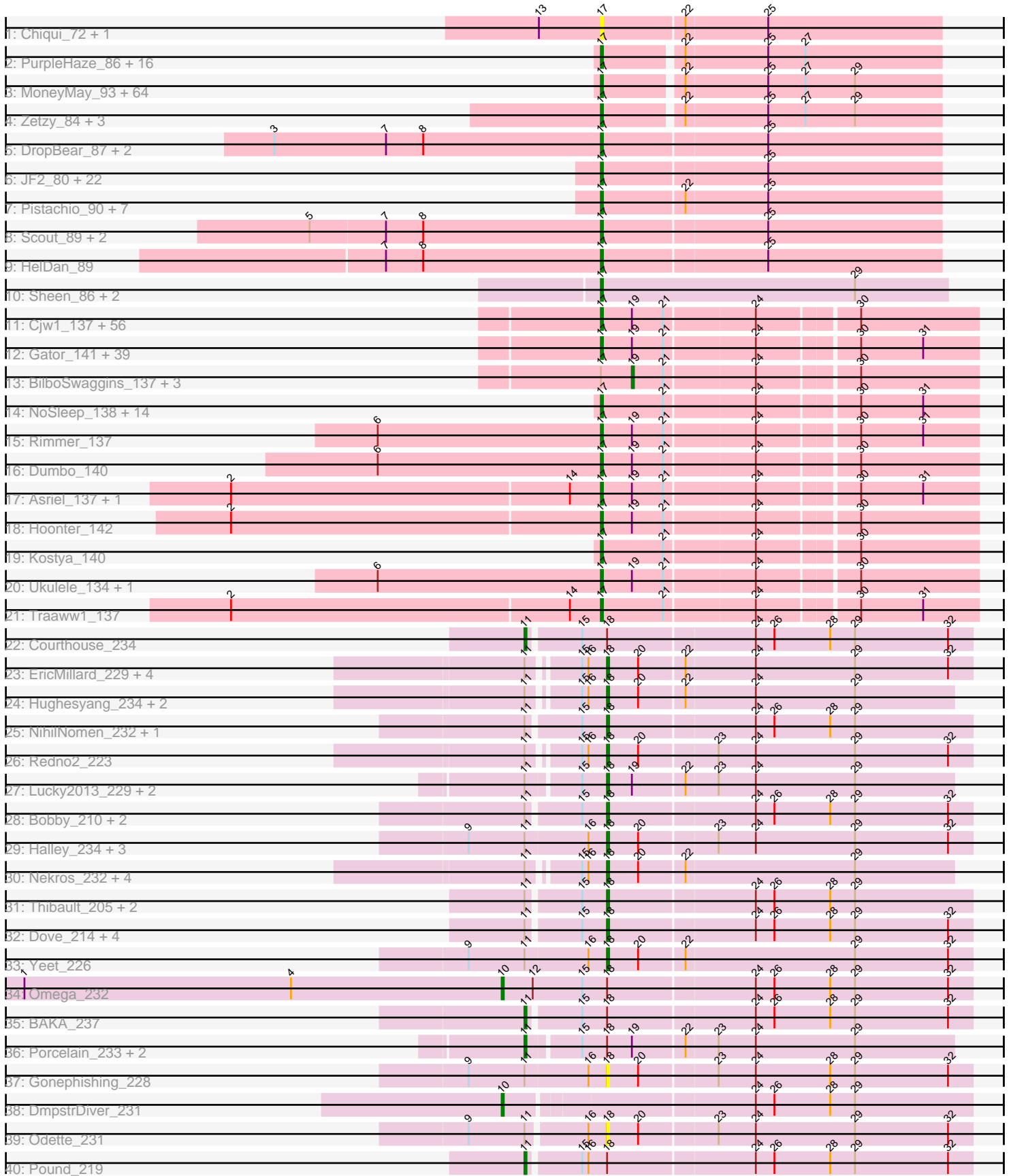


Pham 215758



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 215758 Report

This analysis was run 02/22/25 on database version 588.

Pham number 215758 has 299 members, 27 are drafts.

Phages represented in each track:

- Track 1 : Chiqui\_72, BabyJohn\_72
- Track 2 : PurpleHaze\_86, Groupthink\_92, Gemma\_89, Manu\_91, PhishRPhriends\_88, Kalb97\_92, JeppNRM\_92, Kalnoky\_92, Heliosoles\_89, OlanP\_90, ACFishhook\_80, Pawn\_90, Phranny\_84, Marius\_92, HaveUMetTed\_91, Reba\_87, Calvinny\_89
- Track 3 : MoneyMay\_93, Penny1\_93, Grub\_90, Anubis\_98, Rummer\_92, BreSam8\_93, LBerry\_95, Beauxregard13\_92, TinyPebbles\_89, Bxz2\_88, Daishi\_92, LugYA\_96, KADY\_90, Stagni\_89, GtownJaz\_93, EpicPhail\_94, JenCasNa\_94, Mainiac\_92, PotatoSplit\_94, Phoxy\_88, Sabia\_90, MarQuardt\_93, Ollie\_93, Cullens\_94, Farber\_87, Lowa\_90, Microwolf\_88, Malinsilva\_96, LarryKay\_93, Hercules11\_93, Watson\_92, Aglet\_94, Lilith\_90, Pembroke\_93, Wooldri\_95, PGHhamlin\_95, Louie6\_92, MuchMore\_90, JHC117\_88, AugsMagnumOpus\_90, Sabinator\_91, Soshari\_95, Spike509\_94, SoYo\_90, Grum1\_93, P28Green\_93, Fernando\_94, StepMih\_93, AgronaGT15\_85, BuzzBuzz\_86, GingkoMaracino\_92, DaHudson\_92, Taurus\_94, Grif\_91, MadMarie\_90, Phoebe\_94, Colbster\_89, Vix\_88, HashRod\_94, Tiffany\_92, Misomonster\_89, Dieselweasel\_93, Methuselah\_86, Marie\_91, Snickers\_88
- Track 4 : Zetzy\_84, Jobu08\_88, SoilDragon\_93, Bigflo\_89
- Track 5 : DropBear\_87, Fred313\_87, Marchesa\_89
- Track 6 : JF2\_80, Lambert1\_89, Veracruz\_86, Caviar\_78, JF4\_80, Isca\_87, BabyRay\_91, Hookmount\_89, ResDef\_87, Noella\_90, B1\_73, Rockstar\_79, Panamaxus\_85, MK4\_78, Todacoro\_89, Pocahontas\_88, Margo\_89, Popcicle\_89, Phantastic\_91, QuinnKiro\_88, Norbert\_85, MA5\_84, Texage\_87
- Track 7 : Pistachio\_90, SaturnRing\_91, BlueBird\_92, TNguyen7\_91, Bugatti\_91, Puppy\_91, Giroux\_88, Idleandcovert\_86
- Track 8 : Scout\_89, Heathen\_89, Kachowdy\_87
- Track 9 : HelDan\_89
- Track 10 : Sheen\_86, FlyCatcher\_89, Toro\_87
- Track 11 : Cjw1\_137, FoghornLeghorn\_136, Pumpkin\_139, Dusk\_140, Sotrice96\_144, StellaBean\_136, ABCat\_140, CrystalP\_139, Cactus\_147, Icee\_141, Willez\_137, Nala\_141, Paperbeatsrock\_137, ShereKhan\_139, Tuco\_145, Contagion\_135, BadStone\_140, Mosby\_136, IHOP\_143, Henry\_141, BigBubba\_142, Tomaszewski\_133, Highbury\_135, Teaspoon\_124, Miniwave\_133, ChosenOne\_140, TeardropMSU\_140, SophKB\_137, Bruin\_136, DrDrey\_142, Harella\_145, Toto\_136, Tarkin\_138, Lilpickle\_139, Rakim\_141, Myrale\_141, Pharsalus\_137, 244\_140, BugsBunny\_138, Phaja\_143, Maxxinista\_141, SirDuracell\_142, ShamWow\_138, Bask21\_143, Saints25\_135, StormChicken\_141, Misfit\_139, MPhalcon\_140,

Qualification\_140, Manda\_140, Kanye\_135, Terminus\_142, NelitzaMV\_134,  
 xkcd\_144, Stark\_137, Hopey\_137, Elite2014\_139  
 • Track 12 : Gator\_141, OrionPax\_136, Moldemort\_141, Goldilocks\_145,  
 StolenFromERC\_141, FireRed\_143, YassJohnny\_136, DoctorDiddles\_138,  
 MISSy\_142, Eureka\_140, HufflyPuff\_142, Filch\_142, AmericanBeauty\_142,  
 GooberAzure\_142, Murphy\_139, Phaux\_141, Kimchi\_144, Petra64142\_141,  
 GoldenSpark\_143, Bench\_142, TBrady12\_144, Marshmallow\_141, PhatBacter\_143,  
 Adnama\_143, Murica\_144, Xandras\_139, RiverMonster\_139, Easy2Say\_141,  
 Holt\_145, MadamMonkfish\_140, Glexan\_143, Lilizi\_139, Stank\_143, Nimrod\_139,  
 Wiggin\_142, Policronamos\_139, Argent26\_143, Gemini\_144, Goku\_139,  
 Simpliphy\_139  
 • Track 13 : BilboSwaggins\_137, Youngblood\_143, Cookies\_141, Sassay\_134  
 • Track 14 : NoSleep\_138, Pat3\_140, Phrux\_136, Czyszczo1\_140, JeTaime\_138,  
 Elph10\_138, BaboJay\_140, Thresher\_142, Inca\_139, Porky\_142, Emmina\_141,  
 Command613\_143, HanKaySha\_139, Mindy\_144, ChotaBhai\_144  
 • Track 15 : Rimmer\_137  
 • Track 16 : Dumbo\_140  
 • Track 17 : Asriel\_137, Flypotenuse\_135  
 • Track 18 : Hoonter\_142  
 • Track 19 : Kostya\_140  
 • Track 20 : Ukulele\_134, Buck\_140  
 • Track 21 : Traaww1\_137  
 • Track 22 : Courthouse\_234  
 • Track 23 : EricMillard\_229, Beem\_235, ThreeRngTarjay\_231, Bagrid\_237,  
 JuicyJay\_227  
 • Track 24 : Hughesyang\_234, Ejimix\_223, Zelink\_225  
 • Track 25 : NihilNomen\_232, Minerva\_230  
 • Track 26 : Redno2\_223  
 • Track 27 : Lucky2013\_229, Klein\_239, Squint\_230  
 • Track 28 : Bobby\_210, Bombitas\_216, Rearden\_231  
 • Track 29 : Halley\_234, Phoebus\_230, HokkenD\_224, Dallas\_230  
 • Track 30 : Nekros\_232, Hannaconda\_222, Schatzie\_224, Shaboozey\_229,  
 KashFlow\_224  
 • Track 31 : Thibault\_205, Constella\_221, Marleymoo\_212  
 • Track 32 : Dove\_214, Ariel\_238, Duke13\_232, Optimus\_226, Superphikiman\_230  
 • Track 33 : Yeet\_226  
 • Track 34 : Omega\_232  
 • Track 35 : BAKA\_237  
 • Track 36 : Porcelain\_233, Wanda\_231, MiaZeal\_242  
 • Track 37 : Gonephishing\_228  
 • Track 38 : DmpstrDiver\_231  
 • Track 39 : Odette\_231  
 • Track 40 : Pound\_219

