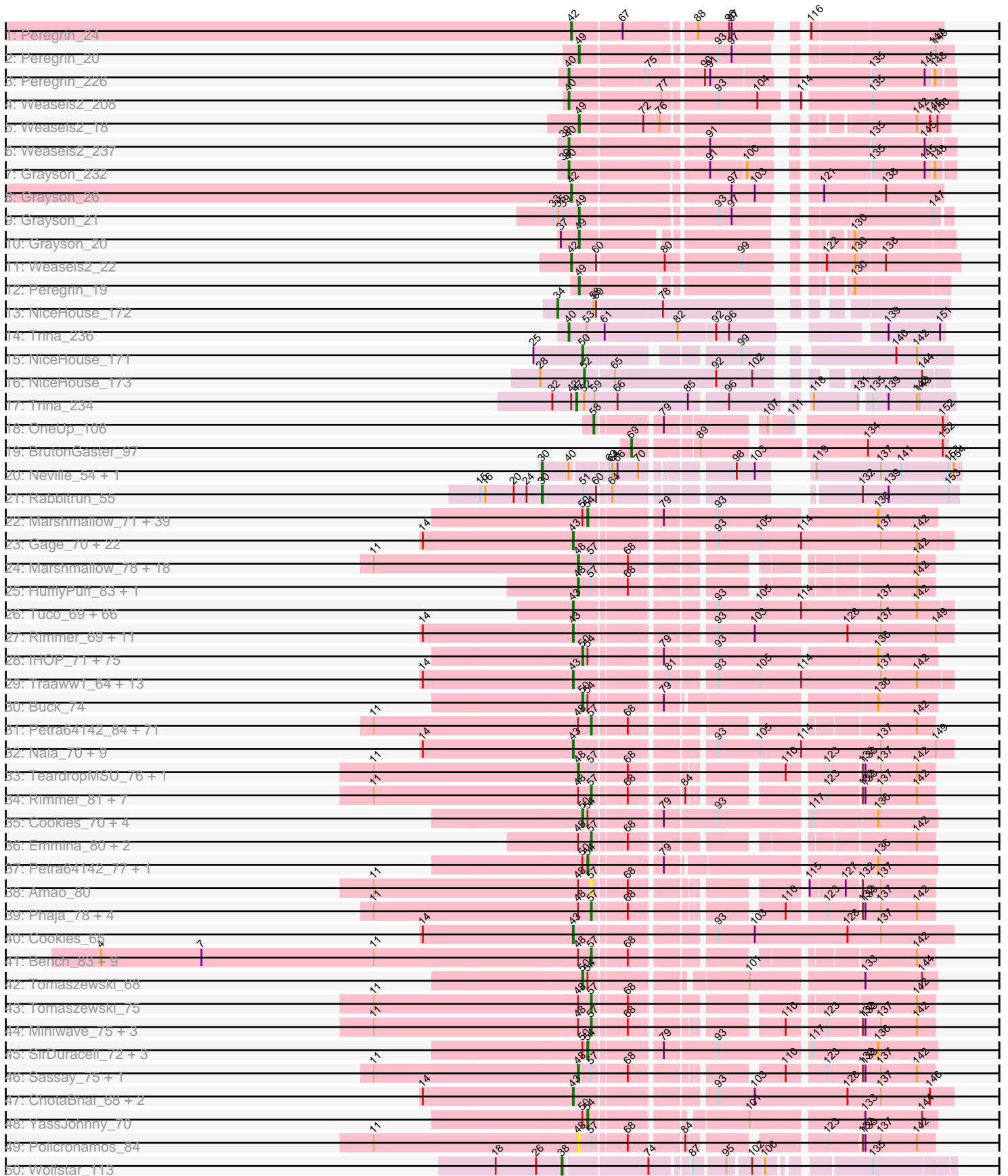
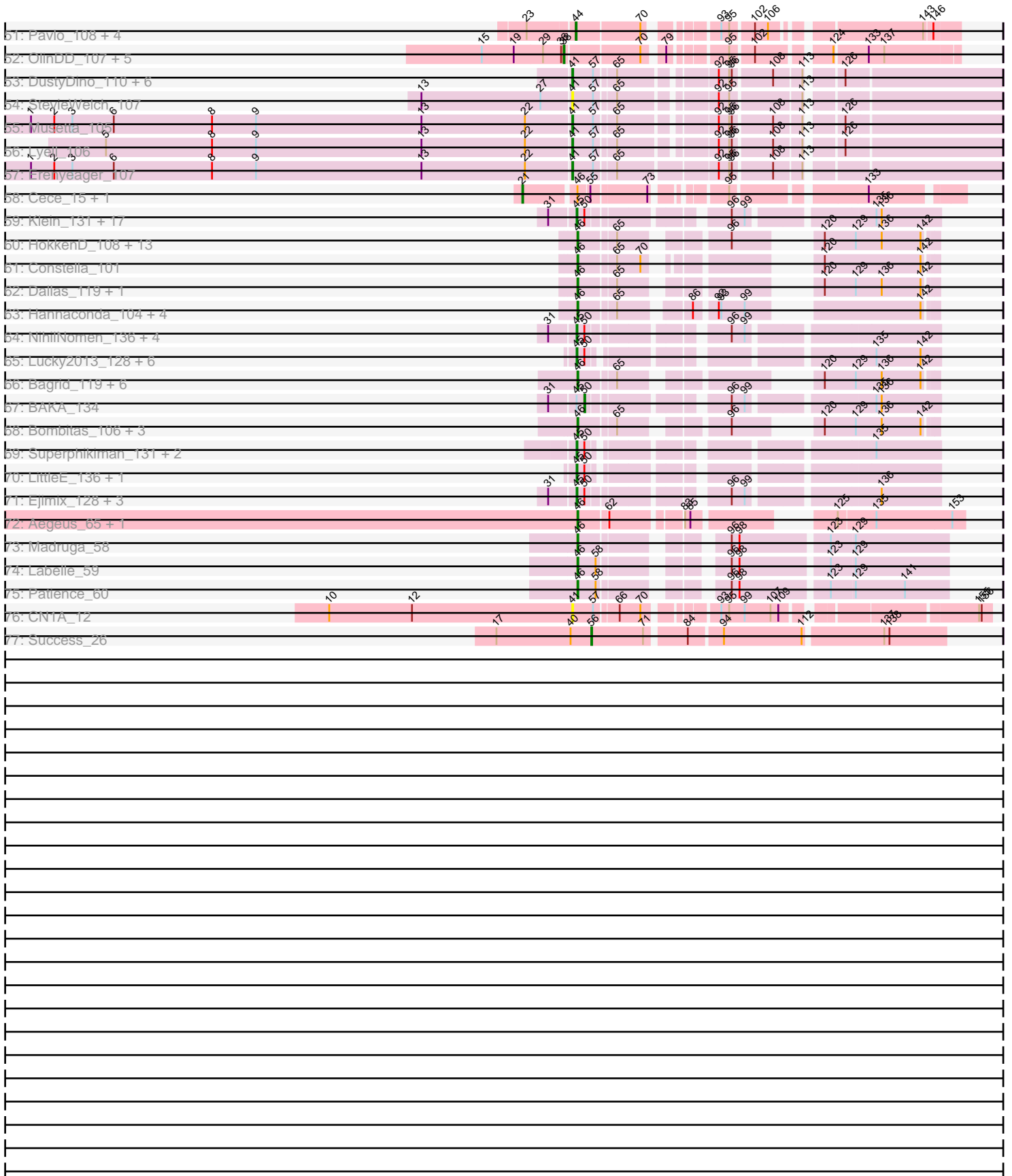


Pham 193636



Pham 193636



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 193636 Report

This analysis was run 11/02/24 on database version 579.

Pham number 193636 has 517 members, 30 are drafts.

Phages represented in each track:

- Track 1 : Peregrin\_24
- Track 2 : Peregrin\_20
- Track 3 : Peregrin\_226
- Track 4 : Weasels2\_208
- Track 5 : Weasels2\_18
- Track 6 : Weasels2\_237
- Track 7 : Grayson\_232
- Track 8 : Grayson\_26
- Track 9 : Grayson\_21
- Track 10 : Grayson\_20
- Track 11 : Weasels2\_22
- Track 12 : Peregrin\_19
- Track 13 : NiceHouse\_172
- Track 14 : Trina\_236
- Track 15 : NiceHouse\_171
- Track 16 : NiceHouse\_173
- Track 17 : Trina\_234
- Track 18 : OneUp\_106
- Track 19 : BrutonGaster\_97
- Track 20 : Neville\_54, Trax\_53
- Track 21 : Rabbitrun\_55
- Track 22 : Marshmallow\_71, Teaspoon\_74, Nala\_75, Sassay\_68, Dumbo\_73, Thresher\_75, Murica\_76, 244\_74, Nimrod\_74, Command613\_75, StellaBean\_71, BilboSwaggins\_72, Kostya\_73, GoldenSpark\_77, Youngblood\_76, Icee\_74, Balomoji\_73, MadamMonkfish\_73, Simpliphy\_72, NelitzaMV\_71, Eureka\_71, Goldilocks\_76, Terminus\_76, CrystalP\_72, Cjw1\_73, BugsBunny\_73, Policronamos\_77, Palpatine\_75, Daikon\_75, Filch\_74, Easy2Say\_74, Porky\_72, Pumpkin\_76, Amao\_73, Elph10\_73, Murphy\_73, Maxxinsta\_75, Wiggin\_75, FireRed\_77, Willez\_68
- Track 23 : Gage\_70, Porky\_67, Gemini\_73, Emmina\_68, TBrady12\_71, GoldenSpark\_72, Youngblood\_71, Lilizi\_69, BaboJay\_65, Inca\_65, Argent26\_72, Hoonter\_71, GooberAzure\_71, Goldilocks\_71, MadamMonkfish\_68, Bench\_71, Kimchi\_72, JeTaime\_68, StolenFromERC\_71, AmericanBeauty\_72, Command613\_70, Teaspoon\_69, Holt\_73
- Track 24 : Marshmallow\_78, BugsBunny\_80, Kostya\_80, BilboSwaggins\_79, Cjw1\_80, Daikon\_82, Elph10\_80, DrDrey\_80, Stank\_83, Adnama\_84, NelitzaMV\_78, Eureka\_78, Goku\_78, Bruin\_77, GoldenSpark\_84, MISSy\_81, Command613\_82,

ABCCat\_77, Dumbo\_80

- Track 25 : HufflyPuff\_83, Porky\_79

- Track 26 : Tuco\_69, Qualification\_69, Miniwave\_63, IHOP\_66, Paperbeatsrock\_67, Icee\_69, Thresher\_70, Kanye\_65, Murica\_71, Murphy\_68, Pharsalus\_65, StellaBean\_66, BadStone\_65, Gator\_66, HufflyPuff\_71, Stark\_69, Tarkin\_67, Rakim\_69, ABCat\_65, Hopey\_68, NelitzaMV\_66, Marshmallow\_66, BigBubba\_68, PhatBacter\_72, Goku\_66, Flypotenuse\_64, OrionPax\_67, Lilac\_70, Czyszczone1\_69, RiverMonster\_68, Manda\_68, Phaux\_70, Sotrice96\_69, Ukulele\_63, Cactus\_71, Elph10\_68, Kostya\_68, SophKB\_65, Elite2014\_67, ChosenOne\_68, Balomoji\_68, Dusk\_65, DrDrey\_68, Palpatine\_70, Simpliphy\_67, Policronamos\_72, Saints25\_67, Lilpickle\_67, ShereKhan\_67, Highbury\_67, NoSleep\_69, Daikon\_70, TeardropMSU\_64, Dumbo\_68, Pumpkin\_71, xkcd\_71, Eureka\_66, 244\_69, Maxxinista\_70, Phrux\_65, Phaja\_66, Cjw1\_68, HanKaySha\_68, BugsBunny\_68, Myrale\_68, Xandras\_67, Filch\_69

- Track 27 : Rimmer\_69, Sassay\_63, Harella\_68, Bask21\_68, Petra64142\_72, SirDuracell\_67, YassJohnny\_65, Buck\_69, Glexan\_67, Tomaszewski\_63, DoctorDiddles\_67, Willez\_63

- Track 28 : IHOP\_71, Traaww1\_69, Miniwave\_68, Highbury\_72, NoSleep\_74, Glexan\_72, Lilizi\_74, Inca\_70, Gemini\_78, MISSy\_74, Moldemort\_76, Gage\_75, Henry\_71, Phaja\_71, HanKaySha\_73, Mosby\_69, Manda\_74, SophKB\_70, MPhalcon\_74, Dusk\_70, Kanye\_70, Saints25\_72, PhatBacter\_77, JeTaime\_73, BadStone\_70, Lilpickle\_72, Contagion\_69, Argent26\_77, ShereKhan\_72, StolenFromERC\_76, TBrady12\_76, Emmina\_73, Flypotenuse\_69, Stank\_76, Mindy\_72, Hoonter\_76, Lilac\_75, Phaux\_75, Ukulele\_68, Cactus\_76, Adnama\_77, Hopey\_73, GooberAzure\_76, Myrale\_73, BaboJay\_70, Goku\_71, Kimchi\_77, Asriel\_72, Bench\_76, Bruin\_70, Xandras\_72, Tuco\_74, Qualification\_74, Barbarian\_72, TeardropMSU\_69, ShamWow\_73, xkcd\_76, Phrux\_70, Sotrice96\_74, Harella\_73, AmericanBeauty\_77, Czyszczone1\_74, Toto\_71, Pharsalus\_70, Gator\_71, Stark\_74, Elite2014\_72, Misfit\_74, ChosenOne\_73, Tarkin\_72, ABCat\_70, HufflyPuff\_76, RiverMonster\_73, DrDrey\_73, Holt\_78, Paperbeatsrock\_72

- Track 29 : Traaww1\_64, Easy2Say\_69, Moldemort\_71, CrystalP\_67, Asriel\_67, Henry\_66, Barbarian\_67, ShamWow\_68, BilboSwaggins\_67, Adnama\_72, Toto\_66, Stank\_71, Mindy\_67, Wiggin\_70

- Track 30 : Buck\_74

- Track 31 : Petra64142\_84, Highbury\_79, Filch\_81, Inca\_77, Sotrice96\_81, Palpatine\_82, Moldemort\_83, Dusk\_77, Kanye\_77, StellaBean\_78, AmericanBeauty\_84, Rakim\_81, Ukulele\_75, Misfit\_81, Lilac\_82, Terminus\_83, IHOP\_78, Glexan\_79, Saints25\_79, Cactus\_83, Buck\_81, Simpliphy\_79, GooberAzure\_83, MadamMonkfish\_80, Lilpickle\_79, Holt\_85, JeTaime\_80, Icee\_81, MPhalcon\_81, Mosby\_76, Kimchi\_84, Czyszczone1\_81, Maxxinista\_82, Hopey\_80, BadStone\_77, Balomoji\_80, Harella\_80, TBrady12\_83, Henry\_78, Stark\_81, RiverMonster\_80, Easy2Say\_81, CrystalP\_79, BaboJay\_77, Asriel\_79, Murphy\_80, Mindy\_79, HanKaySha\_80, Contagion\_76, Goldilocks\_83, StolenFromERC\_83, Tuco\_81, BigBubba\_80, Traaww1\_76, Barbarian\_79, Flypotenuse\_76, OrionPax\_79, Thresher\_82, ShamWow\_80, ChosenOne\_80, Phrux\_77, Youngblood\_83, Toto\_78, Manda\_81, Gator\_78, Teaspoon\_81, Elite2014\_79, NoSleep\_81, Wiggin\_82, Argent26\_84, Gemini\_85, Gage\_82

- Track 32 : Nala\_70, MPhalcon\_69, Mosby\_64, Bruin\_65, Nimrod\_69, Contagion\_64, MISSy\_69, Terminus\_71, Misfit\_69, FireRed\_72

- Track 33 : TeardropMSU\_76, YassJohnny\_77

- Track 34 : Rimmer\_81, Cookies\_77, Bask21\_80, ChotaBhai\_80, SirDuracell\_79, Pat3\_78, Phaux\_82, DoctorDiddles\_79

- Track 35 : Cookies\_70, ChotaBhai\_73, Rakim\_74, Pat3\_71, BigBubba\_73

- Track 36 : Emmina\_80, xkcd\_83, Murica\_83
- Track 37 : Petra64142\_77, Rimmer\_74
- Track 38 : Amao\_80
- Track 39 : Phaja\_78, SophKB\_77, ShereKhan\_78, Quallification\_81, Myrale\_80
- Track 40 : Cookies\_65
- Track 41 : Bench\_83, 244\_81, Pumpkin\_83, PhatBacter\_84, Lilizi\_81, FireRed\_84, Hoonter\_83, Xandras\_79, Nimrod\_81, Nala\_82
- Track 42 : Tomaszewski\_68
- Track 43 : Tomaszewski\_75
- Track 44 : Miniwave\_75, Pharsalus\_77, Tarkin\_79, Paperbeatsrock\_79
- Track 45 : SirDuracell\_72, Bask21\_73, OrionPax\_72, DoctorDiddles\_72
- Track 46 : Sassay\_75, Willez\_75
- Track 47 : ChotaBhai\_68, Amao\_68, Pat3\_66
- Track 48 : YassJohnny\_70
- Track 49 : Policronamos\_84
- Track 50 : Wolfstar\_113
- Track 51 : Pavlo\_108, Roman\_109, Hubbs\_107, DejaVu\_108, PhillyPhilly\_105
- Track 52 : OlinDD\_107, Pioneer3\_107, Hortus1\_107, Alleb\_103, Platte\_106, Tandem\_107
- Track 53 : DustyDino\_110, RunningBrook\_109, Yuma\_105, Welcome\_109, Necrophoxinus\_109, ASegato\_105, Fork\_103
- Track 54 : StevieWelch\_107
- Track 55 : Musetta\_105
- Track 56 : Lyell\_106
- Track 57 : Erenyeager\_107
- Track 58 : Cece\_15, Cece\_317
- Track 59 : Klein\_131, Redno2\_126, Yeet\_128, Wanda\_133, Zelink\_129, Odette\_138, Hughesyang\_134, ThreeRngTarjay\_130, Minerva\_133, Dove\_120, HokkenD\_126, DmpstrDiver\_134, Constella\_128, Duke13\_129, Schatzie\_130, Bagrid\_135, Phoebus\_135, EricMillard\_126
- Track 60 : HokkenD\_108, Ariel\_113, Redno2\_112, Lucky2013\_110, Courthouse\_108, JuicyJay\_115, Porcelain\_113, Phoebus\_119, Squint\_111, Beem\_120, Superphikiman\_110, MiaZeal\_113, NihilNomen\_120, Dove\_104
- Track 61 : Constella\_101
- Track 62 : Dallas\_119, Thibault\_99
- Track 63 : Hannaconda\_104, KashFlow\_110, Gonephishing\_107, LittleE\_118, Omega\_124
- Track 64 : NihilNomen\_136, Bombitas\_122, JuicyJay\_131, Bobby\_126, Beem\_136
- Track 65 : Lucky2013\_128, MiaZeal\_133, Gonephishing\_128, Hannaconda\_127, KashFlow\_131, Porcelain\_131, Squint\_131
- Track 66 : Bagrid\_119, Halley\_121, Minerva\_116, Hughesyang\_118, Pound\_108, DmpstrDiver\_119, Ejimix\_113
- Track 67 : BAKA\_134
- Track 68 : Bombitas\_106, Schatzie\_113, Yeet\_109, Odette\_120
- Track 69 : Superphikiman\_131, Ariel\_133, Courthouse\_129
- Track 70 : LittleE\_136, Omega\_143
- Track 71 : Ejimix\_128, Halley\_136, Thibault\_119, Dallas\_135
- Track 72 : Aegeus\_65, Baudelaire\_65
- Track 73 : Madruga\_58
- Track 74 : Labelle\_59
- Track 75 : Patience\_60
- Track 76 : CN1A\_12
- Track 77 : Success\_26

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

The start number called the most often in the published annotations is 43, it was called in 123 of the 487 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 244\_69, ABCat\_65, Adnama\_72, Amao\_68, AmericanBeauty\_72, Argent26\_72, Asriel\_67, BaboJay\_65, BadStone\_65, Balomoji\_68, Barbarian\_67, Bask21\_68, Bench\_71, BigBubba\_68, BilboSwaggins\_67, Bruin\_65, Buck\_69, BugsBunny\_68, Cactus\_71, ChosenOne\_68, ChotaBhai\_68, Cjw1\_68, Command613\_70, Contagion\_64, Cookies\_65, CrystalP\_67, Czyszczonek1\_69, Daikon\_70, DoctorDiddles\_67, DrDrey\_68, Dumbo\_68, Dusk\_65, Easy2Say\_69, Elite2014\_67, Elph10\_68, Emmina\_68, Eureka\_66, Filch\_69, FireRed\_72, Flypotenuse\_64, Gage\_70, Gator\_66, Gemini\_73, Glexan\_67, Goku\_66, GoldenSpark\_72, Goldilocks\_71, GooberAzure\_71, HanKaySha\_68, Harella\_68, Henry\_66, Highbury\_67, Holt\_73, Hoonter\_71, Hopey\_68, HuffyPuff\_71, IHOP\_66, Icee\_69, Inca\_65, JeTaime\_68, Kanye\_65, Kimchi\_72, Kostya\_68, Lilac\_70, Lilizi\_69, Lilpickle\_67, MISSy\_69, MPhalcon\_69, MadamMonkfish\_68, Manda\_68, Marshmallow\_66, Maxxinista\_70, Mindy\_67, Miniwave\_63, Misfit\_69, Moldemort\_71, Mosby\_64, Murica\_71, Murphy\_68, Myrale\_68, Nala\_70, NelitzaMV\_66, Nimrod\_69, NoSleep\_69, OrionPax\_67, Palpatine\_70, Paperbeatsrock\_67, Pat3\_66, Petra64142\_72, Phaja\_66, Pharsalus\_65, PhatBacter\_72, Phaux\_70, Phrux\_65, Policronamos\_72, Porky\_67, Pumpkin\_71, Quallification\_69, Rakim\_69, Rimmer\_69, RiverMonster\_68, Saints25\_67, Sassay\_63, ShamWow\_68, ShereKhan\_67, Simpliphy\_67, SirDuracell\_67, SophKB\_65, Sotrice96\_69, Stank\_71, Stark\_69, StellaBean\_66, StolenFromERC\_71, TBrady12\_71, Tarkin\_67, TeardropMSU\_64, Teaspoon\_69, Terminus\_71, Thresher\_70, Tomaszewski\_63, Toto\_66, Traaww1\_64, Tuco\_69, Ukulele\_63, Wiggins\_70, Willez\_63, Xandras\_67, YassJohnny\_65, Youngblood\_71, xkcd\_71,

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

- 

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

- 244\_74, 244\_81, ABCat\_70, ABCat\_77, ASegato\_105, Adnama\_77, Adnama\_84, Aegeus\_65, Alleb\_103, Amao\_73, Amao\_80, AmericanBeauty\_77, AmericanBeauty\_84, Argent26\_77, Argent26\_84, Ariel\_113, Ariel\_133, Asriel\_72, Asriel\_79, BAKA\_134, BaboJay\_70, BaboJay\_77, BadStone\_70, BadStone\_77, Bagrid\_119, Bagrid\_135, Balomoji\_73, Balomoji\_80, Barbarian\_72, Barbarian\_79, Bask21\_73, Bask21\_80, Baudelaire\_65, Beem\_120, Beem\_136, Bench\_76, Bench\_83, BigBubba\_73, BigBubba\_80, BilboSwaggins\_72, BilboSwaggins\_79, Bobby\_126, Bombitas\_106, Bombitas\_122, Bruin\_70, Bruin\_77, BrutonGaster\_97, Buck\_74, Buck\_81, BugsBunny\_73, BugsBunny\_80, CN1A\_12, Cactus\_76, Cactus\_83, Cece\_15, Cece\_317, ChosenOne\_73, ChosenOne\_80, ChotaBhai\_73, ChotaBhai\_80, Cjw1\_73, Cjw1\_80, Command613\_75, Command613\_82, Constella\_101, Constella\_128, Contagion\_69, Contagion\_76, Cookies\_70, Cookies\_77, Courthouse\_108, Courthouse\_129, CrystalP\_72, CrystalP\_79, Czyszczonek1\_74, Czyszczonek1\_81, Daikon\_75, Daikon\_82, Dallas\_119, Dallas\_135, DejaVu\_108, DmpstrDiver\_119, DmpstrDiver\_134, DoctorDiddles\_72,

