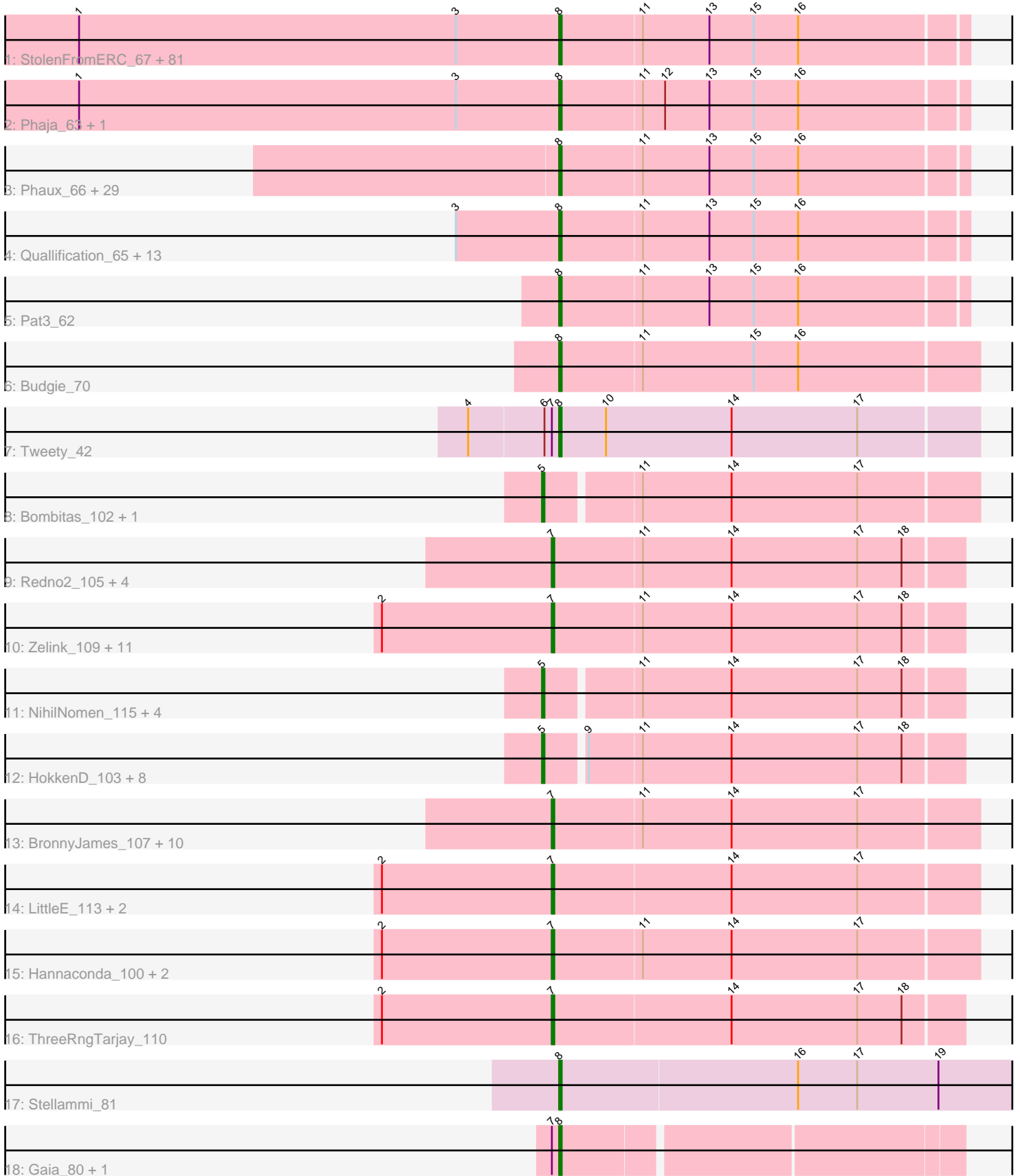


Pham 308130



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 308130 Report

This analysis was run 06/27/26 on database version 652.

Pham number 308130 has 185 members, 19 are drafts.

Phages represented in each track:

- Track 1 : StolenFromERC\_67, Tuco\_66, OrionPax\_63, Holt\_69, ChosenOne\_65, Highbury\_64, Amao\_64, Thimble\_65, NoSleep\_66, MadamMonkfish\_65, Pumpkin\_67, Stank\_68, BilboSwaggins\_63, StellaBean\_63, Adnama\_69, Miniwave\_60, Mindy\_64, Eureka\_63, TeardropMSU\_61, Hoonter\_67, Henry\_63, Manda\_65, Sassay\_59, Dumbo\_64, BigBubba\_65, GoldenSpark\_68, TBrady12\_68, Ukulele\_60, Easy2Say\_66, AmericanBeauty\_68, Teaspoon\_66, Kostya\_65, SophKB\_62, HanKaySha\_64, JeTaime\_64, Willez\_59, CrystalP\_64, 244\_65, ABCat\_62, Bogg\_64, Elite2014\_64, Cookies\_61, Thresher\_67, Dusk\_62, BaboJay\_61, Goldilocks\_67, Gage\_66, Goku\_63, ChotaBhai\_63, ShamWow\_65, Pharsalus\_62, Inca\_62, Brewer\_60, Gator\_63, Asriel\_64, Command613\_66, Gemini\_69, Stark\_65, DoctorDiddles\_63, Bask21\_64, Rakim\_66, Traaww1\_61, Porky\_64, Moldemort\_68, Tarkin\_64, Emmina\_65, Paperbeatsrock\_64, Simpliphy\_64, NonchalantPear\_65, Kimchi\_68, GooberAzure\_67, Toto\_63, Saints25\_64, Barbarian\_64, SirDuracell\_63, BadStone\_62, Argent26\_68, Lilpickle\_64, Wiggin\_67, Filch\_66, Xandras\_64, Ptowny\_62
- Track 2 : Phaja\_63, IHOP\_63
- Track 3 : Phaux\_66, Sotrice96\_65, Lilac\_66, Becksu\_63, MPhalcon\_65, Elph10\_64, Buck\_65, Bench\_67, Cjw1\_64, PhatBacter\_68, Lilizi\_65, FoghornLeghorn\_58, Misfit\_65, Hopey\_64, HufflyPuff\_67, Maxxinista\_66, Icee\_65, Liveloughbron\_66, Palpatine\_66, Phrux\_61, Nala\_66, Policronamos\_67, BugsBunny\_64, Nimrod\_65, DrDrey\_64, Murica\_67, FireRed\_68, Petra64142\_68, Mosby\_60, MISSy\_65
- Track 4 : Quallification\_65, NelitzaMV\_62, Glexan\_63, Kanye\_61, FairyPath\_65, Harella\_64, Balomoji\_64, YassJohnny\_61, Marshmallow\_62, Tomaszewski\_59, Flypotenuse\_60, Myrale\_64, Daikon\_66, ShereKhan\_63
- Track 5 : Pat3\_62
- Track 6 : Budgie\_70
- Track 7 : Tweety\_42
- Track 8 : Bombitas\_102, Yeet\_105
- Track 9 : Redno2\_105, Ejimix\_107, JuicyJay\_110, Halley\_115, Beem\_115
- Track 10 : Zelink\_109, Dallas\_114, Kalah2\_106, Odette\_115, Phoebus\_114, EricMillard\_106, Hughesyang\_112, Constella\_98, Xiaokay\_104, Bagrid\_114, Thibault\_96, DmpstrDiver\_114
- Track 11 : NihilNomen\_115, Hidrated\_98, Marleymoo\_97, Bobby\_107, Dove\_99
- Track 12 : HokkenD\_103, Minerva\_113, Klein\_113, Schatzie\_108, Pound\_105, Optimus\_107, Duke13\_109, Wanda\_116, BAKA\_114
- Track 13 : BronnyJames\_107, Courthouse\_104, Shaboozey\_107, Nekros\_112, KashFlow\_106, Nibley\_102, Ariel\_109, Squint\_107, MiaZeal\_109,

Superphikiman\_106, Lucky2013\_106

- Track 14 : LittleE\_113, Gonephishing\_103, Omega\_118
- Track 15 : Hannaconda\_100, Porcelain\_109, Rearden\_103
- Track 16 : ThreeRngTarjay\_110
- Track 17 : Stellammi\_81
- Track 18 : Gaia\_80, Nebkiss\_79

