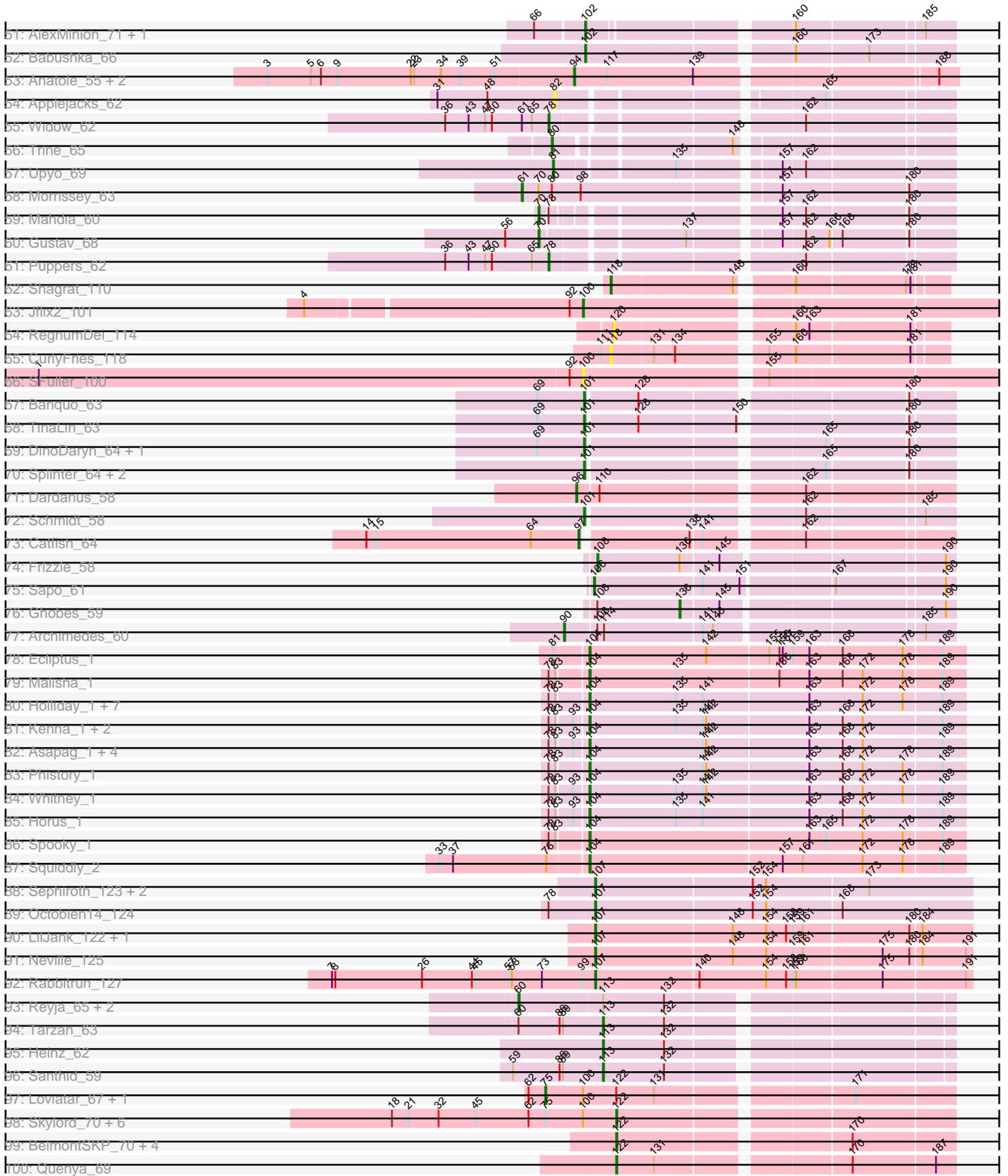
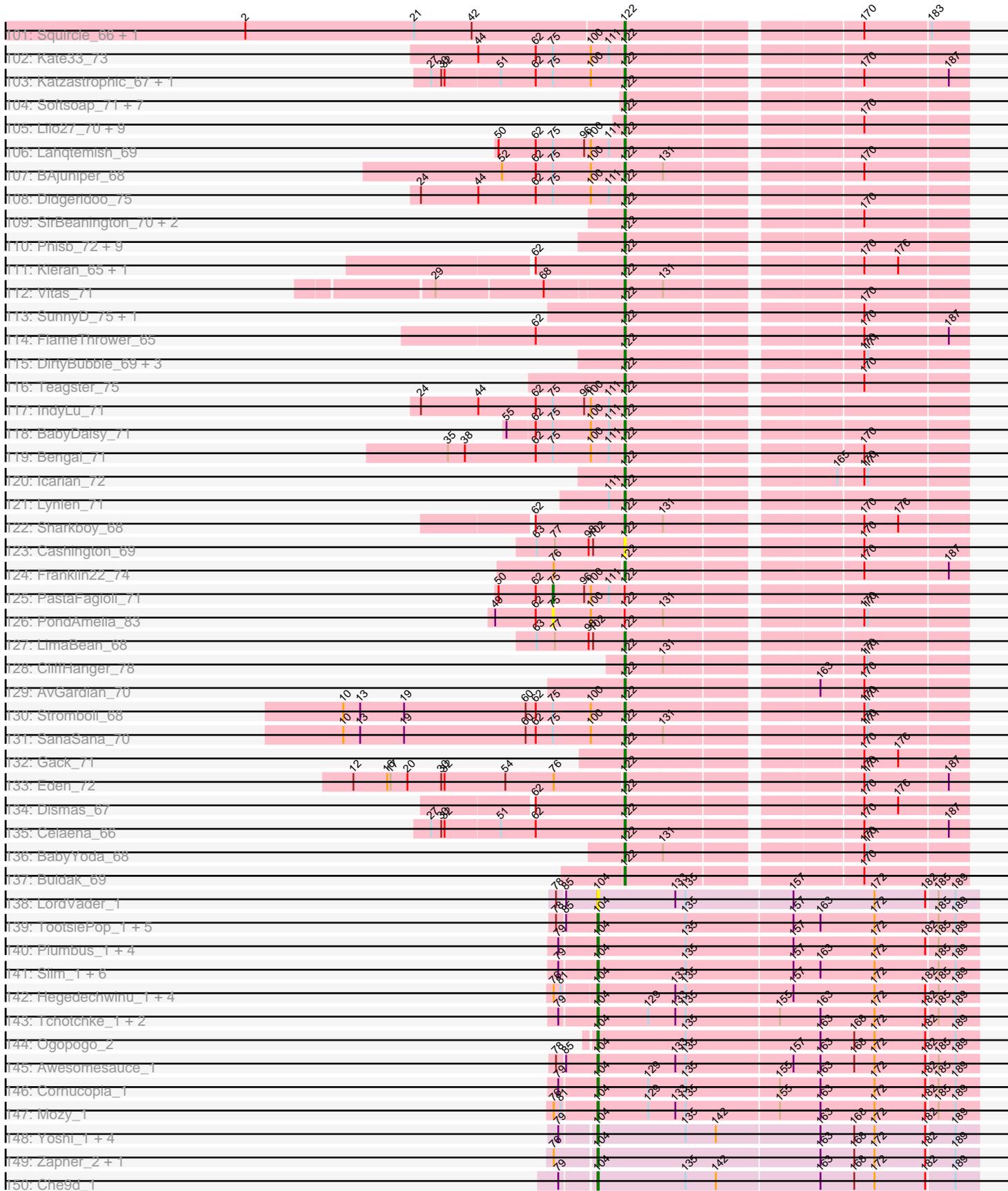




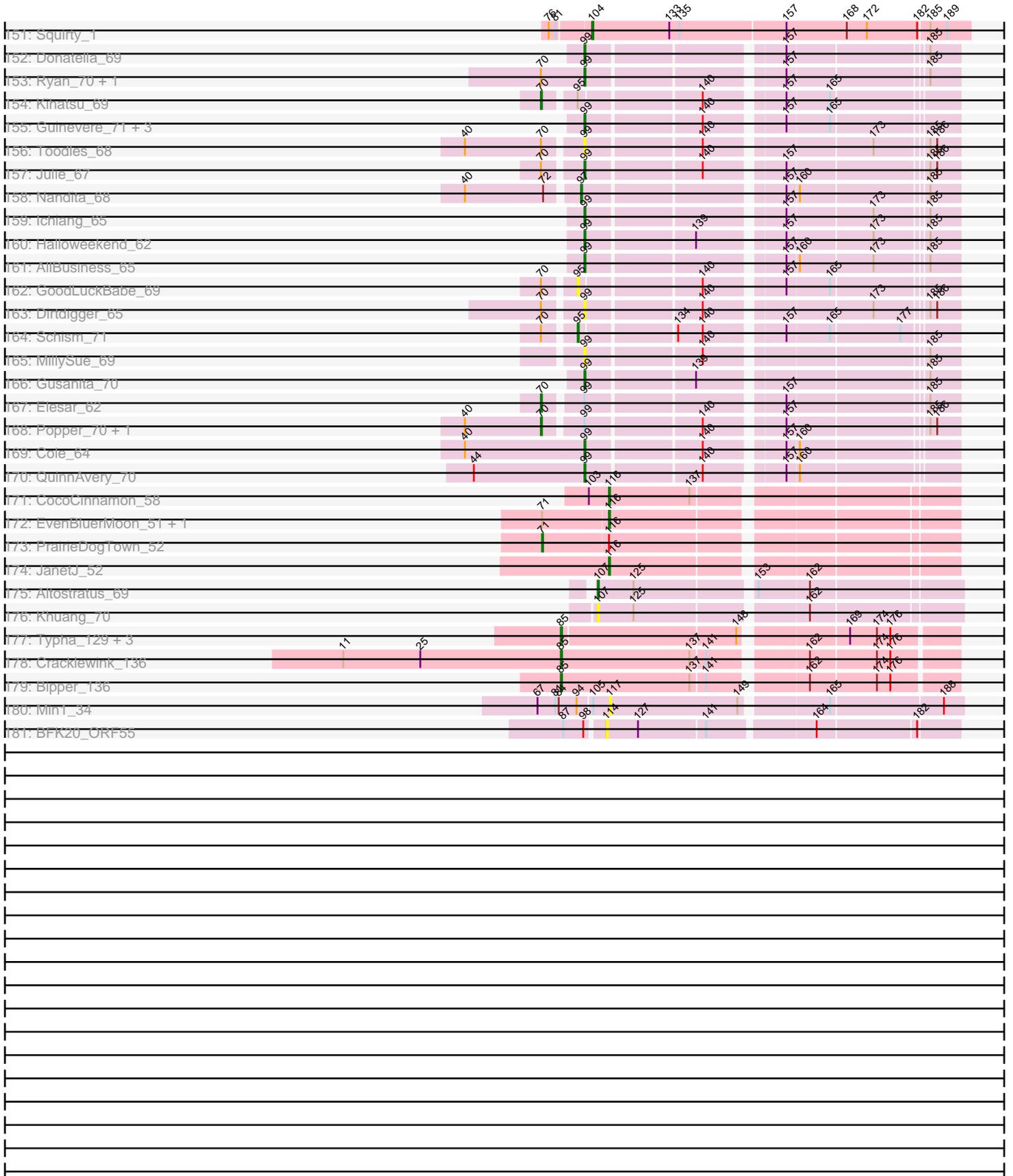
Pham 290737



Pham 290737



Pham 290737



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 290737 Report

This analysis was run 03/28/26 on database version 641.

Pham number 290737 has 373 members, 45 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 : OurGirlNessie\_59, Makoto\_60, Lennox\_61, WonderBoy\_59, Pterodactyl\_61, ChewChew\_61
- Track 6 : Herb\_60, Maria1952\_59, Sergei\_60, Daiboju\_60, KingBob\_60, Temper16\_60
- Track 7 : Huntingdon\_61
- Track 8 : Kittykat\_65, Preamble\_64
- Track 9 : Litotes\_62, CallieOMalley\_62
- Track 10 : MamaPearl\_60, Urla\_62, EstebanJulior\_60
- Track 11 : Christian\_61, PitaDog\_61
- Track 12 : Aledel\_60, Riovina\_60, Eunoia\_62, OMalley\_60, AustinPowers\_60
- Track 13 : Glenn\_64, RAP15\_63, MrGloopy\_62, MeganNoll\_63, Dino\_62, Scuttle\_61, Vallejo\_62, Fluke\_62
- Track 14 : DreamTeam\_61, Gisselle\_61
- Track 15 : Nubia\_61
- Track 16 : AppleCider\_61
- Track 17 : Oxynfrius\_62, Joann\_63
- Track 18 : Bodacious\_61, CristinaYang\_61, Lasagna\_59, Nancia\_61, LilStuart\_60
- Track 19 : Chridison\_57, Supakev\_60
- Track 20 : Greenhouse\_61, Albanese\_61
- Track 21 : HeadNerd\_62, Huckleberry\_62, Moki\_62
- Track 22 : Canowicakte\_62, MrBoss\_63, Suppi\_62, Graynor\_65, PartyCup\_62, Wayne\_64
- Track 23 : PinkFriday\_61, Pumancara\_61
- Track 24 : GreenHearts\_62, Lakshmi\_61
- Track 25 : RcigaStruga\_62
- Track 26 : BigMack\_61
- Track 27 : Lucy\_60, DrRobert\_59
- Track 28 : Jumboset\_62
- Track 29 : Basilisk\_66
- Track 30 : KendraB23\_76, Toad24\_68
- Track 31 : TaylorSipht\_65

- Track 32 : Orcanus\_65
- Track 33 : Jamun\_63
- Track 34 : Chickaboom\_66, WileyE\_66, Brynnie\_64
- Track 35 : Abidatro\_66
- Track 36 : Vulpecula\_64
- Track 37 : Eesa\_65, Zixiang\_67
- Track 38 : Galaxy\_65
- Track 39 : Ruchi\_64
- Track 40 : LittleTokyo\_73, Cygnet\_73
- Track 41 : Melons\_73
- Track 42 : Lunar\_73
- Track 43 : Kepler\_75, Amelia\_71, Cote\_75, Daob\_71, OtsoOtso\_72, Colusalem\_71, Polka\_71, PhirstandPhine\_78, Coral\_72
- Track 44 : Antrice\_75
- Track 45 : Bibble12\_75, Pineda\_74
- Track 46 : Kuleana\_76
- Track 47 : Zhuangyuan\_77
- Track 48 : Renna12\_72
- Track 49 : Glotell\_71, DanHam62\_70, RedFox\_71, Atlantica\_70, HamCheese\_69, KHumphrey\_70, Juno112\_69, AmiCi24\_68, Oppalora\_68, Laphuphu24k\_68, Fingolfin\_70, Amphitrite\_69, Camara\_69, Rattail\_71, PhluffyCoco\_68, AdoptaAdorbs\_68
- Track 50 : Azaz\_72, Leona\_68
- Track 51 : AlexMinion\_71, StuartMinion\_61
- Track 52 : Babushka\_66
- Track 53 : Anatole\_55, E1\_55, B3\_57
- Track 54 : Applejacks\_62
- Track 55 : Widow\_62
- Track 56 : Trine\_65
- Track 57 : Upyo\_69
- Track 58 : Morrissey\_63
- Track 59 : Mahdia\_60
- Track 60 : Gustav\_68
- Track 61 : Puppets\_62
- Track 62 : Shagrat\_110
- Track 63 : Jflix2\_101
- Track 64 : RegnumDei\_114
- Track 65 : CurlyFries\_118
- Track 66 : SFuller\_100
- Track 67 : Banquo\_63
- Track 68 : TinaLin\_63
- Track 69 : DinoDaryn\_64, Huffy\_64
- Track 70 : Splinter\_64, TZGordon\_65, Vendetta\_64
- Track 71 : Dardanus\_58
- Track 72 : Schmidt\_58
- Track 73 : Catfish\_64
- Track 74 : Frizzle\_58
- Track 75 : Sapo\_61
- Track 76 : Ghobes\_59
- Track 77 : Archimedes\_60
- Track 78 : Ecliptus\_1
- Track 79 : Malisha\_1

- Track 80 : Holliday\_1, LitninMcQueen\_1, BotCity\_1, Kamaru\_1, Budski\_1, CheeseTouch\_1, Phabuloso\_1, ODay\_1
- Track 81 : Kenna\_1, Periwinkle\_1, Lutum\_1
- Track 82 : Asapag\_1, Getalong\_1, BENtherdunthat\_1, Leroy\_1, Frickyeah\_1
- Track 83 : Phistory\_1
- Track 84 : Whitney\_1
- Track 85 : Horus\_1
- Track 86 : Spooky\_1
- Track 87 : Squiddly\_2
- Track 88 : Sephiroth\_123, Kudefre\_128, Syleon\_128
- Track 89 : Octobien14\_124
- Track 90 : LilJank\_122, Trax\_126
- Track 91 : Neville\_125
- Track 92 : Rabbitrun\_127
- Track 93 : Reyja\_65, Hibiscus\_63, Jojo24\_63
- Track 94 : Tarzan\_63
- Track 95 : Heinz\_62
- Track 96 : Santhid\_59
- Track 97 : Loviatar\_67, Akino08\_66
- Track 98 : Skylord\_70, Clayda5\_72, Armstrong\_70, Rollins\_70, Bernstein\_70, Coltrane\_70, Brahms\_70
- Track 99 : BelmontSKP\_70, PhigPhack\_73, AnnaLie\_70, Arroyo\_71, SansAfet\_72
- Track 100 : Quenya\_69
- Track 101 : Squirrel\_66, Olliecat\_66
- Track 102 : Kate33\_73
- Track 103 : Katzastrophic\_67, Bachaco\_66
- Track 104 : Softsoap\_71, BubbaBear\_68, DickRichards\_68, Doobus\_68, Albright\_69, Milomuff\_72, Solea\_73, Avocadoman\_69
- Track 105 : Lilo27\_70, Swervy\_70, Eula\_69, TukTuk\_70, Pecas\_70, Finalfrontier\_69, Jovita\_68, Slay\_70, Nicky22\_69, AylexOG\_71
- Track 106 : Lahqtemish\_69
- Track 107 : BAjuniper\_68
- Track 108 : Didgeridoo\_75
- Track 109 : SirBeanington\_70, Albedo\_70, Kenzers\_69
- Track 110 : Phisb\_72, CupcakePrincess\_71, Johnathan\_70, SarBear\_72, Jabb\_71, QMacho\_72, CroZenni\_71, Burritobowl\_72, MsUbiquitous\_71, Abigail\_70
- Track 111 : Kieran\_65, Rona\_66
- Track 112 : Vitas\_71
- Track 113 : SunnyD\_75, Shayna\_75
- Track 114 : FlameThrower\_65
- Track 115 : DirtyBubble\_69, Elva\_73, Stoor\_69, WalkingDead\_71
- Track 116 : Teagster\_75
- Track 117 : IndyLu\_71
- Track 118 : BabyDaisy\_71
- Track 119 : Bengal\_71
- Track 120 : Icarian\_72
- Track 121 : Lynlen\_71
- Track 122 : Sharkboy\_68
- Track 123 : Cashington\_69
- Track 124 : Franklin22\_74
- Track 125 : PastaFagioli\_71
- Track 126 : PondAmelia\_83
- Track 127 : LimaBean\_68

