

Pham 289093



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 289093 Report

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

Pham number 289093 has 206 members, 24 are drafts.

Phages represented in each track:

- Track 1 : KeAlii\_54
- Track 2 : Wildwest\_53
- Track 3 : IUFootball\_58, Liebe\_58, Maureen\_58
- Track 4 : MaGuCo\_53
- Track 5 : VroomVroom\_56
- Track 6 : JohnThicc\_59, LadyAstra\_59, Origami\_58
- Track 7 : FiveHead\_60
- Track 8 : ShakeltOph\_60, MiniMommy\_59, JasmineDragon\_60
- Track 9 : Emotion\_61
- Track 10 : Exile\_50, Soondubu\_51
- Track 11 : AinMach\_54
- Track 12 : Forrest\_104, Gilson\_101, Jada\_101, DeluluLabubu\_100, Maupel\_101, Phredrick\_100, Emma1919\_102
- Track 13 : Beuffert\_94
- Track 14 : SparkleGoddess\_99, Karp\_97, Comrade\_98, Westy\_103, Moab\_100, Stigma\_98, Patelgo\_99, Belfort\_101
- Track 15 : Blueeyedbeauty\_96, Annadreamy\_94, Limpid\_93
- Track 16 : Francob\_99, Kenrey\_102
- Track 17 : NiceHouse\_187
- Track 18 : Trina\_197
- Track 19 : Francesca\_175, Dorin\_173
- Track 20 : Nova53\_185
- Track 21 : Sekhmet\_52
- Track 22 : Sidious\_47
- Track 23 : Malibo\_48
- Track 24 : Marshmallow\_72, Barbarian\_73, MollyToe\_69, Traaww1\_70, PaddyBaddy\_74, Myrale\_74, Dumbo\_74, Flypotenuse\_70, Hoonter\_77, TBrady12\_77, Manda\_75, Daikon\_76, Lilac\_76, Goldilocks\_77, IHOP\_72, Filch\_75, Easy2Say\_75, FoghornLeghorn\_68, Bogg\_74, Pumpkin\_77, Rimmer\_75, OrionPax\_73, Teaspoon\_75, ShamWow\_74, Miniwave\_69, Holt\_79, Phaux\_76, Buck\_75, Tomaszewski\_69, Porky\_73, ShereKhan\_73, Kostya\_74, Amao\_74, Highbury\_73, SophKB\_71, Ukulele\_69, Mindy\_73, Cactus\_77, NelitzaMV\_72, NoSleep\_75, HanKaySha\_74, Glexan\_73, Czyszczonek\_75, Nala\_76, Greep\_78, xkcd\_77, Elph10\_74, Adnama\_78, Sassay\_69, SirDuracell\_73, Harella\_74, TeardropMSU\_70, RiverMonster\_74, Pat3\_72, BigBubba\_74, GoldenSpark\_78, Lilizi\_75, Mosby\_70, Thresher\_76, Asriel\_73, Cookies\_71, GooberAzure\_77, Youngblood\_77, MPhalcon\_75, AmericanBeauty\_78, Hopey\_74, Icee\_75,

Terminus\_77, ChotaBhai\_74, Eureka\_72, Murphy\_74, Inca\_71, Toto\_72, Bench\_77, Balomoji\_74, Gator\_72, Kanye\_71, Command613\_76, Saints25\_73, Gemini\_79, Stark\_75, 244\_75, CrystalP\_73, PhatBacter\_78, Phrux\_71, StormChicken\_76, Brewer\_69, FairyPath\_74, Elite2014\_73, BugsBunny\_74, Maxxinista\_76, Cjw1\_74, Contagion\_70, JeTaime\_74, Nimrod\_75, ChosenOne\_74, HufflyPuff\_77, Pharsalus\_71, Emmina\_74, Misfit\_75, Gage\_76, TeamEdward\_76, Goku\_72, Simpliphy\_73, Kimchi\_78, BadStone\_71, Henry\_72, BaboJay\_71, MadamMonkfish\_74, ABCat\_71, DoctorDiddles\_73, Argent26\_78, Phaja\_72, Bask21\_74, Petra64142\_78, Palpatine\_76, Tarkin\_73, Bruin\_71, FireRed\_78, MISSy\_75, Xandras\_73, Ptowny\_71, Policronamos\_77, Becksu\_73, Sotrice96\_75, Tuco\_75, StolenFromERC\_77, Rakim\_75, DrDrey\_74, Paperbeatsrock\_73, Quallification\_75, NonchalantPear\_72, Moldemort\_77, Lilpickle\_73, Thimble\_75, Wiggin\_76, Murica\_77, StellaBean\_72, Willez\_69, BilboSwaggins\_72, Stank\_77, YassJohnny\_71

- Track 25 : Budgie\_82
- Track 26 : Dusk\_71
- Track 27 : WaterT\_74
- Track 28 : Lesiram\_50
- Track 29 : DismalFunk\_52, Findley\_52, DismalStressor\_52, Milly\_52, Strobilo\_52, TM4\_47, BoostSeason\_52, Marcoliusprime\_52
- Track 30 : ZoeJ\_51
- Track 31 : Doughnut\_52, Mufasa\_52
- Track 32 : Aminay\_54
- Track 33 : Gudmit\_42

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

The start number called the most often in the published annotations is 17, it was called in 130 of the 182 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 244\_75, ABCat\_71, Adnama\_78, Amao\_74, AmericanBeauty\_78, Argent26\_78, Asriel\_73, BaboJay\_71, BadStone\_71, Balomoji\_74, Barbarian\_73, Bask21\_74, Becksu\_73, Bench\_77, BigBubba\_74, BilboSwaggins\_72, Bogg\_74, Brewer\_69, Bruin\_71, Buck\_75, Budgie\_82, BugsBunny\_74, Cactus\_77, ChosenOne\_74, ChotaBhai\_74, Cjw1\_74, Command613\_76, Contagion\_70, Cookies\_71, CrystalP\_73, Czyszczonek\_75, Daikon\_76, DoctorDiddles\_73, DrDrey\_74, Dumbo\_74, Dusk\_71, Easy2Say\_75, Elite2014\_73, Elph10\_74, Emmina\_74, Eureka\_72, FairyPath\_74, Filch\_75, FireRed\_78, Flypotenuse\_70, FoghornLeghorn\_68, Gage\_76, Gator\_72, Gemini\_79, Glexan\_73, Goku\_72, GoldenSpark\_78, Goldilocks\_77, GooberAzure\_77, Greep\_78, HanKaySha\_74, Harella\_74, Henry\_72, Highbury\_73, Holt\_79, Hoonter\_77, Hopey\_74, HufflyPuff\_77, IHOP\_72, Icee\_75, Inca\_71, JeTaime\_74, Kanye\_71, Kimchi\_78, Kostya\_74, Lilac\_76, Lilizi\_75, Lilpickle\_73, MISSy\_75, MPhalcon\_75, MadamMonkfish\_74, Malibo\_48, Manda\_75, Marshmallow\_72, Maxxinista\_76, Mindy\_73, Miniwave\_69, Misfit\_75, Moldemort\_77, MollyToe\_69, Mosby\_70, Murica\_77, Murphy\_74, Myrale\_74, Nala\_76, NelitzaMV\_72, Nimrod\_75, NoSleep\_75, NonchalantPear\_72, OrionPax\_73, PaddyBaddy\_74, Palpatine\_76, Paperbeatsrock\_73, Pat3\_72, Petra64142\_78, Phaja\_72, Pharsalus\_71, PhatBacter\_78, Phaux\_76, Phrux\_71, Policronamos\_77, Porky\_73, Ptowny\_71, Pumpkin\_77, Quallification\_75, Rakim\_75, Rimmer\_75,

RiverMonster\_74, Saints25\_73, Sassay\_69, ShamWow\_74, ShereKhan\_73, Sidious\_47, Simpliphy\_73, SirDuracell\_73, SophKB\_71, Sotrice96\_75, Stank\_77, Stark\_75, StellaBean\_72, StolenFromERC\_77, StormChicken\_76, TBrady12\_77, Tarkin\_73, TeamEdward\_76, TeardropMSU\_70, Teaspoon\_75, Terminus\_77, Thimble\_75, Thresher\_76, Tomaszewski\_69, Toto\_72, Traaww1\_70, Tuco\_75, Ukulele\_69, Wiggin\_76, Willez\_69, Xandras\_73, YassJohnny\_71, Youngblood\_77, xkcd\_77,

