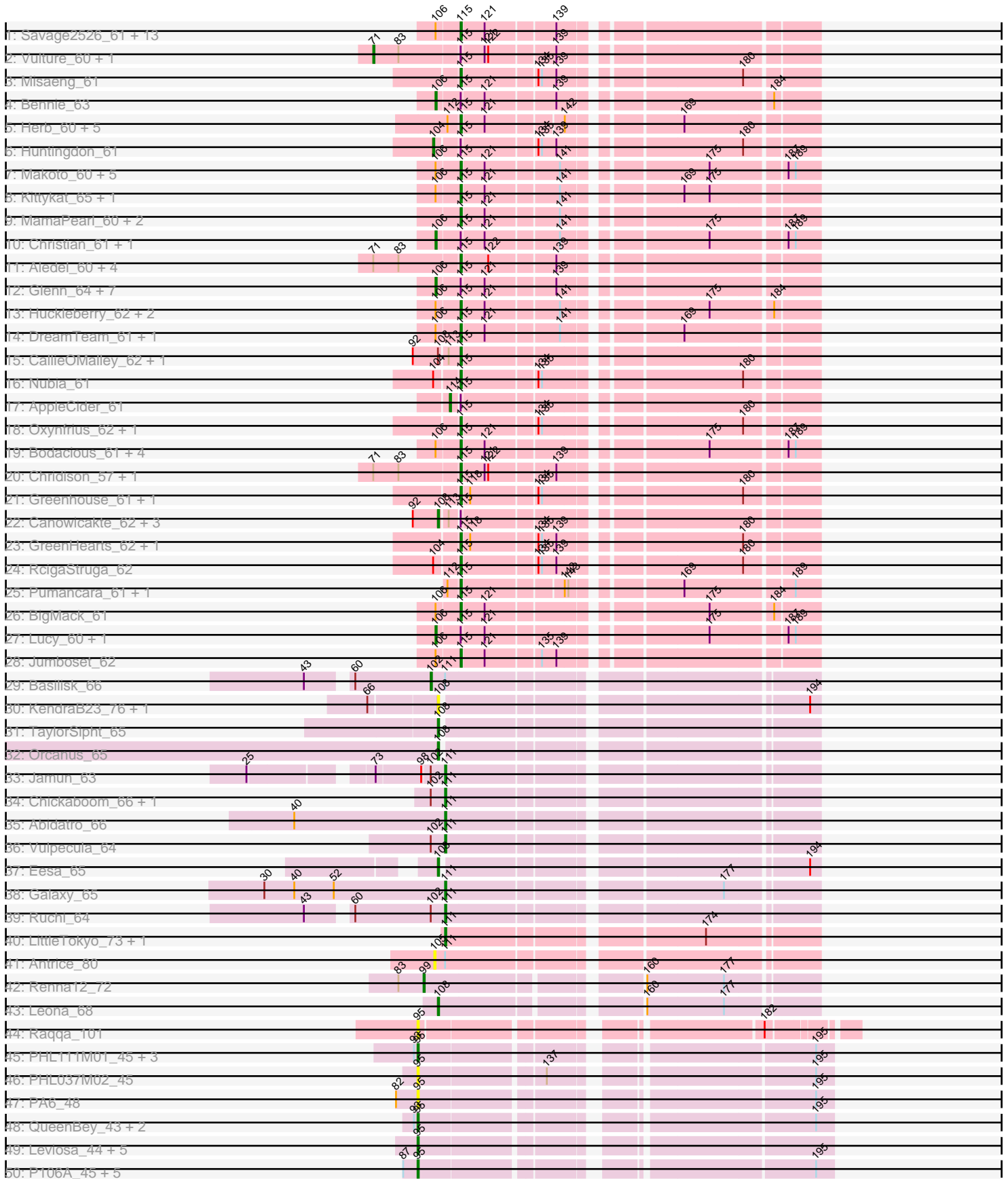
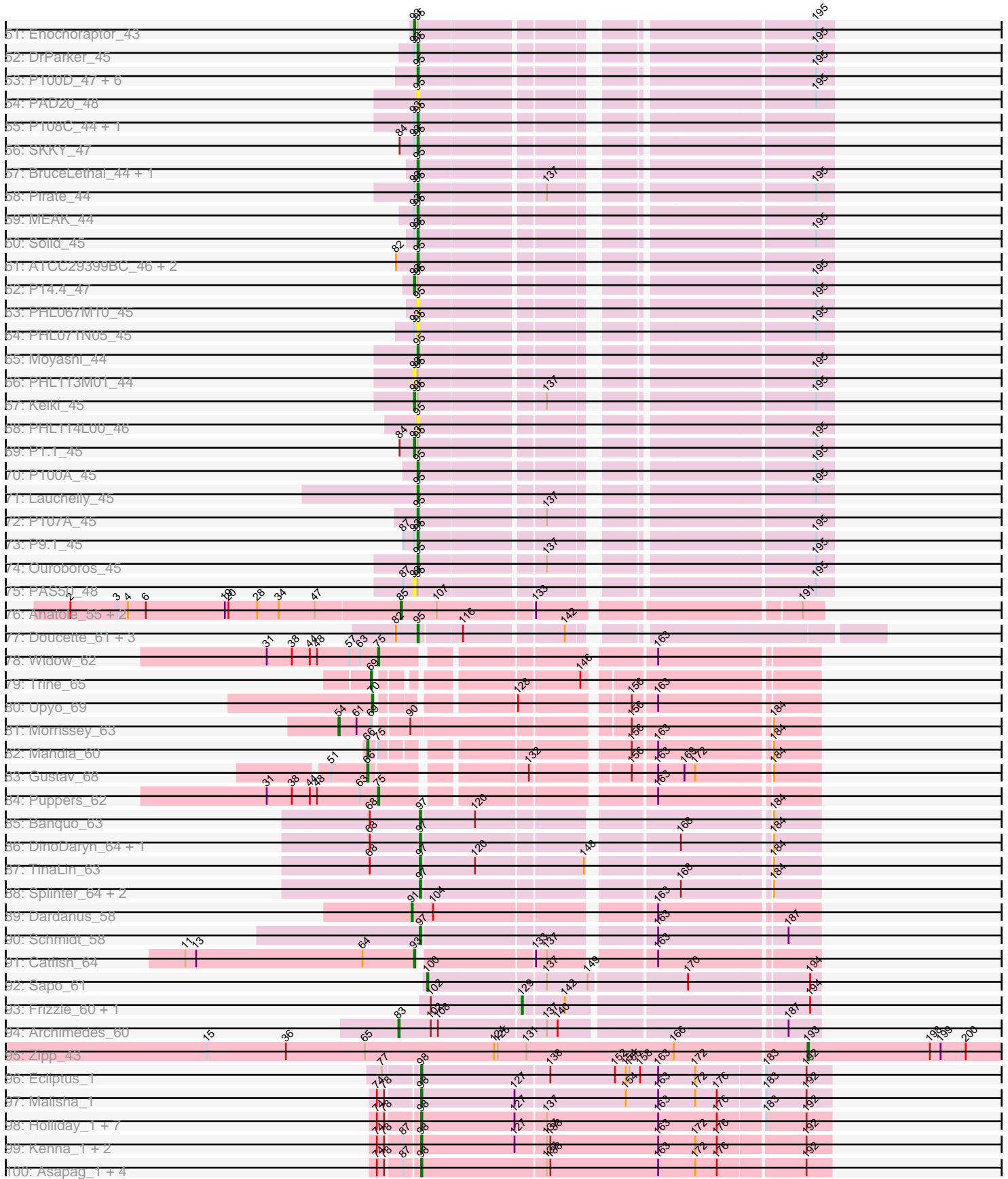


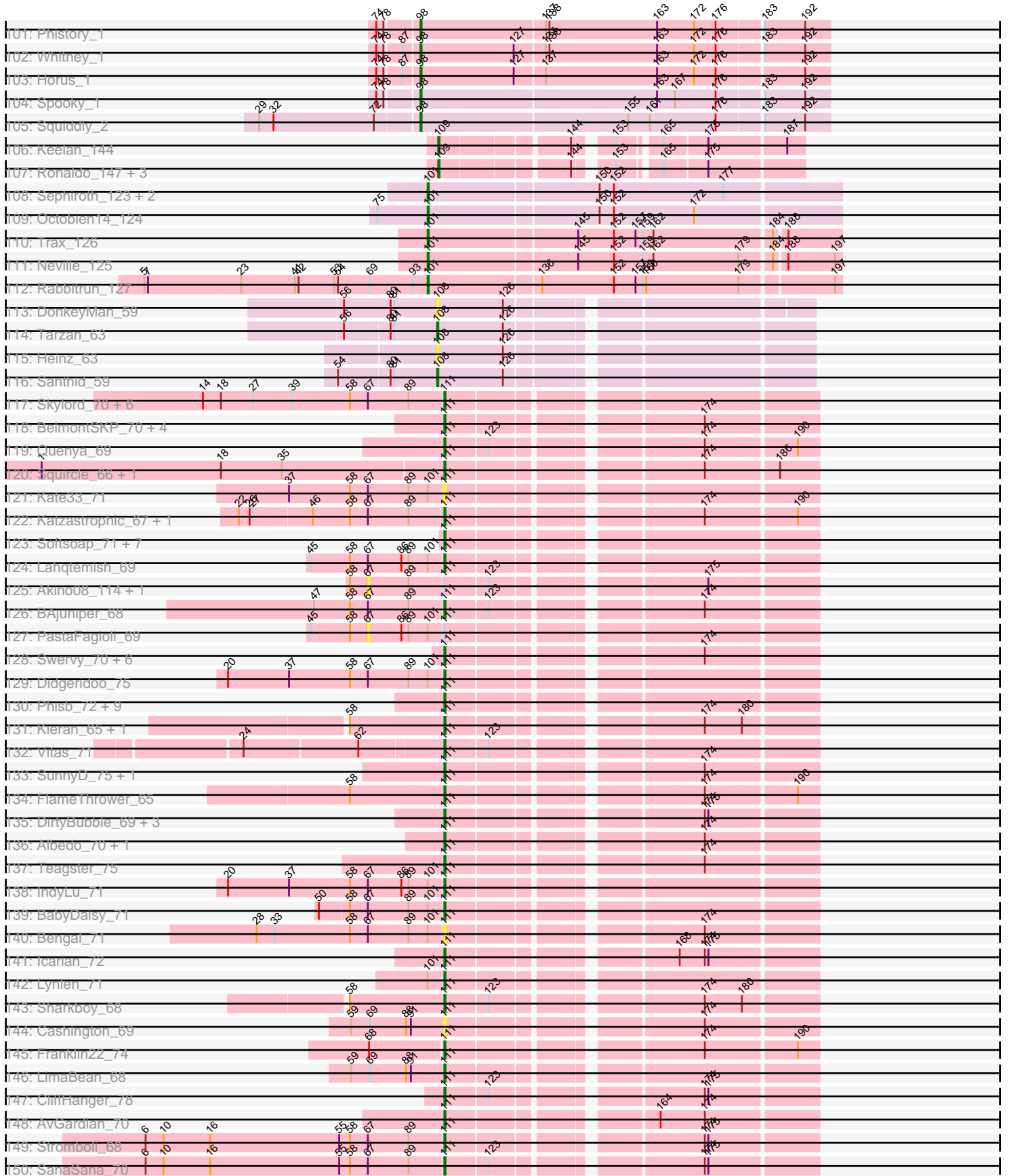
Pham 215724



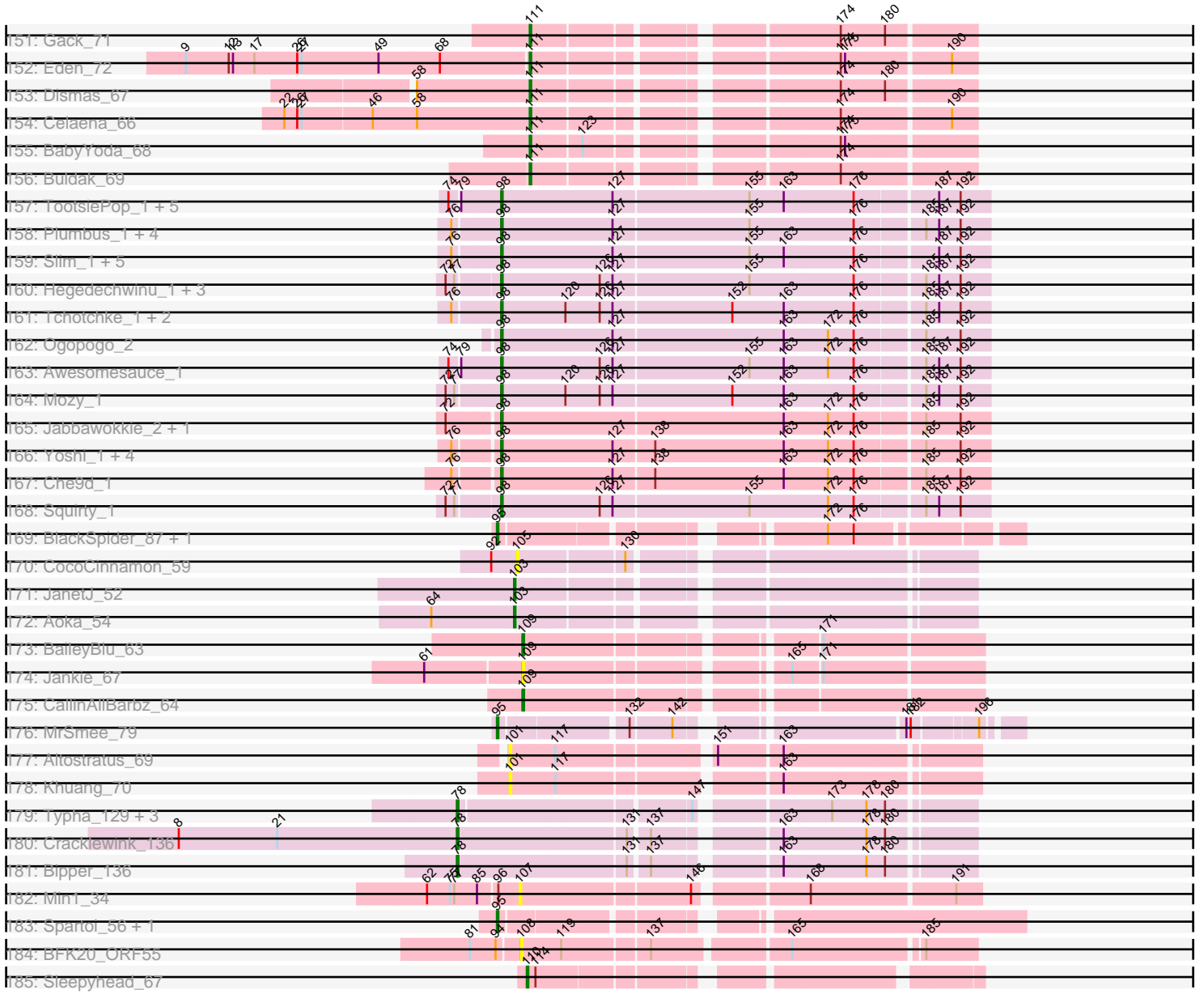
Pham 215724



Pham 215724



Pham 215724



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 215724 Report

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

Pham number 215724 has 366 members, 54 are drafts.

Phages represented in each track:

- Track 1 : Savage2526\_61, Immaculata\_62, TattModd\_61, Wawa\_62, Korra\_62, Cholula\_62, BrotherBLo\_62, Potatoes\_62, Rozby\_60, Riverdale\_61, Carpal\_61, Zorro\_62, Kalizoi\_62, Beethoven\_63
- Track 2 : Vulture\_60, HunterDalle\_60
- Track 3 : Misaeng\_61
- Track 4 : Bennie\_63
- Track 5 : Herb\_60, Sergei\_60, Maria1952\_59, Daiboju\_60, KingBob\_60, Temper16\_60
- Track 6 : Huntingdon\_61
- Track 7 : Makoto\_60, OurGirlNessie\_59, Lennox\_61, WonderBoy\_59, Pterodactyl\_61, ChewChew\_61
- Track 8 : Kittykat\_65, Preamble\_64
- Track 9 : MamaPearl\_60, Urla\_62, EstebanJulior\_60
- Track 10 : Christian\_61, PitaDog\_61
- Track 11 : Aledel\_60, Riovina\_60, Eunoia\_62, OMalley\_60, AustinPowers\_60
- Track 12 : Glenn\_64, Vallejo\_62, RAP15\_63, Scuttle\_61, MrGloopy\_62, MeganNoll\_63, Dino\_62, Fluke\_62
- Track 13 : Huckleberry\_62, HeadNerd\_62, Moki\_62
- Track 14 : DreamTeam\_61, Gisselle\_61
- Track 15 : CallieOMalley\_62, Litotes\_62
- Track 16 : Nubia\_61
- Track 17 : AppleCider\_61
- Track 18 : Oxynfrius\_62, Joann\_63
- Track 19 : Bodacious\_61, CristinaYang\_61, Lasagna\_59, Nancia\_61, LilStuart\_60
- Track 20 : Chridison\_57, Supakev\_60
- Track 21 : Greenhouse\_61, Albanese\_61
- Track 22 : Canowicakte\_62, Suppi\_62, PartyCup\_66, Wayne\_64
- Track 23 : GreenHearts\_62, Lakshmi\_61
- Track 24 : RcigaStruga\_62
- Track 25 : Pumancara\_61, PinkFriday\_61
- Track 26 : BigMack\_61
- Track 27 : Lucy\_60, DrRobert\_59
- Track 28 : Jumboset\_62
- Track 29 : Basilisk\_66
- Track 30 : KendraB23\_76, Toad24\_67
- Track 31 : TaylorSipht\_65
- Track 32 : Orcanus\_65

