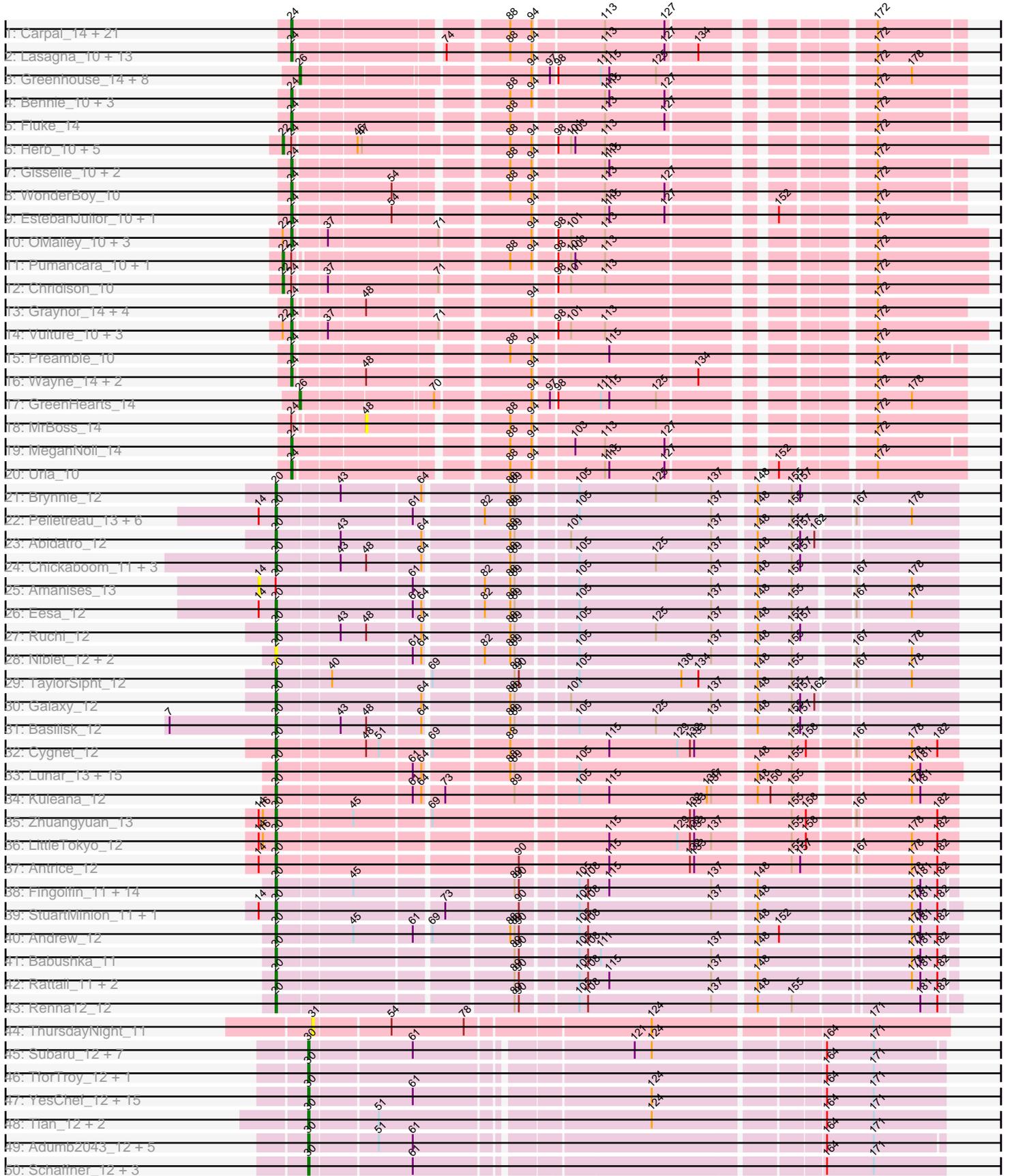