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

- BoostSeason\_52, DismalFunk\_52, DismalStressor\_52, Doughnut\_52, Findley\_52, Marcoliusprime\_52, Milly\_52, Mufasa\_52, Strobilo\_52, TM4\_47, ZoeJ\_51,

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

- AinMach\_54, Aminay\_54, Annadreamy\_94, Belfort\_101, Beuffert\_94, Blueeyedbeauty\_96, Comrade\_98, DeluluLabubu\_100, Dorin\_173, Emma1919\_102, Emotion\_61, Exile\_50, FiveHead\_60, Forrest\_104, Francesca\_175, Francob\_99, Gilson\_101, Gudmit\_42, IUFootball\_58, Jada\_101, JasmineDragon\_60, JohnThicc\_59, Karp\_97, KeAlii\_54, Kenrey\_102, LadyAstra\_59, Lesiram\_50, Liebe\_58, Limpid\_93, MaGuCo\_53, Maupel\_101, Maureen\_58, MiniMommy\_59, Moab\_100, NiceHouse\_187, Nova53\_185, Origami\_58, Patelgo\_99, Phredrick\_100, Sekhmet\_52, ShakeltOph\_60, Soondubu\_51, SparkleGoddess\_99, Stigma\_98, Trina\_197, VroomVroom\_56, WaterT\_74, Westy\_103, Wildwest\_53,

### Summary by start number:

Start 9:

- Found in 4 of 206 ( 1.9% ) of genes in pham
- Manual Annotations of this start: 3 of 182
- Called 100.0% of time when present
- Phage (with cluster) where this start called: IUFootball\_58 (AZ2), Liebe\_58 (AZ2), MaGuCo\_53 (AZ2), Maureen\_58 (AZ2),

Start 10:

- Found in 1 of 206 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 182
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Wildwest\_53 (AZ1),

Start 11:

- Found in 1 of 206 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 182
- Called 100.0% of time when present
- Phage (with cluster) where this start called: KeAlii\_54 (AZ1),

Start 12:

- Found in 1 of 206 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 182
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Gudmit\_42 (singleton),

Start 14:

- Found in 6 of 206 ( 2.9% ) of genes in pham
- Manual Annotations of this start: 2 of 182

- Called 33.3% of time when present
- Phage (with cluster) where this start called: Emotion\_61 (AZ4), VroomVroom\_56 (AZ4),

#### Start 15:

- Found in 1 of 206 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 182
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Lesiram\_50 (GF),

#### Start 16:

- Found in 11 of 206 ( 5.3% ) of genes in pham
- Manual Annotations of this start: 11 of 182
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BoostSeason\_52 (K2), DismalFunk\_52 (K2), DismalStressor\_52 (K2), Doughnut\_52 (K2), Findley\_52 (K2), Marcoliusprime\_52 (K2), Milly\_52 (K2), Mufasa\_52 (K2), Strobilo\_52 (K2), TM4\_47 (K2), ZoeJ\_51 (K2),

#### Start 17:

- Found in 157 of 206 ( 76.2% ) of genes in pham
- Manual Annotations of this start: 130 of 182
- Called 93.0% of time when present
- Phage (with cluster) where this start called: 244\_75 (E), ABCat\_71 (E), Adnama\_78 (E), Amao\_74 (E), AmericanBeauty\_78 (E), Argent26\_78 (E), Asriel\_73 (E), BaboJay\_71 (E), BadStone\_71 (E), Balomoji\_74 (E), Barbarian\_73 (E), Bask21\_74 (E), Becksu\_73 (E), Bench\_77 (E), BigBubba\_74 (E), BilboSwaggins\_72 (E), Bogg\_74 (E), Brewer\_69 (E), Bruin\_71 (E), Buck\_75 (E), Budgie\_82 (E), BugsBunny\_74 (E), Cactus\_77 (E), ChosenOne\_74 (E), ChotaBhai\_74 (E), Cjw1\_74 (E), Command613\_76 (E), Contagion\_70 (E), Cookies\_71 (E), CrystalP\_73 (E), Czyszczon1\_75 (E), Daikon\_76 (E), DoctorDiddles\_73 (E), DrDrey\_74 (E), Dumbo\_74 (E), Dusk\_71 (E), Easy2Say\_75 (E), Elite2014\_73 (E), Elph10\_74 (E), Emmina\_74 (E), Eureka\_72 (E), FairyPath\_74 (E), Filch\_75 (E), FireRed\_78 (E), Flypotenuse\_70 (E), FoghornLeghorn\_68 (E), Gage\_76 (E), Gator\_72 (E), Gemini\_79 (E), Glexan\_73 (E), Goku\_72 (E), GoldenSpark\_78 (E), Goldilocks\_77 (E), GooberAzure\_77 (E), Greep\_78 (E), HanKaySha\_74 (E), Harella\_74 (E), Henry\_72 (E), Highbury\_73 (E), Holt\_79 (E), Hoonter\_77 (E), Hopey\_74 (E), HufflyPuff\_77 (E), IHOP\_72 (E), Icee\_75 (E), Inca\_71 (E), JeTaime\_74 (E), Kanye\_71 (E), Kimchi\_78 (E), Kostya\_74 (E), Lilac\_76 (E), Lilizi\_75 (E), Lilpickle\_73 (E), MISSy\_75 (E), MPhalcon\_75 (E), MadamMonkfish\_74 (E), Malibo\_48 (DW), Manda\_75 (E), Marshmallow\_72 (E), Maxxinista\_76 (E), Mindy\_73 (E), Miniwave\_69 (E), Misfit\_75 (E), Moldemort\_77 (E), MollyToe\_69 (E), Mosby\_70 (E), Murica\_77 (E), Murphy\_74 (E), Myrale\_74 (E), Nala\_76 (E), NelitzaMV\_72 (E), Nimrod\_75 (E), NoSleep\_75 (E), NonchalantPear\_72 (E), OrionPax\_73 (E), PaddyBaddy\_74 (E), Palpatine\_76 (E), Paperbeatsrock\_73 (E), Pat3\_72 (E), Petra64142\_78 (E), Phaja\_72 (E), Pharsalus\_71 (E), PhatBacter\_78 (E), Phaux\_76 (E), Phrux\_71 (E), Policronamos\_77 (E), Porky\_73 (E), Ptowny\_71 (E), Pumpkin\_77 (E), Quallification\_75 (E), Rakim\_75 (E), Rimmer\_75 (E), RiverMonster\_74 (E), Saints25\_73 (E), Sassay\_69 (E), ShamWow\_74 (E), ShereKhan\_73 (E), Sidious\_47 (CZ7), Simpliphy\_73 (E), SirDuracell\_73 (E), SophKB\_71 (E), Sotrice96\_75 (E), Stank\_77 (E), Stark\_75 (E), StellaBean\_72 (E), StolenFromERC\_77 (E), StormChicken\_76 (E), TBrady12\_77 (E), Tarkin\_73 (E), TeamEdward\_76 (E), TeardropMSU\_70 (E), Teaspoon\_75 (E), Terminus\_77 (E), Thimble\_75 (E), Thresher\_76 (E), Tomaszewski\_69 (E), Toto\_72

(E), Traaww1\_70 (E), Tuco\_75 (E), Ukulele\_69 (E), Wiggin\_76 (E), Willez\_69 (E), Xandras\_73 (E), YassJohnny\_71 (E), Youngblood\_77 (E), xkcd\_77 (E),

Start 18:

- Found in 1 of 206 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 182
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aminay\_54 (K7),

Start 19:

- Found in 4 of 206 ( 1.9% ) of genes in pham
- Manual Annotations of this start: 3 of 182
- Called 75.0% of time when present
- Phage (with cluster) where this start called: NiceHouse\_187 (CE), Trina\_197 (CE), WaterT\_74 (GB),