***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 231 of the 272 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 244\_140, ABCat\_140, ACFishhook\_80, Adnama\_143, Aglet\_94, AgronaGT15\_85, AmericanBeauty\_142, Anubis\_98, Argent26\_143, Asriel\_137, AugsMagnumOpus\_90, B1\_73, BaboJay\_140, BabyJohn\_72, BabyRay\_91, BadStone\_140, Bask21\_143, Beauxregard13\_92, Bench\_142, BigBubba\_142, Bigflo\_89, BlueBird\_92, BreSam8\_93, Bruin\_136, Buck\_140, Bugatti\_91, BugsBunny\_138, BuzzBuzz\_86, Bxz2\_88, Cactus\_147, Calvinny\_89, Caviar\_78, Chiqui\_72, ChosenOne\_140, ChotaBhai\_144, Cjw1\_137, Colbster\_89, Command613\_143, Contagion\_135, CrystalP\_139, Cullens\_94, Czyszczo1\_140, DaHudson\_92, Daishi\_92, Dieselweasel\_93, DoctorDiddles\_138, DrDrey\_142, DropBear\_87, Dumbo\_140, Dusk\_140, Easy2Say\_141, Elite2014\_139, Elph10\_138, Emmina\_141, EpicPhail\_94, Eureka\_140, Farber\_87, Fernando\_94, Filch\_142, FireRed\_143, FlyCatcher\_89, Flypotenuse\_135, FoghornLeghorn\_136, Fred313\_87, Gator\_141, Gemini\_144, Gemma\_89, GingkoMaracino\_92, Giroux\_88, Glexan\_143, Goku\_139, GoldenSpark\_143, Goldilocks\_145, GooberAzure\_142, Grif\_91, Groupthink\_92, Grub\_90, Grum1\_93, GtownJaz\_93, HanKaySha\_139, Harella\_145, HashRod\_94, HaveUMetTed\_91, Heathen\_89, HelDan\_89, Heliosoles\_89, Henry\_141, Hercules11\_93, Highbury\_135, Holt\_145, Hookmount\_89, Hoonter\_142, Hopey\_137, HufflyPuff\_142, IHOP\_143, Icee\_141, Idleandcovert\_86, Inca\_139, Isca\_87, JF2\_80, JF4\_80, JHC117\_88, JeTaime\_138, JenCasNa\_94, JeppNRM\_92, Jobu08\_88, KADY\_90, Kachowdy\_87, Kalb97\_92, Kalnoky\_92, Kanye\_135, Kimchi\_144, Kostya\_140, LBerry\_95, Lambert1\_89, LarryKay\_93, Lilith\_90, Lilizi\_139, Lilpickle\_139, Louie6\_92, Iowa\_90, LugYA\_96, MA5\_84, MISSy\_142, MK4\_78, MPhalcon\_140, MadMarie\_90, MadamMonkfish\_140, Mainiac\_92, Malinsilva\_96, Manda\_140, Manu\_91, MarQuardt\_93, Marchesa\_89, Margo\_89, Marie\_91, Marius\_92, Marshmallow\_141, Maxxinista\_141, Methuselah\_86, Microwolf\_88, Mindy\_144, Miniwave\_133, Misfit\_139, Misomonster\_89, Moldemort\_141, MoneyMay\_93, Mosby\_136, MuchMore\_90, Murica\_144, Murphy\_139, Myrale\_141, Nala\_141, NelitzaMV\_134, Nimrod\_139, NoSleep\_138, Noella\_90, Norbert\_85, OlanP\_90, Ollie\_93, OrionPax\_136, P28Green\_93, PGHhamlin\_95, Panamaxus\_85, Paperbeatsrock\_137, Pat3\_140, Pawn\_90, Pembroke\_93, Penny1\_93, Petra64142\_141, Phaja\_143, Phantastic\_91, Pharsalus\_137, PhatBacter\_143, Phaux\_141, PhishRPhriends\_88, Phoebe\_94, Phoxy\_88, Phranny\_84, Phrux\_136, Pistachio\_90, Pocahontas\_88, Policronamos\_139, Popcicle\_89, Porky\_142, PotatoSplit\_94, Pumpkin\_139, Puppy\_91, PurpleHaze\_86, Qualification\_140, QuinnKiro\_88, Rakim\_141, Reba\_87, ResDef\_87, Rimmer\_137, RiverMonster\_139, Rockstar\_79, Rummer\_92, Sabia\_90, Sabinator\_91, Saints25\_135, SaturnRing\_91, Scout\_89, ShamWow\_138, Sheen\_86, ShereKhan\_139, Simpliphy\_139, SirDuracell\_142, Snickers\_88, SoYo\_90, SoilDragon\_93, SophKB\_137, Soshari\_95, Sotrice96\_144, Spike509\_94, Stagni\_89, Stank\_143, Stark\_137, StellaBean\_136, StepMih\_93, StolenFromERC\_141, StormChicken\_141, TBrady12\_144, TNguyen7\_91, Tarkin\_138, Taurus\_94, TeardropMSU\_140, Teaspoon\_124, Terminus\_142, Texage\_87, Thresher\_142, Tiffany\_92, TinyPebbles\_89, Todacoro\_89, Tomaszewski\_133, Toro\_87, Toto\_136, Traaww1\_137, Tuco\_145, Ukulele\_134, Veracruz\_86, Vix\_88, Watson\_92, Wiggin\_142, Willez\_137, Wooldri\_95, Xandras\_139, YassJohnny\_136, Zetzy\_84, xkcd\_144,

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

- BilboSwaggins\_137, Cookies\_141, Sassay\_134, Youngblood\_143,

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

- Ariel\_238, BAKA\_237, Bagrid\_237, Beem\_235, Bobby\_210, Bombitas\_216, Constella\_221, Courthouse\_234, Dallas\_230, DmpstrDiver\_231, Dove\_214, Duke13\_232, Ejimix\_223, EricMillard\_229, Gonephishing\_228, Halley\_234,

Hannaconda\_222, HokkenD\_224, Hughesyang\_234, JuicyJay\_227, KashFlow\_224, Klein\_239, Lucky2013\_229, Marleymoo\_212, MiaZeal\_242, Minerva\_230, Nekros\_232, NihilNomen\_232, Odette\_231, Omega\_232, Optimus\_226, Phoebus\_230, Porcelain\_233, Pound\_219, Rearden\_231, Redno2\_223, Schatzie\_224, Shaboozey\_229, Squint\_230, Superphikiman\_230, Thibault\_205, ThreeRngTarjay\_231, Wanda\_231, Yeet\_226, Zelink\_225,

### Summary by start number:

#### Start 10:

- Found in 2 of 299 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 2 of 272
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DmpstrDiver\_231 (J), Omega\_232 (J),

#### Start 11:

- Found in 43 of 299 ( 14.4% ) of genes in pham
- Manual Annotations of this start: 6 of 272
- Called 14.0% of time when present
- Phage (with cluster) where this start called: BAKA\_237 (J), Courthouse\_234 (J), MiaZeal\_242 (J), Porcelain\_233 (J), Pound\_219 (J), Wanda\_231 (J),

#### Start 17:

- Found in 254 of 299 ( 84.9% ) of genes in pham
- Manual Annotations of this start: 231 of 272
- Called 98.4% of time when present
- Phage (with cluster) where this start called: 244\_140 (E), ABCat\_140 (E), ACFishhook\_80 (A3), Adnama\_143 (E), Aglet\_94 (A3), AgronaGT15\_85 (A3), AmericanBeauty\_142 (E), Anubis\_98 (A3), Argent26\_143 (E), Asriel\_137 (E), AugsMagnumOpus\_90 (A3), B1\_73 (A3), BaboJay\_140 (E), BabyJohn\_72 (A3), BabyRay\_91 (A3), BadStone\_140 (E), Bask21\_143 (E), Beauxregard13\_92 (A3), Bench\_142 (E), BigBubba\_142 (E), Bigflo\_89 (A3), BlueBird\_92 (A3), BreSam8\_93 (A3), Bruin\_136 (E), Buck\_140 (E), Bugatti\_91 (A3), BugsBunny\_138 (E), BuzzBuzz\_86 (A3), Bxz2\_88 (A3), Cactus\_147 (E), Calvinny\_89 (A3), Caviar\_78 (A3), Chiqui\_72 (A3), ChosenOne\_140 (E), ChotaBhai\_144 (E), Cjw1\_137 (E), Colbster\_89 (A3), Command613\_143 (E), Contagion\_135 (E), CrystalP\_139 (E), Cullens\_94 (A3), Czystczon1\_140 (E), DaHudson\_92 (A3), Daishi\_92 (A3), Dieselweasel\_93 (A3), DoctorDiddles\_138 (E), DrDrey\_142 (E), DropBear\_87 (A3), Dumbo\_140 (E), Dusk\_140 (E), Easy2Say\_141 (E), Elite2014\_139 (E), Elph10\_138 (E), Emmina\_141 (E), EpicPhail\_94 (A3), Eureka\_140 (E), Farber\_87 (A3), Fernando\_94 (A3), Filch\_142 (E), FireRed\_143 (E), FlyCatcher\_89 (A7), Flypotenuse\_135 (E), FoghornLeghorn\_136 (E), Fred313\_87 (A3), Gator\_141 (E), Gemini\_144 (E), Gemma\_89 (A3), GingkoMaracino\_92 (A3), Giroux\_88 (A3), Glexan\_143 (E), Goku\_139 (E), GoldenSpark\_143 (E), Goldilocks\_145 (E), GooberAzure\_142 (E), Grif\_91 (A3), Groupthink\_92 (A3), Grub\_90 (A3), Grum1\_93 (A3), GtownJaz\_93 (A3), HanKaySha\_139 (E), Harella\_145 (E), HashRod\_94 (A3), HaveUMetTed\_91 (A3), Heathen\_89 (A3), HelDan\_89 (A3), Heliosoles\_89 (A3), Henry\_141 (E), Hercules11\_93 (A3), Highbury\_135 (E), Holt\_145 (E), Hookmount\_89 (A3), Hoonter\_142 (E), Hopeny\_137 (E), HuffyPuff\_142 (E), IHOP\_143 (E), Icee\_141 (E), Idleandcovert\_86 (A3), Inca\_139 (E), Isca\_87 (A3), JF2\_80 (A3), JF4\_80 (A3), JHC117\_88 (A3), JeTaimé\_138 (E), JenCasNa\_94 (A3), JeppNRM\_92 (A3), Jobu08\_88 (A3), KADY\_90 (A3), Kachowdy\_87 (A3), Kalb97\_92 (A3), Kalnoky\_92 (A3), Kanye\_135 (E), Kimchi\_144 (E), Kostya\_140 (E), LBerry\_95 (A3), Lambert1\_89

(A3), LarryKay\_93 (A3), Lilith\_90 (A3), Lilizi\_139 (E), Lilpickle\_139 (E), Louie6\_92 (A3), Iowa\_90 (A3), LugYA\_96 (A3), MA5\_84 (A3), MISSy\_142 (E), MK4\_78 (A3), MPhalcon\_140 (E), MadMarie\_90 (A3), MadamMonkfish\_140 (E), Mainiac\_92 (A3), Malinsilva\_96 (A3), Manda\_140 (E), Manu\_91 (A3), MarQuardt\_93 (A3), Marchesa\_89 (A3), Margo\_89 (A3), Marie\_91 (A3), Marius\_92 (A3), Marshmallow\_141 (E), Maxxinista\_141 (E), Methuselah\_86 (A3), Microwolf\_88 (A3), Mindy\_144 (E), Miniwave\_133 (E), Misfit\_139 (E), Misomonster\_89 (A3), Moldemort\_141 (E), MoneyMay\_93 (A3), Mosby\_136 (E), MuchMore\_90 (A3), Murica\_144 (E), Murphy\_139 (E), Myrale\_141 (E), Nala\_141 (E), NelitzaMV\_134 (E), Nimrod\_139 (E), NoSleep\_138 (E), Noella\_90 (A3), Norbert\_85 (A3), OlanP\_90 (A3), Ollie\_93 (A3), OrionPax\_136 (E), P28Green\_93 (A3), PGHhamlin\_95 (A3), Panamaxus\_85 (A3), Paperbeatsrock\_137 (E), Pat3\_140 (E), Pawn\_90 (A3), Pembroke\_93 (A3), Penny1\_93 (A3), Petra64142\_141 (E), Phaja\_143 (E), Phantastic\_91 (A3), Pharsalus\_137 (E), PhatBacter\_143 (E), Phaux\_141 (E), PhishRPhriends\_88 (A3), Phoebe\_94 (A3), Phoxy\_88 (A3), Phranny\_84 (A3), Phrux\_136 (E), Pistachio\_90 (A3), Pocahontas\_88 (A3), Policronamos\_139 (E), Popcicle\_89 (A3), Porky\_142 (E), PotatoSplit\_94 (A3), Pumpkin\_139 (E), Puppy\_91 (A3), PurpleHaze\_86 (A3), Quallification\_140 (E), QuinnKiro\_88 (A3), Rakim\_141 (E), Reba\_87 (A3), ResDef\_87 (A3), Rimmer\_137 (E), RiverMonster\_139 (E), Rockstar\_79 (A3), Rummer\_92 (A3), Sabia\_90 (A3), Sabinator\_91 (A3), Saints25\_135 (E), SaturnRing\_91 (A3), Scout\_89 (A3), ShamWow\_138 (E), Sheen\_86 (A7), ShereKhan\_139 (E), Simpliphy\_139 (E), SirDuracell\_142 (E), Snickers\_88 (A3), SoYo\_90 (A3), SoilDragon\_93 (A3), SophKB\_137 (E), Soshari\_95 (A3), Sotrice96\_144 (E), Spike509\_94 (A3), Stagni\_89 (A3), Stank\_143 (E), Stark\_137 (E), StellaBean\_136 (E), StepMih\_93 (A3), StolenFromERC\_141 (E), StormChicken\_141 (E), TBrady12\_144 (E), TNguyen7\_91 (A3), Tarkin\_138 (E), Taurus\_94 (A3), TeardropMSU\_140 (E), Teaspoon\_124 (E), Terminus\_142 (E), Texage\_87 (A3), Thresher\_142 (E), Tiffany\_92 (A3), TinyPebbles\_89 (A3), Todacoro\_89 (A3), Tomaszewski\_133 (E), Toro\_87 (A7), Toto\_136 (E), Traaww1\_137 (E), Tuco\_145 (E), Ukulele\_134 (E), Veracruz\_86 (A3), Vix\_88 (A3), Watson\_92 (A3), Wiggin\_142 (E), Willez\_137 (E), Wooldri\_95 (A3), Xandras\_139 (E), YassJohnny\_136 (E), Zetzy\_84 (A3), xkcd\_144 (E),

#### Start 18:

- Found in 44 of 299 ( 14.7% ) of genes in pham
- Manual Annotations of this start: 30 of 272
- Called 84.1% of time when present
- Phage (with cluster) where this start called: Ariel\_238 (J), Bagrid\_237 (J), Beem\_235 (J), Bobby\_210 (J), Bombitas\_216 (J), Constella\_221 (J), Dallas\_230 (J), Dove\_214 (J), Duke13\_232 (J), Ejimix\_223 (J), EricMillard\_229 (J), Gonephishing\_228 (J), Halley\_234 (J), Hannaconda\_222 (J), HokkenD\_224 (J), Hughesyang\_234 (J), JuicyJay\_227 (J), KashFlow\_224 (J), Klein\_239 (J), Lucky2013\_229 (J), Marleymoo\_212 (J), Minerva\_230 (J), Nekros\_232 (J), NihilNomen\_232 (J), Odette\_231 (J), Optimus\_226 (J), Phoebus\_230 (J), Rearden\_231 (J), Redno2\_223 (J), Schatzie\_224 (J), Shaboozey\_229 (J), Squint\_230 (J), Superphikiman\_230 (J), Thibault\_205 (J), ThreeRngTarjay\_231 (J), Yeet\_226 (J), Zelink\_225 (J),

#### Start 19:

- Found in 114 of 299 ( 38.1% ) of genes in pham
- Manual Annotations of this start: 3 of 272
- Called 3.5% of time when present
- Phage (with cluster) where this start called: BilboSwaggins\_137 (E), Cookies\_141 (E), Sassay\_134 (E), Youngblood\_143 (E),

## Summary by clusters:

There are 4 clusters represented in this pham: A3, J, E, A7,

Info for manual annotations of cluster A3:

- Start number 17 was manually annotated 113 times for cluster A3.

