



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 308229 Report

This analysis was run 06/27/26 on database version 652.

Pham number 308229 has 140 members, 13 are drafts.

Phages represented in each track:

- Track 1 : FoghornLeghorn\_134, Tomaszewski\_131, Liveloughbron\_136, Cookies\_139, MollyToe\_131, TeamEdward\_136, StormChicken\_139, Quallification\_138, MPhalcon\_138, Greep\_141, Becksu\_134
- Track 2 : Cjw1\_135, Nala\_139, Dumbo\_138, Bask21\_141, CrystalP\_137, 244\_138, Hopey\_135, SirDuracell\_140, Ukulele\_132, Bruin\_134, Stark\_135, Pumpkin\_137
- Track 3 : Amao\_140
- Track 4 : BilboSwaggins\_135, IHOP\_141, SophKB\_135, Bogg\_138, Phaja\_141, Petra64142\_138, PaddyBaddy\_134, FairyPath\_139, Maxxinista\_139, Brewer\_133, Nimrod\_136
- Track 5 : DoctorDiddles\_135, OrionPax\_133, StolenFromERC\_140, Buck\_138, Miniwave\_131, NonchalantPear\_138, BadStone\_138, Marshmallow\_138, Pat3\_137, Holt\_143, Bench\_139, Filch\_139, xkcd\_141, HanKaySha\_136, RiverMonster\_136, Adnama\_142, Xandras\_138, Gemini\_143, ChotaBhai\_141, Moldemort\_140, Hoonter\_140, MadamMonkfish\_137, AmericanBeauty\_141, Lilizi\_138, GoldenSpark\_142, Argent26\_142, Ptowny\_130, Stank\_141
- Track 6 : NoSleep\_136, Command613\_140, Daikon\_140, Myrale\_139, Thresher\_139, Rimmer\_134, Czystczon1\_137, Inca\_136
- Track 7 : TeardropMSU\_138, Goldilocks\_143, FireRed\_140, Dusk\_138, ABCat\_138, HufflyPuff\_139, Paperbeatsrock\_135, GooberAzure\_140, Tuco\_143, Wiggin\_140, Phrux\_133, Murphy\_136, Pharsalus\_135, PhatBacter\_140, Easy2Say\_139, Simpliphy\_136
- Track 8 : Gator\_138
- Track 9 : Sotrice96\_142
- Track 10 : StellaBean\_134
- Track 11 : YassJohnny\_133, MISSy\_139, Palpatine\_137, Policronamos\_137
- Track 12 : Willez\_135, Mosby\_134, Misfit\_137, Youngblood\_141, Contagion\_133, Toto\_134, Terminus\_140, ShamWow\_136, Sassay\_132
- Track 13 : DrDrey\_140, Henry\_139, Elph10\_135, Rakim\_139
- Track 14 : ShereKhan\_137, Mindy\_141
- Track 15 : Eureka\_137, Goku\_136
- Track 16 : Lilpickle\_137, Highbury\_133, ChosenOne\_138, Saints25\_133, Elite2014\_137
- Track 17 : Asriel\_134, Barbarian\_137, Flypotenuse\_132, Traaww1\_134
- Track 18 : Budgie\_141
- Track 19 : JeTaime\_135
- Track 20 : Harella\_143, Glexan\_140
- Track 21 : Lilac\_134

- Track 22 : Phaux\_139, Murica\_141
- Track 23 : Kimchi\_143, Kanye\_133
- Track 24 : BaboJay\_136, TBrady12\_142
- Track 25 : Balomoji\_138
- Track 26 : Tarkin\_136
- Track 27 : Kostya\_138
- Track 28 : BugsBunny\_135
- Track 29 : Porky\_139, Emmina\_138
- Track 30 : BigBubba\_140
- Track 31 : Manda\_138
- Track 32 : Cactus\_145

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

The start number called the most often in the published annotations is 16, it was called in 75 of the 127 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Adnama\_142, Amao\_140, AmericanBeauty\_141, Argent26\_142, Asriel\_134, BaboJay\_136, BadStone\_138, Balomoji\_138, Barbarian\_137, Becksu\_134, Bench\_139, BigBubba\_140, BilboSwaggins\_135, Bogg\_138, Brewer\_133, Buck\_138, BugsBunny\_135, Cactus\_145, ChosenOne\_138, ChotaBhai\_141, Command613\_140, Cookies\_139, Czyszczonek\_137, Daikon\_140, DoctorDiddles\_135, Elite2014\_137, Emmina\_138, FairyPath\_139, Filch\_139, Flypotenuse\_132, FoghornLeghorn\_134, Gator\_138, Gemini\_143, Glexan\_140, GoldenSpark\_142, Greep\_141, HanKaySha\_136, Harella\_143, Highbury\_133, Holt\_143, Hoonter\_140, IHOP\_141, Inca\_136, Kanye\_133, Kimchi\_143, Lilizi\_138, Lilpickle\_137, Liveloughbron\_136, MISSy\_139, MPhalcon\_138, MadamMonkfish\_137, Manda\_138, Marshmallow\_138, Maxxinista\_139, Mindy\_141, Miniwave\_131, Moldemort\_140, MollyToe\_131, Myrale\_139, Nimrod\_136, NoSleep\_136, NonchalantPear\_138, OrionPax\_133, PaddyBaddy\_134, Palpatine\_137, Pat3\_137, Petra64142\_138, Phaja\_141, Policronamos\_137, Porky\_139, Ptowny\_130, Quallification\_138, Rimmer\_134, RiverMonster\_136, Saints25\_133, ShereKhan\_137, SophKB\_135, Stank\_141, StolenFromERC\_140, StormChicken\_139, TBrady12\_142, TeamEdward\_136, Thresher\_139, Tomaszewski\_131, Traaww1\_134, Xandras\_138, YassJohnny\_133, xkcd\_141,

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

- 244\_138, ABCat\_138, Bask21\_141, Bruin\_134, Cjw1\_135, Contagion\_133, CrystalP\_137, DrDrey\_140, Dumbo\_138, Dusk\_138, Easy2Say\_139, Elph10\_135, Eureka\_137, FireRed\_140, Goku\_136, Goldilocks\_143, GooberAzure\_140, Henry\_139, Hopey\_135, HufflyPuff\_139, JeTaime\_135, Kostya\_138, Lilac\_134, Misfit\_137, Mosby\_134, Murica\_141, Murphy\_136, Nala\_139, Paperbeatsrock\_135, Pharsalus\_135, PhatBacter\_140, Phaux\_139, Phrux\_133, Pumpkin\_137, Rakim\_139, Sassay\_132, ShamWow\_136, Simpliphy\_136, SirDuracell\_140, Sotrice96\_142, Stark\_135, StellaBean\_134, Tarkin\_136, TeardropMSU\_138, Terminus\_140, Toto\_134, Tuco\_143, Ukulele\_132, Wiggin\_140, Willez\_135, Youngblood\_141,

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

- Budgie\_141,

## Summary by start number:

### Start 3:

- Found in 1 of 140 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 1 of 127
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Budgie\_141 (E),

### Start 12:

- Found in 139 of 140 ( 99.3% ) of genes in pham
- Manual Annotations of this start: 50 of 127
- Called 36.0% of time when present
- Phage (with cluster) where this start called: 244\_138 (E), ABCat\_138 (E), Bask21\_141 (E), Bruin\_134 (E), Cjw1\_135 (E), Contagion\_133 (E), CrystalP\_137 (E), DrDrey\_140 (E), Dumbo\_138 (E), Dusk\_138 (E), Easy2Say\_139 (E), Elph10\_135 (E), Eureka\_137 (E), FireRed\_140 (E), Goku\_136 (E), Goldilocks\_143 (E), GooberAzure\_140 (E), Henry\_139 (E), Hopey\_135 (E), HufflyPuff\_139 (E), JeTaimé\_135 (E), Kostya\_138 (E), Lilac\_134 (E), Misfit\_137 (E), Mosby\_134 (E), Murica\_141 (E), Murphy\_136 (E), Nala\_139 (E), Paperbeatsrock\_135 (E), Pharsalus\_135 (E), PhatBacter\_140 (E), Phaux\_139 (E), Phrux\_133 (E), Pumpkin\_137 (E), Rakim\_139 (E), Sassay\_132 (E), ShamWow\_136 (E), Simpliphy\_136 (E), SirDuracell\_140 (E), Sotrice96\_142 (E), Stark\_135 (E), Tarkin\_136 (E), TeardropMSU\_138 (E), Terminus\_140 (E), Toto\_134 (E), Tuco\_143 (E), Ukulele\_132 (E), Wiggin\_140 (E), Willez\_135 (E), Youngblood\_141 (E),

