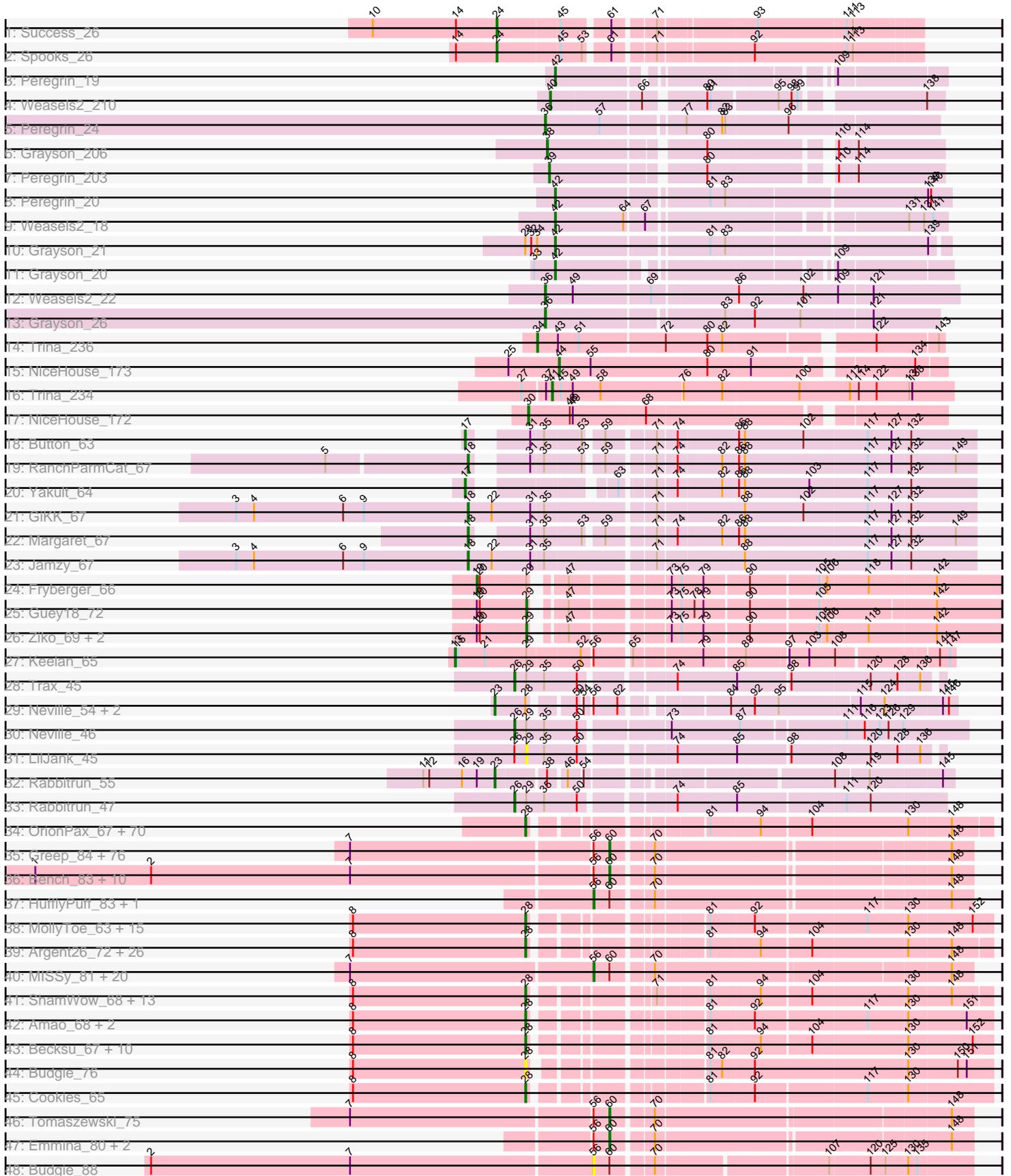


Pham 290775



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 290775 Report

This analysis was run 03/28/26 on database version 641.

Pham number 290775 has 297 members, 29 are drafts.

Phages represented in each track:

- Track 1 : Success\_26
- Track 2 : Spooks\_26
- Track 3 : Peregrin\_19
- Track 4 : Weasels2\_210
- Track 5 : Peregrin\_24
- Track 6 : Grayson\_206
- Track 7 : Peregrin\_203
- Track 8 : Peregrin\_20
- Track 9 : Weasels2\_18
- Track 10 : Grayson\_21
- Track 11 : Grayson\_20
- Track 12 : Weasels2\_22
- Track 13 : Grayson\_26
- Track 14 : Trina\_236
- Track 15 : NiceHouse\_173
- Track 16 : Trina\_234
- Track 17 : NiceHouse\_172
- Track 18 : Button\_63
- Track 19 : RanchParmCat\_67
- Track 20 : Yakult\_64
- Track 21 : GiKK\_67
- Track 22 : Margaret\_67
- Track 23 : Jamzy\_67
- Track 24 : Fryberger\_66
- Track 25 : Guey18\_72
- Track 26 : Ziko\_69, Ronaldo\_69, Volt\_69
- Track 27 : Keelan\_65
- Track 28 : Trax\_45
- Track 29 : Neville\_54, LilJank\_52, Trax\_53
- Track 30 : Neville\_46
- Track 31 : LilJank\_45
- Track 32 : Rabbitrun\_55
- Track 33 : Rabbitrun\_47
- Track 34 : OrionPax\_67, NelitzaMV\_66, Lilac\_70, Daikon\_70, Czyszczone1\_69, Marshmallow\_66, Miniwave\_63, TeardropMSU\_64, Dumbo\_68, Manda\_68, Phaux\_70, BugsBunny\_68, Pumpkin\_71, ABCat\_65, Ukulele\_63, Cactus\_71, BigBubba\_68, Bogg\_68, xkcd\_71, Elph10\_68, lcee\_69, Kostya\_68, Quallification\_69,

SophKB\_65, Murica\_71, Greep\_72, Eureka\_66, Thresher\_70, Kanye\_65, IHOP\_66, Filch\_69, Tuco\_69, Highbury\_67, NoSleep\_69, Balomoji\_68, 244\_69, Elite2014\_67, Hopey\_68, ChosenOne\_68, Dusk\_65, Murphy\_68, PhatBacter\_72, Goku\_66, Policronamos\_71, Pharsalus\_65, StellaBean\_66, Maxxinista\_70, BadStone\_65, Gator\_66, Ptowny\_65, HufflyPuff\_71, Phaja\_66, Stark\_69, Cjw1\_68, HanKaySha\_68, Sotrice96\_69, Myrale\_68, DrDrey\_68, Tarkin\_67, Rakim\_69, Lilpickle\_67, Paperbeatsrock\_67, Simpliphy\_67, Palpatine\_70, Xandras\_67, Saints25\_67, Flypotenuse\_64, PaddyBaddy\_68, Phrux\_65, RiverMonster\_68, ShereKhan\_67

- Track 35 : Greep\_84, Traaww1\_76, Icee\_81, Barbarian\_79, CrystalP\_79, Maxxinista\_82, Flypotenuse\_76, Filch\_81, AmericanBeauty\_84, Rakim\_81, MPhalcon\_81, OrionPax\_79, Czystczon1\_81, Hopey\_80, Petra64142\_84, Misfit\_81, Highbury\_79, Thresher\_82, Glexan\_79, Balomoji\_80, Harella\_80, TBrady12\_83, ShamWow\_80, Mosby\_76, Phrux\_77, IHOP\_78, Youngblood\_83, Asriel\_79, Stark\_81, Toto\_78, Kimchi\_84, Inca\_77, Dusk\_77, Manda\_81, RiverMonster\_80, Easy2Say\_81, Gator\_78, HanKaySha\_80, Kanye\_77, Murphy\_80, Saints25\_79, Contagion\_76, Elite2014\_79, Cactus\_83, Gage\_82, Buck\_81, Ukulele\_75, BaboJay\_77, NoSleep\_81, Goldilocks\_83, Wiggin\_82, Simpliphy\_79, Moldemort\_83, BadStone\_77, Argent26\_84, PaddyBaddy\_80, GooberAzure\_83, MadamMonkfish\_80, Terminus\_83, Lilpickle\_79, Holt\_85, Sotrice96\_81, Ptowny\_77, Gemini\_85, Henry\_78, Lilac\_82, Becksu\_79, Mindy\_79, Teaspoon\_81, JeTaime\_80, Palpatine\_82, ChosenOne\_80, StolenFromERC\_83, Tuco\_81, BigBubba\_80, StellaBean\_78, BilboSwaggins\_78
- Track 36 : Bench\_83, Thimble\_81, 244\_81, FireRed\_84, Pumpkin\_83, Nimrod\_81, Hoonter\_83, Nala\_82, PhatBacter\_84, Lilizi\_81, Xandras\_79
- Track 37 : HufflyPuff\_83, Porky\_79
- Track 38 : MollyToe\_63, YassJohnny\_65, Glexan\_67, FoghornLeghorn\_62, TeamEdward\_70, Bask21\_68, SirDuracell\_67, Tomaszewski\_63, Sassay\_63, Buck\_69, Harella\_68, StormChicken\_70, DoctorDiddles\_67, Petra64142\_72, Rimmer\_69, Willez\_63
- Track 39 : Argent26\_72, Hoonter\_71, MadamMonkfish\_68, TBrady12\_71, Thimble\_69, Emmina\_68, Gage\_70, GooberAzure\_71, Youngblood\_71, Goldilocks\_71, AmericanBeauty\_72, GoldenSpark\_72, FairyPath\_68, Bench\_71, Command613\_70, Gemini\_73, BaboJay\_65, Teaspoon\_69, Inca\_65, Brewer\_63, Lilizi\_69, Porky\_67, Kimchi\_72, JeTaime\_68, NonchalantPear\_66, StolenFromERC\_71, Holt\_73
- Track 40 : MISSy\_81, Daikon\_82, Marshmallow\_78, NelitzaMV\_78, Elph10\_80, Command613\_82, Eureka\_78, ABCat\_77, Brewer\_75, Kostya\_80, Dumbo\_80, Goku\_78, Stank\_83, DrDrey\_80, BugsBunny\_80, Bruin\_77, NonchalantPear\_78, Bogg\_80, Adnama\_84, Cjw1\_80, GoldenSpark\_84
- Track 41 : ShamWow\_68, BilboSwaggins\_66, Traaww1\_64, Mindy\_67, Easy2Say\_69, Adnama\_72, Barbarian\_67, Toto\_66, CrystalP\_67, Asriel\_67, Moldemort\_71, Wiggin\_70, Henry\_66, Stank\_71
- Track 42 : Amao\_68, ChotaBhai\_68, Pat3\_66
- Track 43 : Becksu\_67, Contagion\_64, MPhalcon\_69, Nala\_70, Terminus\_71, Nimrod\_69, Bruin\_65, FireRed\_72, Misfit\_69, Mosby\_64, MISSy\_69
- Track 44 : Budgie\_76
- Track 45 : Cookies\_65
- Track 46 : Tomaszewski\_75
- Track 47 : Emmina\_80, xkcd\_83, Murica\_83
- Track 48 : Budgie\_88

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

The start number called the most often in the published annotations is 28, it was called in 128 of the 268 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 244\_69, ABCat\_65, Adnama\_72, Amao\_68, AmericanBeauty\_72, Argent26\_72, Asriel\_67, BaboJay\_65, BadStone\_65, Balomoji\_68, Barbarian\_67, Bask21\_68, Becksu\_67, Bench\_71, BigBubba\_68, BilboSwaggins\_66, Bogg\_68, Brewer\_63, Bruin\_65, Buck\_69, Budgie\_76, BugsBunny\_68, Cactus\_71, ChosenOne\_68, ChotaBhai\_68, Cjw1\_68, Command613\_70, Contagion\_64, Cookies\_65, CrystalP\_67, Czystoczon1\_69, Daikon\_70, DoctorDiddles\_67, DrDrey\_68, Dumbo\_68, Dusk\_65, Easy2Say\_69, Elite2014\_67, Elph10\_68, Emmina\_68, Eureka\_66, FairyPath\_68, Filch\_69, FireRed\_72, Flypotenuse\_64, FoghornLeghorn\_62, Gage\_70, Gator\_66, Gemini\_73, Glexan\_67, Goku\_66, GoldenSpark\_72, Goldilocks\_71, GooberAzure\_71, Greep\_72, HanKaySha\_68, Harella\_68, Henry\_66, Highbury\_67, Holt\_73, Hoonter\_71, Hopey\_68, HufflyPuff\_71, IHOP\_66, Icee\_69, Inca\_65, JeTaime\_68, Kanye\_65, Kimchi\_72, Kostya\_68, Lilac\_70, Lilizi\_69, Lilpickle\_67, MISSy\_69, MPhalcon\_69, MadamMonkfish\_68, Manda\_68, Marshmallow\_66, Maxxinista\_70, Mindy\_67, Miniwave\_63, Misfit\_69, Moldemort\_71, MollyToe\_63, Mosby\_64, Murica\_71, Murphy\_68, Myrale\_68, Nala\_70, NelitzaMV\_66, Nimrod\_69, NoSleep\_69, NonchalantPear\_66, OrionPax\_67, PaddyBaddy\_68, Palpatine\_70, Paperbeatsrock\_67, Pat3\_66, Petra64142\_72, Phaja\_66, Pharsalus\_65, PhatBacter\_72, Phaux\_70, Phrux\_65, Policronamos\_71, Porky\_67, Ptowny\_65, Pumpkin\_71, Quallification\_69, Rakim\_69, Rimmer\_69, RiverMonster\_68, Saints25\_67, Sassay\_63, ShamWow\_68, ShereKhan\_67, Simpliphy\_67, SirDuracell\_67, SophKB\_65, Sotrice96\_69, Stank\_71, Stark\_69, StellaBean\_66, StolenFromERC\_71, StormChicken\_70, TBrady12\_71, Tarkin\_67, TeamEdward\_70, TeardropMSU\_64, Teaspoon\_69, Terminus\_71, Thimble\_69, Thresher\_70, Tomaszewski\_63, Toto\_66, Traaww1\_64, Tuco\_69, Ukulele\_63, Wiggin\_70, Willez\_63, Xandras\_67, YassJohnny\_65, Youngblood\_71, xkcd\_71,

