



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 811 Report

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

Pham number 811 has 130 members, 8 are drafts.

Phages represented in each track:

- Track 1 : MadamMonkfish\_116, Gage\_119, Marshmallow\_119, Pat3\_117, Eureka\_117, Misfit\_118, Phaja\_120, Harella\_123, Murphy\_116, Porky\_116, Henry\_119, Tomaszewski\_112, Phrux\_113, HanKaySha\_117, Bruin\_114, Adnama\_121, PhatBacter\_120, TBrady12\_121, Lilizi\_117, Sassay\_112, Nimrod\_118, JeTaimé\_116, BaboJay\_117, ChosenOne\_117, Lilpickle\_116, Petra64142\_120, Hopey\_117, Phaux\_119, Gator\_120, Emmina\_117, Moldemort\_119, Kimchi\_122, Traaww1\_114, Pumpkin\_118, Xandras\_117, CrystalP\_118, Cactus\_125, Inca\_117, Barbarian\_117, Teaspoon\_118, DoctorDiddles\_116, 244\_119, Maxxinista\_119, Sotrice96\_122, Cookies\_119, HufflyPuff\_119, NelitzaMV\_114, StolenFromERC\_119, TeardropMSU\_117, Tarkin\_116, Glexan\_121, Flypotenuse\_114, Amao\_122, Goku\_117, Buck\_118, Manda\_118, Kostya\_121, YassJohnny\_114, Stank\_120, Command613\_120, Elite2014\_116, Stark\_117, Bask21\_122, Tuco\_122, Dumbo\_117, Mindy\_120, Cjw1\_117, Wiggin\_120, GoldenSpark\_121, ChotaBhai\_121, Ukulele\_112, MPhalcon\_118, Qualification\_118, BadStone\_118, Daikon\_119, Hoonter\_120, Youngblood\_121, Asriel\_116, Easy2Say\_117, Holt\_123, Rimmer\_115, Saints25\_113, Lilac\_118, FireRed\_120, Czyszczonek\_117, Simpliphy\_115, Highbury\_113, Elph10\_116, xkcd\_121, Policronamos\_121, Argent26\_121, Thresher\_118, Filch\_120, Gemini\_122, BigBubba\_119, ABCat\_118, Myrale\_118, Mosby\_114, Dusk\_118, SophKB\_116, Terminus\_120, OrionPax\_115, Palpatine\_118, BilboSwaggins\_117, SirDuracell\_122, NoSleep\_117, Balomoji\_118, Toto\_116, IHOP\_120, Rakim\_119, StellaBean\_115, Kanye\_114, Icee\_122, Bench\_119, Murica\_121, Pharsalus\_117, BugsBunny\_116, Willez\_113, Paperbeatsrock\_116, MISSy\_118, ShereKhan\_115, Nala\_119, RiverMonster\_116, DrDrey\_121, AmericanBeauty\_124, GooberAzure\_120, Miniwave\_112, Contagion\_114, ShamWow\_118
- Track 2 : Goldilocks\_121

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

The start number called the most often in the published annotations is 1, it was called in 122 of the 122 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 244\_119, ABCat\_118, Adnama\_121, Amao\_122, AmericanBeauty\_124, Argent26\_121, Asriel\_116, BaboJay\_117, BadStone\_118, Balomoji\_118, Barbarian\_117, Bask21\_122, Bench\_119, BigBubba\_119, BilboSwaggins\_117, Bruin\_114, Buck\_118, BugsBunny\_116, Cactus\_125, ChosenOne\_117, ChotaBhai\_121, Cjw1\_117, Command613\_120, Contagion\_114, Cookies\_119, CrystalP\_118, Czyszczone1\_117, Daikon\_119, DoctorDiddles\_116, DrDrey\_121, Dumbo\_117, Dusk\_118, Easy2Say\_117, Elite2014\_116, Elph10\_116, Emmina\_117, Eureka\_117, Filch\_120, FireRed\_120, Flypotenuse\_114, Gage\_119, Gator\_120, Gemini\_122, Glexan\_121, Goku\_117, GoldenSpark\_121, Goldilocks\_121, GooberAzure\_120, HanKaySha\_117, Harella\_123, Henry\_119, Highbury\_113, Holt\_123, Hoonter\_120, Hopey\_117, HufflyPuff\_119, IHOP\_120, Icee\_122, Inca\_117, JeTaime\_116, Kanye\_114, Kimchi\_122, Kostya\_121, Lilac\_118, Lilizi\_117, Lilpickle\_116, MISSy\_118, MPhalcon\_118, MadamMonkfish\_116, Manda\_118, Marshmallow\_119, Maxxinista\_119, Mindy\_120, Miniwave\_112, Misfit\_118, Moldemort\_119, Mosby\_114, Murica\_121, Murphy\_116, Myrale\_118, Nala\_119, NelitzaMV\_114, Nimrod\_118, NoSleep\_117, OrionPax\_115, Palpatine\_118, Paperbeatsrock\_116, Pat3\_117, Petra64142\_120, Phaja\_120, Pharsalus\_117, PhatBacter\_120, Phaux\_119, Phrux\_113, Policronamos\_121, Porky\_116, Pumpkin\_118, Quallification\_118, Rakim\_119, Rimmer\_115, RiverMonster\_116, Saints25\_113, Sassay\_112, ShamWow\_118, ShereKhan\_115, Simpliphy\_115, SirDuracell\_122, SophKB\_116, Sotrice96\_122, Stank\_120, Stark\_117, StellaBean\_115, StolenFromERC\_119, TBrady12\_121, Tarkin\_116, TeardropMSU\_117, Teaspoon\_118, Terminus\_120, Thresher\_118, Tomaszewski\_112, Toto\_116, Traaww1\_114, Tuco\_122, Ukulele\_112, Wiggin\_120, Willez\_113, Xandras\_117, YassJohnny\_114, Youngblood\_121, xkcd\_121,