Info for manual annotations of cluster A7:

- Start number 17 was manually annotated 1 time for cluster A7.

Info for manual annotations of cluster E:

- Start number 17 was manually annotated 117 times for cluster E.
- Start number 19 was manually annotated 3 times for cluster E.

Info for manual annotations of cluster J:

- Start number 10 was manually annotated 2 times for cluster J.
- Start number 11 was manually annotated 6 times for cluster J.
- Start number 18 was manually annotated 30 times for cluster J.

## Gene Information:

Gene: 244\_140 Start: 72710, Stop: 72537, Start Num: 17

Candidate Starts for 244\_140:

(Start: 17 @72710 has 231 MA's), (Start: 19 @72695 has 3 MA's), (21, 72680), (24, 72638), (30, 72593),

Gene: ABCat\_140 Start: 74358, Stop: 74185, Start Num: 17

Candidate Starts for ABCat\_140:

(Start: 17 @74358 has 231 MA's), (Start: 19 @74343 has 3 MA's), (21, 74328), (24, 74286), (30, 74241),

Gene: ACFishhook\_80 Start: 46151, Stop: 45993, Start Num: 17

Candidate Starts for ACFishhook\_80:

(Start: 17 @46151 has 231 MA's), (22, 46115), (25, 46076), (27, 46058),

Gene: Adnama\_143 Start: 73101, Stop: 72928, Start Num: 17

Candidate Starts for Adnama\_143:

(Start: 17 @73101 has 231 MA's), (Start: 19 @73086 has 3 MA's), (21, 73071), (24, 73029), (30, 72984), (31, 72954),

Gene: Aglet\_94 Start: 49671, Stop: 49513, Start Num: 17

Candidate Starts for Aglet\_94:

(Start: 17 @49671 has 231 MA's), (22, 49635), (25, 49596), (27, 49578), (29, 49554),

Gene: AgronaGT15\_85 Start: 47648, Stop: 47490, Start Num: 17

Candidate Starts for AgronaGT15\_85:

(Start: 17 @47648 has 231 MA's), (22, 47612), (25, 47573), (27, 47555), (29, 47531),

Gene: AmericanBeauty\_142 Start: 73143, Stop: 72970, Start Num: 17

Candidate Starts for AmericanBeauty\_142:

(Start: 17 @73143 has 231 MA's), (Start: 19 @73128 has 3 MA's), (21, 73113), (24, 73071), (30, 73026), (31, 72996),

Gene: Anubis\_98 Start: 49648, Stop: 49490, Start Num: 17

Candidate Starts for Anubis\_98:

(Start: 17 @49648 has 231 MA's), (22, 49612), (25, 49573), (27, 49555), (29, 49531),

Gene: Argent26\_143 Start: 73025, Stop: 72852, Start Num: 17

Candidate Starts for Argent26\_143:

(Start: 17 @73025 has 231 MA's), (Start: 19 @73010 has 3 MA's), (21, 72995), (24, 72953), (30, 72908), (31, 72878),

Gene: Ariel\_238 Start: 106930, Stop: 106757, Start Num: 18

Candidate Starts for Ariel\_238:

(Start: 11 @106966 has 6 MA's), (15, 106942), (Start: 18 @106930 has 30 MA's), (24, 106861), (26, 106852), (28, 106825), (29, 106813), (32, 106768),

Gene: Asriel\_137 Start: 72370, Stop: 72197, Start Num: 17

Candidate Starts for Asriel\_137:

(2, 72547), (14, 72385), (Start: 17 @72370 has 231 MA's), (Start: 19 @72355 has 3 MA's), (21, 72340), (24, 72298), (30, 72253), (31, 72223),

Gene: AugsMagnumOpus\_90 Start: 47343, Stop: 47185, Start Num: 17

Candidate Starts for AugsMagnumOpus\_90:

(Start: 17 @47343 has 231 MA's), (22, 47307), (25, 47268), (27, 47250), (29, 47226),

Gene: B1\_73 Start: 44721, Stop: 44560, Start Num: 17

Candidate Starts for B1\_73:

(Start: 17 @44721 has 231 MA's), (25, 44643),

Gene: BAKA\_237 Start: 109575, Stop: 109366, Start Num: 11

Candidate Starts for BAKA\_237:

(Start: 11 @109575 has 6 MA's), (15, 109551), (Start: 18 @109539 has 30 MA's), (24, 109470), (26, 109461), (28, 109434), (29, 109422), (32, 109377),

Gene: BaboJay\_140 Start: 74477, Stop: 74304, Start Num: 17

Candidate Starts for BaboJay\_140:

(Start: 17 @74477 has 231 MA's), (21, 74447), (24, 74405), (30, 74360), (31, 74330),

Gene: BabyJohn\_72 Start: 45603, Stop: 45442, Start Num: 17

Candidate Starts for BabyJohn\_72:

(13, 45633), (Start: 17 @45603 has 231 MA's), (22, 45564), (25, 45525),

Gene: BabyRay\_91 Start: 49429, Stop: 49268, Start Num: 17

Candidate Starts for BabyRay\_91:

(Start: 17 @49429 has 231 MA's), (25, 49351),

Gene: BadStone\_140 Start: 73906, Stop: 73733, Start Num: 17

Candidate Starts for BadStone\_140:

(Start: 17 @73906 has 231 MA's), (Start: 19 @73891 has 3 MA's), (21, 73876), (24, 73834), (30, 73789),

Gene: Bagrid\_237 Start: 110936, Stop: 110748, Start Num: 18



Candidate Starts for Bagrid\_237:

(Start: 11 @110969 has 6 MA's), (15, 110948), (16, 110945), (Start: 18 @110936 has 30 MA's), (20, 110921), (22, 110900), (24, 110867), (29, 110819), (32, 110774),

Gene: Bask21\_143 Start: 72813, Stop: 72640, Start Num: 17

Candidate Starts for Bask21\_143:

(Start: 17 @72813 has 231 MA's), (Start: 19 @72798 has 3 MA's), (21, 72783), (24, 72741), (30, 72696),

Gene: Beauxregard13\_92 Start: 49679, Stop: 49521, Start Num: 17

Candidate Starts for Beauxregard13\_92:

(Start: 17 @49679 has 231 MA's), (22, 49643), (25, 49604), (27, 49586), (29, 49562),

Gene: Beem\_235 Start: 110055, Stop: 109882, Start Num: 18

Candidate Starts for Beem\_235:

(Start: 11 @110088 has 6 MA's), (15, 110067), (16, 110064), (Start: 18 @110055 has 30 MA's), (20, 110040), (22, 110019), (24, 109986), (29, 109938), (32, 109893),

Gene: Bench\_142 Start: 73985, Stop: 73812, Start Num: 17

Candidate Starts for Bench\_142:

(Start: 17 @73985 has 231 MA's), (Start: 19 @73970 has 3 MA's), (21, 73955), (24, 73913), (30, 73868), (31, 73838),

Gene: BigBubba\_142 Start: 72826, Stop: 72653, Start Num: 17

Candidate Starts for BigBubba\_142:

(Start: 17 @72826 has 231 MA's), (Start: 19 @72811 has 3 MA's), (21, 72796), (24, 72754), (30, 72709),

Gene: Bigflo\_89 Start: 49621, Stop: 49463, Start Num: 17

Candidate Starts for Bigflo\_89:

(Start: 17 @49621 has 231 MA's), (22, 49585), (25, 49546), (27, 49528), (29, 49504),

Gene: BilboSwaggins\_137 Start: 74379, Stop: 74221, Start Num: 19

Candidate Starts for BilboSwaggins\_137:

(Start: 17 @74394 has 231 MA's), (Start: 19 @74379 has 3 MA's), (21, 74364), (24, 74322), (30, 74277),

Gene: BlueBird\_92 Start: 49221, Stop: 49060, Start Num: 17

Candidate Starts for BlueBird\_92:

(Start: 17 @49221 has 231 MA's), (22, 49182), (25, 49143),

Gene: Bobby\_210 Start: 107461, Stop: 107288, Start Num: 18

Candidate Starts for Bobby\_210:

(Start: 11 @107497 has 6 MA's), (15, 107473), (Start: 18 @107461 has 30 MA's), (24, 107392), (26, 107383), (28, 107356), (29, 107344), (32, 107299),

Gene: Bombitas\_216 Start: 106352, Stop: 106179, Start Num: 18

Candidate Starts for Bombitas\_216:

(Start: 11 @106388 has 6 MA's), (15, 106364), (Start: 18 @106352 has 30 MA's), (24, 106283), (26, 106274), (28, 106247), (29, 106235), (32, 106190),

Gene: BreSam8\_93 Start: 49615, Stop: 49457, Start Num: 17

Candidate Starts for BreSam8\_93:

(Start: 17 @49615 has 231 MA's), (22, 49579), (25, 49540), (27, 49522), (29, 49498),

Gene: Bruin\_136 Start: 72026, Stop: 71853, Start Num: 17

Candidate Starts for Bruin\_136:

(Start: 17 @72026 has 231 MA's), (Start: 19 @72011 has 3 MA's), (21, 71996), (24, 71954), (30, 71909),

Gene: Buck\_140 Start: 74271, Stop: 74098, Start Num: 17

Candidate Starts for Buck\_140:

(6, 74379), (Start: 17 @74271 has 231 MA's), (Start: 19 @74256 has 3 MA's), (21, 74241), (24, 74199), (30, 74154),

Gene: Bugatti\_91 Start: 49221, Stop: 49060, Start Num: 17

Candidate Starts for Bugatti\_91:

(Start: 17 @49221 has 231 MA's), (22, 49182), (25, 49143),

Gene: BugsBunny\_138 Start: 73302, Stop: 73129, Start Num: 17

Candidate Starts for BugsBunny\_138:

(Start: 17 @73302 has 231 MA's), (Start: 19 @73287 has 3 MA's), (21, 73272), (24, 73230), (30, 73185),

Gene: BuzzBuzz\_86 Start: 49705, Stop: 49547, Start Num: 17

Candidate Starts for BuzzBuzz\_86:

(Start: 17 @49705 has 231 MA's), (22, 49669), (25, 49630), (27, 49612), (29, 49588),

Gene: Bxz2\_88 Start: 49711, Stop: 49553, Start Num: 17

Candidate Starts for Bxz2\_88:

(Start: 17 @49711 has 231 MA's), (22, 49675), (25, 49636), (27, 49618), (29, 49594),

Gene: Cactus\_147 Start: 73496, Stop: 73323, Start Num: 17

Candidate Starts for Cactus\_147:

(Start: 17 @73496 has 231 MA's), (Start: 19 @73481 has 3 MA's), (21, 73466), (24, 73424), (30, 73379),

Gene: Calvinny\_89 Start: 49382, Stop: 49224, Start Num: 17

Candidate Starts for Calvinny\_89:

(Start: 17 @49382 has 231 MA's), (22, 49346), (25, 49307), (27, 49289),

Gene: Caviar\_78 Start: 45849, Stop: 45688, Start Num: 17

Candidate Starts for Caviar\_78:

(Start: 17 @45849 has 231 MA's), (25, 45771),

Gene: Chiqui\_72 Start: 45612, Stop: 45451, Start Num: 17

Candidate Starts for Chiqui\_72:

(13, 45642), (Start: 17 @45612 has 231 MA's), (22, 45573), (25, 45534),

Gene: ChosenOne\_140 Start: 72798, Stop: 72625, Start Num: 17

Candidate Starts for ChosenOne\_140:

(Start: 17 @72798 has 231 MA's), (Start: 19 @72783 has 3 MA's), (21, 72768), (24, 72726), (30, 72681),

Gene: ChotaBhai\_144 Start: 73947, Stop: 73774, Start Num: 17

Candidate Starts for ChotaBhai\_144:

(Start: 17 @73947 has 231 MA's), (21, 73917), (24, 73875), (30, 73830), (31, 73800),

Gene: Cjw1\_137 Start: 73981, Stop: 73808, Start Num: 17

Candidate Starts for Cjw1\_137:

(Start: 17 @73981 has 231 MA's), (Start: 19 @73966 has 3 MA's), (21, 73951), (24, 73909), (30, 73864),

Gene: Colbster\_89 Start: 49679, Stop: 49521, Start Num: 17

Candidate Starts for Colbster\_89:

(Start: 17 @49679 has 231 MA's), (22, 49643), (25, 49604), (27, 49586), (29, 49562),

Gene: Command613\_143 Start: 74138, Stop: 73965, Start Num: 17

Candidate Starts for Command613\_143:

(Start: 17 @74138 has 231 MA's), (21, 74108), (24, 74066), (30, 74021), (31, 73991),

Gene: Constella\_221 Start: 107404, Stop: 107231, Start Num: 18

Candidate Starts for Constella\_221:

(Start: 11 @107440 has 6 MA's), (15, 107416), (Start: 18 @107404 has 30 MA's), (24, 107335), (26, 107326), (28, 107299), (29, 107287),

Gene: Contagion\_135 Start: 72349, Stop: 72176, Start Num: 17

Candidate Starts for Contagion\_135:

(Start: 17 @72349 has 231 MA's), (Start: 19 @72334 has 3 MA's), (21, 72319), (24, 72277), (30, 72232),

Gene: Cookies\_141 Start: 74141, Stop: 73983, Start Num: 19

Candidate Starts for Cookies\_141:

(Start: 17 @74156 has 231 MA's), (Start: 19 @74141 has 3 MA's), (21, 74126), (24, 74084), (30, 74039),

Gene: Courthouse\_234 Start: 107730, Stop: 107521, Start Num: 11

Candidate Starts for Courthouse\_234:

(Start: 11 @107730 has 6 MA's), (15, 107706), (Start: 18 @107694 has 30 MA's), (24, 107625), (26, 107616), (28, 107589), (29, 107577), (32, 107532),

Gene: CrystalP\_139 Start: 74394, Stop: 74221, Start Num: 17

Candidate Starts for CrystalP\_139:

(Start: 17 @74394 has 231 MA's), (Start: 19 @74379 has 3 MA's), (21, 74364), (24, 74322), (30, 74277),

Gene: Cullens\_94 Start: 49673, Stop: 49515, Start Num: 17

Candidate Starts for Cullens\_94:

(Start: 17 @49673 has 231 MA's), (22, 49637), (25, 49598), (27, 49580), (29, 49556),

Gene: Czyszczone1\_140 Start: 73176, Stop: 73003, Start Num: 17

Candidate Starts for Czyszczone1\_140:

(Start: 17 @73176 has 231 MA's), (21, 73146), (24, 73104), (30, 73059), (31, 73029),

Gene: DaHudson\_92 Start: 49614, Stop: 49456, Start Num: 17

Candidate Starts for DaHudson\_92:

(Start: 17 @49614 has 231 MA's), (22, 49578), (25, 49539), (27, 49521), (29, 49497),

Gene: Daishi\_92 Start: 48545, Stop: 48387, Start Num: 17

Candidate Starts for Daishi\_92:

(Start: 17 @48545 has 231 MA's), (22, 48509), (25, 48470), (27, 48452), (29, 48428),

Gene: Dallas\_230 Start: 108352, Stop: 108179, Start Num: 18

Candidate Starts for Dallas\_230:

(9, 108418), (Start: 11 @108391 has 6 MA's), (16, 108361), (Start: 18 @108352 has 30 MA's), (20, 108337), (23, 108301), (24, 108283), (29, 108235), (32, 108190),

Gene: Dieselweasel\_93 Start: 49542, Stop: 49384, Start Num: 17

Candidate Starts for Dieselweasel\_93:

(Start: 17 @49542 has 231 MA's), (22, 49506), (25, 49467), (27, 49449), (29, 49425),

Gene: DmpstrDiver\_231 Start: 108426, Stop: 108208, Start Num: 10

Candidate Starts for DmpstrDiver\_231:

(Start: 10 @108426 has 2 MA's), (24, 108312), (26, 108303), (28, 108276), (29, 108264),

Gene: DoctorDiddles\_138 Start: 72684, Stop: 72511, Start Num: 17

Candidate Starts for DoctorDiddles\_138:

(Start: 17 @72684 has 231 MA's), (Start: 19 @72669 has 3 MA's), (21, 72654), (24, 72612), (30, 72567), (31, 72537),

Gene: Dove\_214 Start: 104830, Stop: 104657, Start Num: 18

Candidate Starts for Dove\_214:

(Start: 11 @104866 has 6 MA's), (15, 104842), (Start: 18 @104830 has 30 MA's), (24, 104761), (26, 104752), (28, 104725), (29, 104713), (32, 104668),

Gene: DrDrey\_142 Start: 75595, Stop: 75422, Start Num: 17

Candidate Starts for DrDrey\_142:

(Start: 17 @75595 has 231 MA's), (Start: 19 @75580 has 3 MA's), (21, 75565), (24, 75523), (30, 75478),

Gene: DropBear\_87 Start: 49032, Stop: 48871, Start Num: 17

Candidate Starts for DropBear\_87:

(3, 49185), (7, 49131), (8, 49113), (Start: 17 @49032 has 231 MA's), (25, 48954),

Gene: Duke13\_232 Start: 109101, Stop: 108928, Start Num: 18

Candidate Starts for Duke13\_232:

(Start: 11 @109137 has 6 MA's), (15, 109113), (Start: 18 @109101 has 30 MA's), (24, 109032), (26, 109023), (28, 108996), (29, 108984), (32, 108939),

Gene: Dumbo\_140 Start: 73029, Stop: 72856, Start Num: 17

Candidate Starts for Dumbo\_140:

(6, 73137), (Start: 17 @73029 has 231 MA's), (Start: 19 @73014 has 3 MA's), (21, 72999), (24, 72957), (30, 72912),

Gene: Dusk\_140 Start: 73566, Stop: 73393, Start Num: 17

Candidate Starts for Dusk\_140:

(Start: 17 @73566 has 231 MA's), (Start: 19 @73551 has 3 MA's), (21, 73536), (24, 73494), (30, 73449),

Gene: Easy2Say\_141 Start: 73491, Stop: 73318, Start Num: 17

Candidate Starts for Easy2Say\_141:

(Start: 17 @73491 has 231 MA's), (Start: 19 @73476 has 3 MA's), (21, 73461), (24, 73419), (30, 73374), (31, 73344),

Gene: Ejimix\_223 Start: 108298, Stop: 108134, Start Num: 18

Candidate Starts for Ejimix\_223:

(Start: 11 @108331 has 6 MA's), (15, 108310), (16, 108307), (Start: 18 @108298 has 30 MA's), (20, 108283), (22, 108262), (24, 108229), (29, 108181),

Gene: Elite2014\_139 Start: 72797, Stop: 72624, Start Num: 17

Candidate Starts for Elite2014\_139:

(Start: 17 @72797 has 231 MA's), (Start: 19 @72782 has 3 MA's), (21, 72767), (24, 72725), (30, 72680),

Gene: Elph10\_138 Start: 72478, Stop: 72305, Start Num: 17

Candidate Starts for Elph10\_138:

(Start: 17 @72478 has 231 MA's), (21, 72448), (24, 72406), (30, 72361), (31, 72331),

Gene: Emmina\_141 Start: 73098, Stop: 72925, Start Num: 17

Candidate Starts for Emmina\_141:

(Start: 17 @73098 has 231 MA's), (21, 73068), (24, 73026), (30, 72981), (31, 72951),

Gene: EpicPhail\_94 Start: 49679, Stop: 49521, Start Num: 17

Candidate Starts for EpicPhail\_94:

(Start: 17 @49679 has 231 MA's), (22, 49643), (25, 49604), (27, 49586), (29, 49562),

Gene: EricMillard\_229 Start: 110142, Stop: 109969, Start Num: 18

Candidate Starts for EricMillard\_229:

(Start: 11 @110175 has 6 MA's), (15, 110154), (16, 110151), (Start: 18 @110142 has 30 MA's), (20, 110127), (22, 110106), (24, 110073), (29, 110025), (32, 109980),

Gene: Eureka\_140 Start: 74002, Stop: 73829, Start Num: 17

Candidate Starts for Eureka\_140:

(Start: 17 @74002 has 231 MA's), (Start: 19 @73987 has 3 MA's), (21, 73972), (24, 73930), (30, 73885), (31, 73855),

Gene: Farber\_87 Start: 47998, Stop: 47840, Start Num: 17

Candidate Starts for Farber\_87:

(Start: 17 @47998 has 231 MA's), (22, 47962), (25, 47923), (27, 47905), (29, 47881),

Gene: Fernando\_94 Start: 49673, Stop: 49515, Start Num: 17

Candidate Starts for Fernando\_94:

(Start: 17 @49673 has 231 MA's), (22, 49637), (25, 49598), (27, 49580), (29, 49556),

Gene: Filch\_142 Start: 73301, Stop: 73128, Start Num: 17

Candidate Starts for Filch\_142:

(Start: 17 @73301 has 231 MA's), (Start: 19 @73286 has 3 MA's), (21, 73271), (24, 73229), (30, 73184), (31, 73154),

Gene: FireRed\_143 Start: 74033, Stop: 73860, Start Num: 17

Candidate Starts for FireRed\_143:

(Start: 17 @74033 has 231 MA's), (Start: 19 @74018 has 3 MA's), (21, 74003), (24, 73961), (30, 73916), (31, 73886),

Gene: FlyCatcher\_89 Start: 52654, Stop: 52487, Start Num: 17  
Candidate Starts for FlyCatcher\_89:  
(Start: 17 @52654 has 231 MA's), (29, 52531),

Gene: Flypotenuse\_135 Start: 73024, Stop: 72851, Start Num: 17  
Candidate Starts for Flypotenuse\_135:  
(2, 73201), (14, 73039), (Start: 17 @73024 has 231 MA's), (Start: 19 @73009 has 3 MA's), (21, 72994),  
(24, 72952), (30, 72907), (31, 72877),

Gene: FoghornLeghorn\_136 Start: 71867, Stop: 71694, Start Num: 17  
Candidate Starts for FoghornLeghorn\_136:  
(Start: 17 @71867 has 231 MA's), (Start: 19 @71852 has 3 MA's), (21, 71837), (24, 71795), (30,  
71750),

Gene: Fred313\_87 Start: 48823, Stop: 48662, Start Num: 17  
Candidate Starts for Fred313\_87:  
(3, 48976), (7, 48922), (8, 48904), (Start: 17 @48823 has 231 MA's), (25, 48745),

Gene: Gator\_141 Start: 74209, Stop: 74036, Start Num: 17  
Candidate Starts for Gator\_141:  
(Start: 17 @74209 has 231 MA's), (Start: 19 @74194 has 3 MA's), (21, 74179), (24, 74137), (30,  
74092), (31, 74062),

Gene: Gemini\_144 Start: 73542, Stop: 73369, Start Num: 17  
Candidate Starts for Gemini\_144:  
(Start: 17 @73542 has 231 MA's), (Start: 19 @73527 has 3 MA's), (21, 73512), (24, 73470), (30,  
73425), (31, 73395),

Gene: Gemma\_89 Start: 49377, Stop: 49219, Start Num: 17  
Candidate Starts for Gemma\_89:  
(Start: 17 @49377 has 231 MA's), (22, 49341), (25, 49302), (27, 49284),

Gene: GingkoMaracino\_92 Start: 48810, Stop: 48652, Start Num: 17  
Candidate Starts for GingkoMaracino\_92:  
(Start: 17 @48810 has 231 MA's), (22, 48774), (25, 48735), (27, 48717), (29, 48693),

Gene: Giroux\_88 Start: 49220, Stop: 49059, Start Num: 17  
Candidate Starts for Giroux\_88:  
(Start: 17 @49220 has 231 MA's), (22, 49181), (25, 49142),

Gene: Glexan\_143 Start: 74356, Stop: 74183, Start Num: 17  
Candidate Starts for Glexan\_143:  
(Start: 17 @74356 has 231 MA's), (Start: 19 @74341 has 3 MA's), (21, 74326), (24, 74284), (30,  
74239), (31, 74209),

Gene: Goku\_139 Start: 74311, Stop: 74138, Start Num: 17  
Candidate Starts for Goku\_139:  
(Start: 17 @74311 has 231 MA's), (Start: 19 @74296 has 3 MA's), (21, 74281), (24, 74239), (30,  
74194), (31, 74164),

Gene: GoldenSpark\_143 Start: 73025, Stop: 72852, Start Num: 17  
Candidate Starts for GoldenSpark\_143:

(Start: 17 @73025 has 231 MA's), (Start: 19 @73010 has 3 MA's), (21, 72995), (24, 72953), (30, 72908), (31, 72878),

Gene: Goldilocks\_145 Start: 73621, Stop: 73448, Start Num: 17

Candidate Starts for Goldilocks\_145:

(Start: 17 @73621 has 231 MA's), (Start: 19 @73606 has 3 MA's), (21, 73591), (24, 73549), (30, 73504), (31, 73474),

Gene: Gonephishing\_228 Start: 107716, Stop: 107543, Start Num: 18

Candidate Starts for Gonephishing\_228:

(9, 107782), (Start: 11 @107755 has 6 MA's), (16, 107725), (Start: 18 @107716 has 30 MA's), (20, 107701), (23, 107665), (24, 107647), (28, 107611), (29, 107599), (32, 107554),

Gene: GooberAzure\_142 Start: 73025, Stop: 72852, Start Num: 17

Candidate Starts for GooberAzure\_142:

(Start: 17 @73025 has 231 MA's), (Start: 19 @73010 has 3 MA's), (21, 72995), (24, 72953), (30, 72908), (31, 72878),

Gene: Grif\_91 Start: 49752, Stop: 49594, Start Num: 17

Candidate Starts for Grif\_91:

(Start: 17 @49752 has 231 MA's), (22, 49716), (25, 49677), (27, 49659), (29, 49635),

Gene: Groupthink\_92 Start: 49381, Stop: 49223, Start Num: 17

Candidate Starts for Groupthink\_92:

(Start: 17 @49381 has 231 MA's), (22, 49345), (25, 49306), (27, 49288),

Gene: Grub\_90 Start: 49614, Stop: 49456, Start Num: 17

Candidate Starts for Grub\_90:

(Start: 17 @49614 has 231 MA's), (22, 49578), (25, 49539), (27, 49521), (29, 49497),

Gene: Grum1\_93 Start: 49678, Stop: 49520, Start Num: 17

Candidate Starts for Grum1\_93:

(Start: 17 @49678 has 231 MA's), (22, 49642), (25, 49603), (27, 49585), (29, 49561),

Gene: GtownJaz\_93 Start: 49622, Stop: 49464, Start Num: 17

Candidate Starts for GtownJaz\_93:

(Start: 17 @49622 has 231 MA's), (22, 49586), (25, 49547), (27, 49529), (29, 49505),

Gene: Halley\_234 Start: 108839, Stop: 108666, Start Num: 18

Candidate Starts for Halley\_234:

(9, 108905), (Start: 11 @108878 has 6 MA's), (16, 108848), (Start: 18 @108839 has 30 MA's), (20, 108824), (23, 108788), (24, 108770), (29, 108722), (32, 108677),

Gene: HanKaySha\_139 Start: 73634, Stop: 73461, Start Num: 17

Candidate Starts for HanKaySha\_139:

(Start: 17 @73634 has 231 MA's), (21, 73604), (24, 73562), (30, 73517), (31, 73487),

Gene: Hannaconda\_222 Start: 108347, Stop: 108183, Start Num: 18

Candidate Starts for Hannaconda\_222:

(Start: 11 @108380 has 6 MA's), (15, 108359), (16, 108356), (Start: 18 @108347 has 30 MA's), (20, 108332), (22, 108311), (29, 108230),

Gene: Harella\_145 Start: 74511, Stop: 74338, Start Num: 17

Candidate Starts for Harella\_145:

(Start: 17 @74511 has 231 MA's), (Start: 19 @74496 has 3 MA's), (21, 74481), (24, 74439), (30, 74394),

Gene: HashRod\_94 Start: 49700, Stop: 49542, Start Num: 17

Candidate Starts for HashRod\_94:

(Start: 17 @49700 has 231 MA's), (22, 49664), (25, 49625), (27, 49607), (29, 49583),

Gene: HaveUMetTed\_91 Start: 48608, Stop: 48450, Start Num: 17

Candidate Starts for HaveUMetTed\_91:

(Start: 17 @48608 has 231 MA's), (22, 48572), (25, 48533), (27, 48515),

Gene: Heathen\_89 Start: 48911, Stop: 48750, Start Num: 17

Candidate Starts for Heathen\_89:

(5, 49046), (7, 49010), (8, 48992), (Start: 17 @48911 has 231 MA's), (25, 48833),

Gene: HelDan\_89 Start: 49134, Stop: 48973, Start Num: 17

Candidate Starts for HelDan\_89:

(7, 49233), (8, 49215), (Start: 17 @49134 has 231 MA's), (25, 49056),

Gene: Heliosoles\_89 Start: 49385, Stop: 49227, Start Num: 17

Candidate Starts for Heliosoles\_89:

(Start: 17 @49385 has 231 MA's), (22, 49349), (25, 49310), (27, 49292),

Gene: Henry\_141 Start: 74265, Stop: 74092, Start Num: 17

Candidate Starts for Henry\_141:

(Start: 17 @74265 has 231 MA's), (Start: 19 @74250 has 3 MA's), (21, 74235), (24, 74193), (30, 74148),

Gene: Hercules11\_93 Start: 49687, Stop: 49529, Start Num: 17

Candidate Starts for Hercules11\_93:

(Start: 17 @49687 has 231 MA's), (22, 49651), (25, 49612), (27, 49594), (29, 49570),

Gene: Highbury\_135 Start: 71231, Stop: 71058, Start Num: 17

Candidate Starts for Highbury\_135:

(Start: 17 @71231 has 231 MA's), (Start: 19 @71216 has 3 MA's), (21, 71201), (24, 71159), (30, 71114),

Gene: HokkenD\_224 Start: 109979, Stop: 109806, Start Num: 18

Candidate Starts for HokkenD\_224:

(9, 110045), (Start: 11 @110018 has 6 MA's), (16, 109988), (Start: 18 @109979 has 30 MA's), (20, 109964), (23, 109928), (24, 109910), (29, 109862), (32, 109817),

Gene: Holt\_145 Start: 73808, Stop: 73635, Start Num: 17

Candidate Starts for Holt\_145:

(Start: 17 @73808 has 231 MA's), (Start: 19 @73793 has 3 MA's), (21, 73778), (24, 73736), (30, 73691), (31, 73661),

Gene: Hookmount\_89 Start: 48852, Stop: 48691, Start Num: 17

Candidate Starts for Hookmount\_89:

(Start: 17 @48852 has 231 MA's), (25, 48774),

Gene: Hoonter\_142 Start: 73363, Stop: 73190, Start Num: 17



Candidate Starts for Hoonter\_142:

(2, 73540), (Start: 17 @73363 has 231 MA's), (Start: 19 @73348 has 3 MA's), (21, 73333), (24, 73291), (30, 73246),

Gene: Hokey\_137 Start: 73346, Stop: 73173, Start Num: 17

Candidate Starts for Hokey\_137:

(Start: 17 @73346 has 231 MA's), (Start: 19 @73331 has 3 MA's), (21, 73316), (24, 73274), (30, 73229),

Gene: HufflyPuff\_142 Start: 74259, Stop: 74086, Start Num: 17

Candidate Starts for HufflyPuff\_142:

(Start: 17 @74259 has 231 MA's), (Start: 19 @74244 has 3 MA's), (21, 74229), (24, 74187), (30, 74142), (31, 74112),

Gene: Hughesyang\_234 Start: 110029, Stop: 109865, Start Num: 18

Candidate Starts for Hughesyang\_234:

(Start: 11 @110062 has 6 MA's), (15, 110041), (16, 110038), (Start: 18 @110029 has 30 MA's), (20, 110014), (22, 109993), (24, 109960), (29, 109912),

Gene: IHOP\_143 Start: 73282, Stop: 73109, Start Num: 17

Candidate Starts for IHOP\_143:

(Start: 17 @73282 has 231 MA's), (Start: 19 @73267 has 3 MA's), (21, 73252), (24, 73210), (30, 73165),

Gene: Icee\_141 Start: 72396, Stop: 72223, Start Num: 17

Candidate Starts for Icee\_141:

(Start: 17 @72396 has 231 MA's), (Start: 19 @72381 has 3 MA's), (21, 72366), (24, 72324), (30, 72279),

Gene: Idleandcovert\_86 Start: 47921, Stop: 47760, Start Num: 17

Candidate Starts for Idleandcovert\_86:

(Start: 17 @47921 has 231 MA's), (22, 47882), (25, 47843),

Gene: Inca\_139 Start: 71684, Stop: 71511, Start Num: 17

Candidate Starts for Inca\_139:

(Start: 17 @71684 has 231 MA's), (21, 71654), (24, 71612), (30, 71567), (31, 71537),

Gene: Isca\_87 Start: 48732, Stop: 48571, Start Num: 17

Candidate Starts for Isca\_87:

(Start: 17 @48732 has 231 MA's), (25, 48654),

Gene: JF2\_80 Start: 44721, Stop: 44560, Start Num: 17

Candidate Starts for JF2\_80:

(Start: 17 @44721 has 231 MA's), (25, 44643),

Gene: JF4\_80 Start: 44721, Stop: 44560, Start Num: 17

Candidate Starts for JF4\_80:

(Start: 17 @44721 has 231 MA's), (25, 44643),

Gene: JHC117\_88 Start: 49673, Stop: 49515, Start Num: 17

Candidate Starts for JHC117\_88:

(Start: 17 @49673 has 231 MA's), (22, 49637), (25, 49598), (27, 49580), (29, 49556),

Gene: JeTaime\_138 Start: 73200, Stop: 73027, Start Num: 17  
Candidate Starts for JeTaime\_138:  
(Start: 17 @73200 has 231 MA's), (21, 73170), (24, 73128), (30, 73083), (31, 73053),

Gene: JenCasNa\_94 Start: 49673, Stop: 49515, Start Num: 17  
Candidate Starts for JenCasNa\_94:  
(Start: 17 @49673 has 231 MA's), (22, 49637), (25, 49598), (27, 49580), (29, 49556),

Gene: JeppNRM\_92 Start: 49383, Stop: 49225, Start Num: 17  
Candidate Starts for JeppNRM\_92:  
(Start: 17 @49383 has 231 MA's), (22, 49347), (25, 49308), (27, 49290),

Gene: Jobu08\_88 Start: 49448, Stop: 49290, Start Num: 17  
Candidate Starts for Jobu08\_88:  
(Start: 17 @49448 has 231 MA's), (22, 49412), (25, 49373), (27, 49355), (29, 49331),

Gene: JuicyJay\_227 Start: 110004, Stop: 109831, Start Num: 18  
Candidate Starts for JuicyJay\_227:  
(Start: 11 @110037 has 6 MA's), (15, 110016), (16, 110013), (Start: 18 @110004 has 30 MA's), (20, 109989), (22, 109968), (24, 109935), (29, 109887), (32, 109842),

Gene: KADY\_90 Start: 49706, Stop: 49548, Start Num: 17  
Candidate Starts for KADY\_90:  
(Start: 17 @49706 has 231 MA's), (22, 49670), (25, 49631), (27, 49613), (29, 49589),

Gene: Kachowdy\_87 Start: 49163, Stop: 49002, Start Num: 17  
Candidate Starts for Kachowdy\_87:  
(5, 49298), (7, 49262), (8, 49244), (Start: 17 @49163 has 231 MA's), (25, 49085),

Gene: Kalb97\_92 Start: 48751, Stop: 48593, Start Num: 17  
Candidate Starts for Kalb97\_92:  
(Start: 17 @48751 has 231 MA's), (22, 48715), (25, 48676), (27, 48658),

Gene: Kalnoky\_92 Start: 49378, Stop: 49220, Start Num: 17  
Candidate Starts for Kalnoky\_92:  
(Start: 17 @49378 has 231 MA's), (22, 49342), (25, 49303), (27, 49285),

Gene: Kanye\_135 Start: 73346, Stop: 73173, Start Num: 17  
Candidate Starts for Kanye\_135:  
(Start: 17 @73346 has 231 MA's), (Start: 19 @73331 has 3 MA's), (21, 73316), (24, 73274), (30, 73229),

Gene: KashFlow\_224 Start: 108241, Stop: 108077, Start Num: 18  
Candidate Starts for KashFlow\_224:  
(Start: 11 @108274 has 6 MA's), (15, 108253), (16, 108250), (Start: 18 @108241 has 30 MA's), (20, 108226), (22, 108205), (29, 108124),

Gene: Kimchi\_144 Start: 73722, Stop: 73549, Start Num: 17  
Candidate Starts for Kimchi\_144:  
(Start: 17 @73722 has 231 MA's), (Start: 19 @73707 has 3 MA's), (21, 73692), (24, 73650), (30, 73605), (31, 73575),

Gene: Klein\_239 Start: 109026, Stop: 108862, Start Num: 18

Candidate Starts for Klein\_239:

(Start: 11 @109062 has 6 MA's), (15, 109038), (Start: 18 @109026 has 30 MA's), (Start: 19 @109014 has 3 MA's), (22, 108990), (23, 108975), (24, 108957), (29, 108909),

Gene: Kostya\_140 Start: 73924, Stop: 73751, Start Num: 17

Candidate Starts for Kostya\_140:

(Start: 17 @73924 has 231 MA's), (21, 73894), (24, 73852), (30, 73807),

Gene: LBerry\_95 Start: 49760, Stop: 49602, Start Num: 17

Candidate Starts for LBerry\_95:

(Start: 17 @49760 has 231 MA's), (22, 49724), (25, 49685), (27, 49667), (29, 49643),

Gene: Lambert1\_89 Start: 48853, Stop: 48692, Start Num: 17

Candidate Starts for Lambert1\_89:

(Start: 17 @48853 has 231 MA's), (25, 48775),

Gene: LarryKay\_93 Start: 49709, Stop: 49551, Start Num: 17

Candidate Starts for LarryKay\_93:

(Start: 17 @49709 has 231 MA's), (22, 49673), (25, 49634), (27, 49616), (29, 49592),

Gene: Lilith\_90 Start: 49614, Stop: 49456, Start Num: 17

Candidate Starts for Lilith\_90:

(Start: 17 @49614 has 231 MA's), (22, 49578), (25, 49539), (27, 49521), (29, 49497),

Gene: Lilizi\_139 Start: 73253, Stop: 73080, Start Num: 17

Candidate Starts for Lilizi\_139:

(Start: 17 @73253 has 231 MA's), (Start: 19 @73238 has 3 MA's), (21, 73223), (24, 73181), (30, 73136), (31, 73106),

Gene: Lilpickle\_139 Start: 72797, Stop: 72624, Start Num: 17

Candidate Starts for Lilpickle\_139:

(Start: 17 @72797 has 231 MA's), (Start: 19 @72782 has 3 MA's), (21, 72767), (24, 72725), (30, 72680),

Gene: Louie6\_92 Start: 49707, Stop: 49549, Start Num: 17

Candidate Starts for Louie6\_92:

(Start: 17 @49707 has 231 MA's), (22, 49671), (25, 49632), (27, 49614), (29, 49590),

Gene: Lowa\_90 Start: 49613, Stop: 49455, Start Num: 17

Candidate Starts for Lowa\_90:

(Start: 17 @49613 has 231 MA's), (22, 49577), (25, 49538), (27, 49520), (29, 49496),

Gene: Lucky2013\_229 Start: 105528, Stop: 105364, Start Num: 18

Candidate Starts for Lucky2013\_229:

(Start: 11 @105564 has 6 MA's), (15, 105540), (Start: 18 @105528 has 30 MA's), (Start: 19 @105516 has 3 MA's), (22, 105492), (23, 105477), (24, 105459), (29, 105411),

Gene: LugYA\_96 Start: 49674, Stop: 49516, Start Num: 17

Candidate Starts for LugYA\_96:

(Start: 17 @49674 has 231 MA's), (22, 49638), (25, 49599), (27, 49581), (29, 49557),

