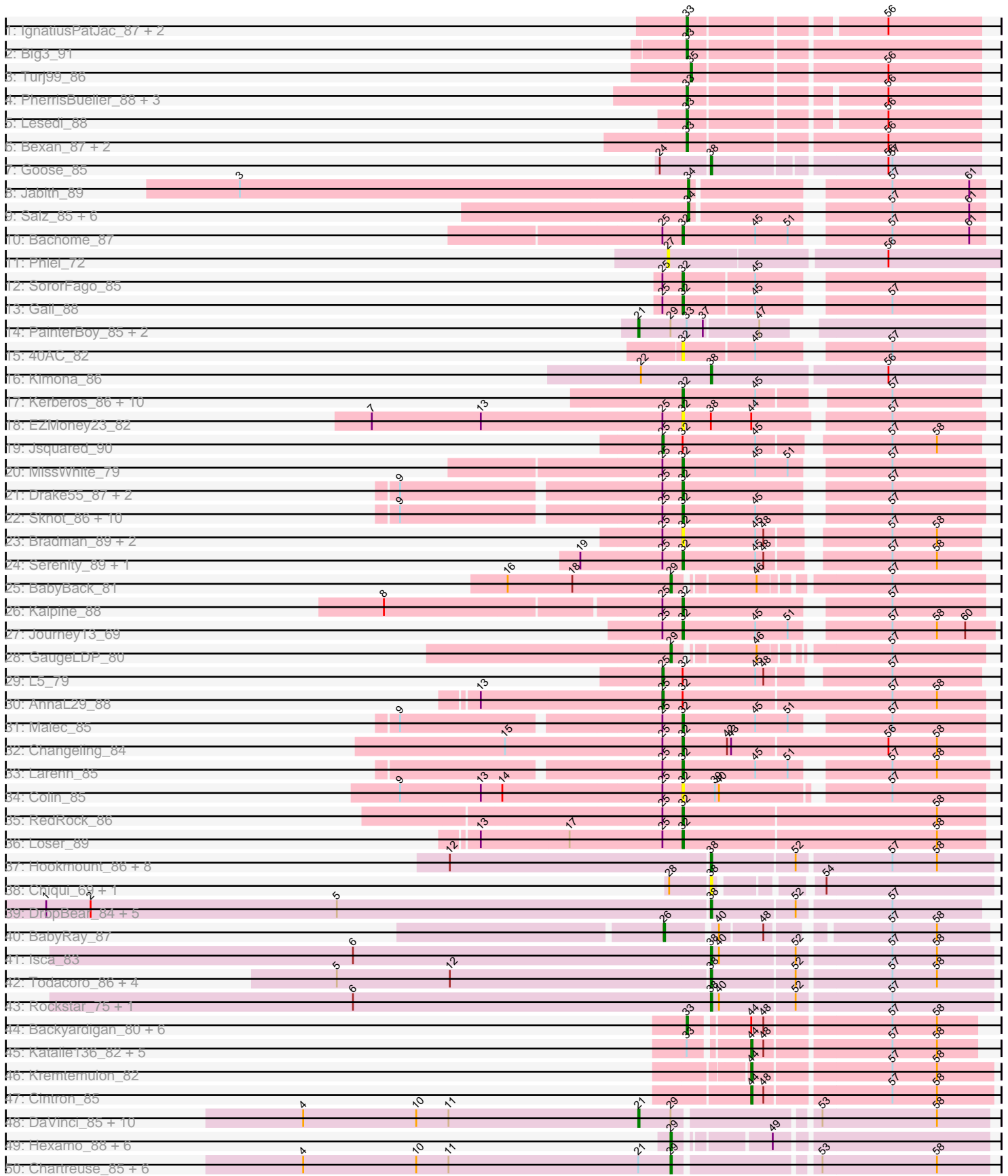
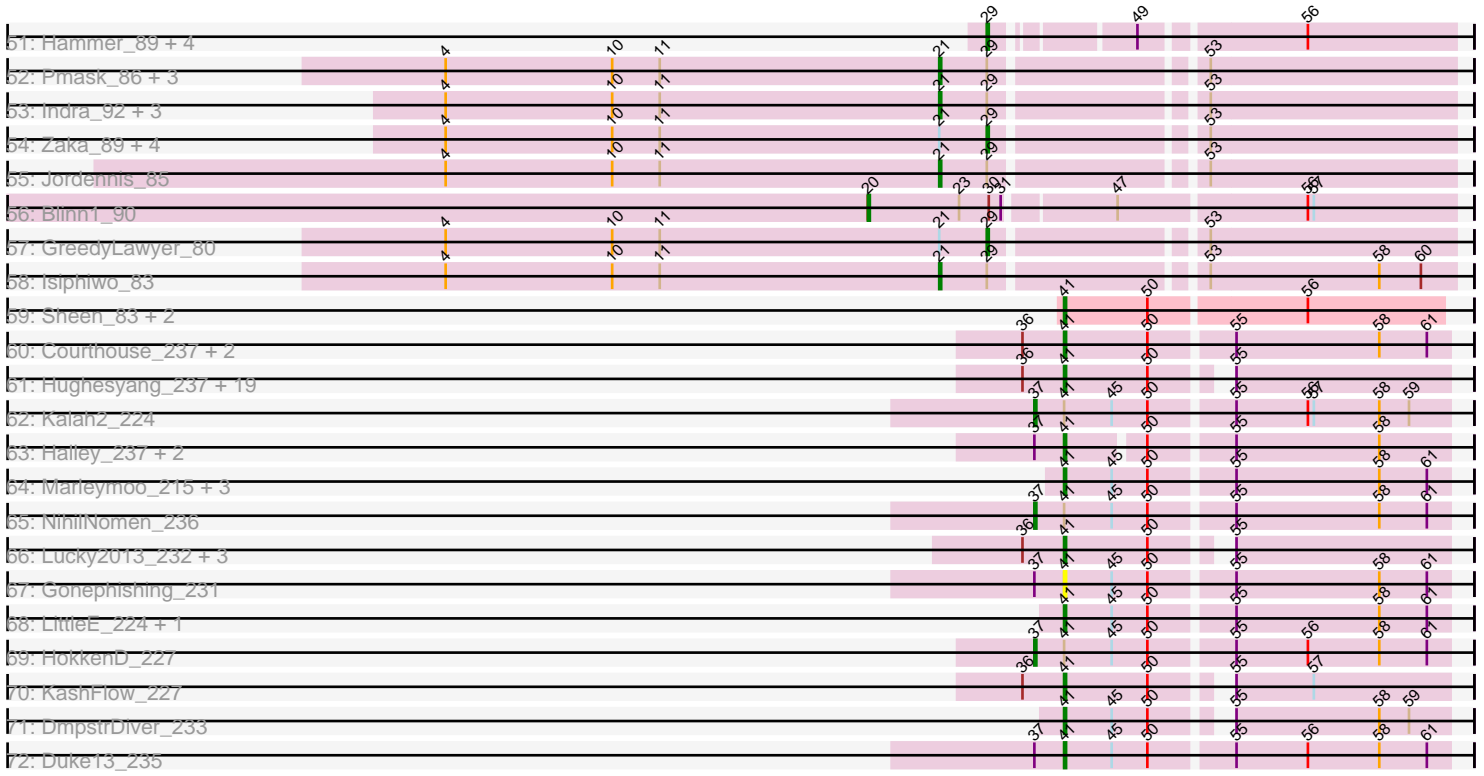


Pham 224292



Pham 224292



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 224292 Report

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

Pham number 224292 has 210 members, 33 are drafts.

Phages represented in each track:

- Track 1 : IgnatiusPatJac\_87, BluSpix\_85, Alsfro\_94
- Track 2 : Big3\_91
- Track 3 : Turj99\_86
- Track 4 : PherrisBueller\_88, Killigrew\_87, EnzoK\_93, Zeeculate\_91
- Track 5 : Lesedi\_88
- Track 6 : Bexan\_87, StrongArm\_88, Beatrix\_89
- Track 7 : Goose\_85
- Track 8 : Jabith\_89
- Track 9 : Salz\_85, Et2Brutus\_89, Sham4\_86, Insomnia\_89, Hutc2\_86, Fibonacci\_89, Mulciber\_88
- Track 10 : Bachome\_87
- Track 11 : Phlei\_72
- Track 12 : SororFago\_85
- Track 13 : Gail\_88
- Track 14 : PainterBoy\_85, Lucyedi\_86, EagleEye\_87
- Track 15 : 40AC\_82
- Track 16 : Kimona\_86
- Track 17 : Kerberos\_86, DBQu4n\_86, Tomathan\_86, Duplo\_87, StarStuff\_86, ANI8\_85, Travvers\_86, Pomar16\_86, VC3\_84, AN9\_85, C3\_78
- Track 18 : EZMoney23\_82
- Track 19 : Jsquared\_90
- Track 20 : MissWhite\_79
- Track 21 : Drake55\_87, HarryHoudini\_86, Piro94\_85
- Track 22 : Sknot\_86, NaSiaTalie\_87, Flare16\_86, WideWale\_87, Baehexic\_85, Equemioh13\_86, MiculUcigas\_86, Updawg\_87, Terrific\_87, Gratitude\_84, Centaur\_86
- Track 23 : Bradman\_89, Quokka\_88, MajorMajor\_83
- Track 24 : Serenity\_89, TipsytheTRex\_85
- Track 25 : BabyBack\_81
- Track 26 : Kalpine\_88
- Track 27 : Journey13\_69
- Track 28 : GaugeLDP\_80
- Track 29 : L5\_79
- Track 30 : AnnaL29\_88
- Track 31 : Malec\_85
- Track 32 : Changeling\_84
- Track 33 : Larenn\_85

