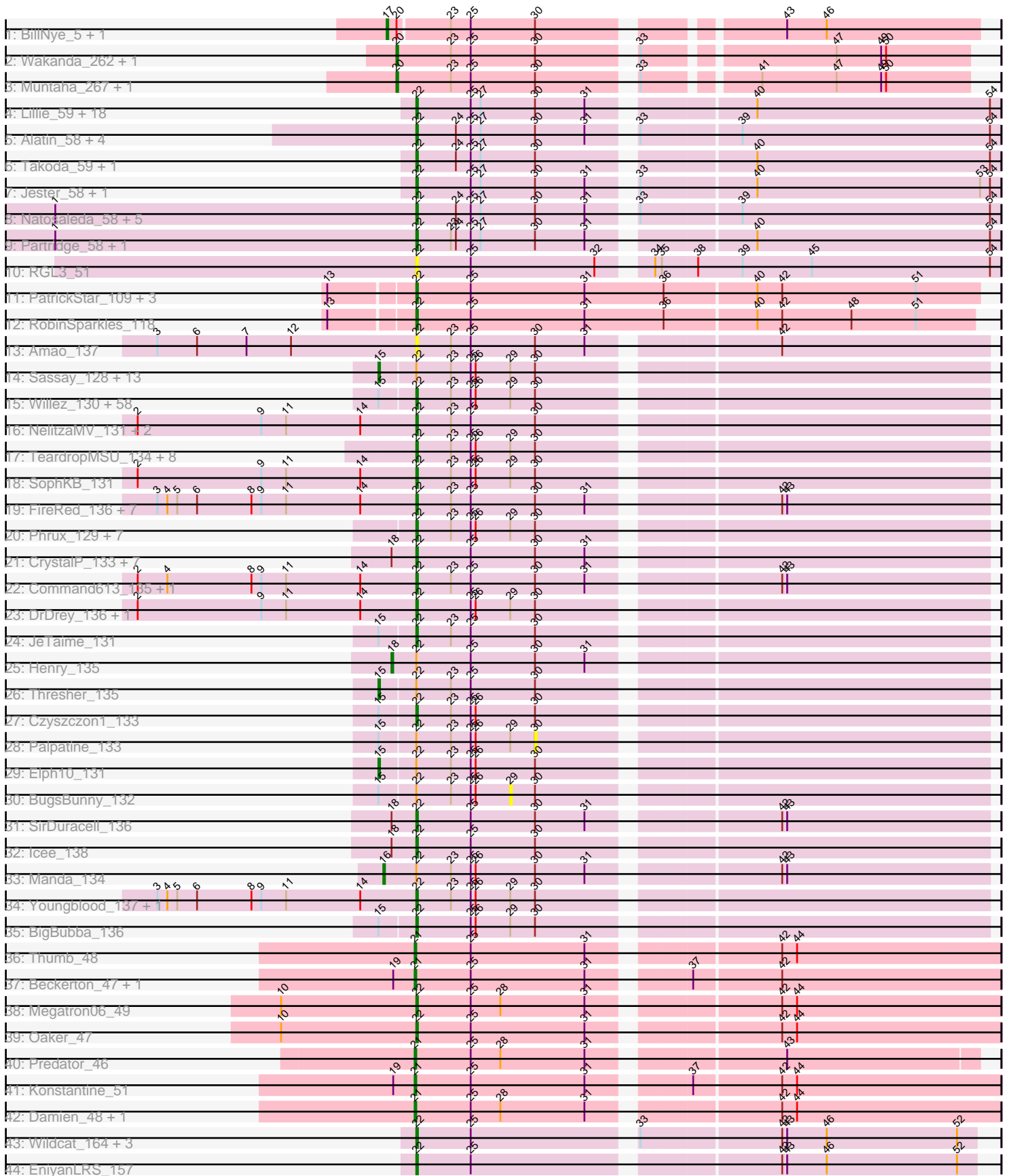


Pham 193758



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 193758 Report

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

Pham number 193758 has 190 members, 9 are drafts.

Phages represented in each track:

- Track 1 : BillNye\_5, BillNye\_251
- Track 2 : Wakanda\_262, Wakanda\_3
- Track 3 : Muntaha\_267, Muntaha\_4
- Track 4 : Lillie\_59, Gollum\_59, Nancinator\_58, Bryce\_58, Phrankenstein\_59, BobbyDazzler\_59, Erik\_59, Hiro\_59, RER2\_53, Bonanza\_60, Alpacados\_58, Yoncess\_58, Swann\_59, Yogi\_60, CosmicSans\_59, TWAMP\_59, Shuman\_60, Rasputin\_59, Rhodalysa\_59
- Track 5 : Alatin\_58, StCroix\_58, Naiad\_58, Krishelle\_59, Bradshaw\_59
- Track 6 : Takoda\_59, AngryOrchard\_56
- Track 7 : Jester\_58, Harlequin\_59
- Track 8 : Natosaleda\_58, Belenaria\_60, Espica\_60, AppleCloud\_56, RexFury\_58, UhSalsa\_59
- Track 9 : Partridge\_58, Dinger\_58
- Track 10 : RGL3\_51
- Track 11 : PatrickStar\_109, Orchid\_108, Kampe\_109, Gibbles\_111
- Track 12 : RobinSparkles\_118
- Track 13 : Amao\_137
- Track 14 : Sassay\_128, Cactus\_141, MISSy\_135, Tomaszewski\_127, Dumbo\_134, Kimchi\_139, Bask21\_138, Petra64142\_135, Rimmer\_130, Ukulele\_128, Porky\_135, Goku\_132, Bruin\_130, Goldilocks\_139
- Track 15 : Willez\_130, NoSleep\_133, Maxxinista\_135, StolenFromERC\_136, Stank\_137, Cjw1\_131, IHOP\_137, OrionPax\_129, Paperbeatsrock\_132, Sotrice96\_138, Nala\_135, ShereKhan\_133, GooberAzure\_136, Eureka\_133, Lilac\_131, Contagion\_129, Marshmallow\_134, Phaja\_137, Wiggin\_136, Bench\_135, Adnama\_138, Mosby\_130, ChosenOne\_134, Lilpickle\_133, BaboJay\_132, Elite2014\_133, Pharsalus\_131, GoldenSpark\_138, Inca\_132, 244\_134, Miniwave\_127, Cookies\_134, Tarkin\_132, Terminus\_136, Argent26\_138, TBrady12\_138, Toto\_131, StellaBean\_131, Misfit\_133, ShamWow\_133, Kanye\_130, RiverMonster\_132, Xandras\_134, ChotaBhai\_137, MPhalcon\_134, Moldemort\_136, Quallification\_134, HanKaySha\_133, Gemini\_139, Easy2Say\_135, Stark\_131, AmericanBeauty\_137, MadamMonkfish\_133, Buck\_134, Lilizi\_134, Nimrod\_133, Hopey\_132, Emmina\_134, Pumpkin\_133
- Track 16 : NelitzaMV\_131, Rakim\_134, Mindy\_136
- Track 17 : TeardropMSU\_134, ABCat\_134, Dusk\_134, Harella\_139, Pat3\_133, BadStone\_134, Gator\_135, Tuco\_139, Glexan\_137
- Track 18 : SophKB\_131

- Track 19 : FireRed\_136, HufflyPuff\_135, Holt\_139, YassJohnny\_129, Phaux\_135, Murica\_137, PhatBacter\_136, Policronamos\_136
- Track 20 : Phrux\_129, DoctorDiddles\_131, Murphy\_132, Filch\_135, Highbury\_129, Saints25\_129, Hoonter\_136, Simpliphy\_132
- Track 21 : CrystalP\_133, Daikon\_135, Asriel\_130, Balomoji\_133, Barbarian\_133, BilboSwaggins\_131, Flypotenuse\_128, Traaww1\_129
- Track 22 : Command613\_135, Kostya\_134
- Track 23 : DrDrey\_136, Myrale\_134
- Track 24 : JeTaime\_131
- Track 25 : Henry\_135
- Track 26 : Thresher\_135
- Track 27 : Czyszczonek\_133
- Track 28 : Palpatine\_133
- Track 29 : Elph10\_131
- Track 30 : BugsBunny\_132
- Track 31 : SirDuracell\_136
- Track 32 : Icee\_138
- Track 33 : Manda\_134
- Track 34 : Youngblood\_137, xkcd\_137
- Track 35 : BigBubba\_136
- Track 36 : Thumb\_48
- Track 37 : Beckerton\_47, Phreeze\_46
- Track 38 : Megatron06\_49
- Track 39 : Oaker\_47
- Track 40 : Predator\_46
- Track 41 : Konstantine\_51
- Track 42 : Damien\_48, Cborch11\_49
- Track 43 : Wildcat\_164, Azrael100\_156, MaryV\_150, Cosmo\_165
- Track 44 : EniyanLRS\_157

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

The start number called the most often in the published annotations is 22, it was called in 151 of the 181 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 244\_134, ABCat\_134, Adnama\_138, Alatin\_58, Alpacados\_58, Amao\_137, AmericanBeauty\_137, AngryOrchard\_56, AppleCloud\_56, Argent26\_138, Asriel\_130, Azrael100\_156, BaboJay\_132, BadStone\_134, Balomoji\_133, Barbarian\_133, Belenaria\_60, Bench\_135, BigBubba\_136, BilboSwaggins\_131, BobbyDazzler\_59, Bonanza\_60, Bradshaw\_59, Bryce\_58, Buck\_134, ChosenOne\_134, ChotaBhai\_137, Cjw1\_131, Command613\_135, Contagion\_129, Cookies\_134, CosmicSans\_59, Cosmo\_165, CrystalP\_133, Czyszczonek\_133, Daikon\_135, Dinger\_58, DoctorDiddles\_131, DrDrey\_136, Dusk\_134, Easy2Say\_135, Elite2014\_133, Emmina\_134, EniyanLRS\_157, Erik\_59, Espica\_60, Eureka\_133, Filch\_135, FireRed\_136, Flypotenuse\_128, Gator\_135, Gemini\_139, Gibbles\_111, Glexan\_137, GoldenSpark\_138, Gollum\_59, GooberAzure\_136, HanKaySha\_133, Harella\_139, Harlequin\_59, Highbury\_129, Hiro\_59, Holt\_139, Hoonter\_136, Hopey\_132, HufflyPuff\_135, IHOP\_137, Icee\_138, Inca\_132, JeTaime\_131, Jester\_58, Kampe\_109, Kanye\_130, Kostya\_134, Krishelle\_59, Lilac\_131, Lilizi\_134, Lillie\_59,