- Track 128 : CliffHanger\_78
- Track 129 : AvGardian\_70
- Track 130 : Stromboli\_68
- Track 131 : SanaSana\_70
- Track 132 : Gack\_71
- Track 133 : Eden\_72
- Track 134 : Dismas\_67
- Track 135 : Celaena\_66
- Track 136 : BabyYoda\_68
- Track 137 : Buldak\_69
- Track 138 : LordVader\_1
- Track 139 : TootsiePop\_1, Aloeri\_1, DocMcStuffins\_1, Piper2020\_1, Misha28\_1, ChickenDinner\_1
- Track 140 : Plumbus\_1, MulchExplorer\_1, Job42\_1, Kimberlium\_1, Juice456\_1
- Track 141 : Slim\_1, Emmaloid\_1, Starceвич\_1, Totinger\_1, Rialto\_1, LittleShirley\_1, Mova\_1
- Track 142 : Hegedechwinu\_1, Frankie\_1, Brushbloom\_1, Doomslug\_1, Flathead\_1
- Track 143 : Tchotchke\_1, Girafales\_1, Quico\_1
- Track 144 : Ogopogo\_2
- Track 145 : Awesomesauce\_1
- Track 146 : Cornucopia\_1
- Track 147 : Mozy\_1
- Track 148 : Yoshi\_1, Avani\_1, Demsculpinboyz\_1, Soul22\_1, SilverChicken\_1
- Track 149 : Zapner\_2, Jabbawokkie\_2
- Track 150 : Che9d\_1
- Track 151 : Squirty\_1
- Track 152 : Donatella\_69
- Track 153 : Ryan\_70, Yonex\_69
- Track 154 : Kihatsu\_69
- Track 155 : Guinevere\_71, ToastyOats\_69, Zaheer\_69, Lenoxika\_66
- Track 156 : Toodles\_68
- Track 157 : Julie\_67
- Track 158 : Nandita\_68
- Track 159 : Ichiang\_65
- Track 160 : Halloweekend\_62
- Track 161 : AllBusiness\_65
- Track 162 : GoodLuckBabe\_69
- Track 163 : Dirtdigger\_65
- Track 164 : Schism\_71
- Track 165 : MillySue\_69
- Track 166 : Gusanita\_70
- Track 167 : Elesar\_62
- Track 168 : Popper\_70, IsHungry\_64
- Track 169 : Cole\_64
- Track 170 : QuinnAvery\_70
- Track 171 : CocoCinnamon\_58
- Track 172 : EvenBluerMoon\_51, Aoka\_54
- Track 173 : PrairieDogTown\_52
- Track 174 : JanetJ\_52
- Track 175 : Altostratus\_69
- Track 176 : Khuang\_70
- Track 177 : Typha\_129, Faiyaz\_132, Hilltopfarm\_134, AuntGwenStacy\_132
- Track 178 : Cracklewink\_136

- Track 179 : Bipper\_136
- Track 180 : Min1\_34
- Track 181 : BFK20\_ORF55

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

The start number called the most often in the published annotations is 122, it was called in 76 of the 328 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Abigail\_70, Albedo\_70, Albright\_69, AnnaLie\_70, Armstrong\_70, Arroyo\_71, AvGardian\_70, Avocadoman\_69, AylexOG\_71, BAjuniper\_68, BabyDaisy\_71, BabyYoda\_68, Bachaco\_66, BelmontSKP\_70, Bengal\_71, Bernstein\_70, Brahms\_70, BubbaBear\_68, Buldak\_69, Burritobowl\_72, Cashington\_69, Celaena\_66, Clayda5\_72, CliffHanger\_78, Coltrane\_70, CroZenni\_71, CupcakePrincess\_71, DickRichards\_68, Didgeridoo\_75, DirtyBubble\_69, Dismas\_67, Doobus\_68, Eden\_72, Elva\_73, Eula\_69, Finalfrontier\_69, FlameThrower\_65, Franklin22\_74, Gack\_71, Icarian\_72, IndyLu\_71, Jabb\_71, Johnathan\_70, Jovita\_68, Kate33\_73, Katzastrophic\_67, Kenzers\_69, Kieran\_65, Lahqtemish\_69, Lilo27\_70, LimaBean\_68, Lynlen\_71, Milomuff\_72, MsUbiquitous\_71, Nicky22\_69, Olliecat\_66, Pecas\_70, PhigPhack\_73, Phisb\_72, QMacho\_72, Quenya\_69, Rollins\_70, Rona\_66, SanaSana\_70, SansAfet\_72, SarBear\_72, Sharkboy\_68, Shayna\_75, SirBeanington\_70, Skylord\_70, Slay\_70, Softsoap\_71, Solea\_73, Squircle\_66, Stoor\_69, Stromboli\_68, SunnyD\_75, Swervy\_70, Teagster\_75, TukTuk\_70, Vitas\_71, WalkingDead\_71,

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

- Akino08\_66, CallieOMalley\_62, Canowicakte\_62, Graynor\_65, Litotes\_62, Loviatar\_67, MrBoss\_63, PartyCup\_62, PastaFagioli\_71, PondAmelia\_83, Suppi\_62, Wayne\_64,

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

- Abidatro\_66, AdoptaAdorbs\_68, Albanese\_61, Aledel\_60, AlexMinion\_71, AllBusiness\_65, Aloeri\_1, Altostratus\_69, Amelia\_71, AmiCi24\_68, Amphitrite\_69, Anatole\_55, Antrice\_75, Aoka\_54, AppleCider\_61, Applejacks\_62, Archimedes\_60, Asapag\_1, Atlantica\_70, AuntGwenStacy\_132, AustinPowers\_60, Avani\_1, Awesomesauce\_1, Azaz\_72, B3\_57, BENtherdunthat\_1, BFK20\_ORF55, Babushka\_66, Banquo\_63, Basilisk\_66, Beethoven\_63, Bennie\_63, Bibble12\_75, BigMack\_61, Bipper\_136, Bodacious\_61, BotCity\_1, BrotherBLo\_62, Brushbloom\_1, Brynnie\_64, Budski\_1, Camara\_69, Carpal\_61, Catfish\_64, Che9d\_1, CheeseTouch\_1, ChewChew\_61, Chickaboom\_66, ChickenDinner\_1, Cholula\_62, Chridison\_57, Christian\_61, CocoCinnamon\_58, Cole\_64, Colusalem\_71, Coral\_72, Cornucopia\_1, Cote\_75, Cracklewink\_136, CristinaYang\_61, CurlyFries\_118, Cygnet\_73, Daiboju\_60, DanHam62\_70, Daob\_71, Dardanus\_58, Demsculpinboyz\_1, DinoDaryn\_64, Dino\_62, Dirdigger\_65, DocMcStuffins\_1, Donatella\_69, Doomslug\_1, DrRobert\_59, DreamTeam\_61, E1\_55, Ecliptus\_1, Eesa\_65, Elesar\_62, Emmaloid\_1, EstebanJulior\_60, Eunoia\_62, EvenBluerMoon\_51, Faiyaz\_132, Fingolfin\_70, Flathead\_1, Fluke\_62, Frankie\_1, Frickyeah\_1, Frizzle\_58, Galaxy\_65, Getalong\_1, Ghobes\_59, Girafales\_1, Gisselle\_61, Glenn\_64, Glotell\_71, GoodLuckBabe\_69, GreenHearts\_62,

Greenhouse\_61, Guinevere\_71, Gusanita\_70, Gustav\_68, Halloweekend\_62, HamCheese\_69, HeadNerd\_62, Hegedechwinu\_1, Heinz\_62, Herb\_60, Hibiscus\_63, Hilltopfarm\_134, Holliday\_1, Horus\_1, Huckleberry\_62, Huffy\_64, HunterDalle\_60, Huntingdon\_61, Ichiang\_65, Immaculata\_62, IsHungry\_64, Jabbawokkie\_2, Jamun\_63, JanetJ\_52, Jflicx2\_101, Joann\_63, Job42\_1, Jojo24\_63, Juice456\_1, Julie\_67, Jumboset\_62, Juno112\_69, KHumphrey\_70, Kalizoi\_62, Kamaru\_1, KendraB23\_76, Kenna\_1, Kepler\_75, Khuang\_70, Kihatsu\_69, Kimberlium\_1, KingBob\_60, Kittykat\_65, Korra\_62, Kudrefre\_128, Kuleana\_76, Lakshmi\_61, Laphuphu24k\_68, Lasagna\_59, Lennox\_61, Lenoxika\_66, Leona\_68, Leroy\_1, LilJank\_122, LilStuart\_60, LitninMcQueen\_1, LittleShirley\_1, LittleTokyo\_73, LordVader\_1, Lucy\_60, Lunar\_73, Lutum\_1, Mahdia\_60, Makoto\_60, Malisha\_1, MamaPearl\_60, Maria1952\_59, MeganNoll\_63, Melons\_73, MillySue\_69, Min1\_34, Misaeng\_61, Misha28\_1, Moki\_62, Morrissey\_63, Mova\_1, Mozy\_1, MrGloopy\_62, MulchExplorer\_1, Nancia\_61, Nandita\_68, Neville\_125, Nubia\_61, ODay\_1, OMalley\_60, Octobien14\_124, Ogoopogo\_2, Oppalora\_68, Orcanus\_65, OtsoOtso\_72, OurGirlNessie\_59, Oxynfrius\_62, Periwinkle\_1, Phabuloso\_1, PhirstandPhine\_78, Phistory\_1, PhluffyCoco\_68, Pineda\_74, PinkFriday\_61, Piper2020\_1, PitaDog\_61, Plumbus\_1, Polka\_71, Popper\_70, Potatoes\_62, PrairieDogTown\_52, Preamble\_64, Pterodactyl\_61, Pumancara\_61, Puppies\_62, Quico\_1, QuinnAvery\_70, RAP15\_63, Rabbitrun\_127, Rattail\_71, RcigaStruga\_62, RedFox\_71, RegnumDei\_114, Renna12\_72, Reyja\_65, Rialto\_1, Riovina\_60, Riverdale\_61, Rozby\_60, Ruchi\_64, Ryan\_70, SFuller\_100, Santhid\_59, Sapo\_61, Savage2526\_61, Schism\_71, Schmidt\_58, Scuttle\_61, Sephiroth\_123, Sergei\_60, Shagrat\_110, SilverChicken\_1, Slim\_1, Soul22\_1, Splinter\_64, Spooky\_1, Squiddly\_2, Squirty\_1, Starcevich\_1, StuartMinion\_61, Supakev\_60, Syleon\_128, TZGordon\_65, Tarzan\_63, TattModd\_61, TaylorSipht\_65, Tchotchke\_1, Temper16\_60, TinaLin\_63, Toad24\_68, ToastyOats\_69, Toodles\_68, TootsiePop\_1, Totinger\_1, Trax\_126, Trine\_65, Typha\_129, Upyo\_69, Urla\_62, Vallejo\_62, Vendetta\_64, Vulpecula\_64, Vulture\_60, Wawa\_62, Whitney\_1, Widow\_62, WileyE\_66, WonderBoy\_59, Yonex\_69, Yoshi\_1, Zaheer\_69, Zapner\_2, Zhuangyuan\_77, Zixiang\_67, Zorro\_62,

### Summary by start number:

#### Start 30:

- Found in 5 of 373 ( 1.3% ) of genes in pham
- Manual Annotations of this start: 1 of 328
- Called 20.0% of time when present
- Phage (with cluster) where this start called: Melons\_73 (AS2),

#### Start 41:

- Found in 2 of 373 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 328
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Lunar\_73 (AS2),

#### Start 53:

- Found in 11 of 373 ( 2.9% ) of genes in pham
- Manual Annotations of this start: 8 of 328
- Called 81.8% of time when present
- Phage (with cluster) where this start called: Amelia\_71 (AS2), Colusalem\_71 (AS2), Coral\_72 (AS2), Cote\_75 (AS2), Daob\_71 (AS2), Kepler\_75 (AS2), OtsoOtso\_72 (AS2), PhirstandPhine\_78 (AS2), Polka\_71 (AS2),

Start 60:

- Found in 6 of 373 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 3 of 328
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Hibiscus\_63 (DY), Jojo24\_63 (DY), Reyja\_65 (DY),

Start 61:

- Found in 2 of 373 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 328
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Morrissey\_63 (CD),

Start 70:

- Found in 14 of 373 ( 3.8% ) of genes in pham
- Manual Annotations of this start: 6 of 328
- Called 42.9% of time when present
- Phage (with cluster) where this start called: Elesar\_62 (FF), Gustav\_68 (CD), IsHungry\_64 (FF), Kihatsu\_69 (FF), Mahdia\_60 (CD), Popper\_70 (FF),

Start 71:

- Found in 3 of 373 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 328
- Called 33.3% of time when present
- Phage (with cluster) where this start called: PrairieDogTown\_52 (FO),

Start 75:

- Found in 31 of 373 ( 8.3% ) of genes in pham
- Manual Annotations of this start: 5 of 328
- Called 19.4% of time when present
- Phage (with cluster) where this start called: Akino08\_66 (EB), HunterDalle\_60 (AK), Loviatar\_67 (EB), PastaFagioli\_71 (EB), PondAmelia\_83 (EB), Vulture\_60 (AK),

Start 78:

- Found in 33 of 373 ( 8.8% ) of genes in pham
- Manual Annotations of this start: 2 of 328
- Called 6.1% of time when present
- Phage (with cluster) where this start called: Puppies\_62 (CD), Widow\_62 (CD),

Start 80:

- Found in 2 of 373 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 328
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Trine\_65 (CD),

Start 81:

- Found in 10 of 373 ( 2.7% ) of genes in pham
- Manual Annotations of this start: 1 of 328
- Called 10.0% of time when present
- Phage (with cluster) where this start called: Upyo\_69 (CD),

Start 82:

- Found in 1 of 373 ( 0.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Applejacks\_62 (CD),

Start 85:

- Found in 14 of 373 ( 3.8% ) of genes in pham
- Manual Annotations of this start: 5 of 328
- Called 42.9% of time when present
- Phage (with cluster) where this start called: AuntGwenStacy\_132 (Y), Bipper\_136 (Y), Cracklewink\_136 (Y), Faiyaz\_132 (Y), Hilltopfarm\_134 (Y), Typha\_129 (Y),

Start 88:

- Found in 1 of 373 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 328
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kuleana\_76 (AS2),

Start 90:

- Found in 1 of 373 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 328
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Archimedes\_60 (DA),

Start 94:

- Found in 4 of 373 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 3 of 328
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Anatole\_55 (BV), B3\_57 (BV), E1\_55 (BV),

Start 95:

- Found in 3 of 373 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 328
- Called 66.7% of time when present
- Phage (with cluster) where this start called: GoodLuckBabe\_69 (FF), Schism\_71 (FF),

Start 96:

- Found in 4 of 373 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 1 of 328
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Dardanus\_58 (CU3),

Start 97:

- Found in 2 of 373 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 2 of 328
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Catfish\_64 (CU5), Nandita\_68 (FF),

Start 99:

- Found in 29 of 373 ( 7.8% ) of genes in pham
- Manual Annotations of this start: 11 of 328

- Called 58.6% of time when present
- Phage (with cluster) where this start called: AllBusiness\_65 (FF), Cole\_64 (FF), Dirtdigger\_65 (FF), Donatella\_69 (FF), Guinevere\_71 (FF), Gusanita\_70 (FF), Halloweekend\_62 (FF), Ichiang\_65 (FF), Julie\_67 (FF), Lenoxika\_66 (FF), MillySue\_69 (FF), QuinnAvery\_70 (FF), Ryan\_70 (FF), ToastyOats\_69 (FF), Toodles\_68 (FF), Yonex\_69 (FF), Zaheer\_69 (FF),

#### Start 100:

- Found in 24 of 373 ( 6.4% ) of genes in pham
- Manual Annotations of this start: 1 of 328
- Called 8.3% of time when present
- Phage (with cluster) where this start called: Jflix2\_101 (CF), SFuller\_100 (CF),

#### Start 101:

- Found in 8 of 373 ( 2.1% ) of genes in pham
- Manual Annotations of this start: 8 of 328
- 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 102:

- Found in 6 of 373 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 3 of 328
- Called 66.7% of time when present
- Phage (with cluster) where this start called: AlexMinion\_71 (AS3), Babushka\_66 (AS3), Renna12\_72 (AS3), StuartMinion\_61 (AS3),

#### Start 104:

- Found in 64 of 373 ( 17.2% ) of genes in pham
- Manual Annotations of this start: 57 of 328
- Called 98.4% 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), Cornucopia\_1 (F1), Demsculpinboyz\_1 (F2), DocMcStuffins\_1 (F1), Doomslug\_1 (F), 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), LordVader\_1 (F), Lutum\_1 (DN1), Malisha\_1 (DN), Misha28\_1 (F1), Mova\_1 (F1), Mozy\_1 (F1), MulchExplorer\_1 (F1), ODay\_1 (DN), Ogopogo\_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), Starcevich\_1 (F1), Tchotchke\_1 (F1), TootsiePop\_1 (F1), Totinger\_1 (F1), Whitney\_1 (DN1), Yoshi\_1 (F2), Zapner\_2 (F2),

#### Start 105:

- Found in 17 of 373 ( 4.6% ) of genes in pham
- Manual Annotations of this start: 9 of 328
- Called 94.1% of time when present