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

- Grayson\_21, LilJank\_52, Neville\_54, Trax\_53,

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

- 244\_81, ABCat\_77, Adnama\_84, AmericanBeauty\_84, Argent26\_84, Asriel\_79, BaboJay\_77, BadStone\_77, Balomoji\_80, Barbarian\_79, Becksu\_79, Bench\_83, BigBubba\_80, BilboSwaggins\_78, Bogg\_80, Brewer\_75, Bruin\_77, Buck\_81, Budgie\_88, BugsBunny\_80, Button\_63, Cactus\_83, ChosenOne\_80, Cjw1\_80, Command613\_82, Contagion\_76, CrystalP\_79, Czystoczon1\_81, Daikon\_82, DrDrey\_80, Dumbo\_80, Dusk\_77, Easy2Say\_81, Elite2014\_79, Elph10\_80, Emmina\_80, Eureka\_78, Filch\_81, FireRed\_84, Flypotenuse\_76, Fryberger\_66, Gage\_82, Gator\_78, Gemini\_85, GiKK\_67, Glexan\_79, Goku\_78, GoldenSpark\_84, Goldilocks\_83, GooberAzure\_83, Grayson\_20, Grayson\_206, Grayson\_26, Greep\_84, Guey18\_72, HanKaySha\_80, Harella\_80, Henry\_78, Highbury\_79, Holt\_85, Hoonter\_83, Hopey\_80, HufflyPuff\_83, IHOP\_78, Icee\_81, Inca\_77, Jamzy\_67, JeTaime\_80, Kanye\_77, Keelan\_65, Kimchi\_84, Kostya\_80, LilJank\_45, Lilac\_82, Lilizi\_81, Lilpickle\_79, MISSy\_81, MPhalcon\_81, MadamMonkfish\_80, Manda\_81, Margaret\_67, Marshmallow\_78, Maxxinista\_82, Mindy\_79, Misfit\_81, Moldemort\_83, Mosby\_76, Murica\_83, Murphy\_80, Nala\_82, NelitzaMV\_78, Neville\_46, NiceHouse\_172, NiceHouse\_173, Nimrod\_81, NoSleep\_81,

NonchalantPear\_78, OrionPax\_79, PaddyBaddy\_80, Palpatine\_82, Peregrin\_19, Peregrin\_20, Peregrin\_203, Peregrin\_24, Petra64142\_84, PhatBacter\_84, Phrux\_77, Porky\_79, Ptowny\_77, Pumpkin\_83, Rabbitrun\_47, Rabbitrun\_55, Rakim\_81, RanchParmCat\_67, RiverMonster\_80, Ronaldo\_69, Saints25\_79, ShamWow\_80, Simpliphy\_79, Sotrice96\_81, Spooks\_26, Stank\_83, Stark\_81, StellaBean\_78, StolenFromERC\_83, Success\_26, TBrady12\_83, Teaspoon\_81, Terminus\_83, Thimble\_81, Thresher\_82, Tomaszewski\_75, Toto\_78, Traaww1\_76, Trax\_45, Trina\_234, Trina\_236, Tuco\_81, Ukulele\_75, Volt\_69, Weasels2\_18, Weasels2\_210, Weasels2\_22, Wiggin\_82, Xandras\_79, Yakult\_64, Youngblood\_83, Ziko\_69, xkcd\_83,

### Summary by start number:

#### Start 13:

- Found in 1 of 297 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 268
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Keelan\_65 (DP),

#### Start 17:

- Found in 2 of 297 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 2 of 268
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Button\_63 (CT), Yakult\_64 (CT),

#### Start 18:

- Found in 4 of 297 ( 1.3% ) of genes in pham
- Manual Annotations of this start: 4 of 268
- Called 100.0% of time when present
- Phage (with cluster) where this start called: GiKK\_67 (CT), Jamzy\_67 (CT), Margaret\_67 (CT), RanchParmCat\_67 (CT),

#### Start 19:

- Found in 6 of 297 ( 2.0% ) of genes in pham
- Manual Annotations of this start: 1 of 268
- Called 16.7% of time when present
- Phage (with cluster) where this start called: Fryberger\_66 (DP),

#### Start 23:

- Found in 4 of 297 ( 1.3% ) of genes in pham
- Manual Annotations of this start: 3 of 268
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LilJank\_52 (DU2), Neville\_54 (DU2), Rabbitrun\_55 (DU2), Trax\_53 (DU2),

#### Start 24:

- Found in 2 of 297 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 2 of 268
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Spooks\_26 (BT), Success\_26 (BT),

#### Start 26:

- Found in 4 of 297 ( 1.3% ) of genes in pham

- Manual Annotations of this start: 3 of 268
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Neville\_46 (DU2), Rabbitrun\_47 (DU2), Trax\_45 (DU2),

#### Start 28:

- Found in 148 of 297 ( 49.8% ) of genes in pham
- Manual Annotations of this start: 128 of 268
- Called 97.3% of time when present
- Phage (with cluster) where this start called: 244\_69 (E), ABCat\_65 (E), Adnama\_72 (E), Amao\_68 (E), AmericanBeauty\_72 (E), Argent26\_72 (E), Asriel\_67 (E), BaboJay\_65 (E), BadStone\_65 (E), Balomoji\_68 (E), Barbarian\_67 (E), Bask21\_68 (E), Becksu\_67 (E), Bench\_71 (E), BigBubba\_68 (E), BilboSwaggins\_66 (E), Bogg\_68 (E), Brewer\_63 (E), Bruin\_65 (E), Buck\_69 (E), Budgie\_76 (E), BugsBunny\_68 (E), Cactus\_71 (E), ChosenOne\_68 (E), ChotaBhai\_68 (E), Cjw1\_68 (E), Command613\_70 (E), Contagion\_64 (E), Cookies\_65 (E), CrystalP\_67 (E), Czystczon1\_69 (E), Daikon\_70 (E), DoctorDiddles\_67 (E), DrDrey\_68 (E), Dumbo\_68 (E), Dusk\_65 (E), Easy2Say\_69 (E), Elite2014\_67 (E), Elph10\_68 (E), Emmina\_68 (E), Eureka\_66 (E), FairyPath\_68 (E), Filch\_69 (E), FireRed\_72 (E), Flypotenuse\_64 (E), FoghornLeghorn\_62 (E), Gage\_70 (E), Gator\_66 (E), Gemini\_73 (E), Glexan\_67 (E), Goku\_66 (E), GoldenSpark\_72 (E), Goldilocks\_71 (E), GooberAzure\_71 (E), Greep\_72 (E), HanKaySha\_68 (E), Harella\_68 (E), Henry\_66 (E), Highbury\_67 (E), Holt\_73 (E), Hoonter\_71 (E), Hopey\_68 (E), HuffyPuff\_71 (E), IHOP\_66 (E), Icee\_69 (E), Inca\_65 (E), JeTaime\_68 (E), Kanye\_65 (E), Kimchi\_72 (E), Kostya\_68 (E), Lilac\_70 (E), Lilizi\_69 (E), Lilpickle\_67 (E), MISSy\_69 (E), MPhalcon\_69 (E), MadamMonkfish\_68 (E), Manda\_68 (E), Marshmallow\_66 (E), Maxxinista\_70 (E), Mindy\_67 (E), Miniwave\_63 (E), Misfit\_69 (E), Moldemort\_71 (E), MollyToe\_63 (E), Mosby\_64 (E), Murica\_71 (E), Murphy\_68 (E), Myrale\_68 (E), Nala\_70 (E), NelitzaMV\_66 (E), Nimrod\_69 (E), NoSleep\_69 (E), NonchalantPear\_66 (E), OrionPax\_67 (E), PaddyBaddy\_68 (E), Palpatine\_70 (E), Paperbeatsrock\_67 (E), Pat3\_66 (E), Petra64142\_72 (E), Phaja\_66 (E), Pharsalus\_65 (E), PhatBacter\_72 (E), Phaux\_70 (E), Phrux\_65 (E), Policronamos\_71 (E), Porky\_67 (E), Ptowny\_65 (E), Pumpkin\_71 (E), Quallification\_69 (E), Rakim\_69 (E), Rimmer\_69 (E), RiverMonster\_68 (E), Saints25\_67 (E), Sassay\_63 (E), ShamWow\_68 (E), ShereKhan\_67 (E), Simpliphy\_67 (E), SirDuracell\_67 (E), SophKB\_65 (E), Sotrice96\_69 (E), Stank\_71 (E), Stark\_69 (E), StellaBean\_66 (E), StolenFromERC\_71 (E), StormChicken\_70 (E), TBrady12\_71 (E), Tarkin\_67 (E), TeamEdward\_70 (E), TeardropMSU\_64 (E), Teaspoon\_69 (E), Terminus\_71 (E), Thimble\_69 (E), Thresher\_70 (E), Tomaszewski\_63 (E), Toto\_66 (E), Traaww1\_64 (E), Tuco\_69 (E), Ukulele\_63 (E), Wiggin\_70 (E), Willez\_63 (E), Xandras\_67 (E), YassJohnny\_65 (E), Youngblood\_71 (E), xkcd\_71 (E),

#### Start 29:

- Found in 10 of 297 ( 3.4% ) of genes in pham
- Manual Annotations of this start: 4 of 268
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Guey18\_72 (DP), LiJank\_45 (DU2), Ronaldo\_69 (DP), Volt\_69 (DP), Ziko\_69 (DP),

#### Start 30:

- Found in 1 of 297 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 268
- Called 100.0% of time when present

- Phage (with cluster) where this start called: NiceHouse\_172 (CE),

Start 34:

- Found in 2 of 297 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 1 of 268
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Trina\_236 (CE),

Start 36:

- Found in 3 of 297 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 3 of 268
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Grayson\_26 (CB), Peregrin\_24 (CB), Weasels2\_22 (CB),

Start 38:

- Found in 2 of 297 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 1 of 268
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Grayson\_206 (CB),

Start 39:

- Found in 1 of 297 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 268
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Peregrin\_203 (CB),

Start 40:

- Found in 1 of 297 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 268
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Weasels2\_210 (CB),

Start 41:

- Found in 1 of 297 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 268
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Trina\_234 (CE),

Start 42:

- Found in 5 of 297 ( 1.7% ) of genes in pham
- Manual Annotations of this start: 5 of 268
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Grayson\_20 (CB), Grayson\_21 (CB), Peregrin\_19 (CB), Peregrin\_20 (CB), Weasels2\_18 (CB),

Start 44:

- Found in 1 of 297 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 268
- Called 100.0% of time when present
- Phage (with cluster) where this start called: NiceHouse\_173 (CE),

Start 56:

- Found in 120 of 297 ( 40.4% ) of genes in pham
- Manual Annotations of this start: 18 of 268
- Called 20.0% of time when present
- Phage (with cluster) where this start called: ABCat\_77 (E), Adnama\_84 (E), Bogg\_80 (E), Brewer\_75 (E), Bruin\_77 (E), Budgie\_88 (E), BugsBunny\_80 (E), Cjw1\_80 (E), Command613\_82 (E), Daikon\_82 (E), DrDrey\_80 (E), Dumbo\_80 (E), Elph10\_80 (E), Eureka\_78 (E), Goku\_78 (E), GoldenSpark\_84 (E), HuffyPuff\_83 (E), Kostya\_80 (E), MISSy\_81 (E), Marshmallow\_78 (E), NelitzaMV\_78 (E), NonchalantPear\_78 (E), Porky\_79 (E), Stank\_83 (E),

Start 60:

- Found in 116 of 297 ( 39.1% ) of genes in pham
- Manual Annotations of this start: 87 of 268
- Called 79.3% of time when present
- Phage (with cluster) where this start called: 244\_81 (E), AmericanBeauty\_84 (E), Argent26\_84 (E), Asriel\_79 (E), BaboJay\_77 (E), BadStone\_77 (E), Balomoji\_80 (E), Barbarian\_79 (E), Becksu\_79 (E), Bench\_83 (E), BigBubba\_80 (E), BilboSwaggins\_78 (E), Buck\_81 (E), Cactus\_83 (E), ChosenOne\_80 (E), Contagion\_76 (E), CrystalP\_79 (E), Czyszczonek\_81 (E), Dusk\_77 (E), Easy2Say\_81 (E), Elite2014\_79 (E), Emmina\_80 (E), Filch\_81 (E), FireRed\_84 (E), Flypotenuse\_76 (E), Gage\_82 (E), Gator\_78 (E), Gemini\_85 (E), Glexan\_79 (E), Goldilocks\_83 (E), GooberAzure\_83 (E), Greep\_84 (E), HanKaySha\_80 (E), Harella\_80 (E), Henry\_78 (E), Highbury\_79 (E), Holt\_85 (E), Hoonter\_83 (E), Hopey\_80 (E), IHOP\_78 (E), Icee\_81 (E), Inca\_77 (E), JeTaime\_80 (E), Kanye\_77 (E), Kimchi\_84 (E), Lilac\_82 (E), Lilizi\_81 (E), Lilpickle\_79 (E), MPhalcon\_81 (E), MadamMonkfish\_80 (E), Manda\_81 (E), Maxxista\_82 (E), Mindy\_79 (E), Misfit\_81 (E), Moldemort\_83 (E), Mosby\_76 (E), Murica\_83 (E), Murphy\_80 (E), Nala\_82 (E), Nimrod\_81 (E), NoSleep\_81 (E), OrionPax\_79 (E), PaddyBaddy\_80 (E), Palpatine\_82 (E), Petra64142\_84 (E), PhatBacter\_84 (E), Phrux\_77 (E), Ptowny\_77 (E), Pumpkin\_83 (E), Rakim\_81 (E), RiverMonster\_80 (E), Saints25\_79 (E), ShamWow\_80 (E), Simpliphy\_79 (E), Sotrice96\_81 (E), Stark\_81 (E), StellaBean\_78 (E), StolenFromERC\_83 (E), TBrady12\_83 (E), Teaspoon\_81 (E), Terminus\_83 (E), Thimble\_81 (E), Thresher\_82 (E), Tomaszewski\_75 (E), Toto\_78 (E), Traaww1\_76 (E), Tuco\_81 (E), Ukulele\_75 (E), Wiggin\_82 (E), Xandras\_79 (E), Youngblood\_83 (E), xkcd\_83 (E),

### Summary by clusters:

There are 7 clusters represented in this pham: E, CB, CE, BT, DU2, DP, CT,

Info for manual annotations of cluster BT:

- Start number 24 was manually annotated 2 times for cluster BT.