Lilpickle\_133, MPhalcon\_134, MadamMonkfish\_133, Marshmallow\_134, MaryV\_150, Maxxinista\_135, Megatron06\_49, Mindy\_136, Miniwave\_127, Misfit\_133, Moldemort\_136, Mosby\_130, Murica\_137, Murphy\_132, Myrale\_134, Naiad\_58, Nala\_135, Nancinator\_58, Natosaleda\_58, NelitzaMV\_131, Nimrod\_133, NoSleep\_133, Oaker\_47, Orchid\_108, OrionPax\_129, Paperbeatsrock\_132, Partridge\_58, Pat3\_133, PatrickStar\_109, Phaja\_137, Pharsalus\_131, PhatBacter\_136, Phaux\_135, Phrankenstien\_59, Phrux\_129, Policronamos\_136, Pumpkin\_133, Qualification\_134, RER2\_53, RGL3\_51, Rakim\_134, Rasputin\_59, RexFury\_58, Rhodalysa\_59, RiverMonster\_132, RobinSparkles\_118, Saints25\_129, ShamWow\_133, ShereKhan\_133, Shuman\_60, Simpliphy\_132, SirDuracell\_136, SophKB\_131, Sotrice96\_138, StCroix\_58, Stank\_137, Stark\_131, StellaBean\_131, StolenFromERC\_136, Swann\_59, TBrady12\_138, TWAMP\_59, Takoda\_59, Tarkin\_132, TeardropMSU\_134, Terminus\_136, Toto\_131, Traaww1\_129, Tuco\_139, UhSalsa\_59, Wiggin\_136, Wildcat\_164, Willez\_130, Xandras\_134, YassJohnny\_129, Yogi\_60, Yoncess\_58, Youngblood\_137, xkcd\_137,

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

- Bask21\_138, Bruin\_130, BugsBunny\_132, Cactus\_141, Dumbo\_134, Elph10\_131, Goku\_132, Goldilocks\_139, Henry\_135, Kimchi\_139, MISSy\_135, Manda\_134, Palpatine\_133, Petra64142\_135, Porky\_135, Rimmer\_130, Sassay\_128, Thresher\_135, Tomaszewski\_127, Ukulele\_128,

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

- Beckerton\_47, BillNye\_251, BillNye\_5, Cborch11\_49, Damien\_48, Konstantine\_51, Muntaha\_267, Muntaha\_4, Phreeze\_46, Predator\_46, Thumb\_48, Wakanda\_262, Wakanda\_3,

### Summary by start number:

Start 15:

- Found in 80 of 190 ( 42.1% ) of genes in pham
- Manual Annotations of this start: 15 of 181
- Called 20.0% of time when present
- Phage (with cluster) where this start called: Bask21\_138 (E), Bruin\_130 (E), Cactus\_141 (E), Dumbo\_134 (E), Elph10\_131 (E), Goku\_132 (E), Goldilocks\_139 (E), Kimchi\_139 (E), MISSy\_135 (E), Petra64142\_135 (E), Porky\_135 (E), Rimmer\_130 (E), Sassay\_128 (E), Thresher\_135 (E), Tomaszewski\_127 (E), Ukulele\_128 (E),

Start 16:

- Found in 1 of 190 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 181
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Manda\_134 (E),

Start 17:

- Found in 2 of 190 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 2 of 181
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BillNye\_251 (BK2), BillNye\_5 (BK2),

Start 18:

- Found in 11 of 190 ( 5.8% ) of genes in pham

- Manual Annotations of this start: 1 of 181
- Called 9.1% of time when present
- Phage (with cluster) where this start called: Henry\_135 (E),

#### Start 20:

- Found in 6 of 190 ( 3.2% ) of genes in pham
- Manual Annotations of this start: 4 of 181
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Muntaha\_267 (BK2), Muntaha\_4 (BK2), Wakanda\_262 (BK2), Wakanda\_3 (BK2),

#### Start 21:

- Found in 7 of 190 ( 3.7% ) of genes in pham
- Manual Annotations of this start: 7 of 181
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Beckerton\_47 (H1), Cborch11\_49 (H1), Damien\_48 (H1), Konstantine\_51 (H1), Phreeze\_46 (H1), Predator\_46 (H1), Thumb\_48 (H1),

#### Start 22:

- Found in 177 of 190 ( 93.2% ) of genes in pham
- Manual Annotations of this start: 151 of 181
- Called 88.7% of time when present
- Phage (with cluster) where this start called: 244\_134 (E), ABCat\_134 (E), Adnama\_138 (E), Alatin\_58 (CA), Alpacados\_58 (CA), Amao\_137 (E), AmericanBeauty\_137 (E), AngryOrchard\_56 (CA), AppleCloud\_56 (CA), Argent26\_138 (E), Asriel\_130 (E), Azrael100\_156 (V), BaboJay\_132 (E), BadStone\_134 (E), Balomoji\_133 (E), Barbarian\_133 (E), Belenaria\_60 (CA), Bench\_135 (E), BigBubba\_136 (E), BilboSwaggins\_131 (E), BobbyDazzler\_59 (CA), Bonanza\_60 (CA), Bradshaw\_59 (CA), Bryce\_58 (CA), Buck\_134 (E), ChosenOne\_134 (E), ChotaBhai\_137 (E), Cjw1\_131 (E), Command613\_135 (E), Contagion\_129 (E), Cookies\_134 (E), CosmicSans\_59 (CA), Cosmo\_165 (V), CrystalP\_133 (E), Czystczon1\_133 (E), Daikon\_135 (E), Dinger\_58 (CA), DoctorDiddles\_131 (E), DrDrey\_136 (E), Dusk\_134 (E), Easy2Say\_135 (E), Elite2014\_133 (E), Emmina\_134 (E), EniyanLRS\_157 (V), Erik\_59 (CA), Espica\_60 (CA), Eureka\_133 (E), Filch\_135 (E), FireRed\_136 (E), Flypotenuse\_128 (E), Gator\_135 (E), Gemini\_139 (E), Gibbles\_111 (CX), Glexan\_137 (E), GoldenSpark\_138 (E), Gollum\_59 (CA), GooberAzure\_136 (E), HanKaySha\_133 (E), Harella\_139 (E), Harlequin\_59 (CA), Highbury\_129 (E), Hiro\_59 (CA), Holt\_139 (E), Hoonter\_136 (E), Hopey\_132 (E), HufflyPuff\_135 (E), IHOP\_137 (E), Icee\_138 (E), Inca\_132 (E), JeTaime\_131 (E), Jester\_58 (CA), Kampe\_109 (CX), Kanye\_130 (E), Kostya\_134 (E), Krishelle\_59 (CA), Lilac\_131 (E), Lilizi\_134 (E), Lillie\_59 (CA), Lilpickle\_133 (E), MPhalcon\_134 (E), MadamMonkfish\_133 (E), Marshmallow\_134 (E), MaryV\_150 (V), Maxxinista\_135 (E), Megatron06\_49 (H1), Mindy\_136 (E), Miniwave\_127 (E), Misfit\_133 (E), Moldemort\_136 (E), Mosby\_130 (E), Murica\_137 (E), Murphy\_132 (E), Myrale\_134 (E), Naiad\_58 (CA), Nala\_135 (E), Nancinator\_58 (CA), Natosaleda\_58 (CA), NelitzaMV\_131 (E), Nimrod\_133 (E), NoSleep\_133 (E), Oaker\_47 (H1), Orchid\_108 (CX), OrionPax\_129 (E), Paperbeatsrock\_132 (E), Partridge\_58 (CA), Pat3\_133 (E), PatrickStar\_109 (CX), Phaja\_137 (E), Pharsalus\_131 (E), PhatBacter\_136 (E), Phaux\_135 (E), Phrankenstein\_59 (CA), Phrux\_129 (E), Policronamos\_136 (E), Pumpkin\_133 (E), Quallification\_134 (E), RER2\_53 (CA), RGL3\_51 (CA), Rakim\_134 (E), Rasputin\_59 (CA), RexFury\_58 (CA), Rhodalysa\_59 (CA), RiverMonster\_132 (E), RobinSparkles\_118 (CX),

Saints25\_129 (E), ShamWow\_133 (E), ShereKhan\_133 (E), Shuman\_60 (CA), Simpliphy\_132 (E), SirDuracell\_136 (E), SophKB\_131 (E), Sotrice96\_138 (E), StCroix\_58 (CA), Stank\_137 (E), Stark\_131 (E), StellaBean\_131 (E), StolenFromERC\_136 (E), Swann\_59 (CA), TBrady12\_138 (E), TWAMP\_59 (CA), Takoda\_59 (CA), Tarkin\_132 (E), TeardropMSU\_134 (E), Terminus\_136 (E), Toto\_131 (E), Traaww1\_129 (E), Tuco\_139 (E), UhSalsa\_59 (CA), Wiggin\_136 (E), Wildcat\_164 (V), Willez\_130 (E), Xandras\_134 (E), YassJohnny\_129 (E), Yogi\_60 (CA), Yoncess\_58 (CA), Youngblood\_137 (E), xkcd\_137 (E),

Start 29:

- Found in 98 of 190 ( 51.6% ) of genes in pham
- No Manual Annotations of this start.
- Called 1.0% of time when present
- Phage (with cluster) where this start called: BugsBunny\_132 (E),

Start 30:

- Found in 170 of 190 ( 89.5% ) of genes in pham
- No Manual Annotations of this start.
- Called 0.6% of time when present
- Phage (with cluster) where this start called: Palpatine\_133 (E),

### **Summary by clusters:**

There are 6 clusters represented in this pham: E, CA, H1, CX, BK2, V,

Info for manual annotations of cluster BK2:

- Start number 17 was manually annotated 2 times for cluster BK2.
- Start number 20 was manually annotated 4 times for cluster BK2.

