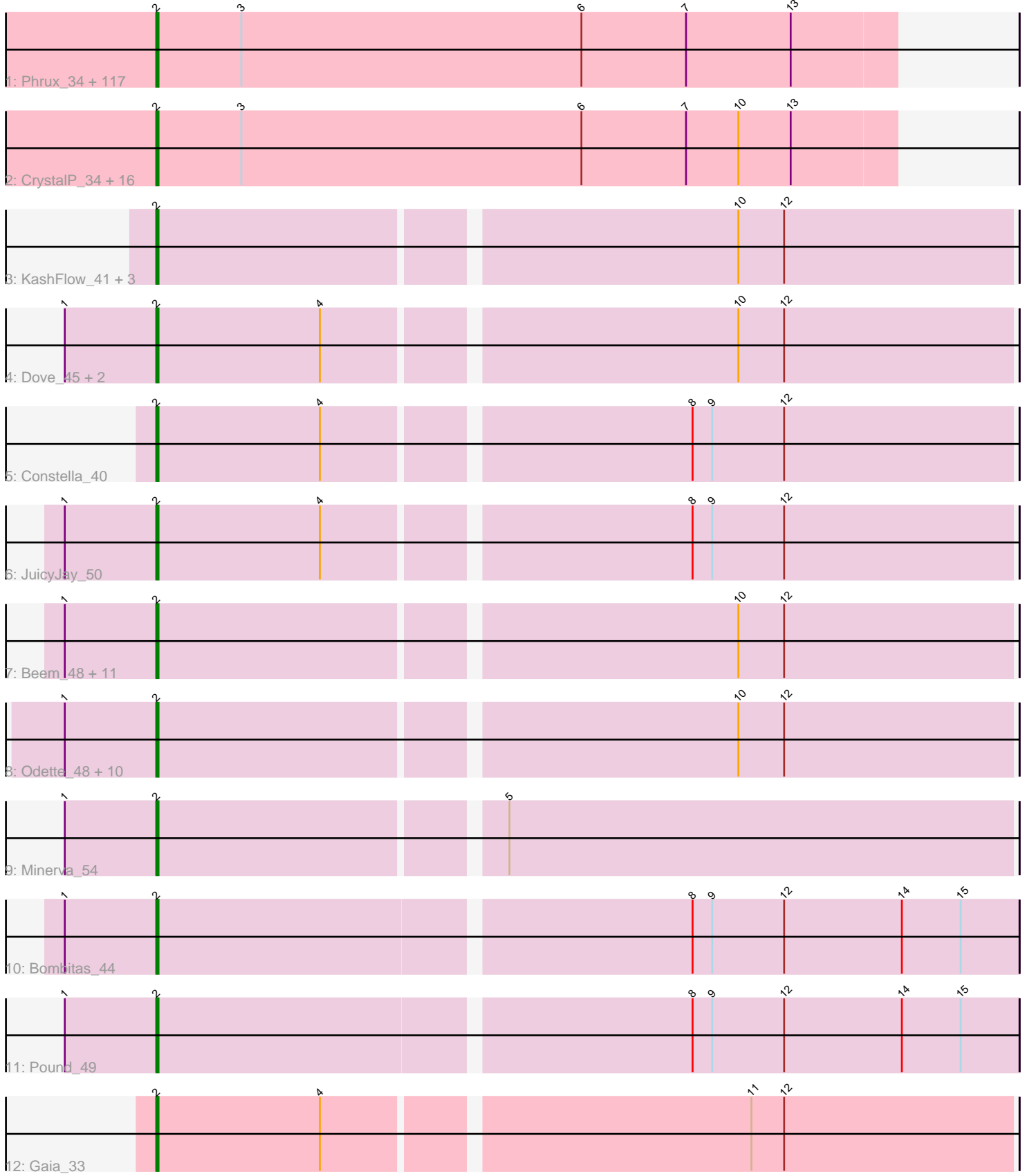


Pham 217661



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 217661 Report

This analysis was run 03/28/25 on database version 593.

Pham number 217661 has 171 members, 14 are drafts.

Phages represented in each track:

- Track 1 : Phrux\_34, 244\_36, Stark\_35, Gemini\_37, PhatBacter\_34, Elite2014\_33, BugsBunny\_32, FairyPath\_34, Pumpkin\_36, Harella\_33, Misfit\_34, Maxxinista\_35, Elph10\_35, Icee\_33, Tarkin\_36, Emmina\_35, Moldemort\_35, BaboJay\_33, Simpliphy\_35, Gage\_36, BadStone\_33, Balomoji\_33, Flypotenuse\_32, HufflyPuff\_33, Kimchi\_36, Asriel\_33, HanKaySha\_35, ShereKhan\_36, Lilpickle\_33, DoctorDiddles\_34, Henry\_35, Phaja\_34, FireRed\_34, Bask21\_34, Bruin\_34, ABCat\_33, Argent26\_36, Wiggin\_37, Xandras\_36, Rakim\_35, Willez\_33, MISSy\_33, Nimrod\_34, Dumbo\_34, DrDrey\_35, Qualification\_35, Paperbeatsrock\_36, StolenFromERC\_36, Easy2Say\_36, Contagion\_33, Holt\_35, MadamMonkfish\_34, StellaBean\_34, Thimble\_34, JeTaime\_36, SirDuracell\_33, Mindy\_34, Cjw1\_34, Nala\_34, Saints25\_35, Hoonter\_36, Traaww1\_32, Tomaszewski\_33, Tuco\_35, Mosby\_33, Myrale\_34, ChosenOne\_34, Ukulele\_34, Lilac\_36, Marshmallow\_34, Becksu\_34, TBrady12\_36, Barbarian\_33, Policronamos\_34, Cookies\_34, Palpatine\_34, Phaux\_33, Highbury\_35, Porky\_34, YassJohnny\_35, Rimmer\_33, Filch\_35, SophKB\_34, Teaspoon\_35, Sotrice96\_34, MPhalcon\_33, Glexan\_32, Amao\_34, FoghornLeghorn\_33, NoSleep\_35, xkcd\_35, Czyszczonek\_35, Cactus\_35, Kanye\_36, Adnama\_37, RiverMonster\_34, TeardropMSU\_33, GooberAzure\_36, GoldenSpark\_36, IHOP\_34, Thresher\_35, Lilizi\_36, Hopey\_36, OrionPax\_35, AmericanBeauty\_36, Stank\_37, Terminus\_34, Goldilocks\_35, Sassay\_33, Murica\_33, Dusk\_33, Bench\_36, Pharsalus\_35, Murphy\_35, Command613\_35, Inca\_33, Miniwave\_34, Gator\_32
- Track 2 : CrystalP\_34, ChotaBhai\_34, Goku\_34, StormChicken\_34, Petra64142\_36, Eureka\_34, Kostya\_35, NelitzaMV\_34, BilboSwaggins\_34, Manda\_35, Daikon\_33, Buck\_33, Youngblood\_34, BigBubba\_35, Pat3\_33, ShamWow\_34, Toto\_34
- Track 3 : KashFlow\_41, Shaboozey\_40, Hannaconda\_44, Omega\_52
- Track 4 : Dove\_45, Klein\_48, NihilNomen\_47
- Track 5 : Constella\_40
- Track 6 : JuicyJay\_50
- Track 7 : Beem\_48, Hughesyang\_46, Halley\_48, Wanda\_54, Bagrid\_47, Kalah2\_48, HokkenD\_41, Yeet\_46, Phoebus\_47, BAKA\_52, EricMillard\_48, Ejimix\_48
- Track 8 : Odette\_48, Redno2\_46, ThreeRngTarjay\_46, Schatzie\_45, Nekros\_46, Dallas\_50, DmpstrDiver\_49, Duke13\_51, Zelink\_49, Optimus\_53, LittleE\_52
- Track 9 : Minerva\_54
- Track 10 : Bombitas\_44
- Track 11 : Pound\_49
- Track 12 : Gaia\_33