- Phage (with cluster) where this start called: AdoptaAdorbs\_68 (AS3), AmiCi24\_68 (AS3), Amphitrite\_69 (AS3), Atlantica\_70 (AS3), Camara\_69 (AS3), DanHam62\_70 (AS3), Fingolfin\_70 (AS3), Glotell\_71 (AS3), HamCheese\_69 (AS3), Juno112\_69 (AS3), KHumphrey\_70 (AS3), Laphuphu24k\_68 (AS3), Oppalora\_68 (AS3), PhluffyCoco\_68 (AS3), Rattail\_71 (AS3), RedFox\_71 (AS3),

#### Start 106:

- Found in 1 of 373 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 328
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Sapo\_61 (DA),

#### Start 107:

- Found in 10 of 373 ( 2.7% ) of genes in pham
- Manual Annotations of this start: 8 of 328
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Altostratus\_69 (FS), Khuang\_70 (FS), Kudrefre\_128 (DU1), LilJank\_122 (DU2), Neville\_125 (DU2), Octobien14\_124 (DU1), Rabbitrun\_127 (DU2), Sephiroth\_123 (DU1), Syleon\_128 (DU1), Trax\_126 (DU2),

#### Start 108:

- Found in 3 of 373 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 328
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Frizzle\_58 (DA),

#### Start 109:

- Found in 7 of 373 ( 1.9% ) of genes in pham
- Manual Annotations of this start: 1 of 328
- Called 14.3% of time when present
- Phage (with cluster) where this start called: Basilisk\_66 (AS1),

#### Start 110:

- Found in 3 of 373 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 328
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Azaz\_72 (AS3), Leona\_68 (AS3),

#### Start 111:

- Found in 26 of 373 ( 7.0% ) of genes in pham
- Manual Annotations of this start: 1 of 328
- Called 11.5% of time when present
- Phage (with cluster) where this start called: Bible12\_75 (AS2), Huntingdon\_61 (AK), Pineda\_74 (AS2),

#### Start 113:

- Found in 53 of 373 ( 14.2% ) of genes in pham
- Manual Annotations of this start: 16 of 328
- Called 30.2% 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), Heinz\_62 (DY), Lucy\_60 (AK), MeganNoll\_63 (AK), MrGloopy\_62 (AK), PitaDog\_61 (AK), RAP15\_63 (AK), Santhid\_59 (DY), Scuttle\_61 (AK), Tarzan\_63 (DY), Vallejo\_62 (AK),

Start 114:

- Found in 2 of 373 ( 0.5% ) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present
- Phage (with cluster) where this start called: BFK20\_ORF55 (singleton),

Start 115:

- Found in 8 of 373 ( 2.1% ) of genes in pham
- Manual Annotations of this start: 4 of 328
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Canowicakte\_62 (AK), Graynor\_65 (AK), MrBoss\_63 (AK), PartyCup\_62 (AK), Suppi\_62 (AK), Wayne\_64 (AK),

Start 116:

- Found in 5 of 373 ( 1.3% ) of genes in pham
- Manual Annotations of this start: 4 of 328
- Called 80.0% of time when present
- Phage (with cluster) where this start called: Aoka\_54 (FO), CocoCinnamon\_58 (FO), EvenBluerMoon\_51 (FO), JanetJ\_52 (FO),

Start 117:

- Found in 4 of 373 ( 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 118:

- Found in 2 of 373 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 328
- Called 100.0% of time when present
- Phage (with cluster) where this start called: CurlyFries\_118 (CF), Shagrat\_110 (CF),

Start 119:

- Found in 19 of 373 ( 5.1% ) of genes in pham
- Manual Annotations of this start: 16 of 328
- Called 94.7% of time when present
- Phage (with cluster) where this start called: Abidatro\_66 (AS1), Antrice\_75 (AS2), Brynnie\_64 (AS1), Chickaboom\_66 (AS1), Cygnet\_73 (AS2), Eesa\_65 (AS1), Galaxy\_65 (AS1), Jamun\_63 (AS1), KendraB23\_76 (AS1), LittleTokyo\_73 (AS2), Orcanus\_65 (AS1), Ruchi\_64 (AS1), TaylorSipht\_65 (AS1), Toad24\_68 (AS1), Vulpecula\_64 (AS1), WileyE\_66 (AS1), Zhuangyuan\_77 (AS2), Zixiang\_67 (AS1),

Start 120:

- Found in 1 of 373 ( 0.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: RegnumDei\_114 (CF),

Start 122:

- Found in 94 of 373 ( 25.2% ) of genes in pham
- Manual Annotations of this start: 76 of 328
- Called 87.2% of time when present

- Phage (with cluster) where this start called: Abigail\_70 (EB), Albedo\_70 (EB), Albright\_69 (EB), AnnaLie\_70 (EB), Armstrong\_70 (EB), Arroyo\_71 (EB), AvGardian\_70 (EB), Avocadoman\_69 (EB), AylexOG\_71 (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), BubbaBear\_68 (EB), Buldak\_69 (EB), Burritobowl\_72 (EB), Cashington\_69 (EB), Celaena\_66 (EB), Clayda5\_72 (EB), CliffHanger\_78 (EB), Coltrane\_70 (EB), CroZenni\_71 (EB), CupcakePrincess\_71 (EB), 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), Icarian\_72 (EB), IndyLu\_71 (EB), Jabb\_71 (EB), Johnathan\_70 (EB), Jovita\_68 (EB), Kate33\_73 (EB), Katzastrophic\_67 (EB), Kenzers\_69 (EB), Kieran\_65 (EB), Lahqtemish\_69 (EB), Lilo27\_70 (EB), LimaBean\_68 (EB), Lynlen\_71 (EB), Milomuff\_72 (EB), MsUbiquitous\_71 (EB), Nicky22\_69 (EB), Olliecat\_66 (EB), Pecas\_70 (EB), PhigPhack\_73 (EB), Phisb\_72 (EB), QMacho\_72 (EB), Quenya\_69 (EB), Rollins\_70 (EB), Rona\_66 (EB), SanaSana\_70 (EB), SansAfet\_72 (EB), SarBear\_72 (EB), Sharkboy\_68 (EB), Shayna\_75 (EB), SirBeanington\_70 (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), WalkingDead\_71 (EB),

Start 123:

- Found in 1 of 373 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 328
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AppleCider\_61 (AK),

Start 124:

- Found in 86 of 373 ( 23.1% ) of genes in pham
- Manual Annotations of this start: 63 of 328
- Called 73.3% 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), Oxyfrius\_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 136:

- Found in 2 of 373 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 328
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Ghobes\_59 (DA),

## Summary by clusters:

There are 28 clusters represented in this pham: DN, singleton, FS, DA, BV, FF, DY, FO, CU5, CU4, CU3, CU1, DN1, DN2, DU1, DU2, AS3, AS2, AS1, F, AK, CF, CD, Y, EB, F1, F2, F3,

Info for manual annotations of cluster AK:

- Start number 75 was manually annotated 2 times for cluster AK.
- Start number 111 was manually annotated 1 time for cluster AK.
- Start number 113 was manually annotated 13 times for cluster AK.
- Start number 115 was manually annotated 4 times for cluster AK.
- Start number 123 was manually annotated 1 time for cluster AK.
- Start number 124 was manually annotated 63 times for cluster AK.

Info for manual annotations of cluster AS1:

- Start number 109 was manually annotated 1 time for cluster AS1.
- Start number 119 was manually annotated 12 times for cluster AS1.

Info for manual annotations of cluster AS2:

- Start number 30 was manually annotated 1 time for cluster AS2.
- Start number 41 was manually annotated 1 time for cluster AS2.
- Start number 53 was manually annotated 8 times for cluster AS2.
- Start number 88 was manually annotated 1 time for cluster AS2.
- Start number 119 was manually annotated 4 times for cluster AS2.

Info for manual annotations of cluster AS3:

- Start number 102 was manually annotated 3 times for cluster AS3.
- Start number 105 was manually annotated 9 times for cluster AS3.
- Start number 110 was manually annotated 1 time for cluster AS3.

Info for manual annotations of cluster BV:

- Start number 94 was manually annotated 3 times for cluster BV.

Info for manual annotations of cluster CD:

- Start number 61 was manually annotated 1 time for cluster CD.
- Start number 70 was manually annotated 2 times for cluster CD.
- Start number 78 was manually annotated 2 times for cluster CD.
- Start number 80 was manually annotated 1 time for cluster CD.
- Start number 81 was manually annotated 1 time for cluster CD.

Info for manual annotations of cluster CF:

- Start number 100 was manually annotated 1 time for cluster CF.
- Start number 118 was manually annotated 1 time for cluster CF.

Info for manual annotations of cluster CU1:

- Start number 101 was manually annotated 7 times for cluster CU1.

Info for manual annotations of cluster CU3:

- Start number 96 was manually annotated 1 time for cluster CU3.

Info for manual annotations of cluster CU4:

- Start number 101 was manually annotated 1 time for cluster CU4.

Info for manual annotations of cluster CU5:

- Start number 97 was manually annotated 1 time for cluster CU5.

Info for manual annotations of cluster DA:

- Start number 90 was manually annotated 1 time for cluster DA.
- Start number 106 was manually annotated 1 time for cluster DA.
- Start number 108 was manually annotated 1 time for cluster DA.
- Start number 136 was manually annotated 1 time for cluster DA.

Info for manual annotations of cluster DN:

- Start number 104 was manually annotated 5 times for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 104 was manually annotated 15 times for cluster DN1.

Info for manual annotations of cluster DN2:

- Start number 104 was manually annotated 2 times for cluster DN2.

Info for manual annotations of cluster DU1:

- Start number 107 was manually annotated 4 times for cluster DU1.

Info for manual annotations of cluster DU2:

- Start number 107 was manually annotated 3 times for cluster DU2.

Info for manual annotations of cluster DY:

- Start number 60 was manually annotated 3 times for cluster DY.
- Start number 113 was manually annotated 3 times for cluster DY.

Info for manual annotations of cluster EB:

- Start number 75 was manually annotated 3 times for cluster EB.
- Start number 122 was manually annotated 76 times for cluster EB.

Info for manual annotations of cluster F1:

- Start number 104 was manually annotated 27 times for cluster F1.

Info for manual annotations of cluster F2:

- Start number 104 was manually annotated 7 times for cluster F2.

Info for manual annotations of cluster F3:

- Start number 104 was manually annotated 1 time for cluster F3.

Info for manual annotations of cluster FF:

- Start number 70 was manually annotated 4 times for cluster FF.
- Start number 95 was manually annotated 1 time for cluster FF.
- Start number 97 was manually annotated 1 time for cluster FF.
- Start number 99 was manually annotated 11 times for cluster FF.

Info for manual annotations of cluster FO:

- Start number 71 was manually annotated 1 time for cluster FO.
- Start number 116 was manually annotated 4 times for cluster FO.

Info for manual annotations of cluster FS:

- Start number 107 was manually annotated 1 time for cluster FS.

Info for manual annotations of cluster Y:

- Start number 85 was manually annotated 5 times for cluster Y.

**Gene Information:**

Gene: Abidatro\_66 Start: 38766, Stop: 39044, Start Num: 119

Candidate Starts for Abidatro\_66:

(44, 38640), (Start: 119 @38766 has 16 MA's),

Gene: Abigail\_70 Start: 40540, Stop: 40815, Start Num: 122

Candidate Starts for Abigail\_70:

(Start: 122 @40540 has 76 MA's),

Gene: AdoptaAdorbs\_68 Start: 37992, Stop: 38279, Start Num: 105

Candidate Starts for AdoptaAdorbs\_68:

(Start: 105 @37992 has 9 MA's), (160, 38145), (173, 38208),

Gene: Akino08\_66 Start: 42028, Stop: 42363, Start Num: 75

Candidate Starts for Akino08\_66:

(62, 42013), (Start: 75 @42028 has 5 MA's), (Start: 100 @42061 has 1 MA's), (Start: 122 @42088 has 76 MA's), (131, 42121), (171, 42277),

Gene: Albanese\_61 Start: 43774, Stop: 44034, Start Num: 124

Candidate Starts for Albanese\_61:

(Start: 124 @43774 has 63 MA's), (126, 43780), (140, 43831), (141, 43834), (176, 43978),

Gene: Albedo\_70 Start: 41350, Stop: 41625, Start Num: 122

Candidate Starts for Albedo\_70:

(Start: 122 @41350 has 76 MA's), (170, 41536),

Gene: Albright\_69 Start: 40420, Stop: 40695, Start Num: 122

Candidate Starts for Albright\_69:

(Start: 122 @40420 has 76 MA's),

Gene: Aledel\_60 Start: 43400, Stop: 43660, Start Num: 124

Candidate Starts for Aledel\_60:

(Start: 75 @43331 has 5 MA's), (91, 43352), (Start: 124 @43400 has 63 MA's), (131, 43421), (144, 43472),

Gene: AlexMinion\_71 Start: 37930, Stop: 38223, Start Num: 102

Candidate Starts for AlexMinion\_71:

(66, 37888), (Start: 102 @37930 has 3 MA's), (160, 38089), (185, 38197),

Gene: AllBusiness\_65 Start: 43063, Stop: 43359, Start Num: 99

Candidate Starts for AllBusiness\_65:

(Start: 99 @43063 has 11 MA's), (157, 43219), (160, 43228), (173, 43291), (185, 43333),

Gene: Aloeri\_1 Start: 42, Stop: 374, Start Num: 104

Candidate Starts for Aloeri\_1:

(Start: 78 @9 has 2 MA's), (Start: 85 @15 has 5 MA's), (Start: 104 @42 has 57 MA's), (135, 120), (157, 213), (163, 237), (172, 285), (185, 339), (189, 354),

Gene: Altostratus\_69 Start: 38971, Stop: 39267, Start Num: 107

Candidate Starts for Altostratus\_69:

(Start: 107 @38971 has 8 MA's), (125, 39001), (153, 39097), (162, 39139),

Gene: Amelia\_71 Start: 37701, Stop: 38054, Start Num: 53

Candidate Starts for Amelia\_71:

(Start: 53 @37701 has 8 MA's), (Start: 111 @37767 has 1 MA's),

Gene: AmiCi24\_68 Start: 38101, Stop: 38388, Start Num: 105

Candidate Starts for AmiCi24\_68:

(Start: 105 @38101 has 9 MA's), (160, 38254), (173, 38317),

Gene: Amphitrite\_69 Start: 38005, Stop: 38292, Start Num: 105

Candidate Starts for Amphitrite\_69:

(Start: 105 @38005 has 9 MA's), (160, 38158), (173, 38221),

Gene: Anatole\_55 Start: 34869, Stop: 35189, Start Num: 94

Candidate Starts for Anatole\_55:

(3, 34596), (5, 34635), (6, 34644), (9, 34659), (22, 34725), (23, 34728), (34, 34752), (39, 34770), (51, 34800), (Start: 94 @34869 has 3 MA's), (117, 34899), (139, 34974), (188, 35172),

Gene: AnnaLie\_70 Start: 41202, Stop: 41477, Start Num: 122

Candidate Starts for AnnaLie\_70:

(Start: 122 @41202 has 76 MA's), (170, 41388),

Gene: Antrice\_75 Start: 38862, Stop: 39140, Start Num: 119

Candidate Starts for Antrice\_75:

(112, 38853), (Start: 119 @38862 has 16 MA's),

Gene: Aoka\_54 Start: 36392, Stop: 36673, Start Num: 116

Candidate Starts for Aoka\_54:

(Start: 71 @36335 has 1 MA's), (Start: 116 @36392 has 4 MA's),

Gene: AppleCider\_61 Start: 43353, Stop: 43619, Start Num: 123

Candidate Starts for AppleCider\_61:

(Start: 123 @43353 has 1 MA's), (Start: 124 @43359 has 63 MA's),

Gene: Applejacks\_62 Start: 41851, Stop: 42168, Start Num: 82

Candidate Starts for Applejacks\_62:

(31, 41746), (48, 41791), (82, 41851), (165, 42061),

Gene: Archimedes\_60 Start: 44555, Stop: 44878, Start Num: 90

Candidate Starts for Archimedes\_60:

(Start: 90 @44555 has 1 MA's), (Start: 108 @44582 has 1 MA's), (114, 44588), (141, 44672), (143, 44681), (185, 44852),

Gene: Armstrong\_70 Start: 39580, Stop: 39855, Start Num: 122

Candidate Starts for Armstrong\_70:

(18, 39382), (21, 39397), (32, 39424), (45, 39457), (62, 39505), (Start: 75 @39520 has 5 MA's), (Start: 100 @39553 has 1 MA's), (Start: 122 @39580 has 76 MA's),

Gene: Arroyo\_71 Start: 41666, Stop: 41941, Start Num: 122

Candidate Starts for Arroyo\_71:

(Start: 122 @41666 has 76 MA's), (170, 41852),

Gene: Asapag\_1 Start: 39, Stop: 371, Start Num: 104

Candidate Starts for Asapag\_1:

(Start: 78 @9 has 2 MA's), (83, 15), (93, 27), (Start: 104 @39 has 57 MA's), (141, 141), (142, 144), (163, 234), (168, 264), (172, 282), (189, 351),

Gene: Atlantica\_70 Start: 38103, Stop: 38390, Start Num: 105

Candidate Starts for Atlantica\_70:

(Start: 105 @38103 has 9 MA's), (160, 38256), (173, 38319),

Gene: AuntGwenStacy\_132 Start: 74981, Stop: 75304, Start Num: 85

Candidate Starts for AuntGwenStacy\_132:

(Start: 85 @74981 has 5 MA's), (148, 75131), (169, 75212), (174, 75236), (176, 75248),

Gene: AustinPowers\_60 Start: 43422, Stop: 43682, Start Num: 124

Candidate Starts for AustinPowers\_60:

(Start: 75 @43353 has 5 MA's), (91, 43374), (Start: 124 @43422 has 63 MA's), (131, 43443), (144, 43494),

Gene: AvGardian\_70 Start: 41184, Stop: 41459, Start Num: 122

Candidate Starts for AvGardian\_70:

(Start: 122 @41184 has 76 MA's), (163, 41334), (170, 41370),

Gene: Avani\_1 Start: 38, Stop: 370, Start Num: 104

Candidate Starts for Avani\_1:

(79, 11), (Start: 104 @38 has 57 MA's), (135, 116), (142, 143), (163, 233), (168, 263), (172, 281), (182, 326), (189, 350),

Gene: Avocadoman\_69 Start: 40737, Stop: 41012, Start Num: 122

Candidate Starts for Avocadoman\_69:

(Start: 122 @40737 has 76 MA's),

Gene: Awesomesauce\_1 Start: 42, Stop: 374, Start Num: 104

Candidate Starts for Awesomesauce\_1:

(Start: 78 @9 has 2 MA's), (Start: 85 @15 has 5 MA's), (Start: 104 @42 has 57 MA's), (133, 111), (135, 120), (157, 213), (163, 237), (168, 267), (172, 285), (182, 330), (185, 339), (189, 354),

Gene: AylexOG\_71 Start: 41421, Stop: 41696, Start Num: 122

Candidate Starts for AylexOG\_71:

(Start: 122 @41421 has 76 MA's), (170, 41607),

Gene: Azaz\_72 Start: 38251, Stop: 38532, Start Num: 110

Candidate Starts for Azaz\_72:

(Start: 110 @38251 has 1 MA's), (160, 38398), (173, 38461),

Gene: B3\_57 Start: 35532, Stop: 35852, Start Num: 94

Candidate Starts for B3\_57:

(3, 35259), (5, 35298), (6, 35307), (9, 35322), (22, 35388), (23, 35391), (34, 35415), (39, 35433), (51, 35463), (Start: 94 @35532 has 3 MA's), (117, 35562), (139, 35637), (188, 35835),

Gene: BAjuniper\_68 Start: 41633, Stop: 41908, Start Num: 122

Candidate Starts for BAjuniper\_68:

(52, 41528), (62, 41558), (Start: 75 @41573 has 5 MA's), (Start: 100 @41606 has 1 MA's), (Start: 122 @41633 has 76 MA's), (131, 41666), (170, 41819),

Gene: BENtherdunthat\_1 Start: 39, Stop: 371, Start Num: 104

Candidate Starts for BENtherdunthat\_1:

(Start: 78 @9 has 2 MA's), (83, 15), (93, 27), (Start: 104 @39 has 57 MA's), (141, 141), (142, 144), (163, 234), (168, 264), (172, 282), (189, 351),

Gene: BFK20\_ORF55 Start: 42590, Stop: 42880, Start Num: 114

Candidate Starts for BFK20\_ORF55:

(87, 42557), (98, 42575), (114, 42590), (127, 42617), (141, 42674), (164, 42761), (182, 42845),

Gene: Babushka\_66 Start: 38003, Stop: 38302, Start Num: 102

Candidate Starts for Babushka\_66:

(Start: 102 @38003 has 3 MA's), (160, 38168), (173, 38231),

Gene: BabyDaisy\_71 Start: 41763, Stop: 42038, Start Num: 122

Candidate Starts for BabyDaisy\_71:

(55, 41664), (62, 41688), (Start: 75 @41703 has 5 MA's), (Start: 100 @41736 has 1 MA's), (Start: 111 @41751 has 1 MA's), (Start: 122 @41763 has 76 MA's),

Gene: BabyYoda\_68 Start: 41093, Stop: 41368, Start Num: 122

Candidate Starts for BabyYoda\_68:

(Start: 122 @41093 has 76 MA's), (131, 41126), (170, 41279), (171, 41282),

Gene: Bachaco\_66 Start: 42043, Stop: 42318, Start Num: 122

Candidate Starts for Bachaco\_66:

(27, 41878), (Start: 30 @41887 has 1 MA's), (32, 41890), (51, 41938), (62, 41968), (Start: 75 @41983 has 5 MA's), (Start: 100 @42016 has 1 MA's), (Start: 122 @42043 has 76 MA's), (170, 42229), (187, 42301),

Gene: Banquo\_63 Start: 39126, Stop: 39422, Start Num: 101

Candidate Starts for Banquo\_63:

(69, 39084), (Start: 101 @39126 has 8 MA's), (128, 39168), (180, 39384),

Gene: Basilisk\_66 Start: 38281, Stop: 38571, Start Num: 109

Candidate Starts for Basilisk\_66:

(46, 38188), (62, 38218), (Start: 109 @38281 has 1 MA's), (Start: 119 @38293 has 16 MA's),

Gene: Beethoven\_63 Start: 43598, Stop: 43858, Start Num: 124

Candidate Starts for Beethoven\_63:

(Start: 113 @43580 has 16 MA's), (Start: 124 @43598 has 63 MA's), (130, 43616), (144, 43670),

Gene: BelmontSKP\_70 Start: 41202, Stop: 41477, Start Num: 122

Candidate Starts for BelmontSKP\_70:

(Start: 122 @41202 has 76 MA's), (170, 41388),

Gene: Bengal\_71 Start: 41208, Stop: 41483, Start Num: 122

Candidate Starts for Bengal\_71:

(35, 41055), (38, 41070), (62, 41133), (Start: 75 @41148 has 5 MA's), (Start: 100 @41181 has 1 MA's), (Start: 111 @41196 has 1 MA's), (Start: 122 @41208 has 76 MA's), (170, 41394),

Gene: Bennie\_63 Start: 42720, Stop: 42998, Start Num: 113

Candidate Starts for Bennie\_63:

(Start: 113 @42720 has 16 MA's), (Start: 124 @42738 has 63 MA's), (130, 42756), (144, 42810), (180, 42963),

Gene: Bernstein\_70 Start: 39578, Stop: 39853, Start Num: 122

Candidate Starts for Bernstein\_70:

(18, 39380), (21, 39395), (32, 39422), (45, 39455), (62, 39503), (Start: 75 @39518 has 5 MA's), (Start: 100 @39551 has 1 MA's), (Start: 122 @39578 has 76 MA's),

Gene: Bible12\_75 Start: 38337, Stop: 38624, Start Num: 111

Candidate Starts for Bible12\_75:

(Start: 53 @38274 has 8 MA's), (Start: 111 @38337 has 1 MA's),

Gene: BigMack\_61 Start: 43021, Stop: 43281, Start Num: 124

Candidate Starts for BigMack\_61:

(Start: 113 @43003 has 16 MA's), (Start: 124 @43021 has 63 MA's), (130, 43039), (171, 43198), (180, 43246),

Gene: Bipper\_136 Start: 77103, Stop: 77429, Start Num: 85

Candidate Starts for Bipper\_136:

(Start: 85 @77103 has 5 MA's), (137, 77217), (141, 77229), (162, 77304), (174, 77361), (176, 77373),

Gene: Bodacious\_61 Start: 42903, Stop: 43163, Start Num: 124

Candidate Starts for Bodacious\_61:

(Start: 113 @42885 has 16 MA's), (Start: 124 @42903 has 63 MA's), (130, 42921), (171, 43080), (185, 43137), (186, 43143),

Gene: BotCity\_1 Start: 39, Stop: 371, Start Num: 104

Candidate Starts for BotCity\_1:

(Start: 78 @9 has 2 MA's), (83, 15), (Start: 104 @39 has 57 MA's), (135, 117), (141, 141), (163, 234), (172, 282), (178, 318), (189, 351),

Gene: Brahms\_70 Start: 39480, Stop: 39755, Start Num: 122

Candidate Starts for Brahms\_70:

(18, 39282), (21, 39297), (32, 39324), (45, 39357), (62, 39405), (Start: 75 @39420 has 5 MA's), (Start: 100 @39453 has 1 MA's), (Start: 122 @39480 has 76 MA's),

Gene: BrotherBLo\_62 Start: 43314, Stop: 43574, Start Num: 124

Candidate Starts for BrotherBLo\_62:

(Start: 113 @43296 has 16 MA's), (Start: 124 @43314 has 63 MA's), (130, 43332), (144, 43386),

Gene: Brushbloom\_1 Start: 40, Stop: 372, Start Num: 104

Candidate Starts for Brushbloom\_1:

(76, 7), (Start: 81 @13 has 1 MA's), (Start: 104 @40 has 57 MA's), (133, 109), (135, 118), (157, 211), (172, 283), (182, 328), (185, 337), (189, 352),

Gene: Brynnie\_64 Start: 38238, Stop: 38516, Start Num: 119

Candidate Starts for Brynnie\_64:

(Start: 109 @38226 has 1 MA's), (Start: 119 @38238 has 16 MA's),

Gene: BubbaBear\_68 Start: 41351, Stop: 41626, Start Num: 122

Candidate Starts for BubbaBear\_68:

(Start: 122 @41351 has 76 MA's),

Gene: Budski\_1 Start: 39, Stop: 371, Start Num: 104

Candidate Starts for Budski\_1:

(Start: 78 @9 has 2 MA's), (83, 15), (Start: 104 @39 has 57 MA's), (135, 117), (141, 141), (163, 234), (172, 282), (178, 318), (189, 351),

Gene: Buldak\_69 Start: 39158, Stop: 39433, Start Num: 122

Candidate Starts for Buldak\_69:

(Start: 122 @39158 has 76 MA's), (170, 39344),

Gene: Burritobowl\_72 Start: 40954, Stop: 41229, Start Num: 122

Candidate Starts for Burritobowl\_72:

(Start: 122 @40954 has 76 MA's),

Gene: CallieOMalley\_62 Start: 43522, Stop: 43782, Start Num: 124

Candidate Starts for CallieOMalley\_62:

(Start: 99 @43489 has 11 MA's), (Start: 115 @43510 has 4 MA's), (Start: 122 @43516 has 76 MA's), (Start: 124 @43522 has 63 MA's),

Gene: Camara\_69 Start: 37993, Stop: 38280, Start Num: 105

Candidate Starts for Camara\_69:

(Start: 105 @37993 has 9 MA's), (160, 38146), (173, 38209),

Gene: Canowicakte\_62 Start: 43562, Stop: 43834, Start Num: 115

Candidate Starts for Canowicakte\_62:

(Start: 99 @43541 has 11 MA's), (Start: 115 @43562 has 4 MA's), (Start: 122 @43568 has 76 MA's), (Start: 124 @43574 has 63 MA's),

Gene: Carpal\_61 Start: 43369, Stop: 43629, Start Num: 124

Candidate Starts for Carpal\_61:

(Start: 113 @43351 has 16 MA's), (Start: 124 @43369 has 63 MA's), (130, 43387), (144, 43441),

Gene: Cashington\_69 Start: 41137, Stop: 41412, Start Num: 122

Candidate Starts for Cashington\_69:

(63, 41062), (77, 41077), (98, 41107), (Start: 102 @41110 has 3 MA's), (Start: 122 @41137 has 76 MA's), (170, 41323),

Gene: Catfish\_64 Start: 41148, Stop: 41444, Start Num: 97

Candidate Starts for Catfish\_64:

(14, 40959), (15, 40968), (64, 41106), (Start: 97 @41148 has 2 MA's), (138, 41235), (141, 41244), (162, 41319),

Gene: Celaena\_66 Start: 41809, Stop: 42084, Start Num: 122

Candidate Starts for Celaena\_66:

(27, 41641), (Start: 30 @41650 has 1 MA's), (32, 41653), (51, 41701), (62, 41731), (Start: 122 @41809 has 76 MA's), (170, 41995), (187, 42067),

Gene: Che9d\_1 Start: 48, Stop: 380, Start Num: 104

Candidate Starts for Che9d\_1:

(79, 21), (Start: 104 @48 has 57 MA's), (135, 126), (142, 153), (163, 243), (168, 273), (172, 291), (182, 336), (189, 360),

Gene: CheeseTouch\_1 Start: 39, Stop: 371, Start Num: 104

Candidate Starts for CheeseTouch\_1:

(Start: 78 @9 has 2 MA's), (83, 15), (Start: 104 @39 has 57 MA's), (135, 117), (141, 141), (163, 234), (172, 282), (178, 318), (189, 351),

Gene: ChewChew\_61 Start: 43103, Stop: 43363, Start Num: 124

Candidate Starts for ChewChew\_61:

(Start: 113 @43085 has 16 MA's), (Start: 124 @43103 has 63 MA's), (130, 43121), (145, 43178), (171, 43280), (185, 43337), (186, 43343),

Gene: Chickaboom\_66 Start: 38402, Stop: 38680, Start Num: 119

Candidate Starts for Chickaboom\_66:

(Start: 109 @38390 has 1 MA's), (Start: 119 @38402 has 16 MA's),

Gene: ChickenDinner\_1 Start: 42, Stop: 374, Start Num: 104

Candidate Starts for ChickenDinner\_1:

(Start: 78 @9 has 2 MA's), (Start: 85 @15 has 5 MA's), (Start: 104 @42 has 57 MA's), (135, 120), (157, 213), (163, 237), (172, 285), (185, 339), (189, 354),

Gene: Cholula\_62 Start: 43324, Stop: 43584, Start Num: 124

Candidate Starts for Cholula\_62:

(Start: 113 @43306 has 16 MA's), (Start: 124 @43324 has 63 MA's), (130, 43342), (144, 43396),

Gene: Chridison\_57 Start: 42676, Stop: 42936, Start Num: 124

Candidate Starts for Chridison\_57:

(Start: 75 @42607 has 5 MA's), (91, 42628), (Start: 124 @42676 has 63 MA's), (130, 42694), (131, 42697), (144, 42748),

Gene: Christian\_61 Start: 42727, Stop: 43005, Start Num: 113

Candidate Starts for Christian\_61:

(Start: 113 @42727 has 16 MA's), (Start: 124 @42745 has 63 MA's), (130, 42763), (145, 42820), (171, 42922), (185, 42979), (186, 42985),

Gene: Clayda5\_72 Start: 39546, Stop: 39821, Start Num: 122

Candidate Starts for Clayda5\_72:

(18, 39348), (21, 39363), (32, 39390), (45, 39423), (62, 39471), (Start: 75 @39486 has 5 MA's), (Start: 100 @39519 has 1 MA's), (Start: 122 @39546 has 76 MA's),

Gene: CliffHanger\_78 Start: 40817, Stop: 41092, Start Num: 122

Candidate Starts for CliffHanger\_78:

(Start: 122 @40817 has 76 MA's), (131, 40850), (170, 41003), (171, 41006),

Gene: CocoCinnamon\_58 Start: 36037, Stop: 36318, Start Num: 116

Candidate Starts for CocoCinnamon\_58:

(103, 36019), (Start: 116 @36037 has 4 MA's), (137, 36106),

Gene: Cole\_64 Start: 41483, Stop: 41779, Start Num: 99

Candidate Starts for Cole\_64:

(40, 41378), (Start: 99 @41483 has 11 MA's), (140, 41579), (157, 41639), (160, 41648),

Gene: Coltrane\_70 Start: 39480, Stop: 39755, Start Num: 122  
Candidate Starts for Coltrane\_70:  
(18, 39282), (21, 39297), (32, 39324), (45, 39357), (62, 39405), (Start: 75 @39420 has 5 MA's), (Start: 100 @39453 has 1 MA's), (Start: 122 @39480 has 76 MA's),

Gene: Colusalem\_71 Start: 37678, Stop: 38028, Start Num: 53  
Candidate Starts for Colusalem\_71:  
(Start: 53 @37678 has 8 MA's), (Start: 111 @37741 has 1 MA's),

Gene: Coral\_72 Start: 37893, Stop: 38243, Start Num: 53  
Candidate Starts for Coral\_72:  
(Start: 53 @37893 has 8 MA's), (Start: 111 @37956 has 1 MA's),

Gene: Cornucopia\_1 Start: 41, Stop: 373, Start Num: 104  
Candidate Starts for Cornucopia\_1:  
(79, 11), (Start: 104 @41 has 57 MA's), (129, 86), (135, 119), (155, 200), (163, 236), (172, 284), (182, 329), (185, 338), (189, 353),

Gene: Cote\_75 Start: 38617, Stop: 38970, Start Num: 53  
Candidate Starts for Cote\_75:  
(Start: 53 @38617 has 8 MA's), (Start: 111 @38683 has 1 MA's),

Gene: Cracklewink\_136 Start: 76262, Stop: 76588, Start Num: 85  
Candidate Starts for Cracklewink\_136:  
(11, 76067), (25, 76136), (Start: 85 @76262 has 5 MA's), (137, 76376), (141, 76388), (162, 76463), (174, 76520), (176, 76532),

Gene: CristinaYang\_61 Start: 43030, Stop: 43290, Start Num: 124  
Candidate Starts for CristinaYang\_61:  
(Start: 113 @43012 has 16 MA's), (Start: 124 @43030 has 63 MA's), (130, 43048), (171, 43207), (185, 43264), (186, 43270),

Gene: CroZenni\_71 Start: 41008, Stop: 41283, Start Num: 122  
Candidate Starts for CroZenni\_71:  
(Start: 122 @41008 has 76 MA's),

Gene: CupcakePrincess\_71 Start: 41251, Stop: 41526, Start Num: 122  
Candidate Starts for CupcakePrincess\_71:  
(Start: 122 @41251 has 76 MA's),

Gene: CurlyFries\_118 Start: 57838, Stop: 58110, Start Num: 118  
Candidate Starts for CurlyFries\_118:  
(Start: 111 @57829 has 1 MA's), (Start: 118 @57838 has 1 MA's), (131, 57874), (134, 57892), (155, 57961), (160, 57982), (181, 58081),

Gene: Cygnet\_73 Start: 39144, Stop: 39422, Start Num: 119  
Candidate Starts for Cygnet\_73:  
(Start: 119 @39144 has 16 MA's), (170, 39336),

Gene: Daiboju\_60 Start: 43614, Stop: 43871, Start Num: 124  
Candidate Starts for Daiboju\_60:  
(121, 43605), (Start: 124 @43614 has 63 MA's), (130, 43632), (146, 43689), (166, 43767),

Gene: DanHam62\_70 Start: 38102, Stop: 38389, Start Num: 105  
Candidate Starts for DanHam62\_70:  
(Start: 105 @38102 has 9 MA's), (160, 38255), (173, 38318),

Gene: Daob\_71 Start: 37543, Stop: 37893, Start Num: 53  
Candidate Starts for Daob\_71:  
(Start: 53 @37543 has 8 MA's), (Start: 111 @37606 has 1 MA's),

Gene: Dardanus\_58 Start: 37373, Stop: 37678, Start Num: 96  
Candidate Starts for Dardanus\_58:  
(Start: 96 @37373 has 1 MA's), (Start: 110 @37391 has 1 MA's), (162, 37553),

Gene: Demsculpinboyz\_1 Start: 38, Stop: 370, Start Num: 104  
Candidate Starts for Demsculpinboyz\_1:  
(79, 11), (Start: 104 @38 has 57 MA's), (135, 116), (142, 143), (163, 233), (168, 263), (172, 281), (182, 326), (189, 350),

