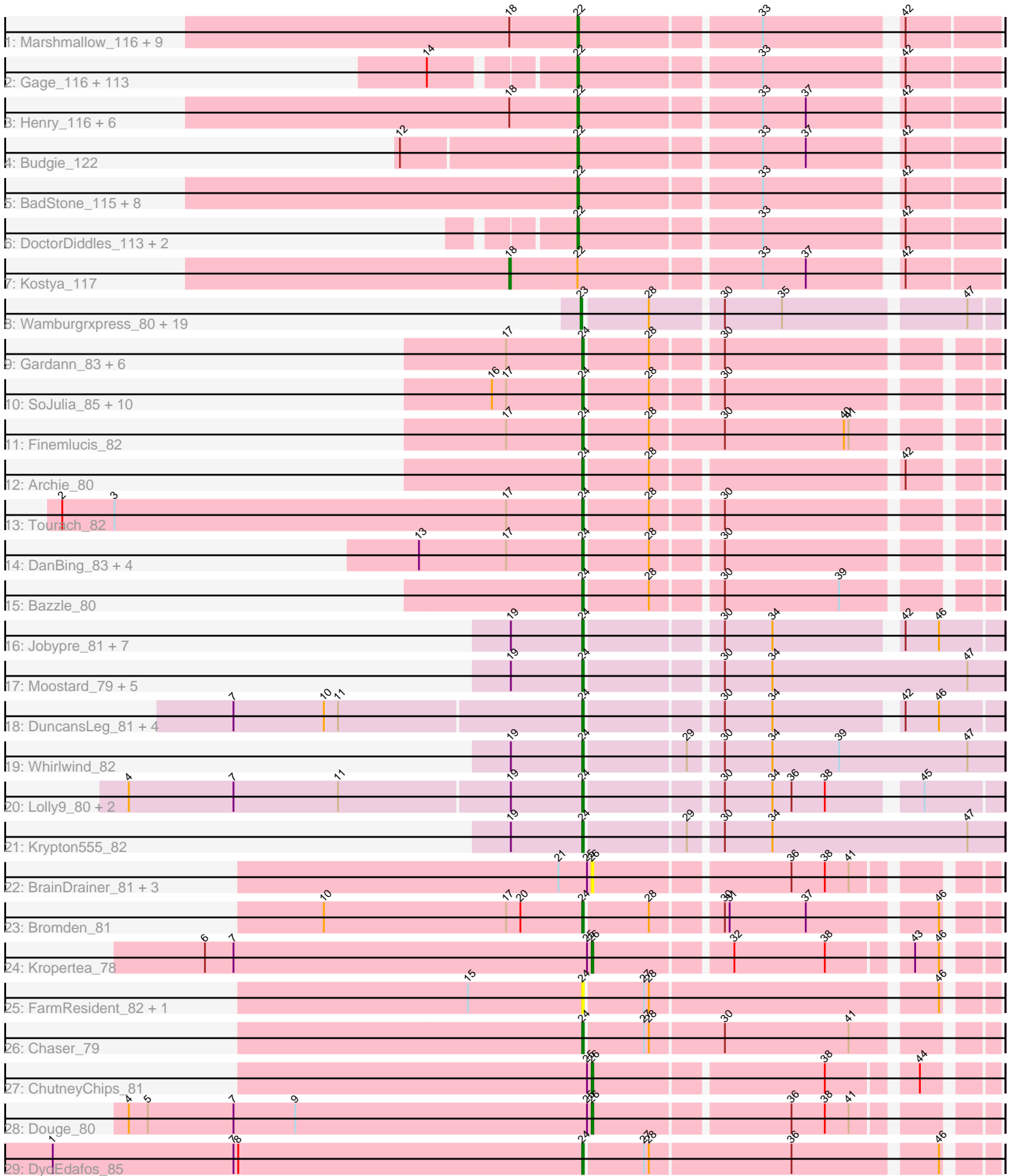


Pham 304700



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 304700 Report

This analysis was run 06/08/26 on database version 649.

Pham number 304700 has 228 members, 31 are drafts.

Phages represented in each track:

- Track 1 : Marshmallow\_116, Pat3\_114, Bask21\_118, Inca\_114, Cookies\_115, Phaja\_116, Amao\_118, Dusk\_115, FoghornLeghorn\_111, SirDuracell\_118
- Track 2 : Gage\_116, MadamMonkfish\_113, StormChicken\_116, Eureka\_114, Misfit\_115, StellaBean\_112, Traaww1\_111, HanKaySha\_114, Kimchi\_119, Contagion\_111, PhatBacter\_117, Adnama\_118, Murica\_118, Greep\_118, Becksu\_112, JeTaime\_113, TBrady12\_118, ChosenOne\_114, Petra64142\_118, Hopey\_114, Murphy\_113, Phaux\_116, Stark\_114, BaboJay\_114, Moldemort\_116, Emmina\_114, Pumpkin\_115, Bruin\_111, Xandras\_114, Elite2014\_113, Sassay\_109, CrystalP\_115, MPhalcon\_115, GoldenSpark\_118, Barbarian\_114, xkcd\_118, Maxxinista\_116, 244\_116, BilboSwaggins\_113, Bench\_116, PaddyBaddy\_113, Tarkin\_113, Simpliphy\_112, Manda\_115, Buck\_115, Asriel\_113, FairyPath\_115, Command613\_117, Ukulele\_109, TeamEdward\_114, Saints25\_110, Flypotenuse\_111, Dumbo\_114, MollyToe\_108, Cjw1\_114, Stank\_117, Wiggin\_117, YassJohnny\_111, Quallification\_115, Brewer\_110, Easy2Say\_114, AmericanBeauty\_117, Hoonter\_117, Youngblood\_118, Rimmer\_112, Gemini\_119, FireRed\_117, Lilac\_115, Czystczon1\_114, Policronamos\_117, Teaspoon\_115, Thresher\_115, ShereKhan\_112, Filch\_117, Argent26\_118, Ptowny\_110, BigBubba\_116, Goku\_114, Goldilocks\_118, Miniwave\_109, Myrale\_115, Terminus\_117, Lilizi\_114, Palpatine\_115, MISSy\_115, Porky\_113, Thimble\_116, OrionPax\_112, Bogg\_115, Highbury\_110, Balomoji\_115, Toto\_113, NoSleep\_114, Mosby\_111, Rakim\_116, NelitzaMV\_111, HuffyPuff\_116, Nimrod\_115, BugsBunny\_113, Willez\_109, Phrux\_110, Liveloughbron\_115, Paperbeatsrock\_113, Nala\_116, Holt\_120, RiverMonster\_113, Tomaszewski\_109, ShamWow\_115, Kanye\_111, StolenFromERC\_116, Lilpickle\_113, GooberAzure\_117, NonchalantPear\_114, Elph10\_113
- Track 3 : Henry\_116, Glexan\_117, Harella\_119, ChotaBhai\_118, Gator\_116, IHOP\_116, DrDrey\_118
- Track 4 : Budgie\_122
- Track 5 : BadStone\_115, TeardropMSU\_114, Sotrice96\_119, Mindy\_117, Icee\_119, ABCat\_115, Cactus\_122, Tuco\_119, Pharsalus\_114
- Track 6 : DoctorDiddles\_113, Daikon\_116, SophKB\_113
- Track 7 : Kostya\_117
- Track 8 : Wamburgxpress\_80, Enceladus\_77, AvadaKedavra\_80, Silverleaf\_80, Wyatt2\_81, DirkDirk\_77, MAckerman\_78, OhShagHennessy\_77, Rose5\_80, Zaria\_81, Acquire49\_80, LeBron\_79, UPIE\_79, Halena\_78, JoeDirt\_80, CicholasNage\_77, Appletree2\_79, Pochiewood\_78, Tyson\_81, Calm\_82

- Track 9 : Gardann\_83, Nicholasp3\_83, Crossroads\_83, Rumpelstiltskin\_80, Sarshaun\_84, Soap141\_83, Underpass\_74
- Track 10 : SoJulia\_85, BobsGarage\_83, Faith1\_83, Netyap\_84, DrSeegs\_83, BigCheese\_83, Winky\_83, Miley16\_83, Breezona\_83, Itos\_82, Gabriela\_82
- Track 11 : Finemlucis\_82
- Track 12 : Archie\_80
- Track 13 : Tourach\_82
- Track 14 : DanBing\_83, Baoshan\_81, Hafay\_84, Claus\_82, ZhongYanYuan\_80
- Track 15 : Bazzle\_80
- Track 16 : Jobypre\_81, Clautastrophe\_79, Red305\_82, Lumos\_81, MsGreen\_81, Bellis\_81, Jubie\_80, Snenia\_80
- Track 17 : Moostard\_79, Finnry\_81, Kingsolomon\_79, Nicholas\_79, Samty\_80, TriFive\_82
- Track 18 : DuncansLeg\_81, BourbonZero\_82, Ellson\_80, KirDoubleO7\_79, LiyuLake\_80
- Track 19 : Whirlwind\_82
- Track 20 : Lolly9\_80, MiniMac\_85, MiniLon\_85
- Track 21 : Krypton555\_82
- Track 22 : BrainDrainer\_81, Sheng711\_82, Douzhi\_81, PYPDinur\_80
- Track 23 : Bromden\_81
- Track 24 : Kropertea\_78
- Track 25 : FarmResident\_82, Quby\_81
- Track 26 : Chaser\_79
- Track 27 : ChutneyChips\_81
- Track 28 : Douge\_80
- Track 29 : DyoEdafos\_85