- Track 34 : Colin\_85
- Track 35 : RedRock\_86
- Track 36 : Loser\_89
- Track 37 : Hookmount\_86, Poppicle\_86, Caviar\_75, ResDef\_84, Noella\_87, Panamaxus\_82, Pocahontas\_85, Norbert\_82, Texage\_84
- Track 38 : Chiqui\_69, BabyJohn\_69
- Track 39 : DropBear\_84, HelDan\_86, Heathen\_86, Scout\_86, Kachowdy\_84, Marchesa\_86
- Track 40 : BabyRay\_87
- Track 41 : Isca\_83
- Track 42 : Todacoro\_86, Veracruz\_83, Margo\_86, QuinnKiro\_85, Lambert1\_86
- Track 43 : Rockstar\_75, Phantastic\_87
- Track 44 : Backyardigan\_80, Wile\_81, Badger\_81, Achebe\_81, Cici\_82, Wizard007\_82, Druantia\_84
- Track 45 : Katalie136\_82, PetiteSangsue\_82, Perplexer\_82, Morpher26\_82, Bumblebee11\_81, AbbysRanger\_82
- Track 46 : Kremtemulon\_82
- Track 47 : Cintron\_85
- Track 48 : DaVinci\_85, Hoot\_82, Kazan\_88, Zulu\_90, McFly\_87, Dorothea\_87, SmellyB\_87, BABullseye\_80, Kipper29\_87, Cookiedough\_87, VohminGhazi\_87
- Track 49 : Hexamo\_88, CloudWang3\_89, Roksolana\_89, Rifter\_89, Gruunaga\_88, Artemis2UCLA\_88, Gladiator\_85
- Track 50 : Chartreuse\_85, SuperCallie99\_83, EricB\_85, Neeharika16\_86, Polyphemus\_79, Candra\_85, Priamo\_88
- Track 51 : Hammer\_89, BlessJoy\_88, ToneTone\_86, Tucker\_89, Lilbunny\_88
- Track 52 : Pmask\_86, SuperAwesome\_87, JewelBug\_79, Newrala\_86
- Track 53 : Indra\_92, Wiks\_88, Koko\_90, Blue7\_90
- Track 54 : Zaka\_89, Garak\_90, Helmet\_90, Temprado\_90, Yokurt\_88
- Track 55 : Jordennis\_85
- Track 56 : Blinn1\_90
- Track 57 : GreedyLawyer\_80
- Track 58 : Isiphiwo\_83
- Track 59 : Sheen\_83, FlyCatcher\_86, Toro\_84
- Track 60 : Courthouse\_237, Ariel\_241, Superphikiman\_233
- Track 61 : Hughesyang\_237, Redno2\_226, Beem\_238, JuicyJay\_230, Klein\_242, Hannaconda\_225, ThreeRngTarjay\_234, Dove\_217, Squint\_233, Shaboozey\_232, Yeet\_229, Bombitas\_219, EricMillard\_232, Nekros\_235, Ejimix\_226, Schatzie\_227, Zelink\_228, Phoebus\_233, Odette\_234, Bagrid\_240
- Track 62 : Kalah2\_224
- Track 63 : Halley\_237, Dallas\_233, Minerva\_233
- Track 64 : Marleymoo\_215, Constella\_224, Bobby\_213, Thibault\_209
- Track 65 : NihilNomen\_236
- Track 66 : Lucky2013\_232, Porcelain\_236, MiaZeal\_245, Wanda\_234
- Track 67 : Gonephishing\_231
- Track 68 : LittleE\_224, Rearden\_235
- Track 69 : HokkenD\_227
- Track 70 : KashFlow\_227
- Track 71 : DmpstrDiver\_233
- Track 72 : Duke13\_235

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

The start number called the most often in the published annotations is 41, it was called in 34 of the 177 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Ariel\_241, Bagrid\_240, Beem\_238, Bobby\_213, Bombitas\_219, Constella\_224, Courthouse\_237, Dallas\_233, DmpstrDiver\_233, Dove\_217, Duke13\_235, Ejimix\_226, EricMillard\_232, FlyCatcher\_86, Gonephishing\_231, Halley\_237, Hannaconda\_225, Hughesyang\_237, JuicyJay\_230, KashFlow\_227, Klein\_242, LittleE\_224, Lucky2013\_232, Marleymoo\_215, MiaZeal\_245, Minerva\_233, Nekros\_235, Odette\_234, Phoebus\_233, Porcelain\_236, Rearden\_235, Redno2\_226, Schatzie\_227, Shaboozey\_232, Sheen\_83, Squint\_233, Superphikiman\_233, Thibault\_209, ThreeRngTarjay\_234, Toro\_84, Wanda\_234, Yeet\_229, Zelink\_228,

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

- HokkenD\_227, Kalah2\_224, NihilNomen\_236,

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

- 40AC\_82, AN9\_85, ANI8\_85, AbbysRanger\_82, Achebe\_81, Alsfro\_94, AnnaL29\_88, Artemis2UCLA\_88, BABullseye\_80, BabyBack\_81, BabyJohn\_69, BabyRay\_87, Bachome\_87, Backyardigan\_80, Badger\_81, Baehexic\_85, Beatrix\_89, Bexan\_87, Big3\_91, BlessJoy\_88, Blinn1\_90, BluSpix\_85, Blue7\_90, Bradman\_89, Bumblebee11\_81, C3\_78, Candra\_85, Caviar\_75, Centaur\_86, Changeling\_84, Chartreuse\_85, Chiqui\_69, Cici\_82, Cintron\_85, CloudWang3\_89, Colin\_85, Cookiedough\_87, DBQu4n\_86, DaVinci\_85, Dorothea\_87, Drake55\_87, DropBear\_84, Druantia\_84, Duplo\_87, EZMoney23\_82, EagleEye\_87, EnzoK\_93, Equemioh13\_86, EricB\_85, Et2Brutus\_89, Fibonacci\_89, Flare16\_86, Gail\_88, Garak\_90, GaugeLDP\_80, Gladiator\_85, Goose\_85, Gratitude\_84, GreedyLawyer\_80, Gruunaga\_88, Hammer\_89, HarryHoudini\_86, Heathen\_86, HelDan\_86, Helmet\_90, Hexamo\_88, Hookmount\_86, Hoot\_82, Hutc2\_86, IgnatiusPatJac\_87, Indra\_92, Insomnia\_89, Isca\_83, Isiphiwo\_83, Jabith\_89, JewelBug\_79, Jordennis\_85, Journey13\_69, Jsquared\_90, Kachowdy\_84, Kalpine\_88, Katalie136\_82, Kazan\_88, Kerberos\_86, Killigrew\_87, Kimona\_86, Kipper29\_87, Koko\_90, Kremtemulon\_82, L5\_79, Lambert1\_86, Larenn\_85, Lesedi\_88, Lilbunny\_88, Loser\_89, Lucyedi\_86, MajorMajor\_83, Malec\_85, Marchesa\_86, Margo\_86, McFly\_87, MiculUcigas\_86, MissWhite\_79, Morpher26\_82, Mulciber\_88, NaSiaTalie\_87, Neeharika16\_86, Newrala\_86, Noella\_87, Norbert\_82, PainterBoy\_85, Panamaxus\_82, Perplexer\_82, PetiteSangsue\_82, Phantastic\_87, PherrisBueller\_88, Phlei\_72, Piro94\_85, Pmask\_86, Pocahontas\_85, Polyphemos\_79, Pomar16\_86, Popcicle\_86, Priamo\_88, QuinnKiro\_85, Quokka\_88, RedRock\_86, ResDef\_84, Rifter\_89, Rockstar\_75, Roksolana\_89, Salz\_85, Scout\_86, Serenity\_89, Sham4\_86, Sknot\_86, SmellyB\_87, SororFago\_85, StarStuff\_86, StrongArm\_88, SuperAwesome\_87, SuperCallie99\_83, Temprado\_90, Terrific\_87, Texage\_84, TipsytheTRex\_85, Todacoro\_86, Tomathan\_86, ToneTone\_86, Travvers\_86, Tucker\_89, Turj99\_86, Updawg\_87, VC3\_84, Veracruz\_83, VohminGhazi\_87, WideWale\_87, Wiks\_88, Wile\_81, Wizard007\_82, Yokurt\_88, Zaka\_89, Zeeculate\_91, Zulu\_90,

### Summary by start number:

Start 20:

- Found in 1 of 210 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 177

- Called 100.0% of time when present
- Phage (with cluster) where this start called: Blinn1\_90 (A6),

#### Start 21:

- Found in 37 of 210 ( 17.6% ) of genes in pham
- Manual Annotations of this start: 24 of 177
- Called 64.9% of time when present
- Phage (with cluster) where this start called: BABullseye\_80 (A6), Blue7\_90 (A6), Cookiedough\_87 (A6), DaVinci\_85 (A6), Dorothea\_87 (A6), EagleEye\_87 (A16), Hoot\_82 (A6), Indra\_92 (A6), Isiphiwo\_83 (A6), JewelBug\_79 (A6), Jordennis\_85 (A6), Kazan\_88 (A6), Kipper29\_87 (A6), Koko\_90 (A6), Lucyedi\_86 (A16), McFly\_87 (A6), Newrala\_86 (A6), PainterBoy\_85 (A16), Pmask\_86 (A6), SmellyB\_87 (A6), SuperAwesome\_87 (A6), VohminGhazi\_87 (A6), Wiks\_88 (A6), Zulu\_90 (A6),

#### Start 25:

- Found in 35 of 210 ( 16.7% ) of genes in pham
- Manual Annotations of this start: 3 of 177
- Called 8.6% of time when present
- Phage (with cluster) where this start called: AnnaL29\_88 (A2), Jsquared\_90 (A2), L5\_79 (A2),

#### Start 26:

- Found in 1 of 210 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 177
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BabyRay\_87 (A3),

#### Start 27:

- Found in 1 of 210 ( 0.5% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Phlei\_72 (A13),

#### Start 29:

- Found in 51 of 210 ( 24.3% ) of genes in pham
- Manual Annotations of this start: 20 of 177
- Called 52.9% of time when present
- Phage (with cluster) where this start called: Artemis2UCLA\_88 (A6), BabyBack\_81 (A2), BlessJoy\_88 (A6), Candra\_85 (A6), Chartreuse\_85 (A6), CloudWang3\_89 (A6), EricB\_85 (A6), Garak\_90 (A6), GaugeLDP\_80 (A2), Gladiator\_85 (A6), GreedyLawyer\_80 (A6), Gruunaga\_88 (A6), Hammer\_89 (A6), Helmet\_90 (A6), Hexamo\_88 (A6), Lilbunny\_88 (A6), Neeharika16\_86 (A6), Polyphemus\_79 (A6), Priamo\_88 (A6), Rifter\_89 (A6), Roksolana\_89 (A6), SuperCallie99\_83 (A6), Temprado\_90 (A6), ToneTone\_86 (A6), Tucker\_89 (A6), Yokurt\_88 (A6), Zaka\_89 (A6),

#### Start 32:

- Found in 47 of 210 ( 22.4% ) of genes in pham
- Manual Annotations of this start: 34 of 177
- Called 93.6% of time when present
- Phage (with cluster) where this start called: 40AC\_82 (A17), AN9\_85 (A2), ANI8\_85 (A2), Bachome\_87 (A11), Baehexic\_85 (A2), Bradman\_89 (A2), C3\_78 (A2), Centaur\_86 (A2), Changeling\_84 (A2), Colin\_85 (A2), DBQu4n\_86 (A2), Drake55\_87