DoctorDiddles\_79, Dove\_104, Dove\_120, DrDrey\_73, DrDrey\_80, Duke13\_129, Dumbo\_73, Dumbo\_80, Dusk\_70, Dusk\_77, DustyDino\_110, Easy2Say\_74, Easy2Say\_81, Ejimix\_113, Ejimix\_128, Elite2014\_72, Elite2014\_79, Elph10\_73, Elph10\_80, Emmina\_73, Emmina\_80, Erenyeager\_107, EricMillard\_126, Eureka\_71, Eureka\_78, Filch\_74, Filch\_81, FireRed\_77, FireRed\_84, Flypotenuse\_69, Flypotenuse\_76, Fork\_103, Gage\_75, Gage\_82, Gator\_71, Gator\_78, Gemini\_78, Gemini\_85, Glexan\_72, Glexan\_79, Goku\_71, Goku\_78, GoldenSpark\_77, GoldenSpark\_84, Goldilocks\_76, Goldilocks\_83, Gonephishing\_107, Gonephishing\_128, GooberAzure\_76, GooberAzure\_83, Grayson\_20, Grayson\_21, Grayson\_232, Grayson\_26, Halley\_121, Halley\_136, HanKaySha\_73, HanKaySha\_80, Hannaconda\_104, Hannaconda\_127, Harella\_73, Harella\_80, Henry\_71, Henry\_78, Highbury\_72, Highbury\_79, HokkenD\_108, HokkenD\_126, Holt\_78, Holt\_85, Hoonter\_76, Hoonter\_83, Hopey\_73, Hopey\_80, Hortus1\_107, Hubbs\_107, HufflyPuff\_76, HufflyPuff\_83, Hughesyang\_118, Hughesyang\_134, IHOP\_71, IHOP\_78, Icee\_74, Icee\_81, Inca\_70, Inca\_77, JeTaime\_73, JeTaime\_80, JuicyJay\_115, JuicyJay\_131, Kanye\_70, Kanye\_77, KashFlow\_110, KashFlow\_131, Kimchi\_77, Kimchi\_84, Klein\_131, Kostya\_73, Kostya\_80, Labelle\_59, Lilac\_75, Lilac\_82, Lilizi\_74, Lilizi\_81, Lilpickle\_72, Lilpickle\_79, LittleE\_118, LittleE\_136, Lucky2013\_110, Lucky2013\_128, Lyell\_106, MISSy\_74, MISSy\_81, MPhalcon\_74, MPhalcon\_81, MadamMonkfish\_73, MadamMonkfish\_80, Madruga\_58, Manda\_74, Manda\_81, Marshmallow\_71, Marshmallow\_78, Maxxinista\_75, Maxxinista\_82, MiaZeal\_113, MiaZeal\_133, Mindy\_72, Mindy\_79, Minerva\_116, Minerva\_133, Miniwave\_68, Miniwave\_75, Misfit\_74, Misfit\_81, Moldemort\_76, Moldemort\_83, Mosby\_69, Mosby\_76, Murica\_76, Murica\_83, Murphy\_73, Murphy\_80, Musetta\_105, Myrale\_73, Myrale\_80, Nala\_75, Nala\_82, Necrophoxinus\_109, NelitzaMV\_71, NelitzaMV\_78, Neville\_54, NiceHouse\_171, NiceHouse\_172, NiceHouse\_173, NihilNomen\_120, NihilNomen\_136, Nimrod\_74, Nimrod\_81, NoSleep\_74, NoSleep\_81, Odette\_120, Odette\_138, OlinDD\_107, Omega\_124, Omega\_143, OneUp\_106, OrionPax\_72, OrionPax\_79, Palpatine\_75, Palpatine\_82, Paperbeatsrock\_72, Paperbeatsrock\_79, Pat3\_71, Pat3\_78, Patience\_60, Pavlo\_108, Peregrin\_19, Peregrin\_20, Peregrin\_226, Peregrin\_24, Petra64142\_77, Petra64142\_84, Phaja\_71, Phaja\_78, Pharsalus\_70, Pharsalus\_77, PhatBacter\_77, PhatBacter\_84, Phaux\_75, Phaux\_82, PhillyPhilly\_105, Phoebus\_119, Phoebus\_135, Phrux\_70, Phrux\_77, Pioneer3\_107, Platte\_106, Policronamos\_77, Policronamos\_84, Porcelain\_113, Porcelain\_131, Porky\_72, Porky\_79, Pound\_108, Pumpkin\_76, Pumpkin\_83, Quallification\_74, Quallification\_81, Rabbitrun\_55, Rakim\_74, Rakim\_81, Redno2\_112, Redno2\_126, Rimmer\_74, Rimmer\_81, RiverMonster\_73, RiverMonster\_80, Roman\_109, RunningBrook\_109, Saints25\_72, Saints25\_79, Sassay\_68, Sassay\_75, Schatzie\_113, Schatzie\_130, ShamWow\_73, ShamWow\_80, ShereKhan\_72, ShereKhan\_78, Simpliphy\_72, Simpliphy\_79, SirDuracell\_72, SirDuracell\_79, SophKB\_70, SophKB\_77, Sotrice96\_74, Sotrice96\_81, Squint\_111, Squint\_131, Stank\_76, Stank\_83, Stark\_74, Stark\_81, StellaBean\_71, StellaBean\_78, StevieWelch\_107, StolenFromERC\_76, StolenFromERC\_83, Success\_26, Superphikiman\_110, Superphikiman\_131, TBrady12\_76, TBrady12\_83, Tandem\_107, Tarkin\_72, Tarkin\_79, TeardropMSU\_69, TeardropMSU\_76, Teaspoon\_74, Teaspoon\_81, Terminus\_76, Terminus\_83, Thibault\_119, Thibault\_99, ThreeRngTarjay\_130, Thresher\_75, Thresher\_82, Tomaszewski\_68, Tomaszewski\_75, Toto\_71, Toto\_78, Traaww1\_69, Traaww1\_76, Trax\_53, Trina\_234, Trina\_236, Tuco\_74, Tuco\_81, Ukulele\_68, Ukulele\_75, Wanda\_133, Weasels2\_18, Weasels2\_208, Weasels2\_22, Weasels2\_237, Welcome\_109, Wiggin\_75, Wiggin\_82, Willez\_68, Willez\_75, Wolfstar\_113, Xandras\_72, Xandras\_79, YassJohnny\_70, YassJohnny\_77, Yeet\_109, Yeet\_128, Youngblood\_76, Youngblood\_83, Yuma\_105, Zelink\_129, xkcd\_76, xkcd\_83,

## Summary by start number:

### Start 21:

- Found in 2 of 517 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 2 of 487
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cece\_15 (GD3), Cece\_317 (GD3),

### Start 30:

- Found in 3 of 517 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 3 of 487
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Neville\_54 (DU2), Rabbitrun\_55 (DU2), Trax\_53 (DU2),

### Start 34:

- Found in 1 of 517 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 487
- Called 100.0% of time when present
- Phage (with cluster) where this start called: NiceHouse\_172 (CE),

### Start 38:

- Found in 7 of 517 ( 1.4% ) of genes in pham
- Manual Annotations of this start: 7 of 487
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Alleb\_103 (ED1), Hortus1\_107 (ED1), OlinDD\_107 (ED1), Pioneer3\_107 (ED1), Platte\_106 (ED1), Tandem\_107 (ED1), Wolfstar\_113 (ED),

### Start 40:

- Found in 8 of 517 ( 1.5% ) of genes in pham
- Manual Annotations of this start: 5 of 487
- Called 62.5% of time when present
- Phage (with cluster) where this start called: Grayson\_232 (CB), Peregrin\_226 (CB), Trina\_236 (CE), Weasels2\_208 (CB), Weasels2\_237 (CB),

### Start 41:

- Found in 12 of 517 ( 2.3% ) of genes in pham
- Manual Annotations of this start: 9 of 487
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ASegato\_105 (ED2), CN1A\_12 (singleton), DustyDino\_110 (ED2), Erenyeager\_107 (ED2), Fork\_103 (ED2), Lyell\_106 (ED2), Musetta\_105 (ED2), Necrophoxinus\_109 (ED2), RunningBrook\_109 (ED2), StevieWelch\_107 (ED2), Welcome\_109 (ED2), Yuma\_105 (ED2),

### Start 42:

- Found in 4 of 517 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 3 of 487
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Grayson\_26 (CB), Peregrin\_24 (CB), Weasels2\_22 (CB),



#### Start 43:

- Found in 130 of 517 ( 25.1% ) of genes in pham
- Manual Annotations of this start: 123 of 487
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 244\_69 (E), ABCat\_65 (E), Adnama\_72 (E), Amao\_68 (E), AmericanBeauty\_72 (E), Argent26\_72 (E), Asriel\_67 (E), BaboJay\_65 (E), BadStone\_65 (E), Balomoji\_68 (E), Barbarian\_67 (E), Bask21\_68 (E), Bench\_71 (E), BigBubba\_68 (E), BilboSwaggins\_67 (E), Bruin\_65 (E), Buck\_69 (E), BugsBunny\_68 (E), Cactus\_71 (E), ChosenOne\_68 (E), ChotaBhai\_68 (E), Cjw1\_68 (E), Command613\_70 (E), Contagion\_64 (E), Cookies\_65 (E), CrystalP\_67 (E), Czyszczonek\_69 (E), Daikon\_70 (E), DoctorDiddles\_67 (E), DrDrey\_68 (E), Dumbo\_68 (E), Dusk\_65 (E), Easy2Say\_69 (E), Elite2014\_67 (E), Elph10\_68 (E), Emmina\_68 (E), Eureka\_66 (E), Filch\_69 (E), FireRed\_72 (E), Flypotenuse\_64 (E), Gage\_70 (E), Gator\_66 (E), Gemini\_73 (E), Glexan\_67 (E), Goku\_66 (E), GoldenSpark\_72 (E), Goldilocks\_71 (E), GooberAzure\_71 (E), HanKaySha\_68 (E), Harella\_68 (E), Henry\_66 (E), Highbury\_67 (E), Holt\_73 (E), Hoonter\_71 (E), Hopey\_68 (E), HufflyPuff\_71 (E), IHOP\_66 (E), Icee\_69 (E), Inca\_65 (E), JeTaimie\_68 (E), Kanye\_65 (E), Kimchi\_72 (E), Kostya\_68 (E), Lilac\_70 (E), Lilizi\_69 (E), Lilpickle\_67 (E), MISSy\_69 (E), MPhalcon\_69 (E), MadamMonkfish\_68 (E), Manda\_68 (E), Marshmallow\_66 (E), Maxxinista\_70 (E), Mindy\_67 (E), Miniwave\_63 (E), Misfit\_69 (E), Moldemort\_71 (E), Mosby\_64 (E), Murica\_71 (E), Murphy\_68 (E), Myrale\_68 (E), Nala\_70 (E), NelitzaMV\_66 (E), Nimrod\_69 (E), NoSleep\_69 (E), OrionPax\_67 (E), Palpatine\_70 (E), Paperbeatsrock\_67 (E), Pat3\_66 (E), Petra64142\_72 (E), Phaja\_66 (E), Pharsalus\_65 (E), PhatBacter\_72 (E), Phaux\_70 (E), Phrux\_65 (E), Policronamos\_72 (E), Porky\_67 (E), Pumpkin\_71 (E), Quallification\_69 (E), Rakim\_69 (E), Rimmer\_69 (E), RiverMonster\_68 (E), Saints25\_67 (E), Sassay\_63 (E), ShamWow\_68 (E), ShereKhan\_67 (E), Simpliphy\_67 (E), SirDuracell\_67 (E), SophKB\_65 (E), Sotrice96\_69 (E), Stank\_71 (E), Stark\_69 (E), StellaBean\_66 (E), StolenFromERC\_71 (E), TBrady12\_71 (E), Tarkin\_67 (E), TeardropMSU\_64 (E), Teaspoon\_69 (E), Terminus\_71 (E), Thresher\_70 (E), Tomaszewski\_63 (E), Toto\_66 (E), Traaww1\_64 (E), Tuco\_69 (E), Ukulele\_63 (E), Wiggin\_70 (E), Willez\_63 (E), Xandras\_67 (E), YassJohnny\_65 (E), Youngblood\_71 (E), xkcd\_71 (E),

#### Start 44:

- Found in 5 of 517 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 5 of 487
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DejaVu\_108 (ED1), Hubbs\_107 (ED1), Pavlo\_108 (ED1), PhillyPhilly\_105 (ED1), Roman\_109 (ED1),

#### Start 45:

- Found in 40 of 517 ( 7.7% ) of genes in pham
- Manual Annotations of this start: 36 of 487
- Called 97.5% of time when present
- Phage (with cluster) where this start called: Ariel\_133 (J), Bagrid\_135 (J), Beem\_136 (J), Bobby\_126 (J), Bombitas\_122 (J), Constella\_128 (J), Courthouse\_129 (J), Dallas\_135 (J), DmpstrDiver\_134 (J), Dove\_120 (J), Duke13\_129 (J), Ejimix\_128 (J), EricMillard\_126 (J), Gonephishing\_128 (J), Halley\_136 (J), Hannaconda\_127 (J), HokkenD\_126 (J), Hughesyang\_134 (J), JuicyJay\_131 (J), KashFlow\_131 (J), Klein\_131 (J), LittleE\_136 (J), Lucky2013\_128 (J), MiaZeal\_133 (J), Minerva\_133 (J), NihilNomen\_136 (J), Odette\_138 (J), Omega\_143 (J), Phoebus\_135 (J), Porcelain\_131 (J), Redno2\_126 (J), Schatzie\_130

(J), Squint\_131 (J), Superphikiman\_131 (J), Thibault\_119 (J), ThreeRngTarjay\_130 (J), Wanda\_133 (J), Yeet\_128 (J), Zelink\_129 (J),

#### Start 46:

- Found in 40 of 517 ( 7.7% ) of genes in pham
- Manual Annotations of this start: 35 of 487
- Called 95.0% of time when present
- Phage (with cluster) where this start called: Aegeus\_65 (L5), Ariel\_113 (J), Bagrid\_119 (J), Baudelaire\_65 (L5), Beem\_120 (J), Bombitas\_106 (J), Constella\_101 (J), Courthouse\_108 (J), Dallas\_119 (J), DmpstrDiver\_119 (J), Dove\_104 (J), Ejimix\_113 (J), Gonephishing\_107 (J), Halley\_121 (J), Hannaconda\_104 (J), HokkenD\_108 (J), Hughesyang\_118 (J), JuicyJay\_115 (J), KashFlow\_110 (J), Labelle\_59 (U), LittleE\_118 (J), Lucky2013\_110 (J), Madrugua\_58 (U), MiaZeal\_113 (J), Minerva\_116 (J), NihilNomen\_120 (J), Odette\_120 (J), Omega\_124 (J), Patience\_60 (U), Phoebus\_119 (J), Porcelain\_113 (J), Pound\_108 (J), Redno2\_112 (J), Schatzie\_113 (J), Squint\_111 (J), Superphikiman\_110 (J), Thibault\_99 (J), Yeet\_109 (J),

#### Start 47:

- Found in 1 of 517 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 487
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Trina\_234 (CE),

#### Start 48:

- Found in 130 of 517 ( 25.1% ) of genes in pham
- Manual Annotations of this start: 22 of 487
- Called 20.0% of time when present
- Phage (with cluster) where this start called: ABCat\_77 (E), Adnama\_84 (E), BilboSwaggins\_79 (E), Bruin\_77 (E), BugsBunny\_80 (E), Cjw1\_80 (E), Command613\_82 (E), Daikon\_82 (E), DrDrey\_80 (E), Dumbo\_80 (E), Elph10\_80 (E), Eureka\_78 (E), Goku\_78 (E), GoldenSpark\_84 (E), HufflyPuff\_83 (E), Kostya\_80 (E), MISSy\_81 (E), Marshmallow\_78 (E), NelitzaMV\_78 (E), Policronamos\_84 (E), Porky\_79 (E), Sassay\_75 (E), Stank\_83 (E), TeardropMSU\_76 (E), Willez\_75 (E), YassJohnny\_77 (E),

#### Start 49:

- Found in 5 of 517 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 5 of 487
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Grayson\_20 (CB), Grayson\_21 (CB), Peregrin\_19 (CB), Peregrin\_20 (CB), Weasels2\_18 (CB),

#### Start 50:

- Found in 171 of 517 ( 33.1% ) of genes in pham
- Manual Annotations of this start: 85 of 487
- Called 49.7% of time when present
- Phage (with cluster) where this start called: ABCat\_70 (E), Adnama\_77 (E), AmericanBeauty\_77 (E), Argent26\_77 (E), Asriel\_72 (E), BAKA\_134 (J), BaboJay\_70 (E), BadStone\_70 (E), Barbarian\_72 (E), Bench\_76 (E), BigBubba\_73 (E), Bruin\_70 (E), Buck\_74 (E), Cactus\_76 (E), ChosenOne\_73 (E), ChotaBhai\_73 (E), Contagion\_69 (E), Cookies\_70 (E), Czyszczonek\_74 (E), DrDrey\_73 (E), Dusk\_70 (E), Elite2014\_72 (E), Emmina\_73 (E), Flypotenuse\_69 (E), Gage\_75 (E), Gator\_71 (E),

Gemini\_78 (E), Glexan\_72 (E), Goku\_71 (E), GooberAzure\_76 (E), HanKaySha\_73 (E), Harella\_73 (E), Henry\_71 (E), Highbury\_72 (E), Holt\_78 (E), Hoonter\_76 (E), Hokey\_73 (E), HufflyPuff\_76 (E), IHOP\_71 (E), Inca\_70 (E), JeTaimie\_73 (E), Kanye\_70 (E), Kimchi\_77 (E), Lilac\_75 (E), Lilizi\_74 (E), Lilpickle\_72 (E), MISSy\_74 (E), MPhalcon\_74 (E), Manda\_74 (E), Mindy\_72 (E), Miniwave\_68 (E), Misfit\_74 (E), Moldemort\_76 (E), Mosby\_69 (E), Myrale\_73 (E), NiceHouse\_171 (CE), NoSleep\_74 (E), Paperbeatsrock\_72 (E), Pat3\_71 (E), Phaja\_71 (E), Pharsalus\_70 (E), PhatBacter\_77 (E), Phaux\_75 (E), Phrux\_70 (E), Quallification\_74 (E), Rakim\_74 (E), RiverMonster\_73 (E), Saints25\_72 (E), ShamWow\_73 (E), ShereKhan\_72 (E), SophKB\_70 (E), Sotrice96\_74 (E), Stank\_76 (E), Stark\_74 (E), StolenFromERC\_76 (E), TBrady12\_76 (E), Tarkin\_72 (E), TeardropMSU\_69 (E), Tomaszewski\_68 (E), Toto\_71 (E), Traaww1\_69 (E), Tuco\_74 (E), Ukulele\_68 (E), Xandras\_72 (E), xkcd\_76 (E),

#### Start 52:

- Found in 2 of 517 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 487
- Called 50.0% of time when present
- Phage (with cluster) where this start called: NiceHouse\_173 (CE),

#### Start 54:

- Found in 130 of 517 ( 25.1% ) of genes in pham
- Manual Annotations of this start: 40 of 487
- Called 36.2% of time when present
- Phage (with cluster) where this start called: 244\_74 (E), Amao\_73 (E), Balomoji\_73 (E), Bask21\_73 (E), BilboSwaggins\_72 (E), BugsBunny\_73 (E), Cjw1\_73 (E), Command613\_75 (E), CrystalP\_72 (E), Daikon\_75 (E), DoctorDiddles\_72 (E), Dumbo\_73 (E), Easy2Say\_74 (E), Elph10\_73 (E), Eureka\_71 (E), Filch\_74 (E), FireRed\_77 (E), GoldenSpark\_77 (E), Goldilocks\_76 (E), Icee\_74 (E), Kostya\_73 (E), MadamMonkfish\_73 (E), Marshmallow\_71 (E), Maxxinista\_75 (E), Murica\_76 (E), Murphy\_73 (E), Nala\_75 (E), NelitzaMV\_71 (E), Nimrod\_74 (E), OrionPax\_72 (E), Palpatine\_75 (E), Petra64142\_77 (E), Policronamos\_77 (E), Porky\_72 (E), Pumpkin\_76 (E), Rimmer\_74 (E), Sassay\_68 (E), Simpliphy\_72 (E), SirDuracell\_72 (E), StellaBean\_71 (E), Teaspoon\_74 (E), Terminus\_76 (E), Thresher\_75 (E), Wiggin\_75 (E), Willez\_68 (E), YassJohnny\_70 (E), Youngblood\_76 (E),

#### Start 56:

- Found in 1 of 517 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 487
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Success\_26 (singleton),

#### Start 57:

- Found in 142 of 517 ( 27.5% ) of genes in pham
- Manual Annotations of this start: 101 of 487
- Called 73.2% of time when present
- Phage (with cluster) where this start called: 244\_81 (E), Amao\_80 (E), AmericanBeauty\_84 (E), Argent26\_84 (E), Asriel\_79 (E), BaboJay\_77 (E), BadStone\_77 (E), Balomoji\_80 (E), Barbarian\_79 (E), Bask21\_80 (E), Bench\_83 (E), BigBubba\_80 (E), Buck\_81 (E), Cactus\_83 (E), ChosenOne\_80 (E), ChotaBhai\_80 (E), Contagion\_76 (E), Cookies\_77 (E), CrystalP\_79 (E), Czyszczonek\_81 (E), DoctorDiddles\_79 (E), Dusk\_77 (E), Easy2Say\_81 (E), Elite2014\_79 (E), Emmina\_80 (E), Filch\_81 (E), FireRed\_84 (E), Flypotenuse\_76 (E), Gage\_82 (E), Gator\_78 (E),

Gemini\_85 (E), Glexan\_79 (E), Goldilocks\_83 (E), GooberAzure\_83 (E), HanKaySha\_80 (E), Harella\_80 (E), Henry\_78 (E), Highbury\_79 (E), Holt\_85 (E), Hoonter\_83 (E), Hohey\_80 (E), IHOP\_78 (E), Icee\_81 (E), Inca\_77 (E), JeTaimé\_80 (E), Kanye\_77 (E), Kimchi\_84 (E), Lilac\_82 (E), Lilizi\_81 (E), Lilpickle\_79 (E), MPhalcon\_81 (E), MadamMonkfish\_80 (E), Manda\_81 (E), Maxxinista\_82 (E), Mindy\_79 (E), Miniwave\_75 (E), Misfit\_81 (E), Moldemort\_83 (E), Mosby\_76 (E), Murica\_83 (E), Murphy\_80 (E), Myrale\_80 (E), Nala\_82 (E), Nimrod\_81 (E), NoSleep\_81 (E), OrionPax\_79 (E), Palpatine\_82 (E), Paperbeatsrock\_79 (E), Pat3\_78 (E), Petra64142\_84 (E), Phaja\_78 (E), Pharsalus\_77 (E), PhatBacter\_84 (E), Phaux\_82 (E), Phrux\_77 (E), Pumpkin\_83 (E), Qualification\_81 (E), Rakim\_81 (E), Rimmer\_81 (E), RiverMonster\_80 (E), Saints25\_79 (E), ShamWow\_80 (E), ShereKhan\_78 (E), Simpliphy\_79 (E), SirDuracell\_79 (E), SophKB\_77 (E), Sotrice96\_81 (E), Stark\_81 (E), StellaBean\_78 (E), StolenFromERC\_83 (E), TBrady12\_83 (E), Tarkin\_79 (E), Teaspoon\_81 (E), Terminus\_83 (E), Thresher\_82 (E), Tomaszewski\_75 (E), Toto\_78 (E), Traaww1\_76 (E), Tuco\_81 (E), Ukulele\_75 (E), Wiggins\_82 (E), Xandras\_79 (E), Youngblood\_83 (E), xkcd\_83 (E),

Start 58:

- Found in 4 of 517 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 487
- Called 25.0% of time when present
- Phage (with cluster) where this start called: OneUp\_106 (CQ2),

Start 69:

- Found in 1 of 517 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 487
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BrutonGaster\_97 (CQ2),

### Summary by clusters:

There are 13 clusters represented in this pham: singleton, GD3, E, ED1, CB, J, CE, ED2, L5, U, ED, CQ2, DU2,

Info for manual annotations of cluster CB:

- Start number 40 was manually annotated 4 times for cluster CB.
- Start number 42 was manually annotated 3 times for cluster CB.
- Start number 49 was manually annotated 5 times for cluster CB.

Info for manual annotations of cluster CE:

- Start number 34 was manually annotated 1 time for cluster CE.
- Start number 40 was manually annotated 1 time for cluster CE.
- Start number 47 was manually annotated 1 time for cluster CE.
- Start number 50 was manually annotated 1 time for cluster CE.
- Start number 52 was manually annotated 1 time for cluster CE.

Info for manual annotations of cluster CQ2:

- Start number 58 was manually annotated 1 time for cluster CQ2.
- Start number 69 was manually annotated 1 time for cluster CQ2.

Info for manual annotations of cluster DU2:

- Start number 30 was manually annotated 3 times for cluster DU2.