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

- 

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

- 

### Summary by start number:

Start 1:

- Found in 130 of 130 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 122 of 122
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 244\_119 (E), ABCat\_118 (E), Adnama\_121 (E), Amao\_122 (E), AmericanBeauty\_124 (E), Argent26\_121 (E), Asriel\_116 (E), BaboJay\_117 (E), BadStone\_118 (E), Balomoji\_118 (E), Barbarian\_117 (E), Bask21\_122 (E), Bench\_119 (E), BigBubba\_119 (E), BilboSwaggins\_117 (E), Bruin\_114 (E), Buck\_118 (E), BugsBunny\_116 (E), Cactus\_125 (E), ChosenOne\_117 (E), ChotaBhai\_121 (E), Cjw1\_117 (E), Command613\_120 (E), Contagion\_114 (E), Cookies\_119 (E), CrystalP\_118 (E), Czyszczone1\_117 (E), Daikon\_119 (E), DoctorDiddles\_116 (E), DrDrey\_121 (E), Dumbo\_117 (E), Dusk\_118 (E), Easy2Say\_117 (E), Elite2014\_116 (E), Elph10\_116 (E), Emmina\_117 (E), Eureka\_117 (E), Filch\_120 (E), FireRed\_120 (E), Flypotenuse\_114 (E), Gage\_119 (E), Gator\_120 (E), Gemini\_122 (E), Glexan\_121 (E), Goku\_117 (E), GoldenSpark\_121 (E), Goldilocks\_121 (E), GooberAzure\_120 (E), HanKaySha\_117 (E), Harella\_123 (E), Henry\_119 (E), Highbury\_113 (E), Holt\_123 (E), Hoonter\_120 (E), Hopey\_117 (E), HufflyPuff\_119 (E), IHOP\_120 (E), Icee\_122 (E), Inca\_117 (E), JeTaime\_116 (E), Kanye\_114 (E), Kimchi\_122 (E), Kostya\_121

(E), Lilac\_118 (E), Lilizi\_117 (E), Lilpickle\_116 (E), MISSy\_118 (E), MPhalcon\_118 (E), MadamMonkfish\_116 (E), Manda\_118 (E), Marshmallow\_119 (E), Maxxinista\_119 (E), Mindy\_120 (E), Miniwave\_112 (E), Misfit\_118 (E), Moldemort\_119 (E), Mosby\_114 (E), Murica\_121 (E), Murphy\_116 (E), Myrale\_118 (E), Nala\_119 (E), NelitzaMV\_114 (E), Nimrod\_118 (E), NoSleep\_117 (E), OrionPax\_115 (E), Palpatine\_118 (E), Paperbeatsrock\_116 (E), Pat3\_117 (E), Petra64142\_120 (E), Phaja\_120 (E), Pharsalus\_117 (E), PhatBacter\_120 (E), Phaux\_119 (E), Phrux\_113 (E), Policronamos\_121 (E), Porky\_116 (E), Pumpkin\_118 (E), Quallification\_118 (E), Rakim\_119 (E), Rimmer\_115 (E), RiverMonster\_116 (E), Saints25\_113 (E), Sassay\_112 (E), ShamWow\_118 (E), ShereKhan\_115 (E), Simpliphy\_115 (E), SirDuracell\_122 (E), SophKB\_116 (E), Sotrice96\_122 (E), Stank\_120 (E), Stark\_117 (E), StellaBean\_115 (E), StolenFromERC\_119 (E), TBrady12\_121 (E), Tarkin\_116 (E), TeardropMSU\_117 (E), Teaspoon\_118 (E), Terminus\_120 (E), Thresher\_118 (E), Tomaszewski\_112 (E), Toto\_116 (E), Traaww1\_114 (E), Tuco\_122 (E), Ukulele\_112 (E), Wiggin\_120 (E), Willez\_113 (E), Xandras\_117 (E), YassJohnny\_114 (E), Youngblood\_121 (E), xkcd\_121 (E),

### **Summary by clusters:**

There is one cluster represented in this pham: E

Info for manual annotations of cluster E:

- Start number 1 was manually annotated 122 times for cluster E.