(A2), Duplo\_87 (A2), EZMoney23\_82 (A2), Equemioh13\_86 (A2), Flare16\_86 (A2), Gail\_88 (A14), Gratitude\_84 (A2), HarryHoudini\_86 (A2), Journey13\_69 (A2), Kalpine\_88 (A2), Kerberos\_86 (A2), Larenn\_85 (A2), Loser\_89 (A2), MajorMajor\_83 (A2), Malec\_85 (A2), MiculUcigas\_86 (A2), MissWhite\_79 (A2), NaSiaTalie\_87 (A2), Piro94\_85 (A2), Pomar16\_86 (A2), Quokka\_88 (A2), RedRock\_86 (A2), Serenity\_89 (A2), Sknot\_86 (A2), SororFago\_85 (A14), StarStuff\_86 (A2), Terrific\_87 (A2), TipsytheTRex\_85 (A2), Tomathan\_86 (A2), Travvers\_86 (A2), Updawg\_87 (A2), VC3\_84 (A2), WideWale\_87 (A2),

#### Start 33:

- Found in 28 of 210 ( 13.3% ) of genes in pham
- Manual Annotations of this start: 18 of 177
- Called 67.9% of time when present
- Phage (with cluster) where this start called: Achebe\_81 (A4), Alsfro\_94 (A1), Backyardigan\_80 (A4), Badger\_81 (A4), Beatrix\_89 (A1), Bexan\_87 (A1), Big3\_91 (A1), BluSpix\_85 (A1), Cici\_82 (A4), Druantia\_84 (A4), EnzoK\_93 (A1), IgnatiusPatJac\_87 (A1), Killigrew\_87 (A1), Lesedi\_88 (A1), PherrisBueller\_88 (A1), StrongArm\_88 (A1), Wile\_81 (A4), Wizard007\_82 (A4), Zeeculate\_91 (A1),

#### Start 34:

- Found in 8 of 210 ( 3.8% ) of genes in pham
- Manual Annotations of this start: 8 of 177
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Et2Brutus\_89 (A11), Fibonacci\_89 (A11), Hutc2\_86 (A11), Insomnia\_89 (A11), Jabith\_89 (A11), Mulciber\_88 (A11), Salz\_85 (A11), Sham4\_86 (A11),

#### Start 35:

- Found in 1 of 210 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 177
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Turj99\_86 (A1),

#### Start 37:

- Found in 11 of 210 ( 5.2% ) of genes in pham
- Manual Annotations of this start: 3 of 177
- Called 27.3% of time when present
- Phage (with cluster) where this start called: HokkenD\_227 (J), Kalah2\_224 (J), NihilNomen\_236 (J),

#### Start 38:

- Found in 28 of 210 ( 13.3% ) of genes in pham
- Manual Annotations of this start: 22 of 177
- Called 96.4% of time when present
- Phage (with cluster) where this start called: BabyJohn\_69 (A3), Caviar\_75 (A3), Chiqui\_69 (A3), DropBear\_84 (A3), Goose\_85 (A10), Heathen\_86 (A3), HelDan\_86 (A3), Hookmount\_86 (A3), Isca\_83 (A3), Kachowdy\_84 (A3), Kimona\_86 (A19), Lambert1\_86 (A3), Marchesa\_86 (A3), Margo\_86 (A3), Noella\_87 (A3), Norbert\_82 (A3), Panamaxus\_82 (A3), Phantastic\_87 (A3), Pocahontas\_85 (A3), Popcicle\_86 (A3), QuinnKiro\_85 (A3), ResDef\_84 (A3), Rockstar\_75 (A3), Scout\_86 (A3), Texage\_84 (A3), Todacoro\_86 (A3), Veracruz\_83 (A3),

#### Start 41:

- Found in 46 of 210 ( 21.9% ) of genes in pham
- Manual Annotations of this start: 34 of 177
- Called 93.5% of time when present
- Phage (with cluster) where this start called: Ariel\_241 (J), Bagrid\_240 (J), Beem\_238 (J), Bobby\_213 (J), Bombitas\_219 (J), Constella\_224 (J), Courthouse\_237 (J), Dallas\_233 (J), DmpstrDiver\_233 (J), Dove\_217 (J), Duke13\_235 (J), Ejimix\_226 (J), EricMillard\_232 (J), FlyCatcher\_86 (A7), Gonephishing\_231 (J), Halley\_237 (J), Hannaconda\_225 (J), Hughesyang\_237 (J), JuicyJay\_230 (J), KashFlow\_227 (J), Klein\_242 (J), LittleE\_224 (J), Lucky2013\_232 (J), Marleymoo\_215 (J), MiaZeal\_245 (J), Minerva\_233 (J), Nekros\_235 (J), Odette\_234 (J), Phoebus\_233 (J), Porcelain\_236 (J), Rearden\_235 (J), Redno2\_226 (J), Schatzie\_227 (J), Shaboozey\_232 (J), Sheen\_83 (A7), Squint\_233 (J), Superphikiman\_233 (J), Thibault\_209 (J), ThreeRngTarjay\_234 (J), Toro\_84 (A7), Wanda\_234 (J), Yeet\_229 (J), Zelink\_228 (J),

Start 44:

- Found in 16 of 210 ( 7.6% ) of genes in pham
- Manual Annotations of this start: 8 of 177
- Called 50.0% of time when present
- Phage (with cluster) where this start called: AbbysRanger\_82 (A4), Bumblebee11\_81 (A4), Cintron\_85 (A4), Katalie136\_82 (A4), Kremtemulon\_82 (A4), Morpher26\_82 (A4), Perplexer\_82 (A4), PetiteSangsue\_82 (A4),

### Summary by clusters:

There are 14 clusters represented in this pham: A14, A17, A16, A11, A10, A13, J, A19, A1, A3, A2, A4, A7, A6,

Info for manual annotations of cluster A1:

- Start number 33 was manually annotated 11 times for cluster A1.
- Start number 35 was manually annotated 1 time for cluster A1.

Info for manual annotations of cluster A10:

- Start number 38 was manually annotated 1 time for cluster A10.

Info for manual annotations of cluster A11:

- Start number 32 was manually annotated 1 time for cluster A11.
- Start number 34 was manually annotated 8 times for cluster A11.

Info for manual annotations of cluster A14:

- Start number 32 was manually annotated 2 times for cluster A14.

Info for manual annotations of cluster A16:

- Start number 21 was manually annotated 3 times for cluster A16.

Info for manual annotations of cluster A19:

- Start number 38 was manually annotated 1 time for cluster A19.

Info for manual annotations of cluster A2:

- Start number 25 was manually annotated 3 times for cluster A2.
- Start number 29 was manually annotated 2 times for cluster A2.



- Start number 32 was manually annotated 31 times for cluster A2.

Info for manual annotations of cluster A3:

- Start number 26 was manually annotated 1 time for cluster A3.
- Start number 38 was manually annotated 20 times for cluster A3.

Info for manual annotations of cluster A4:

- Start number 33 was manually annotated 7 times for cluster A4.
- Start number 44 was manually annotated 8 times for cluster A4.

Info for manual annotations of cluster A6:

- Start number 20 was manually annotated 1 time for cluster A6.
- Start number 21 was manually annotated 21 times for cluster A6.
- Start number 29 was manually annotated 18 times for cluster A6.

Info for manual annotations of cluster A7:

- Start number 41 was manually annotated 1 time for cluster A7.

Info for manual annotations of cluster J:

- Start number 37 was manually annotated 3 times for cluster J.
- Start number 41 was manually annotated 33 times for cluster J.

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

Gene: 40AC\_82 Start: 48479, Stop: 48276, Start Num: 32

Candidate Starts for 40AC\_82:

(Start: 32 @48479 has 34 MA's), (45, 48428), (57, 48344),

Gene: AN9\_85 Start: 47253, Stop: 47056, Start Num: 32

Candidate Starts for AN9\_85:

(Start: 32 @47253 has 34 MA's), (45, 47199), (57, 47121),

Gene: ANI8\_85 Start: 47253, Stop: 47056, Start Num: 32

Candidate Starts for ANI8\_85:

(Start: 32 @47253 has 34 MA's), (45, 47199), (57, 47121),

Gene: AbbysRanger\_82 Start: 48599, Stop: 48441, Start Num: 44

Candidate Starts for AbbysRanger\_82:

(Start: 33 @48638 has 18 MA's), (Start: 44 @48599 has 8 MA's), (48, 48590), (57, 48503), (58, 48470),

Gene: Achebe\_81 Start: 48782, Stop: 48585, Start Num: 33

Candidate Starts for Achebe\_81:

(Start: 33 @48782 has 18 MA's), (Start: 44 @48743 has 8 MA's), (48, 48734), (57, 48647), (58, 48614),

Gene: Alsfro\_94 Start: 49646, Stop: 49846, Start Num: 33

Candidate Starts for Alsfro\_94:

(Start: 33 @49646 has 18 MA's), (56, 49778),

Gene: AnnaL29\_88 Start: 49242, Stop: 49006, Start Num: 25

Candidate Starts for AnnaL29\_88:

(13, 49371), (Start: 25 @49242 has 3 MA's), (Start: 32 @49227 has 34 MA's), (57, 49074), (58, 49041),

Gene: Ariel\_241 Start: 107734, Stop: 107546, Start Num: 41  
Candidate Starts for Ariel\_241:  
(36, 107755), (Start: 41 @107734 has 34 MA's), (50, 107692), (55, 107653), (58, 107581), (61, 107557),

Gene: Artemis2UCLA\_88 Start: 46537, Stop: 46328, Start Num: 29  
Candidate Starts for Artemis2UCLA\_88:  
(Start: 29 @46537 has 20 MA's), (49, 46477),

Gene: BABullseye\_80 Start: 44890, Stop: 44648, Start Num: 21  
Candidate Starts for BABullseye\_80:  
(4, 45139), (10, 45055), (11, 45031), (Start: 21 @44890 has 24 MA's), (Start: 29 @44866 has 20 MA's), (53, 44770), (58, 44686),

Gene: BabyBack\_81 Start: 48271, Stop: 48068, Start Num: 29  
Candidate Starts for BabyBack\_81:  
(16, 48391), (18, 48343), (Start: 29 @48271 has 20 MA's), (46, 48220), (57, 48136),