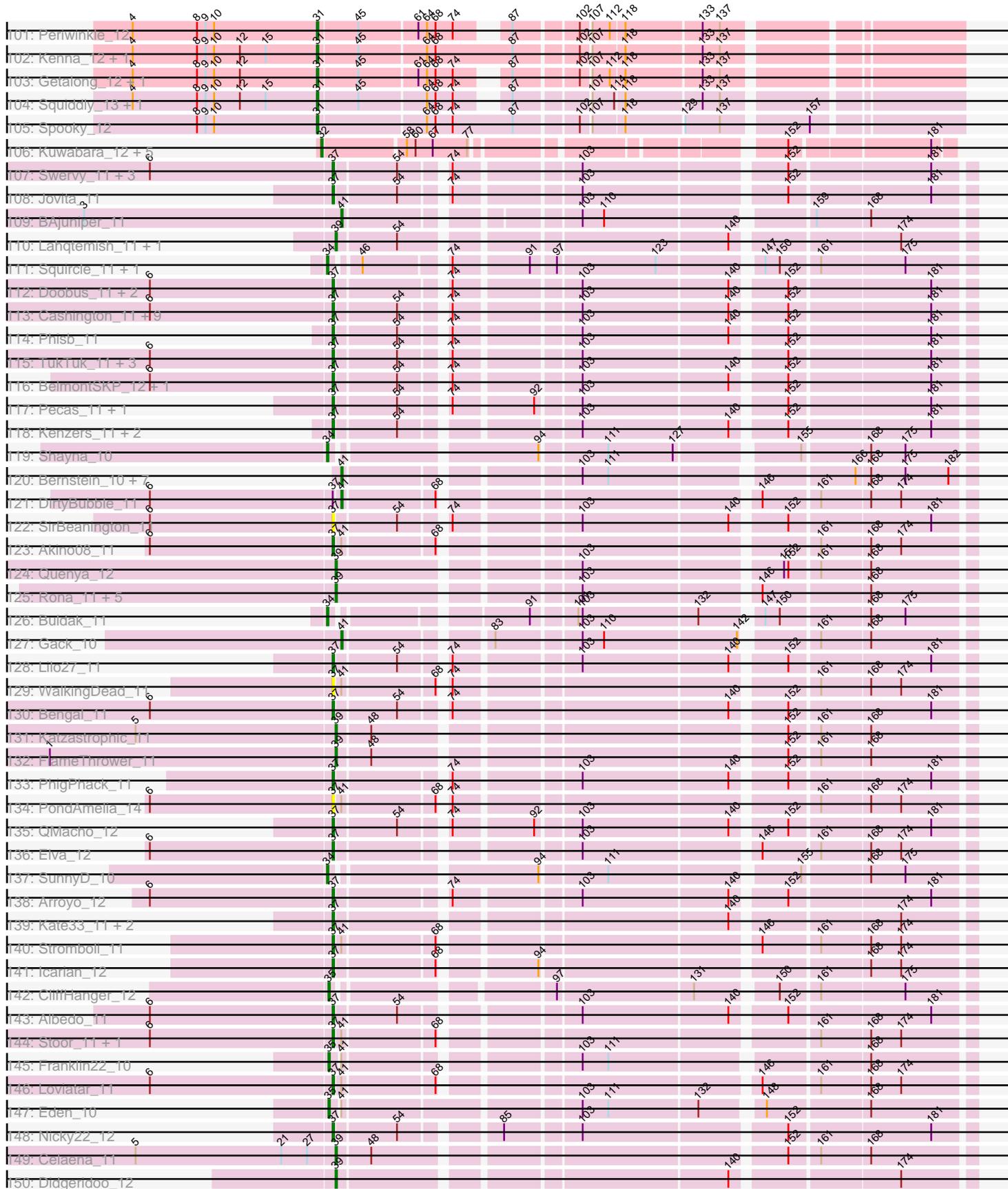