Info for manual annotations of cluster CA:

- Start number 22 was manually annotated 35 times for cluster CA.

Info for manual annotations of cluster CX:

- Start number 22 was manually annotated 5 times for cluster CX.

Info for manual annotations of cluster E:

- Start number 15 was manually annotated 15 times for cluster E.
- Start number 16 was manually annotated 1 time for cluster E.
- Start number 18 was manually annotated 1 time for cluster E.
- Start number 22 was manually annotated 104 times for cluster E.

Info for manual annotations of cluster H1:

- Start number 21 was manually annotated 7 times for cluster H1.
- Start number 22 was manually annotated 2 times for cluster H1.

Info for manual annotations of cluster V:

- Start number 22 was manually annotated 5 times for cluster V.

### **Gene Information:**

Gene: 244\_134 Start: 70917, Stop: 70588, Start Num: 22

Candidate Starts for 244\_134:

(Start: 15 @70935 has 15 MA's), (Start: 22 @70917 has 151 MA's), (23, 70896), (25, 70884), (26, 70881), (29, 70860), (30, 70845),

Gene: ABCat\_134 Start: 72465, Stop: 72136, Start Num: 22

Candidate Starts for ABCat\_134:

(Start: 22 @72465 has 151 MA's), (23, 72444), (25, 72432), (26, 72429), (29, 72408), (30, 72393),

Gene: Adnama\_138 Start: 71581, Stop: 71252, Start Num: 22

Candidate Starts for Adnama\_138:

(Start: 15 @71599 has 15 MA's), (Start: 22 @71581 has 151 MA's), (23, 71560), (25, 71548), (26, 71545), (29, 71524), (30, 71509),

Gene: Alatin\_58 Start: 41201, Stop: 40866, Start Num: 22

Candidate Starts for Alatin\_58:

(Start: 22 @41201 has 151 MA's), (24, 41177), (25, 41168), (27, 41162), (30, 41129), (31, 41099), (33, 41078), (39, 41021), (54, 40871),

Gene: Alpacados\_58 Start: 41024, Stop: 40689, Start Num: 22

Candidate Starts for Alpacados\_58:

(Start: 22 @41024 has 151 MA's), (25, 40991), (27, 40985), (30, 40952), (31, 40922), (40, 40835), (54, 40694),

Gene: Amao\_137 Start: 72289, Stop: 71960, Start Num: 22

Candidate Starts for Amao\_137:

(3, 72445), (6, 72421), (7, 72391), (12, 72364), (Start: 22 @72289 has 151 MA's), (23, 72268), (25, 72256), (30, 72217), (31, 72187), (42, 72085),

Gene: AmericanBeauty\_137 Start: 71623, Stop: 71294, Start Num: 22

Candidate Starts for AmericanBeauty\_137:

(Start: 15 @71641 has 15 MA's), (Start: 22 @71623 has 151 MA's), (23, 71602), (25, 71590), (26, 71587), (29, 71566), (30, 71551),

Gene: AngryOrchard\_56 Start: 41255, Stop: 40920, Start Num: 22

Candidate Starts for AngryOrchard\_56:

(Start: 22 @41255 has 151 MA's), (24, 41231), (25, 41222), (27, 41216), (30, 41183), (40, 41066), (54, 40925),

Gene: AppleCloud\_56 Start: 40918, Stop: 40583, Start Num: 22

Candidate Starts for AppleCloud\_56:

(1, 41137), (Start: 22 @40918 has 151 MA's), (24, 40894), (25, 40885), (27, 40879), (30, 40846), (31, 40816), (33, 40795), (39, 40738), (54, 40588),

Gene: Argent26\_138 Start: 71505, Stop: 71176, Start Num: 22

Candidate Starts for Argent26\_138:

(Start: 15 @71523 has 15 MA's), (Start: 22 @71505 has 151 MA's), (23, 71484), (25, 71472), (26, 71469), (29, 71448), (30, 71433),

Gene: Asriel\_130 Start: 69770, Stop: 69441, Start Num: 22

Candidate Starts for Asriel\_130:

(Start: 18 @69785 has 1 MA's), (Start: 22 @69770 has 151 MA's), (25, 69737), (30, 69698), (31, 69668),

Gene: Azrael100\_156 Start: 73905, Stop: 73585, Start Num: 22  
Candidate Starts for Azrael100\_156:  
(Start: 22 @73905 has 151 MA's), (25, 73872), (33, 73782), (42, 73701), (43, 73698), (46, 73674), (52, 73596),

Gene: BaboJay\_132 Start: 72084, Stop: 71755, Start Num: 22  
Candidate Starts for BaboJay\_132:  
(Start: 15 @72102 has 15 MA's), (Start: 22 @72084 has 151 MA's), (23, 72063), (25, 72051), (26, 72048), (29, 72027), (30, 72012),

Gene: BadStone\_134 Start: 72013, Stop: 71684, Start Num: 22  
Candidate Starts for BadStone\_134:  
(Start: 22 @72013 has 151 MA's), (23, 71992), (25, 71980), (26, 71977), (29, 71956), (30, 71941),

Gene: Balomoji\_133 Start: 71559, Stop: 71230, Start Num: 22  
Candidate Starts for Balomoji\_133:  
(Start: 18 @71574 has 1 MA's), (Start: 22 @71559 has 151 MA's), (25, 71526), (30, 71487), (31, 71457),

Gene: Barbarian\_133 Start: 69770, Stop: 69441, Start Num: 22  
Candidate Starts for Barbarian\_133:  
(Start: 18 @69785 has 1 MA's), (Start: 22 @69770 has 151 MA's), (25, 69737), (30, 69698), (31, 69668),

Gene: Bask21\_138 Start: 70954, Stop: 70607, Start Num: 15  
Candidate Starts for Bask21\_138:  
(Start: 15 @70954 has 15 MA's), (Start: 22 @70936 has 151 MA's), (23, 70915), (25, 70903), (26, 70900), (29, 70879), (30, 70864),

Gene: Beckerton\_47 Start: 40622, Stop: 40957, Start Num: 21  
Candidate Starts for Beckerton\_47:  
(19, 40610), (Start: 21 @40622 has 7 MA's), (25, 40655), (31, 40724), (37, 40775), (42, 40826),

Gene: Belenaria\_60 Start: 41066, Stop: 40731, Start Num: 22  
Candidate Starts for Belenaria\_60:  
(1, 41285), (Start: 22 @41066 has 151 MA's), (24, 41042), (25, 41033), (27, 41027), (30, 40994), (31, 40964), (33, 40943), (39, 40886), (54, 40736),

Gene: Bench\_135 Start: 71810, Stop: 71481, Start Num: 22  
Candidate Starts for Bench\_135:  
(Start: 15 @71828 has 15 MA's), (Start: 22 @71810 has 151 MA's), (23, 71789), (25, 71777), (26, 71774), (29, 71753), (30, 71738),

Gene: BigBubba\_136 Start: 71015, Stop: 70686, Start Num: 22  
Candidate Starts for BigBubba\_136:  
(Start: 15 @71033 has 15 MA's), (Start: 22 @71015 has 151 MA's), (25, 70982), (26, 70979), (29, 70958), (30, 70943),

Gene: BilboSwaggins\_131 Start: 72050, Stop: 71721, Start Num: 22  
Candidate Starts for BilboSwaggins\_131:  
(Start: 18 @72065 has 1 MA's), (Start: 22 @72050 has 151 MA's), (25, 72017), (30, 71978), (31, 71948),



Gene: BillNye\_5 Start: 1694, Stop: 2023, Start Num: 17

Candidate Starts for BillNye\_5:

(Start: 17 @1694 has 2 MA's), (Start: 20 @1700 has 4 MA's), (23, 1730), (25, 1742), (30, 1781), (43, 1907), (46, 1931),

Gene: BillNye\_251 Start: 126516, Stop: 126845, Start Num: 17

Candidate Starts for BillNye\_251:

(Start: 17 @126516 has 2 MA's), (Start: 20 @126522 has 4 MA's), (23, 126552), (25, 126564), (30, 126603), (43, 126729), (46, 126753),

Gene: BobbyDazzler\_59 Start: 41171, Stop: 40836, Start Num: 22

Candidate Starts for BobbyDazzler\_59:

(Start: 22 @41171 has 151 MA's), (25, 41138), (27, 41132), (30, 41099), (31, 41069), (40, 40982), (54, 40841),

Gene: Bonanza\_60 Start: 41476, Stop: 41141, Start Num: 22

Candidate Starts for Bonanza\_60:

(Start: 22 @41476 has 151 MA's), (25, 41443), (27, 41437), (30, 41404), (31, 41374), (40, 41287), (54, 41146),

Gene: Bradshaw\_59 Start: 41134, Stop: 40799, Start Num: 22

Candidate Starts for Bradshaw\_59:

(Start: 22 @41134 has 151 MA's), (24, 41110), (25, 41101), (27, 41095), (30, 41062), (31, 41032), (33, 41011), (39, 40954), (54, 40804),

Gene: Bruin\_130 Start: 70212, Stop: 69865, Start Num: 15

Candidate Starts for Bruin\_130:

(Start: 15 @70212 has 15 MA's), (Start: 22 @70194 has 151 MA's), (23, 70173), (25, 70161), (26, 70158), (29, 70137), (30, 70122),

Gene: Bryce\_58 Start: 40879, Stop: 40544, Start Num: 22

Candidate Starts for Bryce\_58:

(Start: 22 @40879 has 151 MA's), (25, 40846), (27, 40840), (30, 40807), (31, 40777), (40, 40690), (54, 40549),