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

The start number called the most often in the published annotations is 2, it was called in 157 of the 157 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 244\_36, ABCat\_33, Adnama\_37, Amao\_34, AmericanBeauty\_36, Argent26\_36, Asriel\_33, BAKA\_52, BaboJay\_33, BadStone\_33, Bagrid\_47, Balomoji\_33, Barbarian\_33, Bask21\_34, Becksu\_34, Beem\_48, Bench\_36, BigBubba\_35, BilboSwaggins\_34, Bombitas\_44, Bruin\_34, Buck\_33, BugsBunny\_32, Cactus\_35, ChosenOne\_34, ChotaBhai\_34, Cjw1\_34, Command613\_35, Constella\_40, Contagion\_33, Cookies\_34, CrystalP\_34, Czyszczonek1\_35, Daikon\_33, Dallas\_50, DmpstrDiver\_49, DoctorDiddles\_34, Dove\_45, DrDrey\_35, Duke13\_51, Dumbo\_34, Dusk\_33, Easy2Say\_36, Ejimix\_48, Elite2014\_33, Elph10\_35, Emmina\_35, EricMillard\_48, Eureka\_34, FairyPath\_34, Filch\_35, FireRed\_34, Flypotenuse\_32, FoghornLeghorn\_33, Gage\_36, Gaia\_33, Gator\_32, Gemini\_37, Glexan\_32, Goku\_34, GoldenSpark\_36, Goldilocks\_35, GooberAzure\_36, Halley\_48, HanKaySha\_35, Hannaconda\_44, Harella\_33, Henry\_35, Highbury\_35, HokkenD\_41, Holt\_35, Hoonter\_36, Hopey\_36, HufflyPuff\_33, Hughesyang\_46, IHOP\_34, Icee\_33, Inca\_33, JeTaime\_36, JuicyJay\_50, Kalah2\_48, Kanye\_36, KashFlow\_41, Kimchi\_36, Klein\_48, Kostya\_35, Lilac\_36, Lilizi\_36, Lilpickle\_33, LittleE\_52, MISSy\_33, MPhalcon\_33, MadamMonkfish\_34, Manda\_35, Marshmallow\_34, Maxxinista\_35, Mindy\_34, Minerva\_54, Miniwave\_34, Misfit\_34, Moldemort\_35, Mosby\_33, Murica\_33, Murphy\_35, Myrale\_34, Nala\_34, Nekros\_46, NelitzaMV\_34, NihilNomen\_47, Nimrod\_34, NoSleep\_35, Odette\_48, Omega\_52, Optimus\_53, OrionPax\_35, Palpatine\_34, Paperbeatsrock\_36, Pat3\_33, Petra64142\_36, Phaja\_34, Pharsalus\_35, PhatBacter\_34, Phaux\_33, Phoebus\_47, Phrux\_34, Policronamos\_34, Porky\_34, Pound\_49, Pumpkin\_36, Quallification\_35, Rakim\_35, Redno2\_46, Rimmer\_33, RiverMonster\_34, Saints25\_35, Sassay\_33, Schatzie\_45, Shaboozey\_40, ShamWow\_34, ShereKhan\_36, Simpliphy\_35, SirDuracell\_33, SophKB\_34, Sotrice96\_34, Stank\_37, Stark\_35, StellaBean\_34, StolenFromERC\_36, StormChicken\_34, TBrady12\_36, Tarkin\_36, TeardropMSU\_33, Teaspoon\_35, Terminus\_34, Thimble\_34, ThreeRngTarjay\_46, Thresher\_35, Tomaszewski\_33, Toto\_34, Traaww1\_32, Tuco\_35, Ukulele\_34, Wanda\_54, Wiggin\_37, Willez\_33, Xandras\_36, YassJohnny\_35, Yeet\_46, Youngblood\_34, Zelink\_49, xkcd\_35,

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

- 

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

- 

### **Summary by start number:**

Start 2:

- Found in 171 of 171 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 157 of 157
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 244\_36 (E), ABCat\_33 (E), Adnama\_37 (E), Amao\_34 (E), AmericanBeauty\_36 (E), Argent26\_36 (E), Asriel\_33 (E), BAKA\_52

(J), BaboJay\_33 (E), BadStone\_33 (E), Bagrid\_47 (J), Balomoji\_33 (E), Barbarian\_33 (E), Bask21\_34 (E), Becksu\_34 (E), Beem\_48 (J), Bench\_36 (E), BigBubba\_35 (E), BilboSwaggins\_34 (E), Bombitas\_44 (J), Bruin\_34 (E), Buck\_33 (E), BugsBunny\_32 (E), Cactus\_35 (E), ChosenOne\_34 (E), ChotaBhai\_34 (E), Cjw1\_34 (E), Command613\_35 (E), Constella\_40 (J), Contagion\_33 (E), Cookies\_34 (E), CrystalP\_34 (E), Czyszczonek\_35 (E), Daikon\_33 (E), Dallas\_50 (J), DmpstrDiver\_49 (J), DoctorDiddles\_34 (E), Dove\_45 (J), DrDrey\_35 (E), Duke13\_51 (J), Dumbo\_34 (E), Dusk\_33 (E), Easy2Say\_36 (E), Ejimix\_48 (J), Elite2014\_33 (E), Elph10\_35 (E), Emmina\_35 (E), EricMillard\_48 (J), Eureka\_34 (E), FairyPath\_34 (E), Filch\_35 (E), FireRed\_34 (E), Flypotenuse\_32 (E), FoghornLeghorn\_33 (E), Gage\_36 (E), Gaia\_33 (X), Gator\_32 (E), Gemini\_37 (E), Glexan\_32 (E), Goku\_34 (E), GoldenSpark\_36 (E), Goldilocks\_35 (E), GooberAzure\_36 (E), Halley\_48 (J), HanKaySha\_35 (E), Hannaconda\_44 (J), Harella\_33 (E), Henry\_35 (E), Highbury\_35 (E), HokkenD\_41 (J), Holt\_35 (E), Hoonter\_36 (E), Hopey\_36 (E), HuffyPuff\_33 (E), Hughesyang\_46 (J), IHOP\_34 (E), Icee\_33 (E), Inca\_33 (E), JeTaime\_36 (E), JuicyJay\_50 (J), Kalah2\_48 (J), Kanye\_36 (E), KashFlow\_41 (J), Kimchi\_36 (E), Klein\_48 (J), Kostya\_35 (E), Lilac\_36 (E), Lilizi\_36 (E), Lilpickle\_33 (E), LittleE\_52 (J), MISSy\_33 (E), MPhalcon\_33 (E), MadamMonkfish\_34 (E), Manda\_35 (E), Marshmallow\_34 (E), Maxxinista\_35 (E), Mindy\_34 (E), Minerva\_54 (J), Miniwave\_34 (E), Misfit\_34 (E), Moldemort\_35 (E), Mosby\_33 (E), Murica\_33 (E), Murphy\_35 (E), Myrale\_34 (E), Nala\_34 (E), Nekros\_46 (J), NelitzaMV\_34 (E), NihilNomen\_47 (J), Nimrod\_34 (E), NoSleep\_35 (E), Odette\_48 (J), Omega\_52 (J), Optimus\_53 (J), OrionPax\_35 (E), Palpatine\_34 (E), Paperbeatsrock\_36 (E), Pat3\_33 (E), Petra64142\_36 (E), Phaja\_34 (E), Pharsalus\_35 (E), PhatBacter\_34 (E), Phaux\_33 (E), Phoebus\_47 (J), Phrux\_34 (E), Policronamos\_34 (E), Porky\_34 (E), Pound\_49 (J), Pumpkin\_36 (E), Quallification\_35 (E), Rakim\_35 (E), Redno2\_46 (J), Rimmer\_33 (E), RiverMonster\_34 (E), Saints25\_35 (E), Sassay\_33 (E), Schatzie\_45 (J), Shaboozey\_40 (J), ShamWow\_34 (E), ShereKhan\_36 (E), Simpliphy\_35 (E), SirDuracell\_33 (E), SophKB\_34 (E), Sotrice96\_34 (E), Stank\_37 (E), Stark\_35 (E), StellaBean\_34 (E), StolenFromERC\_36 (E), StormChicken\_34 (E), TBrady12\_36 (E), Tarkin\_36 (E), TeardropMSU\_33 (E), Teaspoon\_35 (E), Terminus\_34 (E), Thimble\_34 (E), ThreeRngTarjay\_46 (J), Thresher\_35 (E), Tomaszewski\_33 (E), Toto\_34 (E), Traaww1\_32 (E), Tuco\_35 (E), Ukulele\_34 (E), Wanda\_54 (J), Wiggin\_37 (E), Willez\_33 (E), Xandras\_36 (E), YassJohnny\_35 (E), Yeet\_46 (J), Youngblood\_34 (E), Zelink\_49 (J), xkcd\_35 (E),