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

The start number called the most often in the published annotations is 22, it was called in 131 of the 197 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 244\_116, ABCat\_115, Adnama\_118, Amao\_118, AmericanBeauty\_117, Argent26\_118, Asriel\_113, BaboJay\_114, BadStone\_115, Balomoji\_115, Barbarian\_114, Bask21\_118, Becksu\_112, Bench\_116, BigBubba\_116, BilboSwaggins\_113, Bogg\_115, Brewer\_110, Bruin\_111, Buck\_115, Budgie\_122, BugsBunny\_113, Cactus\_122, ChosenOne\_114, ChotaBhai\_118, Cjw1\_114, Command613\_117, Contagion\_111, Cookies\_115, CrystalP\_115, Czyszczone1\_114, Daikon\_116, DoctorDiddles\_113, DrDrey\_118, Dumbo\_114, Dusk\_115, Easy2Say\_114, Elite2014\_113, Elph10\_113, Emmina\_114, Eureka\_114, FairyPath\_115, Filch\_117, FireRed\_117, Flypotenuse\_111, FoghornLeghorn\_111, Gage\_116, Gator\_116, Gemini\_119, Glexan\_117, Goku\_114, GoldenSpark\_118, Goldilocks\_118, GooberAzure\_117, Greep\_118, HanKaySha\_114, Harella\_119, Henry\_116, Highbury\_110, Holt\_120, Hoonter\_117, Hopey\_114, HufflyPuff\_116, IHOP\_116, Icee\_119, Inca\_114, JeTaime\_113, Kanye\_111, Kimchi\_119, Lilac\_115, Lilizi\_114, Lilpickle\_113, Liveloughbron\_115, MISSy\_115, MPhalcon\_115, MadamMonkfish\_113, Manda\_115, Marshmallow\_116, Maxxinista\_116, Mindy\_117, Miniwave\_109, Misfit\_115, Moldemort\_116, MollyToe\_108, Mosby\_111, Murica\_118, Murphy\_113, Myrale\_115, Nala\_116, NelitzaMV\_111, Nimrod\_115, NoSleep\_114,

NonchalantPear\_114, OrionPax\_112, PaddyBaddy\_113, Palpatine\_115, Paperbeatsrock\_113, Pat3\_114, Petra64142\_118, Phaja\_116, Pharsalus\_114, PhatBacter\_117, Phaux\_116, Phrux\_110, Policronamos\_117, Porky\_113, Ptowny\_110, Pumpkin\_115, Qualification\_115, Rakim\_116, Rimmer\_112, RiverMonster\_113, Saints25\_110, Sassay\_109, ShamWow\_115, ShereKhan\_112, Simpliphy\_112, SirDuracell\_118, SophKB\_113, Sotrice96\_119, Stank\_117, Stark\_114, StellaBean\_112, StolenFromERC\_116, StormChicken\_116, TBrady12\_118, Tarkin\_113, TeamEdward\_114, TeardropMSU\_114, Teaspoon\_115, Terminus\_117, Thimble\_116, Thresher\_115, Tomaszewski\_109, Toto\_113, Traaww1\_111, Tuco\_119, Ukulele\_109, Wiggin\_117, Willez\_109, Xandras\_114, YassJohnny\_111, Youngblood\_118, xkcd\_118,

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

- Kostya\_117,

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

- Acquire49\_80, Appletree2\_79, Archie\_80, AvadaKedavra\_80, Baoshan\_81, Bazzle\_80, Bellis\_81, BigCheese\_83, BobsGarage\_83, BourbonZero\_82, BrainDrainer\_81, Breezona\_83, Bromden\_81, Calm\_82, Chaser\_79, ChutneyChips\_81, CicholasNage\_77, Claus\_82, Clautastrophe\_79, Crossroads\_83, DanBing\_83, DirkDirk\_77, Douge\_80, Douzhi\_81, DrSeegs\_83, DuncansLeg\_81, DyoEdafos\_85, Ellson\_80, Enceladus\_77, Faith1\_83, FarmResident\_82, Finemlucis\_82, Finnry\_81, Gabriela\_82, Gardann\_83, Hafay\_84, Halena\_78, Itos\_82, Jobypre\_81, JoeDirt\_80, Jubie\_80, Kingsolomon\_79, KirDoubleO7\_79, Kropertea\_78, Krypton555\_82, LeBron\_79, LiyuLake\_80, Lolly9\_80, Lumos\_81, MAckerman\_78, Miley16\_83, MiniLon\_85, MiniMac\_85, Moostard\_79, MsGreen\_81, Netyap\_84, Nicholas\_79, Nicholasp3\_83, OhShagHennessy\_77, PYPDinur\_80, Poochiewood\_78, Quby\_81, Red305\_82, Rose5\_80, Rumpelstiltskin\_80, Samty\_80, Sarshaun\_84, Sheng711\_82, Silverleaf\_80, Snenia\_80, SoJulia\_85, Soap141\_83, Tourach\_82, TriFive\_82, Tyson\_81, UPIE\_79, Underpass\_74, Wamburggrxpress\_80, Whirlwind\_82, Winky\_83, Wyatt2\_81, Zaria\_81, ZhongYanYuan\_80,

### Summary by start number:

Start 18:

- Found in 18 of 228 ( 7.9% ) of genes in pham
- Manual Annotations of this start: 1 of 197
- Called 5.6% of time when present
- Phage (with cluster) where this start called: Kostya\_117 (E),

Start 22:

- Found in 145 of 228 ( 63.6% ) of genes in pham
- Manual Annotations of this start: 131 of 197
- Called 99.3% of time when present
- Phage (with cluster) where this start called: 244\_116 (E), ABCat\_115 (E), Adnama\_118 (E), Amao\_118 (E), AmericanBeauty\_117 (E), Argent26\_118 (E), Asriel\_113 (E), BaboJay\_114 (E), BadStone\_115 (E), Balomoji\_115 (E), Barbarian\_114 (E), Bask21\_118 (E), Becksu\_112 (E), Bench\_116 (E), BigBubba\_116 (E), BilboSwaggins\_113 (E), Bogg\_115 (E), Brewer\_110 (E), Bruin\_111 (E), Buck\_115 (E), Budgie\_122 (E), BugsBunny\_113 (E), Cactus\_122 (E), ChosenOne\_114 (E), ChotaBhai\_118 (E), Cjw1\_114 (E), Command613\_117 (E), Contagion\_111 (E), Cookies\_115 (E), CrystalP\_115 (E), Czystczon1\_114 (E), Daikon\_116 (E), DoctorDiddles\_113 (E), DrDrey\_118 (E), Dumbo\_114 (E), Dusk\_115

(E), Easy2Say\_114 (E), Elite2014\_113 (E), Elph10\_113 (E), Emmina\_114 (E), Eureka\_114 (E), FairyPath\_115 (E), Filch\_117 (E), FireRed\_117 (E), Flypotenuse\_111 (E), FoghornLeghorn\_111 (E), Gage\_116 (E), Gator\_116 (E), Gemini\_119 (E), Glexan\_117 (E), Goku\_114 (E), GoldenSpark\_118 (E), Goldilocks\_118 (E), GooberAzure\_117 (E), Greep\_118 (E), HanKaySha\_114 (E), Harella\_119 (E), Henry\_116 (E), Highbury\_110 (E), Holt\_120 (E), Hoonter\_117 (E), Hopey\_114 (E), HufflyPuff\_116 (E), IHOP\_116 (E), Icee\_119 (E), Inca\_114 (E), JeTaime\_113 (E), Kanye\_111 (E), Kimchi\_119 (E), Lilac\_115 (E), Lilizi\_114 (E), Lilpickle\_113 (E), Liveloughbron\_115 (E), MISSy\_115 (E), MPhalcon\_115 (E), MadamMonkfish\_113 (E), Manda\_115 (E), Marshmallow\_116 (E), Maxxinista\_116 (E), Mindy\_117 (E), Miniwave\_109 (E), Misfit\_115 (E), Moldemort\_116 (E), MollyToe\_108 (E), Mosby\_111 (E), Murica\_118 (E), Murphy\_113 (E), Myrale\_115 (E), Nala\_116 (E), NelitzaMV\_111 (E), Nimrod\_115 (E), NoSleep\_114 (E), NonchalantPear\_114 (E), OrionPax\_112 (E), PaddyBaddy\_113 (E), Palpatine\_115 (E), Paperbeatsrock\_113 (E), Pat3\_114 (E), Petra64142\_118 (E), Phaja\_116 (E), Pharsalus\_114 (E), PhatBacter\_117 (E), Phaux\_116 (E), Phrux\_110 (E), Policronamos\_117 (E), Porky\_113 (E), Ptowny\_110 (E), Pumpkin\_115 (E), Quallification\_115 (E), Rakim\_116 (E), Rimmer\_112 (E), RiverMonster\_113 (E), Saints25\_110 (E), Sassay\_109 (E), ShamWow\_115 (E), ShereKhan\_112 (E), Simpliphy\_112 (E), SirDuracell\_118 (E), SophKB\_113 (E), Sotrice96\_119 (E), Stank\_117 (E), Stark\_114 (E), StellaBean\_112 (E), StolenFromERC\_116 (E), StormChicken\_116 (E), TBrady12\_118 (E), Tarkin\_113 (E), TeamEdward\_114 (E), TeardropMSU\_114 (E), Teaspoon\_115 (E), Terminus\_117 (E), Thimble\_116 (E), Thresher\_115 (E), Tomaszewski\_109 (E), Toto\_113 (E), Traaww1\_111 (E), Tuco\_119 (E), Ukulele\_109 (E), Wiggin\_117 (E), Willez\_109 (E), Xandras\_114 (E), YassJohnny\_111 (E), Youngblood\_118 (E), xkcd\_118 (E),

#### Start 23:

- Found in 20 of 228 ( 8.8% ) of genes in pham
- Manual Annotations of this start: 19 of 197
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Acquire49\_80 (L1), Appletree2\_79 (L1), AvadaKedavra\_80 (L1), Calm\_82 (L1), CicholasNage\_77 (L1), DirkDirk\_77 (L1), Enceladus\_77 (L1), Halena\_78 (L1), JoeDirt\_80 (L1), LeBron\_79 (L1), MAckerman\_78 (L1), OhShagHennessy\_77 (L1), Poochiewood\_78 (L1), Rose5\_80 (L1), Silverleaf\_80 (L1), Tyson\_81 (L1), UPIE\_79 (L1), Wamburggrxpress\_80 (L1), Wyatt2\_81 (L1), Zaria\_81 (L1),