Start 20:

- Found in 13 of 206 ( 6.3% ) of genes in pham
- Manual Annotations of this start: 12 of 182
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Annadreamy\_94 (BK1), Beuffert\_94 (BK1), Blueeyedbeauty\_96 (BK1), DeluluLabubu\_100 (BK1), Emma1919\_102 (BK1), Forrest\_104 (BK1), Francob\_99 (BK1), Gilson\_101 (BK1), Jada\_101 (BK1), Kenrey\_102 (BK1), Limpid\_93 (BK1), Maupel\_101 (BK1), Phredrick\_100 (BK1),

Start 21:

- Found in 8 of 206 ( 3.9% ) of genes in pham
- Manual Annotations of this start: 8 of 182
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Belfort\_101 (BK1), Comrade\_98 (BK1), Karp\_97 (BK1), Moab\_100 (BK1), Patelgo\_99 (BK1), SparkleGoddess\_99 (BK1), Stigma\_98 (BK1), Westy\_103 (BK1),

Start 22:

- Found in 10 of 206 ( 4.9% ) of genes in pham
- Manual Annotations of this start: 3 of 182
- Called 80.0% of time when present
- Phage (with cluster) where this start called: AinMach\_54 (AZ7), FiveHead\_60 (AZ4), JasmineDragon\_60 (AZ4), JohnThicc\_59 (AZ4), LadyAstra\_59 (AZ4), MiniMommy\_59 (AZ4), Origami\_58 (AZ4), ShakeltOph\_60 (AZ4),

Start 23:

- Found in 3 of 206 ( 1.5% ) of genes in pham
- Manual Annotations of this start: 3 of 182
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Dorin\_173 (CG), Francesca\_175 (CG), Nova53\_185 (CG),

Start 24:

- Found in 3 of 206 ( 1.5% ) of genes in pham
- Manual Annotations of this start: 1 of 182
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Exile\_50 (AZ6), Soondubu\_51 (AZ6),

Start 26:

- Found in 3 of 206 ( 1.5% ) of genes in pham
- Manual Annotations of this start: 1 of 182
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Sekhmet\_52 (CZ4),

### **Summary by clusters:**

There are 17 clusters represented in this pham: singleton, E, GF, CG, CZ7, CZ4, K2, K7, BK1, CE, DW, AZ1, AZ2, AZ7, AZ4, AZ6, GB,

Info for manual annotations of cluster AZ1:

- Start number 10 was manually annotated 1 time for cluster AZ1.
- Start number 11 was manually annotated 1 time for cluster AZ1.

Info for manual annotations of cluster AZ2:

- Start number 9 was manually annotated 3 times for cluster AZ2.

Info for manual annotations of cluster AZ4:

- Start number 14 was manually annotated 2 times for cluster AZ4.
- Start number 22 was manually annotated 3 times for cluster AZ4.

Info for manual annotations of cluster AZ6:

- Start number 24 was manually annotated 1 time for cluster AZ6.

Info for manual annotations of cluster BK1:

- Start number 20 was manually annotated 12 times for cluster BK1.
- Start number 21 was manually annotated 8 times for cluster BK1.

Info for manual annotations of cluster CE:

- Start number 19 was manually annotated 2 times for cluster CE.

Info for manual annotations of cluster CG:

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

Info for manual annotations of cluster CZ4:

- Start number 26 was manually annotated 1 time for cluster CZ4.

Info for manual annotations of cluster CZ7:

- Start number 17 was manually annotated 1 time for cluster CZ7.

Info for manual annotations of cluster DW:

- Start number 17 was manually annotated 1 time for cluster DW.

Info for manual annotations of cluster E:

- Start number 17 was manually annotated 128 times for cluster E.

Info for manual annotations of cluster GB:

- Start number 19 was manually annotated 1 time for cluster GB.

Info for manual annotations of cluster GF:

- Start number 15 was manually annotated 1 time for cluster GF.

Info for manual annotations of cluster K2:

- Start number 16 was manually annotated 11 times for cluster K2.

Info for manual annotations of cluster K7:

- Start number 18 was manually annotated 1 time for cluster K7.

### ***Gene Information:***

Gene: 244\_75 Start: 47793, Stop: 47966, Start Num: 17

Candidate Starts for 244\_75:

(Start: 17 @47793 has 130 MA's), (29, 47844),

Gene: ABCat\_71 Start: 48146, Stop: 48319, Start Num: 17

Candidate Starts for ABCat\_71:

(Start: 17 @48146 has 130 MA's), (29, 48197),

Gene: Adnama\_78 Start: 48172, Stop: 48345, Start Num: 17

Candidate Starts for Adnama\_78:

(Start: 17 @48172 has 130 MA's), (29, 48223),

Gene: AinMach\_54 Start: 37308, Stop: 37466, Start Num: 22

Candidate Starts for AinMach\_54:

(Start: 22 @37308 has 3 MA's), (32, 37350), (36, 37356),

Gene: Amao\_74 Start: 47566, Stop: 47739, Start Num: 17

Candidate Starts for Amao\_74:

(Start: 17 @47566 has 130 MA's), (29, 47617),

Gene: AmericanBeauty\_78 Start: 48315, Stop: 48488, Start Num: 17

Candidate Starts for AmericanBeauty\_78:

(Start: 17 @48315 has 130 MA's), (29, 48366),

Gene: Aminay\_54 Start: 38354, Stop: 38521, Start Num: 18

Candidate Starts for Aminay\_54:

(Start: 18 @38354 has 1 MA's),

Gene: Annadreamy\_94 Start: 66362, Stop: 66547, Start Num: 20

Candidate Starts for Annadreamy\_94:

(Start: 20 @66362 has 12 MA's), (39, 66434),

Gene: Argent26\_78 Start: 47953, Stop: 48126, Start Num: 17

Candidate Starts for Argent26\_78:

(Start: 17 @47953 has 130 MA's), (29, 48004),

Gene: Asriel\_73 Start: 46509, Stop: 46682, Start Num: 17

Candidate Starts for Asriel\_73:

(Start: 17 @46509 has 130 MA's), (29, 46560),

Gene: BaboJay\_71 Start: 47346, Stop: 47519, Start Num: 17

Candidate Starts for BaboJay\_71:  
(Start: 17 @47346 has 130 MA's), (29, 47397),

Gene: BadStone\_71 Start: 47715, Stop: 47888, Start Num: 17  
Candidate Starts for BadStone\_71:  
(Start: 17 @47715 has 130 MA's), (29, 47766),

Gene: Balomoji\_74 Start: 48276, Stop: 48449, Start Num: 17  
Candidate Starts for Balomoji\_74:  
(Start: 17 @48276 has 130 MA's), (29, 48327),

Gene: Barbarian\_73 Start: 46509, Stop: 46682, Start Num: 17  
Candidate Starts for Barbarian\_73:  
(Start: 17 @46509 has 130 MA's), (29, 46560),

Gene: Bask21\_74 Start: 47129, Stop: 47302, Start Num: 17  
Candidate Starts for Bask21\_74:  
(Start: 17 @47129 has 130 MA's), (29, 47180),

Gene: Becksu\_73 Start: 48345, Stop: 48524, Start Num: 17  
Candidate Starts for Becksu\_73:  
(Start: 17 @48345 has 130 MA's), (29, 48396),

Gene: Belfort\_101 Start: 68605, Stop: 68790, Start Num: 21  
Candidate Starts for Belfort\_101:  
(Start: 21 @68605 has 8 MA's), (39, 68677),

Gene: Bench\_77 Start: 47813, Stop: 47992, Start Num: 17  
Candidate Starts for Bench\_77:  
(Start: 17 @47813 has 130 MA's), (29, 47864),

Gene: Beuffert\_94 Start: 66921, Stop: 67106, Start Num: 20  
Candidate Starts for Beuffert\_94:  
(Start: 20 @66921 has 12 MA's),

Gene: BigBubba\_74 Start: 47525, Stop: 47704, Start Num: 17  
Candidate Starts for BigBubba\_74:  
(Start: 17 @47525 has 130 MA's), (29, 47576),