Gene: MA5\_84 Start: 46662, Stop: 46501, Start Num: 17

Candidate Starts for MA5\_84:

(Start: 17 @46662 has 231 MA's), (25, 46584),

Gene: MISSy\_142 Start: 74075, Stop: 73902, Start Num: 17

Candidate Starts for MISSy\_142:

(Start: 17 @74075 has 231 MA's), (Start: 19 @74060 has 3 MA's), (21, 74045), (24, 74003), (30, 73958), (31, 73928),

Gene: MK4\_78 Start: 45294, Stop: 45133, Start Num: 17

Candidate Starts for MK4\_78:

(Start: 17 @45294 has 231 MA's), (25, 45216),

Gene: MPhalcon\_140 Start: 73111, Stop: 72938, Start Num: 17

Candidate Starts for MPhalcon\_140:

(Start: 17 @73111 has 231 MA's), (Start: 19 @73096 has 3 MA's), (21, 73081), (24, 73039), (30, 72994),

Gene: MadMarie\_90 Start: 49622, Stop: 49464, Start Num: 17

Candidate Starts for MadMarie\_90:

(Start: 17 @49622 has 231 MA's), (22, 49586), (25, 49547), (27, 49529), (29, 49505),

Gene: MadamMonkfish\_140 Start: 73169, Stop: 72996, Start Num: 17

Candidate Starts for MadamMonkfish\_140:

(Start: 17 @73169 has 231 MA's), (Start: 19 @73154 has 3 MA's), (21, 73139), (24, 73097), (30, 73052), (31, 73022),

Gene: Mainiac\_92 Start: 49614, Stop: 49456, Start Num: 17

Candidate Starts for Mainiac\_92:

(Start: 17 @49614 has 231 MA's), (22, 49578), (25, 49539), (27, 49521), (29, 49497),

Gene: Malinsilva\_96 Start: 49613, Stop: 49455, Start Num: 17

Candidate Starts for Malinsilva\_96:

(Start: 17 @49613 has 231 MA's), (22, 49577), (25, 49538), (27, 49520), (29, 49496),

Gene: Manda\_140 Start: 73347, Stop: 73174, Start Num: 17

Candidate Starts for Manda\_140:

(Start: 17 @73347 has 231 MA's), (Start: 19 @73332 has 3 MA's), (21, 73317), (24, 73275), (30, 73230),

Gene: Manu\_91 Start: 49385, Stop: 49227, Start Num: 17

Candidate Starts for Manu\_91:

(Start: 17 @49385 has 231 MA's), (22, 49349), (25, 49310), (27, 49292),

Gene: MarQuardt\_93 Start: 49677, Stop: 49519, Start Num: 17

Candidate Starts for MarQuardt\_93:

(Start: 17 @49677 has 231 MA's), (22, 49641), (25, 49602), (27, 49584), (29, 49560),

Gene: Marchesa\_89 Start: 49025, Stop: 48864, Start Num: 17

Candidate Starts for Marchesa\_89:

(3, 49178), (7, 49124), (8, 49106), (Start: 17 @49025 has 231 MA's), (25, 48947),

Gene: Margo\_89 Start: 48878, Stop: 48717, Start Num: 17

Candidate Starts for Margo\_89:

(Start: 17 @48878 has 231 MA's), (25, 48800),

Gene: Marie\_91 Start: 49673, Stop: 49515, Start Num: 17  
Candidate Starts for Marie\_91:  
(Start: 17 @49673 has 231 MA's), (22, 49637), (25, 49598), (27, 49580), (29, 49556),

Gene: Marius\_92 Start: 49378, Stop: 49220, Start Num: 17  
Candidate Starts for Marius\_92:  
(Start: 17 @49378 has 231 MA's), (22, 49342), (25, 49303), (27, 49285),

Gene: Marleymoo\_212 Start: 105592, Stop: 105419, Start Num: 18  
Candidate Starts for Marleymoo\_212:  
(Start: 11 @105628 has 6 MA's), (15, 105604), (Start: 18 @105592 has 30 MA's), (24, 105523), (26, 105514), (28, 105487), (29, 105475),

Gene: Marshmallow\_141 Start: 74354, Stop: 74181, Start Num: 17  
Candidate Starts for Marshmallow\_141:  
(Start: 17 @74354 has 231 MA's), (Start: 19 @74339 has 3 MA's), (21, 74324), (24, 74282), (30, 74237), (31, 74207),

Gene: Maxxinista\_141 Start: 72740, Stop: 72567, Start Num: 17  
Candidate Starts for Maxxinista\_141:  
(Start: 17 @72740 has 231 MA's), (Start: 19 @72725 has 3 MA's), (21, 72710), (24, 72668), (30, 72623),

Gene: Methuselah\_86 Start: 49699, Stop: 49541, Start Num: 17  
Candidate Starts for Methuselah\_86:  
(Start: 17 @49699 has 231 MA's), (22, 49663), (25, 49624), (27, 49606), (29, 49582),

Gene: MiaZeal\_242 Start: 107703, Stop: 107503, Start Num: 11  
Candidate Starts for MiaZeal\_242:  
(Start: 11 @107703 has 6 MA's), (15, 107679), (Start: 18 @107667 has 30 MA's), (Start: 19 @107655 has 3 MA's), (22, 107631), (23, 107616), (24, 107598), (29, 107550),

Gene: Microwolf\_88 Start: 49637, Stop: 49479, Start Num: 17  
Candidate Starts for Microwolf\_88:  
(Start: 17 @49637 has 231 MA's), (22, 49601), (25, 49562), (27, 49544), (29, 49520),

Gene: Mindy\_144 Start: 73909, Stop: 73736, Start Num: 17  
Candidate Starts for Mindy\_144:  
(Start: 17 @73909 has 231 MA's), (21, 73879), (24, 73837), (30, 73792), (31, 73762),

Gene: Minerva\_230 Start: 107086, Stop: 106913, Start Num: 18  
Candidate Starts for Minerva\_230:  
(Start: 11 @107122 has 6 MA's), (15, 107098), (Start: 18 @107086 has 30 MA's), (24, 107017), (26, 107008), (28, 106981), (29, 106969),

Gene: Miniwave\_133 Start: 72857, Stop: 72684, Start Num: 17  
Candidate Starts for Miniwave\_133:  
(Start: 17 @72857 has 231 MA's), (Start: 19 @72842 has 3 MA's), (21, 72827), (24, 72785), (30, 72740),

Gene: Misfit\_139 Start: 73985, Stop: 73812, Start Num: 17  
Candidate Starts for Misfit\_139:

(Start: 17 @73985 has 231 MA's), (Start: 19 @73970 has 3 MA's), (21, 73955), (24, 73913), (30, 73868),

Gene: Misomonster\_89 Start: 47312, Stop: 47154, Start Num: 17

Candidate Starts for Misomonster\_89:

(Start: 17 @47312 has 231 MA's), (22, 47276), (25, 47237), (27, 47219), (29, 47195),

Gene: Moldemort\_141 Start: 73133, Stop: 72960, Start Num: 17

Candidate Starts for Moldemort\_141:

(Start: 17 @73133 has 231 MA's), (Start: 19 @73118 has 3 MA's), (21, 73103), (24, 73061), (30, 73016), (31, 72986),

Gene: MoneyMay\_93 Start: 49673, Stop: 49515, Start Num: 17

Candidate Starts for MoneyMay\_93:

(Start: 17 @49673 has 231 MA's), (22, 49637), (25, 49598), (27, 49580), (29, 49556),

Gene: Mosby\_136 Start: 72349, Stop: 72176, Start Num: 17

Candidate Starts for Mosby\_136:

(Start: 17 @72349 has 231 MA's), (Start: 19 @72334 has 3 MA's), (21, 72319), (24, 72277), (30, 72232),

Gene: MuchMore\_90 Start: 47343, Stop: 47185, Start Num: 17

Candidate Starts for MuchMore\_90:

(Start: 17 @47343 has 231 MA's), (22, 47307), (25, 47268), (27, 47250), (29, 47226),

Gene: Murica\_144 Start: 75299, Stop: 75126, Start Num: 17

Candidate Starts for Murica\_144:

(Start: 17 @75299 has 231 MA's), (Start: 19 @75284 has 3 MA's), (21, 75269), (24, 75227), (30, 75182), (31, 75152),

Gene: Murphy\_139 Start: 73496, Stop: 73323, Start Num: 17

Candidate Starts for Murphy\_139:

(Start: 17 @73496 has 231 MA's), (Start: 19 @73481 has 3 MA's), (21, 73466), (24, 73424), (30, 73379), (31, 73349),

Gene: Myrale\_141 Start: 74635, Stop: 74462, Start Num: 17

Candidate Starts for Myrale\_141:

(Start: 17 @74635 has 231 MA's), (Start: 19 @74620 has 3 MA's), (21, 74605), (24, 74563), (30, 74518),

Gene: Nala\_141 Start: 73400, Stop: 73227, Start Num: 17

Candidate Starts for Nala\_141:

(Start: 17 @73400 has 231 MA's), (Start: 19 @73385 has 3 MA's), (21, 73370), (24, 73328), (30, 73283),

Gene: Nekros\_232 Start: 109008, Stop: 108844, Start Num: 18

Candidate Starts for Nekros\_232:

(Start: 11 @109041 has 6 MA's), (15, 109020), (16, 109017), (Start: 18 @109008 has 30 MA's), (20, 108993), (22, 108972), (29, 108891),

Gene: NelitzaMV\_134 Start: 70683, Stop: 70510, Start Num: 17

Candidate Starts for NelitzaMV\_134:

(Start: 17 @70683 has 231 MA's), (Start: 19 @70668 has 3 MA's), (21, 70653), (24, 70611), (30, 70566),

Gene: NihilNomen\_232 Start: 107605, Stop: 107432, Start Num: 18

Candidate Starts for NihilNomen\_232:

(Start: 11 @107641 has 6 MA's), (15, 107617), (Start: 18 @107605 has 30 MA's), (24, 107536), (26, 107527), (28, 107500), (29, 107488),

Gene: Nimrod\_139 Start: 74260, Stop: 74087, Start Num: 17

Candidate Starts for Nimrod\_139:

(Start: 17 @74260 has 231 MA's), (Start: 19 @74245 has 3 MA's), (21, 74230), (24, 74188), (30, 74143), (31, 74113),

Gene: NoSleep\_138 Start: 72458, Stop: 72285, Start Num: 17

Candidate Starts for NoSleep\_138:

(Start: 17 @72458 has 231 MA's), (21, 72428), (24, 72386), (30, 72341), (31, 72311),

Gene: Noella\_90 Start: 48854, Stop: 48693, Start Num: 17

Candidate Starts for Noella\_90:

(Start: 17 @48854 has 231 MA's), (25, 48776),

Gene: Norbert\_85 Start: 48851, Stop: 48690, Start Num: 17

Candidate Starts for Norbert\_85:

(Start: 17 @48851 has 231 MA's), (25, 48773),

Gene: Odette\_231 Start: 109194, Stop: 109021, Start Num: 18

Candidate Starts for Odette\_231:

(9, 109257), (Start: 11 @109230 has 6 MA's), (16, 109203), (Start: 18 @109194 has 30 MA's), (20, 109179), (23, 109143), (24, 109125), (29, 109077), (32, 109032),

Gene: OlanP\_90 Start: 49554, Stop: 49396, Start Num: 17

Candidate Starts for OlanP\_90:

(Start: 17 @49554 has 231 MA's), (22, 49518), (25, 49479), (27, 49461),

Gene: Ollie\_93 Start: 49492, Stop: 49334, Start Num: 17

Candidate Starts for Ollie\_93:

(Start: 17 @49492 has 231 MA's), (22, 49456), (25, 49417), (27, 49399), (29, 49375),

Gene: Omega\_232 Start: 109067, Stop: 108843, Start Num: 10

Candidate Starts for Omega\_232:

(1, 109298), (4, 109169), (Start: 10 @109067 has 2 MA's), (12, 109052), (15, 109028), (Start: 18 @109016 has 30 MA's), (24, 108947), (26, 108938), (28, 108911), (29, 108899), (32, 108854),

Gene: Optimus\_226 Start: 107455, Stop: 107282, Start Num: 18

Candidate Starts for Optimus\_226:

(Start: 11 @107491 has 6 MA's), (15, 107467), (Start: 18 @107455 has 30 MA's), (24, 107386), (26, 107377), (28, 107350), (29, 107338), (32, 107293),

Gene: OrionPax\_136 Start: 72727, Stop: 72554, Start Num: 17

Candidate Starts for OrionPax\_136:

(Start: 17 @72727 has 231 MA's), (Start: 19 @72712 has 3 MA's), (21, 72697), (24, 72655), (30, 72610), (31, 72580),

Gene: P28Green\_93 Start: 49681, Stop: 49523, Start Num: 17  
Candidate Starts for P28Green\_93:  
(Start: 17 @49681 has 231 MA's), (22, 49645), (25, 49606), (27, 49588), (29, 49564),

Gene: PGHhamlin\_95 Start: 49613, Stop: 49455, Start Num: 17  
Candidate Starts for PGHhamlin\_95:  
(Start: 17 @49613 has 231 MA's), (22, 49577), (25, 49538), (27, 49520), (29, 49496),

Gene: Panamaxus\_85 Start: 48853, Stop: 48692, Start Num: 17  
Candidate Starts for Panamaxus\_85:  
(Start: 17 @48853 has 231 MA's), (25, 48775),

Gene: Paperbeatsrock\_137 Start: 73535, Stop: 73362, Start Num: 17  
Candidate Starts for Paperbeatsrock\_137:  
(Start: 17 @73535 has 231 MA's), (Start: 19 @73520 has 3 MA's), (21, 73505), (24, 73463), (30, 73418),