### **Gene Information:**

Gene: 244\_119 Start: 66389, Stop: 66562, Start Num: 1  
Candidate Starts for 244\_119:  
(Start: 1 @66389 has 122 MA's), (2, 66512), (4, 66539),

Gene: ABCat\_118 Start: 67872, Stop: 68045, Start Num: 1  
Candidate Starts for ABCat\_118:  
(Start: 1 @67872 has 122 MA's), (2, 67995), (4, 68022),

Gene: Adnama\_121 Start: 66302, Stop: 66475, Start Num: 1  
Candidate Starts for Adnama\_121:  
(Start: 1 @66302 has 122 MA's), (2, 66425), (4, 66452),

Gene: Amao\_122 Start: 67530, Stop: 67703, Start Num: 1  
Candidate Starts for Amao\_122:  
(Start: 1 @67530 has 122 MA's), (2, 67653), (4, 67680),

Gene: AmericanBeauty\_124 Start: 66344, Stop: 66517, Start Num: 1  
Candidate Starts for AmericanBeauty\_124:  
(Start: 1 @66344 has 122 MA's), (2, 66467), (4, 66494),

Gene: Argent26\_121 Start: 66226, Stop: 66399, Start Num: 1  
Candidate Starts for Argent26\_121:  
(Start: 1 @66226 has 122 MA's), (2, 66349), (4, 66376),

Gene: Asriel\_116 Start: 65177, Stop: 65350, Start Num: 1

Candidate Starts for Asriel\_116:  
(Start: 1 @65177 has 122 MA's), (2, 65300), (4, 65327),

Gene: BaboJay\_117 Start: 67562, Stop: 67735, Start Num: 1  
Candidate Starts for BaboJay\_117:  
(Start: 1 @67562 has 122 MA's), (2, 67685), (4, 67712),

Gene: BadStone\_118 Start: 67420, Stop: 67593, Start Num: 1  
Candidate Starts for BadStone\_118:  
(Start: 1 @67420 has 122 MA's), (2, 67543), (4, 67570),

Gene: Balomoji\_118 Start: 66960, Stop: 67133, Start Num: 1  
Candidate Starts for Balomoji\_118:  
(Start: 1 @66960 has 122 MA's), (2, 67083), (4, 67110),

Gene: Barbarian\_117 Start: 65177, Stop: 65350, Start Num: 1  
Candidate Starts for Barbarian\_117:  
(Start: 1 @65177 has 122 MA's), (2, 65300), (4, 65327),

Gene: Bask21\_122 Start: 66332, Stop: 66505, Start Num: 1  
Candidate Starts for Bask21\_122:  
(Start: 1 @66332 has 122 MA's), (2, 66455), (4, 66482),

Gene: Bench\_119 Start: 66983, Stop: 67156, Start Num: 1  
Candidate Starts for Bench\_119:  
(Start: 1 @66983 has 122 MA's), (2, 67106), (4, 67133),

Gene: BigBubba\_119 Start: 66035, Stop: 66208, Start Num: 1  
Candidate Starts for BigBubba\_119:  
(Start: 1 @66035 has 122 MA's), (2, 66158), (4, 66185),

Gene: BilboSwaggins\_117 Start: 67457, Stop: 67630, Start Num: 1  
Candidate Starts for BilboSwaggins\_117:  
(Start: 1 @67457 has 122 MA's), (2, 67580), (4, 67607),

Gene: Bruin\_114 Start: 65667, Stop: 65840, Start Num: 1  
Candidate Starts for Bruin\_114:  
(Start: 1 @65667 has 122 MA's), (2, 65790), (4, 65817),

Gene: Buck\_118 Start: 67483, Stop: 67656, Start Num: 1  
Candidate Starts for Buck\_118:  
(Start: 1 @67483 has 122 MA's), (2, 67606), (4, 67633),

Gene: BugsBunny\_116 Start: 66981, Stop: 67154, Start Num: 1  
Candidate Starts for BugsBunny\_116:  
(Start: 1 @66981 has 122 MA's), (2, 67104), (4, 67131),

Gene: Cactus\_125 Start: 66780, Stop: 66953, Start Num: 1  
Candidate Starts for Cactus\_125:  
(Start: 1 @66780 has 122 MA's), (2, 66903), (4, 66930),

Gene: ChosenOne\_117 Start: 65867, Stop: 66040, Start Num: 1  
Candidate Starts for ChosenOne\_117:

(Start: 1 @65867 has 122 MA's), (2, 65990), (4, 66017),

Gene: ChotaBhai\_121 Start: 67179, Stop: 67352, Start Num: 1

Candidate Starts for ChotaBhai\_121:

(Start: 1 @67179 has 122 MA's), (2, 67302), (4, 67329),

Gene: Cjw1\_117 Start: 67676, Stop: 67849, Start Num: 1

Candidate Starts for Cjw1\_117:

(Start: 1 @67676 has 122 MA's), (2, 67799), (4, 67826),

Gene: Command613\_120 Start: 66953, Stop: 67126, Start Num: 1

Candidate Starts for Command613\_120:

(Start: 1 @66953 has 122 MA's), (2, 67076), (4, 67103),

Gene: Contagion\_114 Start: 66029, Stop: 66202, Start Num: 1

Candidate Starts for Contagion\_114:

(Start: 1 @66029 has 122 MA's), (2, 66152), (4, 66179),

Gene: Cookies\_119 Start: 67263, Stop: 67436, Start Num: 1

Candidate Starts for Cookies\_119:

(Start: 1 @67263 has 122 MA's), (2, 67386), (4, 67413),

Gene: CrystalP\_118 Start: 67457, Stop: 67630, Start Num: 1

Candidate Starts for CrystalP\_118:

(Start: 1 @67457 has 122 MA's), (2, 67580), (4, 67607),

Gene: Czyszczone1\_117 Start: 66022, Stop: 66195, Start Num: 1

Candidate Starts for Czyszczone1\_117:

(Start: 1 @66022 has 122 MA's), (2, 66145), (4, 66172),

Gene: Daikon\_119 Start: 66256, Stop: 66429, Start Num: 1

Candidate Starts for Daikon\_119:

(Start: 1 @66256 has 122 MA's), (2, 66379), (4, 66406),

Gene: DoctorDiddles\_116 Start: 65916, Stop: 66089, Start Num: 1

Candidate Starts for DoctorDiddles\_116:

(Start: 1 @65916 has 122 MA's), (2, 66039), (4, 66066),

Gene: DrDrey\_121 Start: 68653, Stop: 68826, Start Num: 1

Candidate Starts for DrDrey\_121:

(Start: 1 @68653 has 122 MA's), (2, 68776), (4, 68803),

Gene: Dumbo\_117 Start: 66059, Stop: 66232, Start Num: 1

Candidate Starts for Dumbo\_117:

(Start: 1 @66059 has 122 MA's), (2, 66182), (4, 66209),

Gene: Dusk\_118 Start: 67080, Stop: 67253, Start Num: 1

Candidate Starts for Dusk\_118:

(Start: 1 @67080 has 122 MA's), (2, 67203), (4, 67230),

Gene: Easy2Say\_117 Start: 66693, Stop: 66866, Start Num: 1

Candidate Starts for Easy2Say\_117:

(Start: 1 @66693 has 122 MA's), (2, 66816), (4, 66843),

Gene: Elite2014\_116 Start: 65866, Stop: 66039, Start Num: 1  
Candidate Starts for Elite2014\_116:  
(Start: 1 @65866 has 122 MA's), (2, 65989), (4, 66016),

Gene: Elph10\_116 Start: 65705, Stop: 65878, Start Num: 1  
Candidate Starts for Elph10\_116:  
(Start: 1 @65705 has 122 MA's), (2, 65828), (4, 65855),

Gene: Emmina\_117 Start: 65644, Stop: 65817, Start Num: 1  
Candidate Starts for Emmina\_117:  
(Start: 1 @65644 has 122 MA's), (2, 65767), (4, 65794),

Gene: Eureka\_117 Start: 66832, Stop: 67005, Start Num: 1  
Candidate Starts for Eureka\_117:  
(Start: 1 @66832 has 122 MA's), (2, 66955), (4, 66982),

Gene: Filch\_120 Start: 66598, Stop: 66771, Start Num: 1  
Candidate Starts for Filch\_120:  
(Start: 1 @66598 has 122 MA's), (2, 66721), (4, 66748),

Gene: FireRed\_120 Start: 67108, Stop: 67281, Start Num: 1  
Candidate Starts for FireRed\_120:  
(Start: 1 @67108 has 122 MA's), (2, 67231), (4, 67258),

Gene: Flypotenuse\_114 Start: 65831, Stop: 66004, Start Num: 1  
Candidate Starts for Flypotenuse\_114:  
(Start: 1 @65831 has 122 MA's), (2, 65954), (4, 65981),

Gene: Gage\_119 Start: 66364, Stop: 66537, Start Num: 1  
Candidate Starts for Gage\_119:  
(Start: 1 @66364 has 122 MA's), (2, 66487), (4, 66514),

Gene: Gator\_120 Start: 67227, Stop: 67400, Start Num: 1  
Candidate Starts for Gator\_120:  
(Start: 1 @67227 has 122 MA's), (2, 67350), (4, 67377),

Gene: Gemini\_122 Start: 66743, Stop: 66916, Start Num: 1  
Candidate Starts for Gemini\_122:  
(Start: 1 @66743 has 122 MA's), (2, 66866), (4, 66893),