Gene: BilboSwaggins\_72 Start: 48154, Stop: 48327, Start Num: 17  
Candidate Starts for BilboSwaggins\_72:  
(Start: 17 @48154 has 130 MA's), (29, 48205),

Gene: Blueeyedbeauty\_96 Start: 66320, Stop: 66505, Start Num: 20  
Candidate Starts for Blueeyedbeauty\_96:  
(Start: 20 @66320 has 12 MA's), (39, 66392),

Gene: Bogg\_74 Start: 47092, Stop: 47265, Start Num: 17  
Candidate Starts for Bogg\_74:  
(Start: 17 @47092 has 130 MA's), (29, 47143),

Gene: BoostSeason\_52 Start: 38177, Stop: 38386, Start Num: 16  
Candidate Starts for BoostSeason\_52:

(Start: 16 @38177 has 11 MA's), (Start: 17 @38189 has 130 MA's), (27, 38240), (33, 38261), (38, 38273), (39, 38288), (41, 38303), (44, 38315),

Gene: Brewer\_69 Start: 46615, Stop: 46788, Start Num: 17  
Candidate Starts for Brewer\_69:  
(Start: 17 @46615 has 130 MA's), (29, 46666),

Gene: Bruin\_71 Start: 46689, Stop: 46868, Start Num: 17  
Candidate Starts for Bruin\_71:  
(Start: 17 @46689 has 130 MA's), (29, 46740),

Gene: Buck\_75 Start: 48394, Stop: 48567, Start Num: 17  
Candidate Starts for Buck\_75:  
(Start: 17 @48394 has 130 MA's), (29, 48445),

Gene: Budgie\_82 Start: 48184, Stop: 48363, Start Num: 17  
Candidate Starts for Budgie\_82:  
(Start: 17 @48184 has 130 MA's), (29, 48235), (50, 48355),

Gene: BugsBunny\_74 Start: 48221, Stop: 48400, Start Num: 17  
Candidate Starts for BugsBunny\_74:  
(Start: 17 @48221 has 130 MA's), (29, 48272),

Gene: Cactus\_77 Start: 47170, Stop: 47343, Start Num: 17  
Candidate Starts for Cactus\_77:  
(Start: 17 @47170 has 130 MA's), (29, 47221),

Gene: ChosenOne\_74 Start: 47170, Stop: 47343, Start Num: 17  
Candidate Starts for ChosenOne\_74:  
(Start: 17 @47170 has 130 MA's), (29, 47221),

Gene: ChotaBhai\_74 Start: 47494, Stop: 47667, Start Num: 17  
Candidate Starts for ChotaBhai\_74:  
(Start: 17 @47494 has 130 MA's), (29, 47545),

Gene: Cjw1\_74 Start: 48867, Stop: 49040, Start Num: 17  
Candidate Starts for Cjw1\_74:  
(Start: 17 @48867 has 130 MA's), (29, 48918),

Gene: Command613\_76 Start: 48209, Stop: 48382, Start Num: 17  
Candidate Starts for Command613\_76:  
(Start: 17 @48209 has 130 MA's), (29, 48260),

Gene: Comrade\_98 Start: 67922, Stop: 68107, Start Num: 21  
Candidate Starts for Comrade\_98:  
(Start: 21 @67922 has 8 MA's), (39, 67994),

Gene: Contagion\_70 Start: 46970, Stop: 47149, Start Num: 17  
Candidate Starts for Contagion\_70:  
(Start: 17 @46970 has 130 MA's), (29, 47021),

Gene: Cookies\_71 Start: 47351, Stop: 47524, Start Num: 17  
Candidate Starts for Cookies\_71:

(Start: 17 @47351 has 130 MA's), (29, 47402),

Gene: CrystalP\_73 Start: 48154, Stop: 48327, Start Num: 17

Candidate Starts for CrystalP\_73:

(Start: 17 @48154 has 130 MA's), (29, 48205),

Gene: Czyszczone1\_75 Start: 47676, Stop: 47855, Start Num: 17

Candidate Starts for Czyszczone1\_75:

(Start: 17 @47676 has 130 MA's), (29, 47727),

Gene: Daikon\_76 Start: 48297, Stop: 48470, Start Num: 17

Candidate Starts for Daikon\_76:

(Start: 17 @48297 has 130 MA's), (29, 48348),

Gene: DeluluLabubu\_100 Start: 66761, Stop: 66946, Start Num: 20

Candidate Starts for DeluluLabubu\_100:

(Start: 20 @66761 has 12 MA's),

Gene: DismalFunk\_52 Start: 38608, Stop: 38817, Start Num: 16

Candidate Starts for DismalFunk\_52:

(Start: 16 @38608 has 11 MA's), (Start: 17 @38620 has 130 MA's), (27, 38671), (33, 38692), (38, 38704), (39, 38719), (41, 38734), (44, 38746),

Gene: DismalStressor\_52 Start: 38608, Stop: 38817, Start Num: 16

Candidate Starts for DismalStressor\_52:

(Start: 16 @38608 has 11 MA's), (Start: 17 @38620 has 130 MA's), (27, 38671), (33, 38692), (38, 38704), (39, 38719), (41, 38734), (44, 38746),

Gene: DoctorDiddles\_73 Start: 47538, Stop: 47711, Start Num: 17

Candidate Starts for DoctorDiddles\_73:

(Start: 17 @47538 has 130 MA's), (29, 47589),

Gene: Dorin\_173 Start: 95195, Stop: 95365, Start Num: 23

Candidate Starts for Dorin\_173:

(Start: 23 @95195 has 3 MA's), (38, 95243), (39, 95258), (45, 95288),

Gene: Doughnut\_52 Start: 38218, Stop: 38427, Start Num: 16

Candidate Starts for Doughnut\_52:

(Start: 16 @38218 has 11 MA's), (Start: 17 @38230 has 130 MA's), (27, 38281), (33, 38302), (38, 38314), (39, 38329), (41, 38344), (44, 38356),

Gene: DrDrey\_74 Start: 48595, Stop: 48774, Start Num: 17

Candidate Starts for DrDrey\_74:

(Start: 17 @48595 has 130 MA's), (29, 48646),

Gene: Dumbo\_74 Start: 47075, Stop: 47248, Start Num: 17

Candidate Starts for Dumbo\_74:

(Start: 17 @47075 has 130 MA's), (29, 47126),

Gene: Dusk\_71 Start: 47375, Stop: 47548, Start Num: 17

Candidate Starts for Dusk\_71:

(Start: 17 @47375 has 130 MA's),

Gene: Easy2Say\_75 Start: 48619, Stop: 48792, Start Num: 17  
Candidate Starts for Easy2Say\_75:  
(Start: 17 @48619 has 130 MA's), (29, 48670),

Gene: Elite2014\_73 Start: 47169, Stop: 47342, Start Num: 17  
Candidate Starts for Elite2014\_73:  
(Start: 17 @47169 has 130 MA's), (29, 47220),

Gene: Elph10\_74 Start: 47174, Stop: 47353, Start Num: 17  
Candidate Starts for Elph10\_74:  
(Start: 17 @47174 has 130 MA's), (29, 47225),

Gene: Emma1919\_102 Start: 67382, Stop: 67567, Start Num: 20  
Candidate Starts for Emma1919\_102:  
(Start: 20 @67382 has 12 MA's),

Gene: Emmina\_74 Start: 47076, Stop: 47249, Start Num: 17  
Candidate Starts for Emmina\_74:  
(Start: 17 @47076 has 130 MA's), (29, 47127),

Gene: Emotion\_61 Start: 40785, Stop: 40988, Start Num: 14  
Candidate Starts for Emotion\_61:  
(6, 40701), (Start: 14 @40785 has 2 MA's), (Start: 22 @40836 has 3 MA's),

Gene: Eureka\_72 Start: 47640, Stop: 47813, Start Num: 17  
Candidate Starts for Eureka\_72:  
(Start: 17 @47640 has 130 MA's), (29, 47691),