Info for manual annotations of cluster CB:

- Start number 36 was manually annotated 3 times for cluster CB.
- Start number 38 was manually annotated 1 time for cluster CB.
- Start number 39 was manually annotated 1 time for cluster CB.
- Start number 40 was manually annotated 1 time for cluster CB.
- Start number 42 was manually annotated 5 times for cluster CB.

Info for manual annotations of cluster CE:

- Start number 30 was manually annotated 1 time for cluster CE.
- Start number 34 was manually annotated 1 time for cluster CE.

- Start number 41 was manually annotated 1 time for cluster CE.
- Start number 44 was manually annotated 1 time for cluster CE.

Info for manual annotations of cluster CT:

- Start number 17 was manually annotated 2 times for cluster CT.
- Start number 18 was manually annotated 4 times for cluster CT.

Info for manual annotations of cluster DP:

- Start number 13 was manually annotated 1 time for cluster DP.
- Start number 19 was manually annotated 1 time for cluster DP.
- Start number 29 was manually annotated 4 times for cluster DP.

Info for manual annotations of cluster DU2:

- Start number 23 was manually annotated 3 times for cluster DU2.
- Start number 26 was manually annotated 3 times for cluster DU2.

Info for manual annotations of cluster E:

- Start number 28 was manually annotated 128 times for cluster E.
- Start number 56 was manually annotated 18 times for cluster E.
- Start number 60 was manually annotated 87 times for cluster E.

### **Gene Information:**

Gene: 244\_81 Start: 49796, Stop: 50131, Start Num: 60

Candidate Starts for 244\_81:

(1, 49226), (2, 49343), (7, 49544), (Start: 56 @49781 has 18 MA's), (Start: 60 @49796 has 87 MA's), (70, 49832), (148, 50111),

Gene: 244\_69 Start: 45158, Stop: 45568, Start Num: 28

Candidate Starts for 244\_69:

(Start: 28 @45158 has 128 MA's), (81, 45299), (94, 45347), (104, 45395), (130, 45488), (148, 45530),

Gene: ABCat\_65 Start: 45505, Stop: 45915, Start Num: 28

Candidate Starts for ABCat\_65:

(Start: 28 @45505 has 128 MA's), (81, 45646), (94, 45694), (104, 45742), (130, 45835), (148, 45877),

Gene: ABCat\_77 Start: 50134, Stop: 50484, Start Num: 56

Candidate Starts for ABCat\_77:

(7, 49897), (Start: 56 @50134 has 18 MA's), (Start: 60 @50149 has 87 MA's), (70, 50185), (148, 50464),

Gene: Adnama\_72 Start: 45528, Stop: 45938, Start Num: 28

Candidate Starts for Adnama\_72:

(8, 45354), (Start: 28 @45528 has 128 MA's), (71, 45624), (81, 45669), (94, 45717), (104, 45765), (130, 45858), (148, 45900),

Gene: Adnama\_84 Start: 50160, Stop: 50507, Start Num: 56

Candidate Starts for Adnama\_84:

(7, 49923), (Start: 56 @50160 has 18 MA's), (Start: 60 @50175 has 87 MA's), (70, 50211), (148, 50487),

Gene: Amao\_68 Start: 44913, Stop: 45326, Start Num: 28  
Candidate Starts for Amao\_68:  
(8, 44739), (Start: 28 @44913 has 128 MA's), (81, 45054), (92, 45096), (117, 45204), (130, 45243),  
(151, 45300),

Gene: AmericanBeauty\_84 Start: 50318, Stop: 50653, Start Num: 60  
Candidate Starts for AmericanBeauty\_84:  
(7, 50066), (Start: 56 @50303 has 18 MA's), (Start: 60 @50318 has 87 MA's), (70, 50354), (148,  
50633),

Gene: AmericanBeauty\_72 Start: 45671, Stop: 46081, Start Num: 28  
Candidate Starts for AmericanBeauty\_72:  
(8, 45497), (Start: 28 @45671 has 128 MA's), (81, 45812), (94, 45860), (104, 45908), (130, 46001),  
(148, 46043),

Gene: Argent26\_72 Start: 45309, Stop: 45719, Start Num: 28  
Candidate Starts for Argent26\_72:  
(8, 45135), (Start: 28 @45309 has 128 MA's), (81, 45450), (94, 45498), (104, 45546), (130, 45639),  
(148, 45681),

Gene: Argent26\_84 Start: 49956, Stop: 50291, Start Num: 60  
Candidate Starts for Argent26\_84:  
(7, 49704), (Start: 56 @49941 has 18 MA's), (Start: 60 @49956 has 87 MA's), (70, 49992), (148,  
50271),

Gene: Asriel\_79 Start: 48512, Stop: 48844, Start Num: 60  
Candidate Starts for Asriel\_79:  
(7, 48260), (Start: 56 @48497 has 18 MA's), (Start: 60 @48512 has 87 MA's), (70, 48548), (148,  
48824),

Gene: Asriel\_67 Start: 43865, Stop: 44275, Start Num: 28  
Candidate Starts for Asriel\_67:  
(8, 43691), (Start: 28 @43865 has 128 MA's), (71, 43961), (81, 44006), (94, 44054), (104, 44102),  
(130, 44195), (148, 44237),

Gene: BaboJay\_65 Start: 44702, Stop: 45112, Start Num: 28  
Candidate Starts for BaboJay\_65:  
(8, 44528), (Start: 28 @44702 has 128 MA's), (81, 44843), (94, 44891), (104, 44939), (130, 45032),  
(148, 45074),

Gene: BaboJay\_77 Start: 49349, Stop: 49684, Start Num: 60  
Candidate Starts for BaboJay\_77:  
(7, 49097), (Start: 56 @49334 has 18 MA's), (Start: 60 @49349 has 87 MA's), (70, 49385), (148,  
49664),

Gene: BadStone\_65 Start: 45074, Stop: 45484, Start Num: 28  
Candidate Starts for BadStone\_65:  
(Start: 28 @45074 has 128 MA's), (81, 45215), (94, 45263), (104, 45311), (130, 45404), (148, 45446),

Gene: BadStone\_77 Start: 49718, Stop: 50053, Start Num: 60  
Candidate Starts for BadStone\_77:  
(7, 49466), (Start: 56 @49703 has 18 MA's), (Start: 60 @49718 has 87 MA's), (70, 49754), (148,  
50033),

Gene: Balomoji\_80 Start: 50279, Stop: 50614, Start Num: 60

Candidate Starts for Balomoji\_80:

(7, 50027), (Start: 56 @50264 has 18 MA's), (Start: 60 @50279 has 87 MA's), (70, 50315), (148, 50594),

Gene: Balomoji\_68 Start: 45635, Stop: 46045, Start Num: 28

Candidate Starts for Balomoji\_68:

(Start: 28 @45635 has 128 MA's), (81, 45776), (94, 45824), (104, 45872), (130, 45965), (148, 46007),

Gene: Barbarian\_79 Start: 48512, Stop: 48844, Start Num: 60

Candidate Starts for Barbarian\_79:

(7, 48260), (Start: 56 @48497 has 18 MA's), (Start: 60 @48512 has 87 MA's), (70, 48548), (148, 48824),

Gene: Barbarian\_67 Start: 43865, Stop: 44275, Start Num: 28

Candidate Starts for Barbarian\_67:

(8, 43691), (Start: 28 @43865 has 128 MA's), (71, 43961), (81, 44006), (94, 44054), (104, 44102), (130, 44195), (148, 44237),

Gene: Bask21\_68 Start: 44476, Stop: 44889, Start Num: 28

Candidate Starts for Bask21\_68:

(8, 44302), (Start: 28 @44476 has 128 MA's), (81, 44617), (92, 44659), (117, 44767), (130, 44806), (152, 44869),

Gene: Becksu\_67 Start: 45704, Stop: 46117, Start Num: 28

Candidate Starts for Becksu\_67:

(8, 45530), (Start: 28 @45704 has 128 MA's), (81, 45845), (94, 45893), (104, 45941), (130, 46034), (152, 46097),

Gene: Becksu\_79 Start: 50348, Stop: 50683, Start Num: 60

Candidate Starts for Becksu\_79:

(7, 50096), (Start: 56 @50333 has 18 MA's), (Start: 60 @50348 has 87 MA's), (70, 50384), (148, 50663),

Gene: Bench\_83 Start: 49816, Stop: 50148, Start Num: 60

Candidate Starts for Bench\_83:

(1, 49246), (2, 49363), (7, 49564), (Start: 56 @49801 has 18 MA's), (Start: 60 @49816 has 87 MA's), (70, 49852), (148, 50128),

Gene: Bench\_71 Start: 45175, Stop: 45585, Start Num: 28

Candidate Starts for Bench\_71:

(8, 45001), (Start: 28 @45175 has 128 MA's), (81, 45316), (94, 45364), (104, 45412), (130, 45505), (148, 45547),

Gene: BigBubba\_68 Start: 44884, Stop: 45294, Start Num: 28

Candidate Starts for BigBubba\_68:

(Start: 28 @44884 has 128 MA's), (81, 45025), (94, 45073), (104, 45121), (130, 45214), (148, 45256),

Gene: BigBubba\_80 Start: 49528, Stop: 49860, Start Num: 60

Candidate Starts for BigBubba\_80:

(7, 49276), (Start: 56 @49513 has 18 MA's), (Start: 60 @49528 has 87 MA's), (70, 49564), (148, 49840),

Gene: BilboSwaggins\_66 Start: 45513, Stop: 45923, Start Num: 28  
Candidate Starts for BilboSwaggins\_66:  
(8, 45339), (Start: 28 @45513 has 128 MA's), (71, 45609), (81, 45654), (94, 45702), (104, 45750),  
(130, 45843), (148, 45885),

Gene: BilboSwaggins\_78 Start: 50157, Stop: 50489, Start Num: 60  
Candidate Starts for BilboSwaggins\_78:  
(7, 49905), (Start: 56 @50142 has 18 MA's), (Start: 60 @50157 has 87 MA's), (70, 50193), (148,  
50469),

Gene: Bogg\_68 Start: 44454, Stop: 44864, Start Num: 28  
Candidate Starts for Bogg\_68:  
(Start: 28 @44454 has 128 MA's), (81, 44595), (94, 44643), (104, 44691), (130, 44784), (148, 44826),

Gene: Bogg\_80 Start: 49080, Stop: 49427, Start Num: 56  
Candidate Starts for Bogg\_80:  
(7, 48843), (Start: 56 @49080 has 18 MA's), (Start: 60 @49095 has 87 MA's), (70, 49131), (148,  
49407),

Gene: Brewer\_75 Start: 48603, Stop: 48950, Start Num: 56  
Candidate Starts for Brewer\_75:  
(7, 48366), (Start: 56 @48603 has 18 MA's), (Start: 60 @48618 has 87 MA's), (70, 48654), (148,  
48930),

Gene: Brewer\_63 Start: 43971, Stop: 44381, Start Num: 28  
Candidate Starts for Brewer\_63:  
(8, 43797), (Start: 28 @43971 has 128 MA's), (81, 44112), (94, 44160), (104, 44208), (130, 44301),  
(148, 44343),

Gene: Bruin\_65 Start: 44048, Stop: 44461, Start Num: 28  
Candidate Starts for Bruin\_65:  
(8, 43874), (Start: 28 @44048 has 128 MA's), (81, 44189), (94, 44237), (104, 44285), (130, 44378),  
(152, 44441),

Gene: Bruin\_77 Start: 48677, Stop: 49027, Start Num: 56  
Candidate Starts for Bruin\_77:  
(7, 48440), (Start: 56 @48677 has 18 MA's), (Start: 60 @48692 has 87 MA's), (70, 48728), (148,  
49007),

Gene: Buck\_69 Start: 45756, Stop: 46169, Start Num: 28  
Candidate Starts for Buck\_69:  
(8, 45582), (Start: 28 @45756 has 128 MA's), (81, 45897), (92, 45939), (117, 46047), (130, 46086),  
(152, 46149),

Gene: Buck\_81 Start: 50397, Stop: 50732, Start Num: 60  
Candidate Starts for Buck\_81:  
(7, 50145), (Start: 56 @50382 has 18 MA's), (Start: 60 @50397 has 87 MA's), (70, 50433), (148,  
50712),

Gene: Budgie\_76 Start: 45693, Stop: 46109, Start Num: 28  
Candidate Starts for Budgie\_76:

(8, 45519), (Start: 28 @45693 has 128 MA's), (81, 45834), (82, 45846), (92, 45876), (130, 46026), (150, 46074), (151, 46083),

Gene: Budgie\_88 Start: 50172, Stop: 50519, Start Num: 56

Candidate Starts for Budgie\_88:

(2, 49734), (7, 49935), (Start: 56 @50172 has 18 MA's), (Start: 60 @50187 has 87 MA's), (70, 50223), (107, 50382), (120, 50421), (125, 50436), (130, 50457), (135, 50466),

Gene: BugsBunny\_68 Start: 45583, Stop: 45993, Start Num: 28

Candidate Starts for BugsBunny\_68:

(Start: 28 @45583 has 128 MA's), (81, 45724), (94, 45772), (104, 45820), (130, 45913), (148, 45955),

Gene: BugsBunny\_80 Start: 50209, Stop: 50556, Start Num: 56

Candidate Starts for BugsBunny\_80:

(7, 49972), (Start: 56 @50209 has 18 MA's), (Start: 60 @50224 has 87 MA's), (70, 50260), (148, 50536),

Gene: Button\_63 Start: 43199, Stop: 43654, Start Num: 17

Candidate Starts for Button\_63:

(Start: 17 @43199 has 2 MA's), (31, 43241), (35, 43253), (53, 43289), (59, 43304), (71, 43346), (74, 43364), (86, 43421), (88, 43427), (102, 43484), (117, 43547), (127, 43571), (132, 43589),

Gene: Cactus\_71 Start: 44529, Stop: 44939, Start Num: 28

Candidate Starts for Cactus\_71:

(Start: 28 @44529 has 128 MA's), (81, 44670), (94, 44718), (104, 44766), (130, 44859), (148, 44901),

Gene: Cactus\_83 Start: 49173, Stop: 49508, Start Num: 60

Candidate Starts for Cactus\_83:

(7, 48921), (Start: 56 @49158 has 18 MA's), (Start: 60 @49173 has 87 MA's), (70, 49209), (148, 49488),

Gene: ChosenOne\_68 Start: 44532, Stop: 44942, Start Num: 28

Candidate Starts for ChosenOne\_68:

(Start: 28 @44532 has 128 MA's), (81, 44673), (94, 44721), (104, 44769), (130, 44862), (148, 44904),