Gene: DickRichards\_68 Start: 40877, Stop: 41152, Start Num: 122  
Candidate Starts for DickRichards\_68:  
(Start: 122 @40877 has 76 MA's),

Gene: Didgeridoo\_75 Start: 42192, Stop: 42467, Start Num: 122  
Candidate Starts for Didgeridoo\_75:  
(24, 42015), (44, 42066), (62, 42117), (Start: 75 @42132 has 5 MA's), (Start: 100 @42165 has 1 MA's),  
(Start: 111 @42180 has 1 MA's), (Start: 122 @42192 has 76 MA's),

Gene: Dino\_62 Start: 43208, Stop: 43486, Start Num: 113  
Candidate Starts for Dino\_62:  
(Start: 113 @43208 has 16 MA's), (Start: 124 @43226 has 63 MA's), (130, 43244), (144, 43298),

Gene: DinoDaryn\_64 Start: 39227, Stop: 39523, Start Num: 101  
Candidate Starts for DinoDaryn\_64:  
(69, 39185), (Start: 101 @39227 has 8 MA's), (165, 39416), (180, 39485),

Gene: Dirdigger\_65 Start: 41774, Stop: 42070, Start Num: 99  
Candidate Starts for Dirdigger\_65:  
(Start: 70 @41744 has 6 MA's), (Start: 99 @41774 has 11 MA's), (140, 41870), (173, 42002), (185, 42044), (186, 42050),

Gene: DirtyBubble\_69 Start: 41228, Stop: 41503, Start Num: 122  
Candidate Starts for DirtyBubble\_69:  
(Start: 122 @41228 has 76 MA's), (170, 41414), (171, 41417),

Gene: Dismas\_67 Start: 41256, Stop: 41531, Start Num: 122  
Candidate Starts for Dismas\_67:  
(62, 41181), (Start: 122 @41256 has 76 MA's), (170, 41442), (176, 41472),

Gene: DocMcStuffins\_1 Start: 42, Stop: 374, Start Num: 104  
Candidate Starts for DocMcStuffins\_1:  
(Start: 78 @9 has 2 MA's), (Start: 85 @15 has 5 MA's), (Start: 104 @42 has 57 MA's), (135, 120), (157, 213), (163, 237), (172, 285), (185, 339), (189, 354),

Gene: Donatella\_69 Start: 42522, Stop: 42818, Start Num: 99

Candidate Starts for Donatella\_69:

(Start: 99 @42522 has 11 MA's), (157, 42678), (185, 42792),

Gene: Doobus\_68 Start: 40732, Stop: 41007, Start Num: 122

Candidate Starts for Doobus\_68:

(Start: 122 @40732 has 76 MA's),

Gene: Doomslug\_1 Start: 40, Stop: 372, Start Num: 104

Candidate Starts for Doomslug\_1:

(76, 7), (Start: 81 @13 has 1 MA's), (Start: 104 @40 has 57 MA's), (133, 109), (135, 118), (157, 211), (172, 283), (182, 328), (185, 337), (189, 352),

Gene: DrRobert\_59 Start: 42246, Stop: 42524, Start Num: 113

Candidate Starts for DrRobert\_59:

(Start: 113 @42246 has 16 MA's), (Start: 124 @42264 has 63 MA's), (130, 42282), (171, 42441), (185, 42498), (186, 42504),

Gene: DreamTeam\_61 Start: 42752, Stop: 43012, Start Num: 124

Candidate Starts for DreamTeam\_61:

(Start: 113 @42734 has 16 MA's), (Start: 124 @42752 has 63 MA's), (130, 42770), (145, 42827), (166, 42908),

Gene: E1\_55 Start: 34794, Stop: 35114, Start Num: 94

Candidate Starts for E1\_55:

(3, 34521), (5, 34560), (6, 34569), (9, 34584), (22, 34650), (23, 34653), (34, 34677), (39, 34695), (51, 34725), (Start: 94 @34794 has 3 MA's), (117, 34824), (139, 34899), (188, 35097),

Gene: Ecliptus\_1 Start: 40, Stop: 372, Start Num: 104

Candidate Starts for Ecliptus\_1:

(Start: 81 @13 has 1 MA's), (Start: 104 @40 has 57 MA's), (142, 145), (155, 199), (156, 208), (157, 211), (159, 220), (163, 235), (168, 265), (178, 319), (189, 352),

Gene: Eden\_72 Start: 40483, Stop: 40758, Start Num: 122

Candidate Starts for Eden\_72:

(12, 40246), (16, 40276), (17, 40279), (20, 40294), (Start: 30 @40324 has 1 MA's), (32, 40327), (54, 40381), (76, 40423), (Start: 122 @40483 has 76 MA's), (170, 40669), (171, 40672), (187, 40741),

Gene: Eesa\_65 Start: 39439, Stop: 39717, Start Num: 119

Candidate Starts for Eesa\_65:

(Start: 119 @39439 has 16 MA's), (190, 39709),

Gene: Elesar\_62 Start: 42571, Stop: 42897, Start Num: 70

Candidate Starts for Elesar\_62:

(Start: 70 @42571 has 6 MA's), (Start: 99 @42601 has 11 MA's), (157, 42757), (185, 42871),

Gene: Elva\_73 Start: 41675, Stop: 41950, Start Num: 122

Candidate Starts for Elva\_73:

(Start: 122 @41675 has 76 MA's), (170, 41861), (171, 41864),

Gene: Emmaloid\_1 Start: 41, Stop: 373, Start Num: 104

Candidate Starts for Emmaloid\_1:

(79, 11), (Start: 104 @41 has 57 MA's), (135, 119), (157, 212), (163, 236), (172, 284), (185, 338), (189, 353),

Gene: EstebanJulior\_60 Start: 43409, Stop: 43669, Start Num: 124

Candidate Starts for EstebanJulior\_60:

(Start: 124 @43409 has 63 MA's), (130, 43427), (145, 43484),

Gene: Eula\_69 Start: 40916, Stop: 41191, Start Num: 122

Candidate Starts for Eula\_69:

(Start: 122 @40916 has 76 MA's), (170, 41102),

Gene: Eunoia\_62 Start: 44077, Stop: 44337, Start Num: 124

Candidate Starts for Eunoia\_62:

(Start: 75 @44008 has 5 MA's), (91, 44029), (Start: 124 @44077 has 63 MA's), (131, 44098), (144, 44149),

Gene: EvenBluerMoon\_51 Start: 35879, Stop: 36160, Start Num: 116

Candidate Starts for EvenBluerMoon\_51:

(Start: 71 @35822 has 1 MA's), (Start: 116 @35879 has 4 MA's),

Gene: Faiyaz\_132 Start: 75303, Stop: 75626, Start Num: 85

Candidate Starts for Faiyaz\_132:

(Start: 85 @75303 has 5 MA's), (148, 75453), (169, 75534), (174, 75558), (176, 75570),

Gene: Finalfrontier\_69 Start: 41583, Stop: 41858, Start Num: 122

Candidate Starts for Finalfrontier\_69:

(Start: 122 @41583 has 76 MA's), (170, 41769),

Gene: Fingolfin\_70 Start: 38104, Stop: 38391, Start Num: 105

Candidate Starts for Fingolfin\_70:

(Start: 105 @38104 has 9 MA's), (160, 38257), (173, 38320),

Gene: FlameThrower\_65 Start: 40846, Stop: 41121, Start Num: 122

Candidate Starts for FlameThrower\_65:

(62, 40768), (Start: 122 @40846 has 76 MA's), (170, 41032), (187, 41104),

Gene: Flathead\_1 Start: 40, Stop: 372, Start Num: 104

Candidate Starts for Flathead\_1:

(76, 7), (Start: 81 @13 has 1 MA's), (Start: 104 @40 has 57 MA's), (133, 109), (135, 118), (157, 211), (172, 283), (182, 328), (185, 337), (189, 352),

Gene: Fluke\_62 Start: 43458, Stop: 43736, Start Num: 113

Candidate Starts for Fluke\_62:

(Start: 113 @43458 has 16 MA's), (Start: 124 @43476 has 63 MA's), (130, 43494), (144, 43548),

Gene: Frankie\_1 Start: 40, Stop: 372, Start Num: 104

Candidate Starts for Frankie\_1:

(76, 7), (Start: 81 @13 has 1 MA's), (Start: 104 @40 has 57 MA's), (133, 109), (135, 118), (157, 211), (172, 283), (182, 328), (185, 337), (189, 352),

Gene: Franklin22\_74 Start: 40216, Stop: 40491, Start Num: 122

Candidate Starts for Franklin22\_74:

(76, 40156), (Start: 122 @40216 has 76 MA's), (170, 40402), (187, 40474),

Gene: Frickyeah\_1 Start: 39, Stop: 371, Start Num: 104

Candidate Starts for Frickyeah\_1:

(Start: 78 @9 has 2 MA's), (83, 15), (93, 27), (Start: 104 @39 has 57 MA's), (141, 141), (142, 144), (163, 234), (168, 264), (172, 282), (189, 351),

Gene: Frizzle\_58 Start: 45018, Stop: 45314, Start Num: 108

Candidate Starts for Frizzle\_58:

(Start: 108 @45018 has 1 MA's), (Start: 136 @45090 has 1 MA's), (145, 45123), (190, 45306),

Gene: Gack\_71 Start: 40197, Stop: 40472, Start Num: 122

Candidate Starts for Gack\_71:

(Start: 122 @40197 has 76 MA's), (170, 40383), (176, 40413),

Gene: Galaxy\_65 Start: 37453, Stop: 37731, Start Num: 119

Candidate Starts for Galaxy\_65:

(36, 37303), (44, 37327), (57, 37360), (Start: 119 @37453 has 16 MA's), (173, 37660),

Gene: Getalong\_1 Start: 39, Stop: 371, Start Num: 104

Candidate Starts for Getalong\_1:

(Start: 78 @9 has 2 MA's), (83, 15), (93, 27), (Start: 104 @39 has 57 MA's), (141, 141), (142, 144), (163, 234), (168, 264), (172, 282), (189, 351),

Gene: Ghobes\_59 Start: 45003, Stop: 45227, Start Num: 136

Candidate Starts for Ghobes\_59:

(Start: 108 @44931 has 1 MA's), (Start: 136 @45003 has 1 MA's), (145, 45036), (190, 45219),

Gene: Girafales\_1 Start: 41, Stop: 373, Start Num: 104

Candidate Starts for Girafales\_1:

(79, 11), (Start: 104 @41 has 57 MA's), (129, 86), (133, 110), (135, 119), (155, 200), (163, 236), (172, 284), (182, 329), (185, 338), (189, 353),

Gene: Gisselle\_61 Start: 42752, Stop: 43012, Start Num: 124

Candidate Starts for Gisselle\_61:

(Start: 113 @42734 has 16 MA's), (Start: 124 @42752 has 63 MA's), (130, 42770), (145, 42827), (166, 42908),

Gene: Glenn\_64 Start: 44035, Stop: 44313, Start Num: 113

Candidate Starts for Glenn\_64:

(Start: 113 @44035 has 16 MA's), (Start: 124 @44053 has 63 MA's), (130, 44071), (144, 44125),

Gene: Glotell\_71 Start: 38150, Stop: 38437, Start Num: 105

Candidate Starts for Glotell\_71:

(Start: 105 @38150 has 9 MA's), (160, 38303), (173, 38366),

Gene: GoodLuckBabe\_69 Start: 41904, Stop: 42203, Start Num: 95

Candidate Starts for GoodLuckBabe\_69:

(Start: 70 @41880 has 6 MA's), (Start: 95 @41904 has 1 MA's), (140, 42003), (157, 42063), (165, 42099),

Gene: Graynor\_65 Start: 43171, Stop: 43443, Start Num: 115

Candidate Starts for Graynor\_65:

(Start: 99 @43150 has 11 MA's), (Start: 115 @43171 has 4 MA's), (Start: 122 @43177 has 76 MA's),  
(Start: 124 @43183 has 63 MA's),

Gene: GreenHearts\_62 Start: 43911, Stop: 44171, Start Num: 124

Candidate Starts for GreenHearts\_62:

(Start: 124 @43911 has 63 MA's), (126, 43917), (140, 43968), (141, 43971), (144, 43983), (176,  
44115),

Gene: Greenhouse\_61 Start: 43637, Stop: 43897, Start Num: 124

Candidate Starts for Greenhouse\_61:

(Start: 124 @43637 has 63 MA's), (126, 43643), (140, 43694), (141, 43697), (176, 43841),

Gene: Guinevere\_71 Start: 41765, Stop: 42061, Start Num: 99

Candidate Starts for Guinevere\_71:

(Start: 99 @41765 has 11 MA's), (140, 41861), (157, 41921), (165, 41957),

Gene: Gusanita\_70 Start: 42391, Stop: 42687, Start Num: 99

Candidate Starts for Gusanita\_70:

(Start: 99 @42391 has 11 MA's), (139, 42481), (185, 42661),

Gene: Gustav\_68 Start: 43674, Stop: 44000, Start Num: 70

Candidate Starts for Gustav\_68:

(56, 43644), (Start: 70 @43674 has 6 MA's), (137, 43788), (157, 43857), (162, 43875), (166, 43896),  
(168, 43905), (180, 43962),

Gene: Halloweekend\_62 Start: 41095, Stop: 41391, Start Num: 99

Candidate Starts for Halloweekend\_62:

(Start: 99 @41095 has 11 MA's), (139, 41185), (157, 41251), (173, 41323), (185, 41365),

Gene: HamCheese\_69 Start: 38089, Stop: 38376, Start Num: 105

Candidate Starts for HamCheese\_69:

(Start: 105 @38089 has 9 MA's), (160, 38242), (173, 38305),

Gene: HeadNerd\_62 Start: 42632, Stop: 42892, Start Num: 124

Candidate Starts for HeadNerd\_62:

(Start: 113 @42614 has 16 MA's), (Start: 124 @42632 has 63 MA's), (130, 42650), (145, 42707), (171,  
42809), (180, 42857),

Gene: Hegedechwinu\_1 Start: 40, Stop: 372, Start Num: 104

Candidate Starts for Hegedechwinu\_1:

(76, 7), (Start: 81 @13 has 1 MA's), (Start: 104 @40 has 57 MA's), (133, 109), (135, 118), (157, 211),  
(172, 283), (182, 328), (185, 337), (189, 352),

Gene: Heinz\_62 Start: 39746, Stop: 40030, Start Num: 113

Candidate Starts for Heinz\_62:

(Start: 113 @39746 has 16 MA's), (132, 39800),

Gene: Herb\_60 Start: 43613, Stop: 43870, Start Num: 124

Candidate Starts for Herb\_60:

(121, 43604), (Start: 124 @43613 has 63 MA's), (130, 43631), (146, 43688), (166, 43766),

Gene: Hibiscus\_63 Start: 39480, Stop: 39836, Start Num: 60

Candidate Starts for Hibiscus\_63:

(Start: 60 @39480 has 3 MA's), (Start: 113 @39552 has 16 MA's), (132, 39606),

Gene: Hilltopfarm\_134 Start: 76128, Stop: 76451, Start Num: 85

Candidate Starts for Hilltopfarm\_134:

(Start: 85 @76128 has 5 MA's), (148, 76278), (169, 76359), (174, 76383), (176, 76395),

Gene: Holliday\_1 Start: 39, Stop: 371, Start Num: 104

Candidate Starts for Holliday\_1:

(Start: 78 @9 has 2 MA's), (83, 15), (Start: 104 @39 has 57 MA's), (135, 117), (141, 141), (163, 234), (172, 282), (178, 318), (189, 351),

Gene: Horus\_1 Start: 39, Stop: 371, Start Num: 104

Candidate Starts for Horus\_1:

(Start: 78 @9 has 2 MA's), (83, 15), (93, 27), (Start: 104 @39 has 57 MA's), (135, 117), (141, 141), (163, 234), (168, 264), (172, 282), (189, 351),

Gene: Huckleberry\_62 Start: 42636, Stop: 42896, Start Num: 124

Candidate Starts for Huckleberry\_62:

(Start: 113 @42618 has 16 MA's), (Start: 124 @42636 has 63 MA's), (130, 42654), (145, 42711), (171, 42813), (180, 42861),

Gene: Huff\_64 Start: 39227, Stop: 39523, Start Num: 101

Candidate Starts for Huff\_64:

(69, 39185), (Start: 101 @39227 has 8 MA's), (165, 39416), (180, 39485),

Gene: HunterDalle\_60 Start: 42928, Stop: 43257, Start Num: 75

Candidate Starts for HunterDalle\_60:

(Start: 75 @42928 has 5 MA's), (91, 42949), (Start: 124 @42997 has 63 MA's), (130, 43015), (131, 43018), (144, 43069),

Gene: Huntingdon\_61 Start: 43533, Stop: 43811, Start Num: 111

Candidate Starts for Huntingdon\_61:

(Start: 111 @43533 has 1 MA's), (Start: 124 @43551 has 63 MA's), (140, 43608), (141, 43611), (144, 43623), (176, 43755),

Gene: Icarian\_72 Start: 41856, Stop: 42131, Start Num: 122

Candidate Starts for Icarian\_72:

(Start: 122 @41856 has 76 MA's), (165, 42021), (170, 42042), (171, 42045),

Gene: Ichiang\_65 Start: 41204, Stop: 41500, Start Num: 99

Candidate Starts for Ichiang\_65:

(Start: 99 @41204 has 11 MA's), (157, 41360), (173, 41432), (185, 41474),

Gene: Immaculata\_62 Start: 43324, Stop: 43584, Start Num: 124

Candidate Starts for Immaculata\_62:

(Start: 113 @43306 has 16 MA's), (Start: 124 @43324 has 63 MA's), (130, 43342), (144, 43396),

Gene: IndyLu\_71 Start: 41495, Stop: 41770, Start Num: 122

Candidate Starts for IndyLu\_71:

(24, 41318), (44, 41369), (62, 41420), (Start: 75 @41435 has 5 MA's), (Start: 96 @41462 has 1 MA's), (Start: 100 @41468 has 1 MA's), (Start: 111 @41483 has 1 MA's), (Start: 122 @41495 has 76 MA's),

Gene: IsHungry\_64 Start: 40246, Stop: 40572, Start Num: 70

Candidate Starts for IsHungry\_64:

(40, 40180), (Start: 70 @40246 has 6 MA's), (Start: 99 @40276 has 11 MA's), (140, 40372), (157, 40432), (185, 40546), (186, 40552),