Info for manual annotations of cluster E:

- Start number 43 was manually annotated 123 times for cluster E.
- Start number 48 was manually annotated 22 times for cluster E.
- Start number 50 was manually annotated 83 times for cluster E.
- Start number 54 was manually annotated 40 times for cluster E.
- Start number 57 was manually annotated 101 times for cluster E.

Info for manual annotations of cluster ED:

- Start number 38 was manually annotated 1 time for cluster ED.

Info for manual annotations of cluster ED1:

- Start number 38 was manually annotated 6 times for cluster ED1.
- Start number 44 was manually annotated 5 times for cluster ED1.

Info for manual annotations of cluster ED2:

- Start number 41 was manually annotated 9 times for cluster ED2.

Info for manual annotations of cluster GD3:

- Start number 21 was manually annotated 2 times for cluster GD3.

Info for manual annotations of cluster J:

- Start number 45 was manually annotated 36 times for cluster J.
- Start number 46 was manually annotated 30 times for cluster J.
- Start number 50 was manually annotated 1 time for cluster J.

Info for manual annotations of cluster L5:

- Start number 46 was manually annotated 2 times for cluster L5.

Info for manual annotations of cluster U:

- Start number 46 was manually annotated 3 times for cluster U.

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

Gene: 244\_74 Start: 47428, Stop: 47793, Start Num: 54

Candidate Starts for 244\_74:

(Start: 50 @47422 has 85 MA's), (Start: 54 @47428 has 40 MA's), (79, 47500), (93, 47554), (136, 47725),

Gene: 244\_81 Start: 49796, Stop: 50131, Start Num: 57

Candidate Starts for 244\_81:

(4, 49226), (7, 49343), (11, 49544), (Start: 48 @49781 has 22 MA's), (Start: 57 @49796 has 101 MA's), (68, 49832), (142, 50111),

Gene: 244\_69 Start: 45158, Stop: 45568, Start Num: 43

Candidate Starts for 244\_69:

(Start: 43 @45158 has 123 MA's), (93, 45299), (105, 45347), (114, 45395), (137, 45488), (142, 45530),

Gene: ABCat\_65 Start: 45505, Stop: 45915, Start Num: 43

Candidate Starts for ABCat\_65:

(Start: 43 @45505 has 123 MA's), (93, 45646), (105, 45694), (114, 45742), (137, 45835), (142, 45877),

Gene: ABCat\_70 Start: 47769, Stop: 48146, Start Num: 50

Candidate Starts for ABCat\_70:

(Start: 50 @47769 has 85 MA's), (Start: 54 @47775 has 40 MA's), (79, 47847), (93, 47907), (136, 48078),

Gene: ABCat\_77 Start: 50134, Stop: 50484, Start Num: 48

Candidate Starts for ABCat\_77:

(11, 49897), (Start: 48 @50134 has 22 MA's), (Start: 57 @50149 has 101 MA's), (68, 50185), (142, 50464),

Gene: ASegato\_105 Start: 56034, Stop: 55597, Start Num: 41

Candidate Starts for ASegato\_105:

(Start: 41 @56034 has 9 MA's), (Start: 57 @56010 has 101 MA's), (65, 55989), (92, 55893), (95, 55881), (96, 55878), (108, 55836), (113, 55806), (126, 55773),

Gene: Adnama\_84 Start: 50160, Stop: 50507, Start Num: 48

Candidate Starts for Adnama\_84:

(11, 49923), (Start: 48 @50160 has 22 MA's), (Start: 57 @50175 has 101 MA's), (68, 50211), (142, 50487),

Gene: Adnama\_72 Start: 45528, Stop: 45938, Start Num: 43

Candidate Starts for Adnama\_72:

(14, 45354), (Start: 43 @45528 has 123 MA's), (81, 45624), (93, 45669), (105, 45717), (114, 45765), (137, 45858), (142, 45900),

Gene: Adnama\_77 Start: 47795, Stop: 48172, Start Num: 50

Candidate Starts for Adnama\_77:

(Start: 50 @47795 has 85 MA's), (Start: 54 @47801 has 40 MA's), (79, 47873), (93, 47933), (136, 48104),

Gene: Aegeus\_65 Start: 44400, Stop: 44765, Start Num: 46

Candidate Starts for Aegeus\_65:

(Start: 46 @44400 has 35 MA's), (62, 44430), (83, 44502), (85, 44508), (125, 44622), (135, 44664), (153, 44751),

Gene: Alleb\_103 Start: 57500, Stop: 57114, Start Num: 38

Candidate Starts for Alleb\_103:

(15, 57593), (19, 57557), (29, 57524), (36, 57503), (Start: 38 @57500 has 7 MA's), (70, 57419), (79, 57401), (95, 57347), (102, 57323), (124, 57251), (133, 57215), (137, 57197),

Gene: Amao\_80 Start: 49569, Stop: 49901, Start Num: 57

Candidate Starts for Amao\_80:

(11, 49317), (Start: 48 @49554 has 22 MA's), (Start: 57 @49569 has 101 MA's), (68, 49605), (115, 49764), (127, 49803), (132, 49818), (137, 49839),

Gene: Amao\_68 Start: 44913, Stop: 45326, Start Num: 43

Candidate Starts for Amao\_68:

(14, 44739), (Start: 43 @44913 has 123 MA's), (93, 45054), (103, 45096), (128, 45204), (137, 45243), (146, 45300),

Gene: Amao\_73 Start: 47195, Stop: 47566, Start Num: 54  
Candidate Starts for Amao\_73:  
(Start: 50 @47189 has 85 MA's), (Start: 54 @47195 has 40 MA's), (79, 47267), (93, 47327), (136, 47498),

Gene: AmericanBeauty\_84 Start: 50318, Stop: 50653, Start Num: 57  
Candidate Starts for AmericanBeauty\_84:  
(11, 50066), (Start: 48 @50303 has 22 MA's), (Start: 57 @50318 has 101 MA's), (68, 50354), (142, 50633),

Gene: AmericanBeauty\_72 Start: 45671, Stop: 46081, Start Num: 43  
Candidate Starts for AmericanBeauty\_72:  
(14, 45497), (Start: 43 @45671 has 123 MA's), (93, 45812), (105, 45860), (114, 45908), (137, 46001), (142, 46043),

Gene: AmericanBeauty\_77 Start: 47938, Stop: 48315, Start Num: 50  
Candidate Starts for AmericanBeauty\_77:  
(Start: 50 @47938 has 85 MA's), (Start: 54 @47944 has 40 MA's), (79, 48016), (93, 48076), (136, 48247),

Gene: Argent26\_72 Start: 45309, Stop: 45719, Start Num: 43  
Candidate Starts for Argent26\_72:  
(14, 45135), (Start: 43 @45309 has 123 MA's), (93, 45450), (105, 45498), (114, 45546), (137, 45639), (142, 45681),

Gene: Argent26\_77 Start: 47576, Stop: 47953, Start Num: 50  
Candidate Starts for Argent26\_77:  
(Start: 50 @47576 has 85 MA's), (Start: 54 @47582 has 40 MA's), (79, 47654), (93, 47714), (136, 47885),

Gene: Argent26\_84 Start: 49956, Stop: 50291, Start Num: 57  
Candidate Starts for Argent26\_84:  
(11, 49704), (Start: 48 @49941 has 22 MA's), (Start: 57 @49956 has 101 MA's), (68, 49992), (142, 50271),

Gene: Ariel\_113 Start: 61833, Stop: 62153, Start Num: 46  
Candidate Starts for Ariel\_113:  
(Start: 46 @61833 has 35 MA's), (65, 61872), (96, 61971), (120, 62028), (129, 62064), (136, 62094), (142, 62139),

Gene: Ariel\_133 Start: 69964, Stop: 70317, Start Num: 45  
Candidate Starts for Ariel\_133:  
(Start: 45 @69964 has 36 MA's), (Start: 50 @69973 has 85 MA's), (135, 70243),

Gene: Asriel\_67 Start: 43865, Stop: 44275, Start Num: 43  
Candidate Starts for Asriel\_67:  
(14, 43691), (Start: 43 @43865 has 123 MA's), (81, 43961), (93, 44006), (105, 44054), (114, 44102), (137, 44195), (142, 44237),

Gene: Asriel\_72 Start: 46132, Stop: 46509, Start Num: 50  
Candidate Starts for Asriel\_72:  
(Start: 50 @46132 has 85 MA's), (Start: 54 @46138 has 40 MA's), (79, 46210), (93, 46270), (136, 46441),

Gene: Asriel\_79 Start: 48512, Stop: 48844, Start Num: 57

Candidate Starts for Asriel\_79:

(11, 48260), (Start: 48 @48497 has 22 MA's), (Start: 57 @48512 has 101 MA's), (68, 48548), (142, 48824),

Gene: BAKA\_134 Start: 72670, Stop: 73020, Start Num: 50

Candidate Starts for BAKA\_134:

(31, 72634), (Start: 45 @72661 has 36 MA's), (Start: 50 @72670 has 85 MA's), (96, 72802), (99, 72817), (135, 72946), (136, 72952),

Gene: BaboJay\_65 Start: 44702, Stop: 45112, Start Num: 43

Candidate Starts for BaboJay\_65:

(14, 44528), (Start: 43 @44702 has 123 MA's), (93, 44843), (105, 44891), (114, 44939), (137, 45032), (142, 45074),

Gene: BaboJay\_70 Start: 46969, Stop: 47346, Start Num: 50

Candidate Starts for BaboJay\_70:

(Start: 50 @46969 has 85 MA's), (Start: 54 @46975 has 40 MA's), (79, 47047), (93, 47107), (136, 47278),

Gene: BaboJay\_77 Start: 49349, Stop: 49684, Start Num: 57

Candidate Starts for BaboJay\_77:

(11, 49097), (Start: 48 @49334 has 22 MA's), (Start: 57 @49349 has 101 MA's), (68, 49385), (142, 49664),

Gene: BadStone\_65 Start: 45074, Stop: 45484, Start Num: 43

Candidate Starts for BadStone\_65:

(Start: 43 @45074 has 123 MA's), (93, 45215), (105, 45263), (114, 45311), (137, 45404), (142, 45446),

Gene: BadStone\_70 Start: 47338, Stop: 47715, Start Num: 50

Candidate Starts for BadStone\_70:

(Start: 50 @47338 has 85 MA's), (Start: 54 @47344 has 40 MA's), (79, 47416), (93, 47476), (136, 47647),

Gene: BadStone\_77 Start: 49718, Stop: 50053, Start Num: 57

Candidate Starts for BadStone\_77:

(11, 49466), (Start: 48 @49703 has 22 MA's), (Start: 57 @49718 has 101 MA's), (68, 49754), (142, 50033),

Gene: Bagrid\_119 Start: 66108, Stop: 66428, Start Num: 46

Candidate Starts for Bagrid\_119:

(Start: 46 @66108 has 35 MA's), (65, 66147), (120, 66303), (129, 66339), (136, 66369), (142, 66414),

Gene: Bagrid\_135 Start: 72784, Stop: 73143, Start Num: 45

Candidate Starts for Bagrid\_135:

(31, 72757), (Start: 45 @72784 has 36 MA's), (Start: 50 @72793 has 85 MA's), (96, 72925), (99, 72940), (135, 73069), (136, 73075),

Gene: Balomoji\_73 Start: 47905, Stop: 48276, Start Num: 54

Candidate Starts for Balomoji\_73:



(Start: 50 @47899 has 85 MA's), (Start: 54 @47905 has 40 MA's), (79, 47977), (93, 48037), (136, 48208),

Gene: Balomoji\_80 Start: 50279, Stop: 50614, Start Num: 57

Candidate Starts for Balomoji\_80:

(11, 50027), (Start: 48 @50264 has 22 MA's), (Start: 57 @50279 has 101 MA's), (68, 50315), (142, 50594),

Gene: Balomoji\_68 Start: 45635, Stop: 46045, Start Num: 43

Candidate Starts for Balomoji\_68:

(Start: 43 @45635 has 123 MA's), (93, 45776), (105, 45824), (114, 45872), (137, 45965), (142, 46007),

Gene: Barbarian\_67 Start: 43865, Stop: 44275, Start Num: 43

Candidate Starts for Barbarian\_67:

(14, 43691), (Start: 43 @43865 has 123 MA's), (81, 43961), (93, 44006), (105, 44054), (114, 44102), (137, 44195), (142, 44237),

Gene: Barbarian\_72 Start: 46132, Stop: 46509, Start Num: 50

Candidate Starts for Barbarian\_72:

(Start: 50 @46132 has 85 MA's), (Start: 54 @46138 has 40 MA's), (79, 46210), (93, 46270), (136, 46441),

Gene: Barbarian\_79 Start: 48512, Stop: 48844, Start Num: 57

Candidate Starts for Barbarian\_79:

(11, 48260), (Start: 48 @48497 has 22 MA's), (Start: 57 @48512 has 101 MA's), (68, 48548), (142, 48824),

Gene: Bask21\_80 Start: 49132, Stop: 49467, Start Num: 57

Candidate Starts for Bask21\_80:

(11, 48880), (Start: 48 @49117 has 22 MA's), (Start: 57 @49132 has 101 MA's), (68, 49168), (84, 49222), (123, 49348), (132, 49384), (133, 49387), (137, 49405), (142, 49447),

Gene: Bask21\_68 Start: 44476, Stop: 44889, Start Num: 43

Candidate Starts for Bask21\_68:

(14, 44302), (Start: 43 @44476 has 123 MA's), (93, 44617), (103, 44659), (128, 44767), (137, 44806), (149, 44869),

Gene: Bask21\_73 Start: 46758, Stop: 47129, Start Num: 54

Candidate Starts for Bask21\_73:

(Start: 50 @46752 has 85 MA's), (Start: 54 @46758 has 40 MA's), (79, 46830), (93, 46890), (117, 46989), (136, 47061),

Gene: Baudelaire\_65 Start: 44400, Stop: 44765, Start Num: 46

Candidate Starts for Baudelaire\_65:

(Start: 46 @44400 has 35 MA's), (62, 44430), (83, 44502), (85, 44508), (125, 44622), (135, 44664), (153, 44751),

Gene: Beem\_120 Start: 67476, Stop: 67796, Start Num: 46

Candidate Starts for Beem\_120:

(Start: 46 @67476 has 35 MA's), (65, 67515), (96, 67614), (120, 67671), (129, 67707), (136, 67737), (142, 67782),

Gene: Beem\_136 Start: 74259, Stop: 74618, Start Num: 45

Candidate Starts for Beem\_136:

(31, 74232), (Start: 45 @74259 has 36 MA's), (Start: 50 @74268 has 85 MA's), (96, 74400), (99, 74415),

Gene: Bench\_83 Start: 49816, Stop: 50148, Start Num: 57

Candidate Starts for Bench\_83:

(4, 49246), (7, 49363), (11, 49564), (Start: 48 @49801 has 22 MA's), (Start: 57 @49816 has 101 MA's), (68, 49852), (142, 50128),

Gene: Bench\_71 Start: 45175, Stop: 45585, Start Num: 43

Candidate Starts for Bench\_71:

(14, 45001), (Start: 43 @45175 has 123 MA's), (93, 45316), (105, 45364), (114, 45412), (137, 45505), (142, 45547),

Gene: Bench\_76 Start: 47439, Stop: 47813, Start Num: 50

Candidate Starts for Bench\_76:

(Start: 50 @47439 has 85 MA's), (Start: 54 @47445 has 40 MA's), (79, 47517), (93, 47577), (136, 47745),

Gene: BigBubba\_68 Start: 44884, Stop: 45294, Start Num: 43

Candidate Starts for BigBubba\_68:

(Start: 43 @44884 has 123 MA's), (93, 45025), (105, 45073), (114, 45121), (137, 45214), (142, 45256),

Gene: BigBubba\_73 Start: 47151, Stop: 47525, Start Num: 50

Candidate Starts for BigBubba\_73:

(Start: 50 @47151 has 85 MA's), (Start: 54 @47157 has 40 MA's), (79, 47229), (93, 47289), (117, 47385), (136, 47457),

Gene: BigBubba\_80 Start: 49528, Stop: 49860, Start Num: 57

Candidate Starts for BigBubba\_80:

(11, 49276), (Start: 48 @49513 has 22 MA's), (Start: 57 @49528 has 101 MA's), (68, 49564), (142, 49840),

Gene: BilboSwaggins\_72 Start: 47783, Stop: 48154, Start Num: 54

Candidate Starts for BilboSwaggins\_72:

(Start: 50 @47777 has 85 MA's), (Start: 54 @47783 has 40 MA's), (79, 47855), (93, 47915), (136, 48086),

Gene: BilboSwaggins\_79 Start: 50142, Stop: 50489, Start Num: 48

Candidate Starts for BilboSwaggins\_79:

(11, 49905), (Start: 48 @50142 has 22 MA's), (Start: 57 @50157 has 101 MA's), (68, 50193), (142, 50469),

Gene: BilboSwaggins\_67 Start: 45513, Stop: 45923, Start Num: 43

Candidate Starts for BilboSwaggins\_67:

(14, 45339), (Start: 43 @45513 has 123 MA's), (81, 45609), (93, 45654), (105, 45702), (114, 45750), (137, 45843), (142, 45885),

Gene: Bobby\_126 Start: 74360, Stop: 74719, Start Num: 45

Candidate Starts for Bobby\_126:

(31, 74333), (Start: 45 @74360 has 36 MA's), (Start: 50 @74369 has 85 MA's), (96, 74501), (99, 74516),

Gene: Bombitas\_106 Start: 63398, Stop: 63718, Start Num: 46

Candidate Starts for Bombitas\_106:

(Start: 46 @63398 has 35 MA's), (65, 63437), (96, 63536), (120, 63593), (129, 63629), (136, 63659), (142, 63704),

Gene: Bombitas\_122 Start: 71670, Stop: 72029, Start Num: 45

Candidate Starts for Bombitas\_122:

(31, 71643), (Start: 45 @71670 has 36 MA's), (Start: 50 @71679 has 85 MA's), (96, 71811), (99, 71826),

Gene: Bruin\_65 Start: 44048, Stop: 44461, Start Num: 43

Candidate Starts for Bruin\_65:

(14, 43874), (Start: 43 @44048 has 123 MA's), (93, 44189), (105, 44237), (114, 44285), (137, 44378), (149, 44441),

Gene: Bruin\_77 Start: 48677, Stop: 49027, Start Num: 48

Candidate Starts for Bruin\_77:

(11, 48440), (Start: 48 @48677 has 22 MA's), (Start: 57 @48692 has 101 MA's), (68, 48728), (142, 49007),

Gene: Bruin\_70 Start: 46315, Stop: 46689, Start Num: 50

Candidate Starts for Bruin\_70:

(Start: 50 @46315 has 85 MA's), (Start: 54 @46321 has 40 MA's), (79, 46393), (93, 46453), (136, 46621),

Gene: BrutonGaster\_97 Start: 63227, Stop: 63556, Start Num: 69

Candidate Starts for BrutonGaster\_97:

(Start: 69 @63227 has 1 MA's), (89, 63293), (134, 63464), (152, 63551),

Gene: Buck\_74 Start: 48026, Stop: 48394, Start Num: 50

Candidate Starts for Buck\_74:

(Start: 50 @48026 has 85 MA's), (Start: 54 @48032 has 40 MA's), (79, 48104), (136, 48326),

Gene: Buck\_69 Start: 45756, Stop: 46169, Start Num: 43

Candidate Starts for Buck\_69:

(14, 45582), (Start: 43 @45756 has 123 MA's), (93, 45897), (103, 45939), (128, 46047), (137, 46086), (149, 46149),

Gene: Buck\_81 Start: 50397, Stop: 50732, Start Num: 57

Candidate Starts for Buck\_81:

(11, 50145), (Start: 48 @50382 has 22 MA's), (Start: 57 @50397 has 101 MA's), (68, 50433), (142, 50712),

Gene: BugsBunny\_80 Start: 50209, Stop: 50556, Start Num: 48

Candidate Starts for BugsBunny\_80:

(11, 49972), (Start: 48 @50209 has 22 MA's), (Start: 57 @50224 has 101 MA's), (68, 50260), (142, 50536),

Gene: BugsBunny\_73 Start: 47853, Stop: 48221, Start Num: 54

Candidate Starts for BugsBunny\_73:

(Start: 50 @47847 has 85 MA's), (Start: 54 @47853 has 40 MA's), (79, 47925), (93, 47985), (136, 48153),

Gene: BugsBunny\_68 Start: 45583, Stop: 45993, Start Num: 43

Candidate Starts for BugsBunny\_68:

(Start: 43 @45583 has 123 MA's), (93, 45724), (105, 45772), (114, 45820), (137, 45913), (142, 45955),

Gene: CN1A\_12 Start: 5964, Stop: 6377, Start Num: 41

Candidate Starts for CN1A\_12:

(10, 5682), (12, 5778), (Start: 41 @5964 has 9 MA's), (Start: 57 @5988 has 101 MA's), (66, 6012), (70, 6036), (93, 6102), (95, 6111), (99, 6129), (107, 6159), (109, 6168), (155, 6363), (156, 6366),

Gene: Cactus\_83 Start: 49173, Stop: 49508, Start Num: 57

Candidate Starts for Cactus\_83:

(11, 48921), (Start: 48 @49158 has 22 MA's), (Start: 57 @49173 has 101 MA's), (68, 49209), (142, 49488),

Gene: Cactus\_76 Start: 46793, Stop: 47170, Start Num: 50

Candidate Starts for Cactus\_76:

(Start: 50 @46793 has 85 MA's), (Start: 54 @46799 has 40 MA's), (79, 46871), (93, 46931), (136, 47102),

Gene: Cactus\_71 Start: 44529, Stop: 44939, Start Num: 43

Candidate Starts for Cactus\_71:

(Start: 43 @44529 has 123 MA's), (93, 44670), (105, 44718), (114, 44766), (137, 44859), (142, 44901),

Gene: Cece\_15 Start: 5418, Stop: 5840, Start Num: 21

Candidate Starts for Cece\_15:

(Start: 21 @5418 has 2 MA's), (Start: 46 @5472 has 35 MA's), (55, 5484), (73, 5544), (95, 5607), (133, 5742),

Gene: Cece\_317 Start: 173852, Stop: 174274, Start Num: 21

Candidate Starts for Cece\_317:

(Start: 21 @173852 has 2 MA's), (Start: 46 @173906 has 35 MA's), (55, 173918), (73, 173978), (95, 174041), (133, 174176),

Gene: ChosenOne\_68 Start: 44532, Stop: 44942, Start Num: 43

Candidate Starts for ChosenOne\_68:

(Start: 43 @44532 has 123 MA's), (93, 44673), (105, 44721), (114, 44769), (137, 44862), (142, 44904),

Gene: ChosenOne\_80 Start: 49173, Stop: 49508, Start Num: 57

Candidate Starts for ChosenOne\_80:

(11, 48921), (Start: 48 @49158 has 22 MA's), (Start: 57 @49173 has 101 MA's), (68, 49209), (142, 49488),

Gene: ChosenOne\_73 Start: 46796, Stop: 47170, Start Num: 50

Candidate Starts for ChosenOne\_73:

(Start: 50 @46796 has 85 MA's), (Start: 54 @46802 has 40 MA's), (79, 46874), (93, 46934), (136, 47102),

Gene: ChotaBhai\_73 Start: 47117, Stop: 47494, Start Num: 50

Candidate Starts for ChotaBhai\_73:

(Start: 50 @47117 has 85 MA's), (Start: 54 @47123 has 40 MA's), (79, 47195), (93, 47255), (117, 47354), (136, 47426),

Gene: ChotaBhai\_80 Start: 49497, Stop: 49832, Start Num: 57

Candidate Starts for ChotaBhai\_80:

(11, 49245), (Start: 48 @49482 has 22 MA's), (Start: 57 @49497 has 101 MA's), (68, 49533), (84, 49587), (123, 49713), (132, 49749), (133, 49752), (137, 49770), (142, 49812),

Gene: ChotaBhai\_68 Start: 44844, Stop: 45257, Start Num: 43

Candidate Starts for ChotaBhai\_68:

(14, 44670), (Start: 43 @44844 has 123 MA's), (93, 44985), (103, 45027), (128, 45135), (137, 45174), (146, 45231),

Gene: Cjw1\_80 Start: 50855, Stop: 51202, Start Num: 48

Candidate Starts for Cjw1\_80:

(11, 50618), (Start: 48 @50855 has 22 MA's), (Start: 57 @50870 has 101 MA's), (68, 50906), (142, 51182),

Gene: Cjw1\_73 Start: 48499, Stop: 48867, Start Num: 54

Candidate Starts for Cjw1\_73:

(Start: 50 @48493 has 85 MA's), (Start: 54 @48499 has 40 MA's), (79, 48571), (93, 48631), (136, 48799),