Gene: ChosenOne\_80 Start: 49173, Stop: 49508, Start Num: 60

Candidate Starts for ChosenOne\_80:

(7, 48921), (Start: 56 @49158 has 18 MA's), (Start: 60 @49173 has 87 MA's), (70, 49209), (148, 49488),

Gene: ChotaBhai\_68 Start: 44844, Stop: 45257, Start Num: 28

Candidate Starts for ChotaBhai\_68:

(8, 44670), (Start: 28 @44844 has 128 MA's), (81, 44985), (92, 45027), (117, 45135), (130, 45174), (151, 45231),

Gene: Cjw1\_68 Start: 46229, Stop: 46639, Start Num: 28

Candidate Starts for Cjw1\_68:

(Start: 28 @46229 has 128 MA's), (81, 46370), (94, 46418), (104, 46466), (130, 46559), (148, 46601),

Gene: Cjw1\_80 Start: 50855, Stop: 51202, Start Num: 56

Candidate Starts for Cjw1\_80:

(7, 50618), (Start: 56 @50855 has 18 MA's), (Start: 60 @50870 has 87 MA's), (70, 50906), (148, 51182),

Gene: Command613\_82 Start: 50197, Stop: 50547, Start Num: 56

Candidate Starts for Command613\_82:

(7, 49960), (Start: 56 @50197 has 18 MA's), (Start: 60 @50212 has 87 MA's), (70, 50248), (148, 50527),

Gene: Command613\_70 Start: 45568, Stop: 45978, Start Num: 28

Candidate Starts for Command613\_70:

(8, 45394), (Start: 28 @45568 has 128 MA's), (81, 45709), (94, 45757), (104, 45805), (130, 45898), (148, 45940),

Gene: Contagion\_64 Start: 44329, Stop: 44742, Start Num: 28

Candidate Starts for Contagion\_64:

(8, 44155), (Start: 28 @44329 has 128 MA's), (81, 44470), (94, 44518), (104, 44566), (130, 44659), (152, 44722),

Gene: Contagion\_76 Start: 48973, Stop: 49308, Start Num: 60

Candidate Starts for Contagion\_76:

(7, 48721), (Start: 56 @48958 has 18 MA's), (Start: 60 @48973 has 87 MA's), (70, 49009), (148, 49288),

Gene: Cookies\_65 Start: 44698, Stop: 45111, Start Num: 28

Candidate Starts for Cookies\_65:

(8, 44524), (Start: 28 @44698 has 128 MA's), (81, 44839), (92, 44881), (117, 44989), (130, 45028),

Gene: CrystalP\_79 Start: 50157, Stop: 50489, Start Num: 60

Candidate Starts for CrystalP\_79:

(7, 49905), (Start: 56 @50142 has 18 MA's), (Start: 60 @50157 has 87 MA's), (70, 50193), (148, 50469),

Gene: CrystalP\_67 Start: 45513, Stop: 45923, Start Num: 28

Candidate Starts for CrystalP\_67:

(8, 45339), (Start: 28 @45513 has 128 MA's), (71, 45609), (81, 45654), (94, 45702), (104, 45750), (130, 45843), (148, 45885),

Gene: Czyszczone1\_69 Start: 45038, Stop: 45448, Start Num: 28

Candidate Starts for Czyszczone1\_69:

(Start: 28 @45038 has 128 MA's), (81, 45179), (94, 45227), (104, 45275), (130, 45368), (148, 45410),

Gene: Czyszczone1\_81 Start: 49679, Stop: 50011, Start Num: 60

Candidate Starts for Czyszczone1\_81:

(7, 49427), (Start: 56 @49664 has 18 MA's), (Start: 60 @49679 has 87 MA's), (70, 49715), (148, 49991),

Gene: Daikon\_82 Start: 50285, Stop: 50635, Start Num: 56

Candidate Starts for Daikon\_82:

(7, 50048), (Start: 56 @50285 has 18 MA's), (Start: 60 @50300 has 87 MA's), (70, 50336), (148, 50615),

Gene: Daikon\_70 Start: 45656, Stop: 46066, Start Num: 28

Candidate Starts for Daikon\_70:

(Start: 28 @45656 has 128 MA's), (81, 45797), (94, 45845), (104, 45893), (130, 45986), (148, 46028),

Gene: DoctorDiddles\_67 Start: 44888, Stop: 45301, Start Num: 28  
Candidate Starts for DoctorDiddles\_67:  
(8, 44714), (Start: 28 @44888 has 128 MA's), (81, 45029), (92, 45071), (117, 45179), (130, 45218),  
(152, 45281),

Gene: DrDrey\_80 Start: 50583, Stop: 50930, Start Num: 56  
Candidate Starts for DrDrey\_80:  
(7, 50346), (Start: 56 @50583 has 18 MA's), (Start: 60 @50598 has 87 MA's), (70, 50634), (148,  
50910),

Gene: DrDrey\_68 Start: 45954, Stop: 46364, Start Num: 28  
Candidate Starts for DrDrey\_68:  
(Start: 28 @45954 has 128 MA's), (81, 46095), (94, 46143), (104, 46191), (130, 46284), (148, 46326),

Gene: Dumbo\_68 Start: 44437, Stop: 44847, Start Num: 28  
Candidate Starts for Dumbo\_68:  
(Start: 28 @44437 has 128 MA's), (81, 44578), (94, 44626), (104, 44674), (130, 44767), (148, 44809),

Gene: Dumbo\_80 Start: 49063, Stop: 49413, Start Num: 56  
Candidate Starts for Dumbo\_80:  
(7, 48826), (Start: 56 @49063 has 18 MA's), (Start: 60 @49078 has 87 MA's), (70, 49114), (148,  
49393),

Gene: Dusk\_77 Start: 49378, Stop: 49713, Start Num: 60  
Candidate Starts for Dusk\_77:  
(7, 49126), (Start: 56 @49363 has 18 MA's), (Start: 60 @49378 has 87 MA's), (70, 49414), (148,  
49693),

Gene: Dusk\_65 Start: 44734, Stop: 45144, Start Num: 28  
Candidate Starts for Dusk\_65:  
(Start: 28 @44734 has 128 MA's), (81, 44875), (94, 44923), (104, 44971), (130, 45064), (148, 45106),

Gene: Easy2Say\_69 Start: 45975, Stop: 46385, Start Num: 28  
Candidate Starts for Easy2Say\_69:  
(8, 45801), (Start: 28 @45975 has 128 MA's), (71, 46071), (81, 46116), (94, 46164), (104, 46212),  
(130, 46305), (148, 46347),

Gene: Easy2Say\_81 Start: 50622, Stop: 50954, Start Num: 60  
Candidate Starts for Easy2Say\_81:  
(7, 50370), (Start: 56 @50607 has 18 MA's), (Start: 60 @50622 has 87 MA's), (70, 50658), (148,  
50934),

Gene: Elite2014\_67 Start: 44531, Stop: 44941, Start Num: 28  
Candidate Starts for Elite2014\_67:  
(Start: 28 @44531 has 128 MA's), (81, 44672), (94, 44720), (104, 44768), (130, 44861), (148, 44903),

Gene: Elite2014\_79 Start: 49172, Stop: 49507, Start Num: 60  
Candidate Starts for Elite2014\_79:  
(7, 48920), (Start: 56 @49157 has 18 MA's), (Start: 60 @49172 has 87 MA's), (70, 49208), (148,  
49487),

Gene: Elph10\_80 Start: 49162, Stop: 49509, Start Num: 56  
Candidate Starts for Elph10\_80:

(7, 48925), (Start: 56 @49162 has 18 MA's), (Start: 60 @49177 has 87 MA's), (70, 49213), (148, 49489),

Gene: Elph10\_68 Start: 44536, Stop: 44946, Start Num: 28

Candidate Starts for Elph10\_68:

(Start: 28 @44536 has 128 MA's), (81, 44677), (94, 44725), (104, 44773), (130, 44866), (148, 44908),

Gene: Emmina\_68 Start: 44438, Stop: 44848, Start Num: 28

Candidate Starts for Emmina\_68:

(8, 44264), (Start: 28 @44438 has 128 MA's), (81, 44579), (94, 44627), (104, 44675), (130, 44768), (148, 44810),

Gene: Emmina\_80 Start: 49079, Stop: 49411, Start Num: 60

Candidate Starts for Emmina\_80:

(Start: 56 @49064 has 18 MA's), (Start: 60 @49079 has 87 MA's), (70, 49115), (148, 49391),

Gene: Eureka\_66 Start: 45002, Stop: 45412, Start Num: 28

Candidate Starts for Eureka\_66:

(Start: 28 @45002 has 128 MA's), (81, 45143), (94, 45191), (104, 45239), (130, 45332), (148, 45374),

Gene: Eureka\_78 Start: 49628, Stop: 49975, Start Num: 56

Candidate Starts for Eureka\_78:

(7, 49391), (Start: 56 @49628 has 18 MA's), (Start: 60 @49643 has 87 MA's), (70, 49679), (148, 49955),

Gene: FairyPath\_68 Start: 45647, Stop: 46057, Start Num: 28

Candidate Starts for FairyPath\_68:

(8, 45473), (Start: 28 @45647 has 128 MA's), (81, 45788), (94, 45836), (104, 45884), (130, 45977), (148, 46019),

Gene: Filch\_81 Start: 49104, Stop: 49436, Start Num: 60

Candidate Starts for Filch\_81:

(7, 48852), (Start: 56 @49089 has 18 MA's), (Start: 60 @49104 has 87 MA's), (70, 49140), (148, 49416),

Gene: Filch\_69 Start: 44463, Stop: 44873, Start Num: 28

Candidate Starts for Filch\_69:

(Start: 28 @44463 has 128 MA's), (81, 44604), (94, 44652), (104, 44700), (130, 44793), (148, 44835),

Gene: FireRed\_84 Start: 50666, Stop: 51001, Start Num: 60

Candidate Starts for FireRed\_84:

(1, 50096), (2, 50213), (7, 50414), (Start: 56 @50651 has 18 MA's), (Start: 60 @50666 has 87 MA's), (70, 50702), (148, 50981),

Gene: FireRed\_72 Start: 46025, Stop: 46438, Start Num: 28

Candidate Starts for FireRed\_72:

(8, 45851), (Start: 28 @46025 has 128 MA's), (81, 46166), (94, 46214), (104, 46262), (130, 46355), (152, 46418),

Gene: Flypotenuse\_76 Start: 49163, Stop: 49498, Start Num: 60

Candidate Starts for Flypotenuse\_76:

(7, 48911), (Start: 56 @49148 has 18 MA's), (Start: 60 @49163 has 87 MA's), (70, 49199), (148, 49478),

Gene: Flypotenuse\_64 Start: 44519, Stop: 44929, Start Num: 28  
Candidate Starts for Flypotenuse\_64:  
(Start: 28 @44519 has 128 MA's), (81, 44660), (94, 44708), (104, 44756), (130, 44849), (148, 44891),

Gene: FoghornLeghorn\_62 Start: 43529, Stop: 43942, Start Num: 28  
Candidate Starts for FoghornLeghorn\_62:  
(8, 43355), (Start: 28 @43529 has 128 MA's), (81, 43670), (92, 43712), (117, 43820), (130, 43859),  
(152, 43922),

Gene: Fryberger\_66 Start: 37289, Stop: 36822, Start Num: 19  
Candidate Starts for Fryberger\_66:  
(Start: 19 @37289 has 1 MA's), (20, 37286), (Start: 29 @37241 has 4 MA's), (47, 37220), (73, 37133),  
(75, 37124), (79, 37103), (90, 37061), (105, 36998), (106, 36992), (118, 36953), (142, 36887),

Gene: Gage\_70 Start: 45309, Stop: 45719, Start Num: 28  
Candidate Starts for Gage\_70:  
(8, 45135), (Start: 28 @45309 has 128 MA's), (81, 45450), (94, 45498), (104, 45546), (130, 45639),  
(148, 45681),

Gene: Gage\_82 Start: 49956, Stop: 50291, Start Num: 60  
Candidate Starts for Gage\_82:  
(7, 49704), (Start: 56 @49941 has 18 MA's), (Start: 60 @49956 has 87 MA's), (70, 49992), (148,  
50271),

Gene: Gator\_78 Start: 50009, Stop: 50341, Start Num: 60  
Candidate Starts for Gator\_78:  
(7, 49757), (Start: 56 @49994 has 18 MA's), (Start: 60 @50009 has 87 MA's), (70, 50045), (148,  
50321),

Gene: Gator\_66 Start: 45365, Stop: 45775, Start Num: 28  
Candidate Starts for Gator\_66:  
(Start: 28 @45365 has 128 MA's), (81, 45506), (94, 45554), (104, 45602), (130, 45695), (148, 45737),

Gene: Gemini\_73 Start: 45826, Stop: 46236, Start Num: 28  
Candidate Starts for Gemini\_73:  
(8, 45652), (Start: 28 @45826 has 128 MA's), (81, 45967), (94, 46015), (104, 46063), (130, 46156),  
(148, 46198),

Gene: Gemini\_85 Start: 50473, Stop: 50808, Start Num: 60  
Candidate Starts for Gemini\_85:  
(7, 50221), (Start: 56 @50458 has 18 MA's), (Start: 60 @50473 has 87 MA's), (70, 50509), (148,  
50788),

Gene: GiKK\_67 Start: 44458, Stop: 44943, Start Num: 18  
Candidate Starts for GiKK\_67:  
(3, 44224), (4, 44242), (6, 44332), (9, 44353), (Start: 18 @44458 has 4 MA's), (22, 44482), (31, 44521),  
(35, 44533), (71, 44635), (88, 44716), (102, 44773), (117, 44836), (127, 44860), (132, 44878),

Gene: Glexan\_67 Start: 45646, Stop: 46059, Start Num: 28  
Candidate Starts for Glexan\_67:  
(8, 45472), (Start: 28 @45646 has 128 MA's), (81, 45787), (92, 45829), (117, 45937), (130, 45976),  
(152, 46039),

Gene: Glexan\_79 Start: 50293, Stop: 50628, Start Num: 60

Candidate Starts for Glexan\_79:

(7, 50041), (Start: 56 @50278 has 18 MA's), (Start: 60 @50293 has 87 MA's), (70, 50329), (148, 50608),

Gene: Goku\_66 Start: 44731, Stop: 45141, Start Num: 28

Candidate Starts for Goku\_66:

(Start: 28 @44731 has 128 MA's), (81, 44872), (94, 44920), (104, 44968), (130, 45061), (148, 45103),

Gene: Goku\_78 Start: 49357, Stop: 49704, Start Num: 56

Candidate Starts for Goku\_78:

(7, 49120), (Start: 56 @49357 has 18 MA's), (Start: 60 @49372 has 87 MA's), (70, 49408), (148, 49684),

Gene: GoldenSpark\_72 Start: 45309, Stop: 45719, Start Num: 28

Candidate Starts for GoldenSpark\_72:

(8, 45135), (Start: 28 @45309 has 128 MA's), (81, 45450), (94, 45498), (104, 45546), (130, 45639), (148, 45681),

Gene: GoldenSpark\_84 Start: 49941, Stop: 50291, Start Num: 56

Candidate Starts for GoldenSpark\_84:

(7, 49704), (Start: 56 @49941 has 18 MA's), (Start: 60 @49956 has 87 MA's), (70, 49992), (148, 50271),

Gene: Goldilocks\_71 Start: 44810, Stop: 45220, Start Num: 28

Candidate Starts for Goldilocks\_71:

(8, 44636), (Start: 28 @44810 has 128 MA's), (81, 44951), (94, 44999), (104, 45047), (130, 45140), (148, 45182),

Gene: Goldilocks\_83 Start: 49454, Stop: 49786, Start Num: 60

Candidate Starts for Goldilocks\_83:

(7, 49202), (Start: 56 @49439 has 18 MA's), (Start: 60 @49454 has 87 MA's), (70, 49490), (148, 49766),

Gene: GooberAzure\_71 Start: 45309, Stop: 45719, Start Num: 28

Candidate Starts for GooberAzure\_71:

(8, 45135), (Start: 28 @45309 has 128 MA's), (81, 45450), (94, 45498), (104, 45546), (130, 45639), (148, 45681),

Gene: GooberAzure\_83 Start: 49956, Stop: 50291, Start Num: 60

Candidate Starts for GooberAzure\_83:

(7, 49704), (Start: 56 @49941 has 18 MA's), (Start: 60 @49956 has 87 MA's), (70, 49992), (148, 50271),

Gene: Grayson\_206 Start: 104718, Stop: 105071, Start Num: 38

Candidate Starts for Grayson\_206:

(Start: 38 @104718 has 1 MA's), (80, 104859), (110, 104967), (114, 104985),

Gene: Grayson\_21 Start: 6068, Stop: 5700, Start Num: 42

Candidate Starts for Grayson\_21:

(Start: 28 @6098 has 128 MA's), (32, 6092), (Start: 34 @6086 has 1 MA's), (Start: 42 @6068 has 5 MA's), (81, 5924), (83, 5909), (139, 5717),

Gene: Grayson\_20 Start: 5707, Stop: 5357, Start Num: 42

Candidate Starts for Grayson\_20:

(33, 5728), (Start: 42 @5707 has 5 MA's), (109, 5467),

Gene: Grayson\_26 Start: 7449, Stop: 7075, Start Num: 36

Candidate Starts for Grayson\_26:

(Start: 36 @7449 has 3 MA's), (83, 7281), (92, 7254), (101, 7209), (121, 7140),

Gene: Greep\_84 Start: 50955, Stop: 51287, Start Num: 60

Candidate Starts for Greep\_84:

(7, 50703), (Start: 56 @50940 has 18 MA's), (Start: 60 @50955 has 87 MA's), (70, 50991), (148, 51267),

Gene: Greep\_72 Start: 46314, Stop: 46724, Start Num: 28

Candidate Starts for Greep\_72:

(Start: 28 @46314 has 128 MA's), (81, 46455), (94, 46503), (104, 46551), (130, 46644), (148, 46686),

Gene: Guey18\_72 Start: 38757, Stop: 38341, Start Num: 29

Candidate Starts for Guey18\_72:

(Start: 19 @38805 has 1 MA's), (20, 38802), (Start: 29 @38757 has 4 MA's), (47, 38736), (73, 38649), (75, 38640), (78, 38628), (79, 38619), (90, 38577), (105, 38514), (142, 38406),

Gene: HanKaySha\_80 Start: 49257, Stop: 49589, Start Num: 60

Candidate Starts for HanKaySha\_80:

(7, 49005), (Start: 56 @49242 has 18 MA's), (Start: 60 @49257 has 87 MA's), (70, 49293), (148, 49569),

Gene: HanKaySha\_68 Start: 44616, Stop: 45026, Start Num: 28

Candidate Starts for HanKaySha\_68:

(Start: 28 @44616 has 128 MA's), (81, 44757), (94, 44805), (104, 44853), (130, 44946), (148, 44988),

Gene: Harella\_80 Start: 50809, Stop: 51144, Start Num: 60

Candidate Starts for Harella\_80:

(7, 50557), (Start: 56 @50794 has 18 MA's), (Start: 60 @50809 has 87 MA's), (70, 50845), (148, 51124),

Gene: Harella\_68 Start: 46162, Stop: 46575, Start Num: 28

Candidate Starts for Harella\_68:

(8, 45988), (Start: 28 @46162 has 128 MA's), (81, 46303), (92, 46345), (117, 46453), (130, 46492), (152, 46555),

Gene: Henry\_78 Start: 49597, Stop: 49929, Start Num: 60

Candidate Starts for Henry\_78:

(7, 49345), (Start: 56 @49582 has 18 MA's), (Start: 60 @49597 has 87 MA's), (70, 49633), (148, 49909),

Gene: Henry\_66 Start: 44953, Stop: 45363, Start Num: 28

Candidate Starts for Henry\_66:

(8, 44779), (Start: 28 @44953 has 128 MA's), (71, 45049), (81, 45094), (94, 45142), (104, 45190), (130, 45283), (148, 45325),

Gene: Highbury\_79 Start: 49245, Stop: 49580, Start Num: 60

Candidate Starts for Highbury\_79:

(7, 48993), (Start: 56 @49230 has 18 MA's), (Start: 60 @49245 has 87 MA's), (70, 49281), (148, 49560),

Gene: Highbury\_67 Start: 44604, Stop: 45014, Start Num: 28

Candidate Starts for Highbury\_67:

(Start: 28 @44604 has 128 MA's), (81, 44745), (94, 44793), (104, 44841), (130, 44934), (148, 44976),

Gene: Holt\_85 Start: 50370, Stop: 50705, Start Num: 60

Candidate Starts for Holt\_85:

(7, 50118), (Start: 56 @50355 has 18 MA's), (Start: 60 @50370 has 87 MA's), (70, 50406), (148, 50685),

Gene: Holt\_73 Start: 45723, Stop: 46133, Start Num: 28

Candidate Starts for Holt\_73:

(8, 45549), (Start: 28 @45723 has 128 MA's), (81, 45864), (94, 45912), (104, 45960), (130, 46053), (148, 46095),

Gene: Hoonter\_71 Start: 45309, Stop: 45719, Start Num: 28

Candidate Starts for Hoonter\_71:

(8, 45135), (Start: 28 @45309 has 128 MA's), (81, 45450), (94, 45498), (104, 45546), (130, 45639), (148, 45681),

Gene: Hoonter\_83 Start: 49956, Stop: 50288, Start Num: 60

Candidate Starts for Hoonter\_83:

(1, 49386), (2, 49503), (7, 49704), (Start: 56 @49941 has 18 MA's), (Start: 60 @49956 has 87 MA's), (70, 49992), (148, 50268),

Gene: Hooney\_80 Start: 49789, Stop: 50121, Start Num: 60

Candidate Starts for Hooney\_80:

(7, 49537), (Start: 56 @49774 has 18 MA's), (Start: 60 @49789 has 87 MA's), (70, 49825), (148, 50101),

Gene: Hooney\_68 Start: 45148, Stop: 45558, Start Num: 28

Candidate Starts for Hooney\_68:

(Start: 28 @45148 has 128 MA's), (81, 45289), (94, 45337), (104, 45385), (130, 45478), (148, 45520),

Gene: HufflyPuff\_83 Start: 50607, Stop: 50954, Start Num: 56

Candidate Starts for HufflyPuff\_83:

(Start: 56 @50607 has 18 MA's), (Start: 60 @50622 has 87 MA's), (70, 50658), (148, 50934),

Gene: HufflyPuff\_71 Start: 45981, Stop: 46391, Start Num: 28

Candidate Starts for HufflyPuff\_71:

(Start: 28 @45981 has 128 MA's), (81, 46122), (94, 46170), (104, 46218), (130, 46311), (148, 46353),

Gene: IHOP\_78 Start: 49721, Stop: 50053, Start Num: 60

Candidate Starts for IHOP\_78:

(7, 49469), (Start: 56 @49706 has 18 MA's), (Start: 60 @49721 has 87 MA's), (70, 49757), (148, 50033),

Gene: IHOP\_66 Start: 45077, Stop: 45487, Start Num: 28

Candidate Starts for IHOP\_66:

(Start: 28 @45077 has 128 MA's), (81, 45218), (94, 45266), (104, 45314), (130, 45407), (148, 45449),

Gene: Icee\_81 Start: 49620, Stop: 49955, Start Num: 60

Candidate Starts for Icee\_81:

(7, 49368), (Start: 56 @49605 has 18 MA's), (Start: 60 @49620 has 87 MA's), (70, 49656), (148, 49935),

Gene: Icee\_69 Start: 44976, Stop: 45386, Start Num: 28

Candidate Starts for Icee\_69:

(Start: 28 @44976 has 128 MA's), (81, 45117), (94, 45165), (104, 45213), (130, 45306), (148, 45348),

Gene: Inca\_77 Start: 48246, Stop: 48581, Start Num: 60

Candidate Starts for Inca\_77:

(7, 47994), (Start: 56 @48231 has 18 MA's), (Start: 60 @48246 has 87 MA's), (70, 48282), (148, 48561),

Gene: Inca\_65 Start: 43602, Stop: 44012, Start Num: 28

Candidate Starts for Inca\_65:

(8, 43428), (Start: 28 @43602 has 128 MA's), (81, 43743), (94, 43791), (104, 43839), (130, 43932), (148, 43974),

Gene: Jamzy\_67 Start: 44194, Stop: 44679, Start Num: 18

Candidate Starts for Jamzy\_67:

(3, 43960), (4, 43978), (6, 44068), (9, 44089), (Start: 18 @44194 has 4 MA's), (22, 44218), (31, 44257), (35, 44269), (71, 44371), (88, 44452), (117, 44572), (127, 44596), (132, 44614),

Gene: JeTaime\_68 Start: 45800, Stop: 46210, Start Num: 28

Candidate Starts for JeTaime\_68:

(8, 45626), (Start: 28 @45800 has 128 MA's), (81, 45941), (94, 45989), (104, 46037), (130, 46130), (148, 46172),

Gene: JeTaime\_80 Start: 50438, Stop: 50770, Start Num: 60

Candidate Starts for JeTaime\_80:

(7, 50186), (Start: 56 @50423 has 18 MA's), (Start: 60 @50438 has 87 MA's), (70, 50474), (148, 50750),

Gene: Kanye\_65 Start: 44658, Stop: 45068, Start Num: 28

Candidate Starts for Kanye\_65:

(Start: 28 @44658 has 128 MA's), (81, 44799), (94, 44847), (104, 44895), (130, 44988), (148, 45030),

Gene: Kanye\_77 Start: 49302, Stop: 49637, Start Num: 60

Candidate Starts for Kanye\_77:

(7, 49050), (Start: 56 @49287 has 18 MA's), (Start: 60 @49302 has 87 MA's), (70, 49338), (148, 49617),

Gene: Keelan\_65 Start: 37692, Stop: 37240, Start Num: 13

Candidate Starts for Keelan\_65:

(Start: 13 @37692 has 1 MA's), (15, 37689), (21, 37662), (Start: 29 @37620 has 4 MA's), (52, 37569), (Start: 56 @37560 has 18 MA's), (65, 37527), (79, 37464), (89, 37425), (97, 37389), (103, 37371), (108, 37347), (144, 37254), (147, 37245),

Gene: Kimchi\_84 Start: 49959, Stop: 50294, Start Num: 60

Candidate Starts for Kimchi\_84:

(7, 49707), (Start: 56 @49944 has 18 MA's), (Start: 60 @49959 has 87 MA's), (70, 49995), (148, 50274),

Gene: Kimchi\_72 Start: 45312, Stop: 45722, Start Num: 28

Candidate Starts for Kimchi\_72:

(8, 45138), (Start: 28 @45312 has 128 MA's), (81, 45453), (94, 45501), (104, 45549), (130, 45642), (148, 45684),

Gene: Kostya\_68 Start: 45176, Stop: 45586, Start Num: 28

Candidate Starts for Kostya\_68:

(Start: 28 @45176 has 128 MA's), (81, 45317), (94, 45365), (104, 45413), (130, 45506), (148, 45548),

Gene: Kostya\_80 Start: 49805, Stop: 50155, Start Num: 56

Candidate Starts for Kostya\_80:

(7, 49568), (Start: 56 @49805 has 18 MA's), (Start: 60 @49820 has 87 MA's), (70, 49856), (148, 50135),

Gene: LilJank\_45 Start: 35208, Stop: 35594, Start Num: 29

Candidate Starts for LilJank\_45:

(Start: 26 @35196 has 3 MA's), (Start: 29 @35208 has 4 MA's), (35, 35226), (50, 35259), (74, 35340), (85, 35400), (98, 35451), (120, 35529), (128, 35556), (136, 35577),

Gene: LilJank\_52 Start: 37710, Stop: 38108, Start Num: 23

Candidate Starts for LilJank\_52:

(Start: 23 @37710 has 3 MA's), (Start: 28 @37740 has 128 MA's), (50, 37776), (54, 37779), (Start: 56 @37785 has 18 MA's), (62, 37809), (84, 37896), (92, 37917), (95, 37941), (115, 38016), (124, 38040), (145, 38094), (146, 38100),

Gene: Lilac\_70 Start: 44933, Stop: 45343, Start Num: 28

Candidate Starts for Lilac\_70:

(Start: 28 @44933 has 128 MA's), (81, 45074), (94, 45122), (104, 45170), (130, 45263), (148, 45305),

Gene: Lilac\_82 Start: 49574, Stop: 49906, Start Num: 60

Candidate Starts for Lilac\_82:

(7, 49322), (Start: 56 @49559 has 18 MA's), (Start: 60 @49574 has 87 MA's), (70, 49610), (148, 49886),