Gene: Jabb\_71 Start: 41251, Stop: 41526, Start Num: 122

Candidate Starts for Jabb\_71:

(Start: 122 @41251 has 76 MA's),

Gene: Jabbawokkie\_2 Start: 561, Stop: 893, Start Num: 104

Candidate Starts for Jabbawokkie\_2:

(76, 528), (Start: 104 @561 has 57 MA's), (163, 756), (168, 786), (172, 804), (182, 849), (189, 873),

Gene: Jamun\_63 Start: 38467, Stop: 38745, Start Num: 119

Candidate Starts for Jamun\_63:

(28, 38326), (77, 38413), (Start: 104 @38449 has 57 MA's), (Start: 109 @38455 has 1 MA's), (Start: 119 @38467 has 16 MA's),

Gene: JanetJ\_52 Start: 36634, Stop: 36915, Start Num: 116

Candidate Starts for JanetJ\_52:

(Start: 116 @36634 has 4 MA's),

Gene: Jflix2\_101 Start: 58160, Stop: 58510, Start Num: 100

Candidate Starts for Jflix2\_101:

(4, 57923), (92, 58148), (Start: 100 @58160 has 1 MA's),

Gene: Joann\_63 Start: 43843, Stop: 44103, Start Num: 124

Candidate Starts for Joann\_63:

(Start: 124 @43843 has 63 MA's), (140, 43900), (141, 43903), (176, 44047),

Gene: Job42\_1 Start: 41, Stop: 373, Start Num: 104

Candidate Starts for Job42\_1:

(79, 11), (Start: 104 @41 has 57 MA's), (135, 119), (157, 212), (172, 284), (182, 329), (185, 338), (189, 353),

Gene: Johnathan\_70 Start: 40508, Stop: 40783, Start Num: 122

Candidate Starts for Johnathan\_70:

(Start: 122 @40508 has 76 MA's),

Gene: Jojo24\_63 Start: 40163, Stop: 40516, Start Num: 60

Candidate Starts for Jojo24\_63:

(Start: 60 @40163 has 3 MA's), (Start: 113 @40235 has 16 MA's), (132, 40289),

Gene: Jovita\_68 Start: 40684, Stop: 40959, Start Num: 122

Candidate Starts for Jovita\_68:

(Start: 122 @40684 has 76 MA's), (170, 40870),

Gene: Juice456\_1 Start: 41, Stop: 373, Start Num: 104

Candidate Starts for Juice456\_1:

(79, 11), (Start: 104 @41 has 57 MA's), (135, 119), (157, 212), (172, 284), (182, 329), (185, 338), (189, 353),

Gene: Julie\_67 Start: 41903, Stop: 42199, Start Num: 99

Candidate Starts for Julie\_67:

(Start: 70 @41873 has 6 MA's), (Start: 99 @41903 has 11 MA's), (140, 41999), (157, 42059), (185, 42173), (186, 42179),

Gene: Jumboset\_62 Start: 43444, Stop: 43704, Start Num: 124

Candidate Starts for Jumboset\_62:

(Start: 113 @43426 has 16 MA's), (Start: 124 @43444 has 63 MA's), (130, 43462), (141, 43504), (144, 43516),

Gene: Juno112\_69 Start: 38104, Stop: 38391, Start Num: 105

Candidate Starts for Juno112\_69:

(Start: 105 @38104 has 9 MA's), (160, 38257), (173, 38320),

Gene: KHumphrey\_70 Start: 37978, Stop: 38265, Start Num: 105

Candidate Starts for KHumphrey\_70:

(Start: 105 @37978 has 9 MA's), (160, 38131), (173, 38194),

Gene: Kalizoi\_62 Start: 43182, Stop: 43442, Start Num: 124

Candidate Starts for Kalizoi\_62:

(Start: 113 @43164 has 16 MA's), (Start: 124 @43182 has 63 MA's), (130, 43200), (144, 43254),

Gene: Kamaru\_1 Start: 39, Stop: 371, Start Num: 104

Candidate Starts for Kamaru\_1:

(Start: 78 @9 has 2 MA's), (83, 15), (Start: 104 @39 has 57 MA's), (135, 117), (141, 141), (163, 234), (172, 282), (178, 318), (189, 351),

Gene: Kate33\_73 Start: 41226, Stop: 41501, Start Num: 122

Candidate Starts for Kate33\_73:

(44, 41100), (62, 41151), (Start: 75 @41166 has 5 MA's), (Start: 100 @41199 has 1 MA's), (Start: 111 @41214 has 1 MA's), (Start: 122 @41226 has 76 MA's),

Gene: Katzastrophic\_67 Start: 41352, Stop: 41627, Start Num: 122

Candidate Starts for Katzastrophic\_67:

(27, 41187), (Start: 30 @41196 has 1 MA's), (32, 41199), (51, 41247), (62, 41277), (Start: 75 @41292 has 5 MA's), (Start: 100 @41325 has 1 MA's), (Start: 122 @41352 has 76 MA's), (170, 41538), (187, 41610),

Gene: KendraB23\_76 Start: 39417, Stop: 39695, Start Num: 119

Candidate Starts for KendraB23\_76:

(74, 39363), (Start: 119 @39417 has 16 MA's), (190, 39687),

Gene: Kenna\_1 Start: 39, Stop: 371, Start Num: 104

Candidate Starts for Kenna\_1:

(Start: 78 @9 has 2 MA's), (83, 15), (93, 27), (Start: 104 @39 has 57 MA's), (135, 117), (141, 141), (142, 144), (163, 234), (168, 264), (172, 282), (189, 351),

Gene: Kenzers\_69 Start: 40798, Stop: 41073, Start Num: 122

Candidate Starts for Kenzers\_69:

(Start: 122 @40798 has 76 MA's), (170, 40984),

Gene: Kepler\_75 Start: 38025, Stop: 38375, Start Num: 53

Candidate Starts for Kepler\_75:

(Start: 53 @38025 has 8 MA's), (Start: 111 @38088 has 1 MA's),

Gene: Khuang\_70 Start: 39192, Stop: 39488, Start Num: 107

Candidate Starts for Khuang\_70:

(Start: 107 @39192 has 8 MA's), (125, 39222), (162, 39360),

Gene: Kieran\_65 Start: 41080, Stop: 41355, Start Num: 122

Candidate Starts for Kieran\_65:

(62, 41005), (Start: 122 @41080 has 76 MA's), (170, 41266), (176, 41296),

Gene: Kihatsu\_69 Start: 42860, Stop: 43183, Start Num: 70

Candidate Starts for Kihatsu\_69:

(Start: 70 @42860 has 6 MA's), (Start: 95 @42884 has 1 MA's), (140, 42983), (157, 43043), (165, 43079),

Gene: Kimberlium\_1 Start: 41, Stop: 373, Start Num: 104

Candidate Starts for Kimberlium\_1:

(79, 11), (Start: 104 @41 has 57 MA's), (135, 119), (157, 212), (172, 284), (182, 329), (185, 338), (189, 353),

Gene: KingBob\_60 Start: 43614, Stop: 43871, Start Num: 124

Candidate Starts for KingBob\_60:

(121, 43605), (Start: 124 @43614 has 63 MA's), (130, 43632), (146, 43689), (166, 43767),

Gene: Kittykat\_65 Start: 43266, Stop: 43526, Start Num: 124

Candidate Starts for Kittykat\_65:

(Start: 113 @43248 has 16 MA's), (Start: 124 @43266 has 63 MA's), (130, 43284), (145, 43341), (166, 43422), (171, 43443),

Gene: Korra\_62 Start: 43371, Stop: 43631, Start Num: 124

Candidate Starts for Korra\_62:

(Start: 113 @43353 has 16 MA's), (Start: 124 @43371 has 63 MA's), (130, 43389), (144, 43443),

Gene: Kudfre\_128 Start: 69247, Stop: 69579, Start Num: 107

Candidate Starts for Kudfre\_128:

(Start: 107 @69247 has 8 MA's), (152, 69385), (154, 69397), (173, 69487),

Gene: Kuleana\_76 Start: 38455, Stop: 38775, Start Num: 88

Candidate Starts for Kuleana\_76:

(Start: 41 @38371 has 1 MA's), (Start: 88 @38455 has 1 MA's), (Start: 111 @38488 has 1 MA's),

Gene: Lahqtemish\_69 Start: 41710, Stop: 41985, Start Num: 122

Candidate Starts for Lahqtemish\_69:

(50, 41602), (62, 41635), (Start: 75 @41650 has 5 MA's), (Start: 96 @41677 has 1 MA's), (Start: 100 @41683 has 1 MA's), (Start: 111 @41698 has 1 MA's), (Start: 122 @41710 has 76 MA's),

Gene: Lakshmi\_61 Start: 43678, Stop: 43938, Start Num: 124

Candidate Starts for Lakshmi\_61:

(Start: 124 @43678 has 63 MA's), (126, 43684), (140, 43735), (141, 43738), (144, 43750), (176, 43882),

Gene: Laphuphu24k\_68 Start: 38089, Stop: 38376, Start Num: 105

Candidate Starts for Laphuphu24k\_68:

(Start: 105 @38089 has 9 MA's), (160, 38242), (173, 38305),

Gene: Lasagna\_59 Start: 42266, Stop: 42526, Start Num: 124

Candidate Starts for Lasagna\_59:

(Start: 113 @42248 has 16 MA's), (Start: 124 @42266 has 63 MA's), (130, 42284), (171, 42443), (185, 42500), (186, 42506),

Gene: Lennox\_61 Start: 42751, Stop: 43011, Start Num: 124

Candidate Starts for Lennox\_61:

(Start: 113 @42733 has 16 MA's), (Start: 124 @42751 has 63 MA's), (130, 42769), (145, 42826), (171, 42928), (185, 42985), (186, 42991),

Gene: Lenoxika\_66 Start: 41766, Stop: 42062, Start Num: 99

Candidate Starts for Lenoxika\_66:

(Start: 99 @41766 has 11 MA's), (140, 41862), (157, 41922), (165, 41958),

Gene: Leona\_68 Start: 38237, Stop: 38518, Start Num: 110

Candidate Starts for Leona\_68:

(Start: 110 @38237 has 1 MA's), (160, 38384), (173, 38447),

Gene: Leroy\_1 Start: 39, Stop: 371, Start Num: 104

Candidate Starts for Leroy\_1:

(Start: 78 @9 has 2 MA's), (83, 15), (93, 27), (Start: 104 @39 has 57 MA's), (141, 141), (142, 144), (163, 234), (168, 264), (172, 282), (189, 351),

Gene: LilJank\_122 Start: 71012, Stop: 71341, Start Num: 107

Candidate Starts for LilJank\_122:

(Start: 107 @71012 has 8 MA's), (148, 71132), (154, 71162), (158, 71180), (159, 71186), (161, 71195), (180, 71288), (184, 71297),

Gene: LilStuart\_60 Start: 42614, Stop: 42874, Start Num: 124

Candidate Starts for LilStuart\_60:

(Start: 113 @42596 has 16 MA's), (Start: 124 @42614 has 63 MA's), (130, 42632), (171, 42791), (185, 42848), (186, 42854),

Gene: Lilo27\_70 Start: 41100, Stop: 41375, Start Num: 122

Candidate Starts for Lilo27\_70:

(Start: 122 @41100 has 76 MA's), (170, 41286),

Gene: LimaBean\_68 Start: 40790, Stop: 41065, Start Num: 122

Candidate Starts for LimaBean\_68:

(63, 40715), (77, 40730), (98, 40760), (Start: 102 @40763 has 3 MA's), (Start: 122 @40790 has 76 MA's),

Gene: LitninMcQueen\_1 Start: 39, Stop: 371, Start Num: 104

Candidate Starts for LitninMcQueen\_1:

(Start: 78 @9 has 2 MA's), (83, 15), (Start: 104 @39 has 57 MA's), (135, 117), (141, 141), (163, 234), (172, 282), (178, 318), (189, 351),

Gene: Litotes\_62 Start: 43156, Stop: 43416, Start Num: 124

Candidate Starts for Litotes\_62:

(Start: 99 @43123 has 11 MA's), (Start: 115 @43144 has 4 MA's), (Start: 122 @43150 has 76 MA's), (Start: 124 @43156 has 63 MA's),

Gene: LittleShirley\_1 Start: 41, Stop: 373, Start Num: 104

Candidate Starts for LittleShirley\_1:

(79, 11), (Start: 104 @41 has 57 MA's), (135, 119), (157, 212), (163, 236), (172, 284), (185, 338), (189, 353),

Gene: LittleTokyo\_73 Start: 38604, Stop: 38882, Start Num: 119

Candidate Starts for LittleTokyo\_73:

(Start: 119 @38604 has 16 MA's), (170, 38796),

Gene: LordVader\_1 Start: 42, Stop: 374, Start Num: 104

Candidate Starts for LordVader\_1:

(Start: 78 @9 has 2 MA's), (Start: 85 @15 has 5 MA's), (Start: 104 @42 has 57 MA's), (133, 111), (135, 120), (157, 213), (172, 285), (182, 330), (185, 339), (189, 354),

Gene: Loviatar\_67 Start: 42044, Stop: 42379, Start Num: 75

Candidate Starts for Loviatar\_67:

(62, 42029), (Start: 75 @42044 has 5 MA's), (Start: 100 @42077 has 1 MA's), (Start: 122 @42104 has 76 MA's), (131, 42137), (171, 42293),

Gene: Lucy\_60 Start: 42591, Stop: 42869, Start Num: 113

Candidate Starts for Lucy\_60:

(Start: 113 @42591 has 16 MA's), (Start: 124 @42609 has 63 MA's), (130, 42627), (171, 42786), (185, 42843), (186, 42849),

Gene: Lunar\_73 Start: 37996, Stop: 38376, Start Num: 41

Candidate Starts for Lunar\_73:

(Start: 41 @37996 has 1 MA's), (Start: 111 @38089 has 1 MA's),

Gene: Lutum\_1 Start: 39, Stop: 371, Start Num: 104

Candidate Starts for Lutum\_1:

(Start: 78 @9 has 2 MA's), (83, 15), (93, 27), (Start: 104 @39 has 57 MA's), (135, 117), (141, 141), (142, 144), (163, 234), (168, 264), (172, 282), (189, 351),

Gene: Lynlen\_71 Start: 40984, Stop: 41259, Start Num: 122

Candidate Starts for Lynlen\_71:

(Start: 111 @40972 has 1 MA's), (Start: 122 @40984 has 76 MA's),

Gene: Mahdia\_60 Start: 41790, Stop: 42113, Start Num: 70

Candidate Starts for Mahdia\_60:

(Start: 70 @41790 has 6 MA's), (Start: 78 @41796 has 2 MA's), (157, 41970), (162, 41988), (180, 42075),

Gene: Makoto\_60 Start: 42571, Stop: 42831, Start Num: 124

Candidate Starts for Makoto\_60:

(Start: 113 @42553 has 16 MA's), (Start: 124 @42571 has 63 MA's), (130, 42589), (145, 42646), (171, 42748), (185, 42805), (186, 42811),

Gene: Malisha\_1 Start: 39, Stop: 371, Start Num: 104

Candidate Starts for Malisha\_1:

(Start: 78 @9 has 2 MA's), (83, 15), (Start: 104 @39 has 57 MA's), (135, 117), (156, 207), (163, 234), (168, 264), (172, 282), (178, 318), (189, 351),

Gene: MamaPearl\_60 Start: 43409, Stop: 43669, Start Num: 124

Candidate Starts for MamaPearl\_60:

(Start: 124 @43409 has 63 MA's), (130, 43427), (145, 43484),

Gene: Maria1952\_59 Start: 43613, Stop: 43870, Start Num: 124

Candidate Starts for Maria1952\_59:

(121, 43604), (Start: 124 @43613 has 63 MA's), (130, 43631), (146, 43688), (166, 43766),

Gene: MeganNoll\_63 Start: 43904, Stop: 44182, Start Num: 113

Candidate Starts for MeganNoll\_63:

(Start: 113 @43904 has 16 MA's), (Start: 124 @43922 has 63 MA's), (130, 43940), (144, 43994),

Gene: Melons\_73 Start: 37979, Stop: 38383, Start Num: 30

Candidate Starts for Melons\_73:

(Start: 30 @37979 has 1 MA's), (Start: 111 @38096 has 1 MA's),

Gene: MillySue\_69 Start: 41794, Stop: 42090, Start Num: 99

Candidate Starts for MillySue\_69:

(Start: 99 @41794 has 11 MA's), (140, 41890), (185, 42064),

Gene: Milomuff\_72 Start: 41357, Stop: 41632, Start Num: 122

Candidate Starts for Milomuff\_72:

(Start: 122 @41357 has 76 MA's),

Gene: Min1\_34 Start: 16506, Stop: 16799, Start Num: 117

Candidate Starts for Min1\_34:

(67, 16446), (Start: 81 @16461 has 1 MA's), (84, 16464), (Start: 94 @16479 has 3 MA's), (Start: 105 @16491 has 9 MA's), (117, 16506), (149, 16617), (165, 16686), (188, 16782),

Gene: Misaeng\_61 Start: 43477, Stop: 43737, Start Num: 124

Candidate Starts for Misaeng\_61:

(Start: 124 @43477 has 63 MA's), (140, 43534), (141, 43537), (144, 43549), (176, 43681),

Gene: Misha28\_1 Start: 42, Stop: 374, Start Num: 104

Candidate Starts for Misha28\_1:

(Start: 78 @9 has 2 MA's), (Start: 85 @15 has 5 MA's), (Start: 104 @42 has 57 MA's), (135, 120), (157, 213), (163, 237), (172, 285), (185, 339), (189, 354),

Gene: Moki\_62 Start: 42825, Stop: 43085, Start Num: 124

Candidate Starts for Moki\_62:

(Start: 113 @42807 has 16 MA's), (Start: 124 @42825 has 63 MA's), (130, 42843), (145, 42900), (171, 43002), (180, 43050),

Gene: Morrissey\_63 Start: 43651, Stop: 44007, Start Num: 61

Candidate Starts for Morrissey\_63:

(Start: 61 @43651 has 1 MA's), (Start: 70 @43666 has 6 MA's), (Start: 80 @43678 has 1 MA's), (98, 43702), (157, 43864), (180, 43969),

Gene: Mova\_1 Start: 41, Stop: 373, Start Num: 104

Candidate Starts for Mova\_1:

(79, 11), (Start: 104 @41 has 57 MA's), (135, 119), (157, 212), (163, 236), (172, 284), (185, 338), (189, 353),

Gene: Mozy\_1 Start: 40, Stop: 372, Start Num: 104

Candidate Starts for Mozy\_1:

(76, 7), (Start: 81 @13 has 1 MA's), (Start: 104 @40 has 57 MA's), (129, 85), (133, 109), (135, 118), (155, 199), (163, 235), (172, 283), (182, 328), (185, 337), (189, 352),

Gene: MrBoss\_63 Start: 42722, Stop: 42994, Start Num: 115

Candidate Starts for MrBoss\_63:

(Start: 99 @42701 has 11 MA's), (Start: 115 @42722 has 4 MA's), (Start: 122 @42728 has 76 MA's), (Start: 124 @42734 has 63 MA's),

Gene: MrGloopy\_62 Start: 43347, Stop: 43625, Start Num: 113

Candidate Starts for MrGloopy\_62:

(Start: 113 @43347 has 16 MA's), (Start: 124 @43365 has 63 MA's), (130, 43383), (144, 43437),

Gene: MsUbiquitous\_71 Start: 41251, Stop: 41526, Start Num: 122

Candidate Starts for MsUbiquitous\_71:

(Start: 122 @41251 has 76 MA's),

Gene: MulchExplorer\_1 Start: 41, Stop: 373, Start Num: 104

Candidate Starts for MulchExplorer\_1:

(79, 11), (Start: 104 @41 has 57 MA's), (135, 119), (157, 212), (172, 284), (182, 329), (185, 338), (189, 353),

Gene: Nancia\_61 Start: 42902, Stop: 43162, Start Num: 124

Candidate Starts for Nancia\_61:

(Start: 113 @42884 has 16 MA's), (Start: 124 @42902 has 63 MA's), (130, 42920), (171, 43079), (185, 43136), (186, 43142),

Gene: Nandita\_68 Start: 42024, Stop: 42323, Start Num: 97

Candidate Starts for Nandita\_68:

(40, 41931), (72, 42000), (Start: 97 @42024 has 2 MA's), (157, 42183), (160, 42192), (185, 42297),

Gene: Neville\_125 Start: 70232, Stop: 70561, Start Num: 107

Candidate Starts for Neville\_125:

(Start: 107 @70232 has 8 MA's), (148, 70352), (154, 70382), (159, 70406), (161, 70415), (175, 70484), (180, 70508), (184, 70517), (191, 70556),

Gene: Nicky22\_69 Start: 41321, Stop: 41596, Start Num: 122

Candidate Starts for Nicky22\_69:

(Start: 122 @41321 has 76 MA's), (170, 41507),

Gene: Nubia\_61 Start: 43705, Stop: 43965, Start Num: 124

Candidate Starts for Nubia\_61:

(Start: 111 @43687 has 1 MA's), (Start: 124 @43705 has 63 MA's), (140, 43762), (141, 43765), (176, 43909),

Gene: ODay\_1 Start: 39, Stop: 371, Start Num: 104

Candidate Starts for ODay\_1:

(Start: 78 @9 has 2 MA's), (83, 15), (Start: 104 @39 has 57 MA's), (135, 117), (141, 141), (163, 234), (172, 282), (178, 318), (189, 351),

Gene: OMalley\_60 Start: 43400, Stop: 43660, Start Num: 124

Candidate Starts for OMalley\_60:

(Start: 75 @43331 has 5 MA's), (91, 43352), (Start: 124 @43400 has 63 MA's), (131, 43421), (144, 43472),

Gene: Octobien14\_124 Start: 67781, Stop: 68113, Start Num: 107

Candidate Starts for Octobien14\_124:

(Start: 78 @67739 has 2 MA's), (Start: 107 @67781 has 8 MA's), (152, 67919), (154, 67931), (168, 67997),

Gene: Ogotopogo\_2 Start: 299, Stop: 631, Start Num: 104

Candidate Starts for Ogotopogo\_2:

(Start: 104 @299 has 57 MA's), (135, 377), (163, 494), (168, 524), (172, 542), (182, 587), (189, 611),

Gene: Olliecat\_66 Start: 38762, Stop: 39037, Start Num: 122

Candidate Starts for Olliecat\_66:

(2, 38429), (21, 38579), (42, 38630), (Start: 122 @38762 has 76 MA's), (170, 38948), (183, 39005),

Gene: Oppalora\_68 Start: 38103, Stop: 38390, Start Num: 105

Candidate Starts for Oppalora\_68:

(Start: 105 @38103 has 9 MA's), (160, 38256), (173, 38319),

Gene: Orcanus\_65 Start: 39051, Stop: 39329, Start Num: 119

Candidate Starts for Orcanus\_65:

(Start: 119 @39051 has 16 MA's),

Gene: OtsoOtso\_72 Start: 37650, Stop: 38003, Start Num: 53

Candidate Starts for OtsoOtso\_72:

(Start: 53 @37650 has 8 MA's), (Start: 111 @37716 has 1 MA's),

Gene: OurGirlNessie\_59 Start: 42225, Stop: 42485, Start Num: 124

Candidate Starts for OurGirlNessie\_59:

(Start: 113 @42207 has 16 MA's), (Start: 124 @42225 has 63 MA's), (130, 42243), (145, 42300), (171, 42402), (185, 42459), (186, 42465),

Gene: Oxynfrius\_62 Start: 43823, Stop: 44083, Start Num: 124

Candidate Starts for Oxynfrius\_62:

(Start: 124 @43823 has 63 MA's), (140, 43880), (141, 43883), (176, 44027),

Gene: PartyCup\_62 Start: 43576, Stop: 43848, Start Num: 115

Candidate Starts for PartyCup\_62:

(Start: 99 @43555 has 11 MA's), (Start: 115 @43576 has 4 MA's), (Start: 122 @43582 has 76 MA's), (Start: 124 @43588 has 63 MA's),

Gene: PastaFagioli\_71 Start: 41718, Stop: 42053, Start Num: 75

Candidate Starts for PastaFagioli\_71:

(50, 41670), (62, 41703), (Start: 75 @41718 has 5 MA's), (Start: 96 @41745 has 1 MA's), (Start: 100 @41751 has 1 MA's), (Start: 111 @41766 has 1 MA's), (Start: 122 @41778 has 76 MA's),

Gene: Pecas\_70 Start: 41217, Stop: 41492, Start Num: 122

Candidate Starts for Pecas\_70:

(Start: 122 @41217 has 76 MA's), (170, 41403),

Gene: Periwinkle\_1 Start: 39, Stop: 371, Start Num: 104

Candidate Starts for Periwinkle\_1:

(Start: 78 @9 has 2 MA's), (83, 15), (93, 27), (Start: 104 @39 has 57 MA's), (135, 117), (141, 141), (142, 144), (163, 234), (168, 264), (172, 282), (189, 351),

Gene: Phabuloso\_1 Start: 39, Stop: 371, Start Num: 104

Candidate Starts for Phabuloso\_1:

(Start: 78 @9 has 2 MA's), (83, 15), (Start: 104 @39 has 57 MA's), (135, 117), (141, 141), (163, 234), (172, 282), (178, 318), (189, 351),

Gene: PhigPhack\_73 Start: 41119, Stop: 41394, Start Num: 122

Candidate Starts for PhigPhack\_73:

(Start: 122 @41119 has 76 MA's), (170, 41305),

Gene: PhirstandPhine\_78 Start: 37839, Stop: 38192, Start Num: 53

Candidate Starts for PhirstandPhine\_78:

(Start: 53 @37839 has 8 MA's), (Start: 111 @37905 has 1 MA's),

Gene: Phisb\_72 Start: 41092, Stop: 41367, Start Num: 122

Candidate Starts for Phisb\_72:

(Start: 122 @41092 has 76 MA's),

Gene: Phistory\_1 Start: 39, Stop: 371, Start Num: 104

Candidate Starts for Phistory\_1:

(Start: 78 @9 has 2 MA's), (83, 15), (Start: 104 @39 has 57 MA's), (141, 141), (142, 144), (163, 234), (168, 264), (172, 282), (178, 318), (189, 351),

Gene: PhluffyCoco\_68 Start: 38203, Stop: 38490, Start Num: 105

Candidate Starts for PhluffyCoco\_68:

(Start: 105 @38203 has 9 MA's), (160, 38356), (173, 38419),

Gene: Pineda\_74 Start: 38058, Stop: 38345, Start Num: 111

Candidate Starts for Pineda\_74:

(Start: 53 @37995 has 8 MA's), (Start: 111 @38058 has 1 MA's),

Gene: PinkFriday\_61 Start: 42959, Stop: 43216, Start Num: 124

Candidate Starts for PinkFriday\_61:

(121, 42950), (Start: 124 @42959 has 63 MA's), (146, 43034), (147, 43037), (166, 43112), (186, 43196),

Gene: Piper2020\_1 Start: 42, Stop: 374, Start Num: 104

Candidate Starts for Piper2020\_1:

(Start: 78 @9 has 2 MA's), (Start: 85 @15 has 5 MA's), (Start: 104 @42 has 57 MA's), (135, 120), (157, 213), (163, 237), (172, 285), (185, 339), (189, 354),

Gene: PitaDog\_61 Start: 42609, Stop: 42887, Start Num: 113

Candidate Starts for PitaDog\_61:

(Start: 113 @42609 has 16 MA's), (Start: 124 @42627 has 63 MA's), (130, 42645), (145, 42702), (171, 42804), (185, 42861), (186, 42867),

Gene: Plumbus\_1 Start: 41, Stop: 373, Start Num: 104

Candidate Starts for Plumbus\_1:

(79, 11), (Start: 104 @41 has 57 MA's), (135, 119), (157, 212), (172, 284), (182, 329), (185, 338), (189, 353),

Gene: Polka\_71 Start: 37650, Stop: 38003, Start Num: 53

Candidate Starts for Polka\_71:

(Start: 53 @37650 has 8 MA's), (Start: 111 @37716 has 1 MA's),

Gene: PondAmelia\_83 Start: 40965, Stop: 41300, Start Num: 75

Candidate Starts for PondAmelia\_83:

(49, 40914), (62, 40950), (Start: 75 @40965 has 5 MA's), (Start: 100 @40998 has 1 MA's), (Start: 122 @41025 has 76 MA's), (131, 41058), (170, 41211), (171, 41214),

Gene: Popper\_70 Start: 41441, Stop: 41767, Start Num: 70

Candidate Starts for Popper\_70:

(40, 41375), (Start: 70 @41441 has 6 MA's), (Start: 99 @41471 has 11 MA's), (140, 41567), (157, 41627), (185, 41741), (186, 41747),

Gene: Potatoes\_62 Start: 43324, Stop: 43584, Start Num: 124

Candidate Starts for Potatoes\_62:

(Start: 113 @43306 has 16 MA's), (Start: 124 @43324 has 63 MA's), (130, 43342), (144, 43396),

Gene: PrairieDogTown\_52 Start: 35824, Stop: 36162, Start Num: 71

Candidate Starts for PrairieDogTown\_52:

(Start: 71 @35824 has 1 MA's), (Start: 116 @35881 has 4 MA's),

Gene: Preamble\_64 Start: 43037, Stop: 43297, Start Num: 124

Candidate Starts for Preamble\_64:

(Start: 113 @43019 has 16 MA's), (Start: 124 @43037 has 63 MA's), (130, 43055), (145, 43112), (166, 43193), (171, 43214),

Gene: Pterodactyl\_61 Start: 42938, Stop: 43198, Start Num: 124

Candidate Starts for Pterodactyl\_61:

(Start: 113 @42920 has 16 MA's), (Start: 124 @42938 has 63 MA's), (130, 42956), (145, 43013), (171, 43115), (185, 43172), (186, 43178),

Gene: Pumancara\_61 Start: 42494, Stop: 42751, Start Num: 124

Candidate Starts for Pumancara\_61:

(121, 42485), (Start: 124 @42494 has 63 MA's), (146, 42569), (147, 42572), (166, 42647), (186, 42731),

Gene: Puppies\_62 Start: 41790, Stop: 42113, Start Num: 78

Candidate Starts for Puppies\_62:

(36, 41697), (43, 41718), (47, 41733), (50, 41739), (65, 41775), (Start: 78 @41790 has 2 MA's), (162, 41988),

Gene: QMacho\_72 Start: 41222, Stop: 41497, Start Num: 122

Candidate Starts for QMacho\_72:

(Start: 122 @41222 has 76 MA's),

Gene: Quenya\_69 Start: 41516, Stop: 41791, Start Num: 122

Candidate Starts for Quenya\_69:

(Start: 122 @41516 has 76 MA's), (131, 41549), (170, 41702), (187, 41774),

Gene: Quico\_1 Start: 41, Stop: 373, Start Num: 104

Candidate Starts for Quico\_1:

(79, 11), (Start: 104 @41 has 57 MA's), (129, 86), (133, 110), (135, 119), (155, 200), (163, 236), (172, 284), (182, 329), (185, 338), (189, 353),

Gene: QuinnAvery\_70 Start: 42826, Stop: 43122, Start Num: 99  
Candidate Starts for QuinnAvery\_70:  
(44, 42730), (Start: 99 @42826 has 11 MA's), (140, 42922), (157, 42982), (160, 42991),

Gene: RAP15\_63 Start: 43905, Stop: 44183, Start Num: 113  
Candidate Starts for RAP15\_63:  
(Start: 113 @43905 has 16 MA's), (Start: 124 @43923 has 63 MA's), (130, 43941), (144, 43995),

Gene: Rabbitrun\_127 Start: 71852, Stop: 72181, Start Num: 107  
Candidate Starts for Rabbitrun\_127:  
(7, 71615), (8, 71618), (26, 71696), (44, 71741), (45, 71744), (57, 71774), (58, 71777), (73, 71804),  
(Start: 99 @71840 has 11 MA's), (Start: 107 @71852 has 8 MA's), (140, 71942), (154, 72002), (158, 72020), (159, 72026), (160, 72029), (175, 72104), (191, 72176),

Gene: Rattail\_71 Start: 38499, Stop: 38786, Start Num: 105  
Candidate Starts for Rattail\_71:  
(Start: 105 @38499 has 9 MA's), (160, 38652), (173, 38715),

Gene: RcigaStruga\_62 Start: 43551, Stop: 43811, Start Num: 124  
Candidate Starts for RcigaStruga\_62:  
(Start: 111 @43533 has 1 MA's), (Start: 124 @43551 has 63 MA's), (140, 43608), (141, 43611), (144, 43623), (176, 43755),

Gene: RedFox\_71 Start: 38363, Stop: 38650, Start Num: 105  
Candidate Starts for RedFox\_71:  
(Start: 105 @38363 has 9 MA's), (160, 38516), (173, 38579),

Gene: RegnumDei\_114 Start: 60267, Stop: 60536, Start Num: 120  
Candidate Starts for RegnumDei\_114:  
(120, 60267), (160, 60408), (163, 60420), (181, 60507),

Gene: Renna12\_72 Start: 38798, Stop: 39091, Start Num: 102  
Candidate Starts for Renna12\_72:  
(83, 38777), (Start: 102 @38798 has 3 MA's), (160, 38957), (173, 39020),

Gene: Reyja\_65 Start: 41077, Stop: 41433, Start Num: 60  
Candidate Starts for Reyja\_65:  
(Start: 60 @41077 has 3 MA's), (Start: 113 @41149 has 16 MA's), (132, 41203),

Gene: Rialto\_1 Start: 41, Stop: 373, Start Num: 104  
Candidate Starts for Rialto\_1:  
(79, 11), (Start: 104 @41 has 57 MA's), (135, 119), (157, 212), (163, 236), (172, 284), (185, 338), (189, 353),

Gene: Riovina\_60 Start: 43400, Stop: 43660, Start Num: 124  
Candidate Starts for Riovina\_60:  
(Start: 75 @43331 has 5 MA's), (91, 43352), (Start: 124 @43400 has 63 MA's), (131, 43421), (144, 43472),

Gene: Riverdale\_61 Start: 43055, Stop: 43315, Start Num: 124  
Candidate Starts for Riverdale\_61:  
(Start: 113 @43037 has 16 MA's), (Start: 124 @43055 has 63 MA's), (130, 43073), (144, 43127),

Gene: Rollins\_70 Start: 39578, Stop: 39853, Start Num: 122  
Candidate Starts for Rollins\_70:  
(18, 39380), (21, 39395), (32, 39422), (45, 39455), (62, 39503), (Start: 75 @39518 has 5 MA's), (Start: 100 @39551 has 1 MA's), (Start: 122 @39578 has 76 MA's),

Gene: Rona\_66 Start: 41247, Stop: 41522, Start Num: 122  
Candidate Starts for Rona\_66:  
(62, 41172), (Start: 122 @41247 has 76 MA's), (170, 41433), (176, 41463),

Gene: Rozby\_60 Start: 42859, Stop: 43119, Start Num: 124  
Candidate Starts for Rozby\_60:  
(Start: 113 @42841 has 16 MA's), (Start: 124 @42859 has 63 MA's), (130, 42877), (144, 42931),

Gene: Ruchi\_64 Start: 38215, Stop: 38493, Start Num: 119  
Candidate Starts for Ruchi\_64:  
(46, 38110), (62, 38140), (Start: 109 @38203 has 1 MA's), (Start: 119 @38215 has 16 MA's),

Gene: Ryan\_70 Start: 42477, Stop: 42773, Start Num: 99  
Candidate Starts for Ryan\_70:  
(Start: 70 @42438 has 6 MA's), (Start: 99 @42477 has 11 MA's), (157, 42633), (185, 42747),

Gene: SFuller\_100 Start: 58710, Stop: 59060, Start Num: 100  
Candidate Starts for SFuller\_100:  
(1, 58224), (92, 58698), (Start: 100 @58710 has 1 MA's), (155, 58860),

Gene: SanaSana\_70 Start: 41542, Stop: 41817, Start Num: 122  
Candidate Starts for SanaSana\_70:  
(10, 41296), (13, 41311), (19, 41350), (Start: 60 @41458 has 3 MA's), (62, 41467), (Start: 75 @41482 has 5 MA's), (Start: 100 @41515 has 1 MA's), (Start: 122 @41542 has 76 MA's), (131, 41575), (170, 41728), (171, 41731),

Gene: SansAfet\_72 Start: 41068, Stop: 41343, Start Num: 122  
Candidate Starts for SansAfet\_72:  
(Start: 122 @41068 has 76 MA's), (170, 41254),