- Track 33 : Jamun\_63
- Track 34 : Chickaboom\_66, Brynnie\_64
- Track 35 : Abidatro\_66
- Track 36 : Vulpecula\_64
- Track 37 : Eesa\_65
- Track 38 : Galaxy\_65
- Track 39 : Ruchi\_64
- Track 40 : LittleTokyo\_73, Cygnet\_77
- Track 41 : Antrice\_80
- Track 42 : Renna12\_72
- Track 43 : Leona\_68
- Track 44 : Raqqa\_101
- Track 45 : PHL111M01\_45, Cota\_45, Wizzo\_44, Supernova\_45
- Track 46 : PHL037M02\_45
- Track 47 : PA6\_48
- Track 48 : QueenBey\_43, Attacne\_45, Stormborn\_46
- Track 49 : Leviosa\_44, Rileysaurus\_43, PHL060L00\_46, PHL112N00\_46, Aquarius\_48, P101A\_47
- Track 50 : P106A\_45, P100.1\_47, P106C\_46, P106M\_45, P106L\_45, P106I\_46
- Track 51 : Enochoraptor\_43
- Track 52 : DrParker\_45
- Track 53 : P100D\_47, Kubed\_44, P104B\_44, P104A\_45, Procrass1\_45, LilBandit\_45, Enoki\_45
- Track 54 : PAD20\_48
- Track 55 : P108C\_44, P105\_45
- Track 56 : SKKY\_47
- Track 57 : BruceLethal\_44, PHL010M04\_45
- Track 58 : Pirate\_44
- Track 59 : MEAK\_44
- Track 60 : Solid\_45
- Track 61 : ATCC29399BC\_46, ATCC29399BT\_46, P107C\_44
- Track 62 : P14.4\_47
- Track 63 : PHL067M10\_45
- Track 64 : PHL071N05\_45
- Track 65 : Moyashi\_44
- Track 66 : PHL113M01\_44
- Track 67 : Keiki\_45
- Track 68 : PHL114L00\_46
- Track 69 : P1.1\_45
- Track 70 : P100A\_45
- Track 71 : Lauchelly\_45
- Track 72 : P107A\_45
- Track 73 : P9.1\_45
- Track 74 : Ouroboros\_45
- Track 75 : PAS50\_48
- Track 76 : Anatole\_55, E1\_55, B3\_57
- Track 77 : Doucette\_61, E6\_60, G4\_69, B22\_61
- Track 78 : Widow\_62
- Track 79 : Trine\_65
- Track 80 : Upyo\_69
- Track 81 : Morrissey\_63
- Track 82 : Mahdia\_60
- Track 83 : Gustav\_68

- Track 84 : Puppies\_62
- Track 85 : Banquo\_63
- Track 86 : DinoDaryn\_64, Huffy\_64
- Track 87 : TinaLin\_63
- Track 88 : Splinter\_64, TZGordon\_65, Vendetta\_64
- Track 89 : Dardanus\_58
- Track 90 : Schmidt\_58
- Track 91 : Catfish\_64
- Track 92 : Sapo\_61
- Track 93 : Frizzle\_60, Ghobes\_59
- Track 94 : Archimedes\_60
- Track 95 : Zipp\_43
- Track 96 : Ecliptus\_1
- Track 97 : Malisha\_1
- Track 98 : Holliday\_1, LitninMcQueen\_1, BotCity\_1, Kamaru\_1, Budski\_1, CheeseTouch\_1, Phabuloso\_1, ODay\_1
- Track 99 : Kenna\_1, Periwinkle\_1, Lutum\_1
- Track 100 : Asapag\_1, Getalong\_1, BENtherdunthat\_1, Leroy\_1, Frickyeah\_1
- Track 101 : Phistory\_1
- Track 102 : Whitney\_1
- Track 103 : Horus\_1
- Track 104 : Spooky\_1
- Track 105 : Squiddly\_2
- Track 106 : Keelan\_144
- Track 107 : Ronaldo\_147, Guey18\_149, Fryberger\_144, Volt\_150
- Track 108 : Sephiroth\_123, Kudrefre\_128, Syleon\_128
- Track 109 : Octobien14\_124
- Track 110 : Trax\_126
- Track 111 : Neville\_125
- Track 112 : Rabbitrun\_127
- Track 113 : DonkeyMan\_59
- Track 114 : Tarzan\_63
- Track 115 : Heinz\_63
- Track 116 : Santhid\_59
- Track 117 : Skylord\_70, Clayda5\_72, Armstrong\_70, Rollins\_70, Bernstein\_70, Coltrane\_70, Brahms\_70
- Track 118 : BelmontSKP\_70, PhigPhack\_73, AnnaLie\_70, Arroyo\_71, SansAfet\_72
- Track 119 : Quenya\_69
- Track 120 : Squirrel\_66, Olliecat\_66
- Track 121 : Kate33\_71
- Track 122 : Katzastrophic\_67, Bachaco\_66
- Track 123 : Softsoap\_71, BubbaBear\_68, DickRichards\_68, Doobus\_68, Albright\_69, Milomuff\_73, Solea\_73, Avocadoman\_69
- Track 124 : Lahqtemish\_69
- Track 125 : Akino08\_114, Loviatar\_114
- Track 126 : BAjuniper\_68
- Track 127 : PastaFagioli\_69
- Track 128 : Swervy\_70, Eula\_69, TukTuk\_70, Jovita\_68, Slay\_70, Finalfrontier\_69, Nicky22\_69
- Track 129 : Didgeridoo\_75
- Track 130 : Phisb\_72, CupcakePrincess\_71, Johnathan\_70, SarBear\_72, Jabb\_71, QMacho\_72, CroZenni\_71, Burritobowl\_72, MsUbiquitous\_71, Abigail\_70
- Track 131 : Kieran\_65, Rona\_66

- Track 132 : Vitas\_71
- Track 133 : SunnyD\_75, Shayna\_75
- Track 134 : FlameThrower\_65
- Track 135 : DirtyBubble\_69, Elva\_73, Stoor\_69, WalkingDead\_71
- Track 136 : Albedo\_70, Kenzers\_69
- Track 137 : Teagster\_75
- Track 138 : IndyLu\_71
- Track 139 : BabyDaisy\_71
- Track 140 : Bengal\_71
- Track 141 : Icarian\_72
- Track 142 : Lynlen\_71
- Track 143 : Sharkboy\_68
- Track 144 : Cashington\_69
- Track 145 : Franklin22\_74
- Track 146 : LimaBean\_68
- Track 147 : CliffHanger\_78
- Track 148 : AvGardian\_70
- Track 149 : Stromboli\_68
- Track 150 : SanaSana\_70
- Track 151 : Gack\_71
- Track 152 : Eden\_72
- Track 153 : Dismas\_67
- Track 154 : Celaena\_66
- Track 155 : BabyYoda\_68
- Track 156 : Buldak\_69
- Track 157 : TootsiePop\_1, Aloeri\_1, DocMcStuffins\_1, Piper2020\_1, Misha28\_1, ChickenDinner\_1
- Track 158 : Plumbus\_1, MulchExplorer\_1, Job42\_1, Kimberlium\_1, Juice456\_1
- Track 159 : Slim\_1, Emmaloid\_1, Totinger\_1, Rialto\_1, LittleShirley\_1, Mova\_1
- Track 160 : Hegedechwinu\_1, Frankie\_1, Brushbloom\_1, Flathead\_1
- Track 161 : Tchotchke\_1, Girafales\_1, Quico\_1
- Track 162 : Ogopogo\_2
- Track 163 : Awesomesauce\_1
- Track 164 : Mozy\_1
- Track 165 : Jabbawokkie\_2, Zapner\_2
- Track 166 : Yoshi\_1, Avani\_1, Demsculpinboyz\_1, Soul22\_1, SilverChicken\_1
- Track 167 : Che9d\_1
- Track 168 : Squirty\_1
- Track 169 : BlackSpider\_87, Zucker\_98
- Track 170 : CocoCinnamon\_59
- Track 171 : JanetJ\_52
- Track 172 : Aoka\_54
- Track 173 : BaileyBlu\_63
- Track 174 : Jankie\_67
- Track 175 : CallinAllBarbz\_64
- Track 176 : MrSmee\_79
- Track 177 : Altostratus\_69
- Track 178 : Khuang\_70
- Track 179 : Typha\_129, Hilltopfarm\_134, Faiyaz\_131, AuntGwenStacy\_132
- Track 180 : Cracklewink\_136
- Track 181 : Bipper\_136
- Track 182 : Min1\_34
- Track 183 : Spartoi\_56, MrAK\_46



- Track 184 : BFK20\_ORF55
- Track 185 : Sleepyhead\_67

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

The start number called the most often in the published annotations is 111, it was called in 75 of the 312 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Abidatro\_66, Abigail\_70, Albedo\_70, Albright\_69, AnnaLie\_70, Armstrong\_70, Arroyo\_71, AvGardian\_70, Avocadoman\_69, BAjuniper\_68, BabyDaisy\_71, BabyYoda\_68, Bachaco\_66, BelmontSKP\_70, Bengal\_71, Bernstein\_70, Brahms\_70, Brynnie\_64, BubbaBear\_68, Buldak\_69, Burritobowl\_72, Cashington\_69, Celaena\_66, Chickaboom\_66, Clayda5\_72, CliffHanger\_78, Coltrane\_70, CroZenni\_71, CupcakePrincess\_71, Cygnet\_77, DickRichards\_68, Didgeridoo\_75, DirtyBubble\_69, Dismas\_67, Doobus\_68, Eden\_72, Elva\_73, Eula\_69, Finalfrontier\_69, FlameThrower\_65, Franklin22\_74, Gack\_71, Galaxy\_65, Icarian\_72, IndyLu\_71, Jabb\_71, Jamun\_63, Johnathan\_70, Jovita\_68, Kate33\_71, Katzastrophic\_67, Kenzers\_69, Kieran\_65, Lahqtemish\_69, LimaBean\_68, LittleTokyo\_73, Lynlen\_71, Milomuff\_73, MsUbiquitous\_71, Nicky22\_69, Olliecat\_66, PhigPhack\_73, Phisb\_72, QMacho\_72, Quenya\_69, Rollins\_70, Rona\_66, Ruchi\_64, SanaSana\_70, SansAfet\_72, SarBear\_72, Sharkboy\_68, Shayna\_75, Skylord\_70, Slay\_70, Softsoap\_71, Solea\_73, Squircle\_66, Stoor\_69, Stromboli\_68, SunnyD\_75, Swervy\_70, Teagster\_75, TukTuk\_70, Vitas\_71, Vulpecula\_64, WalkingDead\_71,

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

- Akino08\_114, Antrice\_80, Basilisk\_66, Loviatar\_114, PastaFagioli\_69,

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

- ATCC29399BC\_46, ATCC29399BT\_46, Albanese\_61, Aledel\_60, Aloeri\_1, Altostratus\_69, Anatole\_55, Aoka\_54, AppleCider\_61, Aquarius\_48, Archimedes\_60, Asapag\_1, Attacne\_45, AuntGwenStacy\_132, AustinPowers\_60, Avani\_1, Awesomesauce\_1, B22\_61, B3\_57, BENtherdunthat\_1, BFK20\_ORF55, BaileyBlu\_63, Banquo\_63, Beethoven\_63, Bennie\_63, BigMack\_61, Bipper\_136, BlackSpider\_87, Bodacious\_61, BotCity\_1, BrotherBLo\_62, BruceLethal\_44, Brushbloom\_1, Budski\_1, CallieOMalley\_62, CallinAllBarbz\_64, Canowicakte\_62, Carpal\_61, Catfish\_64, Che9d\_1, CheeseTouch\_1, ChewChew\_61, ChickenDinner\_1, Cholula\_62, Chridison\_57, Christian\_61, CocoCinnamon\_59, Cota\_45, Cracklewink\_136, CristinaYang\_61, Daiboju\_60, Dardanus\_58, Demsculpinboyz\_1, DinoDaryn\_64, Dino\_62, DocMcStuffins\_1, DonkeyMan\_59, Doucette\_61, DrParker\_45, DrRobert\_59, DreamTeam\_61, E1\_55, E6\_60, Ecliptus\_1, Eesa\_65, Emmaloid\_1, Enochoraptor\_43, Enoki\_45, EstebanJulior\_60, Eunoia\_62, Faiyaz\_131, Flathead\_1, Fluke\_62, Frankie\_1, Frickyeah\_1, Frizzle\_60, Fryberger\_144, G4\_69, Getalong\_1, Ghobes\_59, Girafales\_1, Gisselle\_61, Glenn\_64, GreenHearts\_62, Greenhouse\_61, Guey18\_149, Gustav\_68, HeadNerd\_62, Hegedechwinu\_1, Heinz\_63, Herb\_60, Hilltopfarm\_134, Holliday\_1, Horus\_1, Huckleberry\_62, Huffy\_64, HunterDalle\_60, Huntingdon\_61, Immaculata\_62, Jabbawokkie\_2, JanetJ\_52, Jankie\_67, Joann\_63, Job42\_1, Juice456\_1, Jumboset\_62, Kalizoi\_62, Kamaru\_1, Keelan\_144, Keiki\_45, KendraB23\_76, Kenna\_1, Khuang\_70, Kimberlium\_1, KingBob\_60, Kittykat\_65,

Korra\_62, Kubed\_44, Kudefre\_128, Lakshmi\_61, Lasagna\_59, Lauchelly\_45, Lennox\_61, Leona\_68, Leroy\_1, Leviosa\_44, LilBandit\_45, LilStuart\_60, LitninMcQueen\_1, Litotes\_62, LittleShirley\_1, Lucy\_60, Lutum\_1, MEAK\_44, Mahdia\_60, Makoto\_60, Malisha\_1, MamaPearl\_60, Maria1952\_59, MeganNoll\_63, Min1\_34, Misaeng\_61, Misha28\_1, Moki\_62, Morrissey\_63, Mova\_1, Moyashi\_44, Mozy\_1, MrAK\_46, MrGloopy\_62, MrSmeem\_79, MulchExplorer\_1, Nancia\_61, Neville\_125, Nubia\_61, ODay\_1, OMalley\_60, Octobien14\_124, Ogopogo\_2, Orcanus\_65, OurGirlNessie\_59, Ouroboros\_45, Oxynfrius\_62, P1.1\_45, P100.1\_47, P100A\_45, P100D\_47, P101A\_47, P104A\_45, P104B\_44, P105\_45, P106A\_45, P106C\_46, P106I\_46, P106L\_45, P106M\_45, P107A\_45, P107C\_44, P108C\_44, P14.4\_47, P9.1\_45, PA6\_48, PAD20\_48, PAS50\_48, PHL010M04\_45, PHL037M02\_45, PHL060L00\_46, PHL067M10\_45, PHL071N05\_45, PHL111M01\_45, PHL112N00\_46, PHL113M01\_44, PHL114L00\_46, PartyCup\_66, Periwinkle\_1, Phabuloso\_1, Phistory\_1, PinkFriday\_61, Piper2020\_1, Pirate\_44, PitaDog\_61, Plumbus\_1, Potatoes\_62, Preamble\_64, Procrass1\_45, Pterodactyl\_61, Pumancara\_61, Puppies\_62, QueenBey\_43, Quico\_1, RAP15\_63, Rabbitrun\_127, Raqqa\_101, RcigaStruga\_62, Renna12\_72, Rialto\_1, Rileysaurus\_43, Rivovina\_60, Riverdale\_61, Ronaldo\_147, Rozby\_60, SKKY\_47, Santhid\_59, Sapo\_61, Savage2526\_61, Schmidt\_58, Scuttle\_61, Sephiroth\_123, Sergei\_60, SilverChicken\_1, Sleepyhead\_67, Slim\_1, Solid\_45, Soul22\_1, Spartoi\_56, Splinter\_64, Spooky\_1, Squiddly\_2, Squirty\_1, Stormborn\_46, Supakev\_60, Supernova\_45, Suppi\_62, Syleon\_128, TZGordon\_65, Tarzan\_63, TattModd\_61, TaylorSipht\_65, Tchotchke\_1, Temper16\_60, TinaLin\_63, Toad24\_67, TootsiePop\_1, Totinger\_1, Trax\_126, Trine\_65, Typha\_129, Upyo\_69, Urla\_62, Vallejo\_62, Vendetta\_64, Volt\_150, Vulture\_60, Wawa\_62, Wayne\_64, Whitney\_1, Widow\_62, Wizzo\_44, WonderBoy\_59, Yoshi\_1, Zapner\_2, Zipp\_43, Zorro\_62, Zucker\_98,

### Summary by start number:

#### Start 54:

- Found in 3 of 366 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 312
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Morrissey\_63 (CD),

#### Start 66:

- Found in 4 of 366 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 2 of 312
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Gustav\_68 (CD), Mahdia\_60 (CD),

#### Start 67:

- Found in 21 of 366 ( 5.7% ) of genes in pham
- No Manual Annotations of this start.
- Called 14.3% of time when present
- Phage (with cluster) where this start called: Akino08\_114 (EB), Loviatar\_114 (EB), PastaFagioli\_69 (EB),

#### Start 69:

- Found in 5 of 366 ( 1.4% ) of genes in pham
- Manual Annotations of this start: 1 of 312
- Called 20.0% of time when present
- Phage (with cluster) where this start called: Trine\_65 (CD),

Start 70:

- Found in 1 of 366 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 312
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Upyo\_69 (CD),

Start 71:

- Found in 9 of 366 ( 2.5% ) of genes in pham
- Manual Annotations of this start: 2 of 312
- Called 22.2% of time when present
- Phage (with cluster) where this start called: HunterDalle\_60 (AK), Vulture\_60 (AK),

Start 75:

- Found in 5 of 366 ( 1.4% ) of genes in pham
- Manual Annotations of this start: 2 of 312
- Called 40.0% of time when present
- Phage (with cluster) where this start called: Puppies\_62 (CD), Widow\_62 (CD),

Start 78:

- Found in 27 of 366 ( 7.4% ) of genes in pham
- Manual Annotations of this start: 4 of 312
- Called 22.2% of time when present
- Phage (with cluster) where this start called: AuntGwenStacy\_132 (Y), Bipper\_136 (Y), Cracklewink\_136 (Y), Faiyaz\_131 (Y), Hilltopfarm\_134 (Y), Typha\_129 (Y),

Start 83:

- Found in 11 of 366 ( 3.0% ) of genes in pham
- Manual Annotations of this start: 1 of 312
- Called 9.1% of time when present
- Phage (with cluster) where this start called: Archimedes\_60 (DA),

Start 85:

- Found in 4 of 366 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 3 of 312
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Anatole\_55 (BV), B3\_57 (BV), E1\_55 (BV),

Start 91:

- Found in 3 of 366 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 312
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Dardanus\_58 (CU3),

Start 93:

- Found in 24 of 366 ( 6.6% ) of genes in pham
- Manual Annotations of this start: 5 of 312
- Called 29.2% of time when present
- Phage (with cluster) where this start called: Catfish\_64 (CU5), Enochoraptor\_43 (BU), Keiki\_45 (BU), P1.1\_45 (BU), P14.4\_47 (BU), PAS50\_48 (BU), PHL113M01\_44 (BU),