Gene: Glexan\_121 Start: 67377, Stop: 67550, Start Num: 1  
Candidate Starts for Glexan\_121:  
(Start: 1 @67377 has 122 MA's), (2, 67500), (4, 67527),

Gene: Goku\_117 Start: 67141, Stop: 67314, Start Num: 1  
Candidate Starts for Goku\_117:  
(Start: 1 @67141 has 122 MA's), (2, 67264), (4, 67291),

Gene: GoldenSpark\_121 Start: 66226, Stop: 66399, Start Num: 1  
Candidate Starts for GoldenSpark\_121:  
(Start: 1 @66226 has 122 MA's), (2, 66349), (4, 66376),

Gene: Goldilocks\_121 Start: 66822, Stop: 66995, Start Num: 1  
Candidate Starts for Goldilocks\_121:  
(Start: 1 @66822 has 122 MA's), (2, 66945), (3, 66963), (4, 66972),

Gene: GooberAzure\_120 Start: 66226, Stop: 66399, Start Num: 1  
Candidate Starts for GooberAzure\_120:  
(Start: 1 @66226 has 122 MA's), (2, 66349), (4, 66376),

Gene: HanKaySha\_117 Start: 66414, Stop: 66587, Start Num: 1  
Candidate Starts for HanKaySha\_117:  
(Start: 1 @66414 has 122 MA's), (2, 66537), (4, 66564),

Gene: Harella\_123 Start: 67893, Stop: 68066, Start Num: 1  
Candidate Starts for Harella\_123:  
(Start: 1 @67893 has 122 MA's), (2, 68016), (4, 68043),

Gene: Henry\_119 Start: 67178, Stop: 67351, Start Num: 1  
Candidate Starts for Henry\_119:  
(Start: 1 @67178 has 122 MA's), (2, 67301), (4, 67328),

Gene: Highbury\_113 Start: 64571, Stop: 64744, Start Num: 1  
Candidate Starts for Highbury\_113:  
(Start: 1 @64571 has 122 MA's), (2, 64694), (4, 64721),

Gene: Holt\_123 Start: 67220, Stop: 67393, Start Num: 1  
Candidate Starts for Holt\_123:  
(Start: 1 @67220 has 122 MA's), (2, 67343), (4, 67370),

Gene: Hoonter\_120 Start: 66719, Stop: 66892, Start Num: 1  
Candidate Starts for Hoonter\_120:  
(Start: 1 @66719 has 122 MA's), (2, 66842), (4, 66869),

Gene: Hopecy\_117 Start: 67025, Stop: 67198, Start Num: 1  
Candidate Starts for Hopecy\_117:  
(Start: 1 @67025 has 122 MA's), (2, 67148), (4, 67175),

Gene: HufflyPuff\_119 Start: 67334, Stop: 67507, Start Num: 1  
Candidate Starts for HufflyPuff\_119:  
(Start: 1 @67334 has 122 MA's), (2, 67457), (4, 67484),

Gene: IHOP\_120 Start: 66896, Stop: 67069, Start Num: 1  
Candidate Starts for IHOP\_120:  
(Start: 1 @66896 has 122 MA's), (2, 67019), (4, 67046),

Gene: Icee\_122 Start: 66771, Stop: 66944, Start Num: 1  
Candidate Starts for Icee\_122:  
(Start: 1 @66771 has 122 MA's), (2, 66894), (4, 66921),

Gene: Inca\_117 Start: 64980, Stop: 65153, Start Num: 1  
Candidate Starts for Inca\_117:  
(Start: 1 @64980 has 122 MA's), (2, 65103), (4, 65130),

Gene: JeTaime\_116 Start: 66432, Stop: 66605, Start Num: 1



Candidate Starts for JeTaime\_116:  
(Start: 1 @66432 has 122 MA's), (2, 66555), (4, 66582),

Gene: Kanye\_114 Start: 66475, Stop: 66648, Start Num: 1  
Candidate Starts for Kanye\_114:  
(Start: 1 @66475 has 122 MA's), (2, 66598), (4, 66625),

Gene: Kimchi\_122 Start: 66947, Stop: 67120, Start Num: 1  
Candidate Starts for Kimchi\_122:  
(Start: 1 @66947 has 122 MA's), (2, 67070), (4, 67097),

Gene: Kostya\_121 Start: 66998, Stop: 67171, Start Num: 1  
Candidate Starts for Kostya\_121:  
(Start: 1 @66998 has 122 MA's), (2, 67121), (4, 67148),

Gene: Lilac\_118 Start: 67168, Stop: 67341, Start Num: 1  
Candidate Starts for Lilac\_118:  
(Start: 1 @67168 has 122 MA's), (2, 67291), (4, 67318),

Gene: Lilizi\_117 Start: 66454, Stop: 66627, Start Num: 1  
Candidate Starts for Lilizi\_117:  
(Start: 1 @66454 has 122 MA's), (2, 66577), (4, 66604),