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

The start number called the most often in the published annotations is 8, it was called in 126 of the 166 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 244\_65, ABCat\_62, Adnama\_69, Amao\_64, AmericanBeauty\_68, Argent26\_68, Asriel\_64, BaboJay\_61, BadStone\_62, Balomoji\_64, Barbarian\_64, Bask21\_64, Becksu\_63, Bench\_67, BigBubba\_65, BilboSwaggins\_63, Bogg\_64, Brewer\_60, Buck\_65, Budgie\_70, BugsBunny\_64, ChosenOne\_65, ChotaBhai\_63, Cjw1\_64, Command613\_66, Cookies\_61, CrystalP\_64, Daikon\_66, DoctorDiddles\_63, DrDrey\_64, Dumbo\_64, Dusk\_62, Easy2Say\_66, Elite2014\_64, Elph10\_64, Emmina\_65, Eureka\_63, FairyPath\_65, Filch\_66, FireRed\_68, Flypotenuse\_60, FoghornLeghorn\_58, Gage\_66, Gaia\_80, Gator\_63, Gemini\_69, Glexan\_63, Goku\_63, GoldenSpark\_68, Goldilocks\_67, GooberAzure\_67, HanKaySha\_64, Harella\_64, Henry\_63, Highbury\_64, Holt\_69, Hoonter\_67, Hopey\_64, HufflyPuff\_67, IHOP\_63, Icee\_65, Inca\_62, JeTaime\_64, Kanye\_61, Kimchi\_68, Kostya\_65, Lilac\_66, Lilizi\_65, Lilpickle\_64, Liveloughbron\_66, MISSy\_65, MPhalcon\_65, MadamMonkfish\_65, Manda\_65, Marshmallow\_62, Maxxinista\_66, Mindy\_64, Miniwave\_60, Misfit\_65, Moldemort\_68, Mosby\_60, Murica\_67, Myrale\_64, Nala\_66, Nebkiss\_79, NelitzaMV\_62, Nimrod\_65, NoSleep\_66, NonchalantPear\_65, OrionPax\_63, Palpatine\_66, Paperbeatsrock\_64, Pat3\_62, Petra64142\_68, Phaja\_63, Pharsalus\_62, PhatBacter\_68, Phaux\_66, Phrux\_61, Policronamos\_67, Porky\_64, Ptowny\_62, Pumpkin\_67, Quallification\_65, Rakim\_66, Saints25\_64, Sassay\_59, ShamWow\_65, ShereKhan\_63, Simpliphy\_64, SirDuracell\_63, SophKB\_62, Sotrice96\_65, Stank\_68, Stark\_65, StellaBean\_63, Stellammi\_81, StolenFromERC\_67, TBrady12\_68, Tarkin\_64, TeardropMSU\_61, Teaspoon\_66, Thimble\_65, Thresher\_67, Tomaszewski\_59, Toto\_63, Traaww1\_61, Tuco\_66, Tweety\_42, Ukulele\_60, Wiggin\_67, Willez\_59, Xandras\_64, YassJohnny\_61,

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

- 

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

- Ariel\_109, BAKA\_114, Bagrid\_114, Beem\_115, Bobby\_107, Bombitas\_102, BronnyJames\_107, Constella\_98, Courthouse\_104, Dallas\_114, DmpstrDiver\_114, Dove\_99, Duke13\_109, Ejimix\_107, EricMillard\_106, Gonephishing\_103, Halley\_115, Hannaconda\_100, Hidrated\_98, HokkenD\_103, Hughesyang\_112, JuicyJay\_110, Kalah2\_106, KashFlow\_106, Klein\_113, LittleE\_113, Lucky2013\_106, Marleymoo\_97, MiaZeal\_109, Minerva\_113, Nekros\_112, Nibley\_102, NihilNomen\_115, Odette\_115, Omega\_118, Optimus\_107, Phoebus\_114, Porcelain\_109, Pound\_105, Rearden\_103, Redno2\_105, Schatzie\_108, Shaboozey\_107, Squint\_107, Superphikiman\_106, Thibault\_96,

ThreeRngTarjay\_110, Wanda\_116, Xiaokay\_104, Yeet\_105, Zelink\_109,

### Summary by start number:

#### Start 5:

- Found in 16 of 185 ( 8.6% ) of genes in pham
- Manual Annotations of this start: 14 of 166
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BAKA\_114 (J), Bobby\_107 (J), Bombitas\_102 (J), Dove\_99 (J), Duke13\_109 (J), Hidrated\_98 (J), HokkenD\_103 (J), Klein\_113 (J), Marleymoo\_97 (J), Minerva\_113 (J), NihilNomen\_115 (J), Optimus\_107 (J), Pound\_105 (J), Schatzie\_108 (J), Wanda\_116 (J), Yeet\_105 (J),

#### Start 7:

- Found in 38 of 185 ( 20.5% ) of genes in pham
- Manual Annotations of this start: 26 of 166
- Called 92.1% of time when present
- Phage (with cluster) where this start called: Ariel\_109 (J), Bagrid\_114 (J), Beem\_115 (J), BronnyJames\_107 (J), Constella\_98 (J), Courthouse\_104 (J), Dallas\_114 (J), DmpstrDiver\_114 (J), Ejimix\_107 (J), EricMillard\_106 (J), Gonephishing\_103 (J), Halley\_115 (J), Hannaconda\_100 (J), Hughesyang\_112 (J), JuicyJay\_110 (J), Kalah2\_106 (J), KashFlow\_106 (J), LittleE\_113 (J), Lucky2013\_106 (J), MiaZeal\_109 (J), Nekros\_112 (J), Nibley\_102 (J), Odette\_115 (J), Omega\_118 (J), Phoebus\_114 (J), Porcelain\_109 (J), Rearden\_103 (J), Redno2\_105 (J), Shaboozey\_107 (J), Squint\_107 (J), Superphikiman\_106 (J), Thibault\_96 (J), ThreeRngTarjay\_110 (J), Xiaokay\_104 (J), Zelink\_109 (J),

#### Start 8:

- Found in 134 of 185 ( 72.4% ) of genes in pham
- Manual Annotations of this start: 126 of 166
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 244\_65 (E), ABCat\_62 (E), Adnama\_69 (E), Amao\_64 (E), AmericanBeauty\_68 (E), Argent26\_68 (E), Asriel\_64 (E), BaboJay\_61 (E), BadStone\_62 (E), Balomoji\_64 (E), Barbarian\_64 (E), Bask21\_64 (E), Becksu\_63 (E), Bench\_67 (E), BigBubba\_65 (E), BilboSwaggins\_63 (E), Bogg\_64 (E), Brewer\_60 (E), Buck\_65 (E), Budgie\_70 (E), BugsBunny\_64 (E), ChosenOne\_65 (E), ChotaBhai\_63 (E), Cjw1\_64 (E), Command613\_66 (E), Cookies\_61 (E), CrystalP\_64 (E), Daikon\_66 (E), DoctorDiddles\_63 (E), DrDrey\_64 (E), Dumbo\_64 (E), Dusk\_62 (E), Easy2Say\_66 (E), Elite2014\_64 (E), Elph10\_64 (E), Emmina\_65 (E), Eureka\_63 (E), FairyPath\_65 (E), Filch\_66 (E), FireRed\_68 (E), Flypotenuse\_60 (E), FoghornLeghorn\_58 (E), Gage\_66 (E), Gaia\_80 (X), Gator\_63 (E), Gemini\_69 (E), Glexan\_63 (E), Goku\_63 (E), GoldenSpark\_68 (E), Goldilocks\_67 (E), GooberAzure\_67 (E), HanKaySha\_64 (E), Harella\_64 (E), Henry\_63 (E), Highbury\_64 (E), Holt\_69 (E), Hoonter\_67 (E), Hopey\_64 (E), HuffyPuff\_67 (E), IHOP\_63 (E), Icee\_65 (E), Inca\_62 (E), JeTaimé\_64 (E), Kanye\_61 (E), Kimchi\_68 (E), Kostya\_65 (E), Lilac\_66 (E), Lilizi\_65 (E), Lilpickle\_64 (E), Liveloughbron\_66 (E), MISSy\_65 (E), MPhalcon\_65 (E), MadamMonkfish\_65 (E), Manda\_65 (E), Marshmallow\_62 (E), Maxxinista\_66 (E), Mindy\_64 (E), Miniwave\_60 (E), Misfit\_65 (E), Moldemort\_68 (E), Mosby\_60 (E), Murica\_67 (E), Myrale\_64 (E), Nala\_66 (E), Nebkiss\_79 (X), NelitzaMV\_62 (E), Nimrod\_65 (E), NoSleep\_66 (E), NonchalantPear\_65 (E), OrionPax\_63 (E), Palpatine\_66 (E), Paperbeatsrock\_64 (E), Pat3\_62 (E), Petra64142\_68 (E), Phaja\_63 (E), Pharsalus\_62 (E), PhatBacter\_68 (E), Phaux\_66 (E), Phrux\_61 (E), Policronamos\_67 (E), Porky\_64 (E), Ptowny\_62 (E),