Gene: Cjw1\_68 Start: 46229, Stop: 46639, Start Num: 43

Candidate Starts for Cjw1\_68:

(Start: 43 @46229 has 123 MA's), (93, 46370), (105, 46418), (114, 46466), (137, 46559), (142, 46601),

Gene: Command613\_75 Start: 47838, Stop: 48209, Start Num: 54

Candidate Starts for Command613\_75:

(Start: 50 @47832 has 85 MA's), (Start: 54 @47838 has 40 MA's), (79, 47910), (93, 47970), (136, 48141),

Gene: Command613\_82 Start: 50197, Stop: 50547, Start Num: 48

Candidate Starts for Command613\_82:

(11, 49960), (Start: 48 @50197 has 22 MA's), (Start: 57 @50212 has 101 MA's), (68, 50248), (142, 50527),

Gene: Command613\_70 Start: 45568, Stop: 45978, Start Num: 43

Candidate Starts for Command613\_70:

(14, 45394), (Start: 43 @45568 has 123 MA's), (93, 45709), (105, 45757), (114, 45805), (137, 45898), (142, 45940),

Gene: Constella\_101 Start: 60252, Stop: 60566, Start Num: 46

Candidate Starts for Constella\_101:

(Start: 46 @60252 has 35 MA's), (65, 60291), (70, 60318), (120, 60441), (142, 60552),

Gene: Constella\_128 Start: 72912, Stop: 73271, Start Num: 45

Candidate Starts for Constella\_128:

(31, 72885), (Start: 45 @72912 has 36 MA's), (Start: 50 @72921 has 85 MA's), (96, 73053), (99, 73068), (135, 73197), (136, 73203),

Gene: Contagion\_69 Start: 46596, Stop: 46970, Start Num: 50

Candidate Starts for Contagion\_69:

(Start: 50 @46596 has 85 MA's), (Start: 54 @46602 has 40 MA's), (79, 46674), (93, 46734), (136, 46902),

Gene: Contagion\_64 Start: 44329, Stop: 44742, Start Num: 43

Candidate Starts for Contagion\_64:

(14, 44155), (Start: 43 @44329 has 123 MA's), (93, 44470), (105, 44518), (114, 44566), (137, 44659), (149, 44722),

Gene: Contagion\_76 Start: 48973, Stop: 49308, Start Num: 57

Candidate Starts for Contagion\_76:

(11, 48721), (Start: 48 @48958 has 22 MA's), (Start: 57 @48973 has 101 MA's), (68, 49009), (142, 49288),

Gene: Cookies\_77 Start: 49354, Stop: 49689, Start Num: 57

Candidate Starts for Cookies\_77:

(11, 49102), (Start: 48 @49339 has 22 MA's), (Start: 57 @49354 has 101 MA's), (68, 49390), (84, 49444), (123, 49570), (132, 49606), (133, 49609), (137, 49627), (142, 49669),

Gene: Cookies\_70 Start: 46974, Stop: 47351, Start Num: 50

Candidate Starts for Cookies\_70:

(Start: 50 @46974 has 85 MA's), (Start: 54 @46980 has 40 MA's), (79, 47052), (93, 47112), (117, 47211), (136, 47283),

Gene: Cookies\_65 Start: 44698, Stop: 45111, Start Num: 43

Candidate Starts for Cookies\_65:

(14, 44524), (Start: 43 @44698 has 123 MA's), (93, 44839), (103, 44881), (128, 44989), (137, 45028),

Gene: Courthouse\_108 Start: 61433, Stop: 61753, Start Num: 46

Candidate Starts for Courthouse\_108:

(Start: 46 @61433 has 35 MA's), (65, 61472), (96, 61571), (120, 61628), (129, 61664), (136, 61694), (142, 61739),

Gene: Courthouse\_129 Start: 69822, Stop: 70175, Start Num: 45

Candidate Starts for Courthouse\_129:

(Start: 45 @69822 has 36 MA's), (Start: 50 @69831 has 85 MA's), (135, 70101),

Gene: CrystalP\_67 Start: 45513, Stop: 45923, Start Num: 43

Candidate Starts for CrystalP\_67:

(14, 45339), (Start: 43 @45513 has 123 MA's), (81, 45609), (93, 45654), (105, 45702), (114, 45750), (137, 45843), (142, 45885),

Gene: CrystalP\_72 Start: 47783, Stop: 48154, Start Num: 54

Candidate Starts for CrystalP\_72:

(Start: 50 @47777 has 85 MA's), (Start: 54 @47783 has 40 MA's), (79, 47855), (93, 47915), (136, 48086),

Gene: CrystalP\_79 Start: 50157, Stop: 50489, Start Num: 57

Candidate Starts for CrystalP\_79:

(11, 49905), (Start: 48 @50142 has 22 MA's), (Start: 57 @50157 has 101 MA's), (68, 50193), (142, 50469),

Gene: Czyszczone1\_69 Start: 45038, Stop: 45448, Start Num: 43  
Candidate Starts for Czyszczone1\_69:  
(Start: 43 @45038 has 123 MA's), (93, 45179), (105, 45227), (114, 45275), (137, 45368), (142, 45410),

Gene: Czyszczone1\_81 Start: 49679, Stop: 50011, Start Num: 57  
Candidate Starts for Czyszczone1\_81:  
(11, 49427), (Start: 48 @49664 has 22 MA's), (Start: 57 @49679 has 101 MA's), (68, 49715), (142, 49991),

Gene: Czyszczone1\_74 Start: 47302, Stop: 47676, Start Num: 50  
Candidate Starts for Czyszczone1\_74:  
(Start: 50 @47302 has 85 MA's), (Start: 54 @47308 has 40 MA's), (79, 47380), (93, 47440), (136, 47608),

Gene: Daikon\_82 Start: 50285, Stop: 50635, Start Num: 48  
Candidate Starts for Daikon\_82:  
(11, 50048), (Start: 48 @50285 has 22 MA's), (Start: 57 @50300 has 101 MA's), (68, 50336), (142, 50615),

Gene: Daikon\_75 Start: 47926, Stop: 48297, Start Num: 54  
Candidate Starts for Daikon\_75:  
(Start: 50 @47920 has 85 MA's), (Start: 54 @47926 has 40 MA's), (79, 47998), (93, 48058), (136, 48229),

Gene: Daikon\_70 Start: 45656, Stop: 46066, Start Num: 43  
Candidate Starts for Daikon\_70:  
(Start: 43 @45656 has 123 MA's), (93, 45797), (105, 45845), (114, 45893), (137, 45986), (142, 46028),

Gene: Dallas\_119 Start: 66991, Stop: 67311, Start Num: 46  
Candidate Starts for Dallas\_119:  
(Start: 46 @66991 has 35 MA's), (65, 67030), (120, 67186), (129, 67222), (136, 67252), (142, 67297),

Gene: Dallas\_135 Start: 73726, Stop: 74085, Start Num: 45  
Candidate Starts for Dallas\_135:  
(31, 73699), (Start: 45 @73726 has 36 MA's), (Start: 50 @73735 has 85 MA's), (96, 73867), (99, 73882), (136, 74017),

Gene: DejaVu\_108 Start: 57205, Stop: 56840, Start Num: 44  
Candidate Starts for DejaVu\_108:  
(23, 57256), (Start: 44 @57205 has 5 MA's), (70, 57136), (93, 57076), (95, 57067), (102, 57043), (106, 57028), (143, 56878), (146, 56869),

Gene: DmpstrDiver\_134 Start: 73073, Stop: 73432, Start Num: 45  
Candidate Starts for DmpstrDiver\_134:  
(31, 73046), (Start: 45 @73073 has 36 MA's), (Start: 50 @73082 has 85 MA's), (96, 73214), (99, 73229), (135, 73358), (136, 73364),

Gene: DmpstrDiver\_119 Start: 66397, Stop: 66717, Start Num: 46  
Candidate Starts for DmpstrDiver\_119:  
(Start: 46 @66397 has 35 MA's), (65, 66436), (120, 66592), (129, 66628), (136, 66658), (142, 66703),

Gene: DoctorDiddles\_67 Start: 44888, Stop: 45301, Start Num: 43  
Candidate Starts for DoctorDiddles\_67:  
(14, 44714), (Start: 43 @44888 has 123 MA's), (93, 45029), (103, 45071), (128, 45179), (137, 45218),  
(149, 45281),

Gene: DoctorDiddles\_72 Start: 47167, Stop: 47538, Start Num: 54  
Candidate Starts for DoctorDiddles\_72:  
(Start: 50 @47161 has 85 MA's), (Start: 54 @47167 has 40 MA's), (79, 47239), (93, 47299), (117,  
47398), (136, 47470),

Gene: DoctorDiddles\_79 Start: 49541, Stop: 49876, Start Num: 57  
Candidate Starts for DoctorDiddles\_79:  
(11, 49289), (Start: 48 @49526 has 22 MA's), (Start: 57 @49541 has 101 MA's), (68, 49577), (84,  
49631), (123, 49757), (132, 49793), (133, 49796), (137, 49814), (142, 49856),

Gene: Dove\_120 Start: 68672, Stop: 69031, Start Num: 45  
Candidate Starts for Dove\_120:  
(31, 68645), (Start: 45 @68672 has 36 MA's), (Start: 50 @68681 has 85 MA's), (96, 68813), (99,  
68828), (135, 68957), (136, 68963),

Gene: Dove\_104 Start: 61905, Stop: 62225, Start Num: 46  
Candidate Starts for Dove\_104:  
(Start: 46 @61905 has 35 MA's), (65, 61944), (96, 62043), (120, 62100), (129, 62136), (136, 62166),  
(142, 62211),

Gene: DrDrey\_80 Start: 50583, Stop: 50930, Start Num: 48  
Candidate Starts for DrDrey\_80:  
(11, 50346), (Start: 48 @50583 has 22 MA's), (Start: 57 @50598 has 101 MA's), (68, 50634), (142,  
50910),

Gene: DrDrey\_68 Start: 45954, Stop: 46364, Start Num: 43  
Candidate Starts for DrDrey\_68:  
(Start: 43 @45954 has 123 MA's), (93, 46095), (105, 46143), (114, 46191), (137, 46284), (142,  
46326),

Gene: DrDrey\_73 Start: 48218, Stop: 48595, Start Num: 50  
Candidate Starts for DrDrey\_73:  
(Start: 50 @48218 has 85 MA's), (Start: 54 @48224 has 40 MA's), (79, 48296), (93, 48356), (136,  
48527),

Gene: Duke13\_129 Start: 70374, Stop: 70733, Start Num: 45  
Candidate Starts for Duke13\_129:  
(31, 70347), (Start: 45 @70374 has 36 MA's), (Start: 50 @70383 has 85 MA's), (96, 70515), (99,  
70530), (135, 70659), (136, 70665),

Gene: Dumbo\_73 Start: 46707, Stop: 47075, Start Num: 54  
Candidate Starts for Dumbo\_73:  
(Start: 50 @46701 has 85 MA's), (Start: 54 @46707 has 40 MA's), (79, 46779), (93, 46839), (136,  
47007),

Gene: Dumbo\_68 Start: 44437, Stop: 44847, Start Num: 43  
Candidate Starts for Dumbo\_68:



(Start: 43 @44437 has 123 MA's), (93, 44578), (105, 44626), (114, 44674), (137, 44767), (142, 44809),

Gene: Dumbo\_80 Start: 49063, Stop: 49413, Start Num: 48

Candidate Starts for Dumbo\_80:

(11, 48826), (Start: 48 @49063 has 22 MA's), (Start: 57 @49078 has 101 MA's), (68, 49114), (142, 49393),

Gene: Dusk\_77 Start: 49378, Stop: 49713, Start Num: 57

Candidate Starts for Dusk\_77:

(11, 49126), (Start: 48 @49363 has 22 MA's), (Start: 57 @49378 has 101 MA's), (68, 49414), (142, 49693),

Gene: Dusk\_70 Start: 46998, Stop: 47375, Start Num: 50

Candidate Starts for Dusk\_70:

(Start: 50 @46998 has 85 MA's), (Start: 54 @47004 has 40 MA's), (79, 47076), (93, 47136), (136, 47307),

Gene: Dusk\_65 Start: 44734, Stop: 45144, Start Num: 43

Candidate Starts for Dusk\_65:

(Start: 43 @44734 has 123 MA's), (93, 44875), (105, 44923), (114, 44971), (137, 45064), (142, 45106),

Gene: DustyDino\_110 Start: 56887, Stop: 56450, Start Num: 41

Candidate Starts for DustyDino\_110:

(Start: 41 @56887 has 9 MA's), (Start: 57 @56863 has 101 MA's), (65, 56842), (92, 56746), (95, 56734), (96, 56731), (108, 56689), (113, 56659), (126, 56626),

Gene: Easy2Say\_69 Start: 45975, Stop: 46385, Start Num: 43

Candidate Starts for Easy2Say\_69:

(14, 45801), (Start: 43 @45975 has 123 MA's), (81, 46071), (93, 46116), (105, 46164), (114, 46212), (137, 46305), (142, 46347),

Gene: Easy2Say\_81 Start: 50622, Stop: 50954, Start Num: 57

Candidate Starts for Easy2Say\_81:

(11, 50370), (Start: 48 @50607 has 22 MA's), (Start: 57 @50622 has 101 MA's), (68, 50658), (142, 50934),

Gene: Easy2Say\_74 Start: 48248, Stop: 48619, Start Num: 54

Candidate Starts for Easy2Say\_74:

(Start: 50 @48242 has 85 MA's), (Start: 54 @48248 has 40 MA's), (79, 48320), (93, 48380), (136, 48551),

Gene: Ejimix\_128 Start: 73794, Stop: 74153, Start Num: 45

Candidate Starts for Ejimix\_128:

(31, 73767), (Start: 45 @73794 has 36 MA's), (Start: 50 @73803 has 85 MA's), (96, 73935), (99, 73950), (136, 74085),

Gene: Ejimix\_113 Start: 67525, Stop: 67845, Start Num: 46

Candidate Starts for Ejimix\_113:

(Start: 46 @67525 has 35 MA's), (65, 67564), (120, 67720), (129, 67756), (136, 67786), (142, 67831),

Gene: Elite2014\_67 Start: 44531, Stop: 44941, Start Num: 43

Candidate Starts for Elite2014\_67:

(Start: 43 @44531 has 123 MA's), (93, 44672), (105, 44720), (114, 44768), (137, 44861), (142, 44903),

Gene: Elite2014\_79 Start: 49172, Stop: 49507, Start Num: 57

Candidate Starts for Elite2014\_79:

(11, 48920), (Start: 48 @49157 has 22 MA's), (Start: 57 @49172 has 101 MA's), (68, 49208), (142, 49487),

Gene: Elite2014\_72 Start: 46795, Stop: 47169, Start Num: 50

Candidate Starts for Elite2014\_72:

(Start: 50 @46795 has 85 MA's), (Start: 54 @46801 has 40 MA's), (79, 46873), (93, 46933), (136, 47101),

Gene: Elph10\_80 Start: 49162, Stop: 49509, Start Num: 48

Candidate Starts for Elph10\_80:

(11, 48925), (Start: 48 @49162 has 22 MA's), (Start: 57 @49177 has 101 MA's), (68, 49213), (142, 49489),

Gene: Elph10\_68 Start: 44536, Stop: 44946, Start Num: 43

Candidate Starts for Elph10\_68:

(Start: 43 @44536 has 123 MA's), (93, 44677), (105, 44725), (114, 44773), (137, 44866), (142, 44908),

Gene: Elph10\_73 Start: 46806, Stop: 47174, Start Num: 54

Candidate Starts for Elph10\_73:

(Start: 50 @46800 has 85 MA's), (Start: 54 @46806 has 40 MA's), (79, 46878), (93, 46938), (136, 47106),

Gene: Emmina\_80 Start: 49079, Stop: 49411, Start Num: 57

Candidate Starts for Emmina\_80:

(Start: 48 @49064 has 22 MA's), (Start: 57 @49079 has 101 MA's), (68, 49115), (142, 49391),

Gene: Emmina\_68 Start: 44438, Stop: 44848, Start Num: 43

Candidate Starts for Emmina\_68:

(14, 44264), (Start: 43 @44438 has 123 MA's), (93, 44579), (105, 44627), (114, 44675), (137, 44768), (142, 44810),

Gene: Emmina\_73 Start: 46702, Stop: 47076, Start Num: 50

Candidate Starts for Emmina\_73:

(Start: 50 @46702 has 85 MA's), (Start: 54 @46708 has 40 MA's), (79, 46780), (93, 46840), (136, 47008),

Gene: Erenyeager\_107 Start: 55997, Stop: 55551, Start Num: 41

Candidate Starts for Erenyeager\_107:

(1, 56621), (2, 56594), (3, 56573), (6, 56525), (8, 56411), (9, 56360), (13, 56168), (22, 56048), (Start: 41 @55997 has 9 MA's), (Start: 57 @55973 has 101 MA's), (65, 55952), (92, 55847), (95, 55835), (96, 55832), (108, 55790), (113, 55760),

Gene: EricMillard\_126 Start: 72298, Stop: 72657, Start Num: 45

Candidate Starts for EricMillard\_126:

(31, 72271), (Start: 45 @72298 has 36 MA's), (Start: 50 @72307 has 85 MA's), (96, 72439), (99, 72454), (135, 72583), (136, 72589),

Gene: Eureka\_78 Start: 49628, Stop: 49975, Start Num: 48  
Candidate Starts for Eureka\_78:  
(11, 49391), (Start: 48 @49628 has 22 MA's), (Start: 57 @49643 has 101 MA's), (68, 49679), (142, 49955),

Gene: Eureka\_71 Start: 47272, Stop: 47640, Start Num: 54  
Candidate Starts for Eureka\_71:  
(Start: 50 @47266 has 85 MA's), (Start: 54 @47272 has 40 MA's), (79, 47344), (93, 47404), (136, 47572),

Gene: Eureka\_66 Start: 45002, Stop: 45412, Start Num: 43  
Candidate Starts for Eureka\_66:  
(Start: 43 @45002 has 123 MA's), (93, 45143), (105, 45191), (114, 45239), (137, 45332), (142, 45374),

Gene: Filch\_81 Start: 49104, Stop: 49436, Start Num: 57  
Candidate Starts for Filch\_81:  
(11, 48852), (Start: 48 @49089 has 22 MA's), (Start: 57 @49104 has 101 MA's), (68, 49140), (142, 49416),

Gene: Filch\_74 Start: 46733, Stop: 47101, Start Num: 54  
Candidate Starts for Filch\_74:  
(Start: 50 @46727 has 85 MA's), (Start: 54 @46733 has 40 MA's), (79, 46805), (93, 46865), (136, 47033),

Gene: Filch\_69 Start: 44463, Stop: 44873, Start Num: 43  
Candidate Starts for Filch\_69:  
(Start: 43 @44463 has 123 MA's), (93, 44604), (105, 44652), (114, 44700), (137, 44793), (142, 44835),

Gene: FireRed\_84 Start: 50666, Stop: 51001, Start Num: 57  
Candidate Starts for FireRed\_84:  
(4, 50096), (7, 50213), (11, 50414), (Start: 48 @50651 has 22 MA's), (Start: 57 @50666 has 101 MA's), (68, 50702), (142, 50981),

Gene: FireRed\_72 Start: 46025, Stop: 46438, Start Num: 43  
Candidate Starts for FireRed\_72:  
(14, 45851), (Start: 43 @46025 has 123 MA's), (93, 46166), (105, 46214), (114, 46262), (137, 46355), (149, 46418),

Gene: FireRed\_77 Start: 48298, Stop: 48663, Start Num: 54  
Candidate Starts for FireRed\_77:  
(Start: 50 @48292 has 85 MA's), (Start: 54 @48298 has 40 MA's), (79, 48370), (93, 48424), (136, 48595),

Gene: Flypotenuse\_69 Start: 46783, Stop: 47160, Start Num: 50  
Candidate Starts for Flypotenuse\_69:  
(Start: 50 @46783 has 85 MA's), (Start: 54 @46789 has 40 MA's), (79, 46861), (93, 46921), (136, 47092),

Gene: Flypotenuse\_64 Start: 44519, Stop: 44929, Start Num: 43  
Candidate Starts for Flypotenuse\_64:

(Start: 43 @44519 has 123 MA's), (93, 44660), (105, 44708), (114, 44756), (137, 44849), (142, 44891),

Gene: Flypotenuse\_76 Start: 49163, Stop: 49498, Start Num: 57

Candidate Starts for Flypotenuse\_76:

(11, 48911), (Start: 48 @49148 has 22 MA's), (Start: 57 @49163 has 101 MA's), (68, 49199), (142, 49478),

Gene: Fork\_103 Start: 55912, Stop: 55475, Start Num: 41

Candidate Starts for Fork\_103:

(Start: 41 @55912 has 9 MA's), (Start: 57 @55888 has 101 MA's), (65, 55867), (92, 55771), (95, 55759), (96, 55756), (108, 55714), (113, 55684), (126, 55651),

Gene: Gage\_70 Start: 45309, Stop: 45719, Start Num: 43

Candidate Starts for Gage\_70:

(14, 45135), (Start: 43 @45309 has 123 MA's), (93, 45450), (105, 45498), (114, 45546), (137, 45639), (142, 45681),

Gene: Gage\_75 Start: 47576, Stop: 47953, Start Num: 50

Candidate Starts for Gage\_75:

(Start: 50 @47576 has 85 MA's), (Start: 54 @47582 has 40 MA's), (79, 47654), (93, 47714), (136, 47885),

Gene: Gage\_82 Start: 49956, Stop: 50291, Start Num: 57

Candidate Starts for Gage\_82:

(11, 49704), (Start: 48 @49941 has 22 MA's), (Start: 57 @49956 has 101 MA's), (68, 49992), (142, 50271),

Gene: Gator\_66 Start: 45365, Stop: 45775, Start Num: 43

Candidate Starts for Gator\_66:

(Start: 43 @45365 has 123 MA's), (93, 45506), (105, 45554), (114, 45602), (137, 45695), (142, 45737),

Gene: Gator\_71 Start: 47629, Stop: 48006, Start Num: 50

Candidate Starts for Gator\_71:

(Start: 50 @47629 has 85 MA's), (Start: 54 @47635 has 40 MA's), (79, 47707), (93, 47767), (136, 47938),

Gene: Gator\_78 Start: 50009, Stop: 50341, Start Num: 57

Candidate Starts for Gator\_78:

(11, 49757), (Start: 48 @49994 has 22 MA's), (Start: 57 @50009 has 101 MA's), (68, 50045), (142, 50321),

Gene: Gemini\_73 Start: 45826, Stop: 46236, Start Num: 43

Candidate Starts for Gemini\_73:

(14, 45652), (Start: 43 @45826 has 123 MA's), (93, 45967), (105, 46015), (114, 46063), (137, 46156), (142, 46198),

Gene: Gemini\_78 Start: 48093, Stop: 48470, Start Num: 50

Candidate Starts for Gemini\_78:

(Start: 50 @48093 has 85 MA's), (Start: 54 @48099 has 40 MA's), (79, 48171), (93, 48231), (136, 48402),

Gene: Gemini\_85 Start: 50473, Stop: 50808, Start Num: 57

Candidate Starts for Gemini\_85:

(11, 50221), (Start: 48 @50458 has 22 MA's), (Start: 57 @50473 has 101 MA's), (68, 50509), (142, 50788),

Gene: Glexan\_72 Start: 47913, Stop: 48290, Start Num: 50

Candidate Starts for Glexan\_72:

(Start: 50 @47913 has 85 MA's), (Start: 54 @47919 has 40 MA's), (79, 47991), (93, 48051), (136, 48222),

Gene: Glexan\_67 Start: 45646, Stop: 46059, Start Num: 43

Candidate Starts for Glexan\_67:

(14, 45472), (Start: 43 @45646 has 123 MA's), (93, 45787), (103, 45829), (128, 45937), (137, 45976), (149, 46039),

Gene: Glexan\_79 Start: 50293, Stop: 50628, Start Num: 57

Candidate Starts for Glexan\_79:

(11, 50041), (Start: 48 @50278 has 22 MA's), (Start: 57 @50293 has 101 MA's), (68, 50329), (142, 50608),

Gene: Goku\_66 Start: 44731, Stop: 45141, Start Num: 43

Candidate Starts for Goku\_66:

(Start: 43 @44731 has 123 MA's), (93, 44872), (105, 44920), (114, 44968), (137, 45061), (142, 45103),

Gene: Goku\_78 Start: 49357, Stop: 49704, Start Num: 48

Candidate Starts for Goku\_78:

(11, 49120), (Start: 48 @49357 has 22 MA's), (Start: 57 @49372 has 101 MA's), (68, 49408), (142, 49684),

Gene: Goku\_71 Start: 46995, Stop: 47369, Start Num: 50

Candidate Starts for Goku\_71:

(Start: 50 @46995 has 85 MA's), (Start: 54 @47001 has 40 MA's), (79, 47073), (93, 47133), (136, 47301),

Gene: GoldenSpark\_77 Start: 47582, Stop: 47953, Start Num: 54

Candidate Starts for GoldenSpark\_77:

(Start: 50 @47576 has 85 MA's), (Start: 54 @47582 has 40 MA's), (79, 47654), (93, 47714), (136, 47885),

Gene: GoldenSpark\_72 Start: 45309, Stop: 45719, Start Num: 43

Candidate Starts for GoldenSpark\_72:

(14, 45135), (Start: 43 @45309 has 123 MA's), (93, 45450), (105, 45498), (114, 45546), (137, 45639), (142, 45681),

Gene: GoldenSpark\_84 Start: 49941, Stop: 50291, Start Num: 48

Candidate Starts for GoldenSpark\_84:

(11, 49704), (Start: 48 @49941 has 22 MA's), (Start: 57 @49956 has 101 MA's), (68, 49992), (142, 50271),

Gene: Goldilocks\_76 Start: 47080, Stop: 47451, Start Num: 54

Candidate Starts for Goldilocks\_76:

(Start: 50 @47074 has 85 MA's), (Start: 54 @47080 has 40 MA's), (79, 47152), (93, 47212), (136, 47383),

Gene: Goldilocks\_71 Start: 44810, Stop: 45220, Start Num: 43

Candidate Starts for Goldilocks\_71:

(14, 44636), (Start: 43 @44810 has 123 MA's), (93, 44951), (105, 44999), (114, 45047), (137, 45140), (142, 45182),

Gene: Goldilocks\_83 Start: 49454, Stop: 49786, Start Num: 57

Candidate Starts for Goldilocks\_83:

(11, 49202), (Start: 48 @49439 has 22 MA's), (Start: 57 @49454 has 101 MA's), (68, 49490), (142, 49766),

Gene: Gonephishing\_128 Start: 69464, Stop: 69817, Start Num: 45

Candidate Starts for Gonephishing\_128:

(Start: 45 @69464 has 36 MA's), (Start: 50 @69473 has 85 MA's), (135, 69743), (142, 69794),

Gene: Gonephishing\_107 Start: 60857, Stop: 61180, Start Num: 46

Candidate Starts for Gonephishing\_107:

(Start: 46 @60857 has 35 MA's), (65, 60896), (86, 60962), (92, 60983), (93, 60986), (99, 61013), (142, 61166),

Gene: GooberAzure\_83 Start: 49956, Stop: 50291, Start Num: 57

Candidate Starts for GooberAzure\_83:

(11, 49704), (Start: 48 @49941 has 22 MA's), (Start: 57 @49956 has 101 MA's), (68, 49992), (142, 50271),

Gene: GooberAzure\_71 Start: 45309, Stop: 45719, Start Num: 43

Candidate Starts for GooberAzure\_71:

(14, 45135), (Start: 43 @45309 has 123 MA's), (93, 45450), (105, 45498), (114, 45546), (137, 45639), (142, 45681),

Gene: GooberAzure\_76 Start: 47576, Stop: 47953, Start Num: 50

Candidate Starts for GooberAzure\_76:

(Start: 50 @47576 has 85 MA's), (Start: 54 @47582 has 40 MA's), (79, 47654), (93, 47714), (136, 47885),

Gene: Grayson\_232 Start: 113102, Stop: 113485, Start Num: 40

Candidate Starts for Grayson\_232:

(39, 113096), (Start: 40 @113102 has 5 MA's), (91, 113249), (100, 113288), (135, 113396), (145, 113456), (148, 113465),

Gene: Grayson\_26 Start: 7449, Stop: 7075, Start Num: 42

Candidate Starts for Grayson\_26:

(Start: 42 @7449 has 3 MA's), (97, 7281), (103, 7254), (121, 7209), (138, 7140),

Gene: Grayson\_21 Start: 6068, Stop: 5700, Start Num: 49

Candidate Starts for Grayson\_21:

(33, 6098), (35, 6092), (39, 6086), (Start: 49 @6068 has 5 MA's), (93, 5924), (97, 5909), (147, 5717),

Gene: Grayson\_20 Start: 5707, Stop: 5357, Start Num: 49

Candidate Starts for Grayson\_20:

(37, 5728), (Start: 49 @5707 has 5 MA's), (130, 5467),

Gene: Halley\_121 Start: 67841, Stop: 68161, Start Num: 46  
Candidate Starts for Halley\_121:  
(Start: 46 @67841 has 35 MA's), (65, 67880), (120, 68036), (129, 68072), (136, 68102), (142, 68147),

Gene: Halley\_136 Start: 74110, Stop: 74469, Start Num: 45  
Candidate Starts for Halley\_136:  
(31, 74083), (Start: 45 @74110 has 36 MA's), (Start: 50 @74119 has 85 MA's), (96, 74251), (99, 74266), (136, 74401),

Gene: HanKaySha\_73 Start: 46880, Stop: 47254, Start Num: 50  
Candidate Starts for HanKaySha\_73:  
(Start: 50 @46880 has 85 MA's), (Start: 54 @46886 has 40 MA's), (79, 46958), (93, 47018), (136, 47186),

Gene: HanKaySha\_80 Start: 49257, Stop: 49589, Start Num: 57  
Candidate Starts for HanKaySha\_80:  
(11, 49005), (Start: 48 @49242 has 22 MA's), (Start: 57 @49257 has 101 MA's), (68, 49293), (142, 49569),

Gene: HanKaySha\_68 Start: 44616, Stop: 45026, Start Num: 43  
Candidate Starts for HanKaySha\_68:  
(Start: 43 @44616 has 123 MA's), (93, 44757), (105, 44805), (114, 44853), (137, 44946), (142, 44988),

Gene: Hannaconda\_104 Start: 59803, Stop: 60126, Start Num: 46  
Candidate Starts for Hannaconda\_104:  
(Start: 46 @59803 has 35 MA's), (65, 59842), (86, 59908), (92, 59929), (93, 59932), (99, 59959), (142, 60112),

Gene: Hannaconda\_127 Start: 70117, Stop: 70470, Start Num: 45  
Candidate Starts for Hannaconda\_127:  
(Start: 45 @70117 has 36 MA's), (Start: 50 @70126 has 85 MA's), (135, 70396), (142, 70447),

Gene: Harella\_68 Start: 46162, Stop: 46575, Start Num: 43  
Candidate Starts for Harella\_68:  
(14, 45988), (Start: 43 @46162 has 123 MA's), (93, 46303), (103, 46345), (128, 46453), (137, 46492), (149, 46555),

Gene: Harella\_80 Start: 50809, Stop: 51144, Start Num: 57  
Candidate Starts for Harella\_80:  
(11, 50557), (Start: 48 @50794 has 22 MA's), (Start: 57 @50809 has 101 MA's), (68, 50845), (142, 51124),

Gene: Harella\_73 Start: 48429, Stop: 48806, Start Num: 50  
Candidate Starts for Harella\_73:  
(Start: 50 @48429 has 85 MA's), (Start: 54 @48435 has 40 MA's), (79, 48507), (93, 48567), (136, 48738),

Gene: Henry\_71 Start: 47217, Stop: 47594, Start Num: 50  
Candidate Starts for Henry\_71:  
(Start: 50 @47217 has 85 MA's), (Start: 54 @47223 has 40 MA's), (79, 47295), (93, 47355), (136, 47526),

Gene: Henry\_66 Start: 44953, Stop: 45363, Start Num: 43

Candidate Starts for Henry\_66:

(14, 44779), (Start: 43 @44953 has 123 MA's), (81, 45049), (93, 45094), (105, 45142), (114, 45190), (137, 45283), (142, 45325),

Gene: Henry\_78 Start: 49597, Stop: 49929, Start Num: 57

Candidate Starts for Henry\_78:

(11, 49345), (Start: 48 @49582 has 22 MA's), (Start: 57 @49597 has 101 MA's), (68, 49633), (142, 49909),

Gene: Highbury\_72 Start: 46868, Stop: 47242, Start Num: 50

Candidate Starts for Highbury\_72:

(Start: 50 @46868 has 85 MA's), (Start: 54 @46874 has 40 MA's), (79, 46946), (93, 47006), (136, 47174),

Gene: Highbury\_79 Start: 49245, Stop: 49580, Start Num: 57

Candidate Starts for Highbury\_79:

(11, 48993), (Start: 48 @49230 has 22 MA's), (Start: 57 @49245 has 101 MA's), (68, 49281), (142, 49560),

Gene: Highbury\_67 Start: 44604, Stop: 45014, Start Num: 43

Candidate Starts for Highbury\_67:

(Start: 43 @44604 has 123 MA's), (93, 44745), (105, 44793), (114, 44841), (137, 44934), (142, 44976),

Gene: HokkenD\_108 Start: 64913, Stop: 65233, Start Num: 46

Candidate Starts for HokkenD\_108:

(Start: 46 @64913 has 35 MA's), (65, 64952), (96, 65051), (120, 65108), (129, 65144), (136, 65174), (142, 65219),

Gene: HokkenD\_126 Start: 72994, Stop: 73353, Start Num: 45

Candidate Starts for HokkenD\_126:

(31, 72967), (Start: 45 @72994 has 36 MA's), (Start: 50 @73003 has 85 MA's), (96, 73135), (99, 73150), (135, 73279), (136, 73285),

Gene: Holt\_85 Start: 50370, Stop: 50705, Start Num: 57

Candidate Starts for Holt\_85:

(11, 50118), (Start: 48 @50355 has 22 MA's), (Start: 57 @50370 has 101 MA's), (68, 50406), (142, 50685),

Gene: Holt\_78 Start: 47990, Stop: 48367, Start Num: 50

Candidate Starts for Holt\_78:

(Start: 50 @47990 has 85 MA's), (Start: 54 @47996 has 40 MA's), (79, 48068), (93, 48128), (136, 48299),

Gene: Holt\_73 Start: 45723, Stop: 46133, Start Num: 43

Candidate Starts for Holt\_73:

(14, 45549), (Start: 43 @45723 has 123 MA's), (93, 45864), (105, 45912), (114, 45960), (137, 46053), (142, 46095),

Gene: Hoonter\_71 Start: 45309, Stop: 45719, Start Num: 43

Candidate Starts for Hoonter\_71:



(14, 45135), (Start: 43 @45309 has 123 MA's), (93, 45450), (105, 45498), (114, 45546), (137, 45639), (142, 45681),

Gene: Hoonter\_76 Start: 47576, Stop: 47953, Start Num: 50

Candidate Starts for Hoonter\_76:

(Start: 50 @47576 has 85 MA's), (Start: 54 @47582 has 40 MA's), (79, 47654), (93, 47714), (136, 47885),

Gene: Hoonter\_83 Start: 49956, Stop: 50288, Start Num: 57

Candidate Starts for Hoonter\_83:

(4, 49386), (7, 49503), (11, 49704), (Start: 48 @49941 has 22 MA's), (Start: 57 @49956 has 101 MA's), (68, 49992), (142, 50268),

Gene: Hokey\_68 Start: 45148, Stop: 45558, Start Num: 43

Candidate Starts for Hokey\_68:

(Start: 43 @45148 has 123 MA's), (93, 45289), (105, 45337), (114, 45385), (137, 45478), (142, 45520),

Gene: Hokey\_80 Start: 49789, Stop: 50121, Start Num: 57

Candidate Starts for Hokey\_80:

(11, 49537), (Start: 48 @49774 has 22 MA's), (Start: 57 @49789 has 101 MA's), (68, 49825), (142, 50101),

Gene: Hokey\_73 Start: 47412, Stop: 47786, Start Num: 50

Candidate Starts for Hokey\_73:

(Start: 50 @47412 has 85 MA's), (Start: 54 @47418 has 40 MA's), (79, 47490), (93, 47550), (136, 47718),

Gene: Hortus1\_107 Start: 58256, Stop: 57870, Start Num: 38

Candidate Starts for Hortus1\_107:

(15, 58349), (19, 58313), (29, 58280), (36, 58259), (Start: 38 @58256 has 7 MA's), (70, 58175), (79, 58157), (95, 58103), (102, 58079), (124, 58007), (133, 57971), (137, 57953),

Gene: Hubbs\_107 Start: 57469, Stop: 57104, Start Num: 44

Candidate Starts for Hubbs\_107:

(23, 57520), (Start: 44 @57469 has 5 MA's), (70, 57400), (93, 57340), (95, 57331), (102, 57307), (106, 57292), (143, 57142), (146, 57133),

Gene: HufflyPuff\_83 Start: 50607, Stop: 50954, Start Num: 48

Candidate Starts for HufflyPuff\_83:

(Start: 48 @50607 has 22 MA's), (Start: 57 @50622 has 101 MA's), (68, 50658), (142, 50934),

Gene: HufflyPuff\_71 Start: 45981, Stop: 46391, Start Num: 43

Candidate Starts for HufflyPuff\_71:

(Start: 43 @45981 has 123 MA's), (93, 46122), (105, 46170), (114, 46218), (137, 46311), (142, 46353),

Gene: HufflyPuff\_76 Start: 48245, Stop: 48619, Start Num: 50

Candidate Starts for HufflyPuff\_76:

(Start: 50 @48245 has 85 MA's), (Start: 54 @48251 has 40 MA's), (79, 48323), (93, 48383), (136, 48551),

Gene: Hughesyang\_134 Start: 73880, Stop: 74239, Start Num: 45

Candidate Starts for Hughesyang\_134:

(31, 73853), (Start: 45 @73880 has 36 MA's), (Start: 50 @73889 has 85 MA's), (96, 74021), (99, 74036), (135, 74165), (136, 74171),

Gene: Hughesyang\_118 Start: 67297, Stop: 67617, Start Num: 46

Candidate Starts for Hughesyang\_118:

(Start: 46 @67297 has 35 MA's), (65, 67336), (120, 67492), (129, 67528), (136, 67558), (142, 67603),

Gene: IHOP\_71 Start: 47341, Stop: 47718, Start Num: 50

Candidate Starts for IHOP\_71:

(Start: 50 @47341 has 85 MA's), (Start: 54 @47347 has 40 MA's), (79, 47419), (93, 47479), (136, 47650),

Gene: IHOP\_66 Start: 45077, Stop: 45487, Start Num: 43

Candidate Starts for IHOP\_66:

(Start: 43 @45077 has 123 MA's), (93, 45218), (105, 45266), (114, 45314), (137, 45407), (142, 45449),

Gene: IHOP\_78 Start: 49721, Stop: 50053, Start Num: 57

Candidate Starts for IHOP\_78:

(11, 49469), (Start: 48 @49706 has 22 MA's), (Start: 57 @49721 has 101 MA's), (68, 49757), (142, 50033),

Gene: Icee\_69 Start: 44976, Stop: 45386, Start Num: 43

Candidate Starts for Icee\_69:

(Start: 43 @44976 has 123 MA's), (93, 45117), (105, 45165), (114, 45213), (137, 45306), (142, 45348),

Gene: Icee\_74 Start: 47246, Stop: 47617, Start Num: 54

Candidate Starts for Icee\_74:

(Start: 50 @47240 has 85 MA's), (Start: 54 @47246 has 40 MA's), (79, 47318), (93, 47378), (136, 47549),

Gene: Icee\_81 Start: 49620, Stop: 49955, Start Num: 57

Candidate Starts for Icee\_81:

(11, 49368), (Start: 48 @49605 has 22 MA's), (Start: 57 @49620 has 101 MA's), (68, 49656), (142, 49935),

Gene: Inca\_70 Start: 45869, Stop: 46243, Start Num: 50

Candidate Starts for Inca\_70:

(Start: 50 @45869 has 85 MA's), (Start: 54 @45875 has 40 MA's), (79, 45947), (93, 46007), (136, 46175),

Gene: Inca\_77 Start: 48246, Stop: 48581, Start Num: 57

Candidate Starts for Inca\_77:

(11, 47994), (Start: 48 @48231 has 22 MA's), (Start: 57 @48246 has 101 MA's), (68, 48282), (142, 48561),

Gene: Inca\_65 Start: 43602, Stop: 44012, Start Num: 43

Candidate Starts for Inca\_65:

(14, 43428), (Start: 43 @43602 has 123 MA's), (93, 43743), (105, 43791), (114, 43839), (137, 43932), (142, 43974),

Gene: JeTaime\_73 Start: 48064, Stop: 48435, Start Num: 50  
Candidate Starts for JeTaime\_73:  
(Start: 50 @48064 has 85 MA's), (Start: 54 @48070 has 40 MA's), (79, 48142), (93, 48196), (136, 48367),

Gene: JeTaime\_80 Start: 50438, Stop: 50770, Start Num: 57  
Candidate Starts for JeTaime\_80:  
(11, 50186), (Start: 48 @50423 has 22 MA's), (Start: 57 @50438 has 101 MA's), (68, 50474), (142, 50750),

Gene: JeTaime\_68 Start: 45800, Stop: 46210, Start Num: 43  
Candidate Starts for JeTaime\_68:  
(14, 45626), (Start: 43 @45800 has 123 MA's), (93, 45941), (105, 45989), (114, 46037), (137, 46130), (142, 46172),

Gene: JuicyJay\_115 Start: 68611, Stop: 68931, Start Num: 46  
Candidate Starts for JuicyJay\_115:  
(Start: 46 @68611 has 35 MA's), (65, 68650), (96, 68749), (120, 68806), (129, 68842), (136, 68872), (142, 68917),

Gene: JuicyJay\_131 Start: 75395, Stop: 75754, Start Num: 45  
Candidate Starts for JuicyJay\_131:  
(31, 75368), (Start: 45 @75395 has 36 MA's), (Start: 50 @75404 has 85 MA's), (96, 75536), (99, 75551),

Gene: Kanye\_65 Start: 44658, Stop: 45068, Start Num: 43  
Candidate Starts for Kanye\_65:  
(Start: 43 @44658 has 123 MA's), (93, 44799), (105, 44847), (114, 44895), (137, 44988), (142, 45030),

Gene: Kanye\_77 Start: 49302, Stop: 49637, Start Num: 57  
Candidate Starts for Kanye\_77:  
(11, 49050), (Start: 48 @49287 has 22 MA's), (Start: 57 @49302 has 101 MA's), (68, 49338), (142, 49617),

Gene: Kanye\_70 Start: 46922, Stop: 47299, Start Num: 50  
Candidate Starts for Kanye\_70:  
(Start: 50 @46922 has 85 MA's), (Start: 54 @46928 has 40 MA's), (79, 47000), (93, 47060), (136, 47231),

Gene: KashFlow\_110 Start: 62308, Stop: 62631, Start Num: 46  
Candidate Starts for KashFlow\_110:  
(Start: 46 @62308 has 35 MA's), (65, 62347), (86, 62413), (92, 62434), (93, 62437), (99, 62464), (142, 62617),

Gene: KashFlow\_131 Start: 71552, Stop: 71905, Start Num: 45  
Candidate Starts for KashFlow\_131:  
(Start: 45 @71552 has 36 MA's), (Start: 50 @71561 has 85 MA's), (135, 71831), (142, 71882),

Gene: Kimchi\_84 Start: 49959, Stop: 50294, Start Num: 57  
Candidate Starts for Kimchi\_84:  
(11, 49707), (Start: 48 @49944 has 22 MA's), (Start: 57 @49959 has 101 MA's), (68, 49995), (142, 50274),

Gene: Kimchi\_77 Start: 47579, Stop: 47956, Start Num: 50

Candidate Starts for Kimchi\_77:

(Start: 50 @47579 has 85 MA's), (Start: 54 @47585 has 40 MA's), (79, 47657), (93, 47717), (136, 47888),

Gene: Kimchi\_72 Start: 45312, Stop: 45722, Start Num: 43

Candidate Starts for Kimchi\_72:

(14, 45138), (Start: 43 @45312 has 123 MA's), (93, 45453), (105, 45501), (114, 45549), (137, 45642), (142, 45684),

Gene: Klein\_131 Start: 71031, Stop: 71390, Start Num: 45

Candidate Starts for Klein\_131:

(31, 71004), (Start: 45 @71031 has 36 MA's), (Start: 50 @71040 has 85 MA's), (96, 71172), (99, 71187), (135, 71316), (136, 71322),

Gene: Kostya\_80 Start: 49805, Stop: 50155, Start Num: 48

Candidate Starts for Kostya\_80:

(11, 49568), (Start: 48 @49805 has 22 MA's), (Start: 57 @49820 has 101 MA's), (68, 49856), (142, 50135),

Gene: Kostya\_73 Start: 47446, Stop: 47817, Start Num: 54

Candidate Starts for Kostya\_73:

(Start: 50 @47440 has 85 MA's), (Start: 54 @47446 has 40 MA's), (79, 47518), (93, 47578), (136, 47749),

Gene: Kostya\_68 Start: 45176, Stop: 45586, Start Num: 43

Candidate Starts for Kostya\_68:

(Start: 43 @45176 has 123 MA's), (93, 45317), (105, 45365), (114, 45413), (137, 45506), (142, 45548),

Gene: Labelle\_59 Start: 43035, Stop: 43403, Start Num: 46

Candidate Starts for Labelle\_59:

(Start: 46 @43035 has 35 MA's), (Start: 58 @43056 has 1 MA's), (96, 43164), (98, 43173), (123, 43269), (129, 43296),

Gene: Lilac\_82 Start: 49574, Stop: 49906, Start Num: 57

Candidate Starts for Lilac\_82:

(11, 49322), (Start: 48 @49559 has 22 MA's), (Start: 57 @49574 has 101 MA's), (68, 49610), (142, 49886),

Gene: Lilac\_75 Start: 47197, Stop: 47571, Start Num: 50

Candidate Starts for Lilac\_75:

(Start: 50 @47197 has 85 MA's), (Start: 54 @47203 has 40 MA's), (79, 47275), (93, 47335), (136, 47503),

Gene: Lilac\_70 Start: 44933, Stop: 45343, Start Num: 43

Candidate Starts for Lilac\_70:

(Start: 43 @44933 has 123 MA's), (93, 45074), (105, 45122), (114, 45170), (137, 45263), (142, 45305),

Gene: Lilizi\_74 Start: 46910, Stop: 47284, Start Num: 50

Candidate Starts for Lilizi\_74:

(Start: 50 @46910 has 85 MA's), (Start: 54 @46916 has 40 MA's), (79, 46988), (93, 47048), (136, 47216),

Gene: Lilizi\_69 Start: 44646, Stop: 45056, Start Num: 43

Candidate Starts for Lilizi\_69:

(14, 44472), (Start: 43 @44646 has 123 MA's), (93, 44787), (105, 44835), (114, 44883), (137, 44976), (142, 45018),

Gene: Lilizi\_81 Start: 49287, Stop: 49619, Start Num: 57

Candidate Starts for Lilizi\_81:

(4, 48717), (7, 48834), (11, 49035), (Start: 48 @49272 has 22 MA's), (Start: 57 @49287 has 101 MA's), (68, 49323), (142, 49599),

Gene: Lilpickle\_72 Start: 46795, Stop: 47169, Start Num: 50

Candidate Starts for Lilpickle\_72:

(Start: 50 @46795 has 85 MA's), (Start: 54 @46801 has 40 MA's), (79, 46873), (93, 46933), (136, 47101),

Gene: Lilpickle\_79 Start: 49172, Stop: 49507, Start Num: 57

Candidate Starts for Lilpickle\_79:

(11, 48920), (Start: 48 @49157 has 22 MA's), (Start: 57 @49172 has 101 MA's), (68, 49208), (142, 49487),

Gene: Lilpickle\_67 Start: 44531, Stop: 44941, Start Num: 43

Candidate Starts for Lilpickle\_67:

(Start: 43 @44531 has 123 MA's), (93, 44672), (105, 44720), (114, 44768), (137, 44861), (142, 44903),

Gene: LittleE\_136 Start: 72806, Stop: 73159, Start Num: 45

Candidate Starts for LittleE\_136:

(Start: 45 @72806 has 36 MA's), (Start: 50 @72815 has 85 MA's),

Gene: LittleE\_118 Start: 65723, Stop: 66046, Start Num: 46

Candidate Starts for LittleE\_118:

(Start: 46 @65723 has 35 MA's), (65, 65762), (86, 65828), (92, 65849), (93, 65852), (99, 65879), (142, 66032),

Gene: Lucky2013\_128 Start: 69682, Stop: 70035, Start Num: 45

Candidate Starts for Lucky2013\_128:

(Start: 45 @69682 has 36 MA's), (Start: 50 @69691 has 85 MA's), (135, 69961), (142, 70012),

Gene: Lucky2013\_110 Start: 61874, Stop: 62194, Start Num: 46

Candidate Starts for Lucky2013\_110:

(Start: 46 @61874 has 35 MA's), (65, 61913), (96, 62012), (120, 62069), (129, 62105), (136, 62135), (142, 62180),