Gene: Lilizi\_69 Start: 44646, Stop: 45056, Start Num: 28

Candidate Starts for Lilizi\_69:

(8, 44472), (Start: 28 @44646 has 128 MA's), (81, 44787), (94, 44835), (104, 44883), (130, 44976), (148, 45018),

Gene: Lilizi\_81 Start: 49287, Stop: 49619, Start Num: 60

Candidate Starts for Lilizi\_81:

(1, 48717), (2, 48834), (7, 49035), (Start: 56 @49272 has 18 MA's), (Start: 60 @49287 has 87 MA's), (70, 49323), (148, 49599),

Gene: Lilpickle\_67 Start: 44531, Stop: 44941, Start Num: 28

Candidate Starts for Lilpickle\_67:

(Start: 28 @44531 has 128 MA's), (81, 44672), (94, 44720), (104, 44768), (130, 44861), (148, 44903),

Gene: Lilpickle\_79 Start: 49172, Stop: 49507, Start Num: 60

Candidate Starts for Lilpickle\_79:

(7, 48920), (Start: 56 @49157 has 18 MA's), (Start: 60 @49172 has 87 MA's), (70, 49208), (148, 49487),

Gene: MISSy\_81 Start: 49663, Stop: 50013, Start Num: 56

Candidate Starts for MISSy\_81:

(7, 49426), (Start: 56 @49663 has 18 MA's), (Start: 60 @49678 has 87 MA's), (70, 49714), (148, 49993),

Gene: MISSy\_69 Start: 45034, Stop: 45447, Start Num: 28

Candidate Starts for MISSy\_69:

(8, 44860), (Start: 28 @45034 has 128 MA's), (81, 45175), (94, 45223), (104, 45271), (130, 45364), (152, 45427),

Gene: MPhalcon\_81 Start: 49671, Stop: 50006, Start Num: 60

Candidate Starts for MPhalcon\_81:

(7, 49419), (Start: 56 @49656 has 18 MA's), (Start: 60 @49671 has 87 MA's), (70, 49707), (148, 49986),

Gene: MPhalcon\_69 Start: 45027, Stop: 45440, Start Num: 28

Candidate Starts for MPhalcon\_69:

(8, 44853), (Start: 28 @45027 has 128 MA's), (81, 45168), (94, 45216), (104, 45264), (130, 45357), (152, 45420),

Gene: MadamMonkfish\_68 Start: 44255, Stop: 44665, Start Num: 28

Candidate Starts for MadamMonkfish\_68:

(8, 44081), (Start: 28 @44255 has 128 MA's), (81, 44396), (94, 44444), (104, 44492), (130, 44585), (148, 44627),

Gene: MadamMonkfish\_80 Start: 48896, Stop: 49234, Start Num: 60

Candidate Starts for MadamMonkfish\_80:

(7, 48644), (Start: 56 @48881 has 18 MA's), (Start: 60 @48896 has 87 MA's), (70, 48932), (148, 49214),

Gene: Manda\_68 Start: 45536, Stop: 45946, Start Num: 28

Candidate Starts for Manda\_68:

(Start: 28 @45536 has 128 MA's), (81, 45677), (94, 45725), (104, 45773), (130, 45866), (148, 45908),

Gene: Manda\_81 Start: 50758, Stop: 51093, Start Num: 60

Candidate Starts for Manda\_81:

(7, 50506), (Start: 56 @50743 has 18 MA's), (Start: 60 @50758 has 87 MA's), (70, 50794), (148, 51073),

Gene: Margaret\_67 Start: 43929, Stop: 44381, Start Num: 18

Candidate Starts for Margaret\_67:

(Start: 18 @43929 has 4 MA's), (31, 43968), (35, 43980), (53, 44016), (59, 44031), (71, 44073), (74, 44091), (82, 44133), (86, 44148), (88, 44154), (117, 44274), (127, 44298), (132, 44316), (149, 44361),

Gene: Marshmallow\_78 Start: 50436, Stop: 50783, Start Num: 56

Candidate Starts for Marshmallow\_78:

(7, 50199), (Start: 56 @50436 has 18 MA's), (Start: 60 @50451 has 87 MA's), (70, 50487), (148, 50763),

Gene: Marshmallow\_66 Start: 45804, Stop: 46214, Start Num: 28

Candidate Starts for Marshmallow\_66:

(Start: 28 @45804 has 128 MA's), (81, 45945), (94, 45993), (104, 46041), (130, 46134), (148, 46176),

Gene: Maxxinista\_82 Start: 49547, Stop: 49879, Start Num: 60

Candidate Starts for Maxxinista\_82:

(7, 49295), (Start: 56 @49532 has 18 MA's), (Start: 60 @49547 has 87 MA's), (70, 49583), (148, 49859),

Gene: Maxxinista\_70 Start: 44906, Stop: 45316, Start Num: 28

Candidate Starts for Maxxinista\_70:

(Start: 28 @44906 has 128 MA's), (81, 45047), (94, 45095), (104, 45143), (130, 45236), (148, 45278),

Gene: Mindy\_67 Start: 44119, Stop: 44529, Start Num: 28

Candidate Starts for Mindy\_67:

(8, 43945), (Start: 28 @44119 has 128 MA's), (71, 44215), (81, 44260), (94, 44308), (104, 44356), (130, 44449), (148, 44491),

Gene: Mindy\_79 Start: 48763, Stop: 49095, Start Num: 60

Candidate Starts for Mindy\_79:

(7, 48511), (Start: 56 @48748 has 18 MA's), (Start: 60 @48763 has 87 MA's), (70, 48799), (148, 49075),

Gene: Miniwave\_63 Start: 44572, Stop: 44982, Start Num: 28

Candidate Starts for Miniwave\_63:

(Start: 28 @44572 has 128 MA's), (81, 44713), (94, 44761), (104, 44809), (130, 44902), (148, 44944),

Gene: Misfit\_81 Start: 50690, Stop: 51025, Start Num: 60

Candidate Starts for Misfit\_81:

(7, 50438), (Start: 56 @50675 has 18 MA's), (Start: 60 @50690 has 87 MA's), (70, 50726), (148, 51005),

Gene: Misfit\_69 Start: 46046, Stop: 46459, Start Num: 28

Candidate Starts for Misfit\_69:

(8, 45872), (Start: 28 @46046 has 128 MA's), (81, 46187), (94, 46235), (104, 46283), (130, 46376), (152, 46439),

Gene: Moldemort\_71 Start: 45128, Stop: 45538, Start Num: 28

Candidate Starts for Moldemort\_71:

(8, 44954), (Start: 28 @45128 has 128 MA's), (71, 45224), (81, 45269), (94, 45317), (104, 45365), (130, 45458), (148, 45500),

Gene: Moldemort\_83 Start: 49775, Stop: 50107, Start Num: 60

Candidate Starts for Moldemort\_83:

(7, 49523), (Start: 56 @49760 has 18 MA's), (Start: 60 @49775 has 87 MA's), (70, 49811), (148, 50087),

Gene: MollyToe\_63 Start: 43876, Stop: 44289, Start Num: 28

Candidate Starts for MollyToe\_63:

(8, 43702), (Start: 28 @43876 has 128 MA's), (81, 44017), (92, 44059), (117, 44167), (130, 44206), (152, 44269),

Gene: Mosby\_76 Start: 48973, Stop: 49308, Start Num: 60

Candidate Starts for Mosby\_76:

(7, 48721), (Start: 56 @48958 has 18 MA's), (Start: 60 @48973 has 87 MA's), (70, 49009), (148, 49288),

Gene: Mosby\_64 Start: 44329, Stop: 44742, Start Num: 28

Candidate Starts for Mosby\_64:

(8, 44155), (Start: 28 @44329 has 128 MA's), (81, 44470), (94, 44518), (104, 44566), (130, 44659), (152, 44722),

Gene: Murica\_71 Start: 45981, Stop: 46391, Start Num: 28

Candidate Starts for Murica\_71:

(Start: 28 @45981 has 128 MA's), (81, 46122), (94, 46170), (104, 46218), (130, 46311), (148, 46353),

Gene: Murica\_83 Start: 50622, Stop: 50954, Start Num: 60

Candidate Starts for Murica\_83:

(Start: 56 @50607 has 18 MA's), (Start: 60 @50622 has 87 MA's), (70, 50658), (148, 50934),

Gene: Murphy\_80 Start: 50059, Stop: 50391, Start Num: 60

Candidate Starts for Murphy\_80:

(7, 49807), (Start: 56 @50044 has 18 MA's), (Start: 60 @50059 has 87 MA's), (70, 50095), (148, 50371),

Gene: Murphy\_68 Start: 45418, Stop: 45828, Start Num: 28

Candidate Starts for Murphy\_68:

(Start: 28 @45418 has 128 MA's), (81, 45559), (94, 45607), (104, 45655), (130, 45748), (148, 45790),

Gene: Myrale\_68 Start: 45669, Stop: 46079, Start Num: 28

Candidate Starts for Myrale\_68:

(Start: 28 @45669 has 128 MA's), (81, 45810), (94, 45858), (104, 45906), (130, 45999), (148, 46041),

Gene: Nala\_70 Start: 45539, Stop: 45952, Start Num: 28

Candidate Starts for Nala\_70:

(8, 45365), (Start: 28 @45539 has 128 MA's), (81, 45680), (94, 45728), (104, 45776), (130, 45869), (152, 45932),

Gene: Nala\_82 Start: 50180, Stop: 50515, Start Num: 60

Candidate Starts for Nala\_82:

(1, 49610), (2, 49727), (7, 49928), (Start: 56 @50165 has 18 MA's), (Start: 60 @50180 has 87 MA's), (70, 50216), (148, 50495),

Gene: NelitzaMV\_66 Start: 44618, Stop: 45028, Start Num: 28

Candidate Starts for NelitzaMV\_66:

(Start: 28 @44618 has 128 MA's), (81, 44759), (94, 44807), (104, 44855), (130, 44948), (148, 44990),

Gene: NelitzaMV\_78 Start: 49247, Stop: 49597, Start Num: 56

Candidate Starts for NelitzaMV\_78:

(7, 49010), (Start: 56 @49247 has 18 MA's), (Start: 60 @49262 has 87 MA's), (70, 49298), (148, 49577),

Gene: Neville\_54 Start: 37372, Stop: 37770, Start Num: 23

Candidate Starts for Neville\_54:

(Start: 23 @37372 has 3 MA's), (Start: 28 @37402 has 128 MA's), (50, 37438), (54, 37441), (Start: 56 @37447 has 18 MA's), (62, 37471), (84, 37558), (92, 37579), (95, 37603), (115, 37678), (124, 37702), (145, 37756), (146, 37762),

Gene: Neville\_46 Start: 34837, Stop: 35271, Start Num: 26

Candidate Starts for Neville\_46:

(Start: 26 @34837 has 3 MA's), (Start: 29 @34849 has 4 MA's), (35, 34867), (50, 34900), (73, 34981), (87, 35050), (111, 35149), (116, 35167), (123, 35182), (126, 35191), (129, 35206),

Gene: NiceHouse\_173 Start: 98723, Stop: 99082, Start Num: 44

Candidate Starts for NiceHouse\_173:

(25, 98672), (Start: 44 @98723 has 1 MA's), (55, 98753), (80, 98870), (91, 98912), (134, 99053),

Gene: NiceHouse\_172 Start: 98331, Stop: 98723, Start Num: 30

Candidate Starts for NiceHouse\_172:

(Start: 30 @98331 has 1 MA's), (48, 98373), (49, 98376), (68, 98448),

Gene: Nimrod\_81 Start: 50883, Stop: 51218, Start Num: 60

Candidate Starts for Nimrod\_81:

(1, 50313), (2, 50430), (7, 50631), (Start: 56 @50868 has 18 MA's), (Start: 60 @50883 has 87 MA's), (70, 50919), (148, 51198),

Gene: Nimrod\_69 Start: 46236, Stop: 46649, Start Num: 28

Candidate Starts for Nimrod\_69:

(8, 46062), (Start: 28 @46236 has 128 MA's), (81, 46377), (94, 46425), (104, 46473), (130, 46566), (152, 46629),

Gene: NoSleep\_69 Start: 44876, Stop: 45286, Start Num: 28

Candidate Starts for NoSleep\_69:

(Start: 28 @44876 has 128 MA's), (81, 45017), (94, 45065), (104, 45113), (130, 45206), (148, 45248),

Gene: NoSleep\_81 Start: 49517, Stop: 49852, Start Num: 60

Candidate Starts for NoSleep\_81:

(7, 49265), (Start: 56 @49502 has 18 MA's), (Start: 60 @49517 has 87 MA's), (70, 49553), (148, 49832),

Gene: NonchalantPear\_66 Start: 44726, Stop: 45136, Start Num: 28

Candidate Starts for NonchalantPear\_66:

(8, 44552), (Start: 28 @44726 has 128 MA's), (81, 44867), (94, 44915), (104, 44963), (130, 45056), (148, 45098),

Gene: NonchalantPear\_78 Start: 49355, Stop: 49708, Start Num: 56

Candidate Starts for NonchalantPear\_78:

(7, 49118), (Start: 56 @49355 has 18 MA's), (Start: 60 @49370 has 87 MA's), (70, 49406), (148, 49688),

Gene: OrionPax\_67 Start: 44624, Stop: 45034, Start Num: 28

Candidate Starts for OrionPax\_67:

(Start: 28 @44624 has 128 MA's), (81, 44765), (94, 44813), (104, 44861), (130, 44954), (148, 44996),

Gene: OrionPax\_79 Start: 49268, Stop: 49603, Start Num: 60

Candidate Starts for OrionPax\_79:

(7, 49016), (Start: 56 @49253 has 18 MA's), (Start: 60 @49268 has 87 MA's), (70, 49304), (148, 49583),

Gene: PaddyBaddy\_80 Start: 49271, Stop: 49603, Start Num: 60

Candidate Starts for PaddyBaddy\_80:

(7, 49019), (Start: 56 @49256 has 18 MA's), (Start: 60 @49271 has 87 MA's), (70, 49307), (148, 49583),

Gene: PaddyBaddy\_68 Start: 44630, Stop: 45040, Start Num: 28

Candidate Starts for PaddyBaddy\_68:

(Start: 28 @44630 has 128 MA's), (81, 44771), (94, 44819), (104, 44867), (130, 44960), (148, 45002),