Pumpkin\_67 (E), Quallification\_65 (E), Rakim\_66 (E), Saints25\_64 (E), Sassay\_59 (E), ShamWow\_65 (E), ShereKhan\_63 (E), Simpliphy\_64 (E), SirDuracell\_63 (E), SophKB\_62 (E), Sotrice96\_65 (E), Stank\_68 (E), Stark\_65 (E), StellaBean\_63 (E), Stellammi\_81 (UNK), StolenFromERC\_67 (E), TBrady12\_68 (E), Tarkin\_64 (E), TeardropMSU\_61 (E), Teaspoon\_66 (E), Thimble\_65 (E), Thresher\_67 (E), Tomaszewski\_59 (E), Toto\_63 (E), Traaww1\_61 (E), Tuco\_66 (E), Tweety\_42 (F1), Ukulele\_60 (E), Wiggin\_67 (E), Willez\_59 (E), Xandras\_64 (E), YassJohnny\_61 (E),

### **Summary by clusters:**

There are 5 clusters represented in this pham: X, UNK, J, E, F1,

Info for manual annotations of cluster E:

- Start number 8 was manually annotated 122 times for cluster E.

Info for manual annotations of cluster F1:

- Start number 8 was manually annotated 1 time for cluster F1.

Info for manual annotations of cluster J:

- Start number 5 was manually annotated 14 times for cluster J.
- Start number 7 was manually annotated 26 times for cluster J.

Info for manual annotations of cluster UNK:

- Start number 8 was manually annotated 1 time for cluster UNK.

Info for manual annotations of cluster X:

- Start number 8 was manually annotated 2 times for cluster X.

### **Gene Information:**

Gene: 244\_65 Start: 43187, Stop: 43348, Start Num: 8

Candidate Starts for 244\_65:

(1, 42992), (3, 43145), (Start: 8 @43187 has 126 MA's), (11, 43220), (13, 43247), (15, 43265), (16, 43283),

Gene: ABCat\_62 Start: 43832, Stop: 43993, Start Num: 8

Candidate Starts for ABCat\_62:

(1, 43637), (3, 43790), (Start: 8 @43832 has 126 MA's), (11, 43865), (13, 43892), (15, 43910), (16, 43928),

Gene: Adnama\_69 Start: 43855, Stop: 44016, Start Num: 8

Candidate Starts for Adnama\_69:

(1, 43660), (3, 43813), (Start: 8 @43855 has 126 MA's), (11, 43888), (13, 43915), (15, 43933), (16, 43951),

Gene: Amao\_64 Start: 42945, Stop: 43106, Start Num: 8

Candidate Starts for Amao\_64:

(1, 42750), (3, 42903), (Start: 8 @42945 has 126 MA's), (11, 42978), (13, 43005), (15, 43023), (16, 43041),

Gene: AmericanBeauty\_68 Start: 43700, Stop: 43861, Start Num: 8

Candidate Starts for AmericanBeauty\_68:

(1, 43505), (3, 43658), (Start: 8 @43700 has 126 MA's), (11, 43733), (13, 43760), (15, 43778), (16, 43796),

Gene: Argent26\_68 Start: 43338, Stop: 43499, Start Num: 8

Candidate Starts for Argent26\_68:

(1, 43143), (3, 43296), (Start: 8 @43338 has 126 MA's), (11, 43371), (13, 43398), (15, 43416), (16, 43434),

Gene: Ariel\_109 Start: 59841, Stop: 60011, Start Num: 7

Candidate Starts for Ariel\_109:

(Start: 7 @59841 has 26 MA's), (11, 59877), (14, 59913), (17, 59964),

Gene: Asriel\_64 Start: 42192, Stop: 42353, Start Num: 8

Candidate Starts for Asriel\_64:

(1, 41997), (3, 42150), (Start: 8 @42192 has 126 MA's), (11, 42225), (13, 42252), (15, 42270), (16, 42288),

Gene: BAKA\_114 Start: 64364, Stop: 64528, Start Num: 5

Candidate Starts for BAKA\_114:

(Start: 5 @64364 has 14 MA's), (9, 64379), (11, 64400), (14, 64436), (17, 64487), (18, 64505),

Gene: BaboJay\_61 Start: 42732, Stop: 42893, Start Num: 8

Candidate Starts for BaboJay\_61:

(1, 42537), (3, 42690), (Start: 8 @42732 has 126 MA's), (11, 42765), (13, 42792), (15, 42810), (16, 42828),

Gene: BadStone\_62 Start: 43401, Stop: 43562, Start Num: 8

Candidate Starts for BadStone\_62:

(1, 43206), (3, 43359), (Start: 8 @43401 has 126 MA's), (11, 43434), (13, 43461), (15, 43479), (16, 43497),

Gene: Bagrid\_114 Start: 64072, Stop: 64236, Start Num: 7

Candidate Starts for Bagrid\_114:

(2, 64003), (Start: 7 @64072 has 26 MA's), (11, 64108), (14, 64144), (17, 64195), (18, 64213),

Gene: Balomoji\_64 Start: 43664, Stop: 43825, Start Num: 8

Candidate Starts for Balomoji\_64:

(3, 43622), (Start: 8 @43664 has 126 MA's), (11, 43697), (13, 43724), (15, 43742), (16, 43760),

Gene: Barbarian\_64 Start: 42192, Stop: 42353, Start Num: 8

Candidate Starts for Barbarian\_64:

(1, 41997), (3, 42150), (Start: 8 @42192 has 126 MA's), (11, 42225), (13, 42252), (15, 42270), (16, 42288),

Gene: Bask21\_64 Start: 42505, Stop: 42666, Start Num: 8

Candidate Starts for Bask21\_64:

(1, 42310), (3, 42463), (Start: 8 @42505 has 126 MA's), (11, 42538), (13, 42565), (15, 42583), (16, 42601),

Gene: Becksu\_63 Start: 43734, Stop: 43895, Start Num: 8

Candidate Starts for Becksu\_63:

(Start: 8 @43734 has 126 MA's), (11, 43767), (13, 43794), (15, 43812), (16, 43830),

Gene: Beem\_115 Start: 65426, Stop: 65590, Start Num: 7

Candidate Starts for Beem\_115:

(Start: 7 @65426 has 26 MA's), (11, 65462), (14, 65498), (17, 65549), (18, 65567),

Gene: Bench\_67 Start: 43169, Stop: 43330, Start Num: 8

Candidate Starts for Bench\_67:

(Start: 8 @43169 has 126 MA's), (11, 43202), (13, 43229), (15, 43247), (16, 43265),

Gene: BigBubba\_65 Start: 43211, Stop: 43372, Start Num: 8

Candidate Starts for BigBubba\_65:

(1, 43016), (3, 43169), (Start: 8 @43211 has 126 MA's), (11, 43244), (13, 43271), (15, 43289), (16, 43307),

Gene: BilboSwaggins\_63 Start: 43840, Stop: 44001, Start Num: 8

Candidate Starts for BilboSwaggins\_63:

(1, 43645), (3, 43798), (Start: 8 @43840 has 126 MA's), (11, 43873), (13, 43900), (15, 43918), (16, 43936),

Gene: Bobby\_107 Start: 65795, Stop: 65959, Start Num: 5

Candidate Starts for Bobby\_107:

(Start: 5 @65795 has 14 MA's), (11, 65831), (14, 65867), (17, 65918), (18, 65936),

Gene: Bogg\_64 Start: 42484, Stop: 42645, Start Num: 8

Candidate Starts for Bogg\_64:

(1, 42289), (3, 42442), (Start: 8 @42484 has 126 MA's), (11, 42517), (13, 42544), (15, 42562), (16, 42580),

Gene: Bombitas\_102 Start: 61589, Stop: 61759, Start Num: 5

Candidate Starts for Bombitas\_102:

(Start: 5 @61589 has 14 MA's), (11, 61625), (14, 61661), (17, 61712),

Gene: Brewer\_60 Start: 42000, Stop: 42161, Start Num: 8

Candidate Starts for Brewer\_60:

(1, 41805), (3, 41958), (Start: 8 @42000 has 126 MA's), (11, 42033), (13, 42060), (15, 42078), (16, 42096),

Gene: BronnyJames\_107 Start: 60327, Stop: 60497, Start Num: 7

Candidate Starts for BronnyJames\_107:

(Start: 7 @60327 has 26 MA's), (11, 60363), (14, 60399), (17, 60450),

Gene: Buck\_65 Start: 43785, Stop: 43946, Start Num: 8

Candidate Starts for Buck\_65:

(Start: 8 @43785 has 126 MA's), (11, 43818), (13, 43845), (15, 43863), (16, 43881),

Gene: Budgie\_70 Start: 43718, Stop: 43885, Start Num: 8

Candidate Starts for Budgie\_70:

(Start: 8 @43718 has 126 MA's), (11, 43751), (15, 43796), (16, 43814),

Gene: BugsBunny\_64 Start: 43616, Stop: 43777, Start Num: 8

Candidate Starts for BugsBunny\_64:

(Start: 8 @43616 has 126 MA's), (11, 43649), (13, 43676), (15, 43694), (16, 43712),

Gene: ChosenOne\_65 Start: 42859, Stop: 43020, Start Num: 8  
Candidate Starts for ChosenOne\_65:  
(1, 42664), (3, 42817), (Start: 8 @42859 has 126 MA's), (11, 42892), (13, 42919), (15, 42937), (16, 42955),

Gene: ChotaBhai\_63 Start: 42876, Stop: 43037, Start Num: 8  
Candidate Starts for ChotaBhai\_63:  
(1, 42681), (3, 42834), (Start: 8 @42876 has 126 MA's), (11, 42909), (13, 42936), (15, 42954), (16, 42972),

Gene: Cjw1\_64 Start: 44259, Stop: 44420, Start Num: 8  
Candidate Starts for Cjw1\_64:  
(Start: 8 @44259 has 126 MA's), (11, 44292), (13, 44319), (15, 44337), (16, 44355),

Gene: Command613\_66 Start: 43598, Stop: 43759, Start Num: 8  
Candidate Starts for Command613\_66:  
(1, 43403), (3, 43556), (Start: 8 @43598 has 126 MA's), (11, 43631), (13, 43658), (15, 43676), (16, 43694),

Gene: Constella\_98 Start: 58711, Stop: 58875, Start Num: 7  
Candidate Starts for Constella\_98:  
(2, 58642), (Start: 7 @58711 has 26 MA's), (11, 58747), (14, 58783), (17, 58834), (18, 58852),

Gene: Cookies\_61 Start: 42727, Stop: 42888, Start Num: 8  
Candidate Starts for Cookies\_61:  
(1, 42532), (3, 42685), (Start: 8 @42727 has 126 MA's), (11, 42760), (13, 42787), (15, 42805), (16, 42823),

Gene: Courthouse\_104 Start: 59441, Stop: 59611, Start Num: 7  
Candidate Starts for Courthouse\_104:  
(Start: 7 @59441 has 26 MA's), (11, 59477), (14, 59513), (17, 59564),

Gene: CrystalP\_64 Start: 43840, Stop: 44001, Start Num: 8  
Candidate Starts for CrystalP\_64:  
(1, 43645), (3, 43798), (Start: 8 @43840 has 126 MA's), (11, 43873), (13, 43900), (15, 43918), (16, 43936),

Gene: Daikon\_66 Start: 43685, Stop: 43846, Start Num: 8  
Candidate Starts for Daikon\_66:  
(3, 43643), (Start: 8 @43685 has 126 MA's), (11, 43718), (13, 43745), (15, 43763), (16, 43781),

Gene: Dallas\_114 Start: 64941, Stop: 65105, Start Num: 7  
Candidate Starts for Dallas\_114:  
(2, 64872), (Start: 7 @64941 has 26 MA's), (11, 64977), (14, 65013), (17, 65064), (18, 65082),

Gene: DmpstrDiver\_114 Start: 64361, Stop: 64525, Start Num: 7  
Candidate Starts for DmpstrDiver\_114:  
(2, 64292), (Start: 7 @64361 has 26 MA's), (11, 64397), (14, 64433), (17, 64484), (18, 64502),

Gene: DoctorDiddles\_63 Start: 42917, Stop: 43078, Start Num: 8  
Candidate Starts for DoctorDiddles\_63:  
(1, 42722), (3, 42875), (Start: 8 @42917 has 126 MA's), (11, 42950), (13, 42977), (15, 42995), (16, 43013),

Gene: Dove\_99 Start: 59855, Stop: 60019, Start Num: 5

Candidate Starts for Dove\_99:

(Start: 5 @59855 has 14 MA's), (11, 59891), (14, 59927), (17, 59978), (18, 59996),

Gene: DrDrey\_64 Start: 43987, Stop: 44148, Start Num: 8

Candidate Starts for DrDrey\_64:

(Start: 8 @43987 has 126 MA's), (11, 44020), (13, 44047), (15, 44065), (16, 44083),

Gene: Duke13\_109 Start: 62032, Stop: 62196, Start Num: 5

Candidate Starts for Duke13\_109:

(Start: 5 @62032 has 14 MA's), (9, 62047), (11, 62068), (14, 62104), (17, 62155), (18, 62173),

Gene: Dumbo\_64 Start: 42764, Stop: 42925, Start Num: 8

Candidate Starts for Dumbo\_64:

(1, 42569), (3, 42722), (Start: 8 @42764 has 126 MA's), (11, 42797), (13, 42824), (15, 42842), (16, 42860),

Gene: Dusk\_62 Start: 43061, Stop: 43222, Start Num: 8

Candidate Starts for Dusk\_62:

(1, 42866), (3, 43019), (Start: 8 @43061 has 126 MA's), (11, 43094), (13, 43121), (15, 43139), (16, 43157),

Gene: Easy2Say\_66 Start: 44302, Stop: 44463, Start Num: 8

Candidate Starts for Easy2Say\_66:

(1, 44107), (3, 44260), (Start: 8 @44302 has 126 MA's), (11, 44335), (13, 44362), (15, 44380), (16, 44398),

Gene: Ejimix\_107 Start: 65120, Stop: 65284, Start Num: 7

Candidate Starts for Ejimix\_107:

(Start: 7 @65120 has 26 MA's), (11, 65156), (14, 65192), (17, 65243), (18, 65261),

Gene: Elite2014\_64 Start: 42858, Stop: 43019, Start Num: 8

Candidate Starts for Elite2014\_64:

(1, 42663), (3, 42816), (Start: 8 @42858 has 126 MA's), (11, 42891), (13, 42918), (15, 42936), (16, 42954),

Gene: Elph10\_64 Start: 42566, Stop: 42727, Start Num: 8

Candidate Starts for Elph10\_64:

(Start: 8 @42566 has 126 MA's), (11, 42599), (13, 42626), (15, 42644), (16, 42662),

Gene: Emmina\_65 Start: 42765, Stop: 42926, Start Num: 8

Candidate Starts for Emmina\_65:

(1, 42570), (3, 42723), (Start: 8 @42765 has 126 MA's), (11, 42798), (13, 42825), (15, 42843), (16, 42861),

Gene: EricMillard\_106 Start: 64001, Stop: 64165, Start Num: 7

Candidate Starts for EricMillard\_106:

(2, 63932), (Start: 7 @64001 has 26 MA's), (11, 64037), (14, 64073), (17, 64124), (18, 64142),

Gene: Eureka\_63 Start: 43329, Stop: 43490, Start Num: 8

Candidate Starts for Eureka\_63:

(1, 43134), (3, 43287), (Start: 8 @43329 has 126 MA's), (11, 43362), (13, 43389), (15, 43407), (16, 43425),

Gene: FairyPath\_65 Start: 43676, Stop: 43837, Start Num: 8

Candidate Starts for FairyPath\_65:

(3, 43634), (Start: 8 @43676 has 126 MA's), (11, 43709), (13, 43736), (15, 43754), (16, 43772),

Gene: Filch\_66 Start: 42790, Stop: 42951, Start Num: 8

Candidate Starts for Filch\_66:

(1, 42595), (3, 42748), (Start: 8 @42790 has 126 MA's), (11, 42823), (13, 42850), (15, 42868), (16, 42886),

Gene: FireRed\_68 Start: 44055, Stop: 44216, Start Num: 8

Candidate Starts for FireRed\_68:

(Start: 8 @44055 has 126 MA's), (11, 44088), (13, 44115), (15, 44133), (16, 44151),

Gene: Flypotenuse\_60 Start: 42548, Stop: 42709, Start Num: 8

Candidate Starts for Flypotenuse\_60:

(3, 42506), (Start: 8 @42548 has 126 MA's), (11, 42581), (13, 42608), (15, 42626), (16, 42644),

Gene: FoghornLeghorn\_58 Start: 41562, Stop: 41723, Start Num: 8

Candidate Starts for FoghornLeghorn\_58:

(Start: 8 @41562 has 126 MA's), (11, 41595), (13, 41622), (15, 41640), (16, 41658),