Gene: Lyell\_106 Start: 55834, Stop: 55397, Start Num: 41

Candidate Starts for Lyell\_106:

(5, 56371), (8, 56248), (9, 56197), (13, 56005), (22, 55885), (Start: 41 @55834 has 9 MA's), (Start: 57 @55810 has 101 MA's), (65, 55789), (92, 55693), (95, 55681), (96, 55678), (108, 55636), (113, 55606), (126, 55573),

Gene: MISSy\_74 Start: 47301, Stop: 47675, Start Num: 50

Candidate Starts for MISSy\_74:

(Start: 50 @47301 has 85 MA's), (Start: 54 @47307 has 40 MA's), (79, 47379), (93, 47439), (136, 47607),

Gene: MISSy\_69 Start: 45034, Stop: 45447, Start Num: 43

Candidate Starts for MISSy\_69:

(14, 44860), (Start: 43 @45034 has 123 MA's), (93, 45175), (105, 45223), (114, 45271), (137, 45364), (149, 45427),

Gene: MISSy\_81 Start: 49663, Stop: 50013, Start Num: 48

Candidate Starts for MISSy\_81:

(11, 49426), (Start: 48 @49663 has 22 MA's), (Start: 57 @49678 has 101 MA's), (68, 49714), (142, 49993),

Gene: MPhalcon\_69 Start: 45027, Stop: 45440, Start Num: 43

Candidate Starts for MPhalcon\_69:

(14, 44853), (Start: 43 @45027 has 123 MA's), (93, 45168), (105, 45216), (114, 45264), (137, 45357), (149, 45420),

Gene: MPhalcon\_74 Start: 47294, Stop: 47668, Start Num: 50

Candidate Starts for MPhalcon\_74:

(Start: 50 @47294 has 85 MA's), (Start: 54 @47300 has 40 MA's), (79, 47372), (93, 47432), (136, 47600),

Gene: MPhalcon\_81 Start: 49671, Stop: 50006, Start Num: 57

Candidate Starts for MPhalcon\_81:

(11, 49419), (Start: 48 @49656 has 22 MA's), (Start: 57 @49671 has 101 MA's), (68, 49707), (142, 49986),

Gene: MadamMonkfish\_80 Start: 48896, Stop: 49234, Start Num: 57

Candidate Starts for MadamMonkfish\_80:

(11, 48644), (Start: 48 @48881 has 22 MA's), (Start: 57 @48896 has 101 MA's), (68, 48932), (142, 49214),

Gene: MadamMonkfish\_73 Start: 46525, Stop: 46893, Start Num: 54

Candidate Starts for MadamMonkfish\_73:

(Start: 50 @46519 has 85 MA's), (Start: 54 @46525 has 40 MA's), (79, 46597), (93, 46657), (136, 46825),

Gene: MadamMonkfish\_68 Start: 44255, Stop: 44665, Start Num: 43

Candidate Starts for MadamMonkfish\_68:

(14, 44081), (Start: 43 @44255 has 123 MA's), (93, 44396), (105, 44444), (114, 44492), (137, 44585), (142, 44627),

Gene: Madruga\_58 Start: 42688, Stop: 43056, Start Num: 46

Candidate Starts for Madruga\_58:

(Start: 46 @42688 has 35 MA's), (96, 42817), (98, 42826), (123, 42922), (129, 42949),

Gene: Manda\_74 Start: 48378, Stop: 48755, Start Num: 50

Candidate Starts for Manda\_74:

(Start: 50 @48378 has 85 MA's), (Start: 54 @48384 has 40 MA's), (79, 48456), (93, 48516), (136, 48687),

Gene: Manda\_68 Start: 45536, Stop: 45946, Start Num: 43

Candidate Starts for Manda\_68:

(Start: 43 @45536 has 123 MA's), (93, 45677), (105, 45725), (114, 45773), (137, 45866), (142, 45908),

Gene: Manda\_81 Start: 50758, Stop: 51093, Start Num: 57

Candidate Starts for Manda\_81:

(11, 50506), (Start: 48 @50743 has 22 MA's), (Start: 57 @50758 has 101 MA's), (68, 50794), (142, 51073),

Gene: Marshmallow\_71 Start: 48077, Stop: 48448, Start Num: 54

Candidate Starts for Marshmallow\_71:

(Start: 50 @48071 has 85 MA's), (Start: 54 @48077 has 40 MA's), (79, 48149), (93, 48209), (136, 48380),

Gene: Marshmallow\_78 Start: 50436, Stop: 50783, Start Num: 48

Candidate Starts for Marshmallow\_78:

(11, 50199), (Start: 48 @50436 has 22 MA's), (Start: 57 @50451 has 101 MA's), (68, 50487), (142, 50763),

Gene: Marshmallow\_66 Start: 45804, Stop: 46214, Start Num: 43

Candidate Starts for Marshmallow\_66:

(Start: 43 @45804 has 123 MA's), (93, 45945), (105, 45993), (114, 46041), (137, 46134), (142, 46176),

Gene: Maxxinista\_82 Start: 49547, Stop: 49879, Start Num: 57

Candidate Starts for Maxxinista\_82:

(11, 49295), (Start: 48 @49532 has 22 MA's), (Start: 57 @49547 has 101 MA's), (68, 49583), (142, 49859),

Gene: Maxxinista\_70 Start: 44906, Stop: 45316, Start Num: 43

Candidate Starts for Maxxinista\_70:

(Start: 43 @44906 has 123 MA's), (93, 45047), (105, 45095), (114, 45143), (137, 45236), (142, 45278),

Gene: Maxxinista\_75 Start: 47176, Stop: 47544, Start Num: 54

Candidate Starts for Maxxinista\_75:

(Start: 50 @47170 has 85 MA's), (Start: 54 @47176 has 40 MA's), (79, 47248), (93, 47308), (136, 47476),

Gene: MiaZeal\_133 Start: 70821, Stop: 71174, Start Num: 45

Candidate Starts for MiaZeal\_133:

(Start: 45 @70821 has 36 MA's), (Start: 50 @70830 has 85 MA's), (135, 71100), (142, 71151),

Gene: MiaZeal\_113 Start: 62505, Stop: 62825, Start Num: 46

Candidate Starts for MiaZeal\_113:

(Start: 46 @62505 has 35 MA's), (65, 62544), (96, 62643), (120, 62700), (129, 62736), (136, 62766), (142, 62811),

Gene: Mindy\_72 Start: 46383, Stop: 46760, Start Num: 50

Candidate Starts for Mindy\_72:

(Start: 50 @46383 has 85 MA's), (Start: 54 @46389 has 40 MA's), (79, 46461), (93, 46521), (136, 46692),

Gene: Mindy\_79 Start: 48763, Stop: 49095, Start Num: 57

Candidate Starts for Mindy\_79:

(11, 48511), (Start: 48 @48748 has 22 MA's), (Start: 57 @48763 has 101 MA's), (68, 48799), (142, 49075),

Gene: Mindy\_67 Start: 44119, Stop: 44529, Start Num: 43

Candidate Starts for Mindy\_67:

(14, 43945), (Start: 43 @44119 has 123 MA's), (81, 44215), (93, 44260), (105, 44308), (114, 44356), (137, 44449), (142, 44491),

Gene: Minerva\_133 Start: 72481, Stop: 72840, Start Num: 45

Candidate Starts for Minerva\_133:

(31, 72454), (Start: 45 @72481 has 36 MA's), (Start: 50 @72490 has 85 MA's), (96, 72622), (99, 72637), (135, 72766), (136, 72772),

Gene: Minerva\_116 Start: 65898, Stop: 66218, Start Num: 46

Candidate Starts for Minerva\_116:

(Start: 46 @65898 has 35 MA's), (65, 65937), (120, 66093), (129, 66129), (136, 66159), (142, 66204),

Gene: Miniwave\_63 Start: 44572, Stop: 44982, Start Num: 43

Candidate Starts for Miniwave\_63:

(Start: 43 @44572 has 123 MA's), (93, 44713), (105, 44761), (114, 44809), (137, 44902), (142, 44944),

Gene: Miniwave\_68 Start: 46836, Stop: 47213, Start Num: 50

Candidate Starts for Miniwave\_68:

(Start: 50 @46836 has 85 MA's), (Start: 54 @46842 has 40 MA's), (79, 46914), (93, 46974), (136, 47145),

Gene: Miniwave\_75 Start: 49216, Stop: 49551, Start Num: 57

Candidate Starts for Miniwave\_75:

(11, 48964), (Start: 48 @49201 has 22 MA's), (Start: 57 @49216 has 101 MA's), (68, 49252), (110, 49393), (123, 49432), (132, 49468), (133, 49471), (137, 49489), (142, 49531),

Gene: Misfit\_81 Start: 50690, Stop: 51025, Start Num: 57

Candidate Starts for Misfit\_81:

(11, 50438), (Start: 48 @50675 has 22 MA's), (Start: 57 @50690 has 101 MA's), (68, 50726), (142, 51005),

Gene: Misfit\_69 Start: 46046, Stop: 46459, Start Num: 43

Candidate Starts for Misfit\_69:

(14, 45872), (Start: 43 @46046 has 123 MA's), (93, 46187), (105, 46235), (114, 46283), (137, 46376), (149, 46439),

Gene: Misfit\_74 Start: 48313, Stop: 48687, Start Num: 50

Candidate Starts for Misfit\_74:

(Start: 50 @48313 has 85 MA's), (Start: 54 @48319 has 40 MA's), (79, 48391), (93, 48451), (136, 48619),

Gene: Moldemort\_76 Start: 47395, Stop: 47772, Start Num: 50

Candidate Starts for Moldemort\_76:



(Start: 50 @47395 has 85 MA's), (Start: 54 @47401 has 40 MA's), (79, 47473), (93, 47533), (136, 47704),

Gene: Moldemort\_71 Start: 45128, Stop: 45538, Start Num: 43

Candidate Starts for Moldemort\_71:

(14, 44954), (Start: 43 @45128 has 123 MA's), (81, 45224), (93, 45269), (105, 45317), (114, 45365), (137, 45458), (142, 45500),

Gene: Moldemort\_83 Start: 49775, Stop: 50107, Start Num: 57

Candidate Starts for Moldemort\_83:

(11, 49523), (Start: 48 @49760 has 22 MA's), (Start: 57 @49775 has 101 MA's), (68, 49811), (142, 50087),

Gene: Mosby\_64 Start: 44329, Stop: 44742, Start Num: 43

Candidate Starts for Mosby\_64:

(14, 44155), (Start: 43 @44329 has 123 MA's), (93, 44470), (105, 44518), (114, 44566), (137, 44659), (149, 44722),

Gene: Mosby\_69 Start: 46596, Stop: 46970, Start Num: 50

Candidate Starts for Mosby\_69:

(Start: 50 @46596 has 85 MA's), (Start: 54 @46602 has 40 MA's), (79, 46674), (93, 46734), (136, 46902),

Gene: Mosby\_76 Start: 48973, Stop: 49308, Start Num: 57

Candidate Starts for Mosby\_76:

(11, 48721), (Start: 48 @48958 has 22 MA's), (Start: 57 @48973 has 101 MA's), (68, 49009), (142, 49288),

Gene: Murica\_76 Start: 48251, Stop: 48619, Start Num: 54

Candidate Starts for Murica\_76:

(Start: 50 @48245 has 85 MA's), (Start: 54 @48251 has 40 MA's), (79, 48323), (93, 48383), (136, 48551),

Gene: Murica\_71 Start: 45981, Stop: 46391, Start Num: 43

Candidate Starts for Murica\_71:

(Start: 43 @45981 has 123 MA's), (93, 46122), (105, 46170), (114, 46218), (137, 46311), (142, 46353),

Gene: Murica\_83 Start: 50622, Stop: 50954, Start Num: 57

Candidate Starts for Murica\_83:

(Start: 48 @50607 has 22 MA's), (Start: 57 @50622 has 101 MA's), (68, 50658), (142, 50934),

Gene: Murphy\_68 Start: 45418, Stop: 45828, Start Num: 43

Candidate Starts for Murphy\_68:

(Start: 43 @45418 has 123 MA's), (93, 45559), (105, 45607), (114, 45655), (137, 45748), (142, 45790),

Gene: Murphy\_80 Start: 50059, Stop: 50391, Start Num: 57

Candidate Starts for Murphy\_80:

(11, 49807), (Start: 48 @50044 has 22 MA's), (Start: 57 @50059 has 101 MA's), (68, 50095), (142, 50371),

Gene: Murphy\_73 Start: 47688, Stop: 48056, Start Num: 54

Candidate Starts for Murphy\_73:

(Start: 50 @47682 has 85 MA's), (Start: 54 @47688 has 40 MA's), (79, 47760), (93, 47820), (136, 47988),

Gene: Musetta\_105 Start: 56187, Stop: 55750, Start Num: 41

Candidate Starts for Musetta\_105:

(1, 56811), (2, 56784), (3, 56763), (6, 56715), (8, 56601), (9, 56550), (13, 56358), (22, 56238), (Start: 41 @56187 has 9 MA's), (Start: 57 @56163 has 101 MA's), (65, 56142), (92, 56046), (95, 56034), (96, 56031), (108, 55989), (113, 55959), (126, 55926),

Gene: Myrale\_73 Start: 47936, Stop: 48313, Start Num: 50

Candidate Starts for Myrale\_73:

(Start: 50 @47936 has 85 MA's), (Start: 54 @47942 has 40 MA's), (79, 48014), (93, 48074), (136, 48245),

Gene: Myrale\_80 Start: 50316, Stop: 50651, Start Num: 57

Candidate Starts for Myrale\_80:

(11, 50064), (Start: 48 @50301 has 22 MA's), (Start: 57 @50316 has 101 MA's), (68, 50352), (110, 50493), (123, 50532), (132, 50568), (133, 50571), (137, 50589), (142, 50631),

Gene: Myrale\_68 Start: 45669, Stop: 46079, Start Num: 43

Candidate Starts for Myrale\_68:

(Start: 43 @45669 has 123 MA's), (93, 45810), (105, 45858), (114, 45906), (137, 45999), (142, 46041),

Gene: Nala\_75 Start: 47812, Stop: 48177, Start Num: 54

Candidate Starts for Nala\_75:

(Start: 50 @47806 has 85 MA's), (Start: 54 @47812 has 40 MA's), (79, 47884), (93, 47938), (136, 48109),

Gene: Nala\_70 Start: 45539, Stop: 45952, Start Num: 43

Candidate Starts for Nala\_70:

(14, 45365), (Start: 43 @45539 has 123 MA's), (93, 45680), (105, 45728), (114, 45776), (137, 45869), (149, 45932),

Gene: Nala\_82 Start: 50180, Stop: 50515, Start Num: 57

Candidate Starts for Nala\_82:

(4, 49610), (7, 49727), (11, 49928), (Start: 48 @50165 has 22 MA's), (Start: 57 @50180 has 101 MA's), (68, 50216), (142, 50495),

Gene: Necrophoxinus\_109 Start: 56843, Stop: 56406, Start Num: 41

Candidate Starts for Necrophoxinus\_109:

(Start: 41 @56843 has 9 MA's), (Start: 57 @56819 has 101 MA's), (65, 56798), (92, 56702), (95, 56690), (96, 56687), (108, 56645), (113, 56615), (126, 56582),

Gene: NelitzaMV\_66 Start: 44618, Stop: 45028, Start Num: 43

Candidate Starts for NelitzaMV\_66:

(Start: 43 @44618 has 123 MA's), (93, 44759), (105, 44807), (114, 44855), (137, 44948), (142, 44990),

Gene: NelitzaMV\_78 Start: 49247, Stop: 49597, Start Num: 48

Candidate Starts for NelitzaMV\_78:

(11, 49010), (Start: 48 @49247 has 22 MA's), (Start: 57 @49262 has 101 MA's), (68, 49298), (142, 49577),

Gene: NelitzaMV\_71 Start: 46888, Stop: 47259, Start Num: 54

Candidate Starts for NelitzaMV\_71:

(Start: 50 @46882 has 85 MA's), (Start: 54 @46888 has 40 MA's), (79, 46960), (93, 47020), (136, 47191),

Gene: Neville\_54 Start: 37372, Stop: 37770, Start Num: 30

Candidate Starts for Neville\_54:

(Start: 30 @37372 has 3 MA's), (Start: 40 @37402 has 5 MA's), (63, 37438), (64, 37441), (66, 37447), (70, 37471), (98, 37558), (103, 37579), (119, 37603), (137, 37678), (141, 37702), (153, 37756), (154, 37762),

Gene: NiceHouse\_172 Start: 98331, Stop: 98723, Start Num: 34

Candidate Starts for NiceHouse\_172:

(Start: 34 @98331 has 1 MA's), (Start: 58 @98373 has 1 MA's), (60, 98376), (78, 98448),

Gene: NiceHouse\_171 Start: 97963, Stop: 98331, Start Num: 50

Candidate Starts for NiceHouse\_171:

(25, 97906), (Start: 50 @97963 has 85 MA's), (99, 98119), (140, 98266), (142, 98290),

Gene: NiceHouse\_173 Start: 98723, Stop: 99082, Start Num: 52

Candidate Starts for NiceHouse\_173:

(28, 98672), (Start: 52 @98723 has 1 MA's), (65, 98753), (92, 98870), (102, 98912), (144, 99053),

Gene: NihilNomen\_136 Start: 73340, Stop: 73699, Start Num: 45

Candidate Starts for NihilNomen\_136:

(31, 73313), (Start: 45 @73340 has 36 MA's), (Start: 50 @73349 has 85 MA's), (96, 73481), (99, 73496),

Gene: NihilNomen\_120 Start: 66563, Stop: 66883, Start Num: 46

Candidate Starts for NihilNomen\_120:

(Start: 46 @66563 has 35 MA's), (65, 66602), (96, 66701), (120, 66758), (129, 66794), (136, 66824), (142, 66869),

Gene: Nimrod\_74 Start: 48509, Stop: 48880, Start Num: 54

Candidate Starts for Nimrod\_74:

(Start: 50 @48503 has 85 MA's), (Start: 54 @48509 has 40 MA's), (79, 48581), (93, 48641), (136, 48812),

Gene: Nimrod\_69 Start: 46236, Stop: 46649, Start Num: 43

Candidate Starts for Nimrod\_69:

(14, 46062), (Start: 43 @46236 has 123 MA's), (93, 46377), (105, 46425), (114, 46473), (137, 46566), (149, 46629),

Gene: Nimrod\_81 Start: 50883, Stop: 51218, Start Num: 57

Candidate Starts for Nimrod\_81:

(4, 50313), (7, 50430), (11, 50631), (Start: 48 @50868 has 22 MA's), (Start: 57 @50883 has 101 MA's), (68, 50919), (142, 51198),

Gene: NoSleep\_74 Start: 47140, Stop: 47514, Start Num: 50

Candidate Starts for NoSleep\_74:

(Start: 50 @47140 has 85 MA's), (Start: 54 @47146 has 40 MA's), (79, 47218), (93, 47278), (136, 47446),

Gene: NoSleep\_69 Start: 44876, Stop: 45286, Start Num: 43

Candidate Starts for NoSleep\_69:

(Start: 43 @44876 has 123 MA's), (93, 45017), (105, 45065), (114, 45113), (137, 45206), (142, 45248),

Gene: NoSleep\_81 Start: 49517, Stop: 49852, Start Num: 57

Candidate Starts for NoSleep\_81:

(11, 49265), (Start: 48 @49502 has 22 MA's), (Start: 57 @49517 has 101 MA's), (68, 49553), (142, 49832),

Gene: Odette\_138 Start: 74911, Stop: 75270, Start Num: 45

Candidate Starts for Odette\_138:

(31, 74884), (Start: 45 @74911 has 36 MA's), (Start: 50 @74920 has 85 MA's), (96, 75052), (99, 75067), (135, 75196), (136, 75202),

Gene: Odette\_120 Start: 66457, Stop: 66777, Start Num: 46

Candidate Starts for Odette\_120:

(Start: 46 @66457 has 35 MA's), (65, 66496), (96, 66595), (120, 66652), (129, 66688), (136, 66718), (142, 66763),

Gene: OlinDD\_107 Start: 58261, Stop: 57875, Start Num: 38

Candidate Starts for OlinDD\_107:

(15, 58354), (19, 58318), (29, 58285), (36, 58264), (Start: 38 @58261 has 7 MA's), (70, 58180), (79, 58162), (95, 58108), (102, 58084), (124, 58012), (133, 57976), (137, 57958),

Gene: Omega\_143 Start: 74487, Stop: 74840, Start Num: 45

Candidate Starts for Omega\_143:

(Start: 45 @74487 has 36 MA's), (Start: 50 @74496 has 85 MA's),

Gene: Omega\_124 Start: 66872, Stop: 67195, Start Num: 46

Candidate Starts for Omega\_124:

(Start: 46 @66872 has 35 MA's), (65, 66911), (86, 66977), (92, 66998), (93, 67001), (99, 67028), (142, 67181),

Gene: OneUp\_106 Start: 66594, Stop: 66947, Start Num: 58

Candidate Starts for OneUp\_106:

(Start: 58 @66594 has 1 MA's), (79, 66660), (107, 66759), (111, 66783), (152, 66942),

Gene: OrionPax\_67 Start: 44624, Stop: 45034, Start Num: 43

Candidate Starts for OrionPax\_67:

(Start: 43 @44624 has 123 MA's), (93, 44765), (105, 44813), (114, 44861), (137, 44954), (142, 44996),

Gene: OrionPax\_72 Start: 46894, Stop: 47265, Start Num: 54

Candidate Starts for OrionPax\_72:

(Start: 50 @46888 has 85 MA's), (Start: 54 @46894 has 40 MA's), (79, 46966), (93, 47026), (117, 47125), (136, 47197),

Gene: OrionPax\_79 Start: 49268, Stop: 49603, Start Num: 57

Candidate Starts for OrionPax\_79:

(11, 49016), (Start: 48 @49253 has 22 MA's), (Start: 57 @49268 has 101 MA's), (68, 49304), (142, 49583),

Gene: Palpatine\_82 Start: 50649, Stop: 50981, Start Num: 57

Candidate Starts for Palpatine\_82:

(11, 50397), (Start: 48 @50634 has 22 MA's), (Start: 57 @50649 has 101 MA's), (68, 50685), (142, 50961),

Gene: Palpatine\_70 Start: 46008, Stop: 46418, Start Num: 43

Candidate Starts for Palpatine\_70:

(Start: 43 @46008 has 123 MA's), (93, 46149), (105, 46197), (114, 46245), (137, 46338), (142, 46380),

Gene: Palpatine\_75 Start: 48278, Stop: 48646, Start Num: 54

Candidate Starts for Palpatine\_75:

(Start: 50 @48272 has 85 MA's), (Start: 54 @48278 has 40 MA's), (79, 48350), (93, 48410), (136, 48578),

Gene: Paperbeatsrock\_67 Start: 45250, Stop: 45660, Start Num: 43

Candidate Starts for Paperbeatsrock\_67:

(Start: 43 @45250 has 123 MA's), (93, 45391), (105, 45439), (114, 45487), (137, 45580), (142, 45622),

Gene: Paperbeatsrock\_72 Start: 47514, Stop: 47891, Start Num: 50

Candidate Starts for Paperbeatsrock\_72:

(Start: 50 @47514 has 85 MA's), (Start: 54 @47520 has 40 MA's), (79, 47592), (93, 47652), (136, 47823),

Gene: Paperbeatsrock\_79 Start: 49894, Stop: 50229, Start Num: 57

Candidate Starts for Paperbeatsrock\_79:

(11, 49642), (Start: 48 @49879 has 22 MA's), (Start: 57 @49894 has 101 MA's), (68, 49930), (110, 50071), (123, 50110), (132, 50146), (133, 50149), (137, 50167), (142, 50209),

Gene: Pat3\_78 Start: 48426, Stop: 48761, Start Num: 57

Candidate Starts for Pat3\_78:

(11, 48174), (Start: 48 @48411 has 22 MA's), (Start: 57 @48426 has 101 MA's), (68, 48462), (84, 48516), (123, 48642), (132, 48678), (133, 48681), (137, 48699), (142, 48741),

Gene: Pat3\_71 Start: 46046, Stop: 46423, Start Num: 50

Candidate Starts for Pat3\_71:

(Start: 50 @46046 has 85 MA's), (Start: 54 @46052 has 40 MA's), (79, 46124), (93, 46184), (117, 46283), (136, 46355),

Gene: Pat3\_66 Start: 43773, Stop: 44186, Start Num: 43

Candidate Starts for Pat3\_66:

(14, 43599), (Start: 43 @43773 has 123 MA's), (93, 43914), (103, 43956), (128, 44064), (137, 44103), (146, 44160),

Gene: Patience\_60 Start: 43583, Stop: 43951, Start Num: 46

Candidate Starts for Patience\_60:

(Start: 46 @43583 has 35 MA's), (Start: 58 @43604 has 1 MA's), (96, 43712), (98, 43721), (123, 43817), (129, 43844), (141, 43901),

Gene: Pavlo\_108 Start: 57864, Stop: 57499, Start Num: 44  
Candidate Starts for Pavlo\_108:  
(23, 57915), (Start: 44 @57864 has 5 MA's), (70, 57795), (93, 57735), (95, 57726), (102, 57702), (106, 57687), (143, 57537), (146, 57528),

Gene: Peregrin\_24 Start: 6762, Stop: 6388, Start Num: 42  
Candidate Starts for Peregrin\_24:  
(Start: 42 @6762 has 3 MA's), (67, 6708), (88, 6633), (96, 6597), (97, 6594), (116, 6534),

Gene: Peregrin\_20 Start: 5906, Stop: 5532, Start Num: 49  
Candidate Starts for Peregrin\_20:  
(Start: 49 @5906 has 5 MA's), (93, 5762), (97, 5747), (147, 5555), (149, 5552),

Gene: Peregrin\_226 Start: 113095, Stop: 113481, Start Num: 40  
Candidate Starts for Peregrin\_226:  
(Start: 40 @113095 has 5 MA's), (75, 113182), (90, 113239), (91, 113245), (135, 113392), (145, 113452), (148, 113461),

Gene: Peregrin\_19 Start: 5539, Stop: 5195, Start Num: 49  
Candidate Starts for Peregrin\_19:  
(Start: 49 @5539 has 5 MA's), (130, 5299),

Gene: Petra64142\_84 Start: 51113, Stop: 51448, Start Num: 57  
Candidate Starts for Petra64142\_84:  
(11, 50861), (Start: 48 @51098 has 22 MA's), (Start: 57 @51113 has 101 MA's), (68, 51149), (142, 51428),

Gene: Petra64142\_72 Start: 46472, Stop: 46885, Start Num: 43  
Candidate Starts for Petra64142\_72:  
(14, 46298), (Start: 43 @46472 has 123 MA's), (93, 46613), (103, 46655), (128, 46763), (137, 46802), (149, 46865),

Gene: Petra64142\_77 Start: 48748, Stop: 49110, Start Num: 54  
Candidate Starts for Petra64142\_77:  
(Start: 50 @48742 has 85 MA's), (Start: 54 @48748 has 40 MA's), (79, 48820), (136, 49042),

Gene: Phaja\_71 Start: 47340, Stop: 47717, Start Num: 50  
Candidate Starts for Phaja\_71:  
(Start: 50 @47340 has 85 MA's), (Start: 54 @47346 has 40 MA's), (79, 47418), (93, 47478), (136, 47649),

Gene: Phaja\_78 Start: 49720, Stop: 50055, Start Num: 57  
Candidate Starts for Phaja\_78:  
(11, 49468), (Start: 48 @49705 has 22 MA's), (Start: 57 @49720 has 101 MA's), (68, 49756), (110, 49897), (123, 49936), (132, 49972), (133, 49975), (137, 49993), (142, 50035),

Gene: Phaja\_66 Start: 45076, Stop: 45486, Start Num: 43  
Candidate Starts for Phaja\_66:  
(Start: 43 @45076 has 123 MA's), (93, 45217), (105, 45265), (114, 45313), (137, 45406), (142, 45448),

Gene: Pharsalus\_65 Start: 45050, Stop: 45460, Start Num: 43  
Candidate Starts for Pharsalus\_65:

(Start: 43 @45050 has 123 MA's), (93, 45191), (105, 45239), (114, 45287), (137, 45380), (142, 45422),

Gene: Pharsalus\_70 Start: 47314, Stop: 47691, Start Num: 50

Candidate Starts for Pharsalus\_70:

(Start: 50 @47314 has 85 MA's), (Start: 54 @47320 has 40 MA's), (79, 47392), (93, 47452), (136, 47623),

Gene: Pharsalus\_77 Start: 49694, Stop: 50029, Start Num: 57

Candidate Starts for Pharsalus\_77:

(11, 49442), (Start: 48 @49679 has 22 MA's), (Start: 57 @49694 has 101 MA's), (68, 49730), (110, 49871), (123, 49910), (132, 49946), (133, 49949), (137, 49967), (142, 50009),

Gene: PhatBacter\_72 Start: 46025, Stop: 46435, Start Num: 43

Candidate Starts for PhatBacter\_72:

(Start: 43 @46025 has 123 MA's), (93, 46166), (105, 46214), (114, 46262), (137, 46355), (142, 46397),

Gene: PhatBacter\_77 Start: 48289, Stop: 48663, Start Num: 50

Candidate Starts for PhatBacter\_77:

(Start: 50 @48289 has 85 MA's), (Start: 54 @48295 has 40 MA's), (79, 48367), (93, 48427), (136, 48595),

Gene: PhatBacter\_84 Start: 50666, Stop: 51001, Start Num: 57

Candidate Starts for PhatBacter\_84:

(4, 50096), (7, 50213), (11, 50414), (Start: 48 @50651 has 22 MA's), (Start: 57 @50666 has 101 MA's), (68, 50702), (142, 50981),

Gene: Phaux\_75 Start: 48284, Stop: 48658, Start Num: 50

Candidate Starts for Phaux\_75:

(Start: 50 @48284 has 85 MA's), (Start: 54 @48290 has 40 MA's), (79, 48362), (93, 48422), (136, 48590),

Gene: Phaux\_70 Start: 46020, Stop: 46430, Start Num: 43

Candidate Starts for Phaux\_70:

(Start: 43 @46020 has 123 MA's), (93, 46161), (105, 46209), (114, 46257), (137, 46350), (142, 46392),

Gene: Phaux\_82 Start: 50661, Stop: 50996, Start Num: 57

Candidate Starts for Phaux\_82:

(11, 50409), (Start: 48 @50646 has 22 MA's), (Start: 57 @50661 has 101 MA's), (68, 50697), (84, 50751), (123, 50877), (132, 50913), (133, 50916), (137, 50934), (142, 50976),

Gene: PhillyPhilly\_105 Start: 56853, Stop: 56488, Start Num: 44

Candidate Starts for PhillyPhilly\_105:

(23, 56904), (Start: 44 @56853 has 5 MA's), (70, 56784), (93, 56724), (95, 56715), (102, 56691), (106, 56676), (143, 56526), (146, 56517),

Gene: Phoebus\_119 Start: 68421, Stop: 68741, Start Num: 46

Candidate Starts for Phoebus\_119:

(Start: 46 @68421 has 35 MA's), (65, 68460), (96, 68559), (120, 68616), (129, 68652), (136, 68682), (142, 68727),

Gene: Phoebus\_135 Start: 75234, Stop: 75593, Start Num: 45

Candidate Starts for Phoebus\_135:

(31, 75207), (Start: 45 @75234 has 36 MA's), (Start: 50 @75243 has 85 MA's), (96, 75375), (99, 75390), (135, 75519), (136, 75525),

Gene: Phrux\_70 Start: 46880, Stop: 47254, Start Num: 50

Candidate Starts for Phrux\_70:

(Start: 50 @46880 has 85 MA's), (Start: 54 @46886 has 40 MA's), (79, 46958), (93, 47018), (136, 47186),

Gene: Phrux\_77 Start: 49257, Stop: 49589, Start Num: 57

Candidate Starts for Phrux\_77:

(11, 49005), (Start: 48 @49242 has 22 MA's), (Start: 57 @49257 has 101 MA's), (68, 49293), (142, 49569),

Gene: Phrux\_65 Start: 44616, Stop: 45026, Start Num: 43

Candidate Starts for Phrux\_65:

(Start: 43 @44616 has 123 MA's), (93, 44757), (105, 44805), (114, 44853), (137, 44946), (142, 44988),

Gene: Pioneer3\_107 Start: 58059, Stop: 57673, Start Num: 38

Candidate Starts for Pioneer3\_107:

(15, 58152), (19, 58116), (29, 58083), (36, 58062), (Start: 38 @58059 has 7 MA's), (70, 57978), (79, 57960), (95, 57906), (102, 57882), (124, 57810), (133, 57774), (137, 57756),

Gene: Platte\_106 Start: 57843, Stop: 57457, Start Num: 38

Candidate Starts for Platte\_106:

(15, 57936), (19, 57900), (29, 57867), (36, 57846), (Start: 38 @57843 has 7 MA's), (70, 57762), (79, 57744), (95, 57690), (102, 57666), (124, 57594), (133, 57558), (137, 57540),

Gene: Policronamos\_72 Start: 46020, Stop: 46430, Start Num: 43

Candidate Starts for Policronamos\_72:

(Start: 43 @46020 has 123 MA's), (93, 46161), (105, 46209), (114, 46257), (137, 46350), (142, 46392),

Gene: Policronamos\_77 Start: 48290, Stop: 48658, Start Num: 54

Candidate Starts for Policronamos\_77:

(Start: 50 @48284 has 85 MA's), (Start: 54 @48290 has 40 MA's), (79, 48362), (93, 48422), (136, 48590),

Gene: Policronamos\_84 Start: 50646, Stop: 50996, Start Num: 48

Candidate Starts for Policronamos\_84:

(11, 50409), (Start: 48 @50646 has 22 MA's), (Start: 57 @50661 has 101 MA's), (68, 50697), (84, 50751), (123, 50877), (132, 50913), (133, 50916), (137, 50934), (142, 50976),

Gene: Porcelain\_113 Start: 62820, Stop: 63140, Start Num: 46

Candidate Starts for Porcelain\_113:

(Start: 46 @62820 has 35 MA's), (65, 62859), (96, 62958), (120, 63015), (129, 63051), (136, 63081), (142, 63126),

Gene: Porcelain\_131 Start: 70628, Stop: 70981, Start Num: 45

Candidate Starts for Porcelain\_131:

(Start: 45 @70628 has 36 MA's), (Start: 50 @70637 has 85 MA's), (135, 70907), (142, 70958),



Gene: Porky\_67 Start: 44446, Stop: 44856, Start Num: 43  
Candidate Starts for Porky\_67:  
(14, 44272), (Start: 43 @44446 has 123 MA's), (93, 44587), (105, 44635), (114, 44683), (137, 44776),  
(142, 44818),

Gene: Porky\_72 Start: 46716, Stop: 47084, Start Num: 54  
Candidate Starts for Porky\_72:  
(Start: 50 @46710 has 85 MA's), (Start: 54 @46716 has 40 MA's), (79, 46788), (93, 46848), (136,  
47016),

Gene: Porky\_79 Start: 49072, Stop: 49419, Start Num: 48  
Candidate Starts for Porky\_79:  
(Start: 48 @49072 has 22 MA's), (Start: 57 @49087 has 101 MA's), (68, 49123), (142, 49399),

Gene: Pound\_108 Start: 64917, Stop: 65237, Start Num: 46  
Candidate Starts for Pound\_108:  
(Start: 46 @64917 has 35 MA's), (65, 64956), (120, 65112), (129, 65148), (136, 65178), (142, 65223),

Gene: Pumpkin\_83 Start: 50315, Stop: 50647, Start Num: 57  
Candidate Starts for Pumpkin\_83:  
(4, 49745), (7, 49862), (11, 50063), (Start: 48 @50300 has 22 MA's), (Start: 57 @50315 has 101  
MA's), (68, 50351), (142, 50627),

Gene: Pumpkin\_76 Start: 47944, Stop: 48312, Start Num: 54  
Candidate Starts for Pumpkin\_76:  
(Start: 50 @47938 has 85 MA's), (Start: 54 @47944 has 40 MA's), (79, 48016), (93, 48076), (136,  
48244),

Gene: Pumpkin\_71 Start: 45674, Stop: 46084, Start Num: 43  
Candidate Starts for Pumpkin\_71:  
(Start: 43 @45674 has 123 MA's), (93, 45815), (105, 45863), (114, 45911), (137, 46004), (142,  
46046),

Gene: Quallification\_69 Start: 45658, Stop: 46068, Start Num: 43  
Candidate Starts for Quallification\_69:  
(Start: 43 @45658 has 123 MA's), (93, 45799), (105, 45847), (114, 45895), (137, 45988), (142,  
46030),

Gene: Quallification\_81 Start: 50302, Stop: 50637, Start Num: 57  
Candidate Starts for Quallification\_81:  
(11, 50050), (Start: 48 @50287 has 22 MA's), (Start: 57 @50302 has 101 MA's), (68, 50338), (110,  
50479), (123, 50518), (132, 50554), (133, 50557), (137, 50575), (142, 50617),

Gene: Quallification\_74 Start: 47922, Stop: 48299, Start Num: 50  
Candidate Starts for Quallification\_74:  
(Start: 50 @47922 has 85 MA's), (Start: 54 @47928 has 40 MA's), (79, 48000), (93, 48060), (136,  
48231),

Gene: Rabbitrun\_55 Start: 37898, Stop: 38293, Start Num: 30  
Candidate Starts for Rabbitrun\_55:  
(15, 37826), (16, 37832), (20, 37865), (24, 37880), (Start: 30 @37898 has 3 MA's), (51, 37943), (60,  
37958), (64, 37970), (132, 38183), (139, 38213), (153, 38282),

Gene: Rakim\_69 Start: 45127, Stop: 45537, Start Num: 43

Candidate Starts for Rakim\_69:

(Start: 43 @45127 has 123 MA's), (93, 45268), (105, 45316), (114, 45364), (137, 45457), (142, 45499),

Gene: Rakim\_81 Start: 49771, Stop: 50103, Start Num: 57

Candidate Starts for Rakim\_81:

(11, 49519), (Start: 48 @49756 has 22 MA's), (Start: 57 @49771 has 101 MA's), (68, 49807), (142, 50083),

Gene: Rakim\_74 Start: 47394, Stop: 47768, Start Num: 50

Candidate Starts for Rakim\_74:

(Start: 50 @47394 has 85 MA's), (Start: 54 @47400 has 40 MA's), (79, 47472), (93, 47532), (117, 47628), (136, 47700),

Gene: Redno2\_126 Start: 70622, Stop: 70981, Start Num: 45

Candidate Starts for Redno2\_126:

(31, 70595), (Start: 45 @70622 has 36 MA's), (Start: 50 @70631 has 85 MA's), (96, 70763), (99, 70778), (135, 70907), (136, 70913),

Gene: Redno2\_112 Start: 64353, Stop: 64673, Start Num: 46

Candidate Starts for Redno2\_112:

(Start: 46 @64353 has 35 MA's), (65, 64392), (96, 64491), (120, 64548), (129, 64584), (136, 64614), (142, 64659),

Gene: Rimmer\_69 Start: 45366, Stop: 45779, Start Num: 43

Candidate Starts for Rimmer\_69:

(14, 45192), (Start: 43 @45366 has 123 MA's), (93, 45507), (103, 45549), (128, 45657), (137, 45696), (149, 45759),

Gene: Rimmer\_81 Start: 50007, Stop: 50342, Start Num: 57

Candidate Starts for Rimmer\_81:

(11, 49755), (Start: 48 @49992 has 22 MA's), (Start: 57 @50007 has 101 MA's), (68, 50043), (84, 50097), (123, 50223), (132, 50259), (133, 50262), (137, 50280), (142, 50322),

Gene: Rimmer\_74 Start: 47642, Stop: 48004, Start Num: 54

Candidate Starts for Rimmer\_74:

(Start: 50 @47636 has 85 MA's), (Start: 54 @47642 has 40 MA's), (79, 47714), (136, 47936),

Gene: RiverMonster\_68 Start: 45194, Stop: 45604, Start Num: 43

Candidate Starts for RiverMonster\_68:

(Start: 43 @45194 has 123 MA's), (93, 45335), (105, 45383), (114, 45431), (137, 45524), (142, 45566),

Gene: RiverMonster\_80 Start: 49835, Stop: 50167, Start Num: 57

Candidate Starts for RiverMonster\_80:

(11, 49583), (Start: 48 @49820 has 22 MA's), (Start: 57 @49835 has 101 MA's), (68, 49871), (142, 50147),

Gene: RiverMonster\_73 Start: 47458, Stop: 47832, Start Num: 50

Candidate Starts for RiverMonster\_73:

(Start: 50 @47458 has 85 MA's), (Start: 54 @47464 has 40 MA's), (79, 47536), (93, 47596), (136, 47764),

Gene: Roman\_109 Start: 57913, Stop: 57548, Start Num: 44

Candidate Starts for Roman\_109:

(23, 57964), (Start: 44 @57913 has 5 MA's), (70, 57844), (93, 57784), (95, 57775), (102, 57751), (106, 57736), (143, 57586), (146, 57577),

Gene: RunningBrook\_109 Start: 56887, Stop: 56450, Start Num: 41

Candidate Starts for RunningBrook\_109:

(Start: 41 @56887 has 9 MA's), (Start: 57 @56863 has 101 MA's), (65, 56842), (92, 56746), (95, 56734), (96, 56731), (108, 56689), (113, 56659), (126, 56626),

Gene: Saints25\_72 Start: 46868, Stop: 47242, Start Num: 50

Candidate Starts for Saints25\_72:

(Start: 50 @46868 has 85 MA's), (Start: 54 @46874 has 40 MA's), (79, 46946), (93, 47006), (136, 47174),

Gene: Saints25\_79 Start: 49245, Stop: 49580, Start Num: 57

Candidate Starts for Saints25\_79:

(11, 48993), (Start: 48 @49230 has 22 MA's), (Start: 57 @49245 has 101 MA's), (68, 49281), (142, 49560),

Gene: Saints25\_67 Start: 44604, Stop: 45014, Start Num: 43

Candidate Starts for Saints25\_67:

(Start: 43 @44604 has 123 MA's), (93, 44745), (105, 44793), (114, 44841), (137, 44934), (142, 44976),

Gene: Sassay\_68 Start: 45564, Stop: 45932, Start Num: 54

Candidate Starts for Sassay\_68:

(Start: 50 @45558 has 85 MA's), (Start: 54 @45564 has 40 MA's), (79, 45636), (93, 45696), (136, 45864),

Gene: Sassay\_63 Start: 43291, Stop: 43704, Start Num: 43

Candidate Starts for Sassay\_63:

(14, 43117), (Start: 43 @43291 has 123 MA's), (93, 43432), (103, 43474), (128, 43582), (137, 43621), (149, 43684),

Gene: Sassay\_75 Start: 47920, Stop: 48270, Start Num: 48

Candidate Starts for Sassay\_75:

(11, 47683), (Start: 48 @47920 has 22 MA's), (Start: 57 @47935 has 101 MA's), (68, 47971), (110, 48112), (123, 48151), (132, 48187), (133, 48190), (137, 48208), (142, 48250),

Gene: Schatzie\_113 Start: 65339, Stop: 65659, Start Num: 46

Candidate Starts for Schatzie\_113:

(Start: 46 @65339 has 35 MA's), (65, 65378), (96, 65477), (120, 65534), (129, 65570), (136, 65600), (142, 65645),

Gene: Schatzie\_130 Start: 73330, Stop: 73689, Start Num: 45

Candidate Starts for Schatzie\_130:

(31, 73303), (Start: 45 @73330 has 36 MA's), (Start: 50 @73339 has 85 MA's), (96, 73471), (99, 73486), (135, 73615), (136, 73621),

Gene: ShamWow\_68 Start: 45513, Stop: 45923, Start Num: 43  
Candidate Starts for ShamWow\_68:  
(14, 45339), (Start: 43 @45513 has 123 MA's), (81, 45609), (93, 45654), (105, 45702), (114, 45750),  
(137, 45843), (142, 45885),

Gene: ShamWow\_73 Start: 47777, Stop: 48154, Start Num: 50  
Candidate Starts for ShamWow\_73:  
(Start: 50 @47777 has 85 MA's), (Start: 54 @47783 has 40 MA's), (79, 47855), (93, 47915), (136,  
48086),

Gene: ShamWow\_80 Start: 50157, Stop: 50489, Start Num: 57  
Candidate Starts for ShamWow\_80:  
(11, 49905), (Start: 48 @50142 has 22 MA's), (Start: 57 @50157 has 101 MA's), (68, 50193), (142,  
50469),

Gene: ShereKhan\_72 Start: 47846, Stop: 48223, Start Num: 50  
Candidate Starts for ShereKhan\_72:  
(Start: 50 @47846 has 85 MA's), (Start: 54 @47852 has 40 MA's), (79, 47924), (93, 47984), (136,  
48155),

Gene: ShereKhan\_78 Start: 50227, Stop: 50562, Start Num: 57  
Candidate Starts for ShereKhan\_78:  
(11, 49975), (Start: 48 @50212 has 22 MA's), (Start: 57 @50227 has 101 MA's), (68, 50263), (110,  
50404), (123, 50443), (132, 50479), (133, 50482), (137, 50500), (142, 50542),

Gene: ShereKhan\_67 Start: 45582, Stop: 45992, Start Num: 43  
Candidate Starts for ShereKhan\_67:  
(Start: 43 @45582 has 123 MA's), (93, 45723), (105, 45771), (114, 45819), (137, 45912), (142,  
45954),

Gene: Simpliphy\_79 Start: 49235, Stop: 49570, Start Num: 57  
Candidate Starts for Simpliphy\_79:  
(11, 48983), (Start: 48 @49220 has 22 MA's), (Start: 57 @49235 has 101 MA's), (68, 49271), (142,  
49550),

Gene: Simpliphy\_72 Start: 46864, Stop: 47232, Start Num: 54  
Candidate Starts for Simpliphy\_72:  
(Start: 50 @46858 has 85 MA's), (Start: 54 @46864 has 40 MA's), (79, 46936), (93, 46996), (136,  
47164),

Gene: Simpliphy\_67 Start: 44594, Stop: 45004, Start Num: 43  
Candidate Starts for Simpliphy\_67:  
(Start: 43 @44594 has 123 MA's), (93, 44735), (105, 44783), (114, 44831), (137, 44924), (142,  
44966),

Gene: SirDuracell\_67 Start: 43865, Stop: 44278, Start Num: 43  
Candidate Starts for SirDuracell\_67:  
(14, 43691), (Start: 43 @43865 has 123 MA's), (93, 44006), (103, 44048), (128, 44156), (137, 44195),  
(149, 44258),

Gene: SirDuracell\_79 Start: 48521, Stop: 48856, Start Num: 57  
Candidate Starts for SirDuracell\_79:

(11, 48269), (Start: 48 @48506 has 22 MA's), (Start: 57 @48521 has 101 MA's), (68, 48557), (84, 48611), (123, 48737), (132, 48773), (133, 48776), (137, 48794), (142, 48836),

Gene: SirDuracell\_72 Start: 46147, Stop: 46518, Start Num: 54

Candidate Starts for SirDuracell\_72:

(Start: 50 @46141 has 85 MA's), (Start: 54 @46147 has 40 MA's), (79, 46219), (93, 46279), (117, 46378), (136, 46450),

Gene: SophKB\_70 Start: 46533, Stop: 46910, Start Num: 50

Candidate Starts for SophKB\_70:

(Start: 50 @46533 has 85 MA's), (Start: 54 @46539 has 40 MA's), (79, 46611), (93, 46671), (136, 46842),

Gene: SophKB\_77 Start: 48913, Stop: 49248, Start Num: 57

Candidate Starts for SophKB\_77:

(11, 48661), (Start: 48 @48898 has 22 MA's), (Start: 57 @48913 has 101 MA's), (68, 48949), (110, 49090), (123, 49129), (132, 49165), (133, 49168), (137, 49186), (142, 49228),

Gene: SophKB\_65 Start: 44269, Stop: 44679, Start Num: 43

Candidate Starts for SophKB\_65:

(Start: 43 @44269 has 123 MA's), (93, 44410), (105, 44458), (114, 44506), (137, 44599), (142, 44641),

Gene: Sotrice96\_81 Start: 49916, Stop: 50251, Start Num: 57

Candidate Starts for Sotrice96\_81:

(11, 49664), (Start: 48 @49901 has 22 MA's), (Start: 57 @49916 has 101 MA's), (68, 49952), (142, 50231),

Gene: Sotrice96\_69 Start: 45272, Stop: 45682, Start Num: 43

Candidate Starts for Sotrice96\_69:

(Start: 43 @45272 has 123 MA's), (93, 45413), (105, 45461), (114, 45509), (137, 45602), (142, 45644),

Gene: Sotrice96\_74 Start: 47536, Stop: 47913, Start Num: 50

Candidate Starts for Sotrice96\_74:

(Start: 50 @47536 has 85 MA's), (Start: 54 @47542 has 40 MA's), (79, 47614), (93, 47674), (136, 47845),

Gene: Squint\_111 Start: 62624, Stop: 62944, Start Num: 46

Candidate Starts for Squint\_111:

(Start: 46 @62624 has 35 MA's), (65, 62663), (96, 62762), (120, 62819), (129, 62855), (136, 62885), (142, 62930),

Gene: Squint\_131 Start: 70888, Stop: 71241, Start Num: 45

Candidate Starts for Squint\_131:

(Start: 45 @70888 has 36 MA's), (Start: 50 @70897 has 85 MA's), (135, 71167), (142, 71218),

Gene: Stank\_83 Start: 50159, Stop: 50509, Start Num: 48

Candidate Starts for Stank\_83:

(11, 49922), (Start: 48 @50159 has 22 MA's), (Start: 57 @50174 has 101 MA's), (68, 50210), (142, 50489),

Gene: Stank\_76 Start: 47794, Stop: 48171, Start Num: 50

Candidate Starts for Stank\_76:

(Start: 50 @47794 has 85 MA's), (Start: 54 @47800 has 40 MA's), (79, 47872), (93, 47932), (136, 48103),

Gene: Stank\_71 Start: 45527, Stop: 45937, Start Num: 43

Candidate Starts for Stank\_71:

(14, 45353), (Start: 43 @45527 has 123 MA's), (81, 45623), (93, 45668), (105, 45716), (114, 45764), (137, 45857), (142, 45899),

Gene: Stark\_69 Start: 45077, Stop: 45487, Start Num: 43

Candidate Starts for Stark\_69:

(Start: 43 @45077 has 123 MA's), (93, 45218), (105, 45266), (114, 45314), (137, 45407), (142, 45449),

Gene: Stark\_81 Start: 49718, Stop: 50050, Start Num: 57

Candidate Starts for Stark\_81:

(11, 49466), (Start: 48 @49703 has 22 MA's), (Start: 57 @49718 has 101 MA's), (68, 49754), (142, 50030),

Gene: Stark\_74 Start: 47341, Stop: 47715, Start Num: 50

Candidate Starts for Stark\_74:

(Start: 50 @47341 has 85 MA's), (Start: 54 @47347 has 40 MA's), (79, 47419), (93, 47479), (136, 47647),

Gene: StellaBean\_66 Start: 44837, Stop: 45247, Start Num: 43

Candidate Starts for StellaBean\_66:

(Start: 43 @44837 has 123 MA's), (93, 44978), (105, 45026), (114, 45074), (137, 45167), (142, 45209),

Gene: StellaBean\_71 Start: 47107, Stop: 47478, Start Num: 54

Candidate Starts for StellaBean\_71:

(Start: 50 @47101 has 85 MA's), (Start: 54 @47107 has 40 MA's), (79, 47179), (93, 47239), (136, 47410),

Gene: StellaBean\_78 Start: 49481, Stop: 49813, Start Num: 57

Candidate Starts for StellaBean\_78:

(11, 49229), (Start: 48 @49466 has 22 MA's), (Start: 57 @49481 has 101 MA's), (68, 49517), (142, 49793),

Gene: StevieWelch\_107 Start: 56127, Stop: 55690, Start Num: 41

Candidate Starts for StevieWelch\_107:

(13, 56298), (27, 56160), (Start: 41 @56127 has 9 MA's), (Start: 57 @56103 has 101 MA's), (65, 56082), (92, 55986), (95, 55974), (113, 55899),

Gene: StolenFromERC\_76 Start: 47576, Stop: 47953, Start Num: 50

Candidate Starts for StolenFromERC\_76:

(Start: 50 @47576 has 85 MA's), (Start: 54 @47582 has 40 MA's), (79, 47654), (93, 47714), (136, 47885),

Gene: StolenFromERC\_83 Start: 49956, Stop: 50291, Start Num: 57

Candidate Starts for StolenFromERC\_83:

(11, 49704), (Start: 48 @49941 has 22 MA's), (Start: 57 @49956 has 101 MA's), (68, 49992), (142, 50271),

Gene: StolenFromERC\_71 Start: 45309, Stop: 45719, Start Num: 43

Candidate Starts for StolenFromERC\_71:

(14, 45135), (Start: 43 @45309 has 123 MA's), (93, 45450), (105, 45498), (114, 45546), (137, 45639), (142, 45681),

Gene: Success\_26 Start: 17594, Stop: 17208, Start Num: 56

Candidate Starts for Success\_26:

(17, 17702), (Start: 40 @17618 has 5 MA's), (Start: 56 @17594 has 1 MA's), (71, 17534), (84, 17492), (94, 17456), (112, 17366), (137, 17279), (138, 17273),

Gene: Superphikiman\_131 Start: 70104, Stop: 70457, Start Num: 45

Candidate Starts for Superphikiman\_131:

(Start: 45 @70104 has 36 MA's), (Start: 50 @70113 has 85 MA's), (135, 70383),

Gene: Superphikiman\_110 Start: 61715, Stop: 62035, Start Num: 46

Candidate Starts for Superphikiman\_110:

(Start: 46 @61715 has 35 MA's), (65, 61754), (96, 61853), (120, 61910), (129, 61946), (136, 61976), (142, 62021),

Gene: TBrady12\_71 Start: 45011, Stop: 45421, Start Num: 43

Candidate Starts for TBrady12\_71:

(14, 44837), (Start: 43 @45011 has 123 MA's), (93, 45152), (105, 45200), (114, 45248), (137, 45341), (142, 45383),

Gene: TBrady12\_76 Start: 47275, Stop: 47652, Start Num: 50

Candidate Starts for TBrady12\_76:

(Start: 50 @47275 has 85 MA's), (Start: 54 @47281 has 40 MA's), (79, 47353), (93, 47413), (136, 47584),

Gene: TBrady12\_83 Start: 49655, Stop: 49990, Start Num: 57

Candidate Starts for TBrady12\_83:

(11, 49403), (Start: 48 @49640 has 22 MA's), (Start: 57 @49655 has 101 MA's), (68, 49691), (142, 49970),

Gene: Tandem\_107 Start: 58139, Stop: 57753, Start Num: 38

Candidate Starts for Tandem\_107:

(15, 58232), (19, 58196), (29, 58163), (36, 58142), (Start: 38 @58139 has 7 MA's), (70, 58058), (79, 58040), (95, 57986), (102, 57962), (124, 57890), (133, 57854), (137, 57836),

Gene: Tarkin\_67 Start: 45259, Stop: 45669, Start Num: 43

Candidate Starts for Tarkin\_67:

(Start: 43 @45259 has 123 MA's), (93, 45400), (105, 45448), (114, 45496), (137, 45589), (142, 45631),

Gene: Tarkin\_72 Start: 47523, Stop: 47900, Start Num: 50

Candidate Starts for Tarkin\_72:

(Start: 50 @47523 has 85 MA's), (Start: 54 @47529 has 40 MA's), (79, 47601), (93, 47661), (136, 47832),

Gene: Tarkin\_79 Start: 49903, Stop: 50238, Start Num: 57

Candidate Starts for Tarkin\_79:

(11, 49651), (Start: 48 @49888 has 22 MA's), (Start: 57 @49903 has 101 MA's), (68, 49939), (110, 50080), (123, 50119), (132, 50155), (133, 50158), (137, 50176), (142, 50218),

Gene: TeardropMSU\_76 Start: 48888, Stop: 49238, Start Num: 48

Candidate Starts for TeardropMSU\_76:

(11, 48651), (Start: 48 @48888 has 22 MA's), (Start: 57 @48903 has 101 MA's), (68, 48939), (110, 49080), (123, 49119), (132, 49155), (133, 49158), (137, 49176), (142, 49218),

Gene: TeardropMSU\_69 Start: 46523, Stop: 46900, Start Num: 50

Candidate Starts for TeardropMSU\_69:

(Start: 50 @46523 has 85 MA's), (Start: 54 @46529 has 40 MA's), (79, 46601), (93, 46661), (136, 46832),

Gene: TeardropMSU\_64 Start: 44259, Stop: 44669, Start Num: 43

Candidate Starts for TeardropMSU\_64:

(Start: 43 @44259 has 123 MA's), (93, 44400), (105, 44448), (114, 44496), (137, 44589), (142, 44631),

Gene: Teaspoon\_74 Start: 47423, Stop: 47794, Start Num: 54

Candidate Starts for Teaspoon\_74:

(Start: 50 @47417 has 85 MA's), (Start: 54 @47423 has 40 MA's), (79, 47495), (93, 47555), (136, 47726),

Gene: Teaspoon\_81 Start: 49797, Stop: 50132, Start Num: 57

Candidate Starts for Teaspoon\_81:

(11, 49545), (Start: 48 @49782 has 22 MA's), (Start: 57 @49797 has 101 MA's), (68, 49833), (142, 50112),

Gene: Teaspoon\_69 Start: 45153, Stop: 45563, Start Num: 43

Candidate Starts for Teaspoon\_69:

(14, 44979), (Start: 43 @45153 has 123 MA's), (93, 45294), (105, 45342), (114, 45390), (137, 45483), (142, 45525),

Gene: Terminus\_83 Start: 50690, Stop: 51025, Start Num: 57

Candidate Starts for Terminus\_83:

(11, 50438), (Start: 48 @50675 has 22 MA's), (Start: 57 @50690 has 101 MA's), (68, 50726), (142, 51005),

Gene: Terminus\_76 Start: 48319, Stop: 48687, Start Num: 54

Candidate Starts for Terminus\_76:

(Start: 50 @48313 has 85 MA's), (Start: 54 @48319 has 40 MA's), (79, 48391), (93, 48451), (136, 48619),

Gene: Terminus\_71 Start: 46046, Stop: 46459, Start Num: 43

Candidate Starts for Terminus\_71:

(14, 45872), (Start: 43 @46046 has 123 MA's), (93, 46187), (105, 46235), (114, 46283), (137, 46376), (149, 46439),

Gene: Thibault\_99 Start: 60528, Stop: 60848, Start Num: 46

Candidate Starts for Thibault\_99:

(Start: 46 @60528 has 35 MA's), (65, 60567), (120, 60723), (129, 60759), (136, 60789), (142, 60834),

Gene: Thibault\_119 Start: 70544, Stop: 70903, Start Num: 45



Candidate Starts for Thibault\_119:

(31, 70517), (Start: 45 @70544 has 36 MA's), (Start: 50 @70553 has 85 MA's), (96, 70685), (99, 70700), (136, 70835),

Gene: ThreeRngTarjay\_130 Start: 73825, Stop: 74184, Start Num: 45

Candidate Starts for ThreeRngTarjay\_130:

(31, 73798), (Start: 45 @73825 has 36 MA's), (Start: 50 @73834 has 85 MA's), (96, 73966), (99, 73981), (135, 74110), (136, 74116),

Gene: Thresher\_75 Start: 48406, Stop: 48774, Start Num: 54

Candidate Starts for Thresher\_75:

(Start: 50 @48400 has 85 MA's), (Start: 54 @48406 has 40 MA's), (79, 48478), (93, 48538), (136, 48706),

Gene: Thresher\_70 Start: 46136, Stop: 46546, Start Num: 43

Candidate Starts for Thresher\_70:

(Start: 43 @46136 has 123 MA's), (93, 46277), (105, 46325), (114, 46373), (137, 46466), (142, 46508),

Gene: Thresher\_82 Start: 50777, Stop: 51109, Start Num: 57

Candidate Starts for Thresher\_82:

(11, 50525), (Start: 48 @50762 has 22 MA's), (Start: 57 @50777 has 101 MA's), (68, 50813), (142, 51089),

Gene: Tomaszewski\_68 Start: 46695, Stop: 47063, Start Num: 50

Candidate Starts for Tomaszewski\_68:

(Start: 50 @46695 has 85 MA's), (Start: 54 @46701 has 40 MA's), (101, 46857), (133, 46980), (144, 47046),

Gene: Tomaszewski\_75 Start: 49066, Stop: 49401, Start Num: 57

Candidate Starts for Tomaszewski\_75:

(11, 48814), (Start: 48 @49051 has 22 MA's), (Start: 57 @49066 has 101 MA's), (68, 49102), (142, 49381),

Gene: Tomaszewski\_63 Start: 44425, Stop: 44838, Start Num: 43

Candidate Starts for Tomaszewski\_63:

(14, 44251), (Start: 43 @44425 has 123 MA's), (93, 44566), (103, 44608), (128, 44716), (137, 44755), (149, 44818),

Gene: Toto\_66 Start: 45513, Stop: 45923, Start Num: 43

Candidate Starts for Toto\_66:

(14, 45339), (Start: 43 @45513 has 123 MA's), (81, 45609), (93, 45654), (105, 45702), (114, 45750), (137, 45843), (142, 45885),

Gene: Toto\_71 Start: 47777, Stop: 48154, Start Num: 50

Candidate Starts for Toto\_71:

(Start: 50 @47777 has 85 MA's), (Start: 54 @47783 has 40 MA's), (79, 47855), (93, 47915), (136, 48086),

Gene: Toto\_78 Start: 50157, Stop: 50489, Start Num: 57

Candidate Starts for Toto\_78:

(11, 49905), (Start: 48 @50142 has 22 MA's), (Start: 57 @50157 has 101 MA's), (68, 50193), (142, 50469),

Gene: Traaww1\_64 Start: 44694, Stop: 45104, Start Num: 43

Candidate Starts for Traaww1\_64:

(14, 44520), (Start: 43 @44694 has 123 MA's), (81, 44790), (93, 44835), (105, 44883), (114, 44931), (137, 45024), (142, 45066),

Gene: Traaww1\_69 Start: 46961, Stop: 47338, Start Num: 50

Candidate Starts for Traaww1\_69:

(Start: 50 @46961 has 85 MA's), (Start: 54 @46967 has 40 MA's), (79, 47039), (93, 47099), (136, 47270),

Gene: Traaww1\_76 Start: 49341, Stop: 49673, Start Num: 57

Candidate Starts for Traaww1\_76:

(11, 49089), (Start: 48 @49326 has 22 MA's), (Start: 57 @49341 has 101 MA's), (68, 49377), (142, 49653),

Gene: Trax\_53 Start: 37657, Stop: 38055, Start Num: 30

Candidate Starts for Trax\_53:

(Start: 30 @37657 has 3 MA's), (Start: 40 @37687 has 5 MA's), (63, 37723), (64, 37726), (66, 37732), (70, 37756), (98, 37843), (103, 37864), (119, 37888), (137, 37963), (141, 37987), (153, 38041), (154, 38047),

Gene: Trina\_236 Start: 121948, Stop: 122328, Start Num: 40

Candidate Starts for Trina\_236:

(Start: 40 @121948 has 5 MA's), (53, 121969), (61, 121990), (82, 122074), (92, 122116), (96, 122131), (139, 122263), (151, 122323),

Gene: Trina\_234 Start: 121206, Stop: 121604, Start Num: 47

Candidate Starts for Trina\_234:

(32, 121179), (Start: 42 @121200 has 3 MA's), (Start: 47 @121206 has 1 MA's), (Start: 52 @121215 has 1 MA's), (59, 121227), (66, 121254), (85, 121335), (96, 121374), (118, 121449), (131, 121500), (135, 121509), (139, 121527), (142, 121560), (143, 121563),

Gene: Tuco\_69 Start: 46021, Stop: 46431, Start Num: 43

Candidate Starts for Tuco\_69:

(Start: 43 @46021 has 123 MA's), (93, 46162), (105, 46210), (114, 46258), (137, 46351), (142, 46393),

Gene: Tuco\_74 Start: 48285, Stop: 48662, Start Num: 50

Candidate Starts for Tuco\_74:

(Start: 50 @48285 has 85 MA's), (Start: 54 @48291 has 40 MA's), (79, 48363), (93, 48423), (136, 48594),

Gene: Tuco\_81 Start: 50665, Stop: 50997, Start Num: 57

Candidate Starts for Tuco\_81:

(11, 50413), (Start: 48 @50650 has 22 MA's), (Start: 57 @50665 has 101 MA's), (68, 50701), (142, 50977),

Gene: Ukulele\_75 Start: 49048, Stop: 49383, Start Num: 57

Candidate Starts for Ukulele\_75:

(11, 48796), (Start: 48 @49033 has 22 MA's), (Start: 57 @49048 has 101 MA's), (68, 49084), (142, 49363),

Gene: Ukulele\_68 Start: 46671, Stop: 47045, Start Num: 50  
Candidate Starts for Ukulele\_68:  
(Start: 50 @46671 has 85 MA's), (Start: 54 @46677 has 40 MA's), (79, 46749), (93, 46809), (136, 46977),

Gene: Ukulele\_63 Start: 44407, Stop: 44817, Start Num: 43  
Candidate Starts for Ukulele\_63:  
(Start: 43 @44407 has 123 MA's), (93, 44548), (105, 44596), (114, 44644), (137, 44737), (142, 44779),

Gene: Wanda\_133 Start: 70960, Stop: 71319, Start Num: 45  
Candidate Starts for Wanda\_133:  
(31, 70933), (Start: 45 @70960 has 36 MA's), (Start: 50 @70969 has 85 MA's), (96, 71101), (99, 71116), (135, 71245), (136, 71251),

Gene: Weasels2\_208 Start: 107565, Stop: 107978, Start Num: 40  
Candidate Starts for Weasels2\_208:  
(Start: 40 @107565 has 5 MA's), (77, 107664), (93, 107721), (104, 107766), (114, 107805), (135, 107880),

Gene: Weasels2\_18 Start: 5542, Stop: 5186, Start Num: 49  
Candidate Starts for Weasels2\_18:  
(Start: 49 @5542 has 5 MA's), (72, 5473), (76, 5455), (142, 5224), (146, 5209), (150, 5200),

Gene: Weasels2\_237 Start: 116136, Stop: 116522, Start Num: 40  
Candidate Starts for Weasels2\_237:  
(39, 116130), (Start: 40 @116136 has 5 MA's), (91, 116286), (135, 116433), (145, 116493),

Gene: Weasels2\_22 Start: 6969, Stop: 6571, Start Num: 42  
Candidate Starts for Weasels2\_22:  
(Start: 42 @6969 has 3 MA's), (60, 6942), (80, 6867), (99, 6786), (122, 6723), (130, 6690), (138, 6657),

Gene: Welcome\_109 Start: 56727, Stop: 56290, Start Num: 41  
Candidate Starts for Welcome\_109:  
(Start: 41 @56727 has 9 MA's), (Start: 57 @56703 has 101 MA's), (65, 56682), (92, 56586), (95, 56574), (96, 56571), (108, 56529), (113, 56499), (126, 56466),

Gene: Wiggin\_82 Start: 49742, Stop: 50074, Start Num: 57  
Candidate Starts for Wiggin\_82:  
(11, 49490), (Start: 48 @49727 has 22 MA's), (Start: 57 @49742 has 101 MA's), (68, 49778), (142, 50054),

Gene: Wiggin\_70 Start: 45095, Stop: 45505, Start Num: 43  
Candidate Starts for Wiggin\_70:  
(14, 44921), (Start: 43 @45095 has 123 MA's), (81, 45191), (93, 45236), (105, 45284), (114, 45332), (137, 45425), (142, 45467),

Gene: Wiggin\_75 Start: 47368, Stop: 47739, Start Num: 54  
Candidate Starts for Wiggin\_75:  
(Start: 50 @47362 has 85 MA's), (Start: 54 @47368 has 40 MA's), (79, 47440), (93, 47500), (136, 47671),

Gene: Willez\_75 Start: 47920, Stop: 48270, Start Num: 48

Candidate Starts for Willez\_75:

(11, 47683), (Start: 48 @47920 has 22 MA's), (Start: 57 @47935 has 101 MA's), (68, 47971), (110, 48112), (123, 48151), (132, 48187), (133, 48190), (137, 48208), (142, 48250),

Gene: Willez\_68 Start: 45564, Stop: 45932, Start Num: 54

Candidate Starts for Willez\_68:

(Start: 50 @45558 has 85 MA's), (Start: 54 @45564 has 40 MA's), (79, 45636), (93, 45696), (136, 45864),

Gene: Willez\_63 Start: 43291, Stop: 43704, Start Num: 43

Candidate Starts for Willez\_63:

(14, 43117), (Start: 43 @43291 has 123 MA's), (93, 43432), (103, 43474), (128, 43582), (137, 43621), (149, 43684),

Gene: Wolfstar\_113 Start: 59574, Stop: 59188, Start Num: 38

Candidate Starts for Wolfstar\_113:

(18, 59646), (26, 59601), (Start: 38 @59574 has 7 MA's), (74, 59481), (87, 59442), (95, 59409), (102, 59385), (106, 59373), (135, 59277),

Gene: Xandras\_72 Start: 46773, Stop: 47147, Start Num: 50

Candidate Starts for Xandras\_72:

(Start: 50 @46773 has 85 MA's), (Start: 54 @46779 has 40 MA's), (79, 46851), (93, 46911), (136, 47079),

Gene: Xandras\_79 Start: 49150, Stop: 49482, Start Num: 57

Candidate Starts for Xandras\_79:

(4, 48580), (7, 48697), (11, 48898), (Start: 48 @49135 has 22 MA's), (Start: 57 @49150 has 101 MA's), (68, 49186), (142, 49462),

Gene: Xandras\_67 Start: 44506, Stop: 44916, Start Num: 43

Candidate Starts for Xandras\_67:

(Start: 43 @44506 has 123 MA's), (93, 44647), (105, 44695), (114, 44743), (137, 44836), (142, 44878),

Gene: YassJohnny\_65 Start: 44464, Stop: 44877, Start Num: 43

Candidate Starts for YassJohnny\_65:

(14, 44290), (Start: 43 @44464 has 123 MA's), (93, 44605), (103, 44647), (128, 44755), (137, 44794), (149, 44857),

Gene: YassJohnny\_77 Start: 49090, Stop: 49440, Start Num: 48

Candidate Starts for YassJohnny\_77:

(11, 48853), (Start: 48 @49090 has 22 MA's), (Start: 57 @49105 has 101 MA's), (68, 49141), (110, 49282), (123, 49321), (132, 49357), (133, 49360), (137, 49378), (142, 49420),

Gene: YassJohnny\_70 Start: 46740, Stop: 47102, Start Num: 54

Candidate Starts for YassJohnny\_70:

(Start: 50 @46734 has 85 MA's), (Start: 54 @46740 has 40 MA's), (101, 46896), (133, 47019), (144, 47085),

Gene: Yeet\_128 Start: 73023, Stop: 73382, Start Num: 45

Candidate Starts for Yeet\_128:

(31, 72996), (Start: 45 @73023 has 36 MA's), (Start: 50 @73032 has 85 MA's), (96, 73164), (99, 73179), (135, 73308), (136, 73314),

Gene: Yeet\_109 Start: 64277, Stop: 64597, Start Num: 46

Candidate Starts for Yeet\_109:

(Start: 46 @64277 has 35 MA's), (65, 64316), (96, 64415), (120, 64472), (129, 64508), (136, 64538), (142, 64583),

Gene: Youngblood\_71 Start: 45976, Stop: 46386, Start Num: 43

Candidate Starts for Youngblood\_71:

(14, 45802), (Start: 43 @45976 has 123 MA's), (93, 46117), (105, 46165), (114, 46213), (137, 46306), (142, 46348),

Gene: Youngblood\_76 Start: 48246, Stop: 48614, Start Num: 54

Candidate Starts for Youngblood\_76:

(Start: 50 @48240 has 85 MA's), (Start: 54 @48246 has 40 MA's), (79, 48318), (93, 48378), (136, 48546),

Gene: Youngblood\_83 Start: 50617, Stop: 50952, Start Num: 57

Candidate Starts for Youngblood\_83:

(11, 50365), (Start: 48 @50602 has 22 MA's), (Start: 57 @50617 has 101 MA's), (68, 50653), (142, 50932),

Gene: Yuma\_105 Start: 55848, Stop: 55411, Start Num: 41

Candidate Starts for Yuma\_105:

(Start: 41 @55848 has 9 MA's), (Start: 57 @55824 has 101 MA's), (65, 55803), (92, 55707), (95, 55695), (96, 55692), (108, 55650), (113, 55620), (126, 55587),

Gene: Zelink\_129 Start: 73772, Stop: 74131, Start Num: 45

Candidate Starts for Zelink\_129:

(31, 73745), (Start: 45 @73772 has 36 MA's), (Start: 50 @73781 has 85 MA's), (96, 73913), (99, 73928), (135, 74057), (136, 74063),

Gene: xkcd\_83 Start: 50807, Stop: 51139, Start Num: 57

Candidate Starts for xkcd\_83:

(Start: 48 @50792 has 22 MA's), (Start: 57 @50807 has 101 MA's), (68, 50843), (142, 51119),

Gene: xkcd\_71 Start: 46166, Stop: 46576, Start Num: 43

Candidate Starts for xkcd\_71:

(Start: 43 @46166 has 123 MA's), (93, 46307), (105, 46355), (114, 46403), (137, 46496), (142, 46538),

Gene: xkcd\_76 Start: 48430, Stop: 48804, Start Num: 50

Candidate Starts for xkcd\_76:

(Start: 50 @48430 has 85 MA's), (Start: 54 @48436 has 40 MA's), (79, 48508), (93, 48568), (136, 48736),