10 Start: 8947, Stop: 9381, Start Num: 10  
Candidate Starts for Riggan\_10:  
(Start: 10 @8947 has 132 MA's), (13, 8986), (16, 9010), (20, 9091), (25, 9181), (31, 9244),

Gene: Rofo\_18 Start: 14497, Stop: 14928, Start Num: 12  
Candidate Starts for Rofo\_18:  
(Start: 8 @14446 has 2 MA's), (Start: 9 @14458 has 1 MA's), (Start: 11 @14467 has 13 MA's), (Start: 12 @14497 has 1 MA's), (14, 14506), (23, 14677), (26, 14710), (29, 14752), (31, 14773), (33, 14818), (35, 14854),

Gene: Roliet\_10 Start: 8943, Stop: 9377, Start Num: 10  
Candidate Starts for Roliet\_10:  
(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Roscoe\_11 Start: 9178, Stop: 9612, Start Num: 10

Candidate Starts for Roscoe\_11:

(Start: 10 @9178 has 132 MA's), (13, 9217), (16, 9241), (20, 9322), (25, 9412), (31, 9475),

Gene: SDcharge11\_10 Start: 8936, Stop: 9370, Start Num: 10

Candidate Starts for SDcharge11\_10:

(Start: 10 @8936 has 132 MA's), (13, 8975), (16, 8999), (20, 9080), (25, 9170), (31, 9233),

Gene: Samaymay\_10 Start: 8940, Stop: 9374, Start Num: 10

Candidate Starts for Samaymay\_10:

(Start: 10 @8940 has 132 MA's), (13, 8979), (16, 9003), (20, 9084), (25, 9174), (31, 9237),

Gene: Scoot17C\_10 Start: 8944, Stop: 9378, Start Num: 10

Candidate Starts for Scoot17C\_10:

(Start: 10 @8944 has 132 MA's), (13, 8983), (16, 9007), (20, 9088), (25, 9178), (31, 9241),

Gene: Serendipity\_10 Start: 8943, Stop: 9377, Start Num: 10

Candidate Starts for Serendipity\_10:

(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Serpentine\_0010 Start: 8943, Stop: 9377, Start Num: 10

Candidate Starts for Serpentine\_0010:

(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Sheila\_10 Start: 8941, Stop: 9375, Start Num: 10

Candidate Starts for Sheila\_10:

(Start: 10 @8941 has 132 MA's), (13, 8980), (16, 9004), (20, 9085), (25, 9175), (31, 9238),

Gene: ShiVal\_10 Start: 8943, Stop: 9377, Start Num: 10

Candidate Starts for ShiVal\_10:

(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Sigman\_10 Start: 8940, Stop: 9374, Start Num: 10

Candidate Starts for Sigman\_10:

(Start: 10 @8940 has 132 MA's), (13, 8979), (16, 9003), (20, 9084), (25, 9174), (31, 9237),

Gene: Sitar\_20 Start: 15655, Stop: 16110, Start Num: 9

Candidate Starts for Sitar\_20:

(Start: 8 @15643 has 2 MA's), (Start: 9 @15655 has 1 MA's), (Start: 11 @15664 has 13 MA's), (Start: 12 @15694 has 1 MA's), (14, 15703), (23, 15874), (26, 15907), (29, 15949), (31, 15970), (33, 16015), (35, 16051),

Gene: SkinnyPete\_53 Start: 35995, Stop: 36582, Start Num: 3

Candidate Starts for SkinnyPete\_53:

(1, 35941), (Start: 3 @35995 has 4 MA's), (4, 36013), (5, 36046), (6, 36055), (7, 36070), (15, 36151), (19, 36217), (22, 36289), (26, 36340), (30, 36391), (32, 36442), (34, 36466), (37, 36523),

Gene: Skippy\_10 Start: 8943, Stop: 9377, Start Num: 10

Candidate Starts for Skippy\_10:

(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Slatt\_10 Start: 8945, Stop: 9379, Start Num: 10

Candidate Starts for Slatt\_10:

(Start: 10 @8945 has 132 MA's), (13, 8984), (16, 9008), (20, 9089), (25, 9179), (31, 9242),

Gene: Soto\_10 Start: 8940, Stop: 9374, Start Num: 10

Candidate Starts for Soto\_10:

(Start: 10 @8940 has 132 MA's), (13, 8979), (16, 9003), (20, 9084), (25, 9174), (31, 9237),

Gene: Spartan300\_10 Start: 8940, Stop: 9374, Start Num: 10

Candidate Starts for Spartan300\_10:

(Start: 10 @8940 has 132 MA's), (13, 8979), (16, 9003), (20, 9084), (25, 9174), (31, 9237),

Gene: Suffolk\_10 Start: 8942, Stop: 9376, Start Num: 10

Candidate Starts for Suffolk\_10:

(Start: 10 @8942 has 132 MA's), (13, 8981), (16, 9005), (20, 9086), (25, 9176), (31, 9239),

Gene: Surely\_10 Start: 8943, Stop: 9377, Start Num: 10

Candidate Starts for Surely\_10:

(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Swish\_10 Start: 8944, Stop: 9378, Start Num: 10

Candidate Starts for Swish\_10:

(Start: 10 @8944 has 132 MA's), (13, 8983), (16, 9007), (20, 9088), (25, 9178), (31, 9241),

Gene: Tangent\_16 Start: 13468, Stop: 13914, Start Num: 11

Candidate Starts for Tangent\_16:

(Start: 8 @13447 has 2 MA's), (Start: 9 @13459 has 1 MA's), (Start: 11 @13468 has 13 MA's), (Start: 12 @13498 has 1 MA's), (14, 13507), (23, 13678), (26, 13711), (29, 13753), (31, 13774), (33, 13819), (35, 13855),

Gene: Thora\_10 Start: 8940, Stop: 9374, Start Num: 10

Candidate Starts for Thora\_10:

(Start: 10 @8940 has 132 MA's), (13, 8979), (16, 9003), (20, 9084), (25, 9174), (31, 9237),

Gene: ThreeOh3D2\_10 Start: 8941, Stop: 9375, Start Num: 10

Candidate Starts for ThreeOh3D2\_10:

(Start: 10 @8941 has 132 MA's), (13, 8980), (16, 9004), (20, 9085), (25, 9175), (31, 9238),

Gene: TomBombadil\_10 Start: 8943, Stop: 9377, Start Num: 10

Candidate Starts for TomBombadil\_10:

(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Tomlarah\_10 Start: 8943, Stop: 9377, Start Num: 10

Candidate Starts for Tomlarah\_10:

(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Tooj\_10 Start: 8941, Stop: 9375, Start Num: 10

Candidate Starts for Tooj\_10:

(Start: 10 @8941 has 132 MA's), (13, 8980), (16, 9004), (20, 9085), (25, 9175), (31, 9238),

Gene: TootsiePop\_72 Start: 45214, Stop: 45801, Start Num: 3

Candidate Starts for TootsiePop\_72:

(1, 45160), (Start: 3 @45214 has 4 MA's), (4, 45232), (5, 45265), (6, 45274), (7, 45289), (15, 45370), (19, 45436), (22, 45508), (26, 45559), (30, 45610), (32, 45661), (34, 45685), (37, 45742),



Gene: Trypo\_10 Start: 8940, Stop: 9374, Start Num: 10  
Candidate Starts for Trypo\_10:  
(Start: 10 @8940 has 132 MA's), (13, 8979), (16, 9003), (20, 9084), (25, 9174), (31, 9237),