Gene: Exile\_50 Start: 40505, Stop: 40657, Start Num: 24  
Candidate Starts for Exile\_50:  
(Start: 24 @40505 has 1 MA's), (37, 40547), (49, 40637),

Gene: FairyPath\_74 Start: 48288, Stop: 48461, Start Num: 17  
Candidate Starts for FairyPath\_74:  
(Start: 17 @48288 has 130 MA's), (29, 48339),

Gene: Filch\_75 Start: 47101, Stop: 47280, Start Num: 17  
Candidate Starts for Filch\_75:  
(Start: 17 @47101 has 130 MA's), (29, 47152),

Gene: Findley\_52 Start: 38601, Stop: 38810, Start Num: 16  
Candidate Starts for Findley\_52:  
(Start: 16 @38601 has 11 MA's), (Start: 17 @38613 has 130 MA's), (27, 38664), (33, 38685), (38, 38697), (39, 38712), (41, 38727), (44, 38739),

Gene: FireRed\_78 Start: 48663, Stop: 48836, Start Num: 17  
Candidate Starts for FireRed\_78:  
(Start: 17 @48663 has 130 MA's), (29, 48714),

Gene: FiveHead\_60 Start: 39271, Stop: 39417, Start Num: 22  
Candidate Starts for FiveHead\_60:  
(Start: 14 @39229 has 2 MA's), (Start: 22 @39271 has 3 MA's), (41, 39349),

Gene: Flypotenuse\_70 Start: 47160, Stop: 47333, Start Num: 17  
Candidate Starts for Flypotenuse\_70:  
(Start: 17 @47160 has 130 MA's), (29, 47211),

Gene: FoghornLeghorn\_68 Start: 46173, Stop: 46346, Start Num: 17  
Candidate Starts for FoghornLeghorn\_68:  
(Start: 17 @46173 has 130 MA's), (29, 46224),

Gene: Forrest\_104 Start: 69125, Stop: 69310, Start Num: 20  
Candidate Starts for Forrest\_104:  
(Start: 20 @69125 has 12 MA's),

Gene: Francesca\_175 Start: 96114, Stop: 96284, Start Num: 23  
Candidate Starts for Francesca\_175:  
(Start: 23 @96114 has 3 MA's), (38, 96162), (39, 96177), (45, 96207),

Gene: Francob\_99 Start: 67565, Stop: 67750, Start Num: 20  
Candidate Starts for Francob\_99:  
(Start: 20 @67565 has 12 MA's), (39, 67637),

Gene: Gage\_76 Start: 47953, Stop: 48126, Start Num: 17  
Candidate Starts for Gage\_76:  
(Start: 17 @47953 has 130 MA's), (29, 48004),

Gene: Gator\_72 Start: 48006, Stop: 48185, Start Num: 17  
Candidate Starts for Gator\_72:  
(Start: 17 @48006 has 130 MA's), (29, 48057),

Gene: Gemini\_79 Start: 48470, Stop: 48643, Start Num: 17  
Candidate Starts for Gemini\_79:  
(Start: 17 @48470 has 130 MA's), (29, 48521),

Gene: Gilson\_101 Start: 67344, Stop: 67529, Start Num: 20  
Candidate Starts for Gilson\_101:  
(Start: 20 @67344 has 12 MA's),

Gene: Glexan\_73 Start: 48290, Stop: 48463, Start Num: 17  
Candidate Starts for Glexan\_73:  
(Start: 17 @48290 has 130 MA's), (29, 48341),

Gene: Goku\_72 Start: 47369, Stop: 47542, Start Num: 17  
Candidate Starts for Goku\_72:  
(Start: 17 @47369 has 130 MA's), (29, 47420),

Gene: GoldenSpark\_78 Start: 47953, Stop: 48126, Start Num: 17  
Candidate Starts for GoldenSpark\_78:  
(Start: 17 @47953 has 130 MA's), (29, 48004),

Gene: Goldilocks\_77 Start: 47451, Stop: 47624, Start Num: 17  
Candidate Starts for Goldilocks\_77:  
(Start: 17 @47451 has 130 MA's), (29, 47502),

Gene: GooberAzure\_77 Start: 47953, Stop: 48126, Start Num: 17

Candidate Starts for GooberAzure\_77:  
(Start: 17 @47953 has 130 MA's), (29, 48004),

Gene: Greep\_78 Start: 48952, Stop: 49131, Start Num: 17  
Candidate Starts for Greep\_78:  
(Start: 17 @48952 has 130 MA's), (29, 49003),

Gene: Gudmit\_42 Start: 28762, Stop: 28971, Start Num: 12  
Candidate Starts for Gudmit\_42:  
(3, 28654), (4, 28663), (Start: 12 @28762 has 1 MA's), (44, 28894),

Gene: HanKaySha\_74 Start: 47254, Stop: 47433, Start Num: 17  
Candidate Starts for HanKaySha\_74:  
(Start: 17 @47254 has 130 MA's), (29, 47305),

Gene: Harella\_74 Start: 48806, Stop: 48979, Start Num: 17  
Candidate Starts for Harella\_74:  
(Start: 17 @48806 has 130 MA's), (29, 48857),

Gene: Henry\_72 Start: 47594, Stop: 47767, Start Num: 17  
Candidate Starts for Henry\_72:  
(Start: 17 @47594 has 130 MA's), (29, 47645),

Gene: Highbury\_73 Start: 47242, Stop: 47415, Start Num: 17  
Candidate Starts for Highbury\_73:  
(Start: 17 @47242 has 130 MA's), (29, 47293),

Gene: Holt\_79 Start: 48367, Stop: 48540, Start Num: 17  
Candidate Starts for Holt\_79:  
(Start: 17 @48367 has 130 MA's), (29, 48418),

Gene: Hoonter\_77 Start: 47953, Stop: 48126, Start Num: 17  
Candidate Starts for Hoonter\_77:  
(Start: 17 @47953 has 130 MA's), (29, 48004),

Gene: Hopecy\_74 Start: 47786, Stop: 47965, Start Num: 17  
Candidate Starts for Hopecy\_74:  
(Start: 17 @47786 has 130 MA's), (29, 47837),

Gene: HufflyPuff\_77 Start: 48619, Stop: 48792, Start Num: 17  
Candidate Starts for HufflyPuff\_77:  
(Start: 17 @48619 has 130 MA's), (29, 48670),

Gene: IHOP\_72 Start: 47718, Stop: 47891, Start Num: 17  
Candidate Starts for IHOP\_72:  
(Start: 17 @47718 has 130 MA's), (29, 47769),

Gene: IUFootball\_58 Start: 41412, Stop: 41675, Start Num: 9  
Candidate Starts for IUFootball\_58:  
(Start: 9 @41412 has 3 MA's), (13, 41445), (25, 41514), (34, 41544), (37, 41550), (45, 41595), (49, 41643), (51, 41667),

Gene: Icee\_75 Start: 47617, Stop: 47790, Start Num: 17

Candidate Starts for Icee\_75:  
(Start: 17 @47617 has 130 MA's), (29, 47668),

Gene: Inca\_71 Start: 46243, Stop: 46416, Start Num: 17  
Candidate Starts for Inca\_71:  
(Start: 17 @46243 has 130 MA's), (29, 46294),

Gene: Jada\_101 Start: 67857, Stop: 68042, Start Num: 20  
Candidate Starts for Jada\_101:  
(Start: 20 @67857 has 12 MA's),

Gene: JasmineDragon\_60 Start: 40141, Stop: 40287, Start Num: 22  
Candidate Starts for JasmineDragon\_60:  
(Start: 22 @40141 has 3 MA's), (41, 40219),

Gene: JeTaime\_74 Start: 48435, Stop: 48608, Start Num: 17  
Candidate Starts for JeTaime\_74:  
(Start: 17 @48435 has 130 MA's), (29, 48486),

Gene: JohnThicc\_59 Start: 39271, Stop: 39417, Start Num: 22  
Candidate Starts for JohnThicc\_59:  
(Start: 14 @39229 has 2 MA's), (Start: 22 @39271 has 3 MA's), (41, 39349),