### **Summary by clusters:**

There are 3 clusters represented in this pham: X, J, E,

Info for manual annotations of cluster E:

- Start number 2 was manually annotated 125 times for cluster E.

Info for manual annotations of cluster J:

- Start number 2 was manually annotated 31 times for cluster J.

Info for manual annotations of cluster X:

- Start number 2 was manually annotated 1 time for cluster X.

### **Gene Information:**

Gene: 244\_36 Start: 31803, Stop: 32141, Start Num: 2  
Candidate Starts for 244\_36:  
(Start: 2 @31803 has 157 MA's), (3, 31842), (6, 31998), (7, 32046), (13, 32094),

Gene: ABCat\_33 Start: 31515, Stop: 31853, Start Num: 2  
Candidate Starts for ABCat\_33:  
(Start: 2 @31515 has 157 MA's), (3, 31554), (6, 31710), (7, 31758), (13, 31806),

Gene: Adnama\_37 Start: 32030, Stop: 32368, Start Num: 2  
Candidate Starts for Adnama\_37:  
(Start: 2 @32030 has 157 MA's), (3, 32069), (6, 32225), (7, 32273), (13, 32321),

Gene: Amao\_34 Start: 30727, Stop: 31065, Start Num: 2  
Candidate Starts for Amao\_34:  
(Start: 2 @30727 has 157 MA's), (3, 30766), (6, 30922), (7, 30970), (13, 31018),

Gene: AmericanBeauty\_36 Start: 31510, Stop: 31848, Start Num: 2  
Candidate Starts for AmericanBeauty\_36:  
(Start: 2 @31510 has 157 MA's), (3, 31549), (6, 31705), (7, 31753), (13, 31801),

Gene: Argent26\_36 Start: 31513, Stop: 31851, Start Num: 2  
Candidate Starts for Argent26\_36:  
(Start: 2 @31513 has 157 MA's), (3, 31552), (6, 31708), (7, 31756), (13, 31804),

Gene: Asriel\_33 Start: 30384, Stop: 30722, Start Num: 2  
Candidate Starts for Asriel\_33:  
(Start: 2 @30384 has 157 MA's), (3, 30423), (6, 30579), (7, 30627), (13, 30675),

Gene: BAKA\_52 Start: 42300, Stop: 42680, Start Num: 2  
Candidate Starts for BAKA\_52:  
(1, 42258), (Start: 2 @42300 has 157 MA's), (10, 42555), (12, 42576),

Gene: BaboJay\_33 Start: 31073, Stop: 31411, Start Num: 2  
Candidate Starts for BaboJay\_33:  
(Start: 2 @31073 has 157 MA's), (3, 31112), (6, 31268), (7, 31316), (13, 31364),

Gene: BadStone\_33 Start: 31515, Stop: 31853, Start Num: 2  
Candidate Starts for BadStone\_33:  
(Start: 2 @31515 has 157 MA's), (3, 31554), (6, 31710), (7, 31758), (13, 31806),

Gene: Bagrid\_47 Start: 41633, Stop: 42013, Start Num: 2  
Candidate Starts for Bagrid\_47:  
(1, 41591), (Start: 2 @41633 has 157 MA's), (10, 41888), (12, 41909),

Gene: Balomoji\_33 Start: 31249, Stop: 31587, Start Num: 2  
Candidate Starts for Balomoji\_33:  
(Start: 2 @31249 has 157 MA's), (3, 31288), (6, 31444), (7, 31492), (13, 31540),

Gene: Barbarian\_33 Start: 30384, Stop: 30722, Start Num: 2  
Candidate Starts for Barbarian\_33:  
(Start: 2 @30384 has 157 MA's), (3, 30423), (6, 30579), (7, 30627), (13, 30675),

Gene: Bask21\_34 Start: 30701, Stop: 31039, Start Num: 2

Candidate Starts for Bask21\_34:

(Start: 2 @30701 has 157 MA's), (3, 30740), (6, 30896), (7, 30944), (13, 30992),

Gene: Becksu\_34 Start: 31706, Stop: 32044, Start Num: 2

Candidate Starts for Becksu\_34:

(Start: 2 @31706 has 157 MA's), (3, 31745), (6, 31901), (7, 31949), (13, 31997),

Gene: Beem\_48 Start: 42199, Stop: 42579, Start Num: 2

Candidate Starts for Beem\_48:

(1, 42157), (Start: 2 @42199 has 157 MA's), (10, 42454), (12, 42475),

Gene: Bench\_36 Start: 31383, Stop: 31721, Start Num: 2

Candidate Starts for Bench\_36:

(Start: 2 @31383 has 157 MA's), (3, 31422), (6, 31578), (7, 31626), (13, 31674),

Gene: BigBubba\_35 Start: 31286, Stop: 31624, Start Num: 2

Candidate Starts for BigBubba\_35:

(Start: 2 @31286 has 157 MA's), (3, 31325), (6, 31481), (7, 31529), (10, 31553), (13, 31577),

Gene: BilboSwaggins\_34 Start: 31523, Stop: 31861, Start Num: 2

Candidate Starts for BilboSwaggins\_34:

(Start: 2 @31523 has 157 MA's), (3, 31562), (6, 31718), (7, 31766), (10, 31790), (13, 31814),

Gene: Bombitas\_44 Start: 41255, Stop: 41641, Start Num: 2

Candidate Starts for Bombitas\_44:

(1, 41213), (Start: 2 @41255 has 157 MA's), (8, 41492), (9, 41501), (12, 41534), (14, 41588), (15, 41615),

Gene: Bruin\_34 Start: 31543, Stop: 31881, Start Num: 2

Candidate Starts for Bruin\_34:

(Start: 2 @31543 has 157 MA's), (3, 31582), (6, 31738), (7, 31786), (13, 31834),

Gene: Buck\_33 Start: 31479, Stop: 31817, Start Num: 2

Candidate Starts for Buck\_33:

(Start: 2 @31479 has 157 MA's), (3, 31518), (6, 31674), (7, 31722), (10, 31746), (13, 31770),

Gene: BugsBunny\_32 Start: 31112, Stop: 31450, Start Num: 2

Candidate Starts for BugsBunny\_32:

(Start: 2 @31112 has 157 MA's), (3, 31151), (6, 31307), (7, 31355), (13, 31403),

Gene: Cactus\_35 Start: 30734, Stop: 31072, Start Num: 2

Candidate Starts for Cactus\_35:

(Start: 2 @30734 has 157 MA's), (3, 30773), (6, 30929), (7, 30977), (13, 31025),

Gene: ChosenOne\_34 Start: 30731, Stop: 31069, Start Num: 2

Candidate Starts for ChosenOne\_34:

(Start: 2 @30731 has 157 MA's), (3, 30770), (6, 30926), (7, 30974), (13, 31022),

Gene: ChotaBhai\_34 Start: 30769, Stop: 31107, Start Num: 2

Candidate Starts for ChotaBhai\_34:

(Start: 2 @30769 has 157 MA's), (3, 30808), (6, 30964), (7, 31012), (10, 31036), (13, 31060),

Gene: Cjw1\_34 Start: 32283, Stop: 32621, Start Num: 2

Candidate Starts for Cjw1\_34:

(Start: 2 @32283 has 157 MA's), (3, 32322), (6, 32478), (7, 32526), (13, 32574),

Gene: Command613\_35 Start: 31790, Stop: 32128, Start Num: 2

Candidate Starts for Command613\_35:

(Start: 2 @31790 has 157 MA's), (3, 31829), (6, 31985), (7, 32033), (13, 32081),

Gene: Constella\_40 Start: 38330, Stop: 38710, Start Num: 2

Candidate Starts for Constella\_40:

(Start: 2 @38330 has 157 MA's), (4, 38405), (8, 38564), (9, 38573), (12, 38606),

Gene: Contagion\_33 Start: 31027, Stop: 31365, Start Num: 2

Candidate Starts for Contagion\_33:

(Start: 2 @31027 has 157 MA's), (3, 31066), (6, 31222), (7, 31270), (13, 31318),

Gene: Cookies\_34 Start: 31392, Stop: 31730, Start Num: 2

Candidate Starts for Cookies\_34:

(Start: 2 @31392 has 157 MA's), (3, 31431), (6, 31587), (7, 31635), (13, 31683),

Gene: CrystalP\_34 Start: 31523, Stop: 31861, Start Num: 2

Candidate Starts for CrystalP\_34:

(Start: 2 @31523 has 157 MA's), (3, 31562), (6, 31718), (7, 31766), (10, 31790), (13, 31814),

Gene: Czyszczone1\_35 Start: 31268, Stop: 31606, Start Num: 2

Candidate Starts for Czyszczone1\_35:

(Start: 2 @31268 has 157 MA's), (3, 31307), (6, 31463), (7, 31511), (13, 31559),

Gene: Daikon\_33 Start: 31261, Stop: 31599, Start Num: 2

Candidate Starts for Daikon\_33:

(Start: 2 @31261 has 157 MA's), (3, 31300), (6, 31456), (7, 31504), (10, 31528), (13, 31552),

Gene: Dallas\_50 Start: 41724, Stop: 42104, Start Num: 2

Candidate Starts for Dallas\_50:

(1, 41682), (Start: 2 @41724 has 157 MA's), (10, 41979), (12, 42000),

Gene: DmpstrDiver\_49 Start: 41729, Stop: 42109, Start Num: 2

Candidate Starts for DmpstrDiver\_49:

(1, 41687), (Start: 2 @41729 has 157 MA's), (10, 41984), (12, 42005),

Gene: DoctorDiddles\_34 Start: 30685, Stop: 31023, Start Num: 2

Candidate Starts for DoctorDiddles\_34:

(Start: 2 @30685 has 157 MA's), (3, 30724), (6, 30880), (7, 30928), (13, 30976),

Gene: Dove\_45 Start: 41254, Stop: 41634, Start Num: 2

Candidate Starts for Dove\_45:

(1, 41212), (Start: 2 @41254 has 157 MA's), (4, 41329), (10, 41509), (12, 41530),

Gene: DrDrey\_35 Start: 32015, Stop: 32353, Start Num: 2

Candidate Starts for DrDrey\_35:

(Start: 2 @32015 has 157 MA's), (3, 32054), (6, 32210), (7, 32258), (13, 32306),

Gene: Duke13\_51 Start: 42047, Stop: 42427, Start Num: 2

Candidate Starts for Duke13\_51:

(1, 42005), (Start: 2 @42047 has 157 MA's), (10, 42302), (12, 42323),

Gene: Dumbo\_34 Start: 30990, Stop: 31328, Start Num: 2

Candidate Starts for Dumbo\_34:

(Start: 2 @30990 has 157 MA's), (3, 31029), (6, 31185), (7, 31233), (13, 31281),

Gene: Dusk\_33 Start: 31175, Stop: 31513, Start Num: 2

Candidate Starts for Dusk\_33:

(Start: 2 @31175 has 157 MA's), (3, 31214), (6, 31370), (7, 31418), (13, 31466),

Gene: Easy2Say\_36 Start: 32773, Stop: 33111, Start Num: 2

Candidate Starts for Easy2Say\_36:

(Start: 2 @32773 has 157 MA's), (3, 32812), (6, 32968), (7, 33016), (13, 33064),

Gene: Ejimix\_48 Start: 42984, Stop: 43364, Start Num: 2

Candidate Starts for Ejimix\_48:

(1, 42942), (Start: 2 @42984 has 157 MA's), (10, 43239), (12, 43260),

Gene: Elite2014\_33 Start: 30730, Stop: 31068, Start Num: 2

Candidate Starts for Elite2014\_33:

(Start: 2 @30730 has 157 MA's), (3, 30769), (6, 30925), (7, 30973), (13, 31021),

Gene: Elph10\_35 Start: 30993, Stop: 31331, Start Num: 2

Candidate Starts for Elph10\_35:

(Start: 2 @30993 has 157 MA's), (3, 31032), (6, 31188), (7, 31236), (13, 31284),

Gene: Emmina\_35 Start: 31351, Stop: 31689, Start Num: 2

Candidate Starts for Emmina\_35:

(Start: 2 @31351 has 157 MA's), (3, 31390), (6, 31546), (7, 31594), (13, 31642),

Gene: EricMillard\_48 Start: 42485, Stop: 42865, Start Num: 2

Candidate Starts for EricMillard\_48:

(1, 42443), (Start: 2 @42485 has 157 MA's), (10, 42740), (12, 42761),

Gene: Eureka\_34 Start: 31506, Stop: 31844, Start Num: 2

Candidate Starts for Eureka\_34:

(Start: 2 @31506 has 157 MA's), (3, 31545), (6, 31701), (7, 31749), (10, 31773), (13, 31797),

Gene: FairyPath\_34 Start: 31718, Stop: 32056, Start Num: 2

Candidate Starts for FairyPath\_34:

(Start: 2 @31718 has 157 MA's), (3, 31757), (6, 31913), (7, 31961), (13, 32009),

Gene: Filch\_35 Start: 31281, Stop: 31619, Start Num: 2

Candidate Starts for Filch\_35:

(Start: 2 @31281 has 157 MA's), (3, 31320), (6, 31476), (7, 31524), (13, 31572),

Gene: FireRed\_34 Start: 31551, Stop: 31889, Start Num: 2

Candidate Starts for FireRed\_34:

(Start: 2 @31551 has 157 MA's), (3, 31590), (6, 31746), (7, 31794), (13, 31842),

Gene: Flypotenuse\_32 Start: 31119, Stop: 31457, Start Num: 2

Candidate Starts for Flypotenuse\_32:

(Start: 2 @31119 has 157 MA's), (3, 31158), (6, 31314), (7, 31362), (13, 31410),



Gene: FoghornLeghorn\_33 Start: 31027, Stop: 31365, Start Num: 2  
Candidate Starts for FoghornLeghorn\_33:  
(Start: 2 @31027 has 157 MA's), (3, 31066), (6, 31222), (7, 31270), (13, 31318),

Gene: Gage\_36 Start: 31513, Stop: 31851, Start Num: 2  
Candidate Starts for Gage\_36:  
(Start: 2 @31513 has 157 MA's), (3, 31552), (6, 31708), (7, 31756), (13, 31804),

Gene: Gaia\_33 Start: 30328, Stop: 30708, Start Num: 2  
Candidate Starts for Gaia\_33:  
(Start: 2 @30328 has 157 MA's), (4, 30403), (11, 30589), (12, 30604),

Gene: Gator\_32 Start: 31131, Stop: 31469, Start Num: 2  
Candidate Starts for Gator\_32:  
(Start: 2 @31131 has 157 MA's), (3, 31170), (6, 31326), (7, 31374), (13, 31422),

Gene: Gemini\_37 Start: 32030, Stop: 32368, Start Num: 2  
Candidate Starts for Gemini\_37:  
(Start: 2 @32030 has 157 MA's), (3, 32069), (6, 32225), (7, 32273), (13, 32321),

Gene: Glexan\_32 Start: 31119, Stop: 31457, Start Num: 2  
Candidate Starts for Glexan\_32:  
(Start: 2 @31119 has 157 MA's), (3, 31158), (6, 31314), (7, 31362), (13, 31410),

Gene: Goku\_34 Start: 31235, Stop: 31573, Start Num: 2  
Candidate Starts for Goku\_34:  
(Start: 2 @31235 has 157 MA's), (3, 31274), (6, 31430), (7, 31478), (10, 31502), (13, 31526),

Gene: GoldenSpark\_36 Start: 31513, Stop: 31851, Start Num: 2  
Candidate Starts for GoldenSpark\_36:  
(Start: 2 @31513 has 157 MA's), (3, 31552), (6, 31708), (7, 31756), (13, 31804),

Gene: Goldilocks\_35 Start: 30933, Stop: 31271, Start Num: 2  
Candidate Starts for Goldilocks\_35:  
(Start: 2 @30933 has 157 MA's), (3, 30972), (6, 31128), (7, 31176), (13, 31224),

Gene: GooberAzure\_36 Start: 31513, Stop: 31851, Start Num: 2  
Candidate Starts for GooberAzure\_36:  
(Start: 2 @31513 has 157 MA's), (3, 31552), (6, 31708), (7, 31756), (13, 31804),

Gene: Halley\_48 Start: 42198, Stop: 42578, Start Num: 2  
Candidate Starts for Halley\_48:  
(1, 42156), (Start: 2 @42198 has 157 MA's), (10, 42453), (12, 42474),

Gene: HanKaySha\_35 Start: 31265, Stop: 31603, Start Num: 2  
Candidate Starts for HanKaySha\_35:  
(Start: 2 @31265 has 157 MA's), (3, 31304), (6, 31460), (7, 31508), (13, 31556),

Gene: Hannaconda\_44 Start: 36677, Stop: 37057, Start Num: 2  
Candidate Starts for Hannaconda\_44:  
(Start: 2 @36677 has 157 MA's), (10, 36932), (12, 36953),

Gene: Harella\_33 Start: 31635, Stop: 31973, Start Num: 2  
Candidate Starts for Harella\_33:  
(Start: 2 @31635 has 157 MA's), (3, 31674), (6, 31830), (7, 31878), (13, 31926),

Gene: Henry\_35 Start: 31523, Stop: 31861, Start Num: 2  
Candidate Starts for Henry\_35:  
(Start: 2 @31523 has 157 MA's), (3, 31562), (6, 31718), (7, 31766), (13, 31814),

Gene: Highbury\_35 Start: 31181, Stop: 31519, Start Num: 2  
Candidate Starts for Highbury\_35:  
(Start: 2 @31181 has 157 MA's), (3, 31220), (6, 31376), (7, 31424), (13, 31472),

Gene: HokkenD\_41 Start: 40467, Stop: 40847, Start Num: 2  
Candidate Starts for HokkenD\_41:  
(1, 40425), (Start: 2 @40467 has 157 MA's), (10, 40722), (12, 40743),

Gene: Holt\_35 Start: 30800, Stop: 31138, Start Num: 2  
Candidate Starts for Holt\_35:  
(Start: 2 @30800 has 157 MA's), (3, 30839), (6, 30995), (7, 31043), (13, 31091),

Gene: Hoonter\_36 Start: 31513, Stop: 31851, Start Num: 2  
Candidate Starts for Hoonter\_36:  
(Start: 2 @31513 has 157 MA's), (3, 31552), (6, 31708), (7, 31756), (13, 31804),

Gene: Hokey\_36 Start: 31800, Stop: 32138, Start Num: 2  
Candidate Starts for Hokey\_36:  
(Start: 2 @31800 has 157 MA's), (3, 31839), (6, 31995), (7, 32043), (13, 32091),

Gene: HufflyPuff\_33 Start: 31507, Stop: 31845, Start Num: 2  
Candidate Starts for HufflyPuff\_33:  
(Start: 2 @31507 has 157 MA's), (3, 31546), (6, 31702), (7, 31750), (13, 31798),

Gene: Hughesyang\_46 Start: 42127, Stop: 42507, Start Num: 2  
Candidate Starts for Hughesyang\_46:  
(1, 42085), (Start: 2 @42127 has 157 MA's), (10, 42382), (12, 42403),

Gene: IHOP\_34 Start: 31700, Stop: 32038, Start Num: 2  
Candidate Starts for IHOP\_34:  
(Start: 2 @31700 has 157 MA's), (3, 31739), (6, 31895), (7, 31943), (13, 31991),

Gene: Icee\_33 Start: 31181, Stop: 31519, Start Num: 2  
Candidate Starts for Icee\_33:  
(Start: 2 @31181 has 157 MA's), (3, 31220), (6, 31376), (7, 31424), (13, 31472),

Gene: Inca\_33 Start: 30202, Stop: 30540, Start Num: 2  
Candidate Starts for Inca\_33:  
(Start: 2 @30202 has 157 MA's), (3, 30241), (6, 30397), (7, 30445), (13, 30493),

Gene: JeTaime\_36 Start: 32324, Stop: 32662, Start Num: 2  
Candidate Starts for JeTaime\_36:  
(Start: 2 @32324 has 157 MA's), (3, 32363), (6, 32519), (7, 32567), (13, 32615),

Gene: JuicyJay\_50 Start: 43947, Stop: 44327, Start Num: 2

Candidate Starts for JuicyJay\_50:

(1, 43905), (Start: 2 @43947 has 157 MA's), (4, 44022), (8, 44181), (9, 44190), (12, 44223),

Gene: Kalah2\_48 Start: 42535, Stop: 42915, Start Num: 2

Candidate Starts for Kalah2\_48:

(1, 42493), (Start: 2 @42535 has 157 MA's), (10, 42790), (12, 42811),

Gene: Kanye\_36 Start: 32509, Stop: 32847, Start Num: 2

Candidate Starts for Kanye\_36:

(Start: 2 @32509 has 157 MA's), (3, 32548), (6, 32704), (7, 32752), (13, 32800),

Gene: KashFlow\_41 Start: 36298, Stop: 36678, Start Num: 2

Candidate Starts for KashFlow\_41:

(Start: 2 @36298 has 157 MA's), (10, 36553), (12, 36574),

Gene: Kimchi\_36 Start: 31516, Stop: 31854, Start Num: 2

Candidate Starts for Kimchi\_36:

(Start: 2 @31516 has 157 MA's), (3, 31555), (6, 31711), (7, 31759), (13, 31807),

Gene: Klein\_48 Start: 41759, Stop: 42139, Start Num: 2

Candidate Starts for Klein\_48:

(1, 41717), (Start: 2 @41759 has 157 MA's), (4, 41834), (10, 42014), (12, 42035),

Gene: Kostya\_35 Start: 31524, Stop: 31862, Start Num: 2

Candidate Starts for Kostya\_35:

(Start: 2 @31524 has 157 MA's), (3, 31563), (6, 31719), (7, 31767), (10, 31791), (13, 31815),

Gene: Lilac\_36 Start: 31020, Stop: 31358, Start Num: 2

Candidate Starts for Lilac\_36:

(Start: 2 @31020 has 157 MA's), (3, 31059), (6, 31215), (7, 31263), (13, 31311),

Gene: Lilizi\_36 Start: 31228, Stop: 31566, Start Num: 2

Candidate Starts for Lilizi\_36:

(Start: 2 @31228 has 157 MA's), (3, 31267), (6, 31423), (7, 31471), (13, 31519),

Gene: Lilpickle\_33 Start: 30730, Stop: 31068, Start Num: 2

Candidate Starts for Lilpickle\_33:

(Start: 2 @30730 has 157 MA's), (3, 30769), (6, 30925), (7, 30973), (13, 31021),

Gene: LittleE\_52 Start: 41996, Stop: 42376, Start Num: 2

Candidate Starts for LittleE\_52:

(1, 41954), (Start: 2 @41996 has 157 MA's), (10, 42251), (12, 42272),

Gene: MISSy\_33 Start: 31036, Stop: 31374, Start Num: 2

Candidate Starts for MISSy\_33:

(Start: 2 @31036 has 157 MA's), (3, 31075), (6, 31231), (7, 31279), (13, 31327),

Gene: MPhalcon\_33 Start: 31029, Stop: 31367, Start Num: 2

Candidate Starts for MPhalcon\_33:

(Start: 2 @31029 has 157 MA's), (3, 31068), (6, 31224), (7, 31272), (13, 31320),

Gene: MadamMonkfish\_34 Start: 30941, Stop: 31279, Start Num: 2

Candidate Starts for MadamMonkfish\_34:

(Start: 2 @30941 has 157 MA's), (3, 30980), (6, 31136), (7, 31184), (13, 31232),

Gene: Manda\_35 Start: 32008, Stop: 32346, Start Num: 2

Candidate Starts for Manda\_35:

(Start: 2 @32008 has 157 MA's), (3, 32047), (6, 32203), (7, 32251), (10, 32275), (13, 32299),

Gene: Marshmallow\_34 Start: 31521, Stop: 31859, Start Num: 2

Candidate Starts for Marshmallow\_34:

(Start: 2 @31521 has 157 MA's), (3, 31560), (6, 31716), (7, 31764), (13, 31812),

Gene: Maxxinista\_35 Start: 30990, Stop: 31328, Start Num: 2

Candidate Starts for Maxxinista\_35:

(Start: 2 @30990 has 157 MA's), (3, 31029), (6, 31185), (7, 31233), (13, 31281),

Gene: Mindy\_34 Start: 31301, Stop: 31639, Start Num: 2

Candidate Starts for Mindy\_34:

(Start: 2 @31301 has 157 MA's), (3, 31340), (6, 31496), (7, 31544), (13, 31592),

Gene: Minerva\_54 Start: 43596, Stop: 43976, Start Num: 2

Candidate Starts for Minerva\_54:

(1, 43554), (Start: 2 @43596 has 157 MA's), (5, 43746),

Gene: Miniwave\_34 Start: 31720, Stop: 32058, Start Num: 2

Candidate Starts for Miniwave\_34:

(Start: 2 @31720 has 157 MA's), (3, 31759), (6, 31915), (7, 31963), (13, 32011),

Gene: Misfit\_34 Start: 31610, Stop: 31948, Start Num: 2

Candidate Starts for Misfit\_34:

(Start: 2 @31610 has 157 MA's), (3, 31649), (6, 31805), (7, 31853), (13, 31901),

Gene: Moldemort\_35 Start: 31265, Stop: 31603, Start Num: 2

Candidate Starts for Moldemort\_35:

(Start: 2 @31265 has 157 MA's), (3, 31304), (6, 31460), (7, 31508), (13, 31556),

Gene: Mosby\_33 Start: 31027, Stop: 31365, Start Num: 2

Candidate Starts for Mosby\_33:

(Start: 2 @31027 has 157 MA's), (3, 31066), (6, 31222), (7, 31270), (13, 31318),

Gene: Murica\_33 Start: 31507, Stop: 31845, Start Num: 2

Candidate Starts for Murica\_33:

(Start: 2 @31507 has 157 MA's), (3, 31546), (6, 31702), (7, 31750), (13, 31798),

Gene: Murphy\_35 Start: 31502, Stop: 31840, Start Num: 2

Candidate Starts for Murphy\_35:

(Start: 2 @31502 has 157 MA's), (3, 31541), (6, 31697), (7, 31745), (13, 31793),

Gene: Myrale\_34 Start: 31386, Stop: 31724, Start Num: 2

Candidate Starts for Myrale\_34:

(Start: 2 @31386 has 157 MA's), (3, 31425), (6, 31581), (7, 31629), (13, 31677),

Gene: Nala\_34 Start: 31541, Stop: 31879, Start Num: 2

Candidate Starts for Nala\_34:

(Start: 2 @31541 has 157 MA's), (3, 31580), (6, 31736), (7, 31784), (13, 31832),

Gene: Nekros\_46 Start: 41069, Stop: 41449, Start Num: 2

Candidate Starts for Nekros\_46:

(1, 41027), (Start: 2 @41069 has 157 MA's), (10, 41324), (12, 41345),

Gene: NelitzaMV\_34 Start: 31591, Stop: 31929, Start Num: 2

Candidate Starts for NelitzaMV\_34:

(Start: 2 @31591 has 157 MA's), (3, 31630), (6, 31786), (7, 31834), (10, 31858), (13, 31882),

Gene: NihilNomen\_47 Start: 42275, Stop: 42655, Start Num: 2

Candidate Starts for NihilNomen\_47:

(1, 42233), (Start: 2 @42275 has 157 MA's), (4, 42350), (10, 42530), (12, 42551),

Gene: Nimrod\_34 Start: 31765, Stop: 32103, Start Num: 2

Candidate Starts for Nimrod\_34:

(Start: 2 @31765 has 157 MA's), (3, 31804), (6, 31960), (7, 32008), (13, 32056),

Gene: NoSleep\_35 Start: 31262, Stop: 31600, Start Num: 2

Candidate Starts for NoSleep\_35:

(Start: 2 @31262 has 157 MA's), (3, 31301), (6, 31457), (7, 31505), (13, 31553),

Gene: Odette\_48 Start: 41508, Stop: 41888, Start Num: 2

Candidate Starts for Odette\_48:

(1, 41466), (Start: 2 @41508 has 157 MA's), (10, 41763), (12, 41784),

Gene: Omega\_52 Start: 43301, Stop: 43681, Start Num: 2

Candidate Starts for Omega\_52:

(Start: 2 @43301 has 157 MA's), (10, 43556), (12, 43577),

Gene: Optimus\_53 Start: 43181, Stop: 43561, Start Num: 2

Candidate Starts for Optimus\_53:

(1, 43139), (Start: 2 @43181 has 157 MA's), (10, 43436), (12, 43457),

Gene: OrionPax\_35 Start: 31268, Stop: 31606, Start Num: 2

Candidate Starts for OrionPax\_35:

(Start: 2 @31268 has 157 MA's), (3, 31307), (6, 31463), (7, 31511), (13, 31559),

Gene: Palpatine\_34 Start: 31537, Stop: 31875, Start Num: 2

Candidate Starts for Palpatine\_34:

(Start: 2 @31537 has 157 MA's), (3, 31576), (6, 31732), (7, 31780), (13, 31828),

Gene: Paperbeatsrock\_36 Start: 32503, Stop: 32841, Start Num: 2

Candidate Starts for Paperbeatsrock\_36:

(Start: 2 @32503 has 157 MA's), (3, 32542), (6, 32698), (7, 32746), (13, 32794),

Gene: Pat3\_33 Start: 30249, Stop: 30587, Start Num: 2

Candidate Starts for Pat3\_33:

(Start: 2 @30249 has 157 MA's), (3, 30288), (6, 30444), (7, 30492), (10, 30516), (13, 30540),

Gene: Petra64142\_36 Start: 31983, Stop: 32321, Start Num: 2

Candidate Starts for Petra64142\_36:

(Start: 2 @31983 has 157 MA's), (3, 32022), (6, 32178), (7, 32226), (10, 32250), (13, 32274),

Gene: Phaja\_34 Start: 31699, Stop: 32037, Start Num: 2  
Candidate Starts for Phaja\_34:  
(Start: 2 @31699 has 157 MA's), (3, 31738), (6, 31894), (7, 31942), (13, 31990),

Gene: Pharsalus\_35 Start: 32303, Stop: 32641, Start Num: 2  
Candidate Starts for Pharsalus\_35:  
(Start: 2 @32303 has 157 MA's), (3, 32342), (6, 32498), (7, 32546), (13, 32594),

Gene: PhatBacter\_34 Start: 31551, Stop: 31889, Start Num: 2  
Candidate Starts for PhatBacter\_34:  
(Start: 2 @31551 has 157 MA's), (3, 31590), (6, 31746), (7, 31794), (13, 31842),

Gene: Phaux\_33 Start: 31549, Stop: 31887, Start Num: 2  
Candidate Starts for Phaux\_33:  
(Start: 2 @31549 has 157 MA's), (3, 31588), (6, 31744), (7, 31792), (13, 31840),

Gene: Phoebus\_47 Start: 42485, Stop: 42865, Start Num: 2  
Candidate Starts for Phoebus\_47:  
(1, 42443), (Start: 2 @42485 has 157 MA's), (10, 42740), (12, 42761),

Gene: Phrux\_34 Start: 31264, Stop: 31602, Start Num: 2  
Candidate Starts for Phrux\_34:  
(Start: 2 @31264 has 157 MA's), (3, 31303), (6, 31459), (7, 31507), (13, 31555),

Gene: Policronamos\_34 Start: 31549, Stop: 31887, Start Num: 2  
Candidate Starts for Policronamos\_34:  
(Start: 2 @31549 has 157 MA's), (3, 31588), (6, 31744), (7, 31792), (13, 31840),

Gene: Porky\_34 Start: 31360, Stop: 31698, Start Num: 2  
Candidate Starts for Porky\_34:  
(Start: 2 @31360 has 157 MA's), (3, 31399), (6, 31555), (7, 31603), (13, 31651),

Gene: Pound\_49 Start: 43506, Stop: 43892, Start Num: 2  
Candidate Starts for Pound\_49:  
(1, 43464), (Start: 2 @43506 has 157 MA's), (8, 43743), (9, 43752), (12, 43785), (14, 43839), (15, 43866),

Gene: Pumpkin\_36 Start: 31600, Stop: 31938, Start Num: 2  
Candidate Starts for Pumpkin\_36:  
(Start: 2 @31600 has 157 MA's), (3, 31639), (6, 31795), (7, 31843), (13, 31891),

Gene: Quallification\_35 Start: 31729, Stop: 32067, Start Num: 2  
Candidate Starts for Quallification\_35:  
(Start: 2 @31729 has 157 MA's), (3, 31768), (6, 31924), (7, 31972), (13, 32020),

Gene: Rakim\_35 Start: 31629, Stop: 31967, Start Num: 2  
Candidate Starts for Rakim\_35:  
(Start: 2 @31629 has 157 MA's), (3, 31668), (6, 31824), (7, 31872), (13, 31920),

Gene: Redno2\_46 Start: 39240, Stop: 39620, Start Num: 2  
Candidate Starts for Redno2\_46:  
(1, 39198), (Start: 2 @39240 has 157 MA's), (10, 39495), (12, 39516),

Gene: Rimmer\_33 Start: 31089, Stop: 31427, Start Num: 2  
Candidate Starts for Rimmer\_33:  
(Start: 2 @31089 has 157 MA's), (3, 31128), (6, 31284), (7, 31332), (13, 31380),

Gene: RiverMonster\_34 Start: 31278, Stop: 31616, Start Num: 2  
Candidate Starts for RiverMonster\_34:  
(Start: 2 @31278 has 157 MA's), (3, 31317), (6, 31473), (7, 31521), (13, 31569),

Gene: Saints25\_35 Start: 31181, Stop: 31519, Start Num: 2  
Candidate Starts for Saints25\_35:  
(Start: 2 @31181 has 157 MA's), (3, 31220), (6, 31376), (7, 31424), (13, 31472),

Gene: Sassay\_33 Start: 31027, Stop: 31365, Start Num: 2  
Candidate Starts for Sassay\_33:  
(Start: 2 @31027 has 157 MA's), (3, 31066), (6, 31222), (7, 31270), (13, 31318),

Gene: Schatzie\_45 Start: 41256, Stop: 41636, Start Num: 2  
Candidate Starts for Schatzie\_45:  
(1, 41214), (Start: 2 @41256 has 157 MA's), (10, 41511), (12, 41532),

Gene: Shaboozey\_40 Start: 36038, Stop: 36418, Start Num: 2  
Candidate Starts for Shaboozey\_40:  
(Start: 2 @36038 has 157 MA's), (10, 36293), (12, 36314),

Gene: ShamWow\_34 Start: 31523, Stop: 31861, Start Num: 2  
Candidate Starts for ShamWow\_34:  
(Start: 2 @31523 has 157 MA's), (3, 31562), (6, 31718), (7, 31766), (10, 31790), (13, 31814),

Gene: ShereKhan\_36 Start: 32506, Stop: 32844, Start Num: 2  
Candidate Starts for ShereKhan\_36:  
(Start: 2 @32506 has 157 MA's), (3, 32545), (6, 32701), (7, 32749), (13, 32797),

Gene: Simpliphy\_35 Start: 31268, Stop: 31606, Start Num: 2  
Candidate Starts for Simpliphy\_35:  
(Start: 2 @31268 has 157 MA's), (3, 31307), (6, 31463), (7, 31511), (13, 31559),