Gene: BabyJohn\_69 Start: 44585, Stop: 44400, Start Num: 38  
Candidate Starts for BabyJohn\_69:  
(28, 44612), (Start: 38 @44585 has 22 MA's), (54, 44522),

Gene: BabyRay\_87 Start: 47952, Stop: 47743, Start Num: 26  
Candidate Starts for BabyRay\_87:  
(Start: 26 @47952 has 1 MA's), (40, 47919), (48, 47889), (57, 47814), (58, 47781),

Gene: Bachome\_87 Start: 47191, Stop: 46985, Start Num: 32  
Candidate Starts for Bachome\_87:  
(Start: 25 @47206 has 3 MA's), (Start: 32 @47191 has 34 MA's), (45, 47137), (51, 47113), (57, 47053), (61, 46996),

Gene: Backyardigan\_80 Start: 48654, Stop: 48457, Start Num: 33  
Candidate Starts for Backyardigan\_80:  
(Start: 33 @48654 has 18 MA's), (Start: 44 @48615 has 8 MA's), (48, 48606), (57, 48519), (58, 48486),

Gene: Badger\_81 Start: 48620, Stop: 48423, Start Num: 33  
Candidate Starts for Badger\_81:  
(Start: 33 @48620 has 18 MA's), (Start: 44 @48581 has 8 MA's), (48, 48572), (57, 48485), (58, 48452),

Gene: Baehexic\_85 Start: 48457, Stop: 48251, Start Num: 32  
Candidate Starts for Baehexic\_85:  
(9, 48655), (Start: 25 @48472 has 3 MA's), (Start: 32 @48457 has 34 MA's), (45, 48403), (57, 48319),

Gene: Bagrid\_240 Start: 111821, Stop: 111645, Start Num: 41  
Candidate Starts for Bagrid\_240:  
(36, 111842), (Start: 41 @111821 has 34 MA's), (50, 111779), (55, 111752),

Gene: Beatrix\_89 Start: 50789, Stop: 50995, Start Num: 33  
Candidate Starts for Beatrix\_89:  
(Start: 33 @50789 has 18 MA's), (56, 50927),

Gene: Beem\_238 Start: 110940, Stop: 110764, Start Num: 41

Candidate Starts for Beem\_238:  
(36, 110961), (Start: 41 @110940 has 34 MA's), (50, 110898), (55, 110871),

Gene: Bexan\_87 Start: 50565, Stop: 50771, Start Num: 33  
Candidate Starts for Bexan\_87:  
(Start: 33 @50565 has 18 MA's), (56, 50703),

Gene: Big3\_91 Start: 53046, Stop: 52840, Start Num: 33  
Candidate Starts for Big3\_91:  
(Start: 33 @53046 has 18 MA's),

Gene: BlessJoy\_88 Start: 47058, Stop: 46849, Start Num: 29  
Candidate Starts for BlessJoy\_88:  
(Start: 29 @47058 has 20 MA's), (49, 46998), (56, 46923),

Gene: Blinn1\_90 Start: 47426, Stop: 47145, Start Num: 20  
Candidate Starts for Blinn1\_90:  
(Start: 20 @47426 has 1 MA's), (23, 47381), (30, 47366), (31, 47360), (47, 47309), (56, 47219), (57, 47216),

Gene: BluSpix\_85 Start: 44982, Stop: 45182, Start Num: 33  
Candidate Starts for BluSpix\_85:  
(Start: 33 @44982 has 18 MA's), (56, 45114),

Gene: Blue7\_90 Start: 46789, Stop: 46547, Start Num: 21  
Candidate Starts for Blue7\_90:  
(4, 47038), (10, 46954), (11, 46930), (Start: 21 @46789 has 24 MA's), (Start: 29 @46765 has 20 MA's), (53, 46669),

Gene: Bobby\_213 Start: 108407, Stop: 108219, Start Num: 41  
Candidate Starts for Bobby\_213:  
(Start: 41 @108407 has 34 MA's), (45, 108383), (50, 108365), (55, 108326), (58, 108254), (61, 108230),

Gene: Bombitas\_219 Start: 107223, Stop: 107050, Start Num: 41  
Candidate Starts for Bombitas\_219:  
(36, 107244), (Start: 41 @107223 has 34 MA's), (50, 107181), (55, 107154),

Gene: Bradman\_89 Start: 47929, Stop: 47726, Start Num: 32  
Candidate Starts for Bradman\_89:  
(Start: 25 @47944 has 3 MA's), (Start: 32 @47929 has 34 MA's), (45, 47875), (48, 47869), (57, 47791), (58, 47758),

Gene: Bumblebee11\_81 Start: 48581, Stop: 48423, Start Num: 44  
Candidate Starts for Bumblebee11\_81:  
(Start: 33 @48620 has 18 MA's), (Start: 44 @48581 has 8 MA's), (48, 48572), (57, 48485), (58, 48452),

Gene: C3\_78 Start: 47253, Stop: 47056, Start Num: 32  
Candidate Starts for C3\_78:  
(Start: 32 @47253 has 34 MA's), (45, 47199), (57, 47121),

Gene: Candra\_85 Start: 46570, Stop: 46352, Start Num: 29  
Candidate Starts for Candra\_85:

(4, 46843), (10, 46759), (11, 46735), (Start: 21 @46594 has 24 MA's), (Start: 29 @46570 has 20 MA's), (53, 46474), (58, 46390),

Gene: Caviar\_75 Start: 44830, Stop: 44630, Start Num: 38

Candidate Starts for Caviar\_75:

(12, 45019), (Start: 38 @44830 has 22 MA's), (52, 44770), (57, 44704), (58, 44671),

Gene: Centaur\_86 Start: 48324, Stop: 48118, Start Num: 32

Candidate Starts for Centaur\_86:

(9, 48522), (Start: 25 @48339 has 3 MA's), (Start: 32 @48324 has 34 MA's), (45, 48270), (57, 48186),

Gene: Changeling\_84 Start: 49033, Stop: 48812, Start Num: 32

Candidate Starts for Changeling\_84:

(15, 49165), (Start: 25 @49048 has 3 MA's), (Start: 32 @49033 has 34 MA's), (42, 49000), (43, 48997), (56, 48883), (58, 48847),

Gene: Chartreuse\_85 Start: 45871, Stop: 45653, Start Num: 29

Candidate Starts for Chartreuse\_85:

(4, 46144), (10, 46060), (11, 46036), (Start: 21 @45895 has 24 MA's), (Start: 29 @45871 has 20 MA's), (53, 45775), (58, 45691),

Gene: Chiqui\_69 Start: 44594, Stop: 44409, Start Num: 38

Candidate Starts for Chiqui\_69:

(28, 44621), (Start: 38 @44594 has 22 MA's), (54, 44531),

Gene: Cici\_82 Start: 48633, Stop: 48436, Start Num: 33

Candidate Starts for Cici\_82:

(Start: 33 @48633 has 18 MA's), (Start: 44 @48594 has 8 MA's), (48, 48585), (57, 48498), (58, 48465),

Gene: Cintron\_85 Start: 48872, Stop: 48702, Start Num: 44

Candidate Starts for Cintron\_85:

(Start: 44 @48872 has 8 MA's), (48, 48863), (57, 48776), (58, 48743),

Gene: CloudWang3\_89 Start: 47066, Stop: 46857, Start Num: 29

Candidate Starts for CloudWang3\_89:

(Start: 29 @47066 has 20 MA's), (49, 47006),

Gene: Colin\_85 Start: 49399, Stop: 49190, Start Num: 32

Candidate Starts for Colin\_85:

(9, 49606), (13, 49546), (14, 49531), (Start: 25 @49414 has 3 MA's), (Start: 32 @49399 has 34 MA's), (39, 49375), (40, 49372), (57, 49258),

Gene: Constella\_224 Start: 108319, Stop: 108131, Start Num: 41

Candidate Starts for Constella\_224:

(Start: 41 @108319 has 34 MA's), (45, 108295), (50, 108277), (55, 108238), (58, 108166), (61, 108142),

Gene: Cookiedough\_87 Start: 47203, Stop: 46961, Start Num: 21

Candidate Starts for Cookiedough\_87:

(4, 47452), (10, 47368), (11, 47344), (Start: 21 @47203 has 24 MA's), (Start: 29 @47179 has 20 MA's), (53, 47083), (58, 46999),

Gene: Courthouse\_237 Start: 108498, Stop: 108310, Start Num: 41

Candidate Starts for Courthouse\_237:

(36, 108519), (Start: 41 @108498 has 34 MA's), (50, 108456), (55, 108417), (58, 108345), (61, 108321),

Gene: DBQu4n\_86 Start: 48304, Stop: 48101, Start Num: 32

Candidate Starts for DBQu4n\_86:

(Start: 32 @48304 has 34 MA's), (45, 48250), (57, 48166),

Gene: DaVinci\_85 Start: 45949, Stop: 45707, Start Num: 21

Candidate Starts for DaVinci\_85:

(4, 46198), (10, 46114), (11, 46090), (Start: 21 @45949 has 24 MA's), (Start: 29 @45925 has 20 MA's), (53, 45829), (58, 45745),

Gene: Dallas\_233 Start: 109177, Stop: 108995, Start Num: 41

Candidate Starts for Dallas\_233:

(Start: 37 @109192 has 3 MA's), (Start: 41 @109177 has 34 MA's), (50, 109141), (55, 109102), (58, 109030),

Gene: DmpstrDiver\_233 Start: 109198, Stop: 109022, Start Num: 41

Candidate Starts for DmpstrDiver\_233:

(Start: 41 @109198 has 34 MA's), (45, 109174), (50, 109156), (55, 109129), (58, 109057), (59, 109042),

Gene: Dorothea\_87 Start: 47195, Stop: 46953, Start Num: 21

Candidate Starts for Dorothea\_87:

(4, 47444), (10, 47360), (11, 47336), (Start: 21 @47195 has 24 MA's), (Start: 29 @47171 has 20 MA's), (53, 47075), (58, 46991),

Gene: Dove\_217 Start: 105704, Stop: 105528, Start Num: 41

Candidate Starts for Dove\_217:

(36, 105725), (Start: 41 @105704 has 34 MA's), (50, 105662), (55, 105635),

Gene: Drake55\_87 Start: 48575, Stop: 48369, Start Num: 32

Candidate Starts for Drake55\_87:

(9, 48773), (Start: 25 @48590 has 3 MA's), (Start: 32 @48575 has 34 MA's), (57, 48437),