Gene: Gage\_66 Start: 43338, Stop: 43499, Start Num: 8

Candidate Starts for Gage\_66:

(1, 43143), (3, 43296), (Start: 8 @43338 has 126 MA's), (11, 43371), (13, 43398), (15, 43416), (16, 43434),

Gene: Gaia\_80 Start: 49249, Stop: 49404, Start Num: 8

Candidate Starts for Gaia\_80:

(Start: 7 @49246 has 26 MA's), (Start: 8 @49249 has 126 MA's),

Gene: Gator\_63 Start: 43692, Stop: 43853, Start Num: 8

Candidate Starts for Gator\_63:

(1, 43497), (3, 43650), (Start: 8 @43692 has 126 MA's), (11, 43725), (13, 43752), (15, 43770), (16, 43788),

Gene: Gemini\_69 Start: 43855, Stop: 44016, Start Num: 8

Candidate Starts for Gemini\_69:

(1, 43660), (3, 43813), (Start: 8 @43855 has 126 MA's), (11, 43888), (13, 43915), (15, 43933), (16, 43951),

Gene: Glexan\_63 Start: 43675, Stop: 43836, Start Num: 8

Candidate Starts for Glexan\_63:

(3, 43633), (Start: 8 @43675 has 126 MA's), (11, 43708), (13, 43735), (15, 43753), (16, 43771),

Gene: Goku\_63 Start: 43058, Stop: 43219, Start Num: 8

Candidate Starts for Goku\_63:

(1, 42863), (3, 43016), (Start: 8 @43058 has 126 MA's), (11, 43091), (13, 43118), (15, 43136), (16, 43154),

Gene: GoldenSpark\_68 Start: 43338, Stop: 43499, Start Num: 8

Candidate Starts for GoldenSpark\_68:

(1, 43143), (3, 43296), (Start: 8 @43338 has 126 MA's), (11, 43371), (13, 43398), (15, 43416), (16, 43434),

Gene: Goldilocks\_67 Start: 42840, Stop: 43001, Start Num: 8

Candidate Starts for Goldilocks\_67:

(1, 42645), (3, 42798), (Start: 8 @42840 has 126 MA's), (11, 42873), (13, 42900), (15, 42918), (16, 42936),

Gene: Gonephishing\_103 Start: 58866, Stop: 59036, Start Num: 7

Candidate Starts for Gonephishing\_103:

(2, 58797), (Start: 7 @58866 has 26 MA's), (14, 58938), (17, 58989),

Gene: GooberAzure\_67 Start: 43338, Stop: 43499, Start Num: 8

Candidate Starts for GooberAzure\_67:

(1, 43143), (3, 43296), (Start: 8 @43338 has 126 MA's), (11, 43371), (13, 43398), (15, 43416), (16, 43434),

Gene: Halley\_115 Start: 65436, Stop: 65600, Start Num: 7

Candidate Starts for Halley\_115:

(Start: 7 @65436 has 26 MA's), (11, 65472), (14, 65508), (17, 65559), (18, 65577),

Gene: HanKaySha\_64 Start: 42648, Stop: 42809, Start Num: 8

Candidate Starts for HanKaySha\_64:

(1, 42453), (3, 42606), (Start: 8 @42648 has 126 MA's), (11, 42681), (13, 42708), (15, 42726), (16, 42744),

Gene: Hannaconda\_100 Start: 57812, Stop: 57982, Start Num: 7

Candidate Starts for Hannaconda\_100:

(2, 57743), (Start: 7 @57812 has 26 MA's), (11, 57848), (14, 57884), (17, 57935),

Gene: Harella\_64 Start: 44191, Stop: 44352, Start Num: 8

Candidate Starts for Harella\_64:

(3, 44149), (Start: 8 @44191 has 126 MA's), (11, 44224), (13, 44251), (15, 44269), (16, 44287),

Gene: Henry\_63 Start: 43280, Stop: 43441, Start Num: 8

Candidate Starts for Henry\_63:

(1, 43085), (3, 43238), (Start: 8 @43280 has 126 MA's), (11, 43313), (13, 43340), (15, 43358), (16, 43376),

Gene: Hidrated\_98 Start: 61865, Stop: 62029, Start Num: 5

Candidate Starts for Hidrated\_98:

(Start: 5 @61865 has 14 MA's), (11, 61901), (14, 61937), (17, 61988), (18, 62006),

Gene: Highbury\_64 Start: 42931, Stop: 43092, Start Num: 8

Candidate Starts for Highbury\_64:

(1, 42736), (3, 42889), (Start: 8 @42931 has 126 MA's), (11, 42964), (13, 42991), (15, 43009), (16, 43027),

Gene: HokkenD\_103 Start: 62695, Stop: 62859, Start Num: 5

Candidate Starts for HokkenD\_103:

(Start: 5 @62695 has 14 MA's), (9, 62710), (11, 62731), (14, 62767), (17, 62818), (18, 62836),

Gene: Holt\_69 Start: 43752, Stop: 43913, Start Num: 8  
Candidate Starts for Holt\_69:  
(1, 43557), (3, 43710), (Start: 8 @43752 has 126 MA's), (11, 43785), (13, 43812), (15, 43830), (16, 43848),

Gene: Hoonter\_67 Start: 43338, Stop: 43499, Start Num: 8  
Candidate Starts for Hoonter\_67:  
(1, 43143), (3, 43296), (Start: 8 @43338 has 126 MA's), (11, 43371), (13, 43398), (15, 43416), (16, 43434),

Gene: Hopey\_64 Start: 43181, Stop: 43342, Start Num: 8  
Candidate Starts for Hopey\_64:  
(Start: 8 @43181 has 126 MA's), (11, 43214), (13, 43241), (15, 43259), (16, 43277),

Gene: HufflyPuff\_67 Start: 44011, Stop: 44172, Start Num: 8  
Candidate Starts for HufflyPuff\_67:  
(Start: 8 @44011 has 126 MA's), (11, 44044), (13, 44071), (15, 44089), (16, 44107),

Gene: Hughesyang\_112 Start: 64892, Stop: 65056, Start Num: 7  
Candidate Starts for Hughesyang\_112:  
(2, 64823), (Start: 7 @64892 has 26 MA's), (11, 64928), (14, 64964), (17, 65015), (18, 65033),

Gene: IHOP\_63 Start: 43404, Stop: 43565, Start Num: 8  
Candidate Starts for IHOP\_63:  
(1, 43209), (3, 43362), (Start: 8 @43404 has 126 MA's), (11, 43437), (12, 43446), (13, 43464), (15, 43482), (16, 43500),

Gene: Icee\_65 Start: 43005, Stop: 43166, Start Num: 8  
Candidate Starts for Icee\_65:  
(Start: 8 @43005 has 126 MA's), (11, 43038), (13, 43065), (15, 43083), (16, 43101),

Gene: Inca\_62 Start: 41929, Stop: 42090, Start Num: 8  
Candidate Starts for Inca\_62:  
(1, 41734), (3, 41887), (Start: 8 @41929 has 126 MA's), (11, 41962), (13, 41989), (15, 42007), (16, 42025),

Gene: JeTaime\_64 Start: 43832, Stop: 43993, Start Num: 8  
Candidate Starts for JeTaime\_64:  
(1, 43637), (3, 43790), (Start: 8 @43832 has 126 MA's), (11, 43865), (13, 43892), (15, 43910), (16, 43928),

Gene: JuicyJay\_110 Start: 66561, Stop: 66725, Start Num: 7  
Candidate Starts for JuicyJay\_110:  
(Start: 7 @66561 has 26 MA's), (11, 66597), (14, 66633), (17, 66684), (18, 66702),

Gene: Kalah2\_106 Start: 64227, Stop: 64391, Start Num: 7  
Candidate Starts for Kalah2\_106:  
(2, 64158), (Start: 7 @64227 has 26 MA's), (11, 64263), (14, 64299), (17, 64350), (18, 64368),

Gene: Kanye\_61 Start: 42687, Stop: 42848, Start Num: 8  
Candidate Starts for Kanye\_61:  
(3, 42645), (Start: 8 @42687 has 126 MA's), (11, 42720), (13, 42747), (15, 42765), (16, 42783),

Gene: KashFlow\_106 Start: 60317, Stop: 60487, Start Num: 7  
Candidate Starts for KashFlow\_106:  
(Start: 7 @60317 has 26 MA's), (11, 60353), (14, 60389), (17, 60440),

Gene: Kimchi\_68 Start: 43341, Stop: 43502, Start Num: 8  
Candidate Starts for Kimchi\_68:  
(1, 43146), (3, 43299), (Start: 8 @43341 has 126 MA's), (11, 43374), (13, 43401), (15, 43419), (16, 43437),