### Start 15:

- Found in 140 of 140 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 1 of 127
- Called 0.7% of time when present
- Phage (with cluster) where this start called: StellaBean\_134 (E),

### Start 16:

- Found in 139 of 140 ( 99.3% ) of genes in pham
- Manual Annotations of this start: 75 of 127
- Called 63.3% of time when present
- Phage (with cluster) where this start called: Adnama\_142 (E), Amao\_140 (E), AmericanBeauty\_141 (E), Argent26\_142 (E), Asriel\_134 (E), BaboJay\_136 (E), BadStone\_138 (E), Balomoji\_138 (E), Barbarian\_137 (E), Becksu\_134 (E), Bench\_139 (E), BigBubba\_140 (E), BilboSwaggins\_135 (E), Bogg\_138 (E), Brewer\_133 (E), Buck\_138 (E), BugsBunny\_135 (E), Cactus\_145 (E), ChosenOne\_138 (E), ChotaBhai\_141 (E), Command613\_140 (E), Cookies\_139 (E), Czystczon1\_137 (E), Daikon\_140 (E), DoctorDiddles\_135 (E), Elite2014\_137 (E), Emmina\_138 (E), FairyPath\_139 (E), Filch\_139 (E), Flypotenuse\_132 (E), FoghornLeghorn\_134 (E), Gator\_138 (E), Gemini\_143 (E), Glexan\_140 (E), GoldenSpark\_142 (E), Greep\_141 (E), HanKaySha\_136 (E), Harella\_143 (E), Highbury\_133 (E), Holt\_143 (E), Hoonter\_140 (E), IHOP\_141 (E), Inca\_136 (E), Kanye\_133 (E), Kimchi\_143 (E), Lilizi\_138 (E), Lilpickle\_137 (E), Liveloughbron\_136 (E), MISSy\_139 (E), MPhalcon\_138 (E), MadamMonkfish\_137 (E), Manda\_138 (E), Marshmallow\_138 (E), Maxxinista\_139 (E), Mindy\_141 (E), Miniwave\_131 (E), Moldemort\_140 (E), MollyToe\_131 (E), Myrale\_139 (E), Nimrod\_136 (E), NoSleep\_136 (E), NonchalantPear\_138 (E), OrionPax\_133 (E), PaddyBaddy\_134 (E), Palpatine\_137 (E), Pat3\_137 (E), Petra64142\_138 (E), Phaja\_141 (E),

Policronamos\_137 (E), Porky\_139 (E), Ptowny\_130 (E), Qualification\_138 (E), Rimmer\_134 (E), RiverMonster\_136 (E), Saints25\_133 (E), ShereKhan\_137 (E), SophKB\_135 (E), Stank\_141 (E), StolenFromERC\_140 (E), StormChicken\_139 (E), TBrady12\_142 (E), TeamEdward\_136 (E), Thresher\_139 (E), Tomaszewski\_131 (E), Traaww1\_134 (E), Xandras\_138 (E), YassJohnny\_133 (E), xkcd\_141 (E),

### **Summary by clusters:**

There is one cluster represented in this pham: E

Info for manual annotations of cluster E:

- Start number 3 was manually annotated 1 time for cluster E.
- Start number 12 was manually annotated 50 times for cluster E.
- Start number 15 was manually annotated 1 time for cluster E.
- Start number 16 was manually annotated 75 times for cluster E.

### **Gene Information:**

Gene: 244\_138 Start: 72145, Stop: 71609, Start Num: 12

Candidate Starts for 244\_138:

(Start: 12 @72145 has 50 MA's), (Start: 15 @72118 has 1 MA's), (Start: 16 @72109 has 75 MA's), (22, 72004), (39, 71737), (40, 71716), (42, 71668),

Gene: ABCat\_138 Start: 73784, Stop: 73236, Start Num: 12

Candidate Starts for ABCat\_138:

(Start: 12 @73784 has 50 MA's), (Start: 15 @73757 has 1 MA's), (Start: 16 @73748 has 75 MA's), (20, 73658), (21, 73655), (25, 73607), (27, 73598), (28, 73583), (29, 73574), (30, 73559), (40, 73343), (42, 73295),

Gene: Adnama\_142 Start: 72785, Stop: 72273, Start Num: 16

Candidate Starts for Adnama\_142:

(Start: 12 @72821 has 50 MA's), (Start: 15 @72794 has 1 MA's), (Start: 16 @72785 has 75 MA's), (20, 72695), (21, 72692), (25, 72644), (27, 72635), (28, 72620), (29, 72611), (30, 72596), (40, 72380), (42, 72332),

Gene: Amao\_140 Start: 73351, Stop: 72848, Start Num: 16

Candidate Starts for Amao\_140:

(Start: 12 @73387 has 50 MA's), (Start: 15 @73360 has 1 MA's), (Start: 16 @73351 has 75 MA's), (20, 73261), (21, 73258), (25, 73210), (27, 73201), (28, 73186), (29, 73177), (30, 73162),

Gene: AmericanBeauty\_141 Start: 72827, Stop: 72315, Start Num: 16

Candidate Starts for AmericanBeauty\_141:

(Start: 12 @72863 has 50 MA's), (Start: 15 @72836 has 1 MA's), (Start: 16 @72827 has 75 MA's), (20, 72737), (21, 72734), (25, 72686), (27, 72677), (28, 72662), (29, 72653), (30, 72638), (40, 72422), (42, 72374),

Gene: Argent26\_142 Start: 72709, Stop: 72197, Start Num: 16

Candidate Starts for Argent26\_142:

(Start: 12 @72745 has 50 MA's), (Start: 15 @72718 has 1 MA's), (Start: 16 @72709 has 75 MA's), (20, 72619), (21, 72616), (25, 72568), (27, 72559), (28, 72544), (29, 72535), (30, 72520), (40, 72304), (42, 72256),

Gene: Asriel\_134 Start: 71519, Stop: 70995, Start Num: 16

Candidate Starts for Asriel\_134:

(Start: 12 @71555 has 50 MA's), (Start: 15 @71528 has 1 MA's), (Start: 16 @71519 has 75 MA's), (25, 71378), (27, 71369), (28, 71354), (29, 71345), (30, 71336), (31, 71333), (37, 71318), (40, 71102), (42, 71054),

Gene: BaboJay\_136 Start: 73291, Stop: 72776, Start Num: 16

Candidate Starts for BaboJay\_136:

(Start: 12 @73327 has 50 MA's), (Start: 15 @73300 has 1 MA's), (Start: 16 @73291 has 75 MA's), (20, 73198), (21, 73195), (25, 73147), (27, 73138), (28, 73123), (29, 73114), (30, 73099), (42, 72835),

Gene: BadStone\_138 Start: 73296, Stop: 72784, Start Num: 16

Candidate Starts for BadStone\_138:

(Start: 12 @73332 has 50 MA's), (Start: 15 @73305 has 1 MA's), (Start: 16 @73296 has 75 MA's), (20, 73206), (21, 73203), (25, 73155), (27, 73146), (28, 73131), (29, 73122), (30, 73107), (40, 72891), (42, 72843),

Gene: Balomoji\_138 Start: 73344, Stop: 72784, Start Num: 16

Candidate Starts for Balomoji\_138:

(Start: 12 @73380 has 50 MA's), (Start: 15 @73353 has 1 MA's), (Start: 16 @73344 has 75 MA's), (20, 73254), (21, 73251), (25, 73203), (27, 73194), (28, 73179), (29, 73170), (30, 73155), (32, 73146), (33, 73131), (34, 73122), (37, 73107), (39, 72912), (40, 72891), (42, 72843),

Gene: Barbarian\_137 Start: 71519, Stop: 70995, Start Num: 16

Candidate Starts for Barbarian\_137:

(Start: 12 @71555 has 50 MA's), (Start: 15 @71528 has 1 MA's), (Start: 16 @71519 has 75 MA's), (25, 71378), (27, 71369), (28, 71354), (29, 71345), (30, 71336), (31, 71333), (37, 71318), (40, 71102), (42, 71054),

Gene: Bask21\_141 Start: 72248, Stop: 71673, Start Num: 12

Candidate Starts for Bask21\_141:

(Start: 12 @72248 has 50 MA's), (Start: 15 @72221 has 1 MA's), (Start: 16 @72212 has 75 MA's), (22, 72107), (39, 71801), (40, 71780), (42, 71732),