Gene: Buck\_134 Start: 72463, Stop: 72134, Start Num: 22

Candidate Starts for Buck\_134:

(Start: 15 @72481 has 15 MA's), (Start: 22 @72463 has 151 MA's), (23, 72442), (25, 72430), (26, 72427), (29, 72406), (30, 72391),

Gene: BugsBunny\_132 Start: 71452, Stop: 71180, Start Num: 29

Candidate Starts for BugsBunny\_132:

(Start: 15 @71527 has 15 MA's), (Start: 22 @71509 has 151 MA's), (23, 71488), (25, 71476), (26, 71473), (29, 71452), (30, 71437),

Gene: Cactus\_141 Start: 71625, Stop: 71278, Start Num: 15

Candidate Starts for Cactus\_141:

(Start: 15 @71625 has 15 MA's), (Start: 22 @71607 has 151 MA's), (23, 71586), (25, 71574), (26, 71571), (29, 71550), (30, 71535),

Gene: Cborch11\_49 Start: 40138, Stop: 40473, Start Num: 21

Candidate Starts for Cborch11\_49:

(Start: 21 @40138 has 7 MA's), (25, 40171), (28, 40189), (31, 40240), (42, 40342), (44, 40351),

Gene: ChosenOne\_134 Start: 70987, Stop: 70658, Start Num: 22

Candidate Starts for ChosenOne\_134:

(Start: 15 @71005 has 15 MA's), (Start: 22 @70987 has 151 MA's), (23, 70966), (25, 70954), (26, 70951), (29, 70930), (30, 70915),

Gene: ChotaBhai\_137 Start: 71772, Stop: 71443, Start Num: 22

Candidate Starts for ChotaBhai\_137:

(Start: 15 @71790 has 15 MA's), (Start: 22 @71772 has 151 MA's), (23, 71751), (25, 71739), (26, 71736), (29, 71715), (30, 71700),

Gene: Cjw1\_131 Start: 72188, Stop: 71859, Start Num: 22

Candidate Starts for Cjw1\_131:

(Start: 15 @72206 has 15 MA's), (Start: 22 @72188 has 151 MA's), (23, 72167), (25, 72155), (26, 72152), (29, 72131), (30, 72116),

Gene: Command613\_135 Start: 71551, Stop: 71222, Start Num: 22

Candidate Starts for Command613\_135:

(2, 71719), (4, 71701), (8, 71650), (9, 71644), (11, 71629), (14, 71584), (Start: 22 @71551 has 151 MA's), (23, 71530), (25, 71518), (30, 71479), (31, 71449), (42, 71347), (43, 71344),

Gene: Contagion\_129 Start: 70556, Stop: 70227, Start Num: 22

Candidate Starts for Contagion\_129:

(Start: 15 @70574 has 15 MA's), (Start: 22 @70556 has 151 MA's), (23, 70535), (25, 70523), (26, 70520), (29, 70499), (30, 70484),

Gene: Cookies\_134 Start: 72098, Stop: 71769, Start Num: 22

Candidate Starts for Cookies\_134:

(Start: 15 @72116 has 15 MA's), (Start: 22 @72098 has 151 MA's), (23, 72077), (25, 72065), (26, 72062), (29, 72041), (30, 72026),

Gene: CosmicSans\_59 Start: 41125, Stop: 40790, Start Num: 22

Candidate Starts for CosmicSans\_59:

(Start: 22 @41125 has 151 MA's), (25, 41092), (27, 41086), (30, 41053), (31, 41023), (40, 40936), (54, 40795),

Gene: Cosmo\_165 Start: 74069, Stop: 73749, Start Num: 22

Candidate Starts for Cosmo\_165:

(Start: 22 @74069 has 151 MA's), (25, 74036), (33, 73946), (42, 73865), (43, 73862), (46, 73838), (52, 73760),

Gene: CrystalP\_133 Start: 72050, Stop: 71721, Start Num: 22

Candidate Starts for CrystalP\_133:

(Start: 18 @72065 has 1 MA's), (Start: 22 @72050 has 151 MA's), (25, 72017), (30, 71978), (31, 71948),

Gene: Czyszczone1\_133 Start: 71002, Stop: 70673, Start Num: 22

Candidate Starts for Czyszczone1\_133:

(Start: 15 @71020 has 15 MA's), (Start: 22 @71002 has 151 MA's), (23, 70981), (25, 70969), (26, 70966), (30, 70930),

Gene: Daikon\_135 Start: 70855, Stop: 70526, Start Num: 22

Candidate Starts for Daikon\_135:

(Start: 18 @70870 has 1 MA's), (Start: 22 @70855 has 151 MA's), (25, 70822), (30, 70783), (31, 70753),

Gene: Damien\_48 Start: 40101, Stop: 40436, Start Num: 21

Candidate Starts for Damien\_48:

(Start: 21 @40101 has 7 MA's), (25, 40134), (28, 40152), (31, 40203), (42, 40305), (44, 40314),

Gene: Dinger\_58 Start: 41269, Stop: 40934, Start Num: 22

Candidate Starts for Dinger\_58:

(1, 41488), (Start: 22 @41269 has 151 MA's), (23, 41248), (24, 41245), (25, 41236), (27, 41230), (30, 41197), (31, 41167), (40, 41080), (54, 40939),

Gene: DoctorDiddles\_131 Start: 70509, Stop: 70180, Start Num: 22

Candidate Starts for DoctorDiddles\_131:

(Start: 22 @70509 has 151 MA's), (23, 70488), (25, 70476), (26, 70473), (29, 70452), (30, 70437),

Gene: DrDrey\_136 Start: 73246, Stop: 72917, Start Num: 22

Candidate Starts for DrDrey\_136:

(2, 73414), (9, 73339), (11, 73324), (14, 73279), (Start: 22 @73246 has 151 MA's), (25, 73213), (26, 73210), (29, 73189), (30, 73174),

Gene: Dumbo\_134 Start: 71215, Stop: 70868, Start Num: 15

Candidate Starts for Dumbo\_134:

(Start: 15 @71215 has 15 MA's), (Start: 22 @71197 has 151 MA's), (23, 71176), (25, 71164), (26, 71161), (29, 71140), (30, 71125),

Gene: Dusk\_134 Start: 71673, Stop: 71344, Start Num: 22

Candidate Starts for Dusk\_134:

(Start: 22 @71673 has 151 MA's), (23, 71652), (25, 71640), (26, 71637), (29, 71616), (30, 71601),

Gene: Easy2Say\_135 Start: 71971, Stop: 71642, Start Num: 22

Candidate Starts for Easy2Say\_135:

(Start: 15 @71989 has 15 MA's), (Start: 22 @71971 has 151 MA's), (23, 71950), (25, 71938), (26, 71935), (29, 71914), (30, 71899),

Gene: Elite2014\_133 Start: 70986, Stop: 70657, Start Num: 22

Candidate Starts for Elite2014\_133:

(Start: 15 @71004 has 15 MA's), (Start: 22 @70986 has 151 MA's), (23, 70965), (25, 70953), (26, 70950), (29, 70929), (30, 70914),

Gene: Elph10\_131 Start: 70322, Stop: 69975, Start Num: 15

Candidate Starts for Elph10\_131:

(Start: 15 @70322 has 15 MA's), (Start: 22 @70304 has 151 MA's), (23, 70283), (25, 70271), (26, 70268), (30, 70232),

Gene: Emmina\_134 Start: 70923, Stop: 70594, Start Num: 22

Candidate Starts for Emmina\_134:

(Start: 15 @70941 has 15 MA's), (Start: 22 @70923 has 151 MA's), (23, 70902), (25, 70890), (26, 70887), (29, 70866), (30, 70851),

Gene: EniyanLRS\_157 Start: 74396, Stop: 74076, Start Num: 22

Candidate Starts for EniyanLRS\_157:

(Start: 22 @74396 has 151 MA's), (25, 74363), (42, 74192), (43, 74189), (46, 74165), (52, 74087),

Gene: Erik\_59 Start: 40956, Stop: 40621, Start Num: 22

Candidate Starts for Erik\_59:

(Start: 22 @40956 has 151 MA's), (25, 40923), (27, 40917), (30, 40884), (31, 40854), (40, 40767), (54, 40626),

Gene: Espica\_60 Start: 41066, Stop: 40731, Start Num: 22

Candidate Starts for Espica\_60:

(1, 41285), (Start: 22 @41066 has 151 MA's), (24, 41042), (25, 41033), (27, 41027), (30, 40994), (31, 40964), (33, 40943), (39, 40886), (54, 40736),

Gene: Eureka\_133 Start: 71851, Stop: 71522, Start Num: 22

Candidate Starts for Eureka\_133:

(Start: 15 @71869 has 15 MA's), (Start: 22 @71851 has 151 MA's), (23, 71830), (25, 71818), (26, 71815), (29, 71794), (30, 71779),

Gene: Filch\_135 Start: 71126, Stop: 70797, Start Num: 22

Candidate Starts for Filch\_135:

(Start: 22 @71126 has 151 MA's), (23, 71105), (25, 71093), (26, 71090), (29, 71069), (30, 71054),

Gene: FireRed\_136 Start: 71634, Stop: 71305, Start Num: 22

Candidate Starts for FireRed\_136:

(3, 71790), (4, 71784), (5, 71778), (6, 71766), (8, 71733), (9, 71727), (11, 71712), (14, 71667), (Start: 22 @71634 has 151 MA's), (23, 71613), (25, 71601), (30, 71562), (31, 71532), (42, 71430), (43, 71427),

Gene: Flypotenuse\_128 Start: 70424, Stop: 70095, Start Num: 22

Candidate Starts for Flypotenuse\_128:

(Start: 18 @70439 has 1 MA's), (Start: 22 @70424 has 151 MA's), (25, 70391), (30, 70352), (31, 70322),

Gene: Gator\_135 Start: 71964, Stop: 71635, Start Num: 22

Candidate Starts for Gator\_135:

(Start: 22 @71964 has 151 MA's), (23, 71943), (25, 71931), (26, 71928), (29, 71907), (30, 71892),