Gene: DropBear\_84 Start: 48015, Stop: 47824, Start Num: 38

Candidate Starts for DropBear\_84:

(1, 48504), (2, 48471), (5, 48288), (Start: 38 @48015 has 22 MA's), (52, 47955), (57, 47889),

Gene: Druantia\_84 Start: 48829, Stop: 48632, Start Num: 33

Candidate Starts for Druantia\_84:

(Start: 33 @48829 has 18 MA's), (Start: 44 @48790 has 8 MA's), (48, 48781), (57, 48694), (58, 48661),

Gene: Duke13\_235 Start: 110008, Stop: 109820, Start Num: 41

Candidate Starts for Duke13\_235:

(Start: 37 @110023 has 3 MA's), (Start: 41 @110008 has 34 MA's), (45, 109984), (50, 109966), (55, 109927), (56, 109891), (58, 109855), (61, 109831),

Gene: Duplo\_87 Start: 48361, Stop: 48158, Start Num: 32

Candidate Starts for Duplo\_87:

(Start: 32 @48361 has 34 MA's), (45, 48307), (57, 48223),

Gene: EZMoney23\_82 Start: 48034, Stop: 47822, Start Num: 32  
Candidate Starts for EZMoney23\_82:  
(7, 48262), (13, 48181), (Start: 25 @48049 has 3 MA's), (Start: 32 @48034 has 34 MA's), (Start: 38 @48013 has 22 MA's), (Start: 44 @47983 has 8 MA's), (57, 47890),

Gene: EagleEye\_87 Start: 48171, Stop: 47941, Start Num: 21  
Candidate Starts for EagleEye\_87:  
(Start: 21 @48171 has 24 MA's), (Start: 29 @48147 has 20 MA's), (Start: 33 @48135 has 18 MA's), (Start: 37 @48123 has 3 MA's), (47, 48084),

Gene: Ejimix\_226 Start: 109183, Stop: 109007, Start Num: 41  
Candidate Starts for Ejimix\_226:  
(36, 109204), (Start: 41 @109183 has 34 MA's), (50, 109141), (55, 109114),

Gene: EnzoK\_93 Start: 50479, Stop: 50279, Start Num: 33  
Candidate Starts for EnzoK\_93:  
(Start: 33 @50479 has 18 MA's), (56, 50347),

Gene: Equemioh13\_86 Start: 48553, Stop: 48347, Start Num: 32  
Candidate Starts for Equemioh13\_86:  
(9, 48751), (Start: 25 @48568 has 3 MA's), (Start: 32 @48553 has 34 MA's), (45, 48499), (57, 48415),

Gene: EricB\_85 Start: 46068, Stop: 45850, Start Num: 29  
Candidate Starts for EricB\_85:  
(4, 46341), (10, 46257), (11, 46233), (Start: 21 @46092 has 24 MA's), (Start: 29 @46068 has 20 MA's), (53, 45972), (58, 45888),

Gene: EricMillard\_232 Start: 111027, Stop: 110851, Start Num: 41  
Candidate Starts for EricMillard\_232:  
(36, 111048), (Start: 41 @111027 has 34 MA's), (50, 110985), (55, 110958),

Gene: Et2Brutus\_89 Start: 48147, Stop: 47950, Start Num: 34  
Candidate Starts for Et2Brutus\_89:  
(Start: 34 @48147 has 8 MA's), (57, 48018), (61, 47961),

Gene: Fibonacci\_89 Start: 48153, Stop: 47956, Start Num: 34  
Candidate Starts for Fibonacci\_89:  
(Start: 34 @48153 has 8 MA's), (57, 48024), (61, 47967),

Gene: Flare16\_86 Start: 48368, Stop: 48162, Start Num: 32  
Candidate Starts for Flare16\_86:  
(9, 48566), (Start: 25 @48383 has 3 MA's), (Start: 32 @48368 has 34 MA's), (45, 48314), (57, 48230),

Gene: FlyCatcher\_86 Start: 51563, Stop: 51378, Start Num: 41  
Candidate Starts for FlyCatcher\_86:  
(Start: 41 @51563 has 34 MA's), (50, 51521), (56, 51446),

Gene: Gail\_88 Start: 48344, Stop: 48141, Start Num: 32  
Candidate Starts for Gail\_88:  
(Start: 25 @48359 has 3 MA's), (Start: 32 @48344 has 34 MA's), (45, 48293), (57, 48209),

Gene: Garak\_90 Start: 47008, Stop: 46790, Start Num: 29  
Candidate Starts for Garak\_90:

(4, 47281), (10, 47197), (11, 47173), (Start: 21 @47032 has 24 MA's), (Start: 29 @47008 has 20 MA's), (53, 46912),

Gene: GaugeLDP\_80 Start: 47824, Stop: 47624, Start Num: 29  
Candidate Starts for GaugeLDP\_80:  
(Start: 29 @47824 has 20 MA's), (46, 47773), (57, 47692),

Gene: Gladiator\_85 Start: 46722, Stop: 46513, Start Num: 29  
Candidate Starts for Gladiator\_85:  
(Start: 29 @46722 has 20 MA's), (49, 46662),

Gene: Gonephishing\_231 Start: 108727, Stop: 108539, Start Num: 41  
Candidate Starts for Gonephishing\_231:  
(Start: 37 @108742 has 3 MA's), (Start: 41 @108727 has 34 MA's), (45, 108703), (50, 108685), (55, 108646), (58, 108574), (61, 108550),

Gene: Goose\_85 Start: 48375, Stop: 48187, Start Num: 38  
Candidate Starts for Goose\_85:  
(24, 48408), (Start: 38 @48375 has 22 MA's), (56, 48255), (57, 48252),

Gene: Gratitude\_84 Start: 48553, Stop: 48347, Start Num: 32  
Candidate Starts for Gratitude\_84:  
(9, 48751), (Start: 25 @48568 has 3 MA's), (Start: 32 @48553 has 34 MA's), (45, 48499), (57, 48415),

Gene: GreedyLawyer\_80 Start: 46501, Stop: 46283, Start Num: 29  
Candidate Starts for GreedyLawyer\_80:  
(4, 46774), (10, 46690), (11, 46666), (Start: 21 @46525 has 24 MA's), (Start: 29 @46501 has 20 MA's), (53, 46405),

Gene: Gruunaga\_88 Start: 46677, Stop: 46468, Start Num: 29  
Candidate Starts for Gruunaga\_88:  
(Start: 29 @46677 has 20 MA's), (49, 46617),

Gene: Halley\_237 Start: 109664, Stop: 109482, Start Num: 41  
Candidate Starts for Halley\_237:  
(Start: 37 @109679 has 3 MA's), (Start: 41 @109664 has 34 MA's), (50, 109628), (55, 109589), (58, 109517),

Gene: Hammer\_89 Start: 46384, Stop: 46175, Start Num: 29  
Candidate Starts for Hammer\_89:  
(Start: 29 @46384 has 20 MA's), (49, 46324), (56, 46249),

Gene: Hannaconda\_225 Start: 109232, Stop: 109056, Start Num: 41  
Candidate Starts for Hannaconda\_225:  
(36, 109253), (Start: 41 @109232 has 34 MA's), (50, 109190), (55, 109163),

Gene: HarryHoudini\_86 Start: 48578, Stop: 48372, Start Num: 32  
Candidate Starts for HarryHoudini\_86:  
(9, 48776), (Start: 25 @48593 has 3 MA's), (Start: 32 @48578 has 34 MA's), (57, 48440),

Gene: Heathen\_86 Start: 47894, Stop: 47703, Start Num: 38  
Candidate Starts for Heathen\_86:  
(1, 48383), (2, 48350), (5, 48167), (Start: 38 @47894 has 22 MA's), (52, 47834), (57, 47768),

Gene: HelDan\_86 Start: 48117, Stop: 47926, Start Num: 38

Candidate Starts for HelDan\_86:

(1, 48606), (2, 48573), (5, 48390), (Start: 38 @48117 has 22 MA's), (52, 48057), (57, 47991),

Gene: Helmet\_90 Start: 47008, Stop: 46790, Start Num: 29

Candidate Starts for Helmet\_90:

(4, 47281), (10, 47197), (11, 47173), (Start: 21 @47032 has 24 MA's), (Start: 29 @47008 has 20 MA's), (53, 46912),

Gene: Hexamo\_88 Start: 46552, Stop: 46343, Start Num: 29

Candidate Starts for Hexamo\_88:

(Start: 29 @46552 has 20 MA's), (49, 46492),

Gene: HokkenD\_227 Start: 110994, Stop: 110791, Start Num: 37

Candidate Starts for HokkenD\_227:

(Start: 37 @110994 has 3 MA's), (Start: 41 @110979 has 34 MA's), (45, 110955), (50, 110937), (55, 110898), (56, 110862), (58, 110826), (61, 110802),

Gene: Hookmount\_86 Start: 47833, Stop: 47633, Start Num: 38

Candidate Starts for Hookmount\_86:

(12, 48022), (Start: 38 @47833 has 22 MA's), (52, 47773), (57, 47707), (58, 47674),

Gene: Hoot\_82 Start: 44409, Stop: 44167, Start Num: 21

Candidate Starts for Hoot\_82:

(4, 44658), (10, 44574), (11, 44550), (Start: 21 @44409 has 24 MA's), (Start: 29 @44385 has 20 MA's), (53, 44289), (58, 44205),

Gene: Hughesyang\_237 Start: 110914, Stop: 110738, Start Num: 41

Candidate Starts for Hughesyang\_237:

(36, 110935), (Start: 41 @110914 has 34 MA's), (50, 110872), (55, 110845),

Gene: Hutc2\_86 Start: 47037, Stop: 46840, Start Num: 34

Candidate Starts for Hutc2\_86:

(Start: 34 @47037 has 8 MA's), (57, 46908), (61, 46851),

Gene: IgnatiusPatJac\_87 Start: 48927, Stop: 49127, Start Num: 33

Candidate Starts for IgnatiusPatJac\_87:

(Start: 33 @48927 has 18 MA's), (56, 49059),

Gene: Indra\_92 Start: 47033, Stop: 46791, Start Num: 21

Candidate Starts for Indra\_92:

(4, 47282), (10, 47198), (11, 47174), (Start: 21 @47033 has 24 MA's), (Start: 29 @47009 has 20 MA's), (53, 46913),

Gene: Insomnia\_89 Start: 48331, Stop: 48134, Start Num: 34

Candidate Starts for Insomnia\_89:

(Start: 34 @48331 has 8 MA's), (57, 48202), (61, 48145),

Gene: Isca\_83 Start: 47223, Stop: 47023, Start Num: 38

Candidate Starts for Isca\_83:

(6, 47487), (Start: 38 @47223 has 22 MA's), (40, 47217), (52, 47163), (57, 47097), (58, 47064),



Gene: Isiphiwo\_83 Start: 46120, Stop: 45878, Start Num: 21

Candidate Starts for Isiphiwo\_83:

(4, 46369), (10, 46285), (11, 46261), (Start: 21 @46120 has 24 MA's), (Start: 29 @46096 has 20 MA's), (53, 46000), (58, 45916), (60, 45895),

Gene: Jabith\_89 Start: 48345, Stop: 48148, Start Num: 34

Candidate Starts for Jabith\_89:

(3, 48675), (Start: 34 @48345 has 8 MA's), (57, 48216), (61, 48159),

Gene: JewelBug\_79 Start: 44888, Stop: 44646, Start Num: 21

Candidate Starts for JewelBug\_79:

(4, 45137), (10, 45053), (11, 45029), (Start: 21 @44888 has 24 MA's), (Start: 29 @44864 has 20 MA's), (53, 44768),

Gene: Jordennis\_85 Start: 46792, Stop: 46550, Start Num: 21

Candidate Starts for Jordennis\_85:

(4, 47041), (10, 46957), (11, 46933), (Start: 21 @46792 has 24 MA's), (Start: 29 @46768 has 20 MA's), (53, 46672),

Gene: Journey13\_69 Start: 43468, Stop: 43256, Start Num: 32

Candidate Starts for Journey13\_69:

(Start: 25 @43483 has 3 MA's), (Start: 32 @43468 has 34 MA's), (45, 43414), (51, 43390), (57, 43330), (58, 43297), (60, 43276),

Gene: Jsquared\_90 Start: 48187, Stop: 47969, Start Num: 25

Candidate Starts for Jsquared\_90:

(Start: 25 @48187 has 3 MA's), (Start: 32 @48172 has 34 MA's), (45, 48118), (57, 48034), (58, 48001),

Gene: JuicyJay\_230 Start: 110889, Stop: 110713, Start Num: 41

Candidate Starts for JuicyJay\_230:

(36, 110910), (Start: 41 @110889 has 34 MA's), (50, 110847), (55, 110820),

Gene: Kachowdy\_84 Start: 48146, Stop: 47955, Start Num: 38

Candidate Starts for Kachowdy\_84:

(1, 48635), (2, 48602), (5, 48419), (Start: 38 @48146 has 22 MA's), (52, 48086), (57, 48020),

Gene: Kalah2\_224 Start: 108578, Stop: 108375, Start Num: 37

Candidate Starts for Kalah2\_224:

(Start: 37 @108578 has 3 MA's), (Start: 41 @108563 has 34 MA's), (45, 108539), (50, 108521), (55, 108482), (56, 108446), (57, 108443), (58, 108410), (59, 108395),

Gene: Kalpine\_88 Start: 49294, Stop: 49088, Start Num: 32

Candidate Starts for Kalpine\_88:

(8, 49507), (Start: 25 @49309 has 3 MA's), (Start: 32 @49294 has 34 MA's), (57, 49156),

Gene: KashFlow\_227 Start: 109125, Stop: 108949, Start Num: 41

Candidate Starts for KashFlow\_227:

(36, 109146), (Start: 41 @109125 has 34 MA's), (50, 109083), (55, 109056), (57, 109017),

Gene: Katalie136\_82 Start: 48581, Stop: 48423, Start Num: 44

Candidate Starts for Katalie136\_82:

(Start: 33 @48620 has 18 MA's), (Start: 44 @48581 has 8 MA's), (48, 48572), (57, 48485), (58, 48452),

Gene: Kazan\_88 Start: 46564, Stop: 46322, Start Num: 21  
Candidate Starts for Kazan\_88:  
(4, 46813), (10, 46729), (11, 46705), (Start: 21 @46564 has 24 MA's), (Start: 29 @46540 has 20 MA's),  
(53, 46444), (58, 46360),

Gene: Kerberos\_86 Start: 48324, Stop: 48121, Start Num: 32  
Candidate Starts for Kerberos\_86:  
(Start: 32 @48324 has 34 MA's), (45, 48270), (57, 48186),

Gene: Killigrew\_87 Start: 50774, Stop: 50574, Start Num: 33  
Candidate Starts for Killigrew\_87:  
(Start: 33 @50774 has 18 MA's), (56, 50642),

Gene: Kimona\_86 Start: 47954, Stop: 47757, Start Num: 38  
Candidate Starts for Kimona\_86:  
(22, 48005), (Start: 38 @47954 has 22 MA's), (56, 47828),

Gene: Kipper29\_87 Start: 46567, Stop: 46325, Start Num: 21  
Candidate Starts for Kipper29\_87:  
(4, 46816), (10, 46732), (11, 46708), (Start: 21 @46567 has 24 MA's), (Start: 29 @46543 has 20 MA's),  
(53, 46447), (58, 46363),

Gene: Klein\_242 Start: 109911, Stop: 109735, Start Num: 41  
Candidate Starts for Klein\_242:  
(36, 109932), (Start: 41 @109911 has 34 MA's), (50, 109869), (55, 109842),

Gene: Koko\_90 Start: 47422, Stop: 47180, Start Num: 21  
Candidate Starts for Koko\_90:  
(4, 47671), (10, 47587), (11, 47563), (Start: 21 @47422 has 24 MA's), (Start: 29 @47398 has 20 MA's),  
(53, 47302),

Gene: Kremtemulon\_82 Start: 48636, Stop: 48466, Start Num: 44  
Candidate Starts for Kremtemulon\_82:  
(Start: 44 @48636 has 8 MA's), (57, 48540), (58, 48507),

Gene: L5\_79 Start: 47417, Stop: 47199, Start Num: 25  
Candidate Starts for L5\_79:  
(Start: 25 @47417 has 3 MA's), (Start: 32 @47402 has 34 MA's), (45, 47348), (48, 47342), (57, 47264),

Gene: Lambert1\_86 Start: 47834, Stop: 47634, Start Num: 38  
Candidate Starts for Lambert1\_86:  
(5, 48107), (12, 48023), (Start: 38 @47834 has 22 MA's), (52, 47774), (57, 47708), (58, 47675),

Gene: Larenn\_85 Start: 48736, Stop: 48527, Start Num: 32  
Candidate Starts for Larenn\_85:  
(Start: 25 @48751 has 3 MA's), (Start: 32 @48736 has 34 MA's), (45, 48682), (51, 48658), (57, 48598),  
(58, 48565),

Gene: Lesedi\_88 Start: 50089, Stop: 49889, Start Num: 33  
Candidate Starts for Lesedi\_88:  
(Start: 33 @50089 has 18 MA's), (56, 49957),

Gene: Lilbunny\_88 Start: 46631, Stop: 46422, Start Num: 29

Candidate Starts for Lilbunny\_88:

(Start: 29 @46631 has 20 MA's), (49, 46571), (56, 46496),

Gene: LittleE\_224 Start: 106916, Stop: 106728, Start Num: 41

Candidate Starts for LittleE\_224:

(Start: 41 @106916 has 34 MA's), (45, 106892), (50, 106874), (55, 106835), (58, 106763), (61, 106739),

Gene: Loser\_89 Start: 49477, Stop: 49256, Start Num: 32

Candidate Starts for Loser\_89:

(13, 49621), (17, 49558), (Start: 25 @49492 has 3 MA's), (Start: 32 @49477 has 34 MA's), (58, 49291),

Gene: Lucky2013\_232 Start: 106413, Stop: 106237, Start Num: 41

Candidate Starts for Lucky2013\_232:

(36, 106434), (Start: 41 @106413 has 34 MA's), (50, 106371), (55, 106344),

Gene: Lucyedi\_86 Start: 48370, Stop: 48140, Start Num: 21

Candidate Starts for Lucyedi\_86:

(Start: 21 @48370 has 24 MA's), (Start: 29 @48346 has 20 MA's), (Start: 33 @48334 has 18 MA's), (Start: 37 @48322 has 3 MA's), (47, 48283),

Gene: MajorMajor\_83 Start: 46221, Stop: 46018, Start Num: 32

Candidate Starts for MajorMajor\_83:

(Start: 25 @46236 has 3 MA's), (Start: 32 @46221 has 34 MA's), (45, 46167), (48, 46161), (57, 46083), (58, 46050),

Gene: Malec\_85 Start: 49144, Stop: 48938, Start Num: 32

Candidate Starts for Malec\_85:

(9, 49342), (Start: 25 @49159 has 3 MA's), (Start: 32 @49144 has 34 MA's), (45, 49090), (51, 49066), (57, 49006),

Gene: Marchesa\_86 Start: 48008, Stop: 47817, Start Num: 38

Candidate Starts for Marchesa\_86:

(1, 48497), (2, 48464), (5, 48281), (Start: 38 @48008 has 22 MA's), (52, 47948), (57, 47882),

Gene: Margo\_86 Start: 47859, Stop: 47659, Start Num: 38

Candidate Starts for Margo\_86:

(5, 48132), (12, 48048), (Start: 38 @47859 has 22 MA's), (52, 47799), (57, 47733), (58, 47700),

Gene: Marleymoo\_215 Start: 106507, Stop: 106319, Start Num: 41

Candidate Starts for Marleymoo\_215:

(Start: 41 @106507 has 34 MA's), (45, 106483), (50, 106465), (55, 106426), (58, 106354), (61, 106330),

Gene: McFly\_87 Start: 46903, Stop: 46661, Start Num: 21

Candidate Starts for McFly\_87:

(4, 47152), (10, 47068), (11, 47044), (Start: 21 @46903 has 24 MA's), (Start: 29 @46879 has 20 MA's), (53, 46783), (58, 46699),

Gene: MiaZeal\_245 Start: 108550, Stop: 108374, Start Num: 41

Candidate Starts for MiaZeal\_245:

(36, 108571), (Start: 41 @108550 has 34 MA's), (50, 108508), (55, 108481),

Gene: MiculUcigas\_86 Start: 48271, Stop: 48065, Start Num: 32  
Candidate Starts for MiculUcigas\_86:  
(9, 48469), (Start: 25 @48286 has 3 MA's), (Start: 32 @48271 has 34 MA's), (45, 48217), (57, 48133),

Gene: Minerva\_233 Start: 107908, Stop: 107726, Start Num: 41  
Candidate Starts for Minerva\_233:  
(Start: 37 @107923 has 3 MA's), (Start: 41 @107908 has 34 MA's), (50, 107872), (55, 107833), (58, 107761),