Gene: Becksu\_134 Start: 73159, Stop: 72659, Start Num: 16

Candidate Starts for Becksu\_134:

(Start: 12 @73195 has 50 MA's), (Start: 15 @73168 has 1 MA's), (Start: 16 @73159 has 75 MA's), (22, 73054), (40, 72766), (42, 72718),

Gene: Bench\_139 Start: 73014, Stop: 72502, Start Num: 16

Candidate Starts for Bench\_139:

(Start: 12 @73050 has 50 MA's), (Start: 15 @73023 has 1 MA's), (Start: 16 @73014 has 75 MA's), (20, 72924), (21, 72921), (25, 72873), (27, 72864), (28, 72849), (29, 72840), (30, 72825), (40, 72609), (42, 72561),

Gene: BigBubba\_140 Start: 72225, Stop: 71707, Start Num: 16

Candidate Starts for BigBubba\_140:

(Start: 12 @72261 has 50 MA's), (Start: 15 @72234 has 1 MA's), (Start: 16 @72225 has 75 MA's), (22, 72120), (42, 71766),

Gene: BilboSwaggins\_135 Start: 73793, Stop: 73275, Start Num: 16

Candidate Starts for BilboSwaggins\_135:

(Start: 12 @73829 has 50 MA's), (Start: 15 @73802 has 1 MA's), (Start: 16 @73793 has 75 MA's), (22, 73688), (39, 73403), (40, 73382), (42, 73334),

Gene: Bogg\_138 Start: 72816, Stop: 72298, Start Num: 16

Candidate Starts for Bogg\_138:

(Start: 12 @72852 has 50 MA's), (Start: 15 @72825 has 1 MA's), (Start: 16 @72816 has 75 MA's), (22, 72711), (39, 72426), (40, 72405), (42, 72357),

Gene: Brewer\_133 Start: 71160, Stop: 70660, Start Num: 16

Candidate Starts for Brewer\_133:

(Start: 12 @71196 has 50 MA's), (Start: 15 @71169 has 1 MA's), (Start: 16 @71160 has 75 MA's), (22, 71055), (39, 70788), (40, 70767), (42, 70719),

Gene: Bruin\_134 Start: 71461, Stop: 70886, Start Num: 12

Candidate Starts for Bruin\_134:

(Start: 12 @71461 has 50 MA's), (Start: 15 @71434 has 1 MA's), (Start: 16 @71425 has 75 MA's), (22, 71320), (39, 71014), (40, 70993), (42, 70945),

Gene: Buck\_138 Start: 73670, Stop: 73155, Start Num: 16

Candidate Starts for Buck\_138:

(Start: 12 @73706 has 50 MA's), (Start: 15 @73679 has 1 MA's), (Start: 16 @73670 has 75 MA's), (20, 73577), (21, 73574), (25, 73526), (27, 73517), (28, 73502), (29, 73493), (30, 73478), (40, 73262), (42, 73214),

Gene: Budgie\_141 Start: 73504, Stop: 72698, Start Num: 3

Candidate Starts for Budgie\_141:

(1, 73540), (2, 73513), (Start: 3 @73504 has 1 MA's), (4, 73414), (5, 73411), (6, 73363), (7, 73354), (8, 73339), (9, 73330), (10, 73315), (11, 73297), (13, 73252), (14, 73246), (Start: 15 @73234 has 1 MA's), (17, 73222), (18, 73168), (21, 73117), (24, 73072), (26, 73063), (28, 73042),

Gene: BugsBunny\_135 Start: 72701, Stop: 72201, Start Num: 16

Candidate Starts for BugsBunny\_135:

(Start: 12 @72737 has 50 MA's), (Start: 15 @72710 has 1 MA's), (Start: 16 @72701 has 75 MA's), (22, 72596), (39, 72329), (42, 72260),

Gene: Cactus\_145 Start: 72883, Stop: 72299, Start Num: 16

Candidate Starts for Cactus\_145:

(Start: 12 @72919 has 50 MA's), (Start: 15 @72892 has 1 MA's), (Start: 16 @72883 has 75 MA's), (20, 72793), (21, 72790), (25, 72742), (27, 72733), (28, 72718), (29, 72709), (30, 72694), (32, 72685), (33, 72670), (34, 72661), (35, 72646), (36, 72637), (37, 72622), (42, 72358),

Gene: ChosenOne\_138 Start: 72197, Stop: 71679, Start Num: 16

Candidate Starts for ChosenOne\_138:

(Start: 12 @72233 has 50 MA's), (Start: 15 @72206 has 1 MA's), (Start: 16 @72197 has 75 MA's), (22, 72092), (40, 71786), (41, 71750), (42, 71738),

Gene: ChotaBhai\_141 Start: 72976, Stop: 72464, Start Num: 16

Candidate Starts for ChotaBhai\_141:

(Start: 12 @73012 has 50 MA's), (Start: 15 @72985 has 1 MA's), (Start: 16 @72976 has 75 MA's), (20, 72886), (21, 72883), (25, 72835), (27, 72826), (28, 72811), (29, 72802), (30, 72787), (40, 72571), (42, 72523),

Gene: Cjw1\_135 Start: 73416, Stop: 72880, Start Num: 12

Candidate Starts for Cjw1\_135:

(Start: 12 @73416 has 50 MA's), (Start: 15 @73389 has 1 MA's), (Start: 16 @73380 has 75 MA's), (22, 73275), (39, 73008), (40, 72987), (42, 72939),

Gene: Command613\_140 Start: 73287, Stop: 72775, Start Num: 16

Candidate Starts for Command613\_140:

(Start: 12 @73323 has 50 MA's), (Start: 15 @73296 has 1 MA's), (Start: 16 @73287 has 75 MA's), (20, 73197), (21, 73194), (25, 73146), (27, 73137), (28, 73122), (29, 73113), (30, 73098), (39, 72903), (40, 72882), (42, 72834),

Gene: Contagion\_133 Start: 71784, Stop: 71248, Start Num: 12

Candidate Starts for Contagion\_133:

(Start: 12 @71784 has 50 MA's), (Start: 15 @71757 has 1 MA's), (Start: 16 @71748 has 75 MA's), (22, 71643), (40, 71355), (42, 71307),

Gene: Cookies\_139 Start: 73555, Stop: 73016, Start Num: 16

Candidate Starts for Cookies\_139:

(Start: 12 @73591 has 50 MA's), (Start: 15 @73564 has 1 MA's), (Start: 16 @73555 has 75 MA's), (22, 73450), (40, 73123), (42, 73075),

Gene: CrystalP\_137 Start: 73829, Stop: 73275, Start Num: 12

Candidate Starts for CrystalP\_137:

(Start: 12 @73829 has 50 MA's), (Start: 15 @73802 has 1 MA's), (Start: 16 @73793 has 75 MA's), (22, 73688), (39, 73403), (40, 73382), (42, 73334),

Gene: Czyszczone1\_137 Start: 72205, Stop: 71693, Start Num: 16

Candidate Starts for Czyszczone1\_137:

(Start: 12 @72241 has 50 MA's), (Start: 15 @72214 has 1 MA's), (Start: 16 @72205 has 75 MA's), (20, 72115), (21, 72112), (25, 72064), (27, 72055), (28, 72040), (29, 72031), (30, 72016), (39, 71821), (40, 71800), (42, 71752),

Gene: Daikon\_140 Start: 72592, Stop: 72080, Start Num: 16

Candidate Starts for Daikon\_140:

(Start: 12 @72628 has 50 MA's), (Start: 15 @72601 has 1 MA's), (Start: 16 @72592 has 75 MA's), (20, 72502), (21, 72499), (25, 72451), (27, 72442), (28, 72427), (29, 72418), (30, 72403), (39, 72208), (40, 72187), (42, 72139),

Gene: DoctorDiddles\_135 Start: 71713, Stop: 71201, Start Num: 16

Candidate Starts for DoctorDiddles\_135:

(Start: 12 @71749 has 50 MA's), (Start: 15 @71722 has 1 MA's), (Start: 16 @71713 has 75 MA's), (20, 71623), (21, 71620), (25, 71572), (27, 71563), (28, 71548), (29, 71539), (30, 71524), (40, 71308), (42, 71260),

Gene: DrDrey\_140 Start: 75021, Stop: 74473, Start Num: 12

Candidate Starts for DrDrey\_140:

(Start: 12 @75021 has 50 MA's), (Start: 15 @74994 has 1 MA's), (Start: 16 @74985 has 75 MA's), (20, 74895), (21, 74892), (25, 74844), (27, 74835), (28, 74820), (29, 74811), (30, 74796), (39, 74601), (40, 74580), (42, 74532),

Gene: Dumbo\_138 Start: 72464, Stop: 71889, Start Num: 12

Candidate Starts for Dumbo\_138:

(Start: 12 @72464 has 50 MA's), (Start: 15 @72437 has 1 MA's), (Start: 16 @72428 has 75 MA's), (22, 72323), (39, 72017), (40, 71996), (42, 71948),

Gene: Dusk\_138 Start: 72992, Stop: 72444, Start Num: 12

Candidate Starts for Dusk\_138:

(Start: 12 @72992 has 50 MA's), (Start: 15 @72965 has 1 MA's), (Start: 16 @72956 has 75 MA's), (20, 72866), (21, 72863), (25, 72815), (27, 72806), (28, 72791), (29, 72782), (30, 72767), (40, 72551), (42, 72503),

Gene: Easy2Say\_139 Start: 73211, Stop: 72663, Start Num: 12

Candidate Starts for Easy2Say\_139:

(Start: 12 @73211 has 50 MA's), (Start: 15 @73184 has 1 MA's), (Start: 16 @73175 has 75 MA's), (20, 73085), (21, 73082), (25, 73034), (27, 73025), (28, 73010), (29, 73001), (30, 72986), (40, 72770), (42, 72722),

Gene: Elite2014\_137 Start: 72196, Stop: 71678, Start Num: 16

Candidate Starts for Elite2014\_137:

(Start: 12 @72232 has 50 MA's), (Start: 15 @72205 has 1 MA's), (Start: 16 @72196 has 75 MA's), (22, 72091), (40, 71785), (41, 71749), (42, 71737),

Gene: Elph10\_135 Start: 71543, Stop: 70995, Start Num: 12

Candidate Starts for Elph10\_135:

(Start: 12 @71543 has 50 MA's), (Start: 15 @71516 has 1 MA's), (Start: 16 @71507 has 75 MA's), (20, 71417), (21, 71414), (25, 71366), (27, 71357), (28, 71342), (29, 71333), (30, 71318), (39, 71123), (40, 71102), (42, 71054),

Gene: Emmina\_138 Start: 72127, Stop: 71615, Start Num: 16

Candidate Starts for Emmina\_138:

(Start: 12 @72163 has 50 MA's), (Start: 15 @72136 has 1 MA's), (Start: 16 @72127 has 75 MA's), (20, 72037), (21, 72034), (25, 71986), (27, 71977), (28, 71962), (29, 71953), (30, 71938), (38, 71926), (39, 71743), (40, 71722), (42, 71674),

Gene: Eureka\_137 Start: 73079, Stop: 72543, Start Num: 12

Candidate Starts for Eureka\_137:

(Start: 12 @73079 has 50 MA's), (Start: 15 @73052 has 1 MA's), (Start: 16 @73043 has 75 MA's), (22, 72938), (42, 72602),

Gene: FairyPath\_139 Start: 73178, Stop: 72645, Start Num: 16

Candidate Starts for FairyPath\_139:

(Start: 12 @73214 has 50 MA's), (Start: 15 @73187 has 1 MA's), (Start: 16 @73178 has 75 MA's), (22, 73073), (39, 72773), (40, 72752), (42, 72704),

Gene: Filch\_139 Start: 72330, Stop: 71818, Start Num: 16

Candidate Starts for Filch\_139:

(Start: 12 @72366 has 50 MA's), (Start: 15 @72339 has 1 MA's), (Start: 16 @72330 has 75 MA's), (20, 72240), (21, 72237), (25, 72189), (27, 72180), (28, 72165), (29, 72156), (30, 72141), (40, 71925), (42, 71877),

Gene: FireRed\_140 Start: 73107, Stop: 72556, Start Num: 12

Candidate Starts for FireRed\_140:

(Start: 12 @73107 has 50 MA's), (Start: 15 @73080 has 1 MA's), (Start: 16 @73071 has 75 MA's), (20, 72978), (21, 72975), (25, 72927), (27, 72918), (28, 72903), (29, 72894), (30, 72879), (40, 72663), (42, 72615),

Gene: Flypotenuse\_132 Start: 72173, Stop: 71649, Start Num: 16

Candidate Starts for Flypotenuse\_132:

(Start: 12 @72209 has 50 MA's), (Start: 15 @72182 has 1 MA's), (Start: 16 @72173 has 75 MA's), (25, 72032), (27, 72023), (28, 72008), (29, 71999), (30, 71990), (31, 71987), (37, 71972), (40, 71756), (42, 71708),

Gene: FoghornLeghorn\_134 Start: 71266, Stop: 70766, Start Num: 16

Candidate Starts for FoghornLeghorn\_134:

(Start: 12 @71302 has 50 MA's), (Start: 15 @71275 has 1 MA's), (Start: 16 @71266 has 75 MA's), (22, 71161), (40, 70873), (42, 70825),

Gene: Gator\_138 Start: 73238, Stop: 72735, Start Num: 16

Candidate Starts for Gator\_138:

(Start: 12 @73274 has 50 MA's), (Start: 15 @73247 has 1 MA's), (Start: 16 @73238 has 75 MA's), (20, 73145), (21, 73142), (25, 73094), (27, 73085), (28, 73070), (29, 73061), (38, 73046), (42, 72794),

Gene: Gemini\_143 Start: 73226, Stop: 72714, Start Num: 16

Candidate Starts for Gemini\_143:

(Start: 12 @73262 has 50 MA's), (Start: 15 @73235 has 1 MA's), (Start: 16 @73226 has 75 MA's), (20, 73136), (21, 73133), (25, 73085), (27, 73076), (28, 73061), (29, 73052), (30, 73037), (40, 72821), (42, 72773),

Gene: Glexan\_140 Start: 73385, Stop: 72885, Start Num: 16

Candidate Starts for Glexan\_140:

(Start: 12 @73421 has 50 MA's), (Start: 15 @73394 has 1 MA's), (Start: 16 @73385 has 75 MA's), (20, 73292), (21, 73289), (25, 73241), (27, 73232), (28, 73217), (29, 73208), (42, 72944),

Gene: Goku\_136 Start: 73388, Stop: 72852, Start Num: 12

Candidate Starts for Goku\_136:

(Start: 12 @73388 has 50 MA's), (Start: 15 @73361 has 1 MA's), (Start: 16 @73352 has 75 MA's), (22, 73247), (42, 72911),

Gene: GoldenSpark\_142 Start: 72709, Stop: 72197, Start Num: 16

Candidate Starts for GoldenSpark\_142:

(Start: 12 @72745 has 50 MA's), (Start: 15 @72718 has 1 MA's), (Start: 16 @72709 has 75 MA's), (20, 72619), (21, 72616), (25, 72568), (27, 72559), (28, 72544), (29, 72535), (30, 72520), (40, 72304), (42, 72256),

Gene: Goldilocks\_143 Start: 73341, Stop: 72793, Start Num: 12

Candidate Starts for Goldilocks\_143:

(Start: 12 @73341 has 50 MA's), (Start: 15 @73314 has 1 MA's), (Start: 16 @73305 has 75 MA's), (20, 73215), (21, 73212), (25, 73164), (27, 73155), (28, 73140), (29, 73131), (30, 73116), (40, 72900), (42, 72852),

Gene: GooberAzure\_140 Start: 72745, Stop: 72197, Start Num: 12

Candidate Starts for GooberAzure\_140:

(Start: 12 @72745 has 50 MA's), (Start: 15 @72718 has 1 MA's), (Start: 16 @72709 has 75 MA's), (20, 72619), (21, 72616), (25, 72568), (27, 72559), (28, 72544), (29, 72535), (30, 72520), (40, 72304), (42, 72256),

Gene: Greep\_141 Start: 73518, Stop: 73018, Start Num: 16

Candidate Starts for Greep\_141:

(Start: 12 @73554 has 50 MA's), (Start: 15 @73527 has 1 MA's), (Start: 16 @73518 has 75 MA's), (22, 73413), (40, 73125), (42, 73077),

Gene: HanKaySha\_136 Start: 72663, Stop: 72151, Start Num: 16

Candidate Starts for HanKaySha\_136:

(Start: 12 @72699 has 50 MA's), (Start: 15 @72672 has 1 MA's), (Start: 16 @72663 has 75 MA's), (20, 72573), (21, 72570), (25, 72522), (27, 72513), (28, 72498), (29, 72489), (30, 72474), (40, 72258), (42, 72210),

Gene: Harella\_143 Start: 73901, Stop: 73401, Start Num: 16

Candidate Starts for Harella\_143:

(Start: 12 @73937 has 50 MA's), (Start: 15 @73910 has 1 MA's), (Start: 16 @73901 has 75 MA's), (20, 73808), (21, 73805), (25, 73757), (27, 73748), (28, 73733), (29, 73724), (42, 73460),

Gene: Henry\_139 Start: 73691, Stop: 73143, Start Num: 12

Candidate Starts for Henry\_139:

(Start: 12 @73691 has 50 MA's), (Start: 15 @73664 has 1 MA's), (Start: 16 @73655 has 75 MA's), (20, 73565), (21, 73562), (25, 73514), (27, 73505), (28, 73490), (29, 73481), (30, 73466), (39, 73271), (40, 73250), (42, 73202),

Gene: Highbury\_133 Start: 70630, Stop: 70091, Start Num: 16

Candidate Starts for Highbury\_133:

(Start: 12 @70666 has 50 MA's), (Start: 15 @70639 has 1 MA's), (Start: 16 @70630 has 75 MA's), (22, 70525), (40, 70198), (41, 70162), (42, 70150),

Gene: Holt\_143 Start: 73492, Stop: 72980, Start Num: 16

Candidate Starts for Holt\_143:

(Start: 12 @73528 has 50 MA's), (Start: 15 @73501 has 1 MA's), (Start: 16 @73492 has 75 MA's), (20, 73402), (21, 73399), (25, 73351), (27, 73342), (28, 73327), (29, 73318), (30, 73303), (40, 73087), (42, 73039),

Gene: Hoonter\_140 Start: 72750, Stop: 72238, Start Num: 16

Candidate Starts for Hoonter\_140:

(Start: 12 @72786 has 50 MA's), (Start: 15 @72759 has 1 MA's), (Start: 16 @72750 has 75 MA's), (20, 72660), (21, 72657), (25, 72609), (27, 72600), (28, 72585), (29, 72576), (30, 72561), (40, 72345), (42, 72297),

Gene: Hokey\_135 Start: 72781, Stop: 72245, Start Num: 12

Candidate Starts for Hokey\_135:

(Start: 12 @72781 has 50 MA's), (Start: 15 @72754 has 1 MA's), (Start: 16 @72745 has 75 MA's), (22, 72640), (39, 72373), (40, 72352), (42, 72304),

Gene: HufflyPuff\_139 Start: 73333, Stop: 72782, Start Num: 12

Candidate Starts for HufflyPuff\_139:

(Start: 12 @73333 has 50 MA's), (Start: 15 @73306 has 1 MA's), (Start: 16 @73297 has 75 MA's), (20, 73204), (21, 73201), (25, 73153), (27, 73144), (28, 73129), (29, 73120), (30, 73105), (40, 72889), (42, 72841),

Gene: IHOP\_141 Start: 72681, Stop: 72181, Start Num: 16

Candidate Starts for IHOP\_141:

(Start: 12 @72717 has 50 MA's), (Start: 15 @72690 has 1 MA's), (Start: 16 @72681 has 75 MA's), (22, 72576), (39, 72309), (40, 72288), (42, 72240),

Gene: Inca\_136 Start: 70713, Stop: 70201, Start Num: 16

Candidate Starts for Inca\_136:

(Start: 12 @70749 has 50 MA's), (Start: 15 @70722 has 1 MA's), (Start: 16 @70713 has 75 MA's), (20, 70623), (21, 70620), (25, 70572), (27, 70563), (28, 70548), (29, 70539), (30, 70524), (39, 70329), (40, 70308), (42, 70260),

Gene: JeTaime\_135 Start: 72265, Stop: 71717, Start Num: 12

Candidate Starts for JeTaime\_135:

(Start: 12 @72265 has 50 MA's), (Start: 15 @72238 has 1 MA's), (Start: 16 @72229 has 75 MA's), (20, 72139), (21, 72136), (25, 72088), (27, 72079), (28, 72064), (29, 72055), (30, 72040), (42, 71776),

Gene: Kanye\_133 Start: 72745, Stop: 72257, Start Num: 16

Candidate Starts for Kanye\_133:

(Start: 12 @72781 has 50 MA's), (Start: 15 @72754 has 1 MA's), (Start: 16 @72745 has 75 MA's), (20, 72655), (21, 72652), (25, 72604), (27, 72595), (28, 72580), (40, 72364), (42, 72316),

Gene: Kimchi\_143 Start: 73406, Stop: 72918, Start Num: 16

Candidate Starts for Kimchi\_143:

(Start: 12 @73442 has 50 MA's), (Start: 15 @73415 has 1 MA's), (Start: 16 @73406 has 75 MA's), (20, 73316), (21, 73313), (25, 73265), (27, 73256), (28, 73241), (40, 73025), (42, 72977),

Gene: Kostya\_138 Start: 73350, Stop: 72814, Start Num: 12

Candidate Starts for Kostya\_138:

(Start: 12 @73350 has 50 MA's), (Start: 15 @73323 has 1 MA's), (Start: 16 @73314 has 75 MA's), (20, 73221), (21, 73218), (25, 73170), (27, 73161), (28, 73146), (29, 73137), (40, 72921), (42, 72873),

Gene: Lilac\_134 Start: 73243, Stop: 72695, Start Num: 12

Candidate Starts for Lilac\_134:

(Start: 12 @73243 has 50 MA's), (Start: 15 @73216 has 1 MA's), (Start: 16 @73207 has 75 MA's), (20, 73117), (21, 73114), (25, 73066), (27, 73057), (29, 73033), (30, 73018), (42, 72754),

Gene: Lilizi\_138 Start: 72937, Stop: 72425, Start Num: 16

Candidate Starts for Lilizi\_138:

(Start: 12 @72973 has 50 MA's), (Start: 15 @72946 has 1 MA's), (Start: 16 @72937 has 75 MA's), (20, 72847), (21, 72844), (25, 72796), (27, 72787), (28, 72772), (29, 72763), (30, 72748), (40, 72532), (42, 72484),

Gene: Lilpickle\_137 Start: 72196, Stop: 71678, Start Num: 16

Candidate Starts for Lilpickle\_137:

(Start: 12 @72232 has 50 MA's), (Start: 15 @72205 has 1 MA's), (Start: 16 @72196 has 75 MA's), (22, 72091), (40, 71785), (41, 71749), (42, 71737),

Gene: Liveloughbron\_136 Start: 73187, Stop: 72687, Start Num: 16

Candidate Starts for Liveloughbron\_136:

(Start: 12 @73223 has 50 MA's), (Start: 15 @73196 has 1 MA's), (Start: 16 @73187 has 75 MA's), (22, 73082), (40, 72794), (42, 72746),

Gene: MISSy\_139 Start: 73104, Stop: 72592, Start Num: 16

Candidate Starts for MISSy\_139:

(Start: 12 @73140 has 50 MA's), (Start: 15 @73113 has 1 MA's), (Start: 16 @73104 has 75 MA's), (20, 73014), (21, 73011), (25, 72963), (27, 72954), (28, 72939), (29, 72930), (37, 72915), (40, 72699), (42, 72651),

Gene: MPhalcon\_138 Start: 72510, Stop: 72010, Start Num: 16

Candidate Starts for MPhalcon\_138:

(Start: 12 @72546 has 50 MA's), (Start: 15 @72519 has 1 MA's), (Start: 16 @72510 has 75 MA's), (22, 72405), (40, 72117), (42, 72069),

Gene: MadamMonkfish\_137 Start: 72198, Stop: 71686, Start Num: 16

Candidate Starts for MadamMonkfish\_137:

(Start: 12 @72234 has 50 MA's), (Start: 15 @72207 has 1 MA's), (Start: 16 @72198 has 75 MA's), (20, 72108), (21, 72105), (25, 72057), (27, 72048), (28, 72033), (29, 72024), (30, 72009), (40, 71793), (42, 71745),

Gene: Manda\_138 Start: 72746, Stop: 72126, Start Num: 16

Candidate Starts for Manda\_138:

(Start: 12 @72782 has 50 MA's), (Start: 15 @72755 has 1 MA's), (Start: 16 @72746 has 75 MA's), (19, 72656), (23, 72602), (39, 72254), (40, 72233), (42, 72185),