Gene: Gemini\_139 Start: 72022, Stop: 71693, Start Num: 22

Candidate Starts for Gemini\_139:

(Start: 15 @72040 has 15 MA's), (Start: 22 @72022 has 151 MA's), (23, 72001), (25, 71989), (26, 71986), (29, 71965), (30, 71950),

Gene: Gibbles\_111 Start: 76317, Stop: 75979, Start Num: 22

Candidate Starts for Gibbles\_111:

(13, 76365), (Start: 22 @76317 has 151 MA's), (25, 76284), (31, 76215), (36, 76167), (40, 76113), (42, 76098), (51, 76017),

Gene: Glexan\_137 Start: 72114, Stop: 71785, Start Num: 22

Candidate Starts for Glexan\_137:

(Start: 22 @72114 has 151 MA's), (23, 72093), (25, 72081), (26, 72078), (29, 72057), (30, 72042),

Gene: Goku\_132 Start: 72178, Stop: 71831, Start Num: 15

Candidate Starts for Goku\_132:

(Start: 15 @72178 has 15 MA's), (Start: 22 @72160 has 151 MA's), (23, 72139), (25, 72127), (26, 72124), (29, 72103), (30, 72088),

Gene: GoldenSpark\_138 Start: 71505, Stop: 71176, Start Num: 22

Candidate Starts for GoldenSpark\_138:

(Start: 15 @71523 has 15 MA's), (Start: 22 @71505 has 151 MA's), (23, 71484), (25, 71472), (26, 71469), (29, 71448), (30, 71433),

Gene: Goldilocks\_139 Start: 72119, Stop: 71772, Start Num: 15

Candidate Starts for Goldilocks\_139:

(Start: 15 @72119 has 15 MA's), (Start: 22 @72101 has 151 MA's), (23, 72080), (25, 72068), (26, 72065), (29, 72044), (30, 72029),

Gene: Gollum\_59 Start: 41067, Stop: 40732, Start Num: 22

Candidate Starts for Gollum\_59:

(Start: 22 @41067 has 151 MA's), (25, 41034), (27, 41028), (30, 40995), (31, 40965), (40, 40878), (54, 40737),

Gene: GooberAzure\_136 Start: 71505, Stop: 71176, Start Num: 22

Candidate Starts for GooberAzure\_136:

(Start: 15 @71523 has 15 MA's), (Start: 22 @71505 has 151 MA's), (23, 71484), (25, 71472), (26, 71469), (29, 71448), (30, 71433),

Gene: HanKaySha\_133 Start: 71459, Stop: 71130, Start Num: 22

Candidate Starts for HanKaySha\_133:

(Start: 15 @71477 has 15 MA's), (Start: 22 @71459 has 151 MA's), (23, 71438), (25, 71426), (26, 71423), (29, 71402), (30, 71387),

Gene: Harella\_139 Start: 72630, Stop: 72301, Start Num: 22

Candidate Starts for Harella\_139:

(Start: 22 @72630 has 151 MA's), (23, 72609), (25, 72597), (26, 72594), (29, 72573), (30, 72558),

Gene: Harlequin\_59 Start: 40914, Stop: 40579, Start Num: 22

Candidate Starts for Harlequin\_59:

(Start: 22 @40914 has 151 MA's), (25, 40881), (27, 40875), (30, 40842), (31, 40812), (33, 40791), (40, 40725), (53, 40590), (54, 40584),

Gene: Henry\_135 Start: 71930, Stop: 71586, Start Num: 18

Candidate Starts for Henry\_135:

(Start: 18 @71930 has 1 MA's), (Start: 22 @71915 has 151 MA's), (25, 71882), (30, 71843), (31, 71813),

Gene: Highbury\_129 Start: 69399, Stop: 69070, Start Num: 22

Candidate Starts for Highbury\_129:

(Start: 22 @69399 has 151 MA's), (23, 69378), (25, 69366), (26, 69363), (29, 69342), (30, 69327),

Gene: Hiro\_59 Start: 41385, Stop: 41050, Start Num: 22

Candidate Starts for Hiro\_59:

(Start: 22 @41385 has 151 MA's), (25, 41352), (27, 41346), (30, 41313), (31, 41283), (40, 41196), (54, 41055),

Gene: Holt\_139 Start: 72058, Stop: 71729, Start Num: 22

Candidate Starts for Holt\_139:

(3, 72214), (4, 72208), (5, 72202), (6, 72190), (8, 72157), (9, 72151), (11, 72136), (14, 72091), (Start: 22 @72058 has 151 MA's), (23, 72037), (25, 72025), (30, 71986), (31, 71956), (42, 71854), (43,

71851),

Gene: Hoonter\_136 Start: 71546, Stop: 71217, Start Num: 22

Candidate Starts for Hoonter\_136:

(Start: 22 @71546 has 151 MA's), (23, 71525), (25, 71513), (26, 71510), (29, 71489), (30, 71474),

Gene: Hohey\_132 Start: 71553, Stop: 71224, Start Num: 22

Candidate Starts for Hohey\_132:

(Start: 15 @71571 has 15 MA's), (Start: 22 @71553 has 151 MA's), (23, 71532), (25, 71520), (26, 71517), (29, 71496), (30, 71481),

Gene: HufflyPuff\_135 Start: 71860, Stop: 71531, Start Num: 22

Candidate Starts for HufflyPuff\_135:

(3, 72016), (4, 72010), (5, 72004), (6, 71992), (8, 71959), (9, 71953), (11, 71938), (14, 71893), (Start: 22 @71860 has 151 MA's), (23, 71839), (25, 71827), (30, 71788), (31, 71758), (42, 71656), (43, 71653),

Gene: IHOP\_137 Start: 71489, Stop: 71160, Start Num: 22

Candidate Starts for IHOP\_137:

(Start: 15 @71507 has 15 MA's), (Start: 22 @71489 has 151 MA's), (23, 71468), (25, 71456), (26, 71453), (29, 71432), (30, 71417),

Gene: Icee\_138 Start: 71365, Stop: 71036, Start Num: 22

Candidate Starts for Icee\_138:

(Start: 18 @71380 has 1 MA's), (Start: 22 @71365 has 151 MA's), (25, 71332), (30, 71293),

Gene: Inca\_132 Start: 69509, Stop: 69180, Start Num: 22

Candidate Starts for Inca\_132:

(Start: 15 @69527 has 15 MA's), (Start: 22 @69509 has 151 MA's), (23, 69488), (25, 69476), (26, 69473), (29, 69452), (30, 69437),

Gene: JeTaime\_131 Start: 71025, Stop: 70696, Start Num: 22

Candidate Starts for JeTaime\_131:

(Start: 15 @71043 has 15 MA's), (Start: 22 @71025 has 151 MA's), (23, 71004), (25, 70992), (30, 70953),

Gene: Jester\_58 Start: 40845, Stop: 40510, Start Num: 22

Candidate Starts for Jester\_58:

(Start: 22 @40845 has 151 MA's), (25, 40812), (27, 40806), (30, 40773), (31, 40743), (33, 40722), (40, 40656), (53, 40521), (54, 40515),

Gene: Kampe\_109 Start: 75739, Stop: 75401, Start Num: 22

Candidate Starts for Kampe\_109:

(13, 75787), (Start: 22 @75739 has 151 MA's), (25, 75706), (31, 75637), (36, 75589), (40, 75535), (42, 75520), (51, 75439),

Gene: Kanye\_130 Start: 71520, Stop: 71191, Start Num: 22

Candidate Starts for Kanye\_130:

(Start: 15 @71538 has 15 MA's), (Start: 22 @71520 has 151 MA's), (23, 71499), (25, 71487), (26, 71484), (29, 71463), (30, 71448),

Gene: Kimchi\_139 Start: 72244, Stop: 71897, Start Num: 15

Candidate Starts for Kimchi\_139:

(Start: 15 @72244 has 15 MA's), (Start: 22 @72226 has 151 MA's), (23, 72205), (25, 72193), (26, 72190), (29, 72169), (30, 72154),

Gene: Konstantine\_51 Start: 40932, Stop: 41267, Start Num: 21

Candidate Starts for Konstantine\_51:

(19, 40920), (Start: 21 @40932 has 7 MA's), (25, 40965), (31, 41034), (37, 41085), (42, 41136), (44, 41145),

Gene: Kostya\_134 Start: 71590, Stop: 71261, Start Num: 22

Candidate Starts for Kostya\_134:

(2, 71758), (4, 71740), (8, 71689), (9, 71683), (11, 71668), (14, 71623), (Start: 22 @71590 has 151 MA's), (23, 71569), (25, 71557), (30, 71518), (31, 71488), (42, 71386), (43, 71383),

Gene: Krishelle\_59 Start: 41494, Stop: 41159, Start Num: 22

Candidate Starts for Krishelle\_59:

(Start: 22 @41494 has 151 MA's), (24, 41470), (25, 41461), (27, 41455), (30, 41422), (31, 41392), (33, 41371), (39, 41314), (54, 41164),

Gene: Lilac\_131 Start: 72003, Stop: 71674, Start Num: 22

Candidate Starts for Lilac\_131:

(Start: 15 @72021 has 15 MA's), (Start: 22 @72003 has 151 MA's), (23, 71982), (25, 71970), (26, 71967), (29, 71946), (30, 71931),

Gene: Lilizi\_134 Start: 71733, Stop: 71404, Start Num: 22

Candidate Starts for Lilizi\_134:

(Start: 15 @71751 has 15 MA's), (Start: 22 @71733 has 151 MA's), (23, 71712), (25, 71700), (26, 71697), (29, 71676), (30, 71661),

Gene: Lillie\_59 Start: 41125, Stop: 40790, Start Num: 22

Candidate Starts for Lillie\_59:

(Start: 22 @41125 has 151 MA's), (25, 41092), (27, 41086), (30, 41053), (31, 41023), (40, 40936), (54, 40795),

Gene: Lilpickle\_133 Start: 70986, Stop: 70657, Start Num: 22

Candidate Starts for Lilpickle\_133:

(Start: 15 @71004 has 15 MA's), (Start: 22 @70986 has 151 MA's), (23, 70965), (25, 70953), (26, 70950), (29, 70929), (30, 70914),

Gene: MISSy\_135 Start: 71918, Stop: 71571, Start Num: 15

Candidate Starts for MISSy\_135:

(Start: 15 @71918 has 15 MA's), (Start: 22 @71900 has 151 MA's), (23, 71879), (25, 71867), (26, 71864), (29, 71843), (30, 71828),

Gene: MPhalcon\_134 Start: 71318, Stop: 70989, Start Num: 22

Candidate Starts for MPhalcon\_134:

(Start: 15 @71336 has 15 MA's), (Start: 22 @71318 has 151 MA's), (23, 71297), (25, 71285), (26, 71282), (29, 71261), (30, 71246),

Gene: MadamMonkfish\_133 Start: 70994, Stop: 70665, Start Num: 22

Candidate Starts for MadamMonkfish\_133:

(Start: 15 @71012 has 15 MA's), (Start: 22 @70994 has 151 MA's), (23, 70973), (25, 70961), (26, 70958), (29, 70937), (30, 70922),

Gene: Manda\_134 Start: 71452, Stop: 71105, Start Num: 16

Candidate Starts for Manda\_134:

(Start: 16 @71452 has 1 MA's), (Start: 22 @71434 has 151 MA's), (23, 71413), (25, 71401), (26, 71398), (30, 71362), (31, 71332), (42, 71230), (43, 71227),

Gene: Marshmallow\_134 Start: 72179, Stop: 71850, Start Num: 22

Candidate Starts for Marshmallow\_134:

(Start: 15 @72197 has 15 MA's), (Start: 22 @72179 has 151 MA's), (23, 72158), (25, 72146), (26, 72143), (29, 72122), (30, 72107),

Gene: MaryV\_150 Start: 72246, Stop: 71926, Start Num: 22

Candidate Starts for MaryV\_150:

(Start: 22 @72246 has 151 MA's), (25, 72213), (33, 72123), (42, 72042), (43, 72039), (46, 72015), (52, 71937),

Gene: Maxxinista\_135 Start: 70947, Stop: 70618, Start Num: 22

Candidate Starts for Maxxinista\_135:

(Start: 15 @70965 has 15 MA's), (Start: 22 @70947 has 151 MA's), (23, 70926), (25, 70914), (26, 70911), (29, 70890), (30, 70875),

Gene: Megatron06\_49 Start: 40677, Stop: 41012, Start Num: 22

Candidate Starts for Megatron06\_49:

(10, 40596), (Start: 22 @40677 has 151 MA's), (25, 40710), (28, 40728), (31, 40779), (42, 40881), (44, 40890),

Gene: Mindy\_136 Start: 71343, Stop: 71014, Start Num: 22

Candidate Starts for Mindy\_136:

(2, 71511), (9, 71436), (11, 71421), (14, 71376), (Start: 22 @71343 has 151 MA's), (23, 71322), (25, 71310), (30, 71271),

Gene: Miniwave\_127 Start: 71043, Stop: 70714, Start Num: 22

Candidate Starts for Miniwave\_127:

(Start: 15 @71061 has 15 MA's), (Start: 22 @71043 has 151 MA's), (23, 71022), (25, 71010), (26, 71007), (29, 70986), (30, 70971),

Gene: Misfit\_133 Start: 72192, Stop: 71863, Start Num: 22

Candidate Starts for Misfit\_133:

(Start: 15 @72210 has 15 MA's), (Start: 22 @72192 has 151 MA's), (23, 72171), (25, 72159), (26, 72156), (29, 72135), (30, 72120),

Gene: Moldemort\_136 Start: 71613, Stop: 71284, Start Num: 22

Candidate Starts for Moldemort\_136:

(Start: 15 @71631 has 15 MA's), (Start: 22 @71613 has 151 MA's), (23, 71592), (25, 71580), (26, 71577), (29, 71556), (30, 71541),

Gene: Mosby\_130 Start: 70556, Stop: 70227, Start Num: 22

Candidate Starts for Mosby\_130:

(Start: 15 @70574 has 15 MA's), (Start: 22 @70556 has 151 MA's), (23, 70535), (25, 70523), (26, 70520), (29, 70499), (30, 70484),

Gene: Muntaha\_267 Start: 126982, Stop: 127302, Start Num: 20

Candidate Starts for Muntaha\_267:



(Start: 20 @126982 has 4 MA's), (23, 127015), (25, 127027), (30, 127066), (33, 127117), (41, 127177), (47, 127222), (49, 127249), (50, 127252),

Gene: Muntaha\_4 Start: 1305, Stop: 1625, Start Num: 20

Candidate Starts for Muntaha\_4:

(Start: 20 @1305 has 4 MA's), (23, 1338), (25, 1350), (30, 1389), (33, 1440), (41, 1500), (47, 1545), (49, 1572), (50, 1575),

Gene: Murica\_137 Start: 72894, Stop: 72565, Start Num: 22

Candidate Starts for Murica\_137:

(3, 73050), (4, 73044), (5, 73038), (6, 73026), (8, 72993), (9, 72987), (11, 72972), (14, 72927), (Start: 22 @72894 has 151 MA's), (23, 72873), (25, 72861), (30, 72822), (31, 72792), (42, 72690), (43, 72687),

Gene: Murphy\_132 Start: 71321, Stop: 70992, Start Num: 22

Candidate Starts for Murphy\_132:

(Start: 22 @71321 has 151 MA's), (23, 71300), (25, 71288), (26, 71285), (29, 71264), (30, 71249),

Gene: Myrale\_134 Start: 72286, Stop: 71957, Start Num: 22

Candidate Starts for Myrale\_134:

(2, 72454), (9, 72379), (11, 72364), (14, 72319), (Start: 22 @72286 has 151 MA's), (25, 72253), (26, 72250), (29, 72229), (30, 72214),

Gene: Naiad\_58 Start: 41147, Stop: 40812, Start Num: 22

Candidate Starts for Naiad\_58:

(Start: 22 @41147 has 151 MA's), (24, 41123), (25, 41114), (27, 41108), (30, 41075), (31, 41045), (33, 41024), (39, 40967), (54, 40817),

Gene: Nala\_135 Start: 71607, Stop: 71278, Start Num: 22

Candidate Starts for Nala\_135:

(Start: 15 @71625 has 15 MA's), (Start: 22 @71607 has 151 MA's), (23, 71586), (25, 71574), (26, 71571), (29, 71550), (30, 71535),

Gene: Nancinator\_58 Start: 40464, Stop: 40129, Start Num: 22

Candidate Starts for Nancinator\_58:

(Start: 22 @40464 has 151 MA's), (25, 40431), (27, 40425), (30, 40392), (31, 40362), (40, 40275), (54, 40134),

Gene: Natosaleda\_58 Start: 41065, Stop: 40730, Start Num: 22

Candidate Starts for Natosaleda\_58:

(1, 41284), (Start: 22 @41065 has 151 MA's), (24, 41041), (25, 41032), (27, 41026), (30, 40993), (31, 40963), (33, 40942), (39, 40885), (54, 40735),

Gene: NelitzaMV\_131 Start: 69650, Stop: 69321, Start Num: 22

Candidate Starts for NelitzaMV\_131:

(2, 69818), (9, 69743), (11, 69728), (14, 69683), (Start: 22 @69650 has 151 MA's), (23, 69629), (25, 69617), (30, 69578),

Gene: Nimrod\_133 Start: 72106, Stop: 71777, Start Num: 22

Candidate Starts for Nimrod\_133:

(Start: 15 @72124 has 15 MA's), (Start: 22 @72106 has 151 MA's), (23, 72085), (25, 72073), (26, 72070), (29, 72049), (30, 72034),

Gene: NoSleep\_133 Start: 70872, Stop: 70543, Start Num: 22

Candidate Starts for NoSleep\_133:

(Start: 15 @70890 has 15 MA's), (Start: 22 @70872 has 151 MA's), (23, 70851), (25, 70839), (26, 70836), (29, 70815), (30, 70800),

Gene: Oaker\_47 Start: 40392, Stop: 40727, Start Num: 22

Candidate Starts for Oaker\_47:

(10, 40311), (Start: 22 @40392 has 151 MA's), (25, 40425), (31, 40494), (42, 40596), (44, 40605),

Gene: Orchid\_108 Start: 75740, Stop: 75402, Start Num: 22

Candidate Starts for Orchid\_108:

(13, 75788), (Start: 22 @75740 has 151 MA's), (25, 75707), (31, 75638), (36, 75590), (40, 75536), (42, 75521), (51, 75440),

Gene: OrionPax\_129 Start: 70552, Stop: 70223, Start Num: 22

Candidate Starts for OrionPax\_129:

(Start: 15 @70570 has 15 MA's), (Start: 22 @70552 has 151 MA's), (23, 70531), (25, 70519), (26, 70516), (29, 70495), (30, 70480),

Gene: Palpatine\_133 Start: 72040, Stop: 71783, Start Num: 30

Candidate Starts for Palpatine\_133:

(Start: 15 @72130 has 15 MA's), (Start: 22 @72112 has 151 MA's), (23, 72091), (25, 72079), (26, 72076), (29, 72055), (30, 72040),

Gene: Paperbeatsrock\_132 Start: 71721, Stop: 71392, Start Num: 22

Candidate Starts for Paperbeatsrock\_132:

(Start: 15 @71739 has 15 MA's), (Start: 22 @71721 has 151 MA's), (23, 71700), (25, 71688), (26, 71685), (29, 71664), (30, 71649),

Gene: Partridge\_58 Start: 41426, Stop: 41091, Start Num: 22

Candidate Starts for Partridge\_58:

(1, 41645), (Start: 22 @41426 has 151 MA's), (23, 41405), (24, 41402), (25, 41393), (27, 41387), (30, 41354), (31, 41324), (40, 41237), (54, 41096),