Gene: MissWhite\_79 Start: 45139, Stop: 44933, Start Num: 32  
Candidate Starts for MissWhite\_79:  
(Start: 25 @45154 has 3 MA's), (Start: 32 @45139 has 34 MA's), (45, 45085), (51, 45061), (57, 45001),

Gene: Morpher26\_82 Start: 48602, Stop: 48444, Start Num: 44  
Candidate Starts for Morpher26\_82:  
(Start: 33 @48641 has 18 MA's), (Start: 44 @48602 has 8 MA's), (48, 48593), (57, 48506), (58, 48473),

Gene: Mulciber\_88 Start: 48150, Stop: 47953, Start Num: 34  
Candidate Starts for Mulciber\_88:  
(Start: 34 @48150 has 8 MA's), (57, 48021), (61, 47964),

Gene: NaSiaTalie\_87 Start: 48558, Stop: 48352, Start Num: 32  
Candidate Starts for NaSiaTalie\_87:  
(9, 48756), (Start: 25 @48573 has 3 MA's), (Start: 32 @48558 has 34 MA's), (45, 48504), (57, 48420),

Gene: Neeharika16\_86 Start: 46630, Stop: 46412, Start Num: 29  
Candidate Starts for Neeharika16\_86:  
(4, 46903), (10, 46819), (11, 46795), (Start: 21 @46654 has 24 MA's), (Start: 29 @46630 has 20 MA's), (53, 46534), (58, 46450),

Gene: Nekros\_235 Start: 109893, Stop: 109717, Start Num: 41  
Candidate Starts for Nekros\_235:  
(36, 109914), (Start: 41 @109893 has 34 MA's), (50, 109851), (55, 109824),

Gene: Newrala\_86 Start: 47000, Stop: 46758, Start Num: 21  
Candidate Starts for Newrala\_86:  
(4, 47249), (10, 47165), (11, 47141), (Start: 21 @47000 has 24 MA's), (Start: 29 @46976 has 20 MA's), (53, 46880),

Gene: NihilNomen\_236 Start: 108748, Stop: 108545, Start Num: 37  
Candidate Starts for NihilNomen\_236:  
(Start: 37 @108748 has 3 MA's), (Start: 41 @108733 has 34 MA's), (45, 108709), (50, 108691), (55, 108652), (58, 108580), (61, 108556),

Gene: Noella\_87 Start: 47835, Stop: 47635, Start Num: 38  
Candidate Starts for Noella\_87:  
(12, 48024), (Start: 38 @47835 has 22 MA's), (52, 47775), (57, 47709), (58, 47676),

Gene: Norbert\_82 Start: 47832, Stop: 47632, Start Num: 38  
Candidate Starts for Norbert\_82:  
(12, 48021), (Start: 38 @47832 has 22 MA's), (52, 47772), (57, 47706), (58, 47673),

Gene: Odette\_234 Start: 110012, Stop: 109836, Start Num: 41

Candidate Starts for Odette\_234:

(36, 110033), (Start: 41 @110012 has 34 MA's), (50, 109970), (55, 109943),

Gene: PainterBoy\_85 Start: 48081, Stop: 47851, Start Num: 21

Candidate Starts for PainterBoy\_85:

(Start: 21 @48081 has 24 MA's), (Start: 29 @48057 has 20 MA's), (Start: 33 @48045 has 18 MA's),  
(Start: 37 @48033 has 3 MA's), (47, 47994),

Gene: Panamaxus\_82 Start: 47834, Stop: 47634, Start Num: 38

Candidate Starts for Panamaxus\_82:

(12, 48023), (Start: 38 @47834 has 22 MA's), (52, 47774), (57, 47708), (58, 47675),

Gene: Perplexer\_82 Start: 48582, Stop: 48424, Start Num: 44

Candidate Starts for Perplexer\_82:

(Start: 33 @48621 has 18 MA's), (Start: 44 @48582 has 8 MA's), (48, 48573), (57, 48486), (58, 48453),

Gene: PetiteSangsue\_82 Start: 48585, Stop: 48427, Start Num: 44

Candidate Starts for PetiteSangsue\_82:

(Start: 33 @48624 has 18 MA's), (Start: 44 @48585 has 8 MA's), (48, 48576), (57, 48489), (58, 48456),

Gene: Phantastic\_87 Start: 47341, Stop: 47150, Start Num: 38

Candidate Starts for Phantastic\_87:

(6, 47605), (Start: 38 @47341 has 22 MA's), (40, 47335), (52, 47281), (57, 47215),

Gene: PherrisBueller\_88 Start: 48812, Stop: 48612, Start Num: 33

Candidate Starts for PherrisBueller\_88:

(Start: 33 @48812 has 18 MA's), (56, 48680),

Gene: Phlei\_72 Start: 46175, Stop: 45936, Start Num: 27

Candidate Starts for Phlei\_72:

(27, 46175), (56, 46019),

Gene: Phoebus\_233 Start: 112122, Stop: 111946, Start Num: 41

Candidate Starts for Phoebus\_233:

(36, 112143), (Start: 41 @112122 has 34 MA's), (50, 112080), (55, 112053),

Gene: Piro94\_85 Start: 48506, Stop: 48300, Start Num: 32

Candidate Starts for Piro94\_85:

(9, 48704), (Start: 25 @48521 has 3 MA's), (Start: 32 @48506 has 34 MA's), (57, 48368),

Gene: Pmask\_86 Start: 47201, Stop: 46959, Start Num: 21

Candidate Starts for Pmask\_86:

(4, 47450), (10, 47366), (11, 47342), (Start: 21 @47201 has 24 MA's), (Start: 29 @47177 has 20 MA's),  
(53, 47081),

Gene: Pocahontas\_85 Start: 47830, Stop: 47630, Start Num: 38

Candidate Starts for Pocahontas\_85:

(12, 48019), (Start: 38 @47830 has 22 MA's), (52, 47770), (57, 47704), (58, 47671),

Gene: Polyphemus\_79 Start: 44948, Stop: 44730, Start Num: 29

Candidate Starts for Polyphemus\_79:

(4, 45221), (10, 45137), (11, 45113), (Start: 21 @44972 has 24 MA's), (Start: 29 @44948 has 20 MA's),  
(53, 44852), (58, 44768),

Gene: Pomar16\_86 Start: 48397, Stop: 48194, Start Num: 32

Candidate Starts for Pomar16\_86:

(Start: 32 @48397 has 34 MA's), (45, 48343), (57, 48259),

Gene: Popcicle\_86 Start: 47830, Stop: 47630, Start Num: 38

Candidate Starts for Popcicle\_86:

(12, 48019), (Start: 38 @47830 has 22 MA's), (52, 47770), (57, 47704), (58, 47671),

Gene: Porcelain\_236 Start: 107360, Stop: 107184, Start Num: 41

Candidate Starts for Porcelain\_236:

(36, 107381), (Start: 41 @107360 has 34 MA's), (50, 107318), (55, 107291),

Gene: Priamo\_88 Start: 46420, Stop: 46202, Start Num: 29

Candidate Starts for Priamo\_88:

(4, 46693), (10, 46609), (11, 46585), (Start: 21 @46444 has 24 MA's), (Start: 29 @46420 has 20 MA's), (53, 46324), (58, 46240),

Gene: QuinnKiro\_85 Start: 47833, Stop: 47633, Start Num: 38

Candidate Starts for QuinnKiro\_85:

(5, 48106), (12, 48022), (Start: 38 @47833 has 22 MA's), (52, 47773), (57, 47707), (58, 47674),

Gene: Quokka\_88 Start: 47930, Stop: 47727, Start Num: 32

Candidate Starts for Quokka\_88:

(Start: 25 @47945 has 3 MA's), (Start: 32 @47930 has 34 MA's), (45, 47876), (48, 47870), (57, 47792), (58, 47759),

Gene: Rearden\_235 Start: 108013, Stop: 107825, Start Num: 41

Candidate Starts for Rearden\_235:

(Start: 41 @108013 has 34 MA's), (45, 107989), (50, 107971), (55, 107932), (58, 107860), (61, 107836),

Gene: RedRock\_86 Start: 49130, Stop: 48909, Start Num: 32

Candidate Starts for RedRock\_86:

(Start: 25 @49145 has 3 MA's), (Start: 32 @49130 has 34 MA's), (58, 48944),

Gene: Redno2\_226 Start: 106231, Stop: 106055, Start Num: 41

Candidate Starts for Redno2\_226:

(36, 106252), (Start: 41 @106231 has 34 MA's), (50, 106189), (55, 106162),

Gene: ResDef\_84 Start: 47836, Stop: 47636, Start Num: 38

Candidate Starts for ResDef\_84:

(12, 48025), (Start: 38 @47836 has 22 MA's), (52, 47776), (57, 47710), (58, 47677),

Gene: Rifter\_89 Start: 46179, Stop: 45970, Start Num: 29

Candidate Starts for Rifter\_89:

(Start: 29 @46179 has 20 MA's), (49, 46119),

Gene: Rockstar\_75 Start: 45031, Stop: 44831, Start Num: 38

Candidate Starts for Rockstar\_75:

(6, 45295), (Start: 38 @45031 has 22 MA's), (40, 45025), (52, 44971), (57, 44905),

Gene: Roksolana\_89 Start: 46895, Stop: 46686, Start Num: 29

Candidate Starts for Roksolana\_89:  
(Start: 29 @46895 has 20 MA's), (49, 46835),

Gene: Salz\_85 Start: 46959, Stop: 46762, Start Num: 34  
Candidate Starts for Salz\_85:  
(Start: 34 @46959 has 8 MA's), (57, 46830), (61, 46773),

Gene: Schatzie\_227 Start: 109153, Stop: 108977, Start Num: 41  
Candidate Starts for Schatzie\_227:  
(36, 109174), (Start: 41 @109153 has 34 MA's), (50, 109111), (55, 109084),

Gene: Scout\_86 Start: 47357, Stop: 47166, Start Num: 38  
Candidate Starts for Scout\_86:  
(1, 47846), (2, 47813), (5, 47630), (Start: 38 @47357 has 22 MA's), (52, 47297), (57, 47231),

Gene: Serenity\_89 Start: 47970, Stop: 47767, Start Num: 32  
Candidate Starts for Serenity\_89:  
(19, 48045), (Start: 25 @47985 has 3 MA's), (Start: 32 @47970 has 34 MA's), (45, 47916), (48, 47910),  
(57, 47832), (58, 47799),