Gene: Marshmallow\_138 Start: 73383, Stop: 72871, Start Num: 16

Candidate Starts for Marshmallow\_138:

(Start: 12 @73419 has 50 MA's), (Start: 15 @73392 has 1 MA's), (Start: 16 @73383 has 75 MA's), (20, 73293), (21, 73290), (25, 73242), (27, 73233), (28, 73218), (29, 73209), (30, 73194), (40, 72978), (42, 72930),

Gene: Maxxinsta\_139 Start: 72139, Stop: 71639, Start Num: 16

Candidate Starts for Maxxinsta\_139:

(Start: 12 @72175 has 50 MA's), (Start: 15 @72148 has 1 MA's), (Start: 16 @72139 has 75 MA's), (22, 72034), (39, 71767), (40, 71746), (42, 71698),

Gene: Mindy\_141 Start: 73058, Stop: 72570, Start Num: 16

Candidate Starts for Mindy\_141:

(Start: 12 @73094 has 50 MA's), (Start: 15 @73067 has 1 MA's), (Start: 16 @73058 has 75 MA's), (20, 72968), (21, 72965), (25, 72917), (27, 72908), (28, 72893), (39, 72698), (40, 72677), (42, 72629),

Gene: Miniwave\_131 Start: 72247, Stop: 71735, Start Num: 16

Candidate Starts for Miniwave\_131:

(Start: 12 @72283 has 50 MA's), (Start: 15 @72256 has 1 MA's), (Start: 16 @72247 has 75 MA's), (20, 72157), (21, 72154), (25, 72106), (27, 72097), (28, 72082), (29, 72073), (30, 72058), (40, 71842), (42, 71794),

Gene: Misfit\_137 Start: 73420, Stop: 72884, Start Num: 12

Candidate Starts for Misfit\_137:

(Start: 12 @73420 has 50 MA's), (Start: 15 @73393 has 1 MA's), (Start: 16 @73384 has 75 MA's), (22, 73279), (40, 72991), (42, 72943),

Gene: Moldemort\_140 Start: 72817, Stop: 72305, Start Num: 16

Candidate Starts for Moldemort\_140:

(Start: 12 @72853 has 50 MA's), (Start: 15 @72826 has 1 MA's), (Start: 16 @72817 has 75 MA's), (20, 72727), (21, 72724), (25, 72676), (27, 72667), (28, 72652), (29, 72643), (30, 72628), (40, 72412), (42, 72364),

Gene: MollyToe\_131 Start: 70393, Stop: 69893, Start Num: 16

Candidate Starts for MollyToe\_131:

(Start: 12 @70429 has 50 MA's), (Start: 15 @70402 has 1 MA's), (Start: 16 @70393 has 75 MA's), (22, 70288), (40, 70000), (42, 69952),

Gene: Mosby\_134 Start: 71784, Stop: 71248, Start Num: 12

Candidate Starts for Mosby\_134:

(Start: 12 @71784 has 50 MA's), (Start: 15 @71757 has 1 MA's), (Start: 16 @71748 has 75 MA's), (22, 71643), (40, 71355), (42, 71307),

Gene: Murica\_141 Start: 74364, Stop: 73816, Start Num: 12

Candidate Starts for Murica\_141:

(Start: 12 @74364 has 50 MA's), (Start: 15 @74337 has 1 MA's), (Start: 16 @74328 has 75 MA's), (20, 74238), (21, 74235), (25, 74187), (27, 74178), (28, 74163), (29, 74154), (37, 74139), (40, 73923), (42, 73875),

Gene: Murphy\_136 Start: 72561, Stop: 72013, Start Num: 12

Candidate Starts for Murphy\_136:

(Start: 12 @72561 has 50 MA's), (Start: 15 @72534 has 1 MA's), (Start: 16 @72525 has 75 MA's), (20, 72435), (21, 72432), (25, 72384), (27, 72375), (28, 72360), (29, 72351), (30, 72336), (40, 72120), (42, 72072),

Gene: Myrale\_139 Start: 74025, Stop: 73513, Start Num: 16

Candidate Starts for Myrale\_139:

(Start: 12 @74061 has 50 MA's), (Start: 15 @74034 has 1 MA's), (Start: 16 @74025 has 75 MA's), (20, 73935), (21, 73932), (25, 73884), (27, 73875), (28, 73860), (29, 73851), (30, 73836), (39, 73641), (40, 73620), (42, 73572),

Gene: Nala\_139 Start: 72835, Stop: 72299, Start Num: 12

Candidate Starts for Nala\_139:

(Start: 12 @72835 has 50 MA's), (Start: 15 @72808 has 1 MA's), (Start: 16 @72799 has 75 MA's), (22, 72694), (39, 72427), (40, 72406), (42, 72358),

Gene: Nimrod\_136 Start: 73298, Stop: 72798, Start Num: 16

Candidate Starts for Nimrod\_136:

(Start: 12 @73334 has 50 MA's), (Start: 15 @73307 has 1 MA's), (Start: 16 @73298 has 75 MA's), (22, 73193), (39, 72926), (40, 72905), (42, 72857),

Gene: NoSleep\_136 Start: 72076, Stop: 71564, Start Num: 16

Candidate Starts for NoSleep\_136:

(Start: 12 @72112 has 50 MA's), (Start: 15 @72085 has 1 MA's), (Start: 16 @72076 has 75 MA's), (20, 71986), (21, 71983), (25, 71935), (27, 71926), (28, 71911), (29, 71902), (30, 71887), (39, 71692), (40, 71671), (42, 71623),

Gene: NonchalantPear\_138 Start: 71802, Stop: 71290, Start Num: 16

Candidate Starts for NonchalantPear\_138:

(Start: 12 @71838 has 50 MA's), (Start: 15 @71811 has 1 MA's), (Start: 16 @71802 has 75 MA's), (20, 71712), (21, 71709), (25, 71661), (27, 71652), (28, 71637), (29, 71628), (30, 71613), (40, 71397), (42, 71349),

Gene: OrionPax\_133 Start: 71756, Stop: 71244, Start Num: 16

Candidate Starts for OrionPax\_133:

(Start: 12 @71792 has 50 MA's), (Start: 15 @71765 has 1 MA's), (Start: 16 @71756 has 75 MA's), (20, 71666), (21, 71663), (25, 71615), (27, 71606), (28, 71591), (29, 71582), (30, 71567), (40, 71351), (42, 71303),

Gene: PaddyBaddy\_134 Start: 71781, Stop: 71281, Start Num: 16

Candidate Starts for PaddyBaddy\_134:

(Start: 12 @71817 has 50 MA's), (Start: 15 @71790 has 1 MA's), (Start: 16 @71781 has 75 MA's), (22, 71676), (39, 71409), (40, 71388), (42, 71340),

Gene: Palpatine\_137 Start: 73316, Stop: 72804, Start Num: 16

Candidate Starts for Palpatine\_137:

(Start: 12 @73352 has 50 MA's), (Start: 15 @73325 has 1 MA's), (Start: 16 @73316 has 75 MA's), (20, 73226), (21, 73223), (25, 73175), (27, 73166), (28, 73151), (29, 73142), (37, 73127), (40, 72911), (42, 72863),

Gene: Paperbeatsrock\_135 Start: 72961, Stop: 72413, Start Num: 12

Candidate Starts for Paperbeatsrock\_135:

(Start: 12 @72961 has 50 MA's), (Start: 15 @72934 has 1 MA's), (Start: 16 @72925 has 75 MA's), (20, 72835), (21, 72832), (25, 72784), (27, 72775), (28, 72760), (29, 72751), (30, 72736), (40, 72520), (42, 72472),

Gene: Pat3\_137 Start: 72541, Stop: 72029, Start Num: 16

Candidate Starts for Pat3\_137:

(Start: 12 @72577 has 50 MA's), (Start: 15 @72550 has 1 MA's), (Start: 16 @72541 has 75 MA's), (20, 72451), (21, 72448), (25, 72400), (27, 72391), (28, 72376), (29, 72367), (30, 72352), (40, 72136), (42, 72088),

Gene: Petra64142\_138 Start: 72988, Stop: 72473, Start Num: 16

Candidate Starts for Petra64142\_138:

(Start: 12 @73024 has 50 MA's), (Start: 15 @72997 has 1 MA's), (Start: 16 @72988 has 75 MA's), (22, 72886), (39, 72601), (40, 72580), (42, 72532),