Gene: Pat3\_133 Start: 71258, Stop: 70929, Start Num: 22

Candidate Starts for Pat3\_133:

(Start: 22 @71258 has 151 MA's), (23, 71237), (25, 71225), (26, 71222), (29, 71201), (30, 71186),

Gene: PatrickStar\_109 Start: 75819, Stop: 75481, Start Num: 22

Candidate Starts for PatrickStar\_109:

(13, 75867), (Start: 22 @75819 has 151 MA's), (25, 75786), (31, 75717), (36, 75669), (40, 75615), (42, 75600), (51, 75519),

Gene: Petra64142\_135 Start: 71754, Stop: 71407, Start Num: 15

Candidate Starts for Petra64142\_135:

(Start: 15 @71754 has 15 MA's), (Start: 22 @71736 has 151 MA's), (23, 71715), (25, 71703), (26, 71700), (29, 71679), (30, 71664),

Gene: Phaja\_137 Start: 71494, Stop: 71165, Start Num: 22

Candidate Starts for Phaja\_137:

(Start: 15 @71512 has 15 MA's), (Start: 22 @71494 has 151 MA's), (23, 71473), (25, 71461), (26, 71458), (29, 71437), (30, 71422),

Gene: Pharsalus\_131 Start: 71861, Stop: 71532, Start Num: 22

Candidate Starts for Pharsalus\_131:

(Start: 15 @71879 has 15 MA's), (Start: 22 @71861 has 151 MA's), (23, 71840), (25, 71828), (26, 71825), (29, 71804), (30, 71789),

Gene: PhatBacter\_136 Start: 71634, Stop: 71305, Start Num: 22

Candidate Starts for PhatBacter\_136:

(3, 71790), (4, 71784), (5, 71778), (6, 71766), (8, 71733), (9, 71727), (11, 71712), (14, 71667), (Start: 22 @71634 has 151 MA's), (23, 71613), (25, 71601), (30, 71562), (31, 71532), (42, 71430), (43, 71427),

Gene: Phaux\_135 Start: 72260, Stop: 71931, Start Num: 22

Candidate Starts for Phaux\_135:

(3, 72416), (4, 72410), (5, 72404), (6, 72392), (8, 72359), (9, 72353), (11, 72338), (14, 72293), (Start: 22 @72260 has 151 MA's), (23, 72239), (25, 72227), (30, 72188), (31, 72158), (42, 72056), (43, 72053),

Gene: Phrankenstein\_59 Start: 41071, Stop: 40736, Start Num: 22

Candidate Starts for Phrankenstein\_59:

(Start: 22 @41071 has 151 MA's), (25, 41038), (27, 41032), (30, 40999), (31, 40969), (40, 40882), (54, 40741),

Gene: Phreeze\_46 Start: 39698, Stop: 40033, Start Num: 21

Candidate Starts for Phreeze\_46:

(19, 39686), (Start: 21 @39698 has 7 MA's), (25, 39731), (31, 39800), (37, 39851), (42, 39902),

Gene: Phrux\_129 Start: 70339, Stop: 70010, Start Num: 22

Candidate Starts for Phrux\_129:

(Start: 22 @70339 has 151 MA's), (23, 70318), (25, 70306), (26, 70303), (29, 70282), (30, 70267),

Gene: Policronamos\_136 Start: 71964, Stop: 71635, Start Num: 22

Candidate Starts for Policronamos\_136:

(3, 72120), (4, 72114), (5, 72108), (6, 72096), (8, 72063), (9, 72057), (11, 72042), (14, 71997), (Start: 22 @71964 has 151 MA's), (23, 71943), (25, 71931), (30, 71892), (31, 71862), (42, 71760), (43, 71757),

Gene: Porky\_135 Start: 71958, Stop: 71611, Start Num: 15

Candidate Starts for Porky\_135:

(Start: 15 @71958 has 15 MA's), (Start: 22 @71940 has 151 MA's), (23, 71919), (25, 71907), (26, 71904), (29, 71883), (30, 71868),

Gene: Predator\_46 Start: 37954, Stop: 38274, Start Num: 21

Candidate Starts for Predator\_46:

(Start: 21 @37954 has 7 MA's), (25, 37987), (28, 38005), (31, 38056), (43, 38161),

Gene: Pumpkin\_133 Start: 70615, Stop: 70286, Start Num: 22

Candidate Starts for Pumpkin\_133:

(Start: 15 @70633 has 15 MA's), (Start: 22 @70615 has 151 MA's), (23, 70594), (25, 70582), (26, 70579), (29, 70558), (30, 70543),

Gene: Quallification\_134 Start: 72199, Stop: 71870, Start Num: 22

Candidate Starts for Quallification\_134:

(Start: 15 @72217 has 15 MA's), (Start: 22 @72199 has 151 MA's), (23, 72178), (25, 72166), (26, 72163), (29, 72142), (30, 72127),

Gene: RER2\_53 Start: 37997, Stop: 37662, Start Num: 22

Candidate Starts for RER2\_53:

(Start: 22 @37997 has 151 MA's), (25, 37964), (27, 37958), (30, 37925), (31, 37895), (40, 37808), (54, 37667),

Gene: RGL3\_51 Start: 38672, Stop: 38334, Start Num: 22

Candidate Starts for RGL3\_51:

(Start: 22 @38672 has 151 MA's), (25, 38639), (32, 38564), (34, 38540), (35, 38537), (38, 38516), (39, 38489), (45, 38447), (54, 38339),

Gene: Rakim\_134 Start: 71173, Stop: 70844, Start Num: 22

Candidate Starts for Rakim\_134:

(2, 71341), (9, 71266), (11, 71251), (14, 71206), (Start: 22 @71173 has 151 MA's), (23, 71152), (25, 71140), (30, 71101),

Gene: Rasputin\_59 Start: 41095, Stop: 40760, Start Num: 22

Candidate Starts for Rasputin\_59:

(Start: 22 @41095 has 151 MA's), (25, 41062), (27, 41056), (30, 41023), (31, 40993), (40, 40906), (54, 40765),

Gene: RexFury\_58 Start: 41155, Stop: 40820, Start Num: 22

Candidate Starts for RexFury\_58:

(1, 41374), (Start: 22 @41155 has 151 MA's), (24, 41131), (25, 41122), (27, 41116), (30, 41083), (31, 41053), (33, 41032), (39, 40975), (54, 40825),

Gene: Rhodalysa\_59 Start: 41125, Stop: 40790, Start Num: 22

Candidate Starts for Rhodalysa\_59:

(Start: 22 @41125 has 151 MA's), (25, 41092), (27, 41086), (30, 41053), (31, 41023), (40, 40936), (54, 40795),

Gene: Rimmer\_130 Start: 71092, Stop: 70745, Start Num: 15

Candidate Starts for Rimmer\_130:

(Start: 15 @71092 has 15 MA's), (Start: 22 @71074 has 151 MA's), (23, 71053), (25, 71041), (26, 71038), (29, 71017), (30, 71002),

Gene: RiverMonster\_132 Start: 71234, Stop: 70905, Start Num: 22

Candidate Starts for RiverMonster\_132:

(Start: 15 @71252 has 15 MA's), (Start: 22 @71234 has 151 MA's), (23, 71213), (25, 71201), (26, 71198), (29, 71177), (30, 71162),

Gene: RobinSparkles\_118 Start: 76904, Stop: 76569, Start Num: 22

Candidate Starts for RobinSparkles\_118:

(13, 76952), (Start: 22 @76904 has 151 MA's), (25, 76871), (31, 76802), (36, 76754), (40, 76700), (42, 76685), (48, 76643), (51, 76604),

Gene: Saints25\_129 Start: 69399, Stop: 69070, Start Num: 22

Candidate Starts for Saints25\_129:

(Start: 22 @69399 has 151 MA's), (23, 69378), (25, 69366), (26, 69363), (29, 69342), (30, 69327),

Gene: Sassay\_128 Start: 69536, Stop: 69189, Start Num: 15

Candidate Starts for Sassay\_128:

(Start: 15 @69536 has 15 MA's), (Start: 22 @69518 has 151 MA's), (23, 69497), (25, 69485), (26, 69482), (29, 69461), (30, 69446),

Gene: ShamWow\_133 Start: 72051, Stop: 71722, Start Num: 22

Candidate Starts for ShamWow\_133:

(Start: 15 @72069 has 15 MA's), (Start: 22 @72051 has 151 MA's), (23, 72030), (25, 72018), (26, 72015), (29, 71994), (30, 71979),

Gene: ShereKhan\_133 Start: 72445, Stop: 72116, Start Num: 22

Candidate Starts for ShereKhan\_133:

(Start: 15 @72463 has 15 MA's), (Start: 22 @72445 has 151 MA's), (23, 72424), (25, 72412), (26, 72409), (29, 72388), (30, 72373),

Gene: Shuman\_60 Start: 41076, Stop: 40741, Start Num: 22

Candidate Starts for Shuman\_60:

(Start: 22 @41076 has 151 MA's), (25, 41043), (27, 41037), (30, 41004), (31, 40974), (40, 40887), (54, 40746),

Gene: Simpliphy\_132 Start: 70805, Stop: 70476, Start Num: 22

Candidate Starts for Simpliphy\_132:

(Start: 22 @70805 has 151 MA's), (23, 70784), (25, 70772), (26, 70769), (29, 70748), (30, 70733),

Gene: SirDuracell\_136 Start: 71666, Stop: 71337, Start Num: 22

Candidate Starts for SirDuracell\_136:

(Start: 18 @71681 has 1 MA's), (Start: 22 @71666 has 151 MA's), (25, 71633), (30, 71594), (31, 71564), (42, 71462), (43, 71459),

Gene: SophKB\_131 Start: 71150, Stop: 70821, Start Num: 22

Candidate Starts for SophKB\_131:

(2, 71318), (9, 71243), (11, 71228), (14, 71183), (Start: 22 @71150 has 151 MA's), (23, 71129), (25, 71117), (26, 71114), (29, 71093), (30, 71078),