#### Start 95:

- Found in 66 of 366 ( 18.0% ) of genes in pham
- Manual Annotations of this start: 48 of 312
- Called 90.9% of time when present
- Phage (with cluster) where this start called: ATCC29399BC\_46 (BU), ATCC29399BT\_46 (BU), Aquarius\_48 (BU), Attacne\_45 (BU), B22\_61 (BW), BlackSpider\_87 (FN), BruceLethal\_44 (BU), Cota\_45 (BU), Doucette\_61 (BW), DrParker\_45 (BU), E6\_60 (BW), Enoki\_45 (BU), G4\_69 (BW), Kubed\_44 (BU), Lauchelly\_45 (BU), Leviosa\_44 (BU), LilBandit\_45 (BU), MEAK\_44 (BU), Moyashi\_44 (BU), MrAK\_46 (BU), MrSmee\_79 (FQ), Ouroboros\_45 (BU), P100.1\_47 (BU), P100A\_45 (BU), P100D\_47 (BU), P101A\_47 (BU), P104A\_45 (BU), P104B\_44 (BU), P105\_45 (BU), P106A\_45 (BU), P106C\_46 (BU), P106I\_46 (BU), P106L\_45 (BU), P106M\_45 (BU), P107A\_45 (BU), P107C\_44 (BU), P108C\_44 (BU), P9.1\_45 (BU), PA6\_48 (BU), PAD20\_48 (BU), PHL010M04\_45 (BU), PHL037M02\_45 (BU), PHL060L00\_46 (BU), PHL067M10\_45 (BU), PHL071N05\_45 (BU), PHL111M01\_45 (BU), PHL112N00\_46 (BU), PHL114L00\_46 (BU), Pirate\_44 (BU), Procrass1\_45 (BU), QueenBey\_43 (BU), Raqqa\_101 (AY), Rileysaurus\_43 (BU), SKKY\_47 (BU), Solid\_45 (BU), Spartoi\_56 (singleton), Stormborn\_46 (BU), Supernova\_45 (BU), Wizzo\_44 (BU), Zucker\_98 (FN),

#### Start 97:

- Found in 8 of 366 ( 2.2% ) of genes in pham
- Manual Annotations of this start: 8 of 312
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Banquo\_63 (CU1), DinoDaryn\_64 (CU1), Huffy\_64 (CU1), Schmidt\_58 (CU4), Splinter\_64 (CU1), TZGordon\_65 (CU1), TinaLin\_63 (CU1), Vendetta\_64 (CU1),

#### Start 98:

- Found in 60 of 366 ( 16.4% ) of genes in pham
- Manual Annotations of this start: 49 of 312
- Called 98.3% of time when present
- Phage (with cluster) where this start called: Aloeri\_1 (F1), Asapag\_1 (DN1), Avani\_1 (F2), Awesomesauce\_1 (F1), BENtherdunthat\_1 (DN1), BotCity\_1 (DN), Brushbloom\_1 (F1), Budski\_1 (DN), Che9d\_1 (F2), CheeseTouch\_1 (DN1), ChickenDinner\_1 (F1), Demsculpinboyz\_1 (F2), DocMcStuffins\_1 (F1), Ecliptus\_1 (DN), Emmaloid\_1 (F1), Flathead\_1 (F1), Frankie\_1 (F1), Frickyeah\_1 (DN1), Getalong\_1 (DN1), Girafales\_1 (F1), Hegedechwinu\_1 (F1), Holliday\_1 (DN1), Horus\_1 (DN1), Jabbawokkie\_2 (F2), Job42\_1 (F1), Juice456\_1 (F1), Kamaru\_1 (DN1), Kenna\_1 (DN1), Kimberlium\_1 (F1), Leroy\_1 (DN1), LitninMcQueen\_1 (DN1), LittleShirley\_1 (F1), Lutum\_1 (DN1), Malisha\_1 (DN), Misha28\_1 (F1), Mova\_1 (F1), Mozy\_1 (F1), MulchExplorer\_1 (F1), ODay\_1 (DN), Ogotogo\_2 (F1), Periwinkle\_1 (DN1), Phabuloso\_1 (DN1), Phistory\_1 (DN1), Piper2020\_1 (F1), Plumbus\_1 (F1), Quico\_1 (F1), Rialto\_1 (F1), SilverChicken\_1 (F2), Slim\_1 (F1), Soul22\_1 (F2), Spooky\_1 (DN2), Squiddly\_2 (DN2), Squirty\_1 (F3), Tchotchke\_1 (F1), TootsiePop\_1 (F1), Totinger\_1 (F1), Whitney\_1 (DN1), Yoshi\_1 (F2), Zapner\_2 (F2),

#### Start 99:

- Found in 1 of 366 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 312
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Renna12\_72 (AS3),

Start 100:

- Found in 1 of 366 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 312
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Sapo\_61 (DA),

Start 101:

- Found in 17 of 366 ( 4.6% ) of genes in pham
- Manual Annotations of this start: 7 of 312
- Called 52.9% of time when present
- Phage (with cluster) where this start called: Altostratus\_69 (FS), Khuang\_70 (FS), Kudrefre\_128 (DU1), Neville\_125 (DU2), Octobien14\_124 (DU1), Rabbitrun\_127 (DU2), Sephiroth\_123 (DU1), Syleon\_128 (DU1), Trax\_126 (DU2),

Start 102:

- Found in 9 of 366 ( 2.5% ) of genes in pham
- Manual Annotations of this start: 1 of 312
- Called 11.1% of time when present
- Phage (with cluster) where this start called: Basilisk\_66 (AS1),

Start 103:

- Found in 2 of 366 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 2 of 312
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aoka\_54 (FO), JanetJ\_52 (FO),

Start 104:

- Found in 4 of 366 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 1 of 312
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Huntingdon\_61 (AK),

Start 105:

- Found in 2 of 366 ( 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: Antrice\_80 (AS2), CocoCinnamon\_59 (FO),

Start 106:

- Found in 47 of 366 ( 12.8% ) of genes in pham
- Manual Annotations of this start: 13 of 312
- Called 27.7% of time when present
- Phage (with cluster) where this start called: Bennie\_63 (AK), Christian\_61 (AK), Dino\_62 (AK), DrRobert\_59 (AK), Fluke\_62 (AK), Glenn\_64 (AK), Lucy\_60 (AK), MeganNoll\_63 (AK), MrGloopy\_62 (AK), PitaDog\_61 (AK), RAP15\_63 (AK), Scuttle\_61 (AK), Vallejo\_62 (AK),

Start 107:

- Found in 4 of 366 ( 1.1% ) of genes in pham
- No Manual Annotations of this start.
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Min1\_34 (singleton),

Start 108:

- Found in 18 of 366 ( 4.9% ) of genes in pham
- Manual Annotations of this start: 9 of 312
- Called 83.3% of time when present
- Phage (with cluster) where this start called: BFK20\_ORF55 (singleton), Canowicakte\_62 (AK), DonkeyMan\_59 (DY), Eesa\_65 (AS1), Heinz\_63 (DY), KendraB23\_76 (AS1), Leona\_68 (AS3), Orcanus\_65 (AS1), PartyCup\_66 (AK), Santhid\_59 (DY), Suppi\_62 (AK), Tarzan\_63 (DY), TaylorSipht\_65 (AS1), Toad24\_67 (AS1), Wayne\_64 (AK),

Start 109:

- Found in 8 of 366 ( 2.2% ) of genes in pham
- Manual Annotations of this start: 7 of 312
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BaileyBlu\_63 (FP), CallinAllBarbz\_64 (FP), Fryberger\_144 (DP), Guey18\_149 (DP), Jankie\_67 (FP), Keelan\_144 (DP), Ronaldo\_147 (DP), Volt\_150 (DP),

Start 110:

- Found in 1 of 366 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 312
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Sleepyhead\_67 (singleton),

Start 111:

- Found in 92 of 366 ( 25.1% ) of genes in pham
- Manual Annotations of this start: 75 of 312
- Called 94.6% of time when present
- Phage (with cluster) where this start called: Abidatro\_66 (AS1), Abigail\_70 (EB), Albedo\_70 (EB), Albright\_69 (EB), AnnaLie\_70 (EB), Armstrong\_70 (EB), Arroyo\_71 (EB), AvGardian\_70 (EB), Avocadoman\_69 (EB), BAjuniper\_68 (EB), BabyDaisy\_71 (EB), BabyYoda\_68 (EB), Bachaco\_66 (EB), BelmontSKP\_70 (EB), Bengal\_71 (EB), Bernstein\_70 (EB), Brahms\_70 (EB), Brynnie\_64 (AS1), BubbaBear\_68 (EB), Buldak\_69 (EB), Burritobowl\_72 (EB), Cashington\_69 (EB), Celaena\_66 (EB), Chickaboom\_66 (AS1), Clayda5\_72 (EB), CliffHanger\_78 (EB), Coltrane\_70 (EB), CroZenni\_71 (EB), CupcakePrincess\_71 (EB), Cygnet\_77 (AS2), DickRichards\_68 (EB), Didgeridoo\_75 (EB), DirtyBubble\_69 (EB), Dismas\_67 (EB), Doobus\_68 (EB), Eden\_72 (EB), Elva\_73 (EB), Eula\_69 (EB), Finalfrontier\_69 (EB), FlameThrower\_65 (EB), Franklin22\_74 (EB), Gack\_71 (EB), Galaxy\_65 (AS1), Icarian\_72 (EB), IndyLu\_71 (EB), Jabb\_71 (EB), Jamun\_63 (AS1), Johnathan\_70 (EB), Jovita\_68 (EB), Kate33\_71 (EB), Katzastrophic\_67 (EB), Kenzers\_69 (EB), Kieran\_65 (EB), Lahqtemish\_69 (EB), LimaBean\_68 (EB), LittleTokyo\_73 (AS2), Lynlen\_71 (EB), Milomuff\_73 (EB), MsUbiquitous\_71 (EB), Nicky22\_69 (EB), Olliecat\_66 (EB), PhigPhack\_73 (EB), Phisb\_72 (EB), QMacho\_72 (EB), Quenya\_69 (EB), Rollins\_70 (EB), Rona\_66 (EB), Ruchi\_64 (AS1), SanaSana\_70 (EB), SansAfet\_72 (EB), SarBear\_72 (EB), Sharkboy\_68 (EB), Shayna\_75 (EB), Skylord\_70 (EB), Slay\_70 (EB), Softsoap\_71 (EB), Solea\_73 (EB), Squiracle\_66 (EB), Stoor\_69 (EB), Stromboli\_68 (EB), SunnyD\_75 (EB), Swervy\_70 (EB), Teagster\_75 (EB), TukTuk\_70 (EB), Vitas\_71 (EB), Vulpecula\_64 (AS1), WalkingDead\_71 (EB),

Start 114:

- Found in 2 of 366 ( 0.5% ) of genes in pham

- Manual Annotations of this start: 1 of 312
- Called 50.0% of time when present
- Phage (with cluster) where this start called: AppleCider\_61 (AK),

Start 115:

- Found in 84 of 366 ( 23.0% ) of genes in pham
- Manual Annotations of this start: 63 of 312
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Albanese\_61 (AK), Aledel\_60 (AK), AustinPowers\_60 (AK), Beethoven\_63 (AK), BigMack\_61 (AK), Bodacious\_61 (AK), BrotherBLo\_62 (AK), CallieOMalley\_62 (AK), Carpal\_61 (AK), ChewChew\_61 (AK), Cholula\_62 (AK), Chridison\_57 (AK), CristinaYang\_61 (AK), Daiboju\_60 (AK), DreamTeam\_61 (AK), EstebanJulior\_60 (AK), Eunoia\_62 (AK), Gisselle\_61 (AK), GreenHearts\_62 (AK), Greenhouse\_61 (AK), HeadNerd\_62 (AK), Herb\_60 (AK), Huckleberry\_62 (AK), Immaculata\_62 (AK), Joann\_63 (AK), Jumboset\_62 (AK), Kalizoi\_62 (AK), KingBob\_60 (AK), Kittykat\_65 (AK), Korra\_62 (AK), Lakshmi\_61 (AK), Lasagna\_59 (AK), Lennox\_61 (AK), LilStuart\_60 (AK), Litotes\_62 (AK), Makoto\_60 (AK), MamaPearl\_60 (AK), Maria1952\_59 (AK), Misaeng\_61 (AK), Moki\_62 (AK), Nancia\_61 (AK), Nubia\_61 (AK), OMalley\_60 (AK), OurGirlNessie\_59 (AK), Oxynfrius\_62 (AK), PinkFriday\_61 (AK), Potatoes\_62 (AK), Preamble\_64 (AK), Pterodactyl\_61 (AK), Pumancara\_61 (AK), RcigaStruga\_62 (AK), Rivovina\_60 (AK), Riverdale\_61 (AK), Rozby\_60 (AK), Savage2526\_61 (AK), Sergei\_60 (AK), Supakev\_60 (AK), TattModd\_61 (AK), Temper16\_60 (AK), Urla\_62 (AK), Wawa\_62 (AK), WonderBoy\_59 (AK), Zorro\_62 (AK),

Start 129:

- Found in 2 of 366 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 312
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Frizzle\_60 (DA), Ghobes\_59 (DA),

Start 193:

- Found in 1 of 366 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 312
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Zipp\_43 (DE4),

### Summary by clusters:

There are 33 clusters represented in this pham: FP, DN, singleton, FS, FQ, DA, BU, BV, BW, AY, DY, DP, FO, CU5, CU4, CU3, CU1, DN1, FN, DN2, DU1, DU2, AS3, AS2, AS1, AK, EB, Y, CD, F1, F2, F3, DE4,

Info for manual annotations of cluster AK:

- Start number 71 was manually annotated 2 times for cluster AK.
- Start number 104 was manually annotated 1 time for cluster AK.
- Start number 106 was manually annotated 13 times for cluster AK.
- Start number 108 was manually annotated 3 times for cluster AK.
- Start number 114 was manually annotated 1 time for cluster AK.
- Start number 115 was manually annotated 63 times for cluster AK.

Info for manual annotations of cluster AS1:

- Start number 102 was manually annotated 1 time for cluster AS1.

- Start number 108 was manually annotated 3 times for cluster AS1.
- Start number 111 was manually annotated 7 times for cluster AS1.

Info for manual annotations of cluster AS2:

- Start number 111 was manually annotated 1 time for cluster AS2.

Info for manual annotations of cluster AS3:

- Start number 99 was manually annotated 1 time for cluster AS3.
- Start number 108 was manually annotated 1 time for cluster AS3.

Info for manual annotations of cluster BU:

- Start number 93 was manually annotated 4 times for cluster BU.
- Start number 95 was manually annotated 41 times for cluster BU.

Info for manual annotations of cluster BV:

- Start number 85 was manually annotated 3 times for cluster BV.

Info for manual annotations of cluster BW:

- Start number 95 was manually annotated 4 times for cluster BW.

Info for manual annotations of cluster CD:

- Start number 54 was manually annotated 1 time for cluster CD.
- Start number 66 was manually annotated 2 times for cluster CD.
- Start number 69 was manually annotated 1 time for cluster CD.
- Start number 70 was manually annotated 1 time for cluster CD.
- Start number 75 was manually annotated 2 times for cluster CD.

Info for manual annotations of cluster CU1:

- Start number 97 was manually annotated 7 times for cluster CU1.

Info for manual annotations of cluster CU3:

- Start number 91 was manually annotated 1 time for cluster CU3.

Info for manual annotations of cluster CU4:

- Start number 97 was manually annotated 1 time for cluster CU4.

Info for manual annotations of cluster CU5:

- Start number 93 was manually annotated 1 time for cluster CU5.

Info for manual annotations of cluster DA:

- Start number 83 was manually annotated 1 time for cluster DA.
- Start number 100 was manually annotated 1 time for cluster DA.
- Start number 129 was manually annotated 1 time for cluster DA.

Info for manual annotations of cluster DE4:

- Start number 193 was manually annotated 1 time for cluster DE4.

Info for manual annotations of cluster DN:

- Start number 98 was manually annotated 4 times for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 98 was manually annotated 15 times for cluster DN1.



Info for manual annotations of cluster DN2:

- Start number 98 was manually annotated 2 times for cluster DN2.

Info for manual annotations of cluster DP:

- Start number 109 was manually annotated 5 times for cluster DP.

Info for manual annotations of cluster DU1:

- Start number 101 was manually annotated 4 times for cluster DU1.

Info for manual annotations of cluster DU2:

- Start number 101 was manually annotated 3 times for cluster DU2.

Info for manual annotations of cluster DY:

- Start number 108 was manually annotated 2 times for cluster DY.

Info for manual annotations of cluster EB:

- Start number 111 was manually annotated 67 times for cluster EB.

Info for manual annotations of cluster F1:

- Start number 98 was manually annotated 20 times for cluster F1.

Info for manual annotations of cluster F2:

- Start number 98 was manually annotated 7 times for cluster F2.

Info for manual annotations of cluster F3:

- Start number 98 was manually annotated 1 time for cluster F3.

Info for manual annotations of cluster FN:

- Start number 95 was manually annotated 1 time for cluster FN.

Info for manual annotations of cluster FO:

- Start number 103 was manually annotated 2 times for cluster FO.

Info for manual annotations of cluster FP:

- Start number 109 was manually annotated 2 times for cluster FP.

Info for manual annotations of cluster FQ:

- Start number 95 was manually annotated 1 time for cluster FQ.

Info for manual annotations of cluster Y:

- Start number 78 was manually annotated 4 times for cluster Y.