Gene: UAch1\_10 Start: 8943, Stop: 9377, Start Num: 10  
Candidate Starts for UAch1\_10:  
(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Usavi\_10 Start: 8940, Stop: 9374, Start Num: 10  
Candidate Starts for Usavi\_10:  
(Start: 10 @8940 has 132 MA's), (13, 8979), (16, 9003), (20, 9084), (25, 9174), (31, 9237),

Gene: Valjean\_10 Start: 8943, Stop: 9377, Start Num: 10  
Candidate Starts for Valjean\_10:  
(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Virapocalypse\_10 Start: 8941, Stop: 9375, Start Num: 10  
Candidate Starts for Virapocalypse\_10:  
(Start: 10 @8941 has 132 MA's), (13, 8980), (16, 9004), (20, 9085), (25, 9175), (31, 9238),

Gene: Vista\_10 Start: 8943, Stop: 9377, Start Num: 10  
Candidate Starts for Vista\_10:  
(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Vivaldi\_10 Start: 8941, Stop: 9375, Start Num: 10  
Candidate Starts for Vivaldi\_10:  
(Start: 10 @8941 has 132 MA's), (13, 8980), (16, 9004), (20, 9085), (25, 9175), (31, 9238),

Gene: Vivi2\_18 Start: 14618, Stop: 15085, Start Num: 8  
Candidate Starts for Vivi2\_18:  
(Start: 8 @14618 has 2 MA's), (Start: 9 @14630 has 1 MA's), (Start: 11 @14639 has 13 MA's), (Start: 12 @14669 has 1 MA's), (14, 14678), (23, 14849), (26, 14882), (29, 14924), (31, 14945), (33, 14990), (35, 15026),

Gene: Waterdiva\_10 Start: 8944, Stop: 9378, Start Num: 10  
Candidate Starts for Waterdiva\_10:  
(Start: 10 @8944 has 132 MA's), (13, 8983), (16, 9007), (20, 9088), (25, 9178), (31, 9241),

Gene: Weher20\_10 Start: 8940, Stop: 9374, Start Num: 10  
Candidate Starts for Weher20\_10:  
(Start: 10 @8940 has 132 MA's), (13, 8979), (16, 9003), (20, 9084), (25, 9174), (31, 9237),

Gene: YorkOnyx\_19 Start: 14161, Stop: 14622, Start Num: 11  
Candidate Starts for YorkOnyx\_19:  
(Start: 8 @14140 has 2 MA's), (Start: 9 @14152 has 1 MA's), (Start: 11 @14161 has 13 MA's), (Start: 12 @14191 has 1 MA's), (18, 14242), (23, 14371), (29, 14446), (31, 14467), (33, 14512),

Gene: Yoshand\_10 Start: 8941, Stop: 9375, Start Num: 10  
Candidate Starts for Yoshand\_10:  
(Start: 10 @8941 has 132 MA's), (13, 8980), (16, 9004), (20, 9085), (25, 9175), (31, 9238),

Gene: YouGoGlencoco\_10 Start: 8940, Stop: 9374, Start Num: 10

Candidate Starts for YouGoGlencoco\_10:

(Start: 10 @8940 has 132 MA's), (13, 8979), (16, 9003), (20, 9084), (25, 9174), (31, 9237),

Gene: Zaider\_11 Start: 9173, Stop: 9607, Start Num: 10

Candidate Starts for Zaider\_11:

(Start: 10 @9173 has 132 MA's), (13, 9212), (16, 9236), (20, 9317), (25, 9407), (31, 9470),

Gene: Zelda\_10 Start: 8943, Stop: 9377, Start Num: 10

Candidate Starts for Zelda\_10:

(Start: 10 @8943 has 132 MA's), (13, 8982), (16, 9006), (20, 9087), (25, 9177), (31, 9240),

Gene: Zonia\_10 Start: 8957, Stop: 9391, Start Num: 10

Candidate Starts for Zonia\_10:

(Start: 10 @8957 has 132 MA's), (13, 8996), (16, 9020), (20, 9101), (25, 9191), (31, 9254),