Gene: Phaja\_141 Start: 72686, Stop: 72186, Start Num: 16

Candidate Starts for Phaja\_141:

(Start: 12 @72722 has 50 MA's), (Start: 15 @72695 has 1 MA's), (Start: 16 @72686 has 75 MA's), (22, 72581), (39, 72314), (40, 72293), (42, 72245),

Gene: Pharsalus\_135 Start: 73101, Stop: 72553, Start Num: 12

Candidate Starts for Pharsalus\_135:

(Start: 12 @73101 has 50 MA's), (Start: 15 @73074 has 1 MA's), (Start: 16 @73065 has 75 MA's), (20, 72975), (21, 72972), (25, 72924), (27, 72915), (28, 72900), (29, 72891), (30, 72876), (40, 72660), (42, 72612),

Gene: PhatBacter\_140 Start: 73107, Stop: 72556, Start Num: 12

Candidate Starts for PhatBacter\_140:

(Start: 12 @73107 has 50 MA's), (Start: 15 @73080 has 1 MA's), (Start: 16 @73071 has 75 MA's), (20, 72978), (21, 72975), (25, 72927), (27, 72918), (28, 72903), (29, 72894), (30, 72879), (40, 72663), (42, 72615),

Gene: Phaux\_139 Start: 73730, Stop: 73182, Start Num: 12

Candidate Starts for Phaux\_139:

(Start: 12 @73730 has 50 MA's), (Start: 15 @73703 has 1 MA's), (Start: 16 @73694 has 75 MA's), (20, 73604), (21, 73601), (25, 73553), (27, 73544), (28, 73529), (29, 73520), (37, 73505), (40, 73289), (42, 73241),

Gene: Phrux\_133 Start: 71579, Stop: 71031, Start Num: 12

Candidate Starts for Phrux\_133:

(Start: 12 @71579 has 50 MA's), (Start: 15 @71552 has 1 MA's), (Start: 16 @71543 has 75 MA's), (20, 71453), (21, 71450), (25, 71402), (27, 71393), (28, 71378), (29, 71369), (30, 71354), (40, 71138), (42,

71090),

Gene: Policronamos\_137 Start: 73398, Stop: 72886, Start Num: 16

Candidate Starts for Policronamos\_137:

(Start: 12 @73434 has 50 MA's), (Start: 15 @73407 has 1 MA's), (Start: 16 @73398 has 75 MA's), (20, 73308), (21, 73305), (25, 73257), (27, 73248), (28, 73233), (29, 73224), (37, 73209), (40, 72993), (42, 72945),

Gene: Porky\_139 Start: 73144, Stop: 72632, Start Num: 16

Candidate Starts for Porky\_139:

(Start: 12 @73180 has 50 MA's), (Start: 15 @73153 has 1 MA's), (Start: 16 @73144 has 75 MA's), (20, 73054), (21, 73051), (25, 73003), (27, 72994), (28, 72979), (29, 72970), (30, 72955), (38, 72943), (39, 72760), (40, 72739), (42, 72691),

Gene: Ptowny\_130 Start: 70513, Stop: 70001, Start Num: 16

Candidate Starts for Ptowny\_130:

(Start: 12 @70549 has 50 MA's), (Start: 15 @70522 has 1 MA's), (Start: 16 @70513 has 75 MA's), (20, 70423), (21, 70420), (25, 70372), (27, 70363), (28, 70348), (29, 70339), (30, 70324), (40, 70108), (42, 70060),

Gene: Pumpkin\_137 Start: 71843, Stop: 71307, Start Num: 12

Candidate Starts for Pumpkin\_137:

(Start: 12 @71843 has 50 MA's), (Start: 15 @71816 has 1 MA's), (Start: 16 @71807 has 75 MA's), (22, 71702), (39, 71435), (40, 71414), (42, 71366),

Gene: Quallification\_138 Start: 73409, Stop: 72891, Start Num: 16

Candidate Starts for Quallification\_138:

(Start: 12 @73445 has 50 MA's), (Start: 15 @73418 has 1 MA's), (Start: 16 @73409 has 75 MA's), (22, 73304), (40, 72998), (42, 72950),

Gene: Rakim\_139 Start: 72948, Stop: 72400, Start Num: 12

Candidate Starts for Rakim\_139:

(Start: 12 @72948 has 50 MA's), (Start: 15 @72921 has 1 MA's), (Start: 16 @72912 has 75 MA's), (20, 72822), (21, 72819), (25, 72771), (27, 72762), (28, 72747), (29, 72738), (30, 72723), (39, 72528), (40, 72507), (42, 72459),

Gene: Rimmer\_134 Start: 72278, Stop: 71766, Start Num: 16

Candidate Starts for Rimmer\_134:

(Start: 12 @72314 has 50 MA's), (Start: 15 @72287 has 1 MA's), (Start: 16 @72278 has 75 MA's), (20, 72188), (21, 72185), (25, 72137), (27, 72128), (28, 72113), (29, 72104), (30, 72089), (39, 71894), (40, 71873), (42, 71825),

Gene: RiverMonster\_136 Start: 72438, Stop: 71926, Start Num: 16

Candidate Starts for RiverMonster\_136:

(Start: 12 @72474 has 50 MA's), (Start: 15 @72447 has 1 MA's), (Start: 16 @72438 has 75 MA's), (20, 72348), (21, 72345), (25, 72297), (27, 72288), (28, 72273), (29, 72264), (30, 72249), (40, 72033), (42, 71985),

Gene: Saints25\_133 Start: 70630, Stop: 70091, Start Num: 16

Candidate Starts for Saints25\_133:

(Start: 12 @70666 has 50 MA's), (Start: 15 @70639 has 1 MA's), (Start: 16 @70630 has 75 MA's), (22, 70525), (40, 70198), (41, 70162), (42, 70150),

Gene: Sassay\_132 Start: 70746, Stop: 70210, Start Num: 12

Candidate Starts for Sassay\_132:

(Start: 12 @70746 has 50 MA's), (Start: 15 @70719 has 1 MA's), (Start: 16 @70710 has 75 MA's), (22, 70605), (40, 70317), (42, 70269),

Gene: ShamWow\_136 Start: 73279, Stop: 72743, Start Num: 12

Candidate Starts for ShamWow\_136:

(Start: 12 @73279 has 50 MA's), (Start: 15 @73252 has 1 MA's), (Start: 16 @73243 has 75 MA's), (22, 73138), (40, 72850), (42, 72802),

Gene: ShereKhan\_137 Start: 73625, Stop: 73137, Start Num: 16

Candidate Starts for ShereKhan\_137:

(Start: 12 @73661 has 50 MA's), (Start: 15 @73634 has 1 MA's), (Start: 16 @73625 has 75 MA's), (20, 73535), (21, 73532), (25, 73484), (27, 73475), (28, 73460), (39, 73265), (40, 73244), (42, 73196),

Gene: Simpliphy\_136 Start: 72045, Stop: 71497, Start Num: 12

Candidate Starts for Simpliphy\_136:

(Start: 12 @72045 has 50 MA's), (Start: 15 @72018 has 1 MA's), (Start: 16 @72009 has 75 MA's), (20, 71919), (21, 71916), (25, 71868), (27, 71859), (28, 71844), (29, 71835), (30, 71820), (40, 71604), (42, 71556),

Gene: SirDuracell\_140 Start: 73458, Stop: 72892, Start Num: 12

Candidate Starts for SirDuracell\_140:

(Start: 12 @73458 has 50 MA's), (Start: 15 @73431 has 1 MA's), (Start: 16 @73422 has 75 MA's), (22, 73317), (39, 73020), (40, 72999), (42, 72951),

Gene: SophKB\_135 Start: 72877, Stop: 72377, Start Num: 16

Candidate Starts for SophKB\_135:

(Start: 12 @72913 has 50 MA's), (Start: 15 @72886 has 1 MA's), (Start: 16 @72877 has 75 MA's), (22, 72772), (39, 72505), (40, 72484), (42, 72436),

Gene: Sotrice96\_142 Start: 73615, Stop: 73043, Start Num: 12

Candidate Starts for Sotrice96\_142:

(Start: 12 @73615 has 50 MA's), (Start: 15 @73588 has 1 MA's), (Start: 16 @73579 has 75 MA's), (20, 73489), (21, 73486), (25, 73438), (27, 73429), (28, 73414), (29, 73405), (30, 73390), (32, 73381), (33, 73366), (42, 73102),

Gene: Stank\_141 Start: 73502, Stop: 72990, Start Num: 16

Candidate Starts for Stank\_141:

(Start: 12 @73538 has 50 MA's), (Start: 15 @73511 has 1 MA's), (Start: 16 @73502 has 75 MA's), (20, 73412), (21, 73409), (25, 73361), (27, 73352), (28, 73337), (29, 73328), (30, 73313), (40, 73097), (42, 73049),

Gene: Stark\_135 Start: 72281, Stop: 71745, Start Num: 12

Candidate Starts for Stark\_135:

(Start: 12 @72281 has 50 MA's), (Start: 15 @72254 has 1 MA's), (Start: 16 @72245 has 75 MA's), (22, 72140), (39, 71873), (40, 71852), (42, 71804),

Gene: StellaBean\_134 Start: 73016, Stop: 72495, Start Num: 15

Candidate Starts for StellaBean\_134:

(Start: 12 @73043 has 50 MA's), (Start: 15 @73016 has 1 MA's), (Start: 16 @73007 has 75 MA's), (20, 72917), (21, 72914), (25, 72866), (27, 72857), (28, 72842), (29, 72833), (30, 72818), (40, 72602), (42, 72554),

Gene: StolenFromERC\_140 Start: 72847, Stop: 72335, Start Num: 16

Candidate Starts for StolenFromERC\_140:

(Start: 12 @72883 has 50 MA's), (Start: 15 @72856 has 1 MA's), (Start: 16 @72847 has 75 MA's), (20, 72757), (21, 72754), (25, 72706), (27, 72697), (28, 72682), (29, 72673), (30, 72658), (40, 72442), (42, 72394),

Gene: StormChicken\_139 Start: 73460, Stop: 72960, Start Num: 16

Candidate Starts for StormChicken\_139:

(Start: 12 @73496 has 50 MA's), (Start: 15 @73469 has 1 MA's), (Start: 16 @73460 has 75 MA's), (22, 73355), (40, 73067), (42, 73019),

Gene: TBrady12\_142 Start: 72939, Stop: 72427, Start Num: 16

Candidate Starts for TBrady12\_142:

(Start: 12 @72975 has 50 MA's), (Start: 15 @72948 has 1 MA's), (Start: 16 @72939 has 75 MA's), (20, 72849), (21, 72846), (25, 72798), (27, 72789), (28, 72774), (29, 72765), (30, 72750), (42, 72486),

Gene: Tarkin\_136 Start: 73526, Stop: 73002, Start Num: 12

Candidate Starts for Tarkin\_136:

(Start: 12 @73526 has 50 MA's), (Start: 15 @73499 has 1 MA's), (Start: 16 @73490 has 75 MA's), (20, 73400), (21, 73397), (25, 73349), (27, 73340), (28, 73325), (40, 73109), (42, 73061),

Gene: TeamEdward\_136 Start: 73078, Stop: 72578, Start Num: 16

Candidate Starts for TeamEdward\_136:

(Start: 12 @73114 has 50 MA's), (Start: 15 @73087 has 1 MA's), (Start: 16 @73078 has 75 MA's), (22, 72973), (40, 72685), (42, 72637),

Gene: TeardropMSU\_138 Start: 72538, Stop: 71990, Start Num: 12

Candidate Starts for TeardropMSU\_138:

(Start: 12 @72538 has 50 MA's), (Start: 15 @72511 has 1 MA's), (Start: 16 @72502 has 75 MA's), (20, 72412), (21, 72409), (25, 72361), (27, 72352), (28, 72337), (29, 72328), (30, 72313), (40, 72097), (42, 72049),

Gene: Terminus\_140 Start: 73420, Stop: 72884, Start Num: 12

Candidate Starts for Terminus\_140:

(Start: 12 @73420 has 50 MA's), (Start: 15 @73393 has 1 MA's), (Start: 16 @73384 has 75 MA's), (22, 73279), (40, 72991), (42, 72943),

Gene: Thresher\_139 Start: 73322, Stop: 72810, Start Num: 16

Candidate Starts for Thresher\_139:

(Start: 12 @73358 has 50 MA's), (Start: 15 @73331 has 1 MA's), (Start: 16 @73322 has 75 MA's), (20, 73232), (21, 73229), (25, 73181), (27, 73172), (28, 73157), (29, 73148), (30, 73133), (39, 72938), (40, 72917), (42, 72869),

Gene: Tomaszewski\_131 Start: 71922, Stop: 71422, Start Num: 16

Candidate Starts for Tomaszewski\_131:

(Start: 12 @71958 has 50 MA's), (Start: 15 @71931 has 1 MA's), (Start: 16 @71922 has 75 MA's), (22, 71817), (40, 71529), (42, 71481),

Gene: Toto\_134 Start: 73279, Stop: 72743, Start Num: 12

Candidate Starts for Toto\_134:

(Start: 12 @73279 has 50 MA's), (Start: 15 @73252 has 1 MA's), (Start: 16 @73243 has 75 MA's), (22, 73138), (40, 72850), (42, 72802),

Gene: Traaww1\_134 Start: 72348, Stop: 71824, Start Num: 16

Candidate Starts for Traaww1\_134:

(Start: 12 @72384 has 50 MA's), (Start: 15 @72357 has 1 MA's), (Start: 16 @72348 has 75 MA's), (25, 72207), (27, 72198), (28, 72183), (29, 72174), (30, 72165), (31, 72162), (37, 72147), (40, 71931), (42, 71883),

Gene: Tuco\_143 Start: 74597, Stop: 74049, Start Num: 12

Candidate Starts for Tuco\_143:

(Start: 12 @74597 has 50 MA's), (Start: 15 @74570 has 1 MA's), (Start: 16 @74561 has 75 MA's), (20, 74471), (21, 74468), (25, 74420), (27, 74411), (28, 74396), (29, 74387), (30, 74372), (40, 74156), (42, 74108),

Gene: Ukulele\_132 Start: 71842, Stop: 71306, Start Num: 12

Candidate Starts for Ukulele\_132:

(Start: 12 @71842 has 50 MA's), (Start: 15 @71815 has 1 MA's), (Start: 16 @71806 has 75 MA's), (22, 71701), (39, 71434), (40, 71413), (42, 71365),

Gene: Wiggin\_140 Start: 72516, Stop: 71968, Start Num: 12

Candidate Starts for Wiggin\_140:

(Start: 12 @72516 has 50 MA's), (Start: 15 @72489 has 1 MA's), (Start: 16 @72480 has 75 MA's), (20, 72390), (21, 72387), (25, 72339), (27, 72330), (28, 72315), (29, 72306), (30, 72291), (40, 72075), (42, 72027),

Gene: Willez\_135 Start: 71827, Stop: 71291, Start Num: 12

Candidate Starts for Willez\_135:

(Start: 12 @71827 has 50 MA's), (Start: 15 @71800 has 1 MA's), (Start: 16 @71791 has 75 MA's), (22, 71686), (40, 71398), (42, 71350),

Gene: Xandras\_138 Start: 72756, Stop: 72244, Start Num: 16

Candidate Starts for Xandras\_138:

(Start: 12 @72792 has 50 MA's), (Start: 15 @72765 has 1 MA's), (Start: 16 @72756 has 75 MA's), (20, 72666), (21, 72663), (25, 72615), (27, 72606), (28, 72591), (29, 72582), (30, 72567), (40, 72351), (42, 72303),

Gene: YassJohnny\_133 Start: 70972, Stop: 70460, Start Num: 16

Candidate Starts for YassJohnny\_133:

(Start: 12 @71008 has 50 MA's), (Start: 15 @70981 has 1 MA's), (Start: 16 @70972 has 75 MA's), (20, 70882), (21, 70879), (25, 70831), (27, 70822), (28, 70807), (29, 70798), (37, 70783), (40, 70567), (42, 70519),

Gene: Youngblood\_141 Start: 73147, Stop: 72611, Start Num: 12

Candidate Starts for Youngblood\_141:

(Start: 12 @73147 has 50 MA's), (Start: 15 @73120 has 1 MA's), (Start: 16 @73111 has 75 MA's), (22, 73006), (40, 72718), (42, 72670),

Gene: xkcd\_141 Start: 73760, Stop: 73248, Start Num: 16

Candidate Starts for xkcd\_141:

(Start: 12 @73796 has 50 MA's), (Start: 15 @73769 has 1 MA's), (Start: 16 @73760 has 75 MA's), (20, 73670), (21, 73667), (25, 73619), (27, 73610), (28, 73595), (29, 73586), (30, 73571), (40, 73355), (42, 73307),