**Gene Information:**

Gene: ATCC29399BC\_46 Start: 29152, Stop: 29454, Start Num: 95

Candidate Starts for ATCC29399BC\_46:

(82, 29134), (Start: 95 @29152 has 48 MA's),

Gene: ATCC29399BT\_46 Start: 29152, Stop: 29454, Start Num: 95

Candidate Starts for ATCC29399BT\_46:  
(82, 29134), (Start: 95 @29152 has 48 MA's),

Gene: Abidatro\_66 Start: 38766, Stop: 39044, Start Num: 111  
Candidate Starts for Abidatro\_66:  
(40, 38640), (Start: 111 @38766 has 75 MA's),

Gene: Abigail\_70 Start: 40540, Stop: 40815, Start Num: 111  
Candidate Starts for Abigail\_70:  
(Start: 111 @40540 has 75 MA's),

Gene: Akino08\_114 Start: 42028, Stop: 42363, Start Num: 67  
Candidate Starts for Akino08\_114:  
(58, 42013), (67, 42028), (89, 42061), (Start: 111 @42088 has 75 MA's), (123, 42121), (175, 42277),

Gene: Albanese\_61 Start: 43774, Stop: 44034, Start Num: 115  
Candidate Starts for Albanese\_61:  
(Start: 115 @43774 has 63 MA's), (118, 43780), (134, 43831), (135, 43834), (180, 43978),

Gene: Albedo\_70 Start: 41350, Stop: 41625, Start Num: 111  
Candidate Starts for Albedo\_70:  
(Start: 111 @41350 has 75 MA's), (174, 41536),

Gene: Albright\_69 Start: 40420, Stop: 40695, Start Num: 111  
Candidate Starts for Albright\_69:  
(Start: 111 @40420 has 75 MA's),

Gene: Aledel\_60 Start: 43400, Stop: 43660, Start Num: 115  
Candidate Starts for Aledel\_60:  
(Start: 71 @43331 has 2 MA's), (Start: 83 @43352 has 1 MA's), (Start: 115 @43400 has 63 MA's),  
(122, 43421), (139, 43472),

Gene: Aloeri\_1 Start: 42, Stop: 374, Start Num: 98  
Candidate Starts for Aloeri\_1:  
(74, 9), (79, 15), (Start: 98 @42 has 49 MA's), (127, 120), (155, 213), (163, 237), (176, 285), (187,  
339), (192, 354),

Gene: Altostratus\_69 Start: 38971, Stop: 39267, Start Num: 101  
Candidate Starts for Altostratus\_69:  
(Start: 101 @38971 has 7 MA's), (117, 39001), (151, 39097), (163, 39139),

Gene: Anatole\_55 Start: 34869, Stop: 35189, Start Num: 85  
Candidate Starts for Anatole\_55:  
(2, 34596), (3, 34635), (4, 34644), (6, 34659), (19, 34725), (20, 34728), (28, 34752), (34, 34770), (47,  
34800), (Start: 85 @34869 has 3 MA's), (107, 34899), (133, 34974), (191, 35172),

Gene: AnnaLie\_70 Start: 41202, Stop: 41477, Start Num: 111  
Candidate Starts for AnnaLie\_70:  
(Start: 111 @41202 has 75 MA's), (174, 41388),

Gene: Antrice\_80 Start: 38853, Stop: 39140, Start Num: 105  
Candidate Starts for Antrice\_80:  
(105, 38853), (Start: 111 @38862 has 75 MA's),

Gene: Aoka\_54 Start: 36392, Stop: 36673, Start Num: 103

Candidate Starts for Aoka\_54:

(64, 36335), (Start: 103 @36392 has 2 MA's),

Gene: AppleCider\_61 Start: 43353, Stop: 43619, Start Num: 114

Candidate Starts for AppleCider\_61:

(Start: 114 @43353 has 1 MA's), (Start: 115 @43359 has 63 MA's),

Gene: Aquarius\_48 Start: 29747, Stop: 30049, Start Num: 95

Candidate Starts for Aquarius\_48:

(Start: 95 @29747 has 48 MA's),

Gene: Archimedes\_60 Start: 44555, Stop: 44878, Start Num: 83

Candidate Starts for Archimedes\_60:

(Start: 83 @44555 has 1 MA's), (Start: 102 @44582 has 1 MA's), (Start: 108 @44588 has 9 MA's),  
(137, 44672), (140, 44681), (187, 44852),

Gene: Armstrong\_70 Start: 39580, Stop: 39855, Start Num: 111

Candidate Starts for Armstrong\_70:

(14, 39382), (18, 39397), (27, 39424), (39, 39457), (58, 39505), (67, 39520), (89, 39553), (Start: 111  
@39580 has 75 MA's),

Gene: Arroyo\_71 Start: 41666, Stop: 41941, Start Num: 111

Candidate Starts for Arroyo\_71:

(Start: 111 @41666 has 75 MA's), (174, 41852),

Gene: Asapag\_1 Start: 39, Stop: 371, Start Num: 98

Candidate Starts for Asapag\_1:

(74, 9), (Start: 78 @15 has 4 MA's), (87, 27), (Start: 98 @39 has 49 MA's), (137, 141), (138, 144), (163,  
234), (172, 264), (176, 282), (192, 351),

Gene: Attacne\_45 Start: 28511, Stop: 28813, Start Num: 95

Candidate Starts for Attacne\_45:

(Start: 93 @28508 has 5 MA's), (Start: 95 @28511 has 48 MA's), (195, 28799),

Gene: AuntGwenStacy\_132 Start: 74981, Stop: 75304, Start Num: 78

Candidate Starts for AuntGwenStacy\_132:

(Start: 78 @74981 has 4 MA's), (147, 75131), (173, 75212), (178, 75236), (180, 75248),

Gene: AustinPowers\_60 Start: 43422, Stop: 43682, Start Num: 115

Candidate Starts for AustinPowers\_60:

(Start: 71 @43353 has 2 MA's), (Start: 83 @43374 has 1 MA's), (Start: 115 @43422 has 63 MA's),  
(122, 43443), (139, 43494),

Gene: AvGardian\_70 Start: 41184, Stop: 41459, Start Num: 111

Candidate Starts for AvGardian\_70:

(Start: 111 @41184 has 75 MA's), (164, 41334), (174, 41370),

Gene: Avani\_1 Start: 38, Stop: 370, Start Num: 98

Candidate Starts for Avani\_1:

(76, 11), (Start: 98 @38 has 49 MA's), (127, 116), (138, 143), (163, 233), (172, 263), (176, 281), (185,  
326), (192, 350),

Gene: Avocadoman\_69 Start: 40737, Stop: 41012, Start Num: 111  
Candidate Starts for Avocadoman\_69:  
(Start: 111 @40737 has 75 MA's),

Gene: Awesomesauce\_1 Start: 42, Stop: 374, Start Num: 98  
Candidate Starts for Awesomesauce\_1:  
(74, 9), (79, 15), (Start: 98 @42 has 49 MA's), (126, 111), (127, 120), (155, 213), (163, 237), (172, 267), (176, 285), (185, 330), (187, 339), (192, 354),

Gene: B22\_61 Start: 36822, Stop: 37160, Start Num: 95  
Candidate Starts for B22\_61:  
(82, 36804), (Start: 95 @36822 has 48 MA's), (116, 36855), (142, 36930),

Gene: B3\_57 Start: 35532, Stop: 35852, Start Num: 85  
Candidate Starts for B3\_57:  
(2, 35259), (3, 35298), (4, 35307), (6, 35322), (19, 35388), (20, 35391), (28, 35415), (34, 35433), (47, 35463), (Start: 85 @35532 has 3 MA's), (107, 35562), (133, 35637), (191, 35835),

Gene: BAjuniper\_68 Start: 41633, Stop: 41908, Start Num: 111  
Candidate Starts for BAjuniper\_68:  
(47, 41528), (58, 41558), (67, 41573), (89, 41606), (Start: 111 @41633 has 75 MA's), (123, 41666), (174, 41819),

Gene: BENtherdunthat\_1 Start: 39, Stop: 371, Start Num: 98  
Candidate Starts for BENtherdunthat\_1:  
(74, 9), (Start: 78 @15 has 4 MA's), (87, 27), (Start: 98 @39 has 49 MA's), (137, 141), (138, 144), (163, 234), (172, 264), (176, 282), (192, 351),

Gene: BFK20\_ORF55 Start: 42590, Stop: 42880, Start Num: 108  
Candidate Starts for BFK20\_ORF55:  
(81, 42557), (94, 42575), (Start: 108 @42590 has 9 MA's), (119, 42617), (137, 42674), (165, 42761), (185, 42845),

Gene: BabyDaisy\_71 Start: 41763, Stop: 42038, Start Num: 111  
Candidate Starts for BabyDaisy\_71:  
(50, 41664), (58, 41688), (67, 41703), (89, 41736), (Start: 101 @41751 has 7 MA's), (Start: 111 @41763 has 75 MA's),

Gene: BabyYoda\_68 Start: 41093, Stop: 41368, Start Num: 111  
Candidate Starts for BabyYoda\_68:  
(Start: 111 @41093 has 75 MA's), (123, 41126), (174, 41279), (175, 41282),

Gene: Bachaco\_66 Start: 42043, Stop: 42318, Start Num: 111  
Candidate Starts for Bachaco\_66:  
(22, 41878), (26, 41887), (27, 41890), (46, 41938), (58, 41968), (67, 41983), (89, 42016), (Start: 111 @42043 has 75 MA's), (174, 42229), (190, 42301),

Gene: BaileyBlu\_63 Start: 40002, Stop: 40289, Start Num: 109  
Candidate Starts for BaileyBlu\_63:  
(Start: 109 @40002 has 7 MA's), (171, 40182),

Gene: Banquo\_63 Start: 39126, Stop: 39422, Start Num: 97

Candidate Starts for Banquo\_63:  
(68, 39084), (Start: 97 @39126 has 8 MA's), (120, 39168), (184, 39384),

Gene: Basilisk\_66 Start: 38281, Stop: 38571, Start Num: 102  
Candidate Starts for Basilisk\_66:  
(43, 38188), (60, 38218), (Start: 102 @38281 has 1 MA's), (Start: 111 @38293 has 75 MA's),

Gene: Beethoven\_63 Start: 43598, Stop: 43858, Start Num: 115  
Candidate Starts for Beethoven\_63:  
(Start: 106 @43580 has 13 MA's), (Start: 115 @43598 has 63 MA's), (121, 43616), (139, 43670),

Gene: BelmontSKP\_70 Start: 41202, Stop: 41477, Start Num: 111  
Candidate Starts for BelmontSKP\_70:  
(Start: 111 @41202 has 75 MA's), (174, 41388),

Gene: Bengal\_71 Start: 41208, Stop: 41483, Start Num: 111  
Candidate Starts for Bengal\_71:  
(28, 41055), (33, 41070), (58, 41133), (67, 41148), (89, 41181), (Start: 101 @41196 has 7 MA's),  
(Start: 111 @41208 has 75 MA's), (174, 41394),

Gene: Bennie\_63 Start: 42720, Stop: 42998, Start Num: 106  
Candidate Starts for Bennie\_63:  
(Start: 106 @42720 has 13 MA's), (Start: 115 @42738 has 63 MA's), (121, 42756), (139, 42810), (184, 42963),

Gene: Bernstein\_70 Start: 39578, Stop: 39853, Start Num: 111  
Candidate Starts for Bernstein\_70:  
(14, 39380), (18, 39395), (27, 39422), (39, 39455), (58, 39503), (67, 39518), (89, 39551), (Start: 111 @39578 has 75 MA's),

Gene: BigMack\_61 Start: 43021, Stop: 43281, Start Num: 115  
Candidate Starts for BigMack\_61:  
(Start: 106 @43003 has 13 MA's), (Start: 115 @43021 has 63 MA's), (121, 43039), (175, 43198), (184, 43246),

Gene: Bipper\_136 Start: 77103, Stop: 77429, Start Num: 78  
Candidate Starts for Bipper\_136:  
(Start: 78 @77103 has 4 MA's), (131, 77217), (137, 77229), (163, 77304), (178, 77361), (180, 77373),

Gene: BlackSpider\_87 Start: 50168, Stop: 50473, Start Num: 95  
Candidate Starts for BlackSpider\_87:  
(Start: 95 @50168 has 48 MA's), (172, 50357), (176, 50372),

Gene: Bodacious\_61 Start: 42903, Stop: 43163, Start Num: 115  
Candidate Starts for Bodacious\_61:  
(Start: 106 @42885 has 13 MA's), (Start: 115 @42903 has 63 MA's), (121, 42921), (175, 43080), (187, 43137), (189, 43143),

Gene: BotCity\_1 Start: 39, Stop: 371, Start Num: 98  
Candidate Starts for BotCity\_1:  
(74, 9), (Start: 78 @15 has 4 MA's), (Start: 98 @39 has 49 MA's), (127, 117), (137, 141), (163, 234),  
(176, 282), (183, 318), (192, 351),

Gene: Brahms\_70 Start: 39480, Stop: 39755, Start Num: 111  
Candidate Starts for Brahms\_70:  
(14, 39282), (18, 39297), (27, 39324), (39, 39357), (58, 39405), (67, 39420), (89, 39453), (Start: 111 @39480 has 75 MA's),

Gene: BrotherBLo\_62 Start: 43314, Stop: 43574, Start Num: 115  
Candidate Starts for BrotherBLo\_62:  
(Start: 106 @43296 has 13 MA's), (Start: 115 @43314 has 63 MA's), (121, 43332), (139, 43386),

Gene: BruceLethal\_44 Start: 28884, Stop: 29186, Start Num: 95  
Candidate Starts for BruceLethal\_44:  
(Start: 95 @28884 has 48 MA's),

Gene: Brushbloom\_1 Start: 40, Stop: 372, Start Num: 98  
Candidate Starts for Brushbloom\_1:  
(72, 7), (77, 13), (Start: 98 @40 has 49 MA's), (126, 109), (127, 118), (155, 211), (176, 283), (185, 328), (187, 337), (192, 352),

Gene: Brynnie\_64 Start: 38238, Stop: 38516, Start Num: 111  
Candidate Starts for Brynnie\_64:  
(Start: 102 @38226 has 1 MA's), (Start: 111 @38238 has 75 MA's),

Gene: BubbaBear\_68 Start: 41351, Stop: 41626, Start Num: 111  
Candidate Starts for BubbaBear\_68:  
(Start: 111 @41351 has 75 MA's),

Gene: Budski\_1 Start: 39, Stop: 371, Start Num: 98  
Candidate Starts for Budski\_1:  
(74, 9), (Start: 78 @15 has 4 MA's), (Start: 98 @39 has 49 MA's), (127, 117), (137, 141), (163, 234), (176, 282), (183, 318), (192, 351),

Gene: Buldak\_69 Start: 39158, Stop: 39433, Start Num: 111  
Candidate Starts for Buldak\_69:  
(Start: 111 @39158 has 75 MA's), (174, 39344),

Gene: Burritobowl\_72 Start: 40954, Stop: 41229, Start Num: 111  
Candidate Starts for Burritobowl\_72:  
(Start: 111 @40954 has 75 MA's),

Gene: CallieOMalley\_62 Start: 43522, Stop: 43782, Start Num: 115  
Candidate Starts for CallieOMalley\_62:  
(92, 43489), (Start: 108 @43510 has 9 MA's), (113, 43516), (Start: 115 @43522 has 63 MA's),

Gene: CallinAllBarbz\_64 Start: 40753, Stop: 41040, Start Num: 109  
Candidate Starts for CallinAllBarbz\_64:  
(Start: 109 @40753 has 7 MA's),

Gene: Canowicakte\_62 Start: 43562, Stop: 43834, Start Num: 108  
Candidate Starts for Canowicakte\_62:  
(92, 43541), (Start: 108 @43562 has 9 MA's), (113, 43568), (Start: 115 @43574 has 63 MA's),

Gene: Carpal\_61 Start: 43369, Stop: 43629, Start Num: 115  
Candidate Starts for Carpal\_61:

(Start: 106 @43351 has 13 MA's), (Start: 115 @43369 has 63 MA's), (121, 43387), (139, 43441),

Gene: Cashington\_69 Start: 41137, Stop: 41412, Start Num: 111

Candidate Starts for Cashington\_69:

(59, 41062), (Start: 69 @41077 has 1 MA's), (88, 41107), (Start: 91 @41110 has 1 MA's), (Start: 111 @41137 has 75 MA's), (174, 41323),

Gene: Catfish\_64 Start: 41148, Stop: 41444, Start Num: 93

Candidate Starts for Catfish\_64:

(11, 40959), (13, 40968), (64, 41106), (Start: 93 @41148 has 5 MA's), (133, 41235), (137, 41244), (163, 41319),

Gene: Celaena\_66 Start: 41809, Stop: 42084, Start Num: 111

Candidate Starts for Celaena\_66:

(22, 41641), (26, 41650), (27, 41653), (46, 41701), (58, 41731), (Start: 111 @41809 has 75 MA's), (174, 41995), (190, 42067),

Gene: Che9d\_1 Start: 48, Stop: 380, Start Num: 98

Candidate Starts for Che9d\_1:

(76, 21), (Start: 98 @48 has 49 MA's), (127, 126), (138, 153), (163, 243), (172, 273), (176, 291), (185, 336), (192, 360),

Gene: CheeseTouch\_1 Start: 39, Stop: 371, Start Num: 98

Candidate Starts for CheeseTouch\_1:

(74, 9), (Start: 78 @15 has 4 MA's), (Start: 98 @39 has 49 MA's), (127, 117), (137, 141), (163, 234), (176, 282), (183, 318), (192, 351),

Gene: ChewChew\_61 Start: 43103, Stop: 43363, Start Num: 115

Candidate Starts for ChewChew\_61:

(Start: 106 @43085 has 13 MA's), (Start: 115 @43103 has 63 MA's), (121, 43121), (141, 43178), (175, 43280), (187, 43337), (189, 43343),

Gene: Chickaboom\_66 Start: 38402, Stop: 38680, Start Num: 111

Candidate Starts for Chickaboom\_66:

(Start: 102 @38390 has 1 MA's), (Start: 111 @38402 has 75 MA's),

Gene: ChickenDinner\_1 Start: 42, Stop: 374, Start Num: 98

Candidate Starts for ChickenDinner\_1:

(74, 9), (79, 15), (Start: 98 @42 has 49 MA's), (127, 120), (155, 213), (163, 237), (176, 285), (187, 339), (192, 354),

Gene: Cholula\_62 Start: 43324, Stop: 43584, Start Num: 115

Candidate Starts for Cholula\_62:

(Start: 106 @43306 has 13 MA's), (Start: 115 @43324 has 63 MA's), (121, 43342), (139, 43396),

Gene: Chridison\_57 Start: 42676, Stop: 42936, Start Num: 115

Candidate Starts for Chridison\_57:

(Start: 71 @42607 has 2 MA's), (Start: 83 @42628 has 1 MA's), (Start: 115 @42676 has 63 MA's), (121, 42694), (122, 42697), (139, 42748),

Gene: Christian\_61 Start: 42727, Stop: 43005, Start Num: 106

Candidate Starts for Christian\_61:

(Start: 106 @42727 has 13 MA's), (Start: 115 @42745 has 63 MA's), (121, 42763), (141, 42820), (175, 42922), (187, 42979), (189, 42985),

Gene: Clayda5\_72 Start: 39546, Stop: 39821, Start Num: 111

Candidate Starts for Clayda5\_72:

(14, 39348), (18, 39363), (27, 39390), (39, 39423), (58, 39471), (67, 39486), (89, 39519), (Start: 111 @39546 has 75 MA's),

Gene: CliffHanger\_78 Start: 40817, Stop: 41092, Start Num: 111

Candidate Starts for CliffHanger\_78:

(Start: 111 @40817 has 75 MA's), (123, 40850), (174, 41003), (175, 41006),

Gene: CocoCinnamon\_59 Start: 36037, Stop: 36318, Start Num: 105

Candidate Starts for CocoCinnamon\_59:

(92, 36019), (105, 36037), (130, 36106),

Gene: Coltrane\_70 Start: 39480, Stop: 39755, Start Num: 111

Candidate Starts for Coltrane\_70:

(14, 39282), (18, 39297), (27, 39324), (39, 39357), (58, 39405), (67, 39420), (89, 39453), (Start: 111 @39480 has 75 MA's),

Gene: Cota\_45 Start: 29185, Stop: 29487, Start Num: 95

Candidate Starts for Cota\_45:

(Start: 93 @29182 has 5 MA's), (Start: 95 @29185 has 48 MA's), (195, 29473),

Gene: Cracklewink\_136 Start: 76262, Stop: 76588, Start Num: 78

Candidate Starts for Cracklewink\_136:

(8, 76067), (21, 76136), (Start: 78 @76262 has 4 MA's), (131, 76376), (137, 76388), (163, 76463), (178, 76520), (180, 76532),

Gene: CristinaYang\_61 Start: 43030, Stop: 43290, Start Num: 115

Candidate Starts for CristinaYang\_61:

(Start: 106 @43012 has 13 MA's), (Start: 115 @43030 has 63 MA's), (121, 43048), (175, 43207), (187, 43264), (189, 43270),

Gene: CroZenni\_71 Start: 41008, Stop: 41283, Start Num: 111

Candidate Starts for CroZenni\_71:

(Start: 111 @41008 has 75 MA's),

Gene: CupcakePrincess\_71 Start: 41251, Stop: 41526, Start Num: 111

Candidate Starts for CupcakePrincess\_71:

(Start: 111 @41251 has 75 MA's),

Gene: Cygnet\_77 Start: 39144, Stop: 39422, Start Num: 111

Candidate Starts for Cygnet\_77:

(Start: 111 @39144 has 75 MA's), (174, 39336),

Gene: Daiboju\_60 Start: 43614, Stop: 43871, Start Num: 115

Candidate Starts for Daiboju\_60:

(112, 43605), (Start: 115 @43614 has 63 MA's), (121, 43632), (142, 43689), (169, 43767),

Gene: Dardanus\_58 Start: 37373, Stop: 37678, Start Num: 91

Candidate Starts for Dardanus\_58:



(Start: 91 @37373 has 1 MA's), (Start: 104 @37391 has 1 MA's), (163, 37553),

Gene: Demsculpinboyz\_1 Start: 38, Stop: 370, Start Num: 98

Candidate Starts for Demsculpinboyz\_1:

(76, 11), (Start: 98 @38 has 49 MA's), (127, 116), (138, 143), (163, 233), (172, 263), (176, 281), (185, 326), (192, 350),

Gene: DickRichards\_68 Start: 40877, Stop: 41152, Start Num: 111

Candidate Starts for DickRichards\_68:

(Start: 111 @40877 has 75 MA's),

Gene: Didgeridoo\_75 Start: 42192, Stop: 42467, Start Num: 111

Candidate Starts for Didgeridoo\_75:

(20, 42015), (37, 42066), (58, 42117), (67, 42132), (89, 42165), (Start: 101 @42180 has 7 MA's), (Start: 111 @42192 has 75 MA's),

Gene: Dino\_62 Start: 43208, Stop: 43486, Start Num: 106

Candidate Starts for Dino\_62:

(Start: 106 @43208 has 13 MA's), (Start: 115 @43226 has 63 MA's), (121, 43244), (139, 43298),

Gene: DinoDaryn\_64 Start: 39227, Stop: 39523, Start Num: 97

Candidate Starts for DinoDaryn\_64:

(68, 39185), (Start: 97 @39227 has 8 MA's), (168, 39416), (184, 39485),

Gene: DirtyBubble\_69 Start: 41228, Stop: 41503, Start Num: 111

Candidate Starts for DirtyBubble\_69:

(Start: 111 @41228 has 75 MA's), (174, 41414), (175, 41417),

Gene: Dismas\_67 Start: 41256, Stop: 41531, Start Num: 111

Candidate Starts for Dismas\_67:

(58, 41181), (Start: 111 @41256 has 75 MA's), (174, 41442), (180, 41472),

Gene: DocMcStuffins\_1 Start: 42, Stop: 374, Start Num: 98

Candidate Starts for DocMcStuffins\_1:

(74, 9), (79, 15), (Start: 98 @42 has 49 MA's), (127, 120), (155, 213), (163, 237), (176, 285), (187, 339), (192, 354),

Gene: DonkeyMan\_59 Start: 39766, Stop: 40047, Start Num: 108

Candidate Starts for DonkeyMan\_59:

(56, 39688), (80, 39727), (81, 39730), (Start: 108 @39766 has 9 MA's), (126, 39820),

Gene: Doobus\_68 Start: 40732, Stop: 41007, Start Num: 111

Candidate Starts for Doobus\_68:

(Start: 111 @40732 has 75 MA's),

Gene: Doucette\_61 Start: 37032, Stop: 37370, Start Num: 95

Candidate Starts for Doucette\_61:

(82, 37014), (Start: 95 @37032 has 48 MA's), (116, 37065), (142, 37140),

Gene: DrParker\_45 Start: 29378, Stop: 29680, Start Num: 95

Candidate Starts for DrParker\_45:

(Start: 93 @29375 has 5 MA's), (Start: 95 @29378 has 48 MA's), (195, 29666),

Gene: DrRobert\_59 Start: 42246, Stop: 42524, Start Num: 106

Candidate Starts for DrRobert\_59:

(Start: 106 @42246 has 13 MA's), (Start: 115 @42264 has 63 MA's), (121, 42282), (175, 42441), (187, 42498), (189, 42504),

Gene: DreamTeam\_61 Start: 42752, Stop: 43012, Start Num: 115

Candidate Starts for DreamTeam\_61:

(Start: 106 @42734 has 13 MA's), (Start: 115 @42752 has 63 MA's), (121, 42770), (141, 42827), (169, 42908),

Gene: E1\_55 Start: 34794, Stop: 35114, Start Num: 85

Candidate Starts for E1\_55:

(2, 34521), (3, 34560), (4, 34569), (6, 34584), (19, 34650), (20, 34653), (28, 34677), (34, 34695), (47, 34725), (Start: 85 @34794 has 3 MA's), (107, 34824), (133, 34899), (191, 35097),

Gene: E6\_60 Start: 37670, Stop: 38008, Start Num: 95

Candidate Starts for E6\_60:

(82, 37652), (Start: 95 @37670 has 48 MA's), (116, 37703), (142, 37778),

Gene: Ecliptus\_1 Start: 40, Stop: 372, Start Num: 98

Candidate Starts for Ecliptus\_1:

(77, 13), (Start: 98 @40 has 49 MA's), (138, 145), (152, 199), (154, 208), (155, 211), (158, 220), (163, 235), (172, 265), (183, 319), (192, 352),

Gene: Eden\_72 Start: 40483, Stop: 40758, Start Num: 111

Candidate Starts for Eden\_72:

(9, 40246), (12, 40276), (13, 40279), (17, 40294), (26, 40324), (27, 40327), (49, 40381), (68, 40423), (Start: 111 @40483 has 75 MA's), (174, 40669), (175, 40672), (190, 40741),

Gene: Eesa\_65 Start: 39439, Stop: 39717, Start Num: 108

Candidate Starts for Eesa\_65:

(Start: 108 @39439 has 9 MA's), (194, 39709),

Gene: Elva\_73 Start: 41675, Stop: 41950, Start Num: 111

Candidate Starts for Elva\_73:

(Start: 111 @41675 has 75 MA's), (174, 41861), (175, 41864),

Gene: Emmaloid\_1 Start: 41, Stop: 373, Start Num: 98

Candidate Starts for Emmaloid\_1:

(76, 11), (Start: 98 @41 has 49 MA's), (127, 119), (155, 212), (163, 236), (176, 284), (187, 338), (192, 353),

Gene: Enochoraptor\_43 Start: 29132, Stop: 29437, Start Num: 93

Candidate Starts for Enochoraptor\_43:

(Start: 93 @29132 has 5 MA's), (Start: 95 @29135 has 48 MA's), (195, 29423),

Gene: Enoki\_45 Start: 28982, Stop: 29284, Start Num: 95

Candidate Starts for Enoki\_45:

(Start: 95 @28982 has 48 MA's), (195, 29270),

Gene: EstebanJulior\_60 Start: 43409, Stop: 43669, Start Num: 115

Candidate Starts for EstebanJulior\_60:

(Start: 115 @43409 has 63 MA's), (121, 43427), (141, 43484),

Gene: Eula\_69 Start: 40916, Stop: 41191, Start Num: 111

Candidate Starts for Eula\_69:

(Start: 111 @40916 has 75 MA's), (174, 41102),

Gene: Eunoia\_62 Start: 44077, Stop: 44337, Start Num: 115

Candidate Starts for Eunoia\_62:

(Start: 71 @44008 has 2 MA's), (Start: 83 @44029 has 1 MA's), (Start: 115 @44077 has 63 MA's), (122, 44098), (139, 44149),

Gene: Faiyaz\_131 Start: 75303, Stop: 75626, Start Num: 78

Candidate Starts for Faiyaz\_131:

(Start: 78 @75303 has 4 MA's), (147, 75453), (173, 75534), (178, 75558), (180, 75570),

Gene: Finalfrontier\_69 Start: 41583, Stop: 41858, Start Num: 111

Candidate Starts for Finalfrontier\_69:

(Start: 111 @41583 has 75 MA's), (174, 41769),

Gene: FlameThrower\_65 Start: 40846, Stop: 41121, Start Num: 111

Candidate Starts for FlameThrower\_65:

(58, 40768), (Start: 111 @40846 has 75 MA's), (174, 41032), (190, 41104),

Gene: Flathead\_1 Start: 40, Stop: 372, Start Num: 98

Candidate Starts for Flathead\_1:

(72, 7), (77, 13), (Start: 98 @40 has 49 MA's), (126, 109), (127, 118), (155, 211), (176, 283), (185, 328), (187, 337), (192, 352),

Gene: Fluke\_62 Start: 43458, Stop: 43736, Start Num: 106

Candidate Starts for Fluke\_62:

(Start: 106 @43458 has 13 MA's), (Start: 115 @43476 has 63 MA's), (121, 43494), (139, 43548),

Gene: Frankie\_1 Start: 40, Stop: 372, Start Num: 98

Candidate Starts for Frankie\_1:

(72, 7), (77, 13), (Start: 98 @40 has 49 MA's), (126, 109), (127, 118), (155, 211), (176, 283), (185, 328), (187, 337), (192, 352),

Gene: Franklin22\_74 Start: 40216, Stop: 40491, Start Num: 111

Candidate Starts for Franklin22\_74:

(68, 40156), (Start: 111 @40216 has 75 MA's), (174, 40402), (190, 40474),

Gene: Frickyeah\_1 Start: 39, Stop: 371, Start Num: 98

Candidate Starts for Frickyeah\_1:

(74, 9), (Start: 78 @15 has 4 MA's), (87, 27), (Start: 98 @39 has 49 MA's), (137, 141), (138, 144), (163, 234), (172, 264), (176, 282), (192, 351),

Gene: Frizzle\_60 Start: 45090, Stop: 45314, Start Num: 129

Candidate Starts for Frizzle\_60:

(Start: 102 @45018 has 1 MA's), (Start: 129 @45090 has 1 MA's), (142, 45123), (194, 45306),

Gene: Fryberger\_144 Start: 66223, Stop: 66480, Start Num: 109

Candidate Starts for Fryberger\_144:

(Start: 109 @66223 has 7 MA's), (144, 66319), (153, 66343), (165, 66373), (175, 66406),

Gene: G4\_69 Start: 38158, Stop: 38496, Start Num: 95  
Candidate Starts for G4\_69:  
(82, 38140), (Start: 95 @38158 has 48 MA's), (116, 38191), (142, 38266),

Gene: Gack\_71 Start: 40197, Stop: 40472, Start Num: 111  
Candidate Starts for Gack\_71:  
(Start: 111 @40197 has 75 MA's), (174, 40383), (180, 40413),

Gene: Galaxy\_65 Start: 37453, Stop: 37731, Start Num: 111  
Candidate Starts for Galaxy\_65:  
(30, 37303), (40, 37327), (52, 37360), (Start: 111 @37453 has 75 MA's), (177, 37660),

Gene: Getalong\_1 Start: 39, Stop: 371, Start Num: 98  
Candidate Starts for Getalong\_1:  
(74, 9), (Start: 78 @15 has 4 MA's), (87, 27), (Start: 98 @39 has 49 MA's), (137, 141), (138, 144), (163, 234), (172, 264), (176, 282), (192, 351),

Gene: Ghobes\_59 Start: 45003, Stop: 45227, Start Num: 129  
Candidate Starts for Ghobes\_59:  
(Start: 102 @44931 has 1 MA's), (Start: 129 @45003 has 1 MA's), (142, 45036), (194, 45219),

Gene: Girafales\_1 Start: 41, Stop: 373, Start Num: 98  
Candidate Starts for Girafales\_1:  
(76, 11), (Start: 98 @41 has 49 MA's), (120, 86), (126, 110), (127, 119), (152, 200), (163, 236), (176, 284), (185, 329), (187, 338), (192, 353),

Gene: Gisselle\_61 Start: 42752, Stop: 43012, Start Num: 115  
Candidate Starts for Gisselle\_61:  
(Start: 106 @42734 has 13 MA's), (Start: 115 @42752 has 63 MA's), (121, 42770), (141, 42827), (169, 42908),

Gene: Glenn\_64 Start: 44035, Stop: 44313, Start Num: 106  
Candidate Starts for Glenn\_64:  
(Start: 106 @44035 has 13 MA's), (Start: 115 @44053 has 63 MA's), (121, 44071), (139, 44125),

Gene: GreenHearts\_62 Start: 43911, Stop: 44171, Start Num: 115  
Candidate Starts for GreenHearts\_62:  
(Start: 115 @43911 has 63 MA's), (118, 43917), (134, 43968), (135, 43971), (139, 43983), (180, 44115),

Gene: Greenhouse\_61 Start: 43637, Stop: 43897, Start Num: 115  
Candidate Starts for Greenhouse\_61:  
(Start: 115 @43637 has 63 MA's), (118, 43643), (134, 43694), (135, 43697), (180, 43841),

Gene: Guey18\_149 Start: 67884, Stop: 68141, Start Num: 109  
Candidate Starts for Guey18\_149:  
(Start: 109 @67884 has 7 MA's), (144, 67980), (153, 68004), (165, 68034), (175, 68067),

Gene: Gustav\_68 Start: 43674, Stop: 44000, Start Num: 66  
Candidate Starts for Gustav\_68:  
(51, 43644), (Start: 66 @43674 has 2 MA's), (132, 43788), (156, 43857), (163, 43875), (169, 43896), (172, 43905), (184, 43962),

Gene: HeadNerd\_62 Start: 42632, Stop: 42892, Start Num: 115

Candidate Starts for HeadNerd\_62:

(Start: 106 @42614 has 13 MA's), (Start: 115 @42632 has 63 MA's), (121, 42650), (141, 42707), (175, 42809), (184, 42857),

Gene: Hegedechwinu\_1 Start: 40, Stop: 372, Start Num: 98

Candidate Starts for Hegedechwinu\_1:

(72, 7), (77, 13), (Start: 98 @40 has 49 MA's), (126, 109), (127, 118), (155, 211), (176, 283), (185, 328), (187, 337), (192, 352),

Gene: Heinz\_63 Start: 39746, Stop: 40030, Start Num: 108

Candidate Starts for Heinz\_63:

(Start: 108 @39746 has 9 MA's), (126, 39800),

Gene: Herb\_60 Start: 43613, Stop: 43870, Start Num: 115

Candidate Starts for Herb\_60:

(112, 43604), (Start: 115 @43613 has 63 MA's), (121, 43631), (142, 43688), (169, 43766),

Gene: Hilltopfarm\_134 Start: 76128, Stop: 76451, Start Num: 78

Candidate Starts for Hilltopfarm\_134:

(Start: 78 @76128 has 4 MA's), (147, 76278), (173, 76359), (178, 76383), (180, 76395),

Gene: Holliday\_1 Start: 39, Stop: 371, Start Num: 98

Candidate Starts for Holliday\_1:

(74, 9), (Start: 78 @15 has 4 MA's), (Start: 98 @39 has 49 MA's), (127, 117), (137, 141), (163, 234), (176, 282), (183, 318), (192, 351),

Gene: Horus\_1 Start: 39, Stop: 371, Start Num: 98

Candidate Starts for Horus\_1:

(74, 9), (Start: 78 @15 has 4 MA's), (87, 27), (Start: 98 @39 has 49 MA's), (127, 117), (137, 141), (163, 234), (172, 264), (176, 282), (192, 351),

Gene: Huckleberry\_62 Start: 42636, Stop: 42896, Start Num: 115

Candidate Starts for Huckleberry\_62:

(Start: 106 @42618 has 13 MA's), (Start: 115 @42636 has 63 MA's), (121, 42654), (141, 42711), (175, 42813), (184, 42861),

Gene: Huffy\_64 Start: 39227, Stop: 39523, Start Num: 97

Candidate Starts for Huffy\_64:

(68, 39185), (Start: 97 @39227 has 8 MA's), (168, 39416), (184, 39485),

Gene: HunterDalle\_60 Start: 42928, Stop: 43257, Start Num: 71

Candidate Starts for HunterDalle\_60:

(Start: 71 @42928 has 2 MA's), (Start: 83 @42949 has 1 MA's), (Start: 115 @42997 has 63 MA's), (121, 43015), (122, 43018), (139, 43069),

Gene: Huntingdon\_61 Start: 43533, Stop: 43811, Start Num: 104

Candidate Starts for Huntingdon\_61:

(Start: 104 @43533 has 1 MA's), (Start: 115 @43551 has 63 MA's), (134, 43608), (135, 43611), (139, 43623), (180, 43755),

Gene: Icarian\_72 Start: 41856, Stop: 42131, Start Num: 111

Candidate Starts for Icarian\_72:

(Start: 111 @41856 has 75 MA's), (168, 42021), (174, 42042), (175, 42045),

Gene: Immaculata\_62 Start: 43324, Stop: 43584, Start Num: 115

Candidate Starts for Immaculata\_62:

(Start: 106 @43306 has 13 MA's), (Start: 115 @43324 has 63 MA's), (121, 43342), (139, 43396),

Gene: IndyLu\_71 Start: 41495, Stop: 41770, Start Num: 111

Candidate Starts for IndyLu\_71:

(20, 41318), (37, 41369), (58, 41420), (67, 41435), (86, 41462), (89, 41468), (Start: 101 @41483 has 7 MA's), (Start: 111 @41495 has 75 MA's),

Gene: Jabb\_71 Start: 41251, Stop: 41526, Start Num: 111

Candidate Starts for Jabb\_71:

(Start: 111 @41251 has 75 MA's),

Gene: Jabbawokkie\_2 Start: 561, Stop: 893, Start Num: 98

Candidate Starts for Jabbawokkie\_2:

(72, 528), (Start: 98 @561 has 49 MA's), (163, 756), (172, 786), (176, 804), (185, 849), (192, 873),

Gene: Jamun\_63 Start: 38467, Stop: 38745, Start Num: 111

Candidate Starts for Jamun\_63:

(25, 38326), (73, 38413), (Start: 98 @38449 has 49 MA's), (Start: 102 @38455 has 1 MA's), (Start: 111 @38467 has 75 MA's),

Gene: JanetJ\_52 Start: 36634, Stop: 36915, Start Num: 103

Candidate Starts for JanetJ\_52:

(Start: 103 @36634 has 2 MA's),

Gene: Jankie\_67 Start: 41285, Stop: 41572, Start Num: 109

Candidate Starts for Jankie\_67:

(61, 41219), (Start: 109 @41285 has 7 MA's), (165, 41447), (171, 41465),

Gene: Joann\_63 Start: 43843, Stop: 44103, Start Num: 115

Candidate Starts for Joann\_63:

(Start: 115 @43843 has 63 MA's), (134, 43900), (135, 43903), (180, 44047),

Gene: Job42\_1 Start: 41, Stop: 373, Start Num: 98

Candidate Starts for Job42\_1:

(76, 11), (Start: 98 @41 has 49 MA's), (127, 119), (155, 212), (176, 284), (185, 329), (187, 338), (192, 353),

Gene: Johnathan\_70 Start: 40508, Stop: 40783, Start Num: 111

Candidate Starts for Johnathan\_70:

(Start: 111 @40508 has 75 MA's),

Gene: Jovita\_68 Start: 40684, Stop: 40959, Start Num: 111

Candidate Starts for Jovita\_68:

(Start: 111 @40684 has 75 MA's), (174, 40870),

Gene: Juice456\_1 Start: 41, Stop: 373, Start Num: 98

Candidate Starts for Juice456\_1:

(76, 11), (Start: 98 @41 has 49 MA's), (127, 119), (155, 212), (176, 284), (185, 329), (187, 338), (192, 353),

Gene: Jumboset\_62 Start: 43444, Stop: 43704, Start Num: 115

Candidate Starts for Jumboset\_62:

(Start: 106 @43426 has 13 MA's), (Start: 115 @43444 has 63 MA's), (121, 43462), (135, 43504), (139, 43516),

Gene: Kalizoi\_62 Start: 43182, Stop: 43442, Start Num: 115

Candidate Starts for Kalizoi\_62:

(Start: 106 @43164 has 13 MA's), (Start: 115 @43182 has 63 MA's), (121, 43200), (139, 43254),

Gene: Kamaru\_1 Start: 39, Stop: 371, Start Num: 98

Candidate Starts for Kamaru\_1:

(74, 9), (Start: 78 @15 has 4 MA's), (Start: 98 @39 has 49 MA's), (127, 117), (137, 141), (163, 234), (176, 282), (183, 318), (192, 351),

Gene: Kate33\_71 Start: 41226, Stop: 41501, Start Num: 111

Candidate Starts for Kate33\_71:

(37, 41100), (58, 41151), (67, 41166), (89, 41199), (Start: 101 @41214 has 7 MA's), (Start: 111 @41226 has 75 MA's),

Gene: Katzastrophic\_67 Start: 41352, Stop: 41627, Start Num: 111

Candidate Starts for Katzastrophic\_67:

(22, 41187), (26, 41196), (27, 41199), (46, 41247), (58, 41277), (67, 41292), (89, 41325), (Start: 111 @41352 has 75 MA's), (174, 41538), (190, 41610),

Gene: Keelan\_144 Start: 66560, Stop: 66817, Start Num: 109

Candidate Starts for Keelan\_144:

(Start: 109 @66560 has 7 MA's), (144, 66656), (153, 66680), (165, 66710), (175, 66743), (187, 66803),

Gene: Keiki\_45 Start: 28972, Stop: 29277, Start Num: 93

Candidate Starts for Keiki\_45:

(Start: 93 @28972 has 5 MA's), (Start: 95 @28975 has 48 MA's), (137, 29071), (195, 29263),

Gene: KendraB23\_76 Start: 39417, Stop: 39695, Start Num: 108

Candidate Starts for KendraB23\_76:

(Start: 66 @39363 has 2 MA's), (Start: 108 @39417 has 9 MA's), (194, 39687),

Gene: Kenna\_1 Start: 39, Stop: 371, Start Num: 98

Candidate Starts for Kenna\_1:

(74, 9), (Start: 78 @15 has 4 MA's), (87, 27), (Start: 98 @39 has 49 MA's), (127, 117), (137, 141), (138, 144), (163, 234), (172, 264), (176, 282), (192, 351),

Gene: Kenzers\_69 Start: 40798, Stop: 41073, Start Num: 111

Candidate Starts for Kenzers\_69:

(Start: 111 @40798 has 75 MA's), (174, 40984),

Gene: Khuang\_70 Start: 39192, Stop: 39488, Start Num: 101

Candidate Starts for Khuang\_70:

(Start: 101 @39192 has 7 MA's), (117, 39222), (163, 39360),

Gene: Kieran\_65 Start: 41080, Stop: 41355, Start Num: 111

Candidate Starts for Kieran\_65:

(58, 41005), (Start: 111 @41080 has 75 MA's), (174, 41266), (180, 41296),

Gene: Kimberlium\_1 Start: 41, Stop: 373, Start Num: 98

Candidate Starts for Kimberlium\_1:

(76, 11), (Start: 98 @41 has 49 MA's), (127, 119), (155, 212), (176, 284), (185, 329), (187, 338), (192, 353),

Gene: KingBob\_60 Start: 43614, Stop: 43871, Start Num: 115

Candidate Starts for KingBob\_60:

(112, 43605), (Start: 115 @43614 has 63 MA's), (121, 43632), (142, 43689), (169, 43767),

Gene: Kittykat\_65 Start: 43266, Stop: 43526, Start Num: 115

Candidate Starts for Kittykat\_65:

(Start: 106 @43248 has 13 MA's), (Start: 115 @43266 has 63 MA's), (121, 43284), (141, 43341), (169, 43422), (175, 43443),

Gene: Korra\_62 Start: 43371, Stop: 43631, Start Num: 115

Candidate Starts for Korra\_62:

(Start: 106 @43353 has 13 MA's), (Start: 115 @43371 has 63 MA's), (121, 43389), (139, 43443),

Gene: Kubed\_44 Start: 29097, Stop: 29399, Start Num: 95

Candidate Starts for Kubed\_44:

(Start: 95 @29097 has 48 MA's), (195, 29385),

Gene: Kudefre\_128 Start: 69247, Stop: 69579, Start Num: 101

Candidate Starts for Kudefre\_128:

(Start: 101 @69247 has 7 MA's), (150, 69385), (152, 69397), (177, 69487),

Gene: Lahqtemish\_69 Start: 41710, Stop: 41985, Start Num: 111

Candidate Starts for Lahqtemish\_69:

(45, 41602), (58, 41635), (67, 41650), (86, 41677), (89, 41683), (Start: 101 @41698 has 7 MA's), (Start: 111 @41710 has 75 MA's),

Gene: Lakshmi\_61 Start: 43678, Stop: 43938, Start Num: 115

Candidate Starts for Lakshmi\_61:

(Start: 115 @43678 has 63 MA's), (118, 43684), (134, 43735), (135, 43738), (139, 43750), (180, 43882),

Gene: Lasagna\_59 Start: 42266, Stop: 42526, Start Num: 115

Candidate Starts for Lasagna\_59:

(Start: 106 @42248 has 13 MA's), (Start: 115 @42266 has 63 MA's), (121, 42284), (175, 42443), (187, 42500), (189, 42506),

Gene: Lauchelly\_45 Start: 29153, Stop: 29455, Start Num: 95

Candidate Starts for Lauchelly\_45:

(Start: 95 @29153 has 48 MA's), (195, 29441),

Gene: Lennox\_61 Start: 42751, Stop: 43011, Start Num: 115

Candidate Starts for Lennox\_61:

(Start: 106 @42733 has 13 MA's), (Start: 115 @42751 has 63 MA's), (121, 42769), (141, 42826), (175, 42928), (187, 42985), (189, 42991),

Gene: Leona\_68 Start: 38237, Stop: 38518, Start Num: 108

Candidate Starts for Leona\_68:



(Start: 108 @38237 has 9 MA's), (160, 38384), (177, 38447),

Gene: Leroy\_1 Start: 39, Stop: 371, Start Num: 98

Candidate Starts for Leroy\_1:

(74, 9), (Start: 78 @15 has 4 MA's), (87, 27), (Start: 98 @39 has 49 MA's), (137, 141), (138, 144), (163, 234), (172, 264), (176, 282), (192, 351),

Gene: Leviosa\_44 Start: 29089, Stop: 29391, Start Num: 95

Candidate Starts for Leviosa\_44:

(Start: 95 @29089 has 48 MA's),

Gene: LilBandit\_45 Start: 28677, Stop: 28979, Start Num: 95

Candidate Starts for LilBandit\_45:

(Start: 95 @28677 has 48 MA's), (195, 28965),

Gene: LilStuart\_60 Start: 42614, Stop: 42874, Start Num: 115

Candidate Starts for LilStuart\_60:

(Start: 106 @42596 has 13 MA's), (Start: 115 @42614 has 63 MA's), (121, 42632), (175, 42791), (187, 42848), (189, 42854),

Gene: LimaBean\_68 Start: 40790, Stop: 41065, Start Num: 111

Candidate Starts for LimaBean\_68:

(59, 40715), (Start: 69 @40730 has 1 MA's), (88, 40760), (Start: 91 @40763 has 1 MA's), (Start: 111 @40790 has 75 MA's),

Gene: LitninMcQueen\_1 Start: 39, Stop: 371, Start Num: 98

Candidate Starts for LitninMcQueen\_1:

(74, 9), (Start: 78 @15 has 4 MA's), (Start: 98 @39 has 49 MA's), (127, 117), (137, 141), (163, 234), (176, 282), (183, 318), (192, 351),

Gene: Litotes\_62 Start: 43156, Stop: 43416, Start Num: 115

Candidate Starts for Litotes\_62:

(92, 43123), (Start: 108 @43144 has 9 MA's), (113, 43150), (Start: 115 @43156 has 63 MA's),

Gene: LittleShirley\_1 Start: 41, Stop: 373, Start Num: 98

Candidate Starts for LittleShirley\_1:

(76, 11), (Start: 98 @41 has 49 MA's), (127, 119), (155, 212), (163, 236), (176, 284), (187, 338), (192, 353),

Gene: LittleTokyo\_73 Start: 38604, Stop: 38882, Start Num: 111

Candidate Starts for LittleTokyo\_73:

(Start: 111 @38604 has 75 MA's), (174, 38796),

Gene: Loviatar\_114 Start: 42044, Stop: 42379, Start Num: 67

Candidate Starts for Loviatar\_114:

(58, 42029), (67, 42044), (89, 42077), (Start: 111 @42104 has 75 MA's), (123, 42137), (175, 42293),

Gene: Lucy\_60 Start: 42591, Stop: 42869, Start Num: 106

Candidate Starts for Lucy\_60:

(Start: 106 @42591 has 13 MA's), (Start: 115 @42609 has 63 MA's), (121, 42627), (175, 42786), (187, 42843), (189, 42849),

Gene: Lutum\_1 Start: 39, Stop: 371, Start Num: 98

Candidate Starts for Lutum\_1:

(74, 9), (Start: 78 @15 has 4 MA's), (87, 27), (Start: 98 @39 has 49 MA's), (127, 117), (137, 141), (138, 144), (163, 234), (172, 264), (176, 282), (192, 351),

Gene: Lynlen\_71 Start: 40984, Stop: 41259, Start Num: 111

Candidate Starts for Lynlen\_71:

(Start: 101 @40972 has 7 MA's), (Start: 111 @40984 has 75 MA's),

Gene: MEAK\_44 Start: 28859, Stop: 29161, Start Num: 95

Candidate Starts for MEAK\_44:

(Start: 93 @28856 has 5 MA's), (Start: 95 @28859 has 48 MA's),

Gene: Mahdia\_60 Start: 41790, Stop: 42113, Start Num: 66

Candidate Starts for Mahdia\_60:

(Start: 66 @41790 has 2 MA's), (Start: 75 @41796 has 2 MA's), (156, 41970), (163, 41988), (184, 42075),

Gene: Makoto\_60 Start: 42571, Stop: 42831, Start Num: 115

Candidate Starts for Makoto\_60:

(Start: 106 @42553 has 13 MA's), (Start: 115 @42571 has 63 MA's), (121, 42589), (141, 42646), (175, 42748), (187, 42805), (189, 42811),

Gene: Malisha\_1 Start: 39, Stop: 371, Start Num: 98

Candidate Starts for Malisha\_1:

(74, 9), (Start: 78 @15 has 4 MA's), (Start: 98 @39 has 49 MA's), (127, 117), (154, 207), (163, 234), (172, 264), (176, 282), (183, 318), (192, 351),

Gene: MamaPearl\_60 Start: 43409, Stop: 43669, Start Num: 115

Candidate Starts for MamaPearl\_60:

(Start: 115 @43409 has 63 MA's), (121, 43427), (141, 43484),

Gene: Maria1952\_59 Start: 43613, Stop: 43870, Start Num: 115

Candidate Starts for Maria1952\_59:

(112, 43604), (Start: 115 @43613 has 63 MA's), (121, 43631), (142, 43688), (169, 43766),

Gene: MeganNoll\_63 Start: 43904, Stop: 44182, Start Num: 106

Candidate Starts for MeganNoll\_63:

(Start: 106 @43904 has 13 MA's), (Start: 115 @43922 has 63 MA's), (121, 43940), (139, 43994),

Gene: Milomuff\_73 Start: 41357, Stop: 41632, Start Num: 111

Candidate Starts for Milomuff\_73:

(Start: 111 @41357 has 75 MA's),

Gene: Min1\_34 Start: 16506, Stop: 16799, Start Num: 107

Candidate Starts for Min1\_34:

(62, 16446), (Start: 75 @16461 has 2 MA's), (77, 16464), (Start: 85 @16479 has 3 MA's), (96, 16491), (107, 16506), (146, 16617), (168, 16686), (191, 16782),

Gene: Misaeng\_61 Start: 43477, Stop: 43737, Start Num: 115

Candidate Starts for Misaeng\_61:

(Start: 115 @43477 has 63 MA's), (134, 43534), (135, 43537), (139, 43549), (180, 43681),

Gene: Misha28\_1 Start: 42, Stop: 374, Start Num: 98

Candidate Starts for Misha28\_1:

(74, 9), (79, 15), (Start: 98 @42 has 49 MA's), (127, 120), (155, 213), (163, 237), (176, 285), (187, 339), (192, 354),

Gene: Moki\_62 Start: 42825, Stop: 43085, Start Num: 115

Candidate Starts for Moki\_62:

(Start: 106 @42807 has 13 MA's), (Start: 115 @42825 has 63 MA's), (121, 42843), (141, 42900), (175, 43002), (184, 43050),

Gene: Morrissey\_63 Start: 43651, Stop: 44007, Start Num: 54

Candidate Starts for Morrissey\_63:

(Start: 54 @43651 has 1 MA's), (61, 43666), (Start: 69 @43678 has 1 MA's), (90, 43702), (156, 43864), (184, 43969),

Gene: Mova\_1 Start: 41, Stop: 373, Start Num: 98

Candidate Starts for Mova\_1:

(76, 11), (Start: 98 @41 has 49 MA's), (127, 119), (155, 212), (163, 236), (176, 284), (187, 338), (192, 353),

Gene: Moyashi\_44 Start: 28889, Stop: 29191, Start Num: 95

Candidate Starts for Moyashi\_44:

(Start: 95 @28889 has 48 MA's),

Gene: Mozy\_1 Start: 40, Stop: 372, Start Num: 98

Candidate Starts for Mozy\_1:

(72, 7), (77, 13), (Start: 98 @40 has 49 MA's), (120, 85), (126, 109), (127, 118), (152, 199), (163, 235), (176, 283), (185, 328), (187, 337), (192, 352),

Gene: MrAK\_46 Start: 29362, Stop: 29664, Start Num: 95

Candidate Starts for MrAK\_46:

(Start: 95 @29362 has 48 MA's),

Gene: MrGloopy\_62 Start: 43347, Stop: 43625, Start Num: 106

Candidate Starts for MrGloopy\_62:

(Start: 106 @43347 has 13 MA's), (Start: 115 @43365 has 63 MA's), (121, 43383), (139, 43437),

Gene: MrSmee\_79 Start: 40738, Stop: 41043, Start Num: 95

Candidate Starts for MrSmee\_79:

(Start: 95 @40738 has 48 MA's), (132, 40819), (142, 40846), (181, 40978), (182, 40981), (196, 41020),

Gene: MsUbiquitous\_71 Start: 41251, Stop: 41526, Start Num: 111

Candidate Starts for MsUbiquitous\_71:

(Start: 111 @41251 has 75 MA's),

Gene: MulchExplorer\_1 Start: 41, Stop: 373, Start Num: 98

Candidate Starts for MulchExplorer\_1:

(76, 11), (Start: 98 @41 has 49 MA's), (127, 119), (155, 212), (176, 284), (185, 329), (187, 338), (192, 353),

Gene: Nancia\_61 Start: 42902, Stop: 43162, Start Num: 115

Candidate Starts for Nancia\_61:

(Start: 106 @42884 has 13 MA's), (Start: 115 @42902 has 63 MA's), (121, 42920), (175, 43079), (187, 43136), (189, 43142),

Gene: Neville\_125 Start: 70232, Stop: 70561, Start Num: 101

Candidate Starts for Neville\_125:

(Start: 101 @70232 has 7 MA's), (145, 70352), (152, 70382), (159, 70406), (162, 70415), (179, 70484), (184, 70508), (188, 70517), (197, 70556),

Gene: Nicky22\_69 Start: 41321, Stop: 41596, Start Num: 111

Candidate Starts for Nicky22\_69:

(Start: 111 @41321 has 75 MA's), (174, 41507),

Gene: Nubia\_61 Start: 43705, Stop: 43965, Start Num: 115

Candidate Starts for Nubia\_61:

(Start: 104 @43687 has 1 MA's), (Start: 115 @43705 has 63 MA's), (134, 43762), (135, 43765), (180, 43909),

Gene: ODay\_1 Start: 39, Stop: 371, Start Num: 98

Candidate Starts for ODay\_1:

(74, 9), (Start: 78 @15 has 4 MA's), (Start: 98 @39 has 49 MA's), (127, 117), (137, 141), (163, 234), (176, 282), (183, 318), (192, 351),

Gene: OMalley\_60 Start: 43400, Stop: 43660, Start Num: 115

Candidate Starts for OMalley\_60:

(Start: 71 @43331 has 2 MA's), (Start: 83 @43352 has 1 MA's), (Start: 115 @43400 has 63 MA's), (122, 43421), (139, 43472),

Gene: Octobien14\_124 Start: 67781, Stop: 68113, Start Num: 101

Candidate Starts for Octobien14\_124:

(Start: 75 @67739 has 2 MA's), (Start: 101 @67781 has 7 MA's), (150, 67919), (152, 67931), (172, 67997),

Gene: Ogotogo\_2 Start: 299, Stop: 631, Start Num: 98

Candidate Starts for Ogotogo\_2:

(Start: 98 @299 has 49 MA's), (127, 377), (163, 494), (172, 524), (176, 542), (185, 587), (192, 611),

Gene: Olliecat\_66 Start: 38762, Stop: 39037, Start Num: 111

Candidate Starts for Olliecat\_66:

(1, 38429), (18, 38579), (35, 38630), (Start: 111 @38762 has 75 MA's), (174, 38948), (186, 39005),

Gene: Orcanus\_65 Start: 39051, Stop: 39329, Start Num: 108

Candidate Starts for Orcanus\_65:

(Start: 108 @39051 has 9 MA's),

Gene: OurGirlNessie\_59 Start: 42225, Stop: 42485, Start Num: 115

Candidate Starts for OurGirlNessie\_59:

(Start: 106 @42207 has 13 MA's), (Start: 115 @42225 has 63 MA's), (121, 42243), (141, 42300), (175, 42402), (187, 42459), (189, 42465),

Gene: Ouroboros\_45 Start: 29142, Stop: 29444, Start Num: 95

Candidate Starts for Ouroboros\_45:

(Start: 95 @29142 has 48 MA's), (137, 29238), (195, 29430),

Gene: Oxynfrius\_62 Start: 43823, Stop: 44083, Start Num: 115

Candidate Starts for Oxynfrius\_62:

(Start: 115 @43823 has 63 MA's), (134, 43880), (135, 43883), (180, 44027),

Gene: P1.1\_45 Start: 28981, Stop: 29286, Start Num: 93

Candidate Starts for P1.1\_45:

(84, 28969), (Start: 93 @28981 has 5 MA's), (Start: 95 @28984 has 48 MA's), (195, 29272),

Gene: P100.1\_47 Start: 29248, Stop: 29550, Start Num: 95

Candidate Starts for P100.1\_47:

(87, 29236), (Start: 95 @29248 has 48 MA's), (195, 29536),

Gene: P100A\_45 Start: 29140, Stop: 29442, Start Num: 95

Candidate Starts for P100A\_45:

(Start: 95 @29140 has 48 MA's), (195, 29428),

Gene: P100D\_47 Start: 29142, Stop: 29444, Start Num: 95

Candidate Starts for P100D\_47:

(Start: 95 @29142 has 48 MA's), (195, 29430),

Gene: P101A\_47 Start: 29210, Stop: 29512, Start Num: 95

Candidate Starts for P101A\_47:

(Start: 95 @29210 has 48 MA's),

Gene: P104A\_45 Start: 29007, Stop: 29309, Start Num: 95

Candidate Starts for P104A\_45:

(Start: 95 @29007 has 48 MA's), (195, 29295),

Gene: P104B\_44 Start: 28966, Stop: 29268, Start Num: 95

Candidate Starts for P104B\_44:

(Start: 95 @28966 has 48 MA's), (195, 29254),

Gene: P105\_45 Start: 28838, Stop: 29140, Start Num: 95

Candidate Starts for P105\_45:

(Start: 93 @28835 has 5 MA's), (Start: 95 @28838 has 48 MA's),

Gene: P106A\_45 Start: 29190, Stop: 29492, Start Num: 95

Candidate Starts for P106A\_45:

(87, 29178), (Start: 95 @29190 has 48 MA's), (195, 29478),

Gene: P106C\_46 Start: 29277, Stop: 29579, Start Num: 95

Candidate Starts for P106C\_46:

(87, 29265), (Start: 95 @29277 has 48 MA's), (195, 29565),

Gene: P106I\_46 Start: 29106, Stop: 29408, Start Num: 95

Candidate Starts for P106I\_46:

(87, 29094), (Start: 95 @29106 has 48 MA's), (195, 29394),

Gene: P106L\_45 Start: 29277, Stop: 29579, Start Num: 95

Candidate Starts for P106L\_45:

(87, 29265), (Start: 95 @29277 has 48 MA's), (195, 29565),

Gene: P106M\_45 Start: 29277, Stop: 29579, Start Num: 95

Candidate Starts for P106M\_45:

(87, 29265), (Start: 95 @29277 has 48 MA's), (195, 29565),

Gene: P107A\_45 Start: 29101, Stop: 29403, Start Num: 95

Candidate Starts for P107A\_45:

(Start: 95 @29101 has 48 MA's), (137, 29197),

Gene: P107C\_44 Start: 29152, Stop: 29454, Start Num: 95

Candidate Starts for P107C\_44:

(82, 29134), (Start: 95 @29152 has 48 MA's),

Gene: P108C\_44 Start: 29130, Stop: 29432, Start Num: 95

Candidate Starts for P108C\_44:

(Start: 93 @29127 has 5 MA's), (Start: 95 @29130 has 48 MA's),

Gene: P14.4\_47 Start: 29362, Stop: 29667, Start Num: 93

Candidate Starts for P14.4\_47:

(Start: 93 @29362 has 5 MA's), (Start: 95 @29365 has 48 MA's), (195, 29653),

Gene: P9.1\_45 Start: 28850, Stop: 29152, Start Num: 95

Candidate Starts for P9.1\_45:

(87, 28838), (Start: 93 @28847 has 5 MA's), (Start: 95 @28850 has 48 MA's), (195, 29138),

Gene: PA6\_48 Start: 29388, Stop: 29690, Start Num: 95

Candidate Starts for PA6\_48:

(82, 29370), (Start: 95 @29388 has 48 MA's), (195, 29676),

Gene: PAD20\_48 Start: 28723, Stop: 29025, Start Num: 95

Candidate Starts for PAD20\_48:

(Start: 95 @28723 has 48 MA's), (195, 29011),

Gene: PAS50\_48 Start: 28663, Stop: 28968, Start Num: 93

Candidate Starts for PAS50\_48:

(87, 28654), (Start: 93 @28663 has 5 MA's), (Start: 95 @28666 has 48 MA's), (195, 28954),

Gene: PHL010M04\_45 Start: 29157, Stop: 29459, Start Num: 95

Candidate Starts for PHL010M04\_45:

(Start: 95 @29157 has 48 MA's),

Gene: PHL037M02\_45 Start: 29090, Stop: 29392, Start Num: 95

Candidate Starts for PHL037M02\_45:

(Start: 95 @29090 has 48 MA's), (137, 29186), (195, 29378),

Gene: PHL060L00\_46 Start: 29161, Stop: 29463, Start Num: 95

Candidate Starts for PHL060L00\_46:

(Start: 95 @29161 has 48 MA's),

Gene: PHL067M10\_45 Start: 29024, Stop: 29326, Start Num: 95

Candidate Starts for PHL067M10\_45:

(Start: 95 @29024 has 48 MA's), (195, 29312),

Gene: PHL071N05\_45 Start: 29114, Stop: 29416, Start Num: 95

Candidate Starts for PHL071N05\_45:

(Start: 93 @29111 has 5 MA's), (Start: 95 @29114 has 48 MA's), (195, 29402),

Gene: PHL111M01\_45 Start: 28787, Stop: 29089, Start Num: 95  
Candidate Starts for PHL111M01\_45:  
(Start: 93 @28784 has 5 MA's), (Start: 95 @28787 has 48 MA's), (195, 29075),

Gene: PHL112N00\_46 Start: 28913, Stop: 29215, Start Num: 95  
Candidate Starts for PHL112N00\_46:  
(Start: 95 @28913 has 48 MA's),

Gene: PHL113M01\_44 Start: 28844, Stop: 29149, Start Num: 93  
Candidate Starts for PHL113M01\_44:  
(Start: 93 @28844 has 5 MA's), (Start: 95 @28847 has 48 MA's), (195, 29135),

Gene: PHL114L00\_46 Start: 29111, Stop: 29413, Start Num: 95  
Candidate Starts for PHL114L00\_46:  
(Start: 95 @29111 has 48 MA's),

Gene: PartyCup\_66 Start: 43576, Stop: 43848, Start Num: 108  
Candidate Starts for PartyCup\_66:  
(92, 43555), (Start: 108 @43576 has 9 MA's), (113, 43582), (Start: 115 @43588 has 63 MA's),

Gene: PastaFagioli\_69 Start: 41718, Stop: 42053, Start Num: 67  
Candidate Starts for PastaFagioli\_69:  
(45, 41670), (58, 41703), (67, 41718), (86, 41745), (89, 41751), (Start: 101 @41766 has 7 MA's),  
(Start: 111 @41778 has 75 MA's),

Gene: Periwinkle\_1 Start: 39, Stop: 371, Start Num: 98  
Candidate Starts for Periwinkle\_1:  
(74, 9), (Start: 78 @15 has 4 MA's), (87, 27), (Start: 98 @39 has 49 MA's), (127, 117), (137, 141), (138, 144), (163, 234), (172, 264), (176, 282), (192, 351),

Gene: Phabuloso\_1 Start: 39, Stop: 371, Start Num: 98  
Candidate Starts for Phabuloso\_1:  
(74, 9), (Start: 78 @15 has 4 MA's), (Start: 98 @39 has 49 MA's), (127, 117), (137, 141), (163, 234),  
(176, 282), (183, 318), (192, 351),

Gene: PhigPhack\_73 Start: 41119, Stop: 41394, Start Num: 111  
Candidate Starts for PhigPhack\_73:  
(Start: 111 @41119 has 75 MA's), (174, 41305),

Gene: Phisb\_72 Start: 41092, Stop: 41367, Start Num: 111  
Candidate Starts for Phisb\_72:  
(Start: 111 @41092 has 75 MA's),

Gene: Phistory\_1 Start: 39, Stop: 371, Start Num: 98  
Candidate Starts for Phistory\_1:  
(74, 9), (Start: 78 @15 has 4 MA's), (Start: 98 @39 has 49 MA's), (137, 141), (138, 144), (163, 234),  
(172, 264), (176, 282), (183, 318), (192, 351),

Gene: PinkFriday\_61 Start: 42959, Stop: 43216, Start Num: 115  
Candidate Starts for PinkFriday\_61:  
(112, 42950), (Start: 115 @42959 has 63 MA's), (142, 43034), (143, 43037), (169, 43112), (189, 43196),

Gene: Piper2020\_1 Start: 42, Stop: 374, Start Num: 98  
Candidate Starts for Piper2020\_1:  
(74, 9), (79, 15), (Start: 98 @42 has 49 MA's), (127, 120), (155, 213), (163, 237), (176, 285), (187, 339), (192, 354),

Gene: Pirate\_44 Start: 28960, Stop: 29262, Start Num: 95  
Candidate Starts for Pirate\_44:  
(Start: 93 @28957 has 5 MA's), (Start: 95 @28960 has 48 MA's), (137, 29056), (195, 29248),

Gene: PitaDog\_61 Start: 42609, Stop: 42887, Start Num: 106  
Candidate Starts for PitaDog\_61:  
(Start: 106 @42609 has 13 MA's), (Start: 115 @42627 has 63 MA's), (121, 42645), (141, 42702), (175, 42804), (187, 42861), (189, 42867),

Gene: Plumbus\_1 Start: 41, Stop: 373, Start Num: 98  
Candidate Starts for Plumbus\_1:  
(76, 11), (Start: 98 @41 has 49 MA's), (127, 119), (155, 212), (176, 284), (185, 329), (187, 338), (192, 353),

Gene: Potatoes\_62 Start: 43324, Stop: 43584, Start Num: 115  
Candidate Starts for Potatoes\_62:  
(Start: 106 @43306 has 13 MA's), (Start: 115 @43324 has 63 MA's), (121, 43342), (139, 43396),

Gene: Preamble\_64 Start: 43037, Stop: 43297, Start Num: 115  
Candidate Starts for Preamble\_64:  
(Start: 106 @43019 has 13 MA's), (Start: 115 @43037 has 63 MA's), (121, 43055), (141, 43112), (169, 43193), (175, 43214),

Gene: Procrass1\_45 Start: 28983, Stop: 29285, Start Num: 95  
Candidate Starts for Procrass1\_45:  
(Start: 95 @28983 has 48 MA's), (195, 29271),

Gene: Pterodactyl\_61 Start: 42938, Stop: 43198, Start Num: 115  
Candidate Starts for Pterodactyl\_61:  
(Start: 106 @42920 has 13 MA's), (Start: 115 @42938 has 63 MA's), (121, 42956), (141, 43013), (175, 43115), (187, 43172), (189, 43178),

Gene: Pumancara\_61 Start: 42494, Stop: 42751, Start Num: 115  
Candidate Starts for Pumancara\_61:  
(112, 42485), (Start: 115 @42494 has 63 MA's), (142, 42569), (143, 42572), (169, 42647), (189, 42731),

Gene: Puppies\_62 Start: 41790, Stop: 42113, Start Num: 75  
Candidate Starts for Puppies\_62:  
(31, 41697), (38, 41718), (44, 41733), (48, 41739), (63, 41775), (Start: 75 @41790 has 2 MA's), (163, 41988),

Gene: QMacho\_72 Start: 41222, Stop: 41497, Start Num: 111  
Candidate Starts for QMacho\_72:  
(Start: 111 @41222 has 75 MA's),

Gene: QueenBey\_43 Start: 28974, Stop: 29276, Start Num: 95  
Candidate Starts for QueenBey\_43:



(Start: 93 @28971 has 5 MA's), (Start: 95 @28974 has 48 MA's), (195, 29262),

Gene: Quenya\_69 Start: 41516, Stop: 41791, Start Num: 111

Candidate Starts for Quenya\_69:

(Start: 111 @41516 has 75 MA's), (123, 41549), (174, 41702), (190, 41774),

Gene: Quico\_1 Start: 41, Stop: 373, Start Num: 98

Candidate Starts for Quico\_1:

(76, 11), (Start: 98 @41 has 49 MA's), (120, 86), (126, 110), (127, 119), (152, 200), (163, 236), (176, 284), (185, 329), (187, 338), (192, 353),

Gene: RAP15\_63 Start: 43905, Stop: 44183, Start Num: 106

Candidate Starts for RAP15\_63:

(Start: 106 @43905 has 13 MA's), (Start: 115 @43923 has 63 MA's), (121, 43941), (139, 43995),

Gene: Rabbitrun\_127 Start: 71852, Stop: 72181, Start Num: 101

Candidate Starts for Rabbitrun\_127:

(5, 71615), (7, 71618), (23, 71696), (41, 71741), (42, 71744), (53, 71774), (Start: 54 @71777 has 1 MA's), (Start: 69 @71804 has 1 MA's), (Start: 93 @71840 has 5 MA's), (Start: 101 @71852 has 7 MA's), (136, 71942), (152, 72002), (157, 72020), (159, 72026), (160, 72029), (179, 72104), (197, 72176),

Gene: Raqqa\_101 Start: 53739, Stop: 54044, Start Num: 95

Candidate Starts for Raqqa\_101:

(Start: 95 @53739 has 48 MA's), (182, 53982),

Gene: RcigaStruga\_62 Start: 43551, Stop: 43811, Start Num: 115

Candidate Starts for RcigaStruga\_62:

(Start: 104 @43533 has 1 MA's), (Start: 115 @43551 has 63 MA's), (134, 43608), (135, 43611), (139, 43623), (180, 43755),

Gene: Renna12\_72 Start: 38798, Stop: 39091, Start Num: 99

Candidate Starts for Renna12\_72:

(Start: 83 @38777 has 1 MA's), (Start: 99 @38798 has 1 MA's), (160, 38957), (177, 39020),

Gene: Rialto\_1 Start: 41, Stop: 373, Start Num: 98

Candidate Starts for Rialto\_1:

(76, 11), (Start: 98 @41 has 49 MA's), (127, 119), (155, 212), (163, 236), (176, 284), (187, 338), (192, 353),

Gene: Rileysaurus\_43 Start: 29070, Stop: 29372, Start Num: 95

Candidate Starts for Rileysaurus\_43:

(Start: 95 @29070 has 48 MA's),

Gene: Riovina\_60 Start: 43400, Stop: 43660, Start Num: 115

Candidate Starts for Riovina\_60:

(Start: 71 @43331 has 2 MA's), (Start: 83 @43352 has 1 MA's), (Start: 115 @43400 has 63 MA's), (122, 43421), (139, 43472),

Gene: Riverdale\_61 Start: 43055, Stop: 43315, Start Num: 115

Candidate Starts for Riverdale\_61:

(Start: 106 @43037 has 13 MA's), (Start: 115 @43055 has 63 MA's), (121, 43073), (139, 43127),

Gene: Rollins\_70 Start: 39578, Stop: 39853, Start Num: 111  
Candidate Starts for Rollins\_70:  
(14, 39380), (18, 39395), (27, 39422), (39, 39455), (58, 39503), (67, 39518), (89, 39551), (Start: 111 @39578 has 75 MA's),

Gene: Rona\_66 Start: 41247, Stop: 41522, Start Num: 111  
Candidate Starts for Rona\_66:  
(58, 41172), (Start: 111 @41247 has 75 MA's), (174, 41433), (180, 41463),

Gene: Ronaldo\_147 Start: 67378, Stop: 67635, Start Num: 109  
Candidate Starts for Ronaldo\_147:  
(Start: 109 @67378 has 7 MA's), (144, 67474), (153, 67498), (165, 67528), (175, 67561),