Gene: Palpatine\_70 Start: 46008, Stop: 46418, Start Num: 28

Candidate Starts for Palpatine\_70:

(Start: 28 @46008 has 128 MA's), (81, 46149), (94, 46197), (104, 46245), (130, 46338), (148, 46380),

Gene: Palpatine\_82 Start: 50649, Stop: 50981, Start Num: 60

Candidate Starts for Palpatine\_82:

(7, 50397), (Start: 56 @50634 has 18 MA's), (Start: 60 @50649 has 87 MA's), (70, 50685), (148, 50961),

Gene: Paperbeatsrock\_67 Start: 45250, Stop: 45660, Start Num: 28

Candidate Starts for Paperbeatsrock\_67:

(Start: 28 @45250 has 128 MA's), (81, 45391), (94, 45439), (104, 45487), (130, 45580), (148, 45622),

Gene: Pat3\_66 Start: 43773, Stop: 44186, Start Num: 28

Candidate Starts for Pat3\_66:

(8, 43599), (Start: 28 @43773 has 128 MA's), (81, 43914), (92, 43956), (117, 44064), (130, 44103), (151, 44160),

Gene: Peregrin\_19 Start: 5539, Stop: 5195, Start Num: 42

Candidate Starts for Peregrin\_19:

(Start: 42 @5539 has 5 MA's), (109, 5299),

Gene: Peregrin\_24 Start: 6762, Stop: 6388, Start Num: 36

Candidate Starts for Peregrin\_24:

(Start: 36 @6762 has 3 MA's), (57, 6708), (77, 6633), (82, 6597), (83, 6594), (96, 6534),

Gene: Peregrin\_203 Start: 105124, Stop: 105477, Start Num: 39

Candidate Starts for Peregrin\_203:

(Start: 39 @105124 has 1 MA's), (80, 105265), (110, 105373), (114, 105391),

Gene: Peregrin\_20 Start: 5906, Stop: 5532, Start Num: 42

Candidate Starts for Peregrin\_20:

(Start: 42 @5906 has 5 MA's), (81, 5762), (83, 5747), (139, 5555), (140, 5552),

Gene: Petra64142\_84 Start: 51113, Stop: 51448, Start Num: 60

Candidate Starts for Petra64142\_84:

(7, 50861), (Start: 56 @51098 has 18 MA's), (Start: 60 @51113 has 87 MA's), (70, 51149), (148, 51428),

Gene: Petra64142\_72 Start: 46472, Stop: 46885, Start Num: 28

Candidate Starts for Petra64142\_72:

(8, 46298), (Start: 28 @46472 has 128 MA's), (81, 46613), (92, 46655), (117, 46763), (130, 46802), (152, 46865),

Gene: Phaja\_66 Start: 45076, Stop: 45486, Start Num: 28

Candidate Starts for Phaja\_66:

(Start: 28 @45076 has 128 MA's), (81, 45217), (94, 45265), (104, 45313), (130, 45406), (148, 45448),

Gene: Pharsalus\_65 Start: 45050, Stop: 45460, Start Num: 28

Candidate Starts for Pharsalus\_65:

(Start: 28 @45050 has 128 MA's), (81, 45191), (94, 45239), (104, 45287), (130, 45380), (148, 45422),

Gene: PhatBacter\_72 Start: 46025, Stop: 46435, Start Num: 28

Candidate Starts for PhatBacter\_72:

(Start: 28 @46025 has 128 MA's), (81, 46166), (94, 46214), (104, 46262), (130, 46355), (148, 46397),

Gene: PhatBacter\_84 Start: 50666, Stop: 51001, Start Num: 60

Candidate Starts for PhatBacter\_84:

(1, 50096), (2, 50213), (7, 50414), (Start: 56 @50651 has 18 MA's), (Start: 60 @50666 has 87 MA's), (70, 50702), (148, 50981),

Gene: Phaux\_70 Start: 46020, Stop: 46430, Start Num: 28

Candidate Starts for Phaux\_70:

(Start: 28 @46020 has 128 MA's), (81, 46161), (94, 46209), (104, 46257), (130, 46350), (148, 46392),

Gene: Phrux\_77 Start: 49257, Stop: 49589, Start Num: 60

Candidate Starts for Phrux\_77:

(7, 49005), (Start: 56 @49242 has 18 MA's), (Start: 60 @49257 has 87 MA's), (70, 49293), (148, 49569),

Gene: Phrux\_65 Start: 44616, Stop: 45026, Start Num: 28

Candidate Starts for Phrux\_65:

(Start: 28 @44616 has 128 MA's), (81, 44757), (94, 44805), (104, 44853), (130, 44946), (148, 44988),

Gene: Policronamos\_71 Start: 46020, Stop: 46430, Start Num: 28

Candidate Starts for Policronamos\_71:

(Start: 28 @46020 has 128 MA's), (81, 46161), (94, 46209), (104, 46257), (130, 46350), (148, 46392),

Gene: Porky\_79 Start: 49072, Stop: 49419, Start Num: 56

Candidate Starts for Porky\_79:

(Start: 56 @49072 has 18 MA's), (Start: 60 @49087 has 87 MA's), (70, 49123), (148, 49399),

Gene: Porky\_67 Start: 44446, Stop: 44856, Start Num: 28

Candidate Starts for Porky\_67:

(8, 44272), (Start: 28 @44446 has 128 MA's), (81, 44587), (94, 44635), (104, 44683), (130, 44776), (148, 44818),

Gene: Ptowny\_65 Start: 43912, Stop: 44322, Start Num: 28

Candidate Starts for Ptowny\_65:

(Start: 28 @43912 has 128 MA's), (81, 44053), (94, 44101), (104, 44149), (130, 44242), (148, 44284),

Gene: Ptowny\_77 Start: 48556, Stop: 48891, Start Num: 60

Candidate Starts for Ptowny\_77:

(7, 48304), (Start: 56 @48541 has 18 MA's), (Start: 60 @48556 has 87 MA's), (70, 48592), (148, 48871),

Gene: Pumpkin\_71 Start: 45674, Stop: 46084, Start Num: 28

Candidate Starts for Pumpkin\_71:

(Start: 28 @45674 has 128 MA's), (81, 45815), (94, 45863), (104, 45911), (130, 46004), (148, 46046),

Gene: Pumpkin\_83 Start: 50315, Stop: 50647, Start Num: 60

Candidate Starts for Pumpkin\_83:

(1, 49745), (2, 49862), (7, 50063), (Start: 56 @50300 has 18 MA's), (Start: 60 @50315 has 87 MA's), (70, 50351), (148, 50627),

Gene: Quallification\_69 Start: 45658, Stop: 46068, Start Num: 28

Candidate Starts for Quallification\_69:

(Start: 28 @45658 has 128 MA's), (81, 45799), (94, 45847), (104, 45895), (130, 45988), (148, 46030),

Gene: Rabbitrun\_55 Start: 37898, Stop: 38293, Start Num: 23

Candidate Starts for Rabbitrun\_55:

(11, 37826), (12, 37832), (16, 37865), (Start: 19 @37880 has 1 MA's), (Start: 23 @37898 has 3 MA's), (Start: 38 @37943 has 1 MA's), (46, 37958), (54, 37970), (108, 38183), (119, 38213), (145, 38282),

Gene: Rabbitrun\_47 Start: 35261, Stop: 35668, Start Num: 26

Candidate Starts for Rabbitrun\_47:

(Start: 26 @35261 has 3 MA's), (Start: 29 @35273 has 4 MA's), (35, 35291), (50, 35324), (74, 35405), (85, 35465), (111, 35570), (120, 35594),

Gene: Rakim\_81 Start: 49771, Stop: 50103, Start Num: 60

Candidate Starts for Rakim\_81:

(7, 49519), (Start: 56 @49756 has 18 MA's), (Start: 60 @49771 has 87 MA's), (70, 49807), (148, 50083),

Gene: Rakim\_69 Start: 45127, Stop: 45537, Start Num: 28

Candidate Starts for Rakim\_69:

(Start: 28 @45127 has 128 MA's), (81, 45268), (94, 45316), (104, 45364), (130, 45457), (148, 45499),

Gene: RanchParmCat\_67 Start: 44221, Stop: 44673, Start Num: 18

Candidate Starts for RanchParmCat\_67:

(5, 44083), (Start: 18 @44221 has 4 MA's), (31, 44260), (35, 44272), (53, 44308), (59, 44323), (71, 44365), (74, 44383), (82, 44425), (86, 44440), (88, 44446), (117, 44566), (127, 44590), (132, 44608), (149, 44653),

Gene: Rimmer\_69 Start: 45366, Stop: 45779, Start Num: 28

Candidate Starts for Rimmer\_69:

(8, 45192), (Start: 28 @45366 has 128 MA's), (81, 45507), (92, 45549), (117, 45657), (130, 45696), (152, 45759),

Gene: RiverMonster\_80 Start: 49835, Stop: 50167, Start Num: 60

Candidate Starts for RiverMonster\_80:

(7, 49583), (Start: 56 @49820 has 18 MA's), (Start: 60 @49835 has 87 MA's), (70, 49871), (148, 50147),

Gene: RiverMonster\_68 Start: 45194, Stop: 45604, Start Num: 28

Candidate Starts for RiverMonster\_68:

(Start: 28 @45194 has 128 MA's), (81, 45335), (94, 45383), (104, 45431), (130, 45524), (148, 45566),

Gene: Ronaldo\_69 Start: 38131, Stop: 37712, Start Num: 29

Candidate Starts for Ronaldo\_69:

(Start: 19 @38179 has 1 MA's), (20, 38176), (Start: 29 @38131 has 4 MA's), (47, 38110), (73, 38023), (75, 38014), (79, 37993), (90, 37951), (105, 37888), (106, 37882), (118, 37843), (142, 37777),

Gene: Saints25\_79 Start: 49245, Stop: 49580, Start Num: 60

Candidate Starts for Saints25\_79:

(7, 48993), (Start: 56 @49230 has 18 MA's), (Start: 60 @49245 has 87 MA's), (70, 49281), (148, 49560),

Gene: Saints25\_67 Start: 44604, Stop: 45014, Start Num: 28

Candidate Starts for Saints25\_67:

(Start: 28 @44604 has 128 MA's), (81, 44745), (94, 44793), (104, 44841), (130, 44934), (148, 44976),

Gene: Sassay\_63 Start: 43291, Stop: 43704, Start Num: 28

Candidate Starts for Sassay\_63:

(8, 43117), (Start: 28 @43291 has 128 MA's), (81, 43432), (92, 43474), (117, 43582), (130, 43621), (152, 43684),

Gene: ShamWow\_68 Start: 45513, Stop: 45923, Start Num: 28

Candidate Starts for ShamWow\_68:

(8, 45339), (Start: 28 @45513 has 128 MA's), (71, 45609), (81, 45654), (94, 45702), (104, 45750), (130, 45843), (148, 45885),

Gene: ShamWow\_80 Start: 50157, Stop: 50489, Start Num: 60

Candidate Starts for ShamWow\_80:

(7, 49905), (Start: 56 @50142 has 18 MA's), (Start: 60 @50157 has 87 MA's), (70, 50193), (148, 50469),

Gene: ShereKhan\_67 Start: 45582, Stop: 45992, Start Num: 28

Candidate Starts for ShereKhan\_67:

(Start: 28 @45582 has 128 MA's), (81, 45723), (94, 45771), (104, 45819), (130, 45912), (148, 45954),

Gene: Simpliphy\_79 Start: 49235, Stop: 49570, Start Num: 60

Candidate Starts for Simpliphy\_79:

(7, 48983), (Start: 56 @49220 has 18 MA's), (Start: 60 @49235 has 87 MA's), (70, 49271), (148, 49550),

Gene: Simpliphy\_67 Start: 44594, Stop: 45004, Start Num: 28

Candidate Starts for Simpliphy\_67:

(Start: 28 @44594 has 128 MA's), (81, 44735), (94, 44783), (104, 44831), (130, 44924), (148, 44966),

Gene: SirDuracell\_67 Start: 43865, Stop: 44278, Start Num: 28

Candidate Starts for SirDuracell\_67:

(8, 43691), (Start: 28 @43865 has 128 MA's), (81, 44006), (92, 44048), (117, 44156), (130, 44195), (152, 44258),

Gene: SophKB\_65 Start: 44269, Stop: 44679, Start Num: 28

Candidate Starts for SophKB\_65:

(Start: 28 @44269 has 128 MA's), (81, 44410), (94, 44458), (104, 44506), (130, 44599), (148, 44641),

Gene: Sotrice96\_69 Start: 45272, Stop: 45682, Start Num: 28

Candidate Starts for Sotrice96\_69:

(Start: 28 @45272 has 128 MA's), (81, 45413), (94, 45461), (104, 45509), (130, 45602), (148, 45644),

Gene: Sotrice96\_81 Start: 49916, Stop: 50251, Start Num: 60

Candidate Starts for Sotrice96\_81:

(7, 49664), (Start: 56 @49901 has 18 MA's), (Start: 60 @49916 has 87 MA's), (70, 49952), (148, 50231),

Gene: Spooks\_26 Start: 18379, Stop: 17993, Start Num: 24

Candidate Starts for Spooks\_26:

(14, 18403), (Start: 24 @18379 has 2 MA's), (45, 18319), (53, 18298), (61, 18277), (71, 18241), (92, 18154), (111, 18064), (113, 18058),

Gene: Stank\_83 Start: 50159, Stop: 50509, Start Num: 56

Candidate Starts for Stank\_83:

(7, 49922), (Start: 56 @50159 has 18 MA's), (Start: 60 @50174 has 87 MA's), (70, 50210), (148, 50489),

Gene: Stank\_71 Start: 45527, Stop: 45937, Start Num: 28

Candidate Starts for Stank\_71:

(8, 45353), (Start: 28 @45527 has 128 MA's), (71, 45623), (81, 45668), (94, 45716), (104, 45764), (130, 45857), (148, 45899),

Gene: Stark\_81 Start: 49718, Stop: 50050, Start Num: 60

Candidate Starts for Stark\_81:

(7, 49466), (Start: 56 @49703 has 18 MA's), (Start: 60 @49718 has 87 MA's), (70, 49754), (148, 50030),

Gene: Stark\_69 Start: 45077, Stop: 45487, Start Num: 28

Candidate Starts for Stark\_69:

(Start: 28 @45077 has 128 MA's), (81, 45218), (94, 45266), (104, 45314), (130, 45407), (148, 45449),