Gene: Pat3\_140 Start: 73512, Stop: 73339, Start Num: 17  
Candidate Starts for Pat3\_140:  
(Start: 17 @73512 has 231 MA's), (21, 73482), (24, 73440), (30, 73395), (31, 73365),

Gene: Pawn\_90 Start: 49385, Stop: 49227, Start Num: 17  
Candidate Starts for Pawn\_90:  
(Start: 17 @49385 has 231 MA's), (22, 49349), (25, 49310), (27, 49292),

Gene: Pembroke\_93 Start: 49622, Stop: 49464, Start Num: 17  
Candidate Starts for Pembroke\_93:  
(Start: 17 @49622 has 231 MA's), (22, 49586), (25, 49547), (27, 49529), (29, 49505),

Gene: Penny1\_93 Start: 49679, Stop: 49521, Start Num: 17  
Candidate Starts for Penny1\_93:  
(Start: 17 @49679 has 231 MA's), (22, 49643), (25, 49604), (27, 49586), (29, 49562),

Gene: Petra64142\_141 Start: 73959, Stop: 73786, Start Num: 17  
Candidate Starts for Petra64142\_141:  
(Start: 17 @73959 has 231 MA's), (Start: 19 @73944 has 3 MA's), (21, 73929), (24, 73887), (30, 73842), (31, 73812),

Gene: Phaja\_143 Start: 73287, Stop: 73114, Start Num: 17  
Candidate Starts for Phaja\_143:  
(Start: 17 @73287 has 231 MA's), (Start: 19 @73272 has 3 MA's), (21, 73257), (24, 73215), (30, 73170),

Gene: Phantastic\_91 Start: 48850, Stop: 48689, Start Num: 17  
Candidate Starts for Phantastic\_91:  
(Start: 17 @48850 has 231 MA's), (25, 48772),

Gene: Pharsalus\_137 Start: 73675, Stop: 73502, Start Num: 17  
Candidate Starts for Pharsalus\_137:  
(Start: 17 @73675 has 231 MA's), (Start: 19 @73660 has 3 MA's), (21, 73645), (24, 73603), (30, 73558),

Gene: PhatBacter\_143 Start: 74033, Stop: 73860, Start Num: 17



Candidate Starts for PhatBacter\_143:

(Start: 17 @74033 has 231 MA's), (Start: 19 @74018 has 3 MA's), (21, 74003), (24, 73961), (30, 73916), (31, 73886),

Gene: Phaux\_141 Start: 74307, Stop: 74134, Start Num: 17

Candidate Starts for Phaux\_141:

(Start: 17 @74307 has 231 MA's), (Start: 19 @74292 has 3 MA's), (21, 74277), (24, 74235), (30, 74190), (31, 74160),

Gene: PhishRPhriends\_88 Start: 48565, Stop: 48407, Start Num: 17

Candidate Starts for PhishRPhriends\_88:

(Start: 17 @48565 has 231 MA's), (22, 48529), (25, 48490), (27, 48472),

Gene: Phoebe\_94 Start: 49671, Stop: 49513, Start Num: 17

Candidate Starts for Phoebe\_94:

(Start: 17 @49671 has 231 MA's), (22, 49635), (25, 49596), (27, 49578), (29, 49554),

Gene: Phoebus\_230 Start: 111293, Stop: 111120, Start Num: 18

Candidate Starts for Phoebus\_230:

(9, 111359), (Start: 11 @111332 has 6 MA's), (16, 111302), (Start: 18 @111293 has 30 MA's), (20, 111278), (23, 111242), (24, 111224), (29, 111176), (32, 111131),

Gene: Phoxy\_88 Start: 48059, Stop: 47901, Start Num: 17

Candidate Starts for Phoxy\_88:

(Start: 17 @48059 has 231 MA's), (22, 48023), (25, 47984), (27, 47966), (29, 47942),

Gene: Phranny\_84 Start: 46833, Stop: 46675, Start Num: 17

Candidate Starts for Phranny\_84:

(Start: 17 @46833 has 231 MA's), (22, 46797), (25, 46758), (27, 46740),

Gene: Phrux\_136 Start: 72514, Stop: 72341, Start Num: 17

Candidate Starts for Phrux\_136:

(Start: 17 @72514 has 231 MA's), (21, 72484), (24, 72442), (30, 72397), (31, 72367),

Gene: Pistachio\_90 Start: 48771, Stop: 48610, Start Num: 17

Candidate Starts for Pistachio\_90:

(Start: 17 @48771 has 231 MA's), (22, 48732), (25, 48693),

Gene: Pocahontas\_88 Start: 48849, Stop: 48688, Start Num: 17

Candidate Starts for Pocahontas\_88:

(Start: 17 @48849 has 231 MA's), (25, 48771),

Gene: Policronamos\_139 Start: 74011, Stop: 73838, Start Num: 17

Candidate Starts for Policronamos\_139:

(Start: 17 @74011 has 231 MA's), (Start: 19 @73996 has 3 MA's), (21, 73981), (24, 73939), (30, 73894), (31, 73864),

Gene: Popcicle\_89 Start: 48849, Stop: 48688, Start Num: 17

Candidate Starts for Popcicle\_89:

(Start: 17 @48849 has 231 MA's), (25, 48771),

Gene: Porcelain\_233 Start: 106511, Stop: 106311, Start Num: 11

Candidate Starts for Porcelain\_233:

(Start: 11 @106511 has 6 MA's), (15, 106487), (Start: 18 @106475 has 30 MA's), (Start: 19 @106463 has 3 MA's), (22, 106439), (23, 106424), (24, 106406), (29, 106358),

Gene: Porky\_142 Start: 74115, Stop: 73942, Start Num: 17

Candidate Starts for Porky\_142:

(Start: 17 @74115 has 231 MA's), (21, 74085), (24, 74043), (30, 73998), (31, 73968),

Gene: PotatoSplit\_94 Start: 49679, Stop: 49521, Start Num: 17

Candidate Starts for PotatoSplit\_94:

(Start: 17 @49679 has 231 MA's), (22, 49643), (25, 49604), (27, 49586), (29, 49562),

Gene: Pound\_219 Start: 106928, Stop: 106719, Start Num: 11

Candidate Starts for Pound\_219:

(Start: 11 @106928 has 6 MA's), (15, 106904), (16, 106901), (Start: 18 @106892 has 30 MA's), (24, 106823), (26, 106814), (28, 106787), (29, 106775), (32, 106730),

Gene: Pumpkin\_139 Start: 72408, Stop: 72235, Start Num: 17

Candidate Starts for Pumpkin\_139:

(Start: 17 @72408 has 231 MA's), (Start: 19 @72393 has 3 MA's), (21, 72378), (24, 72336), (30, 72291),

Gene: Puppy\_91 Start: 48838, Stop: 48677, Start Num: 17

Candidate Starts for Puppy\_91:

(Start: 17 @48838 has 231 MA's), (22, 48799), (25, 48760),

Gene: PurpleHaze\_86 Start: 47404, Stop: 47246, Start Num: 17

Candidate Starts for PurpleHaze\_86:

(Start: 17 @47404 has 231 MA's), (22, 47368), (25, 47329), (27, 47311),

Gene: Quallification\_140 Start: 74010, Stop: 73837, Start Num: 17

Candidate Starts for Quallification\_140:

(Start: 17 @74010 has 231 MA's), (Start: 19 @73995 has 3 MA's), (21, 73980), (24, 73938), (30, 73893),

Gene: QuinnKiro\_88 Start: 48852, Stop: 48691, Start Num: 17

Candidate Starts for QuinnKiro\_88:

(Start: 17 @48852 has 231 MA's), (25, 48774),

Gene: Rakim\_141 Start: 73522, Stop: 73349, Start Num: 17

Candidate Starts for Rakim\_141:

(Start: 17 @73522 has 231 MA's), (Start: 19 @73507 has 3 MA's), (21, 73492), (24, 73450), (30, 73405),

Gene: Rearden\_231 Start: 106965, Stop: 106792, Start Num: 18

Candidate Starts for Rearden\_231:

(Start: 11 @107001 has 6 MA's), (15, 106977), (Start: 18 @106965 has 30 MA's), (24, 106896), (26, 106887), (28, 106860), (29, 106848), (32, 106803),

Gene: Reba\_87 Start: 48221, Stop: 48063, Start Num: 17

Candidate Starts for Reba\_87:

(Start: 17 @48221 has 231 MA's), (22, 48185), (25, 48146), (27, 48128),

Gene: Redno2\_223 Start: 105347, Stop: 105174, Start Num: 18

Candidate Starts for Redno2\_223:

(Start: 11 @105380 has 6 MA's), (15, 105359), (16, 105356), (Start: 18 @105347 has 30 MA's), (20, 105332), (23, 105296), (24, 105278), (29, 105230), (32, 105185),

Gene: ResDef\_87 Start: 48855, Stop: 48694, Start Num: 17

Candidate Starts for ResDef\_87:

(Start: 17 @48855 has 231 MA's), (25, 48777),

Gene: Rimmer\_137 Start: 73249, Stop: 73076, Start Num: 17

Candidate Starts for Rimmer\_137:

(6, 73357), (Start: 17 @73249 has 231 MA's), (Start: 19 @73234 has 3 MA's), (21, 73219), (24, 73177), (30, 73132), (31, 73102),

Gene: RiverMonster\_139 Start: 73409, Stop: 73236, Start Num: 17

Candidate Starts for RiverMonster\_139:

(Start: 17 @73409 has 231 MA's), (Start: 19 @73394 has 3 MA's), (21, 73379), (24, 73337), (30, 73292), (31, 73262),

Gene: Rockstar\_79 Start: 46540, Stop: 46379, Start Num: 17

Candidate Starts for Rockstar\_79:

(Start: 17 @46540 has 231 MA's), (25, 46462),

Gene: Rummer\_92 Start: 49703, Stop: 49545, Start Num: 17

Candidate Starts for Rummer\_92:

(Start: 17 @49703 has 231 MA's), (22, 49667), (25, 49628), (27, 49610), (29, 49586),

Gene: Sabia\_90 Start: 49629, Stop: 49471, Start Num: 17

Candidate Starts for Sabia\_90:

(Start: 17 @49629 has 231 MA's), (22, 49593), (25, 49554), (27, 49536), (29, 49512),

Gene: Sabinator\_91 Start: 49677, Stop: 49519, Start Num: 17

Candidate Starts for Sabinator\_91:

(Start: 17 @49677 has 231 MA's), (22, 49641), (25, 49602), (27, 49584), (29, 49560),

Gene: Saints25\_135 Start: 71231, Stop: 71058, Start Num: 17

Candidate Starts for Saints25\_135:

(Start: 17 @71231 has 231 MA's), (Start: 19 @71216 has 3 MA's), (21, 71201), (24, 71159), (30, 71114),

Gene: Sassay\_134 Start: 71296, Stop: 71138, Start Num: 19

Candidate Starts for Sassay\_134:

(Start: 17 @71311 has 231 MA's), (Start: 19 @71296 has 3 MA's), (21, 71281), (24, 71239), (30, 71194),

Gene: SaturnRing\_91 Start: 49221, Stop: 49060, Start Num: 17

Candidate Starts for SaturnRing\_91:

(Start: 17 @49221 has 231 MA's), (22, 49182), (25, 49143),

Gene: Schatzie\_224 Start: 108268, Stop: 108104, Start Num: 18

Candidate Starts for Schatzie\_224:

(Start: 11 @108301 has 6 MA's), (15, 108280), (16, 108277), (Start: 18 @108268 has 30 MA's), (20, 108253), (22, 108232), (29, 108151),

Gene: Scout\_89 Start: 48374, Stop: 48213, Start Num: 17  
Candidate Starts for Scout\_89:  
(5, 48509), (7, 48473), (8, 48455), (Start: 17 @48374 has 231 MA's), (25, 48296),

Gene: Shaboozey\_229 Start: 105573, Stop: 105409, Start Num: 18  
Candidate Starts for Shaboozey\_229:  
(Start: 11 @105606 has 6 MA's), (15, 105585), (16, 105582), (Start: 18 @105573 has 30 MA's), (20, 105558), (22, 105537), (29, 105456),

Gene: ShamWow\_138 Start: 73844, Stop: 73671, Start Num: 17  
Candidate Starts for ShamWow\_138:  
(Start: 17 @73844 has 231 MA's), (Start: 19 @73829 has 3 MA's), (21, 73814), (24, 73772), (30, 73727),

Gene: Sheen\_86 Start: 51991, Stop: 51824, Start Num: 17  
Candidate Starts for Sheen\_86:  
(Start: 17 @51991 has 231 MA's), (29, 51868),

Gene: ShereKhan\_139 Start: 74235, Stop: 74062, Start Num: 17  
Candidate Starts for ShereKhan\_139:  
(Start: 17 @74235 has 231 MA's), (Start: 19 @74220 has 3 MA's), (21, 74205), (24, 74163), (30, 74118),

Gene: Simpliphy\_139 Start: 72980, Stop: 72807, Start Num: 17  
Candidate Starts for Simpliphy\_139:  
(Start: 17 @72980 has 231 MA's), (Start: 19 @72965 has 3 MA's), (21, 72950), (24, 72908), (30, 72863), (31, 72833),

Gene: SirDuracell\_142 Start: 74023, Stop: 73850, Start Num: 17  
Candidate Starts for SirDuracell\_142:  
(Start: 17 @74023 has 231 MA's), (Start: 19 @74008 has 3 MA's), (21, 73993), (24, 73951), (30, 73906),