Gene: Kanye\_71 Start: 47299, Stop: 47472, Start Num: 17  
Candidate Starts for Kanye\_71:  
(Start: 17 @47299 has 130 MA's), (29, 47350),

Gene: Karp\_97 Start: 67879, Stop: 68064, Start Num: 21  
Candidate Starts for Karp\_97:  
(Start: 21 @67879 has 8 MA's), (39, 67951),

Gene: KeAlii\_54 Start: 38009, Stop: 38218, Start Num: 11  
Candidate Starts for KeAlii\_54:  
(Start: 11 @38009 has 1 MA's),

Gene: Kenrey\_102 Start: 67572, Stop: 67757, Start Num: 20  
Candidate Starts for Kenrey\_102:  
(Start: 20 @67572 has 12 MA's), (39, 67644),

Gene: Kimchi\_78 Start: 47956, Stop: 48129, Start Num: 17  
Candidate Starts for Kimchi\_78:  
(Start: 17 @47956 has 130 MA's), (29, 48007),

Gene: Kostya\_74 Start: 47817, Stop: 47990, Start Num: 17  
Candidate Starts for Kostya\_74:  
(Start: 17 @47817 has 130 MA's), (29, 47868),

Gene: LadyAstra\_59 Start: 39371, Stop: 39517, Start Num: 22  
Candidate Starts for LadyAstra\_59:  
(Start: 14 @39329 has 2 MA's), (Start: 22 @39371 has 3 MA's), (41, 39449),

Gene: Lesiram\_50 Start: 28642, Stop: 28860, Start Num: 15  
Candidate Starts for Lesiram\_50:

(Start: 15 @28642 has 1 MA's), (Start: 26 @28705 has 1 MA's), (42, 28774),

Gene: Liebe\_58 Start: 41412, Stop: 41675, Start Num: 9

Candidate Starts for Liebe\_58:

(Start: 9 @41412 has 3 MA's), (13, 41445), (25, 41514), (34, 41544), (37, 41550), (45, 41595), (49, 41643), (51, 41667),

Gene: Lilac\_76 Start: 47571, Stop: 47750, Start Num: 17

Candidate Starts for Lilac\_76:

(Start: 17 @47571 has 130 MA's), (29, 47622),

Gene: Lilizi\_75 Start: 47284, Stop: 47463, Start Num: 17

Candidate Starts for Lilizi\_75:

(Start: 17 @47284 has 130 MA's), (29, 47335),

Gene: Lilpickle\_73 Start: 47169, Stop: 47342, Start Num: 17

Candidate Starts for Lilpickle\_73:

(Start: 17 @47169 has 130 MA's), (29, 47220),

Gene: Limpid\_93 Start: 66361, Stop: 66546, Start Num: 20

Candidate Starts for Limpid\_93:

(Start: 20 @66361 has 12 MA's), (39, 66433),

Gene: MISSy\_75 Start: 47675, Stop: 47854, Start Num: 17

Candidate Starts for MISSy\_75:

(Start: 17 @47675 has 130 MA's), (29, 47726),

Gene: MPhalcon\_75 Start: 47668, Stop: 47847, Start Num: 17

Candidate Starts for MPhalcon\_75:

(Start: 17 @47668 has 130 MA's), (29, 47719),

Gene: MaGuCo\_53 Start: 39882, Stop: 40133, Start Num: 9

Candidate Starts for MaGuCo\_53:

(Start: 9 @39882 has 3 MA's), (13, 39915), (25, 39984), (31, 40005), (37, 40020), (43, 40059), (45, 40065), (49, 40113),

Gene: MadamMonkfish\_74 Start: 46893, Stop: 47066, Start Num: 17

Candidate Starts for MadamMonkfish\_74:

(Start: 17 @46893 has 130 MA's), (29, 46944),

Gene: Malibo\_48 Start: 36272, Stop: 36448, Start Num: 17

Candidate Starts for Malibo\_48:

(5, 36155), (Start: 17 @36272 has 130 MA's),

Gene: Manda\_75 Start: 48755, Stop: 48928, Start Num: 17

Candidate Starts for Manda\_75:

(Start: 17 @48755 has 130 MA's), (29, 48806),

Gene: Marcoliusprime\_52 Start: 38608, Stop: 38817, Start Num: 16

Candidate Starts for Marcoliusprime\_52:

(Start: 16 @38608 has 11 MA's), (Start: 17 @38620 has 130 MA's), (27, 38671), (33, 38692), (38, 38704), (39, 38719), (41, 38734), (44, 38746),

Gene: Marshmallow\_72 Start: 48448, Stop: 48621, Start Num: 17  
Candidate Starts for Marshmallow\_72:  
(Start: 17 @48448 has 130 MA's), (29, 48499),

Gene: Maupel\_101 Start: 67344, Stop: 67529, Start Num: 20  
Candidate Starts for Maupel\_101:  
(Start: 20 @67344 has 12 MA's),

Gene: Maureen\_58 Start: 41411, Stop: 41674, Start Num: 9  
Candidate Starts for Maureen\_58:  
(Start: 9 @41411 has 3 MA's), (13, 41444), (25, 41513), (34, 41543), (37, 41549), (45, 41594), (49, 41642), (51, 41666),

Gene: Maxxinista\_76 Start: 47544, Stop: 47723, Start Num: 17  
Candidate Starts for Maxxinista\_76:  
(Start: 17 @47544 has 130 MA's), (29, 47595),

Gene: Milly\_52 Start: 38581, Stop: 38790, Start Num: 16  
Candidate Starts for Milly\_52:  
(Start: 16 @38581 has 11 MA's), (Start: 17 @38593 has 130 MA's), (27, 38644), (33, 38665), (38, 38677), (39, 38692), (41, 38707), (44, 38719),

Gene: Mindy\_73 Start: 46760, Stop: 46933, Start Num: 17  
Candidate Starts for Mindy\_73:  
(Start: 17 @46760 has 130 MA's), (29, 46811),

Gene: MiniMommy\_59 Start: 40144, Stop: 40290, Start Num: 22  
Candidate Starts for MiniMommy\_59:  
(Start: 22 @40144 has 3 MA's), (41, 40222),

Gene: Miniwave\_69 Start: 47213, Stop: 47386, Start Num: 17  
Candidate Starts for Miniwave\_69:  
(Start: 17 @47213 has 130 MA's), (29, 47264),

Gene: Misfit\_75 Start: 48687, Stop: 48866, Start Num: 17  
Candidate Starts for Misfit\_75:  
(Start: 17 @48687 has 130 MA's), (29, 48738),

Gene: Moab\_100 Start: 69731, Stop: 69916, Start Num: 21  
Candidate Starts for Moab\_100:  
(Start: 21 @69731 has 8 MA's), (39, 69803),

Gene: Moldemort\_77 Start: 47772, Stop: 47945, Start Num: 17  
Candidate Starts for Moldemort\_77:  
(Start: 17 @47772 has 130 MA's), (29, 47823),

Gene: MollyToe\_69 Start: 46514, Stop: 46687, Start Num: 17  
Candidate Starts for MollyToe\_69:  
(Start: 17 @46514 has 130 MA's), (29, 46565),

Gene: Mosby\_70 Start: 46970, Stop: 47149, Start Num: 17  
Candidate Starts for Mosby\_70:  
(Start: 17 @46970 has 130 MA's), (29, 47021),

Gene: Mufasa\_52 Start: 38162, Stop: 38371, Start Num: 16

Candidate Starts for Mufasa\_52:

(Start: 16 @38162 has 11 MA's), (Start: 17 @38174 has 130 MA's), (27, 38225), (33, 38246), (38, 38258), (39, 38273), (41, 38288), (44, 38300),

Gene: Murica\_77 Start: 48619, Stop: 48792, Start Num: 17

Candidate Starts for Murica\_77:

(Start: 17 @48619 has 130 MA's), (29, 48670),

Gene: Murphy\_74 Start: 48056, Stop: 48235, Start Num: 17

Candidate Starts for Murphy\_74:

(Start: 17 @48056 has 130 MA's), (29, 48107),

Gene: Myrale\_74 Start: 48313, Stop: 48486, Start Num: 17

Candidate Starts for Myrale\_74:

(Start: 17 @48313 has 130 MA's), (29, 48364),

Gene: Nala\_76 Start: 48177, Stop: 48350, Start Num: 17

Candidate Starts for Nala\_76:

(Start: 17 @48177 has 130 MA's), (29, 48228),

Gene: NelitzaMV\_72 Start: 47259, Stop: 47432, Start Num: 17

Candidate Starts for NelitzaMV\_72:

(Start: 17 @47259 has 130 MA's), (29, 47310),

Gene: NiceHouse\_187 Start: 105087, Stop: 105269, Start Num: 19

Candidate Starts for NiceHouse\_187:

(Start: 19 @105087 has 3 MA's), (Start: 24 @105102 has 1 MA's), (35, 105138), (38, 105147), (39, 105162),

Gene: Nimrod\_75 Start: 48880, Stop: 49053, Start Num: 17

Candidate Starts for Nimrod\_75:

(Start: 17 @48880 has 130 MA's), (29, 48931),

Gene: NoSleep\_75 Start: 47514, Stop: 47687, Start Num: 17

Candidate Starts for NoSleep\_75:

(Start: 17 @47514 has 130 MA's), (29, 47565),

Gene: NonchalantPear\_72 Start: 47367, Stop: 47540, Start Num: 17

Candidate Starts for NonchalantPear\_72:

(Start: 17 @47367 has 130 MA's), (29, 47418),

Gene: Nova53\_185 Start: 97990, Stop: 98160, Start Num: 23

Candidate Starts for Nova53\_185:

(Start: 19 @97978 has 3 MA's), (Start: 23 @97990 has 3 MA's), (38, 98038), (39, 98053), (45, 98083),

Gene: Origami\_58 Start: 39163, Stop: 39309, Start Num: 22

Candidate Starts for Origami\_58:

(Start: 14 @39121 has 2 MA's), (Start: 22 @39163 has 3 MA's), (41, 39241),

Gene: OrionPax\_73 Start: 47265, Stop: 47438, Start Num: 17

Candidate Starts for OrionPax\_73:

(Start: 17 @47265 has 130 MA's), (29, 47316),

Gene: PaddyBaddy\_74 Start: 47268, Stop: 47447, Start Num: 17

Candidate Starts for PaddyBaddy\_74:

(Start: 17 @47268 has 130 MA's), (29, 47319),

Gene: Palpatine\_76 Start: 48646, Stop: 48825, Start Num: 17

Candidate Starts for Palpatine\_76:

(Start: 17 @48646 has 130 MA's), (29, 48697),

Gene: Paperbeatsrock\_73 Start: 47891, Stop: 48064, Start Num: 17

Candidate Starts for Paperbeatsrock\_73:

(Start: 17 @47891 has 130 MA's), (29, 47942),

Gene: Pat3\_72 Start: 46423, Stop: 46596, Start Num: 17

Candidate Starts for Pat3\_72:

(Start: 17 @46423 has 130 MA's), (29, 46474),

Gene: Patelgo\_99 Start: 68817, Stop: 69002, Start Num: 21

Candidate Starts for Patelgo\_99:

(Start: 21 @68817 has 8 MA's), (39, 68889),

Gene: Petra64142\_78 Start: 49110, Stop: 49283, Start Num: 17

Candidate Starts for Petra64142\_78:

(Start: 17 @49110 has 130 MA's), (29, 49161),

Gene: Phaja\_72 Start: 47717, Stop: 47890, Start Num: 17

Candidate Starts for Phaja\_72:

(Start: 17 @47717 has 130 MA's), (29, 47768),

Gene: Pharsalus\_71 Start: 47691, Stop: 47864, Start Num: 17

Candidate Starts for Pharsalus\_71:

(Start: 17 @47691 has 130 MA's), (29, 47742),

Gene: PhatBacter\_78 Start: 48663, Stop: 48842, Start Num: 17

Candidate Starts for PhatBacter\_78:

(Start: 17 @48663 has 130 MA's), (29, 48714),

Gene: Phaux\_76 Start: 48658, Stop: 48837, Start Num: 17

Candidate Starts for Phaux\_76:

(Start: 17 @48658 has 130 MA's), (29, 48709),

Gene: Phredrick\_100 Start: 66672, Stop: 66857, Start Num: 20

Candidate Starts for Phredrick\_100:

(Start: 20 @66672 has 12 MA's),

Gene: Phrux\_71 Start: 47254, Stop: 47433, Start Num: 17

Candidate Starts for Phrux\_71:

(Start: 17 @47254 has 130 MA's), (29, 47305),

Gene: Policronamos\_77 Start: 48658, Stop: 48837, Start Num: 17

Candidate Starts for Policronamos\_77:

(Start: 17 @48658 has 130 MA's), (29, 48709),

Gene: Porky\_73 Start: 47084, Stop: 47257, Start Num: 17  
Candidate Starts for Porky\_73:  
(Start: 17 @47084 has 130 MA's), (29, 47135),

Gene: Ptowny\_71 Start: 46553, Stop: 46726, Start Num: 17  
Candidate Starts for Ptowny\_71:  
(Start: 17 @46553 has 130 MA's), (29, 46604),

Gene: Pumpkin\_77 Start: 48312, Stop: 48491, Start Num: 17  
Candidate Starts for Pumpkin\_77:  
(Start: 17 @48312 has 130 MA's), (29, 48363),

Gene: Quallification\_75 Start: 48299, Stop: 48472, Start Num: 17  
Candidate Starts for Quallification\_75:  
(Start: 17 @48299 has 130 MA's), (29, 48350),

Gene: Rakim\_75 Start: 47768, Stop: 47947, Start Num: 17  
Candidate Starts for Rakim\_75:  
(Start: 17 @47768 has 130 MA's), (29, 47819),

Gene: Rimmer\_75 Start: 48004, Stop: 48177, Start Num: 17  
Candidate Starts for Rimmer\_75:  
(Start: 17 @48004 has 130 MA's), (29, 48055),

Gene: RiverMonster\_74 Start: 47832, Stop: 48011, Start Num: 17  
Candidate Starts for RiverMonster\_74:  
(Start: 17 @47832 has 130 MA's), (29, 47883),

Gene: Saints25\_73 Start: 47242, Stop: 47415, Start Num: 17  
Candidate Starts for Saints25\_73:  
(Start: 17 @47242 has 130 MA's), (29, 47293),

Gene: Sassay\_69 Start: 45932, Stop: 46111, Start Num: 17  
Candidate Starts for Sassay\_69:  
(Start: 17 @45932 has 130 MA's), (29, 45983),

Gene: Sekhmet\_52 Start: 36421, Stop: 36564, Start Num: 26  
Candidate Starts for Sekhmet\_52:  
(Start: 26 @36421 has 1 MA's),

Gene: ShakeltOph\_60 Start: 40141, Stop: 40287, Start Num: 22  
Candidate Starts for ShakeltOph\_60:  
(Start: 22 @40141 has 3 MA's), (41, 40219),

Gene: ShamWow\_74 Start: 48154, Stop: 48327, Start Num: 17  
Candidate Starts for ShamWow\_74:  
(Start: 17 @48154 has 130 MA's), (29, 48205),

Gene: ShereKhan\_73 Start: 48223, Stop: 48396, Start Num: 17  
Candidate Starts for ShereKhan\_73:  
(Start: 17 @48223 has 130 MA's), (29, 48274),

Gene: Sidious\_47 Start: 36440, Stop: 36616, Start Num: 17  
Candidate Starts for Sidious\_47:  
(Start: 17 @36440 has 130 MA's), (40, 36527),

Gene: Simpliphy\_73 Start: 47232, Stop: 47405, Start Num: 17  
Candidate Starts for Simpliphy\_73:  
(Start: 17 @47232 has 130 MA's), (29, 47283),

Gene: SirDuracell\_73 Start: 46518, Stop: 46691, Start Num: 17  
Candidate Starts for SirDuracell\_73:  
(Start: 17 @46518 has 130 MA's), (29, 46569),