#### Start 24:

- Found in 56 of 228 ( 24.6% ) of genes in pham
- Manual Annotations of this start: 43 of 197
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Archie\_80 (L2), Baoshan\_81 (L2), Bazzle\_80 (L2), Bellis\_81 (L3), BigCheese\_83 (L2), BobsGarage\_83 (L2), BourbonZero\_82 (L3), Breezona\_83 (L2), Bromden\_81 (L4), Chaser\_79 (L4), Claus\_82 (L2), Clautastrophe\_79 (L3), Crossroads\_83 (L2), DanBing\_83 (L2), DrSeegs\_83 (L2), DuncansLeg\_81 (L3), DyoEdafos\_85 (L4), Ellson\_80 (L3), Faith1\_83 (L2), FarmResident\_82 (L4), Finemlucis\_82 (L2), Finnry\_81 (L3), Gabriela\_82 (L2), Gardann\_83 (L2), Hafay\_84 (L2), Itos\_82 (L2), Jobypre\_81 (L3), Jubie\_80 (L3), Kingsolomon\_79 (L3), KirDoubleO7\_79 (L3), Krypton555\_82 (L3), LiyuLake\_80 (L3), Lolly9\_80 (L3), Lumos\_81 (L3), Miley16\_83 (L2), MiniLon\_85 (L3), MiniMac\_85 (L3), Moostard\_79 (L3), MsGreen\_81 (L3), Netyap\_84 (L2), Nicholas\_79 (L3), Nicholasp3\_83 (L2), Quby\_81 (L4), Red305\_82 (L3), Rumpelstiltskin\_80 (L2),

Samty\_80 (L3), Sarshaun\_84 (L2), Snenia\_80 (L3), SoJulia\_85 (L2), Soap141\_83 (L2), Tourach\_82 (L2), TriFive\_82 (L3), Underpass\_74 (L2), Whirlwind\_82 (L3), Winky\_83 (L2), ZhongYanYuan\_80 (L2),

Start 26:

- Found in 7 of 228 ( 3.1% ) of genes in pham
- Manual Annotations of this start: 3 of 197
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BrainDrainer\_81 (L4), ChutneyChips\_81 (L4), Douge\_80 (L4), Douzhi\_81 (L4), Kropertea\_78 (L4), PYPDinur\_80 (L4), Sheng711\_82 (L4),

### **Summary by clusters:**

There are 5 clusters represented in this pham: E, L4, L2, L3, L1,

Info for manual annotations of cluster E:

- Start number 18 was manually annotated 1 time for cluster E.
- Start number 22 was manually annotated 131 times for cluster E.

Info for manual annotations of cluster L1:

- Start number 23 was manually annotated 19 times for cluster L1.

Info for manual annotations of cluster L2:

- Start number 24 was manually annotated 21 times for cluster L2.

Info for manual annotations of cluster L3:

- Start number 24 was manually annotated 19 times for cluster L3.

Info for manual annotations of cluster L4:

- Start number 24 was manually annotated 3 times for cluster L4.
- Start number 26 was manually annotated 3 times for cluster L4.

### **Gene Information:**

Gene: 244\_116 Start: 65056, Stop: 65298, Start Num: 22

Candidate Starts for 244\_116:

(14, 64978), (Start: 22 @65056 has 131 MA's), (33, 65164), (42, 65242),

Gene: ABCat\_115 Start: 66539, Stop: 66781, Start Num: 22

Candidate Starts for ABCat\_115:

(Start: 22 @66539 has 131 MA's), (33, 66647), (42, 66725),

Gene: Acquire49\_80 Start: 52642, Stop: 52884, Start Num: 23

Candidate Starts for Acquire49\_80:

(Start: 23 @52642 has 19 MA's), (28, 52681), (30, 52723), (35, 52759), (47, 52867),

Gene: Adnama\_118 Start: 64969, Stop: 65211, Start Num: 22

Candidate Starts for Adnama\_118:

(14, 64891), (Start: 22 @64969 has 131 MA's), (33, 65077), (42, 65155),

Gene: Amao\_118 Start: 66102, Stop: 66344, Start Num: 22  
Candidate Starts for Amao\_118:  
(Start: 18 @66060 has 1 MA's), (Start: 22 @66102 has 131 MA's), (33, 66210), (42, 66288),

Gene: AmericanBeauty\_117 Start: 65011, Stop: 65253, Start Num: 22  
Candidate Starts for AmericanBeauty\_117:  
(14, 64933), (Start: 22 @65011 has 131 MA's), (33, 65119), (42, 65197),

Gene: Appletree2\_79 Start: 52253, Stop: 52495, Start Num: 23  
Candidate Starts for Appletree2\_79:  
(Start: 23 @52253 has 19 MA's), (28, 52292), (30, 52334), (35, 52370), (47, 52478),

Gene: Archie\_80 Start: 54193, Stop: 54423, Start Num: 24  
Candidate Starts for Archie\_80:  
(Start: 24 @54193 has 43 MA's), (28, 54232), (42, 54376),

Gene: Argent26\_118 Start: 64893, Stop: 65135, Start Num: 22  
Candidate Starts for Argent26\_118:  
(14, 64815), (Start: 22 @64893 has 131 MA's), (33, 65001), (42, 65079),

Gene: Asriel\_113 Start: 63844, Stop: 64086, Start Num: 22  
Candidate Starts for Asriel\_113:  
(14, 63766), (Start: 22 @63844 has 131 MA's), (33, 63952), (42, 64030),

Gene: AvadaKedavra\_80 Start: 52721, Stop: 52963, Start Num: 23  
Candidate Starts for AvadaKedavra\_80:  
(Start: 23 @52721 has 19 MA's), (28, 52760), (30, 52802), (35, 52838), (47, 52946),

Gene: BaboJay\_114 Start: 66229, Stop: 66471, Start Num: 22  
Candidate Starts for BaboJay\_114:  
(14, 66151), (Start: 22 @66229 has 131 MA's), (33, 66337), (42, 66415),

Gene: BadStone\_115 Start: 66087, Stop: 66329, Start Num: 22  
Candidate Starts for BadStone\_115:  
(Start: 22 @66087 has 131 MA's), (33, 66195), (42, 66273),

Gene: Balomoji\_115 Start: 65627, Stop: 65869, Start Num: 22  
Candidate Starts for Balomoji\_115:  
(14, 65549), (Start: 22 @65627 has 131 MA's), (33, 65735), (42, 65813),

Gene: Baoshan\_81 Start: 54479, Stop: 54709, Start Num: 24  
Candidate Starts for Baoshan\_81:  
(13, 54377), (17, 54431), (Start: 24 @54479 has 43 MA's), (28, 54518), (30, 54557),

Gene: Barbarian\_114 Start: 63844, Stop: 64086, Start Num: 22  
Candidate Starts for Barbarian\_114:  
(14, 63766), (Start: 22 @63844 has 131 MA's), (33, 63952), (42, 64030),

Gene: Bask21\_118 Start: 64904, Stop: 65146, Start Num: 22  
Candidate Starts for Bask21\_118:  
(Start: 18 @64862 has 1 MA's), (Start: 22 @64904 has 131 MA's), (33, 65012), (42, 65090),

Gene: Bazzle\_80 Start: 54382, Stop: 54612, Start Num: 24

Candidate Starts for Bazzle\_80:

(Start: 24 @54382 has 43 MA's), (28, 54421), (30, 54460), (39, 54532),

Gene: Becksu\_112 Start: 65282, Stop: 65524, Start Num: 22

Candidate Starts for Becksu\_112:

(14, 65204), (Start: 22 @65282 has 131 MA's), (33, 65390), (42, 65468),

Gene: Bellis\_81 Start: 54375, Stop: 54614, Start Num: 24

Candidate Starts for Bellis\_81:

(19, 54330), (Start: 24 @54375 has 43 MA's), (30, 54453), (34, 54483), (42, 54555), (46, 54576),

Gene: Bench\_116 Start: 65650, Stop: 65892, Start Num: 22

Candidate Starts for Bench\_116:

(14, 65572), (Start: 22 @65650 has 131 MA's), (33, 65758), (42, 65836),

Gene: BigBubba\_116 Start: 64702, Stop: 64944, Start Num: 22

Candidate Starts for BigBubba\_116:

(14, 64624), (Start: 22 @64702 has 131 MA's), (33, 64810), (42, 64888),

Gene: BigCheese\_83 Start: 54609, Stop: 54839, Start Num: 24

Candidate Starts for BigCheese\_83:

(16, 54552), (17, 54561), (Start: 24 @54609 has 43 MA's), (28, 54648), (30, 54687),

Gene: BilboSwaggins\_113 Start: 66124, Stop: 66366, Start Num: 22

Candidate Starts for BilboSwaggins\_113:

(14, 66046), (Start: 22 @66124 has 131 MA's), (33, 66232), (42, 66310),

Gene: BobsGarage\_83 Start: 54609, Stop: 54839, Start Num: 24

Candidate Starts for BobsGarage\_83:

(16, 54552), (17, 54561), (Start: 24 @54609 has 43 MA's), (28, 54648), (30, 54687),

Gene: Bogg\_115 Start: 65169, Stop: 65411, Start Num: 22

Candidate Starts for Bogg\_115:

(14, 65091), (Start: 22 @65169 has 131 MA's), (33, 65277), (42, 65355),

Gene: BourbonZero\_82 Start: 54404, Stop: 54643, Start Num: 24

Candidate Starts for BourbonZero\_82:

(7, 54188), (10, 54245), (11, 54254), (Start: 24 @54404 has 43 MA's), (30, 54482), (34, 54512), (42, 54584), (46, 54605),

Gene: BrainDrainer\_81 Start: 53381, Stop: 53605, Start Num: 26

Candidate Starts for BrainDrainer\_81:

(21, 53360), (25, 53378), (Start: 26 @53381 has 3 MA's), (36, 53498), (38, 53519), (41, 53534),