Gene: SirDuracell\_33 Start: 30188, Stop: 30526, Start Num: 2  
Candidate Starts for SirDuracell\_33:  
(Start: 2 @30188 has 157 MA's), (3, 30227), (6, 30383), (7, 30431), (13, 30479),

Gene: SophKB\_34 Start: 31522, Stop: 31860, Start Num: 2  
Candidate Starts for SophKB\_34:  
(Start: 2 @31522 has 157 MA's), (3, 31561), (6, 31717), (7, 31765), (13, 31813),

Gene: Sotrice96\_34 Start: 31477, Stop: 31815, Start Num: 2  
Candidate Starts for Sotrice96\_34:  
(Start: 2 @31477 has 157 MA's), (3, 31516), (6, 31672), (7, 31720), (13, 31768),

Gene: Stank\_37 Start: 32029, Stop: 32367, Start Num: 2  
Candidate Starts for Stank\_37:  
(Start: 2 @32029 has 157 MA's), (3, 32068), (6, 32224), (7, 32272), (13, 32320),

Gene: Stark\_35 Start: 31281, Stop: 31619, Start Num: 2

Candidate Starts for Stark\_35:

(Start: 2 @31281 has 157 MA's), (3, 31320), (6, 31476), (7, 31524), (13, 31572),

Gene: StellaBean\_34 Start: 31522, Stop: 31860, Start Num: 2

Candidate Starts for StellaBean\_34:

(Start: 2 @31522 has 157 MA's), (3, 31561), (6, 31717), (7, 31765), (13, 31813),

Gene: StolenFromERC\_36 Start: 31513, Stop: 31851, Start Num: 2

Candidate Starts for StolenFromERC\_36:

(Start: 2 @31513 has 157 MA's), (3, 31552), (6, 31708), (7, 31756), (13, 31804),

Gene: StormChicken\_34 Start: 31697, Stop: 32035, Start Num: 2

Candidate Starts for StormChicken\_34:

(Start: 2 @31697 has 157 MA's), (3, 31736), (6, 31892), (7, 31940), (10, 31964), (13, 31988),

Gene: TBrady12\_36 Start: 31513, Stop: 31851, Start Num: 2

Candidate Starts for TBrady12\_36:

(Start: 2 @31513 has 157 MA's), (3, 31552), (6, 31708), (7, 31756), (13, 31804),

Gene: Tarkin\_36 Start: 32512, Stop: 32850, Start Num: 2

Candidate Starts for Tarkin\_36:

(Start: 2 @32512 has 157 MA's), (3, 32551), (6, 32707), (7, 32755), (13, 32803),

Gene: TeardropMSU\_33 Start: 31423, Stop: 31761, Start Num: 2

Candidate Starts for TeardropMSU\_33:

(Start: 2 @31423 has 157 MA's), (3, 31462), (6, 31618), (7, 31666), (13, 31714),

Gene: Teaspoon\_35 Start: 31476, Stop: 31814, Start Num: 2

Candidate Starts for Teaspoon\_35:

(Start: 2 @31476 has 157 MA's), (3, 31515), (6, 31671), (7, 31719), (13, 31767),

Gene: Terminus\_34 Start: 31610, Stop: 31948, Start Num: 2

Candidate Starts for Terminus\_34:

(Start: 2 @31610 has 157 MA's), (3, 31649), (6, 31805), (7, 31853), (13, 31901),

Gene: Thimble\_34 Start: 30473, Stop: 30811, Start Num: 2

Candidate Starts for Thimble\_34:

(Start: 2 @30473 has 157 MA's), (3, 30512), (6, 30668), (7, 30716), (13, 30764),

Gene: ThreeRngTarjay\_46 Start: 42335, Stop: 42715, Start Num: 2

Candidate Starts for ThreeRngTarjay\_46:

(1, 42293), (Start: 2 @42335 has 157 MA's), (10, 42590), (12, 42611),

Gene: Thresher\_35 Start: 32277, Stop: 32615, Start Num: 2

Candidate Starts for Thresher\_35:

(Start: 2 @32277 has 157 MA's), (3, 32316), (6, 32472), (7, 32520), (13, 32568),

Gene: Tomaszewski\_33 Start: 31120, Stop: 31458, Start Num: 2

Candidate Starts for Tomaszewski\_33:

(Start: 2 @31120 has 157 MA's), (3, 31159), (6, 31315), (7, 31363), (13, 31411),

Gene: Toto\_34 Start: 31523, Stop: 31861, Start Num: 2

Candidate Starts for Toto\_34:



(Start: 2 @31523 has 157 MA's), (3, 31562), (6, 31718), (7, 31766), (10, 31790), (13, 31814),

Gene: Traaww1\_32 Start: 31161, Stop: 31499, Start Num: 2

Candidate Starts for Traaww1\_32:

(Start: 2 @31161 has 157 MA's), (3, 31200), (6, 31356), (7, 31404), (13, 31452),

Gene: Tuco\_35 Start: 32031, Stop: 32369, Start Num: 2

Candidate Starts for Tuco\_35:

(Start: 2 @32031 has 157 MA's), (3, 32070), (6, 32226), (7, 32274), (13, 32322),

Gene: Ukulele\_34 Start: 31281, Stop: 31619, Start Num: 2

Candidate Starts for Ukulele\_34:

(Start: 2 @31281 has 157 MA's), (3, 31320), (6, 31476), (7, 31524), (13, 31572),

Gene: Wanda\_54 Start: 42073, Stop: 42453, Start Num: 2

Candidate Starts for Wanda\_54:

(1, 42031), (Start: 2 @42073 has 157 MA's), (10, 42328), (12, 42349),

Gene: Wiggin\_37 Start: 32027, Stop: 32365, Start Num: 2

Candidate Starts for Wiggin\_37:

(Start: 2 @32027 has 157 MA's), (3, 32066), (6, 32222), (7, 32270), (13, 32318),

Gene: Willez\_33 Start: 31027, Stop: 31365, Start Num: 2

Candidate Starts for Willez\_33:

(Start: 2 @31027 has 157 MA's), (3, 31066), (6, 31222), (7, 31270), (13, 31318),

Gene: Xandras\_36 Start: 31513, Stop: 31851, Start Num: 2

Candidate Starts for Xandras\_36:

(Start: 2 @31513 has 157 MA's), (3, 31552), (6, 31708), (7, 31756), (13, 31804),

Gene: YassJohnny\_35 Start: 32038, Stop: 32376, Start Num: 2

Candidate Starts for YassJohnny\_35:

(Start: 2 @32038 has 157 MA's), (3, 32077), (6, 32233), (7, 32281), (13, 32329),

Gene: Yeet\_46 Start: 41494, Stop: 41874, Start Num: 2

Candidate Starts for Yeet\_46:

(1, 41452), (Start: 2 @41494 has 157 MA's), (10, 41749), (12, 41770),

Gene: Youngblood\_34 Start: 31683, Stop: 32021, Start Num: 2

Candidate Starts for Youngblood\_34:

(Start: 2 @31683 has 157 MA's), (3, 31722), (6, 31878), (7, 31926), (10, 31950), (13, 31974),

Gene: Zelink\_49 Start: 43279, Stop: 43659, Start Num: 2

Candidate Starts for Zelink\_49:

(1, 43237), (Start: 2 @43279 has 157 MA's), (10, 43534), (12, 43555),

Gene: xkcd\_35 Start: 31692, Stop: 32030, Start Num: 2

Candidate Starts for xkcd\_35:

(Start: 2 @31692 has 157 MA's), (3, 31731), (6, 31887), (7, 31935), (13, 31983),