Gene: Soondubu\_51 Start: 41018, Stop: 41170, Start Num: 24  
Candidate Starts for Soondubu\_51:  
(Start: 24 @41018 has 1 MA's), (37, 41060), (49, 41150),

Gene: SophKB\_71 Start: 46910, Stop: 47083, Start Num: 17  
Candidate Starts for SophKB\_71:  
(Start: 17 @46910 has 130 MA's), (29, 46961),

Gene: Sotrice96\_75 Start: 47913, Stop: 48086, Start Num: 17  
Candidate Starts for Sotrice96\_75:  
(Start: 17 @47913 has 130 MA's), (29, 47964),

Gene: SparkleGoddess\_99 Start: 68222, Stop: 68407, Start Num: 21  
Candidate Starts for SparkleGoddess\_99:  
(Start: 21 @68222 has 8 MA's), (39, 68294),

Gene: Stank\_77 Start: 48171, Stop: 48344, Start Num: 17  
Candidate Starts for Stank\_77:  
(Start: 17 @48171 has 130 MA's), (29, 48222),

Gene: Stark\_75 Start: 47715, Stop: 47894, Start Num: 17  
Candidate Starts for Stark\_75:  
(Start: 17 @47715 has 130 MA's), (29, 47766),

Gene: StellaBean\_72 Start: 47478, Stop: 47651, Start Num: 17  
Candidate Starts for StellaBean\_72:  
(Start: 17 @47478 has 130 MA's), (29, 47529),

Gene: Stigma\_98 Start: 68230, Stop: 68415, Start Num: 21  
Candidate Starts for Stigma\_98:  
(Start: 21 @68230 has 8 MA's), (39, 68302),

Gene: StolenFromERC\_77 Start: 47953, Stop: 48126, Start Num: 17  
Candidate Starts for StolenFromERC\_77:  
(Start: 17 @47953 has 130 MA's), (29, 48004),

Gene: StormChicken\_76 Start: 48611, Stop: 48784, Start Num: 17  
Candidate Starts for StormChicken\_76:  
(Start: 17 @48611 has 130 MA's), (29, 48662),

Gene: Strobilo\_52 Start: 38583, Stop: 38792, Start Num: 16

Candidate Starts for Strobilo\_52:

(Start: 16 @38583 has 11 MA's), (Start: 17 @38595 has 130 MA's), (27, 38646), (33, 38667), (38, 38679), (39, 38694), (41, 38709), (44, 38721),

Gene: TBrady12\_77 Start: 47652, Stop: 47825, Start Num: 17

Candidate Starts for TBrady12\_77:

(Start: 17 @47652 has 130 MA's), (29, 47703),

Gene: TM4\_47 Start: 32969, Stop: 33172, Start Num: 16

Candidate Starts for TM4\_47:

(Start: 16 @32969 has 11 MA's), (Start: 17 @32981 has 130 MA's), (27, 33026), (33, 33047), (38, 33059), (39, 33074), (41, 33089), (44, 33101),

Gene: Tarkin\_73 Start: 47900, Stop: 48073, Start Num: 17

Candidate Starts for Tarkin\_73:

(Start: 17 @47900 has 130 MA's), (29, 47951),

Gene: TeamEdward\_76 Start: 48605, Stop: 48778, Start Num: 17

Candidate Starts for TeamEdward\_76:

(Start: 17 @48605 has 130 MA's), (29, 48656),

Gene: TeardropMSU\_70 Start: 46900, Stop: 47073, Start Num: 17

Candidate Starts for TeardropMSU\_70:

(Start: 17 @46900 has 130 MA's), (29, 46951),

Gene: Teaspoon\_75 Start: 47794, Stop: 47967, Start Num: 17

Candidate Starts for Teaspoon\_75:

(Start: 17 @47794 has 130 MA's), (29, 47845),

Gene: Terminus\_77 Start: 48687, Stop: 48866, Start Num: 17

Candidate Starts for Terminus\_77:

(Start: 17 @48687 has 130 MA's), (29, 48738),

Gene: Thimble\_75 Start: 47135, Stop: 47314, Start Num: 17

Candidate Starts for Thimble\_75:

(Start: 17 @47135 has 130 MA's), (29, 47186),

Gene: Thresher\_76 Start: 48774, Stop: 48953, Start Num: 17

Candidate Starts for Thresher\_76:

(Start: 17 @48774 has 130 MA's), (29, 48825),

Gene: Tomaszewski\_69 Start: 47063, Stop: 47236, Start Num: 17

Candidate Starts for Tomaszewski\_69:

(Start: 17 @47063 has 130 MA's), (29, 47114),

Gene: Toto\_72 Start: 48154, Stop: 48327, Start Num: 17

Candidate Starts for Toto\_72:

(Start: 17 @48154 has 130 MA's), (29, 48205),

Gene: Traaww1\_70 Start: 47338, Stop: 47511, Start Num: 17

Candidate Starts for Traaww1\_70:

(Start: 17 @47338 has 130 MA's), (29, 47389),

Gene: Trina\_197 Start: 106567, Stop: 106749, Start Num: 19  
Candidate Starts for Trina\_197:  
(Start: 19 @106567 has 3 MA's), (Start: 26 @106591 has 1 MA's), (38, 106627), (39, 106642), (48, 106720),

Gene: Tuco\_75 Start: 48662, Stop: 48835, Start Num: 17  
Candidate Starts for Tuco\_75:  
(Start: 17 @48662 has 130 MA's), (29, 48713),

Gene: Ukulele\_69 Start: 47045, Stop: 47218, Start Num: 17  
Candidate Starts for Ukulele\_69:  
(Start: 17 @47045 has 130 MA's), (29, 47096),

Gene: VroomVroom\_56 Start: 39271, Stop: 39462, Start Num: 14  
Candidate Starts for VroomVroom\_56:  
(1, 38755), (2, 39007), (7, 39190), (Start: 14 @39271 has 2 MA's), (Start: 22 @39316 has 3 MA's), (41, 39394), (46, 39427),

Gene: WaterT\_74 Start: 43421, Stop: 43254, Start Num: 19  
Candidate Starts for WaterT\_74:  
(8, 43508), (Start: 19 @43421 has 3 MA's), (28, 43391), (30, 43382), (44, 43319), (47, 43289), (48, 43268),

Gene: Westy\_103 Start: 69242, Stop: 69427, Start Num: 21  
Candidate Starts for Westy\_103:  
(Start: 21 @69242 has 8 MA's), (39, 69314),

Gene: Wiggin\_76 Start: 47739, Stop: 47912, Start Num: 17  
Candidate Starts for Wiggin\_76:  
(Start: 17 @47739 has 130 MA's), (29, 47790),

Gene: Wildwest\_53 Start: 38260, Stop: 38493, Start Num: 10  
Candidate Starts for Wildwest\_53:  
(Start: 10 @38260 has 1 MA's),

Gene: Willez\_69 Start: 45932, Stop: 46111, Start Num: 17  
Candidate Starts for Willez\_69:  
(Start: 17 @45932 has 130 MA's), (29, 45983),

Gene: Xandras\_73 Start: 47147, Stop: 47326, Start Num: 17  
Candidate Starts for Xandras\_73:  
(Start: 17 @47147 has 130 MA's), (29, 47198),

Gene: YassJohnny\_71 Start: 47102, Stop: 47275, Start Num: 17  
Candidate Starts for YassJohnny\_71:  
(Start: 17 @47102 has 130 MA's), (29, 47153),

Gene: Youngblood\_77 Start: 48614, Stop: 48793, Start Num: 17  
Candidate Starts for Youngblood\_77:  
(Start: 17 @48614 has 130 MA's), (29, 48665),

Gene: ZoeJ\_51 Start: 38060, Stop: 38263, Start Num: 16  
Candidate Starts for ZoeJ\_51:

(Start: 16 @38060 has 11 MA's), (Start: 17 @38072 has 130 MA's), (27, 38117), (33, 38138), (38, 38150), (39, 38165), (41, 38180),

Gene: xkcd\_77 Start: 48804, Stop: 48977, Start Num: 17

Candidate Starts for xkcd\_77:

(Start: 17 @48804 has 130 MA's), (29, 48855),