Gene: Sotrice96\_138 Start: 72351, Stop: 72022, Start Num: 22

Candidate Starts for Sotrice96\_138:

(Start: 15 @72369 has 15 MA's), (Start: 22 @72351 has 151 MA's), (23, 72330), (25, 72318), (26, 72315), (29, 72294), (30, 72279),

Gene: StCroix\_58 Start: 41147, Stop: 40812, Start Num: 22

Candidate Starts for StCroix\_58:

(Start: 22 @41147 has 151 MA's), (24, 41123), (25, 41114), (27, 41108), (30, 41075), (31, 41045), (33, 41024), (39, 40967), (54, 40817),

Gene: Stank\_137 Start: 72298, Stop: 71969, Start Num: 22

Candidate Starts for Stank\_137:

(Start: 15 @72316 has 15 MA's), (Start: 22 @72298 has 151 MA's), (23, 72277), (25, 72265), (26, 72262), (29, 72241), (30, 72226),

Gene: Stark\_131 Start: 71053, Stop: 70724, Start Num: 22

Candidate Starts for Stark\_131:

(Start: 15 @71071 has 15 MA's), (Start: 22 @71053 has 151 MA's), (23, 71032), (25, 71020), (26, 71017), (29, 70996), (30, 70981),

Gene: StellaBean\_131 Start: 71803, Stop: 71474, Start Num: 22

Candidate Starts for StellaBean\_131:

(Start: 15 @71821 has 15 MA's), (Start: 22 @71803 has 151 MA's), (23, 71782), (25, 71770), (26, 71767), (29, 71746), (30, 71731),

Gene: StolenFromERC\_136 Start: 71643, Stop: 71314, Start Num: 22

Candidate Starts for StolenFromERC\_136:

(Start: 15 @71661 has 15 MA's), (Start: 22 @71643 has 151 MA's), (23, 71622), (25, 71610), (26, 71607), (29, 71586), (30, 71571),

Gene: Swann\_59 Start: 41123, Stop: 40788, Start Num: 22

Candidate Starts for Swann\_59:

(Start: 22 @41123 has 151 MA's), (25, 41090), (27, 41084), (30, 41051), (31, 41021), (40, 40934), (54, 40793),

Gene: TBrady12\_138 Start: 71735, Stop: 71406, Start Num: 22

Candidate Starts for TBrady12\_138:

(Start: 15 @71753 has 15 MA's), (Start: 22 @71735 has 151 MA's), (23, 71714), (25, 71702), (26, 71699), (29, 71678), (30, 71663),

Gene: TWAMP\_59 Start: 41125, Stop: 40790, Start Num: 22

Candidate Starts for TWAMP\_59:

(Start: 22 @41125 has 151 MA's), (25, 41092), (27, 41086), (30, 41053), (31, 41023), (40, 40936), (54, 40795),

Gene: Takoda\_59 Start: 41309, Stop: 40974, Start Num: 22

Candidate Starts for Takoda\_59:

(Start: 22 @41309 has 151 MA's), (24, 41285), (25, 41276), (27, 41270), (30, 41237), (40, 41120), (54, 40979),

Gene: Tarkin\_132 Start: 72310, Stop: 71981, Start Num: 22

Candidate Starts for Tarkin\_132:

(Start: 15 @72328 has 15 MA's), (Start: 22 @72310 has 151 MA's), (23, 72289), (25, 72277), (26, 72274), (29, 72253), (30, 72238),

Gene: TeardropMSU\_134 Start: 71219, Stop: 70890, Start Num: 22

Candidate Starts for TeardropMSU\_134:

(Start: 22 @71219 has 151 MA's), (23, 71198), (25, 71186), (26, 71183), (29, 71162), (30, 71147),

Gene: Terminus\_136 Start: 72192, Stop: 71863, Start Num: 22

Candidate Starts for Terminus\_136:

(Start: 15 @72210 has 15 MA's), (Start: 22 @72192 has 151 MA's), (23, 72171), (25, 72159), (26, 72156), (29, 72135), (30, 72120),

Gene: Thresher\_135 Start: 72137, Stop: 71790, Start Num: 15

Candidate Starts for Thresher\_135:

(Start: 15 @72137 has 15 MA's), (Start: 22 @72119 has 151 MA's), (23, 72098), (25, 72086), (30, 72047),

Gene: Thumb\_48 Start: 40133, Stop: 40468, Start Num: 21

Candidate Starts for Thumb\_48:

(Start: 21 @40133 has 7 MA's), (25, 40166), (31, 40235), (42, 40337), (44, 40346),

Gene: Tomaszewski\_127 Start: 70748, Stop: 70401, Start Num: 15

Candidate Starts for Tomaszewski\_127:

(Start: 15 @70748 has 15 MA's), (Start: 22 @70730 has 151 MA's), (23, 70709), (25, 70697), (26, 70694), (29, 70673), (30, 70658),

Gene: Toto\_131 Start: 72051, Stop: 71722, Start Num: 22

Candidate Starts for Toto\_131:

(Start: 15 @72069 has 15 MA's), (Start: 22 @72051 has 151 MA's), (23, 72030), (25, 72018), (26, 72015), (29, 71994), (30, 71979),

Gene: Traaww1\_129 Start: 70599, Stop: 70270, Start Num: 22

Candidate Starts for Traaww1\_129:

(Start: 18 @70614 has 1 MA's), (Start: 22 @70599 has 151 MA's), (25, 70566), (30, 70527), (31, 70497),

Gene: Tuco\_139 Start: 73278, Stop: 72949, Start Num: 22

Candidate Starts for Tuco\_139:

(Start: 22 @73278 has 151 MA's), (23, 73257), (25, 73245), (26, 73242), (29, 73221), (30, 73206),

Gene: UhSalsa\_59 Start: 41066, Stop: 40731, Start Num: 22

Candidate Starts for UhSalsa\_59:

(1, 41285), (Start: 22 @41066 has 151 MA's), (24, 41042), (25, 41033), (27, 41027), (30, 40994), (31, 40964), (33, 40943), (39, 40886), (54, 40736),

Gene: Ukulele\_128 Start: 70632, Stop: 70285, Start Num: 15

Candidate Starts for Ukulele\_128:

(Start: 15 @70632 has 15 MA's), (Start: 22 @70614 has 151 MA's), (23, 70593), (25, 70581), (26, 70578), (29, 70557), (30, 70542),

Gene: Wakanda\_262 Start: 126045, Stop: 126365, Start Num: 20

Candidate Starts for Wakanda\_262:

(Start: 20 @126045 has 4 MA's), (23, 126078), (25, 126090), (30, 126129), (33, 126180), (47, 126285), (49, 126312), (50, 126315),

Gene: Wakanda\_3 Start: 1204, Stop: 1524, Start Num: 20

Candidate Starts for Wakanda\_3:

(Start: 20 @1204 has 4 MA's), (23, 1237), (25, 1249), (30, 1288), (33, 1339), (47, 1444), (49, 1471), (50, 1474),

Gene: Wiggin\_136 Start: 71276, Stop: 70947, Start Num: 22

Candidate Starts for Wiggin\_136:

(Start: 15 @71294 has 15 MA's), (Start: 22 @71276 has 151 MA's), (23, 71255), (25, 71243), (26, 71240), (29, 71219), (30, 71204),

Gene: Wildcat\_164 Start: 74139, Stop: 73819, Start Num: 22

Candidate Starts for Wildcat\_164:

(Start: 22 @74139 has 151 MA's), (25, 74106), (33, 74016), (42, 73935), (43, 73932), (46, 73908), (52, 73830),

Gene: Willez\_130 Start: 70373, Stop: 70044, Start Num: 22

Candidate Starts for Willez\_130:

(Start: 15 @70391 has 15 MA's), (Start: 22 @70373 has 151 MA's), (23, 70352), (25, 70340), (26, 70337), (29, 70316), (30, 70301),

Gene: Xandras\_134 Start: 71552, Stop: 71223, Start Num: 22

Candidate Starts for Xandras\_134:

(Start: 15 @71570 has 15 MA's), (Start: 22 @71552 has 151 MA's), (23, 71531), (25, 71519), (26, 71516), (29, 71495), (30, 71480),

Gene: YassJohnny\_129 Start: 69538, Stop: 69209, Start Num: 22

Candidate Starts for YassJohnny\_129:

(3, 69694), (4, 69688), (5, 69682), (6, 69670), (8, 69637), (9, 69631), (11, 69616), (14, 69571), (Start: 22 @69538 has 151 MA's), (23, 69517), (25, 69505), (30, 69466), (31, 69436), (42, 69334), (43, 69331),

Gene: Yogi\_60 Start: 41476, Stop: 41141, Start Num: 22

Candidate Starts for Yogi\_60:

(Start: 22 @41476 has 151 MA's), (25, 41443), (27, 41437), (30, 41404), (31, 41374), (40, 41287), (54, 41146),

Gene: Yoncess\_58 Start: 40879, Stop: 40544, Start Num: 22

Candidate Starts for Yoncess\_58:

(Start: 22 @40879 has 151 MA's), (25, 40846), (27, 40840), (30, 40807), (31, 40777), (40, 40690), (54, 40549),

Gene: Youngblood\_137 Start: 71689, Stop: 71360, Start Num: 22

Candidate Starts for Youngblood\_137:

(3, 71845), (4, 71839), (5, 71833), (6, 71821), (8, 71788), (9, 71782), (11, 71767), (14, 71722), (Start: 22 @71689 has 151 MA's), (23, 71668), (25, 71656), (26, 71653), (29, 71632), (30, 71617),

Gene: xkcd\_137 Start: 72326, Stop: 71997, Start Num: 22

Candidate Starts for xkcd\_137:

(3, 72482), (4, 72476), (5, 72470), (6, 72458), (8, 72425), (9, 72419), (11, 72404), (14, 72359), (Start: 22 @72326 has 151 MA's), (23, 72305), (25, 72293), (26, 72290), (29, 72269), (30, 72254),