Gene: Breezona\_83 Start: 54609, Stop: 54839, Start Num: 24

Candidate Starts for Breezona\_83:

(16, 54552), (17, 54561), (Start: 24 @54609 has 43 MA's), (28, 54648), (30, 54687),

Gene: Brewer\_110 Start: 63806, Stop: 64048, Start Num: 22

Candidate Starts for Brewer\_110:

(14, 63728), (Start: 22 @63806 has 131 MA's), (33, 63914), (42, 63992),

Gene: Bromden\_81 Start: 54008, Stop: 54238, Start Num: 24

Candidate Starts for Bromden\_81:

(10, 53846), (17, 53960), (20, 53969), (Start: 24 @54008 has 43 MA's), (28, 54047), (30, 54086), (31, 54089), (37, 54137), (46, 54212),

Gene: Bruin\_111 Start: 64334, Stop: 64576, Start Num: 22

Candidate Starts for Bruin\_111:

(14, 64256), (Start: 22 @64334 has 131 MA's), (33, 64442), (42, 64520),

Gene: Buck\_115 Start: 66150, Stop: 66392, Start Num: 22

Candidate Starts for Buck\_115:

(14, 66072), (Start: 22 @66150 has 131 MA's), (33, 66258), (42, 66336),

Gene: Budgie\_122 Start: 66165, Stop: 66407, Start Num: 22

Candidate Starts for Budgie\_122:

(12, 66057), (Start: 22 @66165 has 131 MA's), (33, 66273), (37, 66300), (42, 66351),

Gene: BugsBunny\_113 Start: 65648, Stop: 65890, Start Num: 22

Candidate Starts for BugsBunny\_113:

(14, 65570), (Start: 22 @65648 has 131 MA's), (33, 65756), (42, 65834),

Gene: Cactus\_122 Start: 65447, Stop: 65689, Start Num: 22

Candidate Starts for Cactus\_122:

(Start: 22 @65447 has 131 MA's), (33, 65555), (42, 65633),

Gene: Calm\_82 Start: 52964, Stop: 53206, Start Num: 23

Candidate Starts for Calm\_82:

(Start: 23 @52964 has 19 MA's), (28, 53003), (30, 53045), (35, 53081), (47, 53189),

Gene: Chaser\_79 Start: 53007, Stop: 53243, Start Num: 24

Candidate Starts for Chaser\_79:

(Start: 24 @53007 has 43 MA's), (27, 53043), (28, 53046), (30, 53091), (41, 53169),

Gene: ChosenOne\_114 Start: 64534, Stop: 64776, Start Num: 22

Candidate Starts for ChosenOne\_114:

(14, 64456), (Start: 22 @64534 has 131 MA's), (33, 64642), (42, 64720),

Gene: ChotaBhai\_118 Start: 65846, Stop: 66088, Start Num: 22

Candidate Starts for ChotaBhai\_118:

(Start: 18 @65804 has 1 MA's), (Start: 22 @65846 has 131 MA's), (33, 65954), (37, 65981), (42, 66032),

Gene: ChutneyChips\_81 Start: 53352, Stop: 53576, Start Num: 26

Candidate Starts for ChutneyChips\_81:

(25, 53349), (Start: 26 @53352 has 3 MA's), (38, 53490), (44, 53538),

Gene: CicholasNage\_77 Start: 52306, Stop: 52548, Start Num: 23

Candidate Starts for CicholasNage\_77:

(Start: 23 @52306 has 19 MA's), (28, 52345), (30, 52387), (35, 52423), (47, 52531),

Gene: Cjw1\_114 Start: 66343, Stop: 66585, Start Num: 22

Candidate Starts for Cjw1\_114:

(14, 66265), (Start: 22 @66343 has 131 MA's), (33, 66451), (42, 66529),

Gene: Claus\_82 Start: 54544, Stop: 54774, Start Num: 24  
Candidate Starts for Claus\_82:  
(13, 54442), (17, 54496), (Start: 24 @54544 has 43 MA's), (28, 54583), (30, 54622),

Gene: Clautastrophe\_79 Start: 54373, Stop: 54612, Start Num: 24  
Candidate Starts for Clautastrophe\_79:  
(19, 54328), (Start: 24 @54373 has 43 MA's), (30, 54451), (34, 54481), (42, 54553), (46, 54574),

Gene: Command613\_117 Start: 65620, Stop: 65862, Start Num: 22  
Candidate Starts for Command613\_117:  
(14, 65542), (Start: 22 @65620 has 131 MA's), (33, 65728), (42, 65806),

Gene: Contagion\_111 Start: 64696, Stop: 64938, Start Num: 22  
Candidate Starts for Contagion\_111:  
(14, 64618), (Start: 22 @64696 has 131 MA's), (33, 64804), (42, 64882),

Gene: Cookies\_115 Start: 65832, Stop: 66074, Start Num: 22  
Candidate Starts for Cookies\_115:  
(Start: 18 @65790 has 1 MA's), (Start: 22 @65832 has 131 MA's), (33, 65940), (42, 66018),

Gene: Crossroads\_83 Start: 54684, Stop: 54914, Start Num: 24  
Candidate Starts for Crossroads\_83:  
(17, 54636), (Start: 24 @54684 has 43 MA's), (28, 54723), (30, 54762),

Gene: CrystalP\_115 Start: 66124, Stop: 66366, Start Num: 22  
Candidate Starts for CrystalP\_115:  
(14, 66046), (Start: 22 @66124 has 131 MA's), (33, 66232), (42, 66310),

Gene: Czyszczone1\_114 Start: 64689, Stop: 64931, Start Num: 22  
Candidate Starts for Czyszczone1\_114:  
(14, 64611), (Start: 22 @64689 has 131 MA's), (33, 64797), (42, 64875),

Gene: Daikon\_116 Start: 64923, Stop: 65165, Start Num: 22  
Candidate Starts for Daikon\_116:  
(Start: 22 @64923 has 131 MA's), (33, 65031), (42, 65109),

Gene: DanBing\_83 Start: 54414, Stop: 54644, Start Num: 24  
Candidate Starts for DanBing\_83:  
(13, 54312), (17, 54366), (Start: 24 @54414 has 43 MA's), (28, 54453), (30, 54492),

Gene: DirkDirk\_77 Start: 51833, Stop: 52075, Start Num: 23  
Candidate Starts for DirkDirk\_77:  
(Start: 23 @51833 has 19 MA's), (28, 51872), (30, 51914), (35, 51950), (47, 52058),

Gene: DoctorDiddles\_113 Start: 64583, Stop: 64825, Start Num: 22  
Candidate Starts for DoctorDiddles\_113:  
(Start: 22 @64583 has 131 MA's), (33, 64691), (42, 64769),

Gene: Douge\_80 Start: 52966, Stop: 53190, Start Num: 26  
Candidate Starts for Douge\_80:  
(4, 52675), (5, 52687), (7, 52741), (9, 52780), (25, 52963), (Start: 26 @52966 has 3 MA's), (36, 53083),  
(38, 53104), (41, 53119),

Gene: Douzhi\_81 Start: 53198, Stop: 53422, Start Num: 26  
Candidate Starts for Douzhi\_81:  
(21, 53177), (25, 53195), (Start: 26 @53198 has 3 MA's), (36, 53315), (38, 53336), (41, 53351),

Gene: DrDrey\_118 Start: 67225, Stop: 67467, Start Num: 22  
Candidate Starts for DrDrey\_118:  
(Start: 18 @67183 has 1 MA's), (Start: 22 @67225 has 131 MA's), (33, 67333), (37, 67360), (42, 67411),

Gene: DrSeegs\_83 Start: 54609, Stop: 54839, Start Num: 24  
Candidate Starts for DrSeegs\_83:  
(16, 54552), (17, 54561), (Start: 24 @54609 has 43 MA's), (28, 54648), (30, 54687),

Gene: Dumbo\_114 Start: 64726, Stop: 64968, Start Num: 22  
Candidate Starts for Dumbo\_114:  
(14, 64648), (Start: 22 @64726 has 131 MA's), (33, 64834), (42, 64912),

Gene: DuncansLeg\_81 Start: 54392, Stop: 54631, Start Num: 24  
Candidate Starts for DuncansLeg\_81:  
(7, 54176), (10, 54233), (11, 54242), (Start: 24 @54392 has 43 MA's), (30, 54470), (34, 54500), (42, 54572), (46, 54593),

Gene: Dusk\_115 Start: 65747, Stop: 65989, Start Num: 22  
Candidate Starts for Dusk\_115:  
(Start: 18 @65705 has 1 MA's), (Start: 22 @65747 has 131 MA's), (33, 65855), (42, 65933),

Gene: DyoEdafos\_85 Start: 53861, Stop: 54097, Start Num: 24  
Candidate Starts for DyoEdafos\_85:  
(1, 53528), (7, 53642), (8, 53645), (Start: 24 @53861 has 43 MA's), (27, 53897), (28, 53900), (36, 53987), (46, 54071),

Gene: Easy2Say\_114 Start: 65360, Stop: 65602, Start Num: 22  
Candidate Starts for Easy2Say\_114:  
(14, 65282), (Start: 22 @65360 has 131 MA's), (33, 65468), (42, 65546),

Gene: Elite2014\_113 Start: 64533, Stop: 64775, Start Num: 22  
Candidate Starts for Elite2014\_113:  
(14, 64455), (Start: 22 @64533 has 131 MA's), (33, 64641), (42, 64719),

Gene: Ellson\_80 Start: 54707, Stop: 54946, Start Num: 24  
Candidate Starts for Ellson\_80:  
(7, 54491), (10, 54548), (11, 54557), (Start: 24 @54707 has 43 MA's), (30, 54785), (34, 54815), (42, 54887), (46, 54908),

Gene: Elph10\_113 Start: 64372, Stop: 64614, Start Num: 22  
Candidate Starts for Elph10\_113:  
(14, 64294), (Start: 22 @64372 has 131 MA's), (33, 64480), (42, 64558),