Gene: Klein\_113 Start: 63093, Stop: 63257, Start Num: 5  
Candidate Starts for Klein\_113:  
(Start: 5 @63093 has 14 MA's), (9, 63108), (11, 63129), (14, 63165), (17, 63216), (18, 63234),

Gene: Kostya\_65 Start: 43503, Stop: 43664, Start Num: 8  
Candidate Starts for Kostya\_65:  
(1, 43308), (3, 43461), (Start: 8 @43503 has 126 MA's), (11, 43536), (13, 43563), (15, 43581), (16, 43599),

Gene: Lilac\_66 Start: 42966, Stop: 43127, Start Num: 8  
Candidate Starts for Lilac\_66:  
(Start: 8 @42966 has 126 MA's), (11, 42999), (13, 43026), (15, 43044), (16, 43062),

Gene: Lilizi\_65 Start: 42640, Stop: 42801, Start Num: 8  
Candidate Starts for Lilizi\_65:  
(Start: 8 @42640 has 126 MA's), (11, 42673), (13, 42700), (15, 42718), (16, 42736),

Gene: Lilpickle\_64 Start: 42858, Stop: 43019, Start Num: 8  
Candidate Starts for Lilpickle\_64:  
(1, 42663), (3, 42816), (Start: 8 @42858 has 126 MA's), (11, 42891), (13, 42918), (15, 42936), (16, 42954),

Gene: LittleE\_113 Start: 63433, Stop: 63603, Start Num: 7  
Candidate Starts for LittleE\_113:  
(2, 63364), (Start: 7 @63433 has 26 MA's), (14, 63505), (17, 63556),

Gene: Liveloughbron\_66 Start: 44142, Stop: 44303, Start Num: 8  
Candidate Starts for Liveloughbron\_66:  
(Start: 8 @44142 has 126 MA's), (11, 44175), (13, 44202), (15, 44220), (16, 44238),

Gene: Lucky2013\_106 Start: 59882, Stop: 60052, Start Num: 7  
Candidate Starts for Lucky2013\_106:  
(Start: 7 @59882 has 26 MA's), (11, 59918), (14, 59954), (17, 60005),

Gene: MISSy\_65 Start: 43064, Stop: 43225, Start Num: 8  
Candidate Starts for MISSy\_65:  
(Start: 8 @43064 has 126 MA's), (11, 43097), (13, 43124), (15, 43142), (16, 43160),

Gene: MPhalcon\_65 Start: 43057, Stop: 43218, Start Num: 8  
Candidate Starts for MPhalcon\_65:  
(Start: 8 @43057 has 126 MA's), (11, 43090), (13, 43117), (15, 43135), (16, 43153),

Gene: MadamMonkfish\_65 Start: 42582, Stop: 42743, Start Num: 8  
Candidate Starts for MadamMonkfish\_65:

(1, 42387), (3, 42540), (Start: 8 @42582 has 126 MA's), (11, 42615), (13, 42642), (15, 42660), (16, 42678),

Gene: Manda\_65 Start: 43863, Stop: 44024, Start Num: 8

Candidate Starts for Manda\_65:

(1, 43668), (3, 43821), (Start: 8 @43863 has 126 MA's), (11, 43896), (13, 43923), (15, 43941), (16, 43959),

Gene: Marleymoo\_97 Start: 61553, Stop: 61717, Start Num: 5

Candidate Starts for Marleymoo\_97:

(Start: 5 @61553 has 14 MA's), (11, 61589), (14, 61625), (17, 61676), (18, 61694),

Gene: Marshmallow\_62 Start: 43833, Stop: 43994, Start Num: 8

Candidate Starts for Marshmallow\_62:

(3, 43791), (Start: 8 @43833 has 126 MA's), (11, 43866), (13, 43893), (15, 43911), (16, 43929),

Gene: Maxxinista\_66 Start: 42936, Stop: 43097, Start Num: 8

Candidate Starts for Maxxinista\_66:

(Start: 8 @42936 has 126 MA's), (11, 42969), (13, 42996), (15, 43014), (16, 43032),

Gene: MiaZeal\_109 Start: 60513, Stop: 60683, Start Num: 7

Candidate Starts for MiaZeal\_109:

(Start: 7 @60513 has 26 MA's), (11, 60549), (14, 60585), (17, 60636),

Gene: Mindy\_64 Start: 42446, Stop: 42607, Start Num: 8

Candidate Starts for Mindy\_64:

(1, 42251), (3, 42404), (Start: 8 @42446 has 126 MA's), (11, 42479), (13, 42506), (15, 42524), (16, 42542),

Gene: Minerva\_113 Start: 64372, Stop: 64536, Start Num: 5

Candidate Starts for Minerva\_113:

(Start: 5 @64372 has 14 MA's), (9, 64387), (11, 64408), (14, 64444), (17, 64495), (18, 64513),

Gene: Miniwave\_60 Start: 42899, Stop: 43060, Start Num: 8

Candidate Starts for Miniwave\_60:

(1, 42704), (3, 42857), (Start: 8 @42899 has 126 MA's), (11, 42932), (13, 42959), (15, 42977), (16, 42995),

Gene: Misfit\_65 Start: 44076, Stop: 44237, Start Num: 8

Candidate Starts for Misfit\_65:

(Start: 8 @44076 has 126 MA's), (11, 44109), (13, 44136), (15, 44154), (16, 44172),

Gene: Moldemort\_68 Start: 43455, Stop: 43616, Start Num: 8

Candidate Starts for Moldemort\_68:

(1, 43260), (3, 43413), (Start: 8 @43455 has 126 MA's), (11, 43488), (13, 43515), (15, 43533), (16, 43551),

Gene: Mosby\_60 Start: 42359, Stop: 42520, Start Num: 8

Candidate Starts for Mosby\_60:

(Start: 8 @42359 has 126 MA's), (11, 42392), (13, 42419), (15, 42437), (16, 42455),

Gene: Murica\_67 Start: 44011, Stop: 44172, Start Num: 8

Candidate Starts for Murica\_67:

(Start: 8 @44011 has 126 MA's), (11, 44044), (13, 44071), (15, 44089), (16, 44107),

Gene: Myrale\_64 Start: 43698, Stop: 43859, Start Num: 8

Candidate Starts for Myrale\_64:

(3, 43656), (Start: 8 @43698 has 126 MA's), (11, 43731), (13, 43758), (15, 43776), (16, 43794),

Gene: Nala\_66 Start: 43569, Stop: 43730, Start Num: 8

Candidate Starts for Nala\_66:

(Start: 8 @43569 has 126 MA's), (11, 43602), (13, 43629), (15, 43647), (16, 43665),

Gene: Nebkiss\_79 Start: 47861, Stop: 48016, Start Num: 8

Candidate Starts for Nebkiss\_79:

(Start: 7 @47858 has 26 MA's), (Start: 8 @47861 has 126 MA's),

Gene: Nekros\_112 Start: 63438, Stop: 63608, Start Num: 7

Candidate Starts for Nekros\_112:

(Start: 7 @63438 has 26 MA's), (11, 63474), (14, 63510), (17, 63561),

Gene: NelitzaMV\_62 Start: 42647, Stop: 42808, Start Num: 8

Candidate Starts for NelitzaMV\_62:

(3, 42605), (Start: 8 @42647 has 126 MA's), (11, 42680), (13, 42707), (15, 42725), (16, 42743),

Gene: Nibley\_102 Start: 59904, Stop: 60074, Start Num: 7

Candidate Starts for Nibley\_102:

(Start: 7 @59904 has 26 MA's), (11, 59940), (14, 59976), (17, 60027),

Gene: NihilNomen\_115 Start: 64513, Stop: 64677, Start Num: 5

Candidate Starts for NihilNomen\_115:

(Start: 5 @64513 has 14 MA's), (11, 64549), (14, 64585), (17, 64636), (18, 64654),

Gene: Nimrod\_65 Start: 44269, Stop: 44430, Start Num: 8

Candidate Starts for Nimrod\_65:

(Start: 8 @44269 has 126 MA's), (11, 44302), (13, 44329), (15, 44347), (16, 44365),

Gene: NoSleep\_66 Start: 43203, Stop: 43364, Start Num: 8

Candidate Starts for NoSleep\_66:

(1, 43008), (3, 43161), (Start: 8 @43203 has 126 MA's), (11, 43236), (13, 43263), (15, 43281), (16, 43299),

Gene: NonchalantPear\_65 Start: 43053, Stop: 43214, Start Num: 8

Candidate Starts for NonchalantPear\_65:

(1, 42858), (3, 43011), (Start: 8 @43053 has 126 MA's), (11, 43086), (13, 43113), (15, 43131), (16, 43149),

Gene: Odette\_115 Start: 64421, Stop: 64585, Start Num: 7

Candidate Starts for Odette\_115:

(2, 64352), (Start: 7 @64421 has 26 MA's), (11, 64457), (14, 64493), (17, 64544), (18, 64562),

Gene: Omega\_118 Start: 64448, Stop: 64618, Start Num: 7

Candidate Starts for Omega\_118:

(2, 64379), (Start: 7 @64448 has 26 MA's), (14, 64520), (17, 64571),

Gene: Optimus\_107 Start: 63044, Stop: 63208, Start Num: 5

Candidate Starts for Optimus\_107:

(Start: 5 @63044 has 14 MA's), (9, 63059), (11, 63080), (14, 63116), (17, 63167), (18, 63185),

Gene: OrionPax\_63 Start: 42654, Stop: 42815, Start Num: 8

Candidate Starts for OrionPax\_63:

(1, 42459), (3, 42612), (Start: 8 @42654 has 126 MA's), (11, 42687), (13, 42714), (15, 42732), (16, 42750),

Gene: Palpatine\_66 Start: 44041, Stop: 44202, Start Num: 8

Candidate Starts for Palpatine\_66:

(Start: 8 @44041 has 126 MA's), (11, 44074), (13, 44101), (15, 44119), (16, 44137),

Gene: Paperbeatsrock\_64 Start: 43577, Stop: 43738, Start Num: 8

Candidate Starts for Paperbeatsrock\_64:

(1, 43382), (3, 43535), (Start: 8 @43577 has 126 MA's), (11, 43610), (13, 43637), (15, 43655), (16, 43673),

Gene: Pat3\_62 Start: 41802, Stop: 41963, Start Num: 8

Candidate Starts for Pat3\_62:

(Start: 8 @41802 has 126 MA's), (11, 41835), (13, 41862), (15, 41880), (16, 41898),

Gene: Petra64142\_68 Start: 44505, Stop: 44666, Start Num: 8

Candidate Starts for Petra64142\_68:

(Start: 8 @44505 has 126 MA's), (11, 44538), (13, 44565), (15, 44583), (16, 44601),

Gene: Phaja\_63 Start: 43403, Stop: 43564, Start Num: 8

Candidate Starts for Phaja\_63:

(1, 43208), (3, 43361), (Start: 8 @43403 has 126 MA's), (11, 43436), (12, 43445), (13, 43463), (15, 43481), (16, 43499),

Gene: Pharsalus\_62 Start: 43377, Stop: 43538, Start Num: 8

Candidate Starts for Pharsalus\_62:

(1, 43182), (3, 43335), (Start: 8 @43377 has 126 MA's), (11, 43410), (13, 43437), (15, 43455), (16, 43473),

Gene: PhatBacter\_68 Start: 44055, Stop: 44216, Start Num: 8

Candidate Starts for PhatBacter\_68:

(Start: 8 @44055 has 126 MA's), (11, 44088), (13, 44115), (15, 44133), (16, 44151),

Gene: Phaux\_66 Start: 44053, Stop: 44214, Start Num: 8

Candidate Starts for Phaux\_66:

(Start: 8 @44053 has 126 MA's), (11, 44086), (13, 44113), (15, 44131), (16, 44149),

Gene: Phoebus\_114 Start: 66203, Stop: 66367, Start Num: 7

Candidate Starts for Phoebus\_114:

(2, 66134), (Start: 7 @66203 has 26 MA's), (11, 66239), (14, 66275), (17, 66326), (18, 66344),

Gene: Phrux\_61 Start: 42646, Stop: 42807, Start Num: 8

Candidate Starts for Phrux\_61:

(Start: 8 @42646 has 126 MA's), (11, 42679), (13, 42706), (15, 42724), (16, 42742),

Gene: Policronamos\_67 Start: 44053, Stop: 44214, Start Num: 8

Candidate Starts for Policronamos\_67:

(Start: 8 @44053 has 126 MA's), (11, 44086), (13, 44113), (15, 44131), (16, 44149),

Gene: Porcelain\_109 Start: 60829, Stop: 60999, Start Num: 7

Candidate Starts for Porcelain\_109:

(2, 60760), (Start: 7 @60829 has 26 MA's), (11, 60865), (14, 60901), (17, 60952),

Gene: Porky\_64 Start: 42773, Stop: 42934, Start Num: 8

Candidate Starts for Porky\_64:

(1, 42578), (3, 42731), (Start: 8 @42773 has 126 MA's), (11, 42806), (13, 42833), (15, 42851), (16, 42869),

Gene: Pound\_105 Start: 63390, Stop: 63554, Start Num: 5

Candidate Starts for Pound\_105:

(Start: 5 @63390 has 14 MA's), (9, 63405), (11, 63426), (14, 63462), (17, 63513), (18, 63531),

Gene: Ptowny\_62 Start: 42239, Stop: 42400, Start Num: 8

Candidate Starts for Ptowny\_62:

(1, 42044), (3, 42197), (Start: 8 @42239 has 126 MA's), (11, 42272), (13, 42299), (15, 42317), (16, 42335),

Gene: Pumpkin\_67 Start: 43704, Stop: 43865, Start Num: 8

Candidate Starts for Pumpkin\_67:

(1, 43509), (3, 43662), (Start: 8 @43704 has 126 MA's), (11, 43737), (13, 43764), (15, 43782), (16, 43800),

Gene: Quallification\_65 Start: 43687, Stop: 43848, Start Num: 8

Candidate Starts for Quallification\_65:

(3, 43645), (Start: 8 @43687 has 126 MA's), (11, 43720), (13, 43747), (15, 43765), (16, 43783),

Gene: Rakim\_66 Start: 43454, Stop: 43615, Start Num: 8

Candidate Starts for Rakim\_66:

(1, 43259), (3, 43412), (Start: 8 @43454 has 126 MA's), (11, 43487), (13, 43514), (15, 43532), (16, 43550),

Gene: Rearden\_103 Start: 60562, Stop: 60732, Start Num: 7

Candidate Starts for Rearden\_103:

(2, 60493), (Start: 7 @60562 has 26 MA's), (11, 60598), (14, 60634), (17, 60685),

Gene: Redno2\_105 Start: 61217, Stop: 61381, Start Num: 7

Candidate Starts for Redno2\_105:

(Start: 7 @61217 has 26 MA's), (11, 61253), (14, 61289), (17, 61340), (18, 61358),

Gene: Saints25\_64 Start: 42931, Stop: 43092, Start Num: 8

Candidate Starts for Saints25\_64:

(1, 42736), (3, 42889), (Start: 8 @42931 has 126 MA's), (11, 42964), (13, 42991), (15, 43009), (16, 43027),

Gene: Sassay\_59 Start: 41320, Stop: 41481, Start Num: 8

Candidate Starts for Sassay\_59:

(1, 41125), (3, 41278), (Start: 8 @41320 has 126 MA's), (11, 41353), (13, 41380), (15, 41398), (16, 41416),

Gene: Schatzie\_108 Start: 63303, Stop: 63467, Start Num: 5

Candidate Starts for Schatzie\_108:

(Start: 5 @63303 has 14 MA's), (9, 63318), (11, 63339), (14, 63375), (17, 63426), (18, 63444),

Gene: Shaboozey\_107 Start: 60348, Stop: 60518, Start Num: 7

Candidate Starts for Shaboozey\_107:

(Start: 7 @60348 has 26 MA's), (11, 60384), (14, 60420), (17, 60471),

Gene: ShamWow\_65 Start: 43840, Stop: 44001, Start Num: 8

Candidate Starts for ShamWow\_65:

(1, 43645), (3, 43798), (Start: 8 @43840 has 126 MA's), (11, 43873), (13, 43900), (15, 43918), (16, 43936),

Gene: ShereKhan\_63 Start: 43611, Stop: 43772, Start Num: 8

Candidate Starts for ShereKhan\_63:

(3, 43569), (Start: 8 @43611 has 126 MA's), (11, 43644), (13, 43671), (15, 43689), (16, 43707),

Gene: Simpliphy\_64 Start: 42921, Stop: 43082, Start Num: 8

Candidate Starts for Simpliphy\_64:

(1, 42726), (3, 42879), (Start: 8 @42921 has 126 MA's), (11, 42954), (13, 42981), (15, 42999), (16, 43017),

Gene: SirDuracell\_63 Start: 41894, Stop: 42055, Start Num: 8

Candidate Starts for SirDuracell\_63:

(1, 41699), (3, 41852), (Start: 8 @41894 has 126 MA's), (11, 41927), (13, 41954), (15, 41972), (16, 41990),