Gene: Lilpickle\_116 Start: 65866, Stop: 66039, Start Num: 1  
Candidate Starts for Lilpickle\_116:  
(Start: 1 @65866 has 122 MA's), (2, 65989), (4, 66016),

Gene: MISSy\_118 Start: 67151, Stop: 67324, Start Num: 1  
Candidate Starts for MISSy\_118:  
(Start: 1 @67151 has 122 MA's), (2, 67274), (4, 67301),

Gene: MPhalcon\_118 Start: 66569, Stop: 66742, Start Num: 1  
Candidate Starts for MPhalcon\_118:  
(Start: 1 @66569 has 122 MA's), (2, 66692), (4, 66719),

Gene: MadamMonkfish\_116 Start: 65876, Stop: 66049, Start Num: 1  
Candidate Starts for MadamMonkfish\_116:  
(Start: 1 @65876 has 122 MA's), (2, 65999), (4, 66026),

Gene: Manda\_118 Start: 66606, Stop: 66779, Start Num: 1  
Candidate Starts for Manda\_118:  
(Start: 1 @66606 has 122 MA's), (2, 66729), (4, 66756),

Gene: Marshmallow\_119 Start: 67585, Stop: 67758, Start Num: 1  
Candidate Starts for Marshmallow\_119:  
(Start: 1 @67585 has 122 MA's), (2, 67708), (4, 67735),

Gene: Maxxinista\_119 Start: 66353, Stop: 66526, Start Num: 1  
Candidate Starts for Maxxinista\_119:  
(Start: 1 @66353 has 122 MA's), (2, 66476), (4, 66503),

Gene: Mindy\_120 Start: 66744, Stop: 66917, Start Num: 1  
Candidate Starts for Mindy\_120:

(Start: 1 @66744 has 122 MA's), (2, 66867), (4, 66894),

Gene: Miniwave\_112 Start: 66062, Stop: 66235, Start Num: 1

Candidate Starts for Miniwave\_112:

(Start: 1 @66062 has 122 MA's), (2, 66185), (4, 66212),

Gene: Misfit\_118 Start: 67665, Stop: 67838, Start Num: 1

Candidate Starts for Misfit\_118:

(Start: 1 @67665 has 122 MA's), (2, 67788), (4, 67815),

Gene: Moldemort\_119 Start: 66334, Stop: 66507, Start Num: 1

Candidate Starts for Moldemort\_119:

(Start: 1 @66334 has 122 MA's), (2, 66457), (4, 66484),

Gene: Mosby\_114 Start: 66029, Stop: 66202, Start Num: 1

Candidate Starts for Mosby\_114:

(Start: 1 @66029 has 122 MA's), (2, 66152), (4, 66179),

Gene: Murica\_121 Start: 68368, Stop: 68541, Start Num: 1

Candidate Starts for Murica\_121:

(Start: 1 @68368 has 122 MA's), (2, 68491), (4, 68518),

Gene: Murphy\_116 Start: 66726, Stop: 66899, Start Num: 1

Candidate Starts for Murphy\_116:

(Start: 1 @66726 has 122 MA's), (2, 66849), (4, 66876),

Gene: Myrale\_118 Start: 67241, Stop: 67414, Start Num: 1

Candidate Starts for Myrale\_118:

(Start: 1 @67241 has 122 MA's), (2, 67364), (4, 67391),

Gene: Nala\_119 Start: 67078, Stop: 67251, Start Num: 1

Candidate Starts for Nala\_119:

(Start: 1 @67078 has 122 MA's), (2, 67201), (4, 67228),

Gene: NelitzaMV\_114 Start: 65051, Stop: 65224, Start Num: 1

Candidate Starts for NelitzaMV\_114:

(Start: 1 @65051 has 122 MA's), (2, 65174), (4, 65201),

Gene: Nimrod\_118 Start: 67292, Stop: 67465, Start Num: 1

Candidate Starts for Nimrod\_118:

(Start: 1 @67292 has 122 MA's), (2, 67415), (4, 67442),

Gene: NoSleep\_117 Start: 65886, Stop: 66059, Start Num: 1

Candidate Starts for NoSleep\_117:

(Start: 1 @65886 has 122 MA's), (2, 66009), (4, 66036),

Gene: OrionPax\_115 Start: 65959, Stop: 66132, Start Num: 1

Candidate Starts for OrionPax\_115:

(Start: 1 @65959 has 122 MA's), (2, 66082), (4, 66109),

Gene: Palpatine\_118 Start: 67363, Stop: 67536, Start Num: 1

Candidate Starts for Palpatine\_118:

(Start: 1 @67363 has 122 MA's), (2, 67486), (4, 67513),

Gene: Paperbeatsrock\_116 Start: 66740, Stop: 66913, Start Num: 1  
Candidate Starts for Paperbeatsrock\_116:  
(Start: 1 @66740 has 122 MA's), (2, 66863), (4, 66890),