Gene: Snickers\_88 Start: 49594, Stop: 49436, Start Num: 17  
Candidate Starts for Snickers\_88:  
(Start: 17 @49594 has 231 MA's), (22, 49558), (25, 49519), (27, 49501), (29, 49477),

Gene: SoYo\_90 Start: 49591, Stop: 49433, Start Num: 17  
Candidate Starts for SoYo\_90:  
(Start: 17 @49591 has 231 MA's), (22, 49555), (25, 49516), (27, 49498), (29, 49474),

Gene: SoilDragon\_93 Start: 49064, Stop: 48906, Start Num: 17  
Candidate Starts for SoilDragon\_93:  
(Start: 17 @49064 has 231 MA's), (22, 49028), (25, 48989), (27, 48971), (29, 48947),

Gene: SophKB\_137 Start: 73478, Stop: 73305, Start Num: 17  
Candidate Starts for SophKB\_137:  
(Start: 17 @73478 has 231 MA's), (Start: 19 @73463 has 3 MA's), (21, 73448), (24, 73406), (30, 73361),

Gene: Soshari\_95 Start: 49699, Stop: 49541, Start Num: 17  
Candidate Starts for Soshari\_95:  
(Start: 17 @49699 has 231 MA's), (22, 49663), (25, 49624), (27, 49606), (29, 49582),

Gene: Sotrice96\_144 Start: 74192, Stop: 74019, Start Num: 17  
Candidate Starts for Sotrice96\_144:  
(Start: 17 @74192 has 231 MA's), (Start: 19 @74177 has 3 MA's), (21, 74162), (24, 74120), (30, 74075),

Gene: Spike509\_94 Start: 49781, Stop: 49623, Start Num: 17  
Candidate Starts for Spike509\_94:  
(Start: 17 @49781 has 231 MA's), (22, 49745), (25, 49706), (27, 49688), (29, 49664),

Gene: Squint\_230 Start: 107281, Stop: 107117, Start Num: 18  
Candidate Starts for Squint\_230:  
(Start: 11 @107317 has 6 MA's), (15, 107293), (Start: 18 @107281 has 30 MA's), (Start: 19 @107269 has 3 MA's), (22, 107245), (23, 107230), (24, 107212), (29, 107164),

Gene: Stagni\_89 Start: 49624, Stop: 49466, Start Num: 17  
Candidate Starts for Stagni\_89:  
(Start: 17 @49624 has 231 MA's), (22, 49588), (25, 49549), (27, 49531), (29, 49507),

Gene: Stank\_143 Start: 73818, Stop: 73645, Start Num: 17  
Candidate Starts for Stank\_143:  
(Start: 17 @73818 has 231 MA's), (Start: 19 @73803 has 3 MA's), (21, 73788), (24, 73746), (30, 73701), (31, 73671),

Gene: Stark\_137 Start: 72846, Stop: 72673, Start Num: 17  
Candidate Starts for Stark\_137:  
(Start: 17 @72846 has 231 MA's), (Start: 19 @72831 has 3 MA's), (21, 72816), (24, 72774), (30, 72729),

Gene: StellaBean\_136 Start: 73617, Stop: 73444, Start Num: 17  
Candidate Starts for StellaBean\_136:  
(Start: 17 @73617 has 231 MA's), (Start: 19 @73602 has 3 MA's), (21, 73587), (24, 73545), (30, 73500),

Gene: StepMih\_93 Start: 49615, Stop: 49457, Start Num: 17  
Candidate Starts for StepMih\_93:  
(Start: 17 @49615 has 231 MA's), (22, 49579), (25, 49540), (27, 49522), (29, 49498),

Gene: StolenFromERC\_141 Start: 73163, Stop: 72990, Start Num: 17  
Candidate Starts for StolenFromERC\_141:  
(Start: 17 @73163 has 231 MA's), (Start: 19 @73148 has 3 MA's), (21, 73133), (24, 73091), (30, 73046), (31, 73016),

Gene: StormChicken\_141 Start: 74061, Stop: 73888, Start Num: 17  
Candidate Starts for StormChicken\_141:  
(Start: 17 @74061 has 231 MA's), (Start: 19 @74046 has 3 MA's), (21, 74031), (24, 73989), (30, 73944),

Gene: Superphikiman\_230 Start: 106490, Stop: 106317, Start Num: 18  
Candidate Starts for Superphikiman\_230:  
(Start: 11 @106526 has 6 MA's), (15, 106502), (Start: 18 @106490 has 30 MA's), (24, 106421), (26, 106412), (28, 106385), (29, 106373), (32, 106328),

Gene: TBrady12\_144 Start: 73255, Stop: 73082, Start Num: 17  
Candidate Starts for TBrady12\_144:  
(Start: 17 @73255 has 231 MA's), (Start: 19 @73240 has 3 MA's), (21, 73225), (24, 73183), (30, 73138), (31, 73108),

Gene: TNguyen7\_91 Start: 49179, Stop: 49018, Start Num: 17  
Candidate Starts for TNguyen7\_91:  
(Start: 17 @49179 has 231 MA's), (22, 49140), (25, 49101),

Gene: Tarkin\_138 Start: 74100, Stop: 73927, Start Num: 17  
Candidate Starts for Tarkin\_138:  
(Start: 17 @74100 has 231 MA's), (Start: 19 @74085 has 3 MA's), (21, 74070), (24, 74028), (30, 73983),

Gene: Taurus\_94 Start: 49673, Stop: 49515, Start Num: 17  
Candidate Starts for Taurus\_94:  
(Start: 17 @49673 has 231 MA's), (22, 49637), (25, 49598), (27, 49580), (29, 49556),

Gene: TeardropMSU\_140 Start: 73112, Stop: 72939, Start Num: 17  
Candidate Starts for TeardropMSU\_140:  
(Start: 17 @73112 has 231 MA's), (Start: 19 @73097 has 3 MA's), (21, 73082), (24, 73040), (30, 72995),

Gene: Teaspoon\_124 Start: 69041, Stop: 68868, Start Num: 17  
Candidate Starts for Teaspoon\_124:  
(Start: 17 @69041 has 231 MA's), (Start: 19 @69026 has 3 MA's), (21, 69011), (24, 68969), (30, 68924),

Gene: Terminus\_142 Start: 73985, Stop: 73812, Start Num: 17  
Candidate Starts for Terminus\_142:  
(Start: 17 @73985 has 231 MA's), (Start: 19 @73970 has 3 MA's), (21, 73955), (24, 73913), (30, 73868),

Gene: Texage\_87 Start: 48853, Stop: 48692, Start Num: 17  
Candidate Starts for Texage\_87:  
(Start: 17 @48853 has 231 MA's), (25, 48775),

Gene: Thibault\_205 Start: 103183, Stop: 103010, Start Num: 18  
Candidate Starts for Thibault\_205:  
(Start: 11 @103219 has 6 MA's), (15, 103195), (Start: 18 @103183 has 30 MA's), (24, 103114), (26, 103105), (28, 103078), (29, 103066),

Gene: ThreeRngTarjay\_231 Start: 110453, Stop: 110280, Start Num: 18  
Candidate Starts for ThreeRngTarjay\_231:  
(Start: 11 @110486 has 6 MA's), (15, 110465), (16, 110462), (Start: 18 @110453 has 30 MA's), (20, 110438), (22, 110417), (24, 110384), (29, 110336), (32, 110291),

Gene: Thresher\_142 Start: 74293, Stop: 74120, Start Num: 17  
Candidate Starts for Thresher\_142:  
(Start: 17 @74293 has 231 MA's), (21, 74263), (24, 74221), (30, 74176), (31, 74146),

Gene: Tiffany\_92 Start: 49563, Stop: 49405, Start Num: 17  
Candidate Starts for Tiffany\_92:

(Start: 17 @49563 has 231 MA's), (22, 49527), (25, 49488), (27, 49470), (29, 49446),

Gene: TinyPebbles\_89 Start: 49708, Stop: 49550, Start Num: 17

Candidate Starts for TinyPebbles\_89:

(Start: 17 @49708 has 231 MA's), (22, 49672), (25, 49633), (27, 49615), (29, 49591),

Gene: Todacoro\_89 Start: 48852, Stop: 48691, Start Num: 17

Candidate Starts for Todacoro\_89:

(Start: 17 @48852 has 231 MA's), (25, 48774),

Gene: Tomaszewski\_133 Start: 72523, Stop: 72350, Start Num: 17

Candidate Starts for Tomaszewski\_133:

(Start: 17 @72523 has 231 MA's), (Start: 19 @72508 has 3 MA's), (21, 72493), (24, 72451), (30, 72406),

Gene: Toro\_87 Start: 52654, Stop: 52487, Start Num: 17

Candidate Starts for Toro\_87:

(Start: 17 @52654 has 231 MA's), (29, 52531),

Gene: Toto\_136 Start: 73844, Stop: 73671, Start Num: 17

Candidate Starts for Toto\_136:

(Start: 17 @73844 has 231 MA's), (Start: 19 @73829 has 3 MA's), (21, 73814), (24, 73772), (30, 73727),

Gene: Traaww1\_137 Start: 73199, Stop: 73026, Start Num: 17

Candidate Starts for Traaww1\_137:

(2, 73376), (14, 73214), (Start: 17 @73199 has 231 MA's), (21, 73169), (24, 73127), (30, 73082), (31, 73052),

Gene: Tuco\_145 Start: 75171, Stop: 74998, Start Num: 17

Candidate Starts for Tuco\_145:

(Start: 17 @75171 has 231 MA's), (Start: 19 @75156 has 3 MA's), (21, 75141), (24, 75099), (30, 75054),

Gene: Ukulele\_134 Start: 72407, Stop: 72234, Start Num: 17

Candidate Starts for Ukulele\_134:

(6, 72515), (Start: 17 @72407 has 231 MA's), (Start: 19 @72392 has 3 MA's), (21, 72377), (24, 72335), (30, 72290),

Gene: Veracruz\_86 Start: 48853, Stop: 48692, Start Num: 17

Candidate Starts for Veracruz\_86:

(Start: 17 @48853 has 231 MA's), (25, 48775),

Gene: Vix\_88 Start: 49758, Stop: 49600, Start Num: 17

Candidate Starts for Vix\_88:

(Start: 17 @49758 has 231 MA's), (22, 49722), (25, 49683), (27, 49665), (29, 49641),

Gene: Wanda\_231 Start: 106692, Stop: 106492, Start Num: 11

Candidate Starts for Wanda\_231:

(Start: 11 @106692 has 6 MA's), (15, 106668), (Start: 18 @106656 has 30 MA's), (Start: 19 @106644 has 3 MA's), (22, 106620), (23, 106605), (24, 106587), (29, 106539),

Gene: Watson\_92 Start: 49613, Stop: 49455, Start Num: 17

Candidate Starts for Watson\_92:

(Start: 17 @49613 has 231 MA's), (22, 49577), (25, 49538), (27, 49520), (29, 49496),

Gene: Wiggin\_142 Start: 72796, Stop: 72623, Start Num: 17

Candidate Starts for Wiggin\_142:

(Start: 17 @72796 has 231 MA's), (Start: 19 @72781 has 3 MA's), (21, 72766), (24, 72724), (30, 72679), (31, 72649),

Gene: Willez\_137 Start: 72392, Stop: 72219, Start Num: 17

Candidate Starts for Willez\_137:

(Start: 17 @72392 has 231 MA's), (Start: 19 @72377 has 3 MA's), (21, 72362), (24, 72320), (30, 72275),

Gene: Wooldri\_95 Start: 49584, Stop: 49426, Start Num: 17

Candidate Starts for Wooldri\_95:

(Start: 17 @49584 has 231 MA's), (22, 49548), (25, 49509), (27, 49491), (29, 49467),

Gene: Xandras\_139 Start: 73072, Stop: 72899, Start Num: 17

Candidate Starts for Xandras\_139:

(Start: 17 @73072 has 231 MA's), (Start: 19 @73057 has 3 MA's), (21, 73042), (24, 73000), (30, 72955), (31, 72925),

Gene: YassJohnny\_136 Start: 71943, Stop: 71770, Start Num: 17

Candidate Starts for YassJohnny\_136:

(Start: 17 @71943 has 231 MA's), (Start: 19 @71928 has 3 MA's), (21, 71913), (24, 71871), (30, 71826), (31, 71796),

Gene: Yeet\_226 Start: 108370, Stop: 108197, Start Num: 18

Candidate Starts for Yeet\_226:

(9, 108436), (Start: 11 @108409 has 6 MA's), (16, 108379), (Start: 18 @108370 has 30 MA's), (20, 108355), (22, 108334), (29, 108253), (32, 108208),

Gene: Youngblood\_143 Start: 73697, Stop: 73539, Start Num: 19

Candidate Starts for Youngblood\_143:

(Start: 17 @73712 has 231 MA's), (Start: 19 @73697 has 3 MA's), (21, 73682), (24, 73640), (30, 73595),

Gene: Zelink\_225 Start: 107954, Stop: 107790, Start Num: 18

Candidate Starts for Zelink\_225:

(Start: 11 @107987 has 6 MA's), (15, 107966), (16, 107963), (Start: 18 @107954 has 30 MA's), (20, 107939), (22, 107918), (24, 107885), (29, 107837),

Gene: Zetzy\_84 Start: 47003, Stop: 46845, Start Num: 17

Candidate Starts for Zetzy\_84:

(Start: 17 @47003 has 231 MA's), (22, 46967), (25, 46928), (27, 46910), (29, 46886),

Gene: xkcd\_144 Start: 74731, Stop: 74558, Start Num: 17

Candidate Starts for xkcd\_144:

(Start: 17 @74731 has 231 MA's), (Start: 19 @74716 has 3 MA's), (21, 74701), (24, 74659), (30, 74614),