Gene: SophKB\_62 Start: 42596, Stop: 42757, Start Num: 8

Candidate Starts for SophKB\_62:

(1, 42401), (3, 42554), (Start: 8 @42596 has 126 MA's), (11, 42629), (13, 42656), (15, 42674), (16, 42692),

Gene: Sotrice96\_65 Start: 43301, Stop: 43462, Start Num: 8

Candidate Starts for Sotrice96\_65:

(Start: 8 @43301 has 126 MA's), (11, 43334), (13, 43361), (15, 43379), (16, 43397),

Gene: Squint\_107 Start: 60632, Stop: 60802, Start Num: 7

Candidate Starts for Squint\_107:

(Start: 7 @60632 has 26 MA's), (11, 60668), (14, 60704), (17, 60755),

Gene: Stank\_68 Start: 43854, Stop: 44015, Start Num: 8

Candidate Starts for Stank\_68:

(1, 43659), (3, 43812), (Start: 8 @43854 has 126 MA's), (11, 43887), (13, 43914), (15, 43932), (16, 43950),

Gene: Stark\_65 Start: 43109, Stop: 43270, Start Num: 8

Candidate Starts for Stark\_65:

(1, 42914), (3, 43067), (Start: 8 @43109 has 126 MA's), (11, 43142), (13, 43169), (15, 43187), (16, 43205),

Gene: StellaBean\_63 Start: 43164, Stop: 43325, Start Num: 8

Candidate Starts for StellaBean\_63:

(1, 42969), (3, 43122), (Start: 8 @43164 has 126 MA's), (11, 43197), (13, 43224), (15, 43242), (16, 43260),

Gene: Stellammi\_81 Start: 43497, Stop: 43709, Start Num: 8  
Candidate Starts for Stellammi\_81:  
(Start: 8 @43497 has 126 MA's), (16, 43593), (17, 43617), (19, 43650),

Gene: StolenFromERC\_67 Start: 43338, Stop: 43499, Start Num: 8  
Candidate Starts for StolenFromERC\_67:  
(1, 43143), (3, 43296), (Start: 8 @43338 has 126 MA's), (11, 43371), (13, 43398), (15, 43416), (16, 43434),

Gene: Superphikiman\_106 Start: 59723, Stop: 59893, Start Num: 7  
Candidate Starts for Superphikiman\_106:  
(Start: 7 @59723 has 26 MA's), (11, 59759), (14, 59795), (17, 59846),

Gene: TBrady12\_68 Start: 43338, Stop: 43499, Start Num: 8  
Candidate Starts for TBrady12\_68:  
(1, 43143), (3, 43296), (Start: 8 @43338 has 126 MA's), (11, 43371), (13, 43398), (15, 43416), (16, 43434),

Gene: Tarkin\_64 Start: 43586, Stop: 43747, Start Num: 8  
Candidate Starts for Tarkin\_64:  
(1, 43391), (3, 43544), (Start: 8 @43586 has 126 MA's), (11, 43619), (13, 43646), (15, 43664), (16, 43682),

Gene: TeardropMSU\_61 Start: 42586, Stop: 42747, Start Num: 8  
Candidate Starts for TeardropMSU\_61:  
(1, 42391), (3, 42544), (Start: 8 @42586 has 126 MA's), (11, 42619), (13, 42646), (15, 42664), (16, 42682),

Gene: Teaspoon\_66 Start: 43480, Stop: 43641, Start Num: 8  
Candidate Starts for Teaspoon\_66:  
(1, 43285), (3, 43438), (Start: 8 @43480 has 126 MA's), (11, 43513), (13, 43540), (15, 43558), (16, 43576),

Gene: Thibault\_96 Start: 58987, Stop: 59151, Start Num: 7  
Candidate Starts for Thibault\_96:  
(2, 58918), (Start: 7 @58987 has 26 MA's), (11, 59023), (14, 59059), (17, 59110), (18, 59128),

Gene: Thimble\_65 Start: 42520, Stop: 42681, Start Num: 8  
Candidate Starts for Thimble\_65:  
(1, 42325), (3, 42478), (Start: 8 @42520 has 126 MA's), (11, 42553), (13, 42580), (15, 42598), (16, 42616),

Gene: ThreeRngTarjay\_110 Start: 65459, Stop: 65623, Start Num: 7  
Candidate Starts for ThreeRngTarjay\_110:  
(2, 65390), (Start: 7 @65459 has 26 MA's), (14, 65531), (17, 65582), (18, 65600),

Gene: Thresher\_67 Start: 44463, Stop: 44624, Start Num: 8  
Candidate Starts for Thresher\_67:  
(1, 44268), (3, 44421), (Start: 8 @44463 has 126 MA's), (11, 44496), (13, 44523), (15, 44541), (16, 44559),

Gene: Tomaszewski\_59 Start: 42454, Stop: 42615, Start Num: 8

Candidate Starts for Tomaszewski\_59:

(3, 42412), (Start: 8 @42454 has 126 MA's), (11, 42487), (13, 42514), (15, 42532), (16, 42550),

Gene: Toto\_63 Start: 43840, Stop: 44001, Start Num: 8

Candidate Starts for Toto\_63:

(1, 43645), (3, 43798), (Start: 8 @43840 has 126 MA's), (11, 43873), (13, 43900), (15, 43918), (16, 43936),

Gene: Traaww1\_61 Start: 43021, Stop: 43182, Start Num: 8

Candidate Starts for Traaww1\_61:

(1, 42826), (3, 42979), (Start: 8 @43021 has 126 MA's), (11, 43054), (13, 43081), (15, 43099), (16, 43117),

Gene: Tuco\_66 Start: 44348, Stop: 44509, Start Num: 8

Candidate Starts for Tuco\_66:

(1, 44153), (3, 44306), (Start: 8 @44348 has 126 MA's), (11, 44381), (13, 44408), (15, 44426), (16, 44444),

Gene: Tweety\_42 Start: 32046, Stop: 31879, Start Num: 8

Candidate Starts for Tweety\_42:

(4, 32082), (6, 32052), (Start: 7 @32049 has 26 MA's), (Start: 8 @32046 has 126 MA's), (10, 32028), (14, 31977), (17, 31926),

Gene: Ukulele\_60 Start: 42734, Stop: 42895, Start Num: 8

Candidate Starts for Ukulele\_60:

(1, 42539), (3, 42692), (Start: 8 @42734 has 126 MA's), (11, 42767), (13, 42794), (15, 42812), (16, 42830),

Gene: Wanda\_116 Start: 63370, Stop: 63534, Start Num: 5

Candidate Starts for Wanda\_116:

(Start: 5 @63370 has 14 MA's), (9, 63385), (11, 63406), (14, 63442), (17, 63493), (18, 63511),

Gene: Wiggin\_67 Start: 43422, Stop: 43583, Start Num: 8

Candidate Starts for Wiggin\_67:

(1, 43227), (3, 43380), (Start: 8 @43422 has 126 MA's), (11, 43455), (13, 43482), (15, 43500), (16, 43518),

Gene: Willez\_59 Start: 41320, Stop: 41481, Start Num: 8

Candidate Starts for Willez\_59:

(1, 41125), (3, 41278), (Start: 8 @41320 has 126 MA's), (11, 41353), (13, 41380), (15, 41398), (16, 41416),

Gene: Xandras\_64 Start: 42833, Stop: 42994, Start Num: 8

Candidate Starts for Xandras\_64:

(1, 42638), (3, 42791), (Start: 8 @42833 has 126 MA's), (11, 42866), (13, 42893), (15, 42911), (16, 42929),

Gene: Xiaokay\_104 Start: 61897, Stop: 62061, Start Num: 7

Candidate Starts for Xiaokay\_104:

(2, 61828), (Start: 7 @61897 has 26 MA's), (11, 61933), (14, 61969), (17, 62020), (18, 62038),

Gene: YassJohnny\_61 Start: 42494, Stop: 42655, Start Num: 8

Candidate Starts for YassJohnny\_61:

(3, 42452), (Start: 8 @42494 has 126 MA's), (11, 42527), (13, 42554), (15, 42572), (16, 42590),

Gene: Yeet\_105 Start: 62468, Stop: 62638, Start Num: 5

Candidate Starts for Yeet\_105:

(Start: 5 @62468 has 14 MA's), (11, 62504), (14, 62540), (17, 62591),

Gene: Zelink\_109 Start: 65406, Stop: 65570, Start Num: 7

Candidate Starts for Zelink\_109:

(2, 65337), (Start: 7 @65406 has 26 MA's), (11, 65442), (14, 65478), (17, 65529), (18, 65547),