Gene: Pat3\_117 Start: 66238, Stop: 66411, Start Num: 1  
Candidate Starts for Pat3\_117:  
(Start: 1 @66238 has 122 MA's), (2, 66361), (4, 66388),

Gene: Petra64142\_120 Start: 67208, Stop: 67381, Start Num: 1  
Candidate Starts for Petra64142\_120:  
(Start: 1 @67208 has 122 MA's), (2, 67331), (4, 67358),

Gene: Phaja\_120 Start: 66901, Stop: 67074, Start Num: 1  
Candidate Starts for Phaja\_120:  
(Start: 1 @66901 has 122 MA's), (2, 67024), (4, 67051),

Gene: Pharsalus\_117 Start: 66880, Stop: 67053, Start Num: 1  
Candidate Starts for Pharsalus\_117:  
(Start: 1 @66880 has 122 MA's), (2, 67003), (4, 67030),

Gene: PhatBacter\_120 Start: 67108, Stop: 67281, Start Num: 1  
Candidate Starts for PhatBacter\_120:  
(Start: 1 @67108 has 122 MA's), (2, 67231), (4, 67258),

Gene: Phaux\_119 Start: 67668, Stop: 67841, Start Num: 1  
Candidate Starts for Phaux\_119:  
(Start: 1 @67668 has 122 MA's), (2, 67791), (4, 67818),

Gene: Phrux\_113 Start: 65746, Stop: 65919, Start Num: 1  
Candidate Starts for Phrux\_113:  
(Start: 1 @65746 has 122 MA's), (2, 65869), (4, 65896),

Gene: Policronamos\_121 Start: 67372, Stop: 67545, Start Num: 1  
Candidate Starts for Policronamos\_121:  
(Start: 1 @67372 has 122 MA's), (2, 67495), (4, 67522),

Gene: Porky\_116 Start: 66070, Stop: 66243, Start Num: 1  
Candidate Starts for Porky\_116:  
(Start: 1 @66070 has 122 MA's), (2, 66193), (4, 66220),

Gene: Pumpkin\_118 Start: 66086, Stop: 66259, Start Num: 1  
Candidate Starts for Pumpkin\_118:  
(Start: 1 @66086 has 122 MA's), (2, 66209), (4, 66236),

Gene: Quallification\_118 Start: 67154, Stop: 67327, Start Num: 1  
Candidate Starts for Quallification\_118:  
(Start: 1 @67154 has 122 MA's), (2, 67277), (4, 67304),

Gene: Rakim\_119 Start: 66574, Stop: 66747, Start Num: 1  
Candidate Starts for Rakim\_119:  
(Start: 1 @66574 has 122 MA's), (2, 66697), (4, 66724),

Gene: Rimmer\_115 Start: 66545, Stop: 66718, Start Num: 1  
Candidate Starts for Rimmer\_115:  
(Start: 1 @66545 has 122 MA's), (2, 66668), (4, 66695),

Gene: RiverMonster\_116 Start: 66641, Stop: 66814, Start Num: 1  
Candidate Starts for RiverMonster\_116:  
(Start: 1 @66641 has 122 MA's), (2, 66764), (4, 66791),

Gene: Saints25\_113 Start: 64571, Stop: 64744, Start Num: 1  
Candidate Starts for Saints25\_113:  
(Start: 1 @64571 has 122 MA's), (2, 64694), (4, 64721),

Gene: Sassay\_112 Start: 64991, Stop: 65164, Start Num: 1  
Candidate Starts for Sassay\_112:  
(Start: 1 @64991 has 122 MA's), (2, 65114), (4, 65141),

Gene: ShamWow\_118 Start: 67457, Stop: 67630, Start Num: 1  
Candidate Starts for ShamWow\_118:  
(Start: 1 @67457 has 122 MA's), (2, 67580), (4, 67607),

Gene: ShereKhan\_115 Start: 67400, Stop: 67573, Start Num: 1  
Candidate Starts for ShereKhan\_115:  
(Start: 1 @67400 has 122 MA's), (2, 67523), (4, 67550),

Gene: Simpliphy\_115 Start: 66212, Stop: 66385, Start Num: 1  
Candidate Starts for Simpliphy\_115:  
(Start: 1 @66212 has 122 MA's), (2, 66335), (4, 66362),

Gene: SirDuracell\_122 Start: 66832, Stop: 67005, Start Num: 1  
Candidate Starts for SirDuracell\_122:  
(Start: 1 @66832 has 122 MA's), (2, 66955), (4, 66982),

Gene: SophKB\_116 Start: 66622, Stop: 66795, Start Num: 1  
Candidate Starts for SophKB\_116:  
(Start: 1 @66622 has 122 MA's), (2, 66745), (4, 66772),