Gene: Rozby\_60 Start: 42859, Stop: 43119, Start Num: 115  
Candidate Starts for Rozby\_60:  
(Start: 106 @42841 has 13 MA's), (Start: 115 @42859 has 63 MA's), (121, 42877), (139, 42931),

Gene: Ruchi\_64 Start: 38215, Stop: 38493, Start Num: 111  
Candidate Starts for Ruchi\_64:  
(43, 38110), (60, 38140), (Start: 102 @38203 has 1 MA's), (Start: 111 @38215 has 75 MA's),

Gene: SKKY\_47 Start: 29230, Stop: 29532, Start Num: 95  
Candidate Starts for SKKY\_47:  
(84, 29215), (Start: 93 @29227 has 5 MA's), (Start: 95 @29230 has 48 MA's),

Gene: SanaSana\_70 Start: 41542, Stop: 41817, Start Num: 111  
Candidate Starts for SanaSana\_70:  
(6, 41296), (10, 41311), (16, 41350), (55, 41458), (58, 41467), (67, 41482), (89, 41515), (Start: 111 @41542 has 75 MA's), (123, 41575), (174, 41728), (175, 41731),

Gene: SansAfet\_72 Start: 41068, Stop: 41343, Start Num: 111  
Candidate Starts for SansAfet\_72:  
(Start: 111 @41068 has 75 MA's), (174, 41254),

Gene: Santhid\_59 Start: 38581, Stop: 38865, Start Num: 108  
Candidate Starts for Santhid\_59:  
(Start: 54 @38500 has 1 MA's), (80, 38542), (81, 38545), (Start: 108 @38581 has 9 MA's), (126, 38635),

Gene: Sapo\_61 Start: 45211, Stop: 45513, Start Num: 100  
Candidate Starts for Sapo\_61:  
(Start: 100 @45211 has 1 MA's), (137, 45304), (149, 45337), (170, 45412), (194, 45505),

Gene: SarBear\_72 Start: 41148, Stop: 41423, Start Num: 111  
Candidate Starts for SarBear\_72:  
(Start: 111 @41148 has 75 MA's),

Gene: Savage2526\_61 Start: 43082, Stop: 43342, Start Num: 115  
Candidate Starts for Savage2526\_61:  
(Start: 106 @43064 has 13 MA's), (Start: 115 @43082 has 63 MA's), (121, 43100), (139, 43154),

Gene: Schmidt\_58 Start: 36837, Stop: 37133, Start Num: 97  
Candidate Starts for Schmidt\_58:

(Start: 97 @36837 has 8 MA's), (163, 37008), (187, 37107),

Gene: Scuttle\_61 Start: 43375, Stop: 43653, Start Num: 106

Candidate Starts for Scuttle\_61:

(Start: 106 @43375 has 13 MA's), (Start: 115 @43393 has 63 MA's), (121, 43411), (139, 43465),

Gene: Sephiroth\_123 Start: 69017, Stop: 69349, Start Num: 101

Candidate Starts for Sephiroth\_123:

(Start: 101 @69017 has 7 MA's), (150, 69155), (152, 69167), (177, 69257),

Gene: Sergei\_60 Start: 43614, Stop: 43871, Start Num: 115

Candidate Starts for Sergei\_60:

(112, 43605), (Start: 115 @43614 has 63 MA's), (121, 43632), (142, 43689), (169, 43767),

Gene: Sharkboy\_68 Start: 41611, Stop: 41886, Start Num: 111

Candidate Starts for Sharkboy\_68:

(58, 41536), (Start: 111 @41611 has 75 MA's), (123, 41644), (174, 41797), (180, 41827),

Gene: Shayna\_75 Start: 41004, Stop: 41279, Start Num: 111

Candidate Starts for Shayna\_75:

(Start: 111 @41004 has 75 MA's), (174, 41190),

Gene: SilverChicken\_1 Start: 38, Stop: 370, Start Num: 98

Candidate Starts for SilverChicken\_1:

(76, 11), (Start: 98 @38 has 49 MA's), (127, 116), (138, 143), (163, 233), (172, 263), (176, 281), (185, 326), (192, 350),

Gene: Skylord\_70 Start: 39495, Stop: 39770, Start Num: 111

Candidate Starts for Skylord\_70:

(14, 39297), (18, 39312), (27, 39339), (39, 39372), (58, 39420), (67, 39435), (89, 39468), (Start: 111 @39495 has 75 MA's),

Gene: Slay\_70 Start: 41458, Stop: 41733, Start Num: 111

Candidate Starts for Slay\_70:

(Start: 111 @41458 has 75 MA's), (174, 41644),

Gene: Sleepyhead\_67 Start: 43516, Stop: 43788, Start Num: 110

Candidate Starts for Sleepyhead\_67:

(Start: 110 @43516 has 1 MA's), (Start: 114 @43522 has 1 MA's),

Gene: Slim\_1 Start: 41, Stop: 373, Start Num: 98

Candidate Starts for Slim\_1:

(76, 11), (Start: 98 @41 has 49 MA's), (127, 119), (155, 212), (163, 236), (176, 284), (187, 338), (192, 353),

Gene: Softsoap\_71 Start: 41189, Stop: 41464, Start Num: 111

Candidate Starts for Softsoap\_71:

(Start: 111 @41189 has 75 MA's),

Gene: Solea\_73 Start: 41356, Stop: 41631, Start Num: 111

Candidate Starts for Solea\_73:

(Start: 111 @41356 has 75 MA's),

Gene: Solid\_45 Start: 29077, Stop: 29379, Start Num: 95  
Candidate Starts for Solid\_45:  
(Start: 93 @29074 has 5 MA's), (Start: 95 @29077 has 48 MA's), (195, 29365),

Gene: Soul22\_1 Start: 38, Stop: 370, Start Num: 98  
Candidate Starts for Soul22\_1:  
(76, 11), (Start: 98 @38 has 49 MA's), (127, 116), (138, 143), (163, 233), (172, 263), (176, 281), (185, 326), (192, 350),

Gene: Spartoi\_56 Start: 34706, Stop: 35032, Start Num: 95  
Candidate Starts for Spartoi\_56:  
(Start: 95 @34706 has 48 MA's),

Gene: Splinter\_64 Start: 40315, Stop: 40611, Start Num: 97  
Candidate Starts for Splinter\_64:  
(Start: 97 @40315 has 8 MA's), (168, 40504), (184, 40573),

Gene: Spooky\_1 Start: 39, Stop: 371, Start Num: 98  
Candidate Starts for Spooky\_1:  
(74, 9), (Start: 78 @15 has 4 MA's), (Start: 98 @39 has 49 MA's), (163, 234), (167, 249), (176, 282), (183, 318), (192, 351),

Gene: Squiddly\_2 Start: 730, Stop: 1062, Start Num: 98  
Candidate Starts for Squiddly\_2:  
(29, 601), (32, 613), (72, 697), (Start: 98 @730 has 49 MA's), (155, 901), (161, 919), (176, 973), (183, 1009), (192, 1042),

Gene: Squircle\_66 Start: 38761, Stop: 39036, Start Num: 111  
Candidate Starts for Squircle\_66:  
(1, 38428), (18, 38578), (35, 38629), (Start: 111 @38761 has 75 MA's), (174, 38947), (186, 39004),

Gene: Squirty\_1 Start: 40, Stop: 372, Start Num: 98  
Candidate Starts for Squirty\_1:  
(72, 7), (77, 13), (Start: 98 @40 has 49 MA's), (126, 109), (127, 118), (155, 211), (172, 265), (176, 283), (185, 328), (187, 337), (192, 352),

Gene: Stoor\_69 Start: 41350, Stop: 41625, Start Num: 111  
Candidate Starts for Stoor\_69:  
(Start: 111 @41350 has 75 MA's), (174, 41536), (175, 41539),

Gene: Stormborn\_46 Start: 28966, Stop: 29268, Start Num: 95  
Candidate Starts for Stormborn\_46:  
(Start: 93 @28963 has 5 MA's), (Start: 95 @28966 has 48 MA's), (195, 29254),

Gene: Stromboli\_68 Start: 41130, Stop: 41405, Start Num: 111  
Candidate Starts for Stromboli\_68:  
(6, 40884), (10, 40899), (16, 40938), (55, 41046), (58, 41055), (67, 41070), (89, 41103), (Start: 111 @41130 has 75 MA's), (174, 41316), (175, 41319),

Gene: SunnyD\_75 Start: 41007, Stop: 41282, Start Num: 111  
Candidate Starts for SunnyD\_75:  
(Start: 111 @41007 has 75 MA's), (174, 41193),

Gene: Supakev\_60 Start: 43425, Stop: 43685, Start Num: 115  
Candidate Starts for Supakev\_60:  
(Start: 71 @43356 has 2 MA's), (Start: 83 @43377 has 1 MA's), (Start: 115 @43425 has 63 MA's),  
(121, 43443), (122, 43446), (139, 43497),

Gene: Supernova\_45 Start: 28853, Stop: 29155, Start Num: 95  
Candidate Starts for Supernova\_45:  
(Start: 93 @28850 has 5 MA's), (Start: 95 @28853 has 48 MA's), (195, 29141),

Gene: Suppi\_62 Start: 43562, Stop: 43834, Start Num: 108  
Candidate Starts for Suppi\_62:  
(92, 43541), (Start: 108 @43562 has 9 MA's), (113, 43568), (Start: 115 @43574 has 63 MA's),

Gene: Swervy\_70 Start: 41047, Stop: 41322, Start Num: 111  
Candidate Starts for Swervy\_70:  
(Start: 111 @41047 has 75 MA's), (174, 41233),

Gene: Syleon\_128 Start: 69768, Stop: 70100, Start Num: 101  
Candidate Starts for Syleon\_128:  
(Start: 101 @69768 has 7 MA's), (150, 69906), (152, 69918), (177, 70008),

Gene: TZGordon\_65 Start: 39203, Stop: 39499, Start Num: 97  
Candidate Starts for TZGordon\_65:  
(Start: 97 @39203 has 8 MA's), (168, 39392), (184, 39461),

Gene: Tarzan\_63 Start: 39834, Stop: 40118, Start Num: 108  
Candidate Starts for Tarzan\_63:  
(56, 39759), (80, 39795), (81, 39798), (Start: 108 @39834 has 9 MA's), (126, 39888),

Gene: TattModd\_61 Start: 43209, Stop: 43469, Start Num: 115  
Candidate Starts for TattModd\_61:  
(Start: 106 @43191 has 13 MA's), (Start: 115 @43209 has 63 MA's), (121, 43227), (139, 43281),

Gene: TaylorSipht\_65 Start: 38681, Stop: 38959, Start Num: 108  
Candidate Starts for TaylorSipht\_65:  
(Start: 108 @38681 has 9 MA's),

Gene: Tchotchke\_1 Start: 41, Stop: 373, Start Num: 98  
Candidate Starts for Tchotchke\_1:  
(76, 11), (Start: 98 @41 has 49 MA's), (120, 86), (126, 110), (127, 119), (152, 200), (163, 236), (176,  
284), (185, 329), (187, 338), (192, 353),

Gene: Teagster\_75 Start: 41426, Stop: 41701, Start Num: 111  
Candidate Starts for Teagster\_75:  
(Start: 111 @41426 has 75 MA's), (174, 41612),

Gene: Temper16\_60 Start: 43614, Stop: 43871, Start Num: 115  
Candidate Starts for Temper16\_60:  
(112, 43605), (Start: 115 @43614 has 63 MA's), (121, 43632), (142, 43689), (169, 43767),

Gene: TinaLin\_63 Start: 39046, Stop: 39342, Start Num: 97  
Candidate Starts for TinaLin\_63:  
(68, 39004), (Start: 97 @39046 has 8 MA's), (120, 39088), (148, 39172), (184, 39304),

Gene: Toad24\_67 Start: 39472, Stop: 39750, Start Num: 108  
Candidate Starts for Toad24\_67:  
(Start: 66 @39418 has 2 MA's), (Start: 108 @39472 has 9 MA's), (194, 39742),

Gene: TootsiePop\_1 Start: 42, Stop: 374, Start Num: 98  
Candidate Starts for TootsiePop\_1:  
(74, 9), (79, 15), (Start: 98 @42 has 49 MA's), (127, 120), (155, 213), (163, 237), (176, 285), (187, 339), (192, 354),

Gene: Totinger\_1 Start: 41, Stop: 373, Start Num: 98  
Candidate Starts for Totinger\_1:  
(76, 11), (Start: 98 @41 has 49 MA's), (127, 119), (155, 212), (163, 236), (176, 284), (187, 338), (192, 353),

Gene: Trax\_126 Start: 71052, Stop: 71381, Start Num: 101  
Candidate Starts for Trax\_126:  
(Start: 101 @71052 has 7 MA's), (145, 71172), (152, 71202), (157, 71220), (159, 71226), (162, 71235), (184, 71328), (188, 71337),

Gene: Trine\_65 Start: 43058, Stop: 43372, Start Num: 69  
Candidate Starts for Trine\_65:  
(Start: 69 @43058 has 1 MA's), (146, 43199),

Gene: TukTuk\_70 Start: 41237, Stop: 41512, Start Num: 111  
Candidate Starts for TukTuk\_70:  
(Start: 111 @41237 has 75 MA's), (174, 41423),

Gene: Typha\_129 Start: 74982, Stop: 75305, Start Num: 78  
Candidate Starts for Typha\_129:  
(Start: 78 @74982 has 4 MA's), (147, 75132), (173, 75213), (178, 75237), (180, 75249),

Gene: Upyo\_69 Start: 44979, Stop: 45296, Start Num: 70  
Candidate Starts for Upyo\_69:  
(Start: 70 @44979 has 1 MA's), (128, 45075), (156, 45153), (163, 45171),

Gene: Urla\_62 Start: 43603, Stop: 43863, Start Num: 115  
Candidate Starts for Urla\_62:  
(Start: 115 @43603 has 63 MA's), (121, 43621), (141, 43678),

Gene: Vallejo\_62 Start: 43253, Stop: 43531, Start Num: 106  
Candidate Starts for Vallejo\_62:  
(Start: 106 @43253 has 13 MA's), (Start: 115 @43271 has 63 MA's), (121, 43289), (139, 43343),

Gene: Vendetta\_64 Start: 40315, Stop: 40611, Start Num: 97  
Candidate Starts for Vendetta\_64:  
(Start: 97 @40315 has 8 MA's), (168, 40504), (184, 40573),

Gene: Vitas\_71 Start: 39646, Stop: 39921, Start Num: 111  
Candidate Starts for Vitas\_71:  
(24, 39487), (62, 39580), (Start: 111 @39646 has 75 MA's), (123, 39679),

Gene: Volt\_150 Start: 67542, Stop: 67799, Start Num: 109

Candidate Starts for Volt\_150:

(Start: 109 @67542 has 7 MA's), (144, 67638), (153, 67662), (165, 67692), (175, 67725),

Gene: Vulpecula\_64 Start: 37410, Stop: 37688, Start Num: 111

Candidate Starts for Vulpecula\_64:

(Start: 102 @37398 has 1 MA's), (Start: 111 @37410 has 75 MA's),

Gene: Vulture\_60 Start: 42928, Stop: 43257, Start Num: 71

Candidate Starts for Vulture\_60:

(Start: 71 @42928 has 2 MA's), (Start: 83 @42949 has 1 MA's), (Start: 115 @42997 has 63 MA's),  
(121, 43015), (122, 43018), (139, 43069),

Gene: WalkingDead\_71 Start: 42012, Stop: 42287, Start Num: 111

Candidate Starts for WalkingDead\_71:

(Start: 111 @42012 has 75 MA's), (174, 42198), (175, 42201),

Gene: Wawa\_62 Start: 43514, Stop: 43774, Start Num: 115

Candidate Starts for Wawa\_62:

(Start: 106 @43496 has 13 MA's), (Start: 115 @43514 has 63 MA's), (121, 43532), (139, 43586),

Gene: Wayne\_64 Start: 44019, Stop: 44291, Start Num: 108

Candidate Starts for Wayne\_64:

(92, 43998), (Start: 108 @44019 has 9 MA's), (113, 44025), (Start: 115 @44031 has 63 MA's),

Gene: Whitney\_1 Start: 39, Stop: 371, Start Num: 98

Candidate Starts for Whitney\_1:

(74, 9), (Start: 78 @15 has 4 MA's), (87, 27), (Start: 98 @39 has 49 MA's), (127, 117), (137, 141), (138,  
144), (163, 234), (172, 264), (176, 282), (183, 318), (192, 351),

Gene: Widow\_62 Start: 42336, Stop: 42659, Start Num: 75

Candidate Starts for Widow\_62:

(31, 42243), (38, 42264), (44, 42279), (48, 42285), (57, 42312), (63, 42321), (Start: 75 @42336 has 2  
MA's), (163, 42534),

Gene: Wizzo\_44 Start: 29099, Stop: 29401, Start Num: 95

Candidate Starts for Wizzo\_44:

(Start: 93 @29096 has 5 MA's), (Start: 95 @29099 has 48 MA's), (195, 29387),

Gene: WonderBoy\_59 Start: 42399, Stop: 42659, Start Num: 115

Candidate Starts for WonderBoy\_59:

(Start: 106 @42381 has 13 MA's), (Start: 115 @42399 has 63 MA's), (121, 42417), (141, 42474), (175,  
42576), (187, 42633), (189, 42639),

Gene: Yoshi\_1 Start: 38, Stop: 370, Start Num: 98

Candidate Starts for Yoshi\_1:

(76, 11), (Start: 98 @38 has 49 MA's), (127, 116), (138, 143), (163, 233), (172, 263), (176, 281), (185,  
326), (192, 350),

Gene: Zapner\_2 Start: 562, Stop: 894, Start Num: 98

Candidate Starts for Zapner\_2:

(72, 529), (Start: 98 @562 has 49 MA's), (163, 757), (172, 787), (176, 805), (185, 850), (192, 874),

Gene: Zipp\_43 Start: 39758, Stop: 39973, Start Num: 193

Candidate Starts for Zipp\_43:

(15, 39260), (36, 39326), (65, 39392), (124, 39500), (125, 39503), (131, 39527), (166, 39650), (Start: 193 @39758 has 1 MA's), (198, 39860), (199, 39869), (200, 39890),

Gene: Zorro\_62 Start: 43226, Stop: 43486, Start Num: 115

Candidate Starts for Zorro\_62:

(Start: 106 @43208 has 13 MA's), (Start: 115 @43226 has 63 MA's), (121, 43244), (139, 43298),

Gene: Zucker\_98 Start: 53075, Stop: 53380, Start Num: 95

Candidate Starts for Zucker\_98:

(Start: 95 @53075 has 48 MA's), (172, 53264), (176, 53279),