Gene: Emmina\_114 Start: 64311, Stop: 64553, Start Num: 22  
Candidate Starts for Emmina\_114:  
(14, 64233), (Start: 22 @64311 has 131 MA's), (33, 64419), (42, 64497),

Gene: Enceladus\_77 Start: 52610, Stop: 52852, Start Num: 23

Candidate Starts for Enceladus\_77:

(Start: 23 @52610 has 19 MA's), (28, 52649), (30, 52691), (35, 52727), (47, 52835),

Gene: Eureka\_114 Start: 65499, Stop: 65741, Start Num: 22

Candidate Starts for Eureka\_114:

(14, 65421), (Start: 22 @65499 has 131 MA's), (33, 65607), (42, 65685),

Gene: FairyPath\_115 Start: 65804, Stop: 66046, Start Num: 22

Candidate Starts for FairyPath\_115:

(14, 65726), (Start: 22 @65804 has 131 MA's), (33, 65912), (42, 65990),

Gene: Faith1\_83 Start: 54609, Stop: 54839, Start Num: 24

Candidate Starts for Faith1\_83:

(16, 54552), (17, 54561), (Start: 24 @54609 has 43 MA's), (28, 54648), (30, 54687),

Gene: FarmResident\_82 Start: 52928, Stop: 53164, Start Num: 24

Candidate Starts for FarmResident\_82:

(15, 52856), (Start: 24 @52928 has 43 MA's), (27, 52964), (28, 52967), (46, 53138),

Gene: Filch\_117 Start: 65265, Stop: 65507, Start Num: 22

Candidate Starts for Filch\_117:

(14, 65187), (Start: 22 @65265 has 131 MA's), (33, 65373), (42, 65451),

Gene: Finemlucis\_82 Start: 55077, Stop: 55313, Start Num: 24

Candidate Starts for Finemlucis\_82:

(17, 55029), (Start: 24 @55077 has 43 MA's), (28, 55116), (30, 55161), (40, 55236), (41, 55239),

Gene: Finnry\_81 Start: 54624, Stop: 54878, Start Num: 24

Candidate Starts for Finnry\_81:

(19, 54579), (Start: 24 @54624 has 43 MA's), (30, 54702), (34, 54732), (47, 54855),

Gene: FireRed\_117 Start: 65775, Stop: 66017, Start Num: 22

Candidate Starts for FireRed\_117:

(14, 65697), (Start: 22 @65775 has 131 MA's), (33, 65883), (42, 65961),

Gene: Flypotenuse\_111 Start: 64498, Stop: 64740, Start Num: 22

Candidate Starts for Flypotenuse\_111:

(14, 64420), (Start: 22 @64498 has 131 MA's), (33, 64606), (42, 64684),

Gene: FoghornLeghorn\_111 Start: 63524, Stop: 63766, Start Num: 22

Candidate Starts for FoghornLeghorn\_111:

(Start: 18 @63482 has 1 MA's), (Start: 22 @63524 has 131 MA's), (33, 63632), (42, 63710),

Gene: Gabriela\_82 Start: 53955, Stop: 54185, Start Num: 24

Candidate Starts for Gabriela\_82:

(16, 53898), (17, 53907), (Start: 24 @53955 has 43 MA's), (28, 53994), (30, 54033),

Gene: Gage\_116 Start: 65031, Stop: 65273, Start Num: 22

Candidate Starts for Gage\_116:

(14, 64953), (Start: 22 @65031 has 131 MA's), (33, 65139), (42, 65217),

Gene: Gardann\_83 Start: 54444, Stop: 54674, Start Num: 24

Candidate Starts for Gardann\_83:

(17, 54396), (Start: 24 @54444 has 43 MA's), (28, 54483), (30, 54522),

Gene: Gator\_116 Start: 65799, Stop: 66041, Start Num: 22

Candidate Starts for Gator\_116:

(Start: 18 @65757 has 1 MA's), (Start: 22 @65799 has 131 MA's), (33, 65907), (37, 65934), (42, 65985),

Gene: Gemini\_119 Start: 65410, Stop: 65652, Start Num: 22

Candidate Starts for Gemini\_119:

(14, 65332), (Start: 22 @65410 has 131 MA's), (33, 65518), (42, 65596),

Gene: Glexan\_117 Start: 65949, Stop: 66191, Start Num: 22

Candidate Starts for Glexan\_117:

(Start: 18 @65907 has 1 MA's), (Start: 22 @65949 has 131 MA's), (33, 66057), (37, 66084), (42, 66135),

Gene: Goku\_114 Start: 65808, Stop: 66050, Start Num: 22

Candidate Starts for Goku\_114:

(14, 65730), (Start: 22 @65808 has 131 MA's), (33, 65916), (42, 65994),

Gene: GoldenSpark\_118 Start: 64893, Stop: 65135, Start Num: 22

Candidate Starts for GoldenSpark\_118:

(14, 64815), (Start: 22 @64893 has 131 MA's), (33, 65001), (42, 65079),

Gene: Goldilocks\_118 Start: 65489, Stop: 65731, Start Num: 22

Candidate Starts for Goldilocks\_118:

(14, 65411), (Start: 22 @65489 has 131 MA's), (33, 65597), (42, 65675),

Gene: GooberAzure\_117 Start: 64893, Stop: 65135, Start Num: 22

Candidate Starts for GooberAzure\_117:

(14, 64815), (Start: 22 @64893 has 131 MA's), (33, 65001), (42, 65079),

Gene: Greep\_118 Start: 66465, Stop: 66707, Start Num: 22

Candidate Starts for Greep\_118:

(14, 66387), (Start: 22 @66465 has 131 MA's), (33, 66573), (42, 66651),

Gene: Hafay\_84 Start: 54539, Stop: 54769, Start Num: 24

Candidate Starts for Hafay\_84:

(13, 54437), (17, 54491), (Start: 24 @54539 has 43 MA's), (28, 54578), (30, 54617),

Gene: Halena\_78 Start: 51880, Stop: 52122, Start Num: 23

Candidate Starts for Halena\_78:

(Start: 23 @51880 has 19 MA's), (28, 51919), (30, 51961), (35, 51997), (47, 52105),

Gene: HanKaySha\_114 Start: 65081, Stop: 65323, Start Num: 22

Candidate Starts for HanKaySha\_114:

(14, 65003), (Start: 22 @65081 has 131 MA's), (33, 65189), (42, 65267),

Gene: Harella\_119 Start: 66465, Stop: 66707, Start Num: 22

Candidate Starts for Harella\_119:

(Start: 18 @66423 has 1 MA's), (Start: 22 @66465 has 131 MA's), (33, 66573), (37, 66600), (42, 66651),

Gene: Henry\_116 Start: 65750, Stop: 65992, Start Num: 22  
Candidate Starts for Henry\_116:  
(Start: 18 @65708 has 1 MA's), (Start: 22 @65750 has 131 MA's), (33, 65858), (37, 65885), (42, 65936),

Gene: Highbury\_110 Start: 63238, Stop: 63480, Start Num: 22  
Candidate Starts for Highbury\_110:  
(14, 63160), (Start: 22 @63238 has 131 MA's), (33, 63346), (42, 63424),

Gene: Holt\_120 Start: 65887, Stop: 66129, Start Num: 22  
Candidate Starts for Holt\_120:  
(14, 65809), (Start: 22 @65887 has 131 MA's), (33, 65995), (42, 66073),

Gene: Hoonter\_117 Start: 65386, Stop: 65628, Start Num: 22  
Candidate Starts for Hoonter\_117:  
(14, 65308), (Start: 22 @65386 has 131 MA's), (33, 65494), (42, 65572),

Gene: Hokey\_114 Start: 65692, Stop: 65934, Start Num: 22  
Candidate Starts for Hokey\_114:  
(14, 65614), (Start: 22 @65692 has 131 MA's), (33, 65800), (42, 65878),

Gene: HufflyPuff\_116 Start: 66001, Stop: 66243, Start Num: 22  
Candidate Starts for HufflyPuff\_116:  
(14, 65923), (Start: 22 @66001 has 131 MA's), (33, 66109), (42, 66187),

Gene: IHOP\_116 Start: 65468, Stop: 65710, Start Num: 22  
Candidate Starts for IHOP\_116:  
(Start: 18 @65426 has 1 MA's), (Start: 22 @65468 has 131 MA's), (33, 65576), (37, 65603), (42, 65654),

Gene: Icee\_119 Start: 65438, Stop: 65680, Start Num: 22  
Candidate Starts for Icee\_119:  
(Start: 22 @65438 has 131 MA's), (33, 65546), (42, 65624),

Gene: Inca\_114 Start: 63647, Stop: 63889, Start Num: 22  
Candidate Starts for Inca\_114:  
(Start: 18 @63605 has 1 MA's), (Start: 22 @63647 has 131 MA's), (33, 63755), (42, 63833),

Gene: Itos\_82 Start: 53515, Stop: 53745, Start Num: 24  
Candidate Starts for Itos\_82:  
(16, 53458), (17, 53467), (Start: 24 @53515 has 43 MA's), (28, 53554), (30, 53593),

Gene: JeTaime\_113 Start: 65099, Stop: 65341, Start Num: 22  
Candidate Starts for JeTaime\_113:  
(14, 65021), (Start: 22 @65099 has 131 MA's), (33, 65207), (42, 65285),

Gene: Jobypre\_81 Start: 54373, Stop: 54612, Start Num: 24  
Candidate Starts for Jobypre\_81:  
(19, 54328), (Start: 24 @54373 has 43 MA's), (30, 54451), (34, 54481), (42, 54553), (46, 54574),

Gene: JoeDirt\_80 Start: 53208, Stop: 53450, Start Num: 23  
Candidate Starts for JoeDirt\_80:  
(Start: 23 @53208 has 19 MA's), (28, 53247), (30, 53289), (35, 53325), (47, 53433),