Gene: Sotrice96\_122 Start: 67524, Stop: 67697, Start Num: 1  
Candidate Starts for Sotrice96\_122:  
(Start: 1 @67524 has 122 MA's), (2, 67647), (4, 67674),

Gene: Stank\_120 Start: 67019, Stop: 67192, Start Num: 1  
Candidate Starts for Stank\_120:  
(Start: 1 @67019 has 122 MA's), (2, 67142), (4, 67169),

Gene: Stark\_117 Start: 66525, Stop: 66698, Start Num: 1  
Candidate Starts for Stark\_117:  
(Start: 1 @66525 has 122 MA's), (2, 66648), (4, 66675),

Gene: StellaBean\_115 Start: 66822, Stop: 66995, Start Num: 1  
Candidate Starts for StellaBean\_115:  
(Start: 1 @66822 has 122 MA's), (2, 66945), (4, 66972),

Gene: StolenFromERC\_119 Start: 66364, Stop: 66537, Start Num: 1

Candidate Starts for StolenFromERC\_119:  
(Start: 1 @66364 has 122 MA's), (2, 66487), (4, 66514),

Gene: TBrady12\_121 Start: 66456, Stop: 66629, Start Num: 1  
Candidate Starts for TBrady12\_121:  
(Start: 1 @66456 has 122 MA's), (2, 66579), (4, 66606),

Gene: Tarkin\_116 Start: 67265, Stop: 67438, Start Num: 1  
Candidate Starts for Tarkin\_116:  
(Start: 1 @67265 has 122 MA's), (2, 67388), (4, 67415),

Gene: TeardropMSU\_117 Start: 66626, Stop: 66799, Start Num: 1  
Candidate Starts for TeardropMSU\_117:  
(Start: 1 @66626 has 122 MA's), (2, 66749), (4, 66776),

Gene: Teaspoon\_118 Start: 67004, Stop: 67177, Start Num: 1  
Candidate Starts for Teaspoon\_118:  
(Start: 1 @67004 has 122 MA's), (2, 67127), (4, 67154),

Gene: Terminus\_120 Start: 67665, Stop: 67838, Start Num: 1  
Candidate Starts for Terminus\_120:  
(Start: 1 @67665 has 122 MA's), (2, 67788), (4, 67815),

Gene: Thresher\_118 Start: 67305, Stop: 67478, Start Num: 1  
Candidate Starts for Thresher\_118:  
(Start: 1 @67305 has 122 MA's), (2, 67428), (4, 67455),

Gene: Tomaszewski\_112 Start: 66203, Stop: 66376, Start Num: 1  
Candidate Starts for Tomaszewski\_112:  
(Start: 1 @66203 has 122 MA's), (2, 66326), (4, 66353),

Gene: Toto\_116 Start: 67457, Stop: 67630, Start Num: 1  
Candidate Starts for Toto\_116:  
(Start: 1 @67457 has 122 MA's), (2, 67580), (4, 67607),

Gene: Traaww1\_114 Start: 66006, Stop: 66179, Start Num: 1  
Candidate Starts for Traaww1\_114:  
(Start: 1 @66006 has 122 MA's), (2, 66129), (4, 66156),

Gene: Tuco\_122 Start: 68685, Stop: 68858, Start Num: 1  
Candidate Starts for Tuco\_122:  
(Start: 1 @68685 has 122 MA's), (2, 68808), (4, 68835),

Gene: Ukulele\_112 Start: 66022, Stop: 66195, Start Num: 1  
Candidate Starts for Ukulele\_112:  
(Start: 1 @66022 has 122 MA's), (2, 66145), (4, 66172),

Gene: Wiggin\_120 Start: 66449, Stop: 66622, Start Num: 1  
Candidate Starts for Wiggin\_120:  
(Start: 1 @66449 has 122 MA's), (2, 66572), (4, 66599),

Gene: Willez\_113 Start: 65086, Stop: 65259, Start Num: 1  
Candidate Starts for Willez\_113:

(Start: 1 @65086 has 122 MA's), (2, 65209), (4, 65236),

Gene: Xandras\_117 Start: 66272, Stop: 66445, Start Num: 1

Candidate Starts for Xandras\_117:

(Start: 1 @66272 has 122 MA's), (2, 66395), (4, 66422),

Gene: YassJohnny\_114 Start: 65012, Stop: 65185, Start Num: 1

Candidate Starts for YassJohnny\_114:

(Start: 1 @65012 has 122 MA's), (2, 65135), (4, 65162),

Gene: Youngblood\_121 Start: 67161, Stop: 67334, Start Num: 1

Candidate Starts for Youngblood\_121:

(Start: 1 @67161 has 122 MA's), (2, 67284), (4, 67311),

Gene: xkcd\_121 Start: 67346, Stop: 67519, Start Num: 1

Candidate Starts for xkcd\_121:

(Start: 1 @67346 has 122 MA's), (2, 67469), (4, 67496),