Gene: StellaBean\_66 Start: 44837, Stop: 45247, Start Num: 28

Candidate Starts for StellaBean\_66:

(Start: 28 @44837 has 128 MA's), (81, 44978), (94, 45026), (104, 45074), (130, 45167), (148, 45209),

Gene: StellaBean\_78 Start: 49481, Stop: 49813, Start Num: 60

Candidate Starts for StellaBean\_78:

(7, 49229), (Start: 56 @49466 has 18 MA's), (Start: 60 @49481 has 87 MA's), (70, 49517), (148, 49793),

Gene: StolenFromERC\_71 Start: 45309, Stop: 45719, Start Num: 28

Candidate Starts for StolenFromERC\_71:

(8, 45135), (Start: 28 @45309 has 128 MA's), (81, 45450), (94, 45498), (104, 45546), (130, 45639), (148, 45681),

Gene: StolenFromERC\_83 Start: 49956, Stop: 50291, Start Num: 60

Candidate Starts for StolenFromERC\_83:

(7, 49704), (Start: 56 @49941 has 18 MA's), (Start: 60 @49956 has 87 MA's), (70, 49992), (148, 50271),

Gene: StormChicken\_70 Start: 45973, Stop: 46386, Start Num: 28

Candidate Starts for StormChicken\_70:

(8, 45799), (Start: 28 @45973 has 128 MA's), (81, 46114), (92, 46156), (117, 46264), (130, 46303), (152, 46366),

Gene: Success\_26 Start: 17594, Stop: 17208, Start Num: 24  
Candidate Starts for Success\_26:  
(10, 17702), (14, 17618), (Start: 24 @17594 has 2 MA's), (45, 17534), (61, 17492), (71, 17456), (93, 17366), (111, 17279), (113, 17273),

Gene: TBrady12\_71 Start: 45011, Stop: 45421, Start Num: 28  
Candidate Starts for TBrady12\_71:  
(8, 44837), (Start: 28 @45011 has 128 MA's), (81, 45152), (94, 45200), (104, 45248), (130, 45341), (148, 45383),

Gene: TBrady12\_83 Start: 49655, Stop: 49990, Start Num: 60  
Candidate Starts for TBrady12\_83:  
(7, 49403), (Start: 56 @49640 has 18 MA's), (Start: 60 @49655 has 87 MA's), (70, 49691), (148, 49970),

Gene: Tarkin\_67 Start: 45259, Stop: 45669, Start Num: 28  
Candidate Starts for Tarkin\_67:  
(Start: 28 @45259 has 128 MA's), (81, 45400), (94, 45448), (104, 45496), (130, 45589), (148, 45631),

Gene: TeamEdward\_70 Start: 45967, Stop: 46380, Start Num: 28  
Candidate Starts for TeamEdward\_70:  
(8, 45793), (Start: 28 @45967 has 128 MA's), (81, 46108), (92, 46150), (117, 46258), (130, 46297), (152, 46360),

Gene: TeardropMSU\_64 Start: 44259, Stop: 44669, Start Num: 28  
Candidate Starts for TeardropMSU\_64:  
(Start: 28 @44259 has 128 MA's), (81, 44400), (94, 44448), (104, 44496), (130, 44589), (148, 44631),

Gene: Teaspoon\_69 Start: 45153, Stop: 45563, Start Num: 28  
Candidate Starts for Teaspoon\_69:  
(8, 44979), (Start: 28 @45153 has 128 MA's), (81, 45294), (94, 45342), (104, 45390), (130, 45483), (148, 45525),

Gene: Teaspoon\_81 Start: 49797, Stop: 50132, Start Num: 60  
Candidate Starts for Teaspoon\_81:  
(7, 49545), (Start: 56 @49782 has 18 MA's), (Start: 60 @49797 has 87 MA's), (70, 49833), (148, 50112),

Gene: Terminus\_71 Start: 46046, Stop: 46459, Start Num: 28  
Candidate Starts for Terminus\_71:  
(8, 45872), (Start: 28 @46046 has 128 MA's), (81, 46187), (94, 46235), (104, 46283), (130, 46376), (152, 46439),

Gene: Terminus\_83 Start: 50690, Stop: 51025, Start Num: 60  
Candidate Starts for Terminus\_83:  
(7, 50438), (Start: 56 @50675 has 18 MA's), (Start: 60 @50690 has 87 MA's), (70, 50726), (148, 51005),

Gene: Thimble\_69 Start: 44491, Stop: 44901, Start Num: 28  
Candidate Starts for Thimble\_69:  
(8, 44317), (Start: 28 @44491 has 128 MA's), (81, 44632), (94, 44680), (104, 44728), (130, 44821), (148, 44863),

Gene: Thimble\_81 Start: 49138, Stop: 49470, Start Num: 60

Candidate Starts for Thimble\_81:

(1, 48568), (2, 48685), (7, 48886), (Start: 56 @49123 has 18 MA's), (Start: 60 @49138 has 87 MA's), (70, 49174), (148, 49450),

Gene: Thresher\_82 Start: 50777, Stop: 51109, Start Num: 60

Candidate Starts for Thresher\_82:

(7, 50525), (Start: 56 @50762 has 18 MA's), (Start: 60 @50777 has 87 MA's), (70, 50813), (148, 51089),

Gene: Thresher\_70 Start: 46136, Stop: 46546, Start Num: 28

Candidate Starts for Thresher\_70:

(Start: 28 @46136 has 128 MA's), (81, 46277), (94, 46325), (104, 46373), (130, 46466), (148, 46508),

Gene: Tomaszewski\_63 Start: 44425, Stop: 44838, Start Num: 28

Candidate Starts for Tomaszewski\_63:

(8, 44251), (Start: 28 @44425 has 128 MA's), (81, 44566), (92, 44608), (117, 44716), (130, 44755), (152, 44818),

Gene: Tomaszewski\_75 Start: 49066, Stop: 49401, Start Num: 60

Candidate Starts for Tomaszewski\_75:

(7, 48814), (Start: 56 @49051 has 18 MA's), (Start: 60 @49066 has 87 MA's), (70, 49102), (148, 49381),

Gene: Toto\_66 Start: 45513, Stop: 45923, Start Num: 28

Candidate Starts for Toto\_66:

(8, 45339), (Start: 28 @45513 has 128 MA's), (71, 45609), (81, 45654), (94, 45702), (104, 45750), (130, 45843), (148, 45885),

Gene: Toto\_78 Start: 50157, Stop: 50489, Start Num: 60

Candidate Starts for Toto\_78:

(7, 49905), (Start: 56 @50142 has 18 MA's), (Start: 60 @50157 has 87 MA's), (70, 50193), (148, 50469),

Gene: Traaww1\_76 Start: 49341, Stop: 49673, Start Num: 60

Candidate Starts for Traaww1\_76:

(7, 49089), (Start: 56 @49326 has 18 MA's), (Start: 60 @49341 has 87 MA's), (70, 49377), (148, 49653),

Gene: Traaww1\_64 Start: 44694, Stop: 45104, Start Num: 28

Candidate Starts for Traaww1\_64:

(8, 44520), (Start: 28 @44694 has 128 MA's), (71, 44790), (81, 44835), (94, 44883), (104, 44931), (130, 45024), (148, 45066),

Gene: Trax\_45 Start: 35143, Stop: 35541, Start Num: 26

Candidate Starts for Trax\_45:

(Start: 26 @35143 has 3 MA's), (Start: 29 @35155 has 4 MA's), (35, 35173), (50, 35206), (74, 35287), (85, 35347), (98, 35398), (120, 35476), (128, 35503), (136, 35524),

Gene: Trax\_53 Start: 37657, Stop: 38055, Start Num: 23

Candidate Starts for Trax\_53:

(Start: 23 @37657 has 3 MA's), (Start: 28 @37687 has 128 MA's), (50, 37723), (54, 37726), (Start: 56 @37732 has 18 MA's), (62, 37756), (84, 37843), (92, 37864), (95, 37888), (115, 37963), (124, 37987),

(145, 38041), (146, 38047),

Gene: Trina\_236 Start: 121948, Stop: 122328, Start Num: 34

Candidate Starts for Trina\_236:

(Start: 34 @121948 has 1 MA's), (43, 121969), (51, 121990), (72, 122074), (80, 122116), (82, 122131), (122, 122263), (143, 122323),

Gene: Trina\_234 Start: 121206, Stop: 121604, Start Num: 41

Candidate Starts for Trina\_234:

(27, 121179), (37, 121200), (Start: 41 @121206 has 1 MA's), (45, 121215), (49, 121227), (58, 121254), (76, 121335), (82, 121374), (100, 121449), (112, 121500), (114, 121509), (122, 121527), (131, 121560), (133, 121563),

Gene: Tuco\_69 Start: 46021, Stop: 46431, Start Num: 28

Candidate Starts for Tuco\_69:

(Start: 28 @46021 has 128 MA's), (81, 46162), (94, 46210), (104, 46258), (130, 46351), (148, 46393),

Gene: Tuco\_81 Start: 50665, Stop: 50997, Start Num: 60

Candidate Starts for Tuco\_81:

(7, 50413), (Start: 56 @50650 has 18 MA's), (Start: 60 @50665 has 87 MA's), (70, 50701), (148, 50977),

Gene: Ukulele\_63 Start: 44407, Stop: 44817, Start Num: 28

Candidate Starts for Ukulele\_63:

(Start: 28 @44407 has 128 MA's), (81, 44548), (94, 44596), (104, 44644), (130, 44737), (148, 44779),

Gene: Ukulele\_75 Start: 49048, Stop: 49383, Start Num: 60

Candidate Starts for Ukulele\_75:

(7, 48796), (Start: 56 @49033 has 18 MA's), (Start: 60 @49048 has 87 MA's), (70, 49084), (148, 49363),

Gene: Volt\_69 Start: 38295, Stop: 37876, Start Num: 29

Candidate Starts for Volt\_69:

(Start: 19 @38343 has 1 MA's), (20, 38340), (Start: 29 @38295 has 4 MA's), (47, 38274), (73, 38187), (75, 38178), (79, 38157), (90, 38115), (105, 38052), (106, 38046), (118, 38007), (142, 37941),

Gene: Weasels2\_210 Start: 108355, Stop: 108705, Start Num: 40

Candidate Starts for Weasels2\_210:

(Start: 40 @108355 has 1 MA's), (66, 108442), (80, 108496), (81, 108499), (95, 108562), (98, 108574), (99, 108580), (138, 108688),

Gene: Weasels2\_18 Start: 5542, Stop: 5186, Start Num: 42

Candidate Starts for Weasels2\_18:

(Start: 42 @5542 has 5 MA's), (64, 5473), (67, 5455), (131, 5224), (137, 5209), (141, 5200),

Gene: Weasels2\_22 Start: 6969, Stop: 6571, Start Num: 36

Candidate Starts for Weasels2\_22:

(Start: 36 @6969 has 3 MA's), (49, 6942), (69, 6867), (86, 6786), (102, 6723), (109, 6690), (121, 6657),

Gene: Wiggin\_82 Start: 49742, Stop: 50074, Start Num: 60

Candidate Starts for Wiggin\_82:

(7, 49490), (Start: 56 @49727 has 18 MA's), (Start: 60 @49742 has 87 MA's), (70, 49778), (148, 50054),

Gene: Wiggin\_70 Start: 45095, Stop: 45505, Start Num: 28

Candidate Starts for Wiggin\_70:

(8, 44921), (Start: 28 @45095 has 128 MA's), (71, 45191), (81, 45236), (94, 45284), (104, 45332), (130, 45425), (148, 45467),

Gene: Willez\_63 Start: 43291, Stop: 43704, Start Num: 28

Candidate Starts for Willez\_63:

(8, 43117), (Start: 28 @43291 has 128 MA's), (81, 43432), (92, 43474), (117, 43582), (130, 43621), (152, 43684),

Gene: Xandras\_67 Start: 44506, Stop: 44916, Start Num: 28

Candidate Starts for Xandras\_67:

(Start: 28 @44506 has 128 MA's), (81, 44647), (94, 44695), (104, 44743), (130, 44836), (148, 44878),

Gene: Xandras\_79 Start: 49150, Stop: 49482, Start Num: 60

Candidate Starts for Xandras\_79:

(1, 48580), (2, 48697), (7, 48898), (Start: 56 @49135 has 18 MA's), (Start: 60 @49150 has 87 MA's), (70, 49186), (148, 49462),

Gene: Yakult\_64 Start: 44046, Stop: 44489, Start Num: 17

Candidate Starts for Yakult\_64:

(Start: 17 @44046 has 2 MA's), (63, 44154), (71, 44181), (74, 44199), (82, 44241), (86, 44256), (88, 44262), (103, 44325), (117, 44382), (132, 44424),

Gene: YassJohnny\_65 Start: 44464, Stop: 44877, Start Num: 28

Candidate Starts for YassJohnny\_65:

(8, 44290), (Start: 28 @44464 has 128 MA's), (81, 44605), (92, 44647), (117, 44755), (130, 44794), (152, 44857),

Gene: Youngblood\_71 Start: 45976, Stop: 46386, Start Num: 28

Candidate Starts for Youngblood\_71:

(8, 45802), (Start: 28 @45976 has 128 MA's), (81, 46117), (94, 46165), (104, 46213), (130, 46306), (148, 46348),

Gene: Youngblood\_83 Start: 50617, Stop: 50952, Start Num: 60

Candidate Starts for Youngblood\_83:

(7, 50365), (Start: 56 @50602 has 18 MA's), (Start: 60 @50617 has 87 MA's), (70, 50653), (148, 50932),

Gene: Ziko\_69 Start: 38117, Stop: 37698, Start Num: 29

Candidate Starts for Ziko\_69:

(Start: 19 @38165 has 1 MA's), (20, 38162), (Start: 29 @38117 has 4 MA's), (47, 38096), (73, 38009), (75, 38000), (79, 37979), (90, 37937), (105, 37874), (106, 37868), (118, 37829), (142, 37763),

Gene: xkcd\_71 Start: 46166, Stop: 46576, Start Num: 28

Candidate Starts for xkcd\_71:

(Start: 28 @46166 has 128 MA's), (81, 46307), (94, 46355), (104, 46403), (130, 46496), (148, 46538),

Gene: xkcd\_83 Start: 50807, Stop: 51139, Start Num: 60

Candidate Starts for xkcd\_83:

(Start: 56 @50792 has 18 MA's), (Start: 60 @50807 has 87 MA's), (70, 50843), (148, 51119),