Gene: Jubie\_80 Start: 54508, Stop: 54747, Start Num: 24  
Candidate Starts for Jubie\_80:  
(19, 54463), (Start: 24 @54508 has 43 MA's), (30, 54586), (34, 54616), (42, 54688), (46, 54709),

Gene: Kanye\_111 Start: 65142, Stop: 65384, Start Num: 22  
Candidate Starts for Kanye\_111:  
(14, 65064), (Start: 22 @65142 has 131 MA's), (33, 65250), (42, 65328),

Gene: Kimchi\_119 Start: 65614, Stop: 65856, Start Num: 22  
Candidate Starts for Kimchi\_119:  
(14, 65536), (Start: 22 @65614 has 131 MA's), (33, 65722), (42, 65800),

Gene: Kingsolomon\_79 Start: 54380, Stop: 54634, Start Num: 24  
Candidate Starts for Kingsolomon\_79:  
(19, 54335), (Start: 24 @54380 has 43 MA's), (30, 54458), (34, 54488), (47, 54611),

Gene: KirDoubleO7\_79 Start: 54394, Stop: 54633, Start Num: 24  
Candidate Starts for KirDoubleO7\_79:  
(7, 54178), (10, 54235), (11, 54244), (Start: 24 @54394 has 43 MA's), (30, 54472), (34, 54502), (42, 54574), (46, 54595),

Gene: Kostya\_117 Start: 65528, Stop: 65812, Start Num: 18  
Candidate Starts for Kostya\_117:  
(Start: 18 @65528 has 1 MA's), (Start: 22 @65570 has 131 MA's), (33, 65678), (37, 65705), (42, 65756),

Gene: Kropertea\_78 Start: 53149, Stop: 53373, Start Num: 26  
Candidate Starts for Kropertea\_78:  
(6, 52906), (7, 52924), (25, 53146), (Start: 26 @53149 has 3 MA's), (32, 53230), (38, 53287), (43, 53332), (46, 53347),

Gene: Krypton555\_82 Start: 54649, Stop: 54903, Start Num: 24  
Candidate Starts for Krypton555\_82:  
(19, 54604), (Start: 24 @54649 has 43 MA's), (29, 54709), (30, 54727), (34, 54757), (47, 54880),

Gene: LeBron\_79 Start: 51879, Stop: 52121, Start Num: 23  
Candidate Starts for LeBron\_79:  
(Start: 23 @51879 has 19 MA's), (28, 51918), (30, 51960), (35, 51996), (47, 52104),

Gene: Lilac\_115 Start: 65835, Stop: 66077, Start Num: 22  
Candidate Starts for Lilac\_115:  
(14, 65757), (Start: 22 @65835 has 131 MA's), (33, 65943), (42, 66021),

Gene: Lilizi\_114 Start: 65121, Stop: 65363, Start Num: 22  
Candidate Starts for Lilizi\_114:  
(14, 65043), (Start: 22 @65121 has 131 MA's), (33, 65229), (42, 65307),

Gene: Lilpickle\_113 Start: 64533, Stop: 64775, Start Num: 22  
Candidate Starts for Lilpickle\_113:  
(14, 64455), (Start: 22 @64533 has 131 MA's), (33, 64641), (42, 64719),

Gene: Liveloughbron\_115 Start: 66134, Stop: 66376, Start Num: 22

Candidate Starts for Liveloughbron\_115:

(14, 66056), (Start: 22 @66134 has 131 MA's), (33, 66242), (42, 66320),

Gene: LiyuLake\_80 Start: 54467, Stop: 54706, Start Num: 24

Candidate Starts for LiyuLake\_80:

(7, 54251), (10, 54308), (11, 54317), (Start: 24 @54467 has 43 MA's), (30, 54545), (34, 54575), (42, 54647), (46, 54668),

Gene: Lolly9\_80 Start: 54471, Stop: 54710, Start Num: 24

Candidate Starts for Lolly9\_80:

(4, 54189), (7, 54255), (11, 54321), (19, 54426), (Start: 24 @54471 has 43 MA's), (30, 54549), (34, 54579), (36, 54591), (38, 54612), (45, 54663),

Gene: Lumos\_81 Start: 54370, Stop: 54609, Start Num: 24

Candidate Starts for Lumos\_81:

(19, 54325), (Start: 24 @54370 has 43 MA's), (30, 54448), (34, 54478), (42, 54550), (46, 54571),

Gene: MAckerman\_78 Start: 51873, Stop: 52115, Start Num: 23

Candidate Starts for MAckerman\_78:

(Start: 23 @51873 has 19 MA's), (28, 51912), (30, 51954), (35, 51990), (47, 52098),

Gene: MISSy\_115 Start: 65818, Stop: 66060, Start Num: 22

Candidate Starts for MISSy\_115:

(14, 65740), (Start: 22 @65818 has 131 MA's), (33, 65926), (42, 66004),

Gene: MPhalcon\_115 Start: 65236, Stop: 65478, Start Num: 22

Candidate Starts for MPhalcon\_115:

(14, 65158), (Start: 22 @65236 has 131 MA's), (33, 65344), (42, 65422),

Gene: MadamMonkfish\_113 Start: 64543, Stop: 64785, Start Num: 22

Candidate Starts for MadamMonkfish\_113:

(14, 64465), (Start: 22 @64543 has 131 MA's), (33, 64651), (42, 64729),

Gene: Manda\_115 Start: 65273, Stop: 65515, Start Num: 22

Candidate Starts for Manda\_115:

(14, 65195), (Start: 22 @65273 has 131 MA's), (33, 65381), (42, 65459),

Gene: Marshmallow\_116 Start: 66252, Stop: 66494, Start Num: 22

Candidate Starts for Marshmallow\_116:

(Start: 18 @66210 has 1 MA's), (Start: 22 @66252 has 131 MA's), (33, 66360), (42, 66438),

Gene: Maxxinista\_116 Start: 65020, Stop: 65262, Start Num: 22

Candidate Starts for Maxxinista\_116:

(14, 64942), (Start: 22 @65020 has 131 MA's), (33, 65128), (42, 65206),

Gene: Miley16\_83 Start: 54609, Stop: 54839, Start Num: 24

Candidate Starts for Miley16\_83:

(16, 54552), (17, 54561), (Start: 24 @54609 has 43 MA's), (28, 54648), (30, 54687),

Gene: Mindy\_117 Start: 65411, Stop: 65653, Start Num: 22

Candidate Starts for Mindy\_117:

(Start: 22 @65411 has 131 MA's), (33, 65519), (42, 65597),

Gene: MiniLon\_85 Start: 54472, Stop: 54711, Start Num: 24  
Candidate Starts for MiniLon\_85:  
(4, 54190), (7, 54256), (11, 54322), (19, 54427), (Start: 24 @54472 has 43 MA's), (30, 54550), (34, 54580), (36, 54592), (38, 54613), (45, 54664),

Gene: MiniMac\_85 Start: 54467, Stop: 54706, Start Num: 24  
Candidate Starts for MiniMac\_85:  
(4, 54185), (7, 54251), (11, 54317), (19, 54422), (Start: 24 @54467 has 43 MA's), (30, 54545), (34, 54575), (36, 54587), (38, 54608), (45, 54659),

Gene: Miniwave\_109 Start: 64729, Stop: 64971, Start Num: 22  
Candidate Starts for Miniwave\_109:  
(14, 64651), (Start: 22 @64729 has 131 MA's), (33, 64837), (42, 64915),

Gene: Misfit\_115 Start: 66332, Stop: 66574, Start Num: 22  
Candidate Starts for Misfit\_115:  
(14, 66254), (Start: 22 @66332 has 131 MA's), (33, 66440), (42, 66518),

Gene: Moldemort\_116 Start: 65001, Stop: 65243, Start Num: 22  
Candidate Starts for Moldemort\_116:  
(14, 64923), (Start: 22 @65001 has 131 MA's), (33, 65109), (42, 65187),

Gene: MollyToe\_108 Start: 63109, Stop: 63351, Start Num: 22  
Candidate Starts for MollyToe\_108:  
(14, 63031), (Start: 22 @63109 has 131 MA's), (33, 63217), (42, 63295),

Gene: Moostard\_79 Start: 54375, Stop: 54629, Start Num: 24  
Candidate Starts for Moostard\_79:  
(19, 54330), (Start: 24 @54375 has 43 MA's), (30, 54453), (34, 54483), (47, 54606),

Gene: Mosby\_111 Start: 64696, Stop: 64938, Start Num: 22  
Candidate Starts for Mosby\_111:  
(14, 64618), (Start: 22 @64696 has 131 MA's), (33, 64804), (42, 64882),

Gene: MsGreen\_81 Start: 54372, Stop: 54611, Start Num: 24  
Candidate Starts for MsGreen\_81:  
(19, 54327), (Start: 24 @54372 has 43 MA's), (30, 54450), (34, 54480), (42, 54552), (46, 54573),

Gene: Murica\_118 Start: 67035, Stop: 67277, Start Num: 22  
Candidate Starts for Murica\_118:  
(14, 66957), (Start: 22 @67035 has 131 MA's), (33, 67143), (42, 67221),

Gene: Murphy\_113 Start: 65393, Stop: 65635, Start Num: 22  
Candidate Starts for Murphy\_113:  
(14, 65315), (Start: 22 @65393 has 131 MA's), (33, 65501), (42, 65579),

Gene: Myrale\_115 Start: 65908, Stop: 66150, Start Num: 22  
Candidate Starts for Myrale\_115:  
(14, 65830), (Start: 22 @65908 has 131 MA's), (33, 66016), (42, 66094),

Gene: Nala\_116 Start: 65745, Stop: 65987, Start Num: 22  
Candidate Starts for Nala\_116:  
(14, 65667), (Start: 22 @65745 has 131 MA's), (33, 65853), (42, 65931),

Gene: NelitzaMV\_111 Start: 63718, Stop: 63960, Start Num: 22

Candidate Starts for NelitzaMV\_111:

(14, 63640), (Start: 22 @63718 has 131 MA's), (33, 63826), (42, 63904),

Gene: Netyap\_84 Start: 54610, Stop: 54840, Start Num: 24

Candidate Starts for Netyap\_84:

(16, 54553), (17, 54562), (Start: 24 @54610 has 43 MA's), (28, 54649), (30, 54688),

Gene: Nicholas\_79 Start: 54380, Stop: 54634, Start Num: 24

Candidate Starts for Nicholas\_79:

(19, 54335), (Start: 24 @54380 has 43 MA's), (30, 54458), (34, 54488), (47, 54611),

Gene: Nicholasp3\_83 Start: 54444, Stop: 54674, Start Num: 24

Candidate Starts for Nicholasp3\_83:

(17, 54396), (Start: 24 @54444 has 43 MA's), (28, 54483), (30, 54522),

Gene: Nimrod\_115 Start: 65959, Stop: 66201, Start Num: 22

Candidate Starts for Nimrod\_115:

(14, 65881), (Start: 22 @65959 has 131 MA's), (33, 66067), (42, 66145),

Gene: NoSleep\_114 Start: 64553, Stop: 64795, Start Num: 22

Candidate Starts for NoSleep\_114:

(14, 64475), (Start: 22 @64553 has 131 MA's), (33, 64661), (42, 64739),

Gene: NonchalantPear\_114 Start: 63986, Stop: 64228, Start Num: 22

Candidate Starts for NonchalantPear\_114:

(14, 63908), (Start: 22 @63986 has 131 MA's), (33, 64094), (42, 64172),

Gene: OhShagHennessy\_77 Start: 51911, Stop: 52153, Start Num: 23

Candidate Starts for OhShagHennessy\_77:

(Start: 23 @51911 has 19 MA's), (28, 51950), (30, 51992), (35, 52028), (47, 52136),

Gene: OrionPax\_112 Start: 64626, Stop: 64868, Start Num: 22

Candidate Starts for OrionPax\_112:

(14, 64548), (Start: 22 @64626 has 131 MA's), (33, 64734), (42, 64812),

Gene: PYPDinur\_80 Start: 53633, Stop: 53857, Start Num: 26

Candidate Starts for PYPDinur\_80:

(21, 53612), (25, 53630), (Start: 26 @53633 has 3 MA's), (36, 53750), (38, 53771), (41, 53786),

Gene: PaddyBaddy\_113 Start: 64744, Stop: 64986, Start Num: 22

Candidate Starts for PaddyBaddy\_113:

(14, 64666), (Start: 22 @64744 has 131 MA's), (33, 64852), (42, 64930),

Gene: Palpatine\_115 Start: 66030, Stop: 66272, Start Num: 22

Candidate Starts for Palpatine\_115:

(14, 65952), (Start: 22 @66030 has 131 MA's), (33, 66138), (42, 66216),

Gene: Paperbeatsrock\_113 Start: 65407, Stop: 65649, Start Num: 22

Candidate Starts for Paperbeatsrock\_113:

(14, 65329), (Start: 22 @65407 has 131 MA's), (33, 65515), (42, 65593),

Gene: Pat3\_114 Start: 64905, Stop: 65147, Start Num: 22  
Candidate Starts for Pat3\_114:  
(Start: 18 @64863 has 1 MA's), (Start: 22 @64905 has 131 MA's), (33, 65013), (42, 65091),

Gene: Petra64142\_118 Start: 65875, Stop: 66117, Start Num: 22  
Candidate Starts for Petra64142\_118:  
(14, 65797), (Start: 22 @65875 has 131 MA's), (33, 65983), (42, 66061),

Gene: Phaja\_116 Start: 65473, Stop: 65715, Start Num: 22  
Candidate Starts for Phaja\_116:  
(Start: 18 @65431 has 1 MA's), (Start: 22 @65473 has 131 MA's), (33, 65581), (42, 65659),

Gene: Pharsalus\_114 Start: 65547, Stop: 65789, Start Num: 22  
Candidate Starts for Pharsalus\_114:  
(Start: 22 @65547 has 131 MA's), (33, 65655), (42, 65733),

Gene: PhatBacter\_117 Start: 65775, Stop: 66017, Start Num: 22  
Candidate Starts for PhatBacter\_117:  
(14, 65697), (Start: 22 @65775 has 131 MA's), (33, 65883), (42, 65961),

Gene: Phaux\_116 Start: 66335, Stop: 66577, Start Num: 22  
Candidate Starts for Phaux\_116:  
(14, 66257), (Start: 22 @66335 has 131 MA's), (33, 66443), (42, 66521),

Gene: Phrux\_110 Start: 64413, Stop: 64655, Start Num: 22  
Candidate Starts for Phrux\_110:  
(14, 64335), (Start: 22 @64413 has 131 MA's), (33, 64521), (42, 64599),

Gene: Policronamos\_117 Start: 66039, Stop: 66281, Start Num: 22  
Candidate Starts for Policronamos\_117:  
(14, 65961), (Start: 22 @66039 has 131 MA's), (33, 66147), (42, 66225),

Gene: Poochiewood\_78 Start: 53216, Stop: 53458, Start Num: 23  
Candidate Starts for Poochiewood\_78:  
(Start: 23 @53216 has 19 MA's), (28, 53255), (30, 53297), (35, 53333), (47, 53441),

Gene: Porky\_113 Start: 64737, Stop: 64979, Start Num: 22  
Candidate Starts for Porky\_113:  
(14, 64659), (Start: 22 @64737 has 131 MA's), (33, 64845), (42, 64923),

Gene: Ptowny\_110 Start: 63447, Stop: 63689, Start Num: 22  
Candidate Starts for Ptowny\_110:  
(14, 63369), (Start: 22 @63447 has 131 MA's), (33, 63555), (42, 63633),

Gene: Pumpkin\_115 Start: 64753, Stop: 64995, Start Num: 22  
Candidate Starts for Pumpkin\_115:  
(14, 64675), (Start: 22 @64753 has 131 MA's), (33, 64861), (42, 64939),

Gene: Quallification\_115 Start: 65821, Stop: 66063, Start Num: 22  
Candidate Starts for Quallification\_115:  
(14, 65743), (Start: 22 @65821 has 131 MA's), (33, 65929), (42, 66007),

Gene: Quby\_81 Start: 52952, Stop: 53188, Start Num: 24

Candidate Starts for Quby\_81:

(15, 52880), (Start: 24 @52952 has 43 MA's), (27, 52988), (28, 52991), (46, 53162),

Gene: Rakim\_116 Start: 65241, Stop: 65483, Start Num: 22

Candidate Starts for Rakim\_116:

(14, 65163), (Start: 22 @65241 has 131 MA's), (33, 65349), (42, 65427),

Gene: Red305\_82 Start: 54373, Stop: 54612, Start Num: 24

Candidate Starts for Red305\_82:

(19, 54328), (Start: 24 @54373 has 43 MA's), (30, 54451), (34, 54481), (42, 54553), (46, 54574),

Gene: Rimmer\_112 Start: 65212, Stop: 65454, Start Num: 22

Candidate Starts for Rimmer\_112:

(14, 65134), (Start: 22 @65212 has 131 MA's), (33, 65320), (42, 65398),

Gene: RiverMonster\_113 Start: 65308, Stop: 65550, Start Num: 22

Candidate Starts for RiverMonster\_113:

(14, 65230), (Start: 22 @65308 has 131 MA's), (33, 65416), (42, 65494),

Gene: Rose5\_80 Start: 53053, Stop: 53295, Start Num: 23

Candidate Starts for Rose5\_80:

(Start: 23 @53053 has 19 MA's), (28, 53092), (30, 53134), (35, 53170), (47, 53278),

Gene: Rumpelstiltskin\_80 Start: 54237, Stop: 54467, Start Num: 24

Candidate Starts for Rumpelstiltskin\_80:

(17, 54189), (Start: 24 @54237 has 43 MA's), (28, 54276), (30, 54315),

Gene: Saints25\_110 Start: 63238, Stop: 63480, Start Num: 22

Candidate Starts for Saints25\_110:

(14, 63160), (Start: 22 @63238 has 131 MA's), (33, 63346), (42, 63424),

Gene: Samty\_80 Start: 54368, Stop: 54622, Start Num: 24

Candidate Starts for Samty\_80:

(19, 54323), (Start: 24 @54368 has 43 MA's), (30, 54446), (34, 54476), (47, 54599),

Gene: Sarshaun\_84 Start: 54702, Stop: 54932, Start Num: 24

Candidate Starts for Sarshaun\_84:

(17, 54654), (Start: 24 @54702 has 43 MA's), (28, 54741), (30, 54780),

Gene: Sassay\_109 Start: 63658, Stop: 63900, Start Num: 22

Candidate Starts for Sassay\_109:

(14, 63580), (Start: 22 @63658 has 131 MA's), (33, 63766), (42, 63844),

Gene: ShamWow\_115 Start: 66124, Stop: 66366, Start Num: 22

Candidate Starts for ShamWow\_115:

(14, 66046), (Start: 22 @66124 has 131 MA's), (33, 66232), (42, 66310),

Gene: Sheng711\_82 Start: 53267, Stop: 53491, Start Num: 26

Candidate Starts for Sheng711\_82:

(21, 53246), (25, 53264), (Start: 26 @53267 has 3 MA's), (36, 53384), (38, 53405), (41, 53420),

Gene: ShereKhan\_112 Start: 66067, Stop: 66309, Start Num: 22

Candidate Starts for ShereKhan\_112:

(14, 65989), (Start: 22 @66067 has 131 MA's), (33, 66175), (42, 66253),

Gene: Silverleaf\_80 Start: 52509, Stop: 52751, Start Num: 23

Candidate Starts for Silverleaf\_80:

(Start: 23 @52509 has 19 MA's), (28, 52548), (30, 52590), (35, 52626), (47, 52734),

Gene: Simpliphy\_112 Start: 64879, Stop: 65121, Start Num: 22

Candidate Starts for Simpliphy\_112:

(14, 64801), (Start: 22 @64879 has 131 MA's), (33, 64987), (42, 65065),

Gene: SirDuracell\_118 Start: 65404, Stop: 65646, Start Num: 22

Candidate Starts for SirDuracell\_118:

(Start: 18 @65362 has 1 MA's), (Start: 22 @65404 has 131 MA's), (33, 65512), (42, 65590),

Gene: Snenia\_80 Start: 54374, Stop: 54613, Start Num: 24

Candidate Starts for Snenia\_80:

(19, 54329), (Start: 24 @54374 has 43 MA's), (30, 54452), (34, 54482), (42, 54554), (46, 54575),

Gene: SoJulia\_85 Start: 55770, Stop: 56000, Start Num: 24

Candidate Starts for SoJulia\_85:

(16, 55713), (17, 55722), (Start: 24 @55770 has 43 MA's), (28, 55809), (30, 55848),

Gene: Soap141\_83 Start: 54702, Stop: 54932, Start Num: 24

Candidate Starts for Soap141\_83:

(17, 54654), (Start: 24 @54702 has 43 MA's), (28, 54741), (30, 54780),

Gene: SophKB\_113 Start: 65289, Stop: 65531, Start Num: 22

Candidate Starts for SophKB\_113:

(Start: 22 @65289 has 131 MA's), (33, 65397), (42, 65475),

Gene: Sotrice96\_119 Start: 66191, Stop: 66433, Start Num: 22

Candidate Starts for Sotrice96\_119:

(Start: 22 @66191 has 131 MA's), (33, 66299), (42, 66377),

Gene: Stank\_117 Start: 65686, Stop: 65928, Start Num: 22

Candidate Starts for Stank\_117:

(14, 65608), (Start: 22 @65686 has 131 MA's), (33, 65794), (42, 65872),

Gene: Stark\_114 Start: 65192, Stop: 65434, Start Num: 22

Candidate Starts for Stark\_114:

(14, 65114), (Start: 22 @65192 has 131 MA's), (33, 65300), (42, 65378),

Gene: StellaBean\_112 Start: 65489, Stop: 65731, Start Num: 22

Candidate Starts for StellaBean\_112:

(14, 65411), (Start: 22 @65489 has 131 MA's), (33, 65597), (42, 65675),

Gene: StolenFromERC\_116 Start: 65031, Stop: 65273, Start Num: 22

Candidate Starts for StolenFromERC\_116:

(14, 64953), (Start: 22 @65031 has 131 MA's), (33, 65139), (42, 65217),

Gene: StormChicken\_116 Start: 65956, Stop: 66198, Start Num: 22

Candidate Starts for StormChicken\_116:

(14, 65878), (Start: 22 @65956 has 131 MA's), (33, 66064), (42, 66142),

Gene: TBrady12\_118 Start: 65123, Stop: 65365, Start Num: 22  
Candidate Starts for TBrady12\_118:  
(14, 65045), (Start: 22 @65123 has 131 MA's), (33, 65231), (42, 65309),

Gene: Tarkin\_113 Start: 65932, Stop: 66174, Start Num: 22  
Candidate Starts for Tarkin\_113:  
(14, 65854), (Start: 22 @65932 has 131 MA's), (33, 66040), (42, 66118),

Gene: TeamEdward\_114 Start: 65573, Stop: 65815, Start Num: 22  
Candidate Starts for TeamEdward\_114:  
(14, 65495), (Start: 22 @65573 has 131 MA's), (33, 65681), (42, 65759),

Gene: TeardropMSU\_114 Start: 65293, Stop: 65535, Start Num: 22  
Candidate Starts for TeardropMSU\_114:  
(Start: 22 @65293 has 131 MA's), (33, 65401), (42, 65479),

Gene: Teaspoon\_115 Start: 65671, Stop: 65913, Start Num: 22  
Candidate Starts for Teaspoon\_115:  
(14, 65593), (Start: 22 @65671 has 131 MA's), (33, 65779), (42, 65857),

Gene: Terminus\_117 Start: 66332, Stop: 66574, Start Num: 22  
Candidate Starts for Terminus\_117:  
(14, 66254), (Start: 22 @66332 has 131 MA's), (33, 66440), (42, 66518),

Gene: Thimble\_116 Start: 64293, Stop: 64535, Start Num: 22  
Candidate Starts for Thimble\_116:  
(14, 64215), (Start: 22 @64293 has 131 MA's), (33, 64401), (42, 64479),

Gene: Thresher\_115 Start: 65972, Stop: 66214, Start Num: 22  
Candidate Starts for Thresher\_115:  
(14, 65894), (Start: 22 @65972 has 131 MA's), (33, 66080), (42, 66158),

Gene: Tomaszewski\_109 Start: 64870, Stop: 65112, Start Num: 22  
Candidate Starts for Tomaszewski\_109:  
(14, 64792), (Start: 22 @64870 has 131 MA's), (33, 64978), (42, 65056),

Gene: Toto\_113 Start: 66124, Stop: 66366, Start Num: 22  
Candidate Starts for Toto\_113:  
(14, 66046), (Start: 22 @66124 has 131 MA's), (33, 66232), (42, 66310),

Gene: Tourach\_82 Start: 54727, Stop: 54957, Start Num: 24  
Candidate Starts for Tourach\_82:  
(2, 54400), (3, 54433), (17, 54679), (Start: 24 @54727 has 43 MA's), (28, 54766), (30, 54805),

Gene: Traaww1\_111 Start: 64673, Stop: 64915, Start Num: 22  
Candidate Starts for Traaww1\_111:  
(14, 64595), (Start: 22 @64673 has 131 MA's), (33, 64781), (42, 64859),

Gene: TriFive\_82 Start: 54373, Stop: 54627, Start Num: 24  
Candidate Starts for TriFive\_82:  
(19, 54328), (Start: 24 @54373 has 43 MA's), (30, 54451), (34, 54481), (47, 54604),

Gene: Tuco\_119 Start: 67352, Stop: 67594, Start Num: 22  
Candidate Starts for Tuco\_119:  
(Start: 22 @67352 has 131 MA's), (33, 67460), (42, 67538),

Gene: Tyson\_81 Start: 52979, Stop: 53221, Start Num: 23  
Candidate Starts for Tyson\_81:  
(Start: 23 @52979 has 19 MA's), (28, 53018), (30, 53060), (35, 53096), (47, 53204),

Gene: UPIE\_79 Start: 52575, Stop: 52817, Start Num: 23  
Candidate Starts for UPIE\_79:  
(Start: 23 @52575 has 19 MA's), (28, 52614), (30, 52656), (35, 52692), (47, 52800),

Gene: Ukulele\_109 Start: 64689, Stop: 64931, Start Num: 22  
Candidate Starts for Ukulele\_109:  
(14, 64611), (Start: 22 @64689 has 131 MA's), (33, 64797), (42, 64875),

Gene: Underpass\_74 Start: 49480, Stop: 49710, Start Num: 24  
Candidate Starts for Underpass\_74:  
(17, 49432), (Start: 24 @49480 has 43 MA's), (28, 49519), (30, 49558),

Gene: Wamburgexpress\_80 Start: 53014, Stop: 53256, Start Num: 23  
Candidate Starts for Wamburgexpress\_80:  
(Start: 23 @53014 has 19 MA's), (28, 53053), (30, 53095), (35, 53131), (47, 53239),

Gene: Whirlwind\_82 Start: 54612, Stop: 54866, Start Num: 24  
Candidate Starts for Whirlwind\_82:  
(19, 54567), (Start: 24 @54612 has 43 MA's), (29, 54672), (30, 54690), (34, 54720), (39, 54762), (47, 54843),

Gene: Wiggin\_117 Start: 65116, Stop: 65358, Start Num: 22  
Candidate Starts for Wiggin\_117:  
(14, 65038), (Start: 22 @65116 has 131 MA's), (33, 65224), (42, 65302),

Gene: Willez\_109 Start: 63658, Stop: 63900, Start Num: 22  
Candidate Starts for Willez\_109:  
(14, 63580), (Start: 22 @63658 has 131 MA's), (33, 63766), (42, 63844),

Gene: Winky\_83 Start: 54609, Stop: 54839, Start Num: 24  
Candidate Starts for Winky\_83:  
(16, 54552), (17, 54561), (Start: 24 @54609 has 43 MA's), (28, 54648), (30, 54687),

Gene: Wyatt2\_81 Start: 52977, Stop: 53219, Start Num: 23  
Candidate Starts for Wyatt2\_81:  
(Start: 23 @52977 has 19 MA's), (28, 53016), (30, 53058), (35, 53094), (47, 53202),

Gene: Xandras\_114 Start: 64939, Stop: 65181, Start Num: 22  
Candidate Starts for Xandras\_114:  
(14, 64861), (Start: 22 @64939 has 131 MA's), (33, 65047), (42, 65125),

Gene: YassJohnny\_111 Start: 63679, Stop: 63921, Start Num: 22  
Candidate Starts for YassJohnny\_111:  
(14, 63601), (Start: 22 @63679 has 131 MA's), (33, 63787), (42, 63865),

Gene: Youngblood\_118 Start: 65828, Stop: 66070, Start Num: 22  
Candidate Starts for Youngblood\_118:  
(14, 65750), (Start: 22 @65828 has 131 MA's), (33, 65936), (42, 66014),

Gene: Zaria\_81 Start: 52429, Stop: 52671, Start Num: 23  
Candidate Starts for Zaria\_81:  
(Start: 23 @52429 has 19 MA's), (28, 52468), (30, 52510), (35, 52546), (47, 52654),

Gene: ZhongYanYuan\_80 Start: 54062, Stop: 54292, Start Num: 24  
Candidate Starts for ZhongYanYuan\_80:  
(13, 53960), (17, 54014), (Start: 24 @54062 has 43 MA's), (28, 54101), (30, 54140),

Gene: xkcd\_118 Start: 66013, Stop: 66255, Start Num: 22  
Candidate Starts for xkcd\_118:  
(14, 65935), (Start: 22 @66013 has 131 MA's), (33, 66121), (42, 66199),