Gene: Santhid\_59 Start: 38581, Stop: 38865, Start Num: 113  
Candidate Starts for Santhid\_59:  
(59, 38500), (86, 38542), (89, 38545), (Start: 113 @38581 has 16 MA's), (132, 38635),

Gene: Sapo\_61 Start: 45211, Stop: 45513, Start Num: 106  
Candidate Starts for Sapo\_61:  
(Start: 106 @45211 has 1 MA's), (141, 45304), (151, 45337), (167, 45412), (190, 45505),

Gene: SarBear\_72 Start: 41148, Stop: 41423, Start Num: 122  
Candidate Starts for SarBear\_72:  
(Start: 122 @41148 has 76 MA's),

Gene: Savage2526\_61 Start: 43082, Stop: 43342, Start Num: 124  
Candidate Starts for Savage2526\_61:  
(Start: 113 @43064 has 16 MA's), (Start: 124 @43082 has 63 MA's), (130, 43100), (144, 43154),

Gene: Schism\_71 Start: 42712, Stop: 43011, Start Num: 95  
Candidate Starts for Schism\_71:

(Start: 70 @42688 has 6 MA's), (Start: 95 @42712 has 1 MA's), (134, 42790), (140, 42811), (157, 42871), (165, 42907), (177, 42967),

Gene: Schmidt\_58 Start: 36837, Stop: 37133, Start Num: 101

Candidate Starts for Schmidt\_58:

(Start: 101 @36837 has 8 MA's), (162, 37008), (185, 37107),

Gene: Scuttle\_61 Start: 43375, Stop: 43653, Start Num: 113

Candidate Starts for Scuttle\_61:

(Start: 113 @43375 has 16 MA's), (Start: 124 @43393 has 63 MA's), (130, 43411), (144, 43465),

Gene: Sephiroth\_123 Start: 69017, Stop: 69349, Start Num: 107

Candidate Starts for Sephiroth\_123:

(Start: 107 @69017 has 8 MA's), (152, 69155), (154, 69167), (173, 69257),

Gene: Sergei\_60 Start: 43614, Stop: 43871, Start Num: 124

Candidate Starts for Sergei\_60:

(121, 43605), (Start: 124 @43614 has 63 MA's), (130, 43632), (146, 43689), (166, 43767),

Gene: Shagrat\_110 Start: 58151, Stop: 58423, Start Num: 118

Candidate Starts for Shagrat\_110:

(Start: 118 @58151 has 1 MA's), (148, 58256), (160, 58295), (179, 58391), (181, 58394),

Gene: Sharkboy\_68 Start: 41611, Stop: 41886, Start Num: 122

Candidate Starts for Sharkboy\_68:

(62, 41536), (Start: 122 @41611 has 76 MA's), (131, 41644), (170, 41797), (176, 41827),

Gene: Shayna\_75 Start: 41004, Stop: 41279, Start Num: 122

Candidate Starts for Shayna\_75:

(Start: 122 @41004 has 76 MA's), (170, 41190),

Gene: SilverChicken\_1 Start: 38, Stop: 370, Start Num: 104

Candidate Starts for SilverChicken\_1:

(79, 11), (Start: 104 @38 has 57 MA's), (135, 116), (142, 143), (163, 233), (168, 263), (172, 281), (182, 326), (189, 350),

Gene: SirBeanington\_70 Start: 41335, Stop: 41610, Start Num: 122

Candidate Starts for SirBeanington\_70:

(Start: 122 @41335 has 76 MA's), (170, 41521),

Gene: Skylord\_70 Start: 39495, Stop: 39770, Start Num: 122

Candidate Starts for Skylord\_70:

(18, 39297), (21, 39312), (32, 39339), (45, 39372), (62, 39420), (Start: 75 @39435 has 5 MA's), (Start: 100 @39468 has 1 MA's), (Start: 122 @39495 has 76 MA's),

Gene: Slay\_70 Start: 41458, Stop: 41733, Start Num: 122

Candidate Starts for Slay\_70:

(Start: 122 @41458 has 76 MA's), (170, 41644),

Gene: Slim\_1 Start: 41, Stop: 373, Start Num: 104

Candidate Starts for Slim\_1:

(79, 11), (Start: 104 @41 has 57 MA's), (135, 119), (157, 212), (163, 236), (172, 284), (185, 338), (189, 353),

Gene: Softsoap\_71 Start: 41189, Stop: 41464, Start Num: 122

Candidate Starts for Softsoap\_71:

(Start: 122 @41189 has 76 MA's),

Gene: Solea\_73 Start: 41356, Stop: 41631, Start Num: 122

Candidate Starts for Solea\_73:

(Start: 122 @41356 has 76 MA's),

Gene: Soul22\_1 Start: 38, Stop: 370, Start Num: 104

Candidate Starts for Soul22\_1:

(79, 11), (Start: 104 @38 has 57 MA's), (135, 116), (142, 143), (163, 233), (168, 263), (172, 281), (182, 326), (189, 350),

Gene: Splinter\_64 Start: 40315, Stop: 40611, Start Num: 101

Candidate Starts for Splinter\_64:

(Start: 101 @40315 has 8 MA's), (165, 40504), (180, 40573),

Gene: Spooky\_1 Start: 39, Stop: 371, Start Num: 104

Candidate Starts for Spooky\_1:

(Start: 78 @9 has 2 MA's), (83, 15), (Start: 104 @39 has 57 MA's), (163, 234), (165, 249), (172, 282), (178, 318), (189, 351),

Gene: Squiddly\_2 Start: 730, Stop: 1062, Start Num: 104

Candidate Starts for Squiddly\_2:

(33, 601), (37, 613), (76, 697), (Start: 104 @730 has 57 MA's), (157, 901), (161, 919), (172, 973), (178, 1009), (189, 1042),

Gene: Squircle\_66 Start: 38761, Stop: 39036, Start Num: 122

Candidate Starts for Squircle\_66:

(2, 38428), (21, 38578), (42, 38629), (Start: 122 @38761 has 76 MA's), (170, 38947), (183, 39004),

Gene: Squirty\_1 Start: 40, Stop: 372, Start Num: 104

Candidate Starts for Squirty\_1:

(76, 7), (Start: 81 @13 has 1 MA's), (Start: 104 @40 has 57 MA's), (133, 109), (135, 118), (157, 211), (168, 265), (172, 283), (182, 328), (185, 337), (189, 352),

Gene: Starcevich\_1 Start: 41, Stop: 373, Start Num: 104

Candidate Starts for Starcevich\_1:

(79, 11), (Start: 104 @41 has 57 MA's), (135, 119), (157, 212), (163, 236), (172, 284), (185, 338), (189, 353),

Gene: Stoor\_69 Start: 41350, Stop: 41625, Start Num: 122

Candidate Starts for Stoor\_69:

(Start: 122 @41350 has 76 MA's), (170, 41536), (171, 41539),

Gene: Stromboli\_68 Start: 41130, Stop: 41405, Start Num: 122

Candidate Starts for Stromboli\_68:

(10, 40884), (13, 40899), (19, 40938), (Start: 60 @41046 has 3 MA's), (62, 41055), (Start: 75 @41070 has 5 MA's), (Start: 100 @41103 has 1 MA's), (Start: 122 @41130 has 76 MA's), (170, 41316), (171, 41319),

Gene: StuartMinion\_61 Start: 34829, Stop: 35122, Start Num: 102

Candidate Starts for StuartMinion\_61:  
(66, 34787), (Start: 102 @34829 has 3 MA's), (160, 34988), (185, 35096),

Gene: SunnyD\_75 Start: 41007, Stop: 41282, Start Num: 122  
Candidate Starts for SunnyD\_75:  
(Start: 122 @41007 has 76 MA's), (170, 41193),

Gene: Supakev\_60 Start: 43425, Stop: 43685, Start Num: 124  
Candidate Starts for Supakev\_60:  
(Start: 75 @43356 has 5 MA's), (91, 43377), (Start: 124 @43425 has 63 MA's), (130, 43443), (131, 43446), (144, 43497),

Gene: Suppi\_62 Start: 43562, Stop: 43834, Start Num: 115  
Candidate Starts for Suppi\_62:  
(Start: 99 @43541 has 11 MA's), (Start: 115 @43562 has 4 MA's), (Start: 122 @43568 has 76 MA's),  
(Start: 124 @43574 has 63 MA's),

Gene: Swervy\_70 Start: 41047, Stop: 41322, Start Num: 122  
Candidate Starts for Swervy\_70:  
(Start: 122 @41047 has 76 MA's), (170, 41233),

Gene: Syleon\_128 Start: 69768, Stop: 70100, Start Num: 107  
Candidate Starts for Syleon\_128:  
(Start: 107 @69768 has 8 MA's), (152, 69906), (154, 69918), (173, 70008),

Gene: TZGordon\_65 Start: 39203, Stop: 39499, Start Num: 101  
Candidate Starts for TZGordon\_65:  
(Start: 101 @39203 has 8 MA's), (165, 39392), (180, 39461),

Gene: Tarzan\_63 Start: 39834, Stop: 40118, Start Num: 113  
Candidate Starts for Tarzan\_63:  
(Start: 60 @39759 has 3 MA's), (86, 39795), (89, 39798), (Start: 113 @39834 has 16 MA's), (132, 39888),

Gene: TattModd\_61 Start: 43209, Stop: 43469, Start Num: 124  
Candidate Starts for TattModd\_61:  
(Start: 113 @43191 has 16 MA's), (Start: 124 @43209 has 63 MA's), (130, 43227), (144, 43281),

Gene: TaylorSipht\_65 Start: 38681, Stop: 38959, Start Num: 119  
Candidate Starts for TaylorSipht\_65:  
(Start: 119 @38681 has 16 MA's),

Gene: Tchotchke\_1 Start: 41, Stop: 373, Start Num: 104  
Candidate Starts for Tchotchke\_1:  
(79, 11), (Start: 104 @41 has 57 MA's), (129, 86), (133, 110), (135, 119), (155, 200), (163, 236), (172, 284), (182, 329), (185, 338), (189, 353),

Gene: Teagster\_75 Start: 41426, Stop: 41701, Start Num: 122  
Candidate Starts for Teagster\_75:  
(Start: 122 @41426 has 76 MA's), (170, 41612),

Gene: Temper16\_60 Start: 43614, Stop: 43871, Start Num: 124  
Candidate Starts for Temper16\_60:

(121, 43605), (Start: 124 @43614 has 63 MA's), (130, 43632), (146, 43689), (166, 43767),

Gene: TinaLin\_63 Start: 39046, Stop: 39342, Start Num: 101

Candidate Starts for TinaLin\_63:

(69, 39004), (Start: 101 @39046 has 8 MA's), (128, 39088), (150, 39172), (180, 39304),

Gene: Toad24\_68 Start: 39472, Stop: 39750, Start Num: 119

Candidate Starts for Toad24\_68:

(74, 39418), (Start: 119 @39472 has 16 MA's), (190, 39742),

Gene: ToastyOats\_69 Start: 42136, Stop: 42432, Start Num: 99

Candidate Starts for ToastyOats\_69:

(Start: 99 @42136 has 11 MA's), (140, 42232), (157, 42292), (165, 42328),

Gene: Toodles\_68 Start: 42560, Stop: 42856, Start Num: 99

Candidate Starts for Toodles\_68:

(40, 42464), (Start: 70 @42530 has 6 MA's), (Start: 99 @42560 has 11 MA's), (140, 42656), (173, 42788), (185, 42830), (186, 42836),

Gene: TootsiePop\_1 Start: 42, Stop: 374, Start Num: 104

Candidate Starts for TootsiePop\_1:

(Start: 78 @9 has 2 MA's), (Start: 85 @15 has 5 MA's), (Start: 104 @42 has 57 MA's), (135, 120), (157, 213), (163, 237), (172, 285), (185, 339), (189, 354),

Gene: Totinger\_1 Start: 41, Stop: 373, Start Num: 104

Candidate Starts for Totinger\_1:

(79, 11), (Start: 104 @41 has 57 MA's), (135, 119), (157, 212), (163, 236), (172, 284), (185, 338), (189, 353),

Gene: Trax\_126 Start: 71052, Stop: 71381, Start Num: 107

Candidate Starts for Trax\_126:

(Start: 107 @71052 has 8 MA's), (148, 71172), (154, 71202), (158, 71220), (159, 71226), (161, 71235), (180, 71328), (184, 71337),

Gene: Trine\_65 Start: 43058, Stop: 43372, Start Num: 80

Candidate Starts for Trine\_65:

(Start: 80 @43058 has 1 MA's), (148, 43199),

Gene: TukTuk\_70 Start: 41237, Stop: 41512, Start Num: 122

Candidate Starts for TukTuk\_70:

(Start: 122 @41237 has 76 MA's), (170, 41423),

Gene: Typha\_129 Start: 74982, Stop: 75305, Start Num: 85

Candidate Starts for Typha\_129:

(Start: 85 @74982 has 5 MA's), (148, 75132), (169, 75213), (174, 75237), (176, 75249),

Gene: Upyo\_69 Start: 44979, Stop: 45296, Start Num: 81

Candidate Starts for Upyo\_69:

(Start: 81 @44979 has 1 MA's), (135, 45075), (157, 45153), (162, 45171),

Gene: Urla\_62 Start: 43603, Stop: 43863, Start Num: 124

Candidate Starts for Urla\_62:

(Start: 124 @43603 has 63 MA's), (130, 43621), (145, 43678),

Gene: Vallejo\_62 Start: 43253, Stop: 43531, Start Num: 113  
Candidate Starts for Vallejo\_62:  
(Start: 113 @43253 has 16 MA's), (Start: 124 @43271 has 63 MA's), (130, 43289), (144, 43343),

Gene: Vendetta\_64 Start: 40315, Stop: 40611, Start Num: 101  
Candidate Starts for Vendetta\_64:  
(Start: 101 @40315 has 8 MA's), (165, 40504), (180, 40573),

Gene: Vitas\_71 Start: 39646, Stop: 39921, Start Num: 122  
Candidate Starts for Vitas\_71:  
(29, 39487), (68, 39580), (Start: 122 @39646 has 76 MA's), (131, 39679),

Gene: Vulpecula\_64 Start: 37410, Stop: 37688, Start Num: 119  
Candidate Starts for Vulpecula\_64:  
(Start: 109 @37398 has 1 MA's), (Start: 119 @37410 has 16 MA's),

Gene: Vulture\_60 Start: 42928, Stop: 43257, Start Num: 75  
Candidate Starts for Vulture\_60:  
(Start: 75 @42928 has 5 MA's), (91, 42949), (Start: 124 @42997 has 63 MA's), (130, 43015), (131, 43018), (144, 43069),

Gene: WalkingDead\_71 Start: 42012, Stop: 42287, Start Num: 122  
Candidate Starts for WalkingDead\_71:  
(Start: 122 @42012 has 76 MA's), (170, 42198), (171, 42201),

Gene: Wawa\_62 Start: 43514, Stop: 43774, Start Num: 124  
Candidate Starts for Wawa\_62:  
(Start: 113 @43496 has 16 MA's), (Start: 124 @43514 has 63 MA's), (130, 43532), (144, 43586),

Gene: Wayne\_64 Start: 44019, Stop: 44291, Start Num: 115  
Candidate Starts for Wayne\_64:  
(Start: 99 @43998 has 11 MA's), (Start: 115 @44019 has 4 MA's), (Start: 122 @44025 has 76 MA's),  
(Start: 124 @44031 has 63 MA's),

Gene: Whitney\_1 Start: 39, Stop: 371, Start Num: 104  
Candidate Starts for Whitney\_1:  
(Start: 78 @9 has 2 MA's), (83, 15), (93, 27), (Start: 104 @39 has 57 MA's), (135, 117), (141, 141),  
(142, 144), (163, 234), (168, 264), (172, 282), (178, 318), (189, 351),

Gene: Widow\_62 Start: 42336, Stop: 42659, Start Num: 78  
Candidate Starts for Widow\_62:  
(36, 42243), (43, 42264), (47, 42279), (50, 42285), (Start: 61 @42312 has 1 MA's), (65, 42321), (Start:  
78 @42336 has 2 MA's), (162, 42534),

Gene: WileyE\_66 Start: 38402, Stop: 38680, Start Num: 119  
Candidate Starts for WileyE\_66:  
(Start: 109 @38390 has 1 MA's), (Start: 119 @38402 has 16 MA's),

Gene: WonderBoy\_59 Start: 42399, Stop: 42659, Start Num: 124  
Candidate Starts for WonderBoy\_59:  
(Start: 113 @42381 has 16 MA's), (Start: 124 @42399 has 63 MA's), (130, 42417), (145, 42474), (171,  
42576), (185, 42633), (186, 42639),

Gene: Yonex\_69 Start: 42477, Stop: 42773, Start Num: 99

Candidate Starts for Yonex\_69:

(Start: 70 @42438 has 6 MA's), (Start: 99 @42477 has 11 MA's), (157, 42633), (185, 42747),

Gene: Yoshi\_1 Start: 38, Stop: 370, Start Num: 104

Candidate Starts for Yoshi\_1:

(79, 11), (Start: 104 @38 has 57 MA's), (135, 116), (142, 143), (163, 233), (168, 263), (172, 281), (182, 326), (189, 350),

Gene: Zaheer\_69 Start: 42523, Stop: 42819, Start Num: 99

Candidate Starts for Zaheer\_69:

(Start: 99 @42523 has 11 MA's), (140, 42619), (157, 42679), (165, 42715),

Gene: Zapner\_2 Start: 562, Stop: 894, Start Num: 104

Candidate Starts for Zapner\_2:

(76, 529), (Start: 104 @562 has 57 MA's), (163, 757), (168, 787), (172, 805), (182, 850), (189, 874),

Gene: Zhuangyuan\_77 Start: 39902, Stop: 40180, Start Num: 119

Candidate Starts for Zhuangyuan\_77:

(Start: 119 @39902 has 16 MA's),

Gene: Zixiang\_67 Start: 38816, Stop: 39094, Start Num: 119

Candidate Starts for Zixiang\_67:

(Start: 119 @38816 has 16 MA's), (190, 39086),

Gene: Zorro\_62 Start: 43226, Stop: 43486, Start Num: 124

Candidate Starts for Zorro\_62:

(Start: 113 @43208 has 16 MA's), (Start: 124 @43226 has 63 MA's), (130, 43244), (144, 43298),