Gene: Shaboozey\_232 Start: 106458, Stop: 106282, Start Num: 41  
Candidate Starts for Shaboozey\_232:  
(36, 106479), (Start: 41 @106458 has 34 MA's), (50, 106416), (55, 106389),

Gene: Sham4\_86 Start: 47045, Stop: 46848, Start Num: 34  
Candidate Starts for Sham4\_86:  
(Start: 34 @47045 has 8 MA's), (57, 46916), (61, 46859),

Gene: Sheen\_83 Start: 50900, Stop: 50715, Start Num: 41  
Candidate Starts for Sheen\_83:  
(Start: 41 @50900 has 34 MA's), (50, 50858), (56, 50783),

Gene: Sknot\_86 Start: 48365, Stop: 48159, Start Num: 32  
Candidate Starts for Sknot\_86:  
(9, 48563), (Start: 25 @48380 has 3 MA's), (Start: 32 @48365 has 34 MA's), (45, 48311), (57, 48227),

Gene: SmellyB\_87 Start: 46558, Stop: 46316, Start Num: 21  
Candidate Starts for SmellyB\_87:  
(4, 46807), (10, 46723), (11, 46699), (Start: 21 @46558 has 24 MA's), (Start: 29 @46534 has 20 MA's),  
(53, 46438), (58, 46354),

Gene: SororFago\_85 Start: 48106, Stop: 47903, Start Num: 32  
Candidate Starts for SororFago\_85:  
(Start: 25 @48121 has 3 MA's), (Start: 32 @48106 has 34 MA's), (45, 48055),

Gene: Squint\_233 Start: 108166, Stop: 107990, Start Num: 41  
Candidate Starts for Squint\_233:  
(36, 108187), (Start: 41 @108166 has 34 MA's), (50, 108124), (55, 108097),

Gene: StarStuff\_86 Start: 48359, Stop: 48156, Start Num: 32  
Candidate Starts for StarStuff\_86:  
(Start: 32 @48359 has 34 MA's), (45, 48305), (57, 48221),

Gene: StrongArm\_88 Start: 50693, Stop: 50899, Start Num: 33  
Candidate Starts for StrongArm\_88:  
(Start: 33 @50693 has 18 MA's), (56, 50831),

Gene: SuperAwesome\_87 Start: 47240, Stop: 46998, Start Num: 21  
Candidate Starts for SuperAwesome\_87:  
(4, 47489), (10, 47405), (11, 47381), (Start: 21 @47240 has 24 MA's), (Start: 29 @47216 has 20 MA's),  
(53, 47120),

Gene: SuperCallie99\_83 Start: 46597, Stop: 46379, Start Num: 29  
Candidate Starts for SuperCallie99\_83:  
(4, 46870), (10, 46786), (11, 46762), (Start: 21 @46621 has 24 MA's), (Start: 29 @46597 has 20 MA's),  
(53, 46501), (58, 46417),

Gene: Superphikiman\_233 Start: 107294, Stop: 107106, Start Num: 41  
Candidate Starts for Superphikiman\_233:  
(36, 107315), (Start: 41 @107294 has 34 MA's), (50, 107252), (55, 107213), (58, 107141), (61,  
107117),

Gene: Temprado\_90 Start: 47008, Stop: 46790, Start Num: 29  
Candidate Starts for Temprado\_90:  
(4, 47281), (10, 47197), (11, 47173), (Start: 21 @47032 has 24 MA's), (Start: 29 @47008 has 20 MA's),  
(53, 46912),

Gene: Terrific\_87 Start: 48339, Stop: 48133, Start Num: 32  
Candidate Starts for Terrific\_87:  
(9, 48537), (Start: 25 @48354 has 3 MA's), (Start: 32 @48339 has 34 MA's), (45, 48285), (57, 48201),

Gene: Texage\_84 Start: 47834, Stop: 47634, Start Num: 38  
Candidate Starts for Texage\_84:  
(12, 48023), (Start: 38 @47834 has 22 MA's), (52, 47774), (57, 47708), (58, 47675),

Gene: Thibault\_209 Start: 104098, Stop: 103910, Start Num: 41  
Candidate Starts for Thibault\_209:  
(Start: 41 @104098 has 34 MA's), (45, 104074), (50, 104056), (55, 104017), (58, 103945), (61,  
103921),

Gene: ThreeRngTarjay\_234 Start: 111335, Stop: 111162, Start Num: 41  
Candidate Starts for ThreeRngTarjay\_234:  
(36, 111356), (Start: 41 @111335 has 34 MA's), (50, 111293), (55, 111266),

Gene: TopsytheTRex\_85 Start: 47972, Stop: 47769, Start Num: 32  
Candidate Starts for TopsytheTRex\_85:  
(19, 48047), (Start: 25 @47987 has 3 MA's), (Start: 32 @47972 has 34 MA's), (45, 47918), (48, 47912),  
(57, 47834), (58, 47801),

Gene: Todacoro\_86 Start: 47833, Stop: 47633, Start Num: 38  
Candidate Starts for Todacoro\_86:  
(5, 48106), (12, 48022), (Start: 38 @47833 has 22 MA's), (52, 47773), (57, 47707), (58, 47674),

Gene: Tomathan\_86 Start: 48437, Stop: 48234, Start Num: 32  
Candidate Starts for Tomathan\_86:  
(Start: 32 @48437 has 34 MA's), (45, 48383), (57, 48299),



Gene: ToneTone\_86 Start: 46559, Stop: 46350, Start Num: 29  
Candidate Starts for ToneTone\_86:  
(Start: 29 @46559 has 20 MA's), (49, 46499), (56, 46424),

Gene: Toro\_84 Start: 51563, Stop: 51378, Start Num: 41  
Candidate Starts for Toro\_84:  
(Start: 41 @51563 has 34 MA's), (50, 51521), (56, 51446),

Gene: Travvers\_86 Start: 48354, Stop: 48151, Start Num: 32  
Candidate Starts for Travvers\_86:  
(Start: 32 @48354 has 34 MA's), (45, 48300), (57, 48216),

Gene: Tucker\_89 Start: 46762, Stop: 46553, Start Num: 29  
Candidate Starts for Tucker\_89:  
(Start: 29 @46762 has 20 MA's), (49, 46702), (56, 46627),

Gene: Turj99\_86 Start: 50763, Stop: 50560, Start Num: 35  
Candidate Starts for Turj99\_86:  
(Start: 35 @50763 has 1 MA's), (56, 50628),

Gene: Updawg\_87 Start: 48553, Stop: 48347, Start Num: 32  
Candidate Starts for Updawg\_87:  
(9, 48751), (Start: 25 @48568 has 3 MA's), (Start: 32 @48553 has 34 MA's), (45, 48499), (57, 48415),

Gene: VC3\_84 Start: 47253, Stop: 47056, Start Num: 32  
Candidate Starts for VC3\_84:  
(Start: 32 @47253 has 34 MA's), (45, 47199), (57, 47121),

Gene: Veracruz\_83 Start: 47834, Stop: 47634, Start Num: 38  
Candidate Starts for Veracruz\_83:  
(5, 48107), (12, 48023), (Start: 38 @47834 has 22 MA's), (52, 47774), (57, 47708), (58, 47675),

Gene: VohminGhazi\_87 Start: 46559, Stop: 46317, Start Num: 21  
Candidate Starts for VohminGhazi\_87:  
(4, 46808), (10, 46724), (11, 46700), (Start: 21 @46559 has 24 MA's), (Start: 29 @46535 has 20 MA's),  
(53, 46439), (58, 46355),

Gene: Wanda\_234 Start: 107541, Stop: 107365, Start Num: 41  
Candidate Starts for Wanda\_234:  
(36, 107562), (Start: 41 @107541 has 34 MA's), (50, 107499), (55, 107472),

Gene: WideWale\_87 Start: 48553, Stop: 48347, Start Num: 32  
Candidate Starts for WideWale\_87:  
(9, 48751), (Start: 25 @48568 has 3 MA's), (Start: 32 @48553 has 34 MA's), (45, 48499), (57, 48415),

Gene: Wiks\_88 Start: 46663, Stop: 46421, Start Num: 21  
Candidate Starts for Wiks\_88:  
(4, 46912), (10, 46828), (11, 46804), (Start: 21 @46663 has 24 MA's), (Start: 29 @46639 has 20 MA's),  
(53, 46543),

Gene: Wile\_81 Start: 48650, Stop: 48453, Start Num: 33  
Candidate Starts for Wile\_81:

(Start: 33 @48650 has 18 MA's), (Start: 44 @48611 has 8 MA's), (48, 48602), (57, 48515), (58, 48482),

Gene: Wizard007\_82 Start: 48376, Stop: 48179, Start Num: 33

Candidate Starts for Wizard007\_82:

(Start: 33 @48376 has 18 MA's), (Start: 44 @48337 has 8 MA's), (48, 48328), (57, 48241), (58, 48208),

Gene: Yeet\_229 Start: 109251, Stop: 109075, Start Num: 41

Candidate Starts for Yeet\_229:

(36, 109272), (Start: 41 @109251 has 34 MA's), (50, 109209), (55, 109182),

Gene: Yokurt\_88 Start: 46639, Stop: 46421, Start Num: 29

Candidate Starts for Yokurt\_88:

(4, 46912), (10, 46828), (11, 46804), (Start: 21 @46663 has 24 MA's), (Start: 29 @46639 has 20 MA's), (53, 46543),

Gene: Zaka\_89 Start: 46639, Stop: 46421, Start Num: 29

Candidate Starts for Zaka\_89:

(4, 46912), (10, 46828), (11, 46804), (Start: 21 @46663 has 24 MA's), (Start: 29 @46639 has 20 MA's), (53, 46543),

Gene: Zeeculate\_91 Start: 53471, Stop: 53271, Start Num: 33

Candidate Starts for Zeeculate\_91:

(Start: 33 @53471 has 18 MA's), (56, 53339),

Gene: Zelink\_228 Start: 108839, Stop: 108663, Start Num: 41

Candidate Starts for Zelink\_228:

(36, 108860), (Start: 41 @108839 has 34 MA's), (50, 108797), (55, 108770),

Gene: Zulu\_90 Start: 47040, Stop: 46798, Start Num: 21

Candidate Starts for Zulu\_90:

(4, 47289), (10, 47205), (11, 47181), (Start: 21 @47040 has 24 MA's), (Start: 29 @47016 has 20 MA's), (53, 46920), (58, 46836),