# Pham 290703





Pham 290703







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 290703 Report

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

WARNING: Pham size does not match number of genes in report. Either unphamerated genes have been added (by you) or starterator has removed genes due to invalid start codon.

Pham number 290703 has 471 members, 84 are drafts.

Phages represented in each track:

- Track 1 : Carpal\_14, Wawa\_14, Korra\_14, Glenn\_14, Kalizoi\_14, Dino\_14, Vallejo\_14, BrotherBLo\_14, Zorro\_14, Cholula\_14, RAP15\_14, TattModd\_14, Jumboset\_14, Rozby\_14, MrGloopy\_14, Riverdale\_14, BigMack\_10, Scuttle\_14, Potatoes\_14, Savage2526\_14, Immaculata\_14, Beethoven\_14
- Track 2 : Lasagna\_10, OurGirlNessie\_10, PitaDog\_10, Christian\_10, Lucy\_10, ChewChew\_10, Makoto\_10, CristinaYang\_10, Nancia\_10, Bodacious\_10, Lennox\_10, DrRobert\_10, LilStuart\_10, Pterodactyl\_10
- Track 3 : Greenhouse\_14, Lakshmi\_14, Nubia\_14, RcigaStruga\_14, Oxyntrius\_14, Joann\_14, Albanese\_14, Huntingdon\_14, Misaeng\_14
- Track 4 : Bennie\_10, Huckleberry\_10, HeadNerd\_10, Moki\_10
- Track 5 : Fluke\_14
- Track 6 : Herb\_10, Sergei\_10, Daiboju\_10, Maria1952\_10, KingBob\_10, Temper16\_10
- Track 7 : Gisselle\_10, Kittykat\_10, DreamTeam\_10
- Track 8 : WonderBoy\_10
- Track 9 : EstebanJulior\_10, MamaPearl\_10
- Track 10 : OMalley\_10, Aledel\_10, Eunoia\_10, Riovina\_10
- Track 11 : Pumancara\_10, PinkFriday\_10
- Track 12 : Chridison\_10
- Track 13 : Graynor\_14, AppleCider\_14, Litotes\_14, PartyCup\_14, CallieOMalley\_14
- Track 14 : Vulture\_10, Supakev\_10, AustinPowers\_10, HunterDalle\_10
- Track 15 : Preamble\_10
- Track 16 : Wayne\_14, Suppi\_14, Canowicakte\_14
- Track 17 : GreenHearts\_14
- Track 18 : MrBoss\_14
- Track 19 : MeganNoll\_14
- Track 20 : Urla\_10
- Track 21 : Brynnie\_12
- Track 22 : Pelletreau\_13, Shen\_13, Orcanus\_12, KendraB23\_13, Westrich\_13, Toad24\_13, Gravel\_13
- Track 23 : Abidatro\_12
- Track 24 : Chickaboom\_11, Vulpecula\_12, Jamun\_12, WileyE\_11
- Track 25 : Amanises\_13

- Track 26 : Eesa\_12
- Track 27 : Ruchi\_12
- Track 28 : Niblet\_12, Chicken\_12, Zixiang\_12
- Track 29 : TaylorSipht\_12
- Track 30 : Galaxy\_12
- Track 31 : Basilisk\_12
- Track 32 : Cygnet\_12
- Track 33 : Lunar\_13, Pineda\_13, Bibble12\_13, Jerole\_13, Polka\_12, Daob\_13, Coral\_12, Colusalem\_12, HannahPhantana\_13, OtsoOtso\_12, Melons\_13, Bedetta\_13, PhirstandPhine\_13, Kepler\_12, Amelia\_13, Cote\_13
- Track 34 : Kuleana\_12
- Track 35 : Zhuangyuan\_13
- Track 36 : LittleTokyo\_12
- Track 37 : Antrice\_12
- Track 38 : Fingolfin\_11, Oppalora\_11, HamCheese\_11, Glotell\_11, Juno112\_11, Atlantica\_11, RedFox\_11, Amphitrite\_11, PhluffyCoco\_11, DanHam62\_11, AmiCi24\_11, KHumphrey\_11, Laphuphu24k\_11, AdoptaAdorbs\_11, Camara\_11
- Track 39 : StuartMinion\_11, AlexMinion\_11
- Track 40 : Andrew\_12
- Track 41 : Babushka\_11
- Track 42 : Rattail\_11, Azaz\_11, Leona\_11
- Track 43 : Renna12\_12
- Track 44 : ThursdayNight\_11
- Track 45 : Subaru\_12, Elezi\_12, Jstan\_12, London\_12, Niobe\_12, Eraser\_12, Skelbel\_12, Asa16\_12
- Track 46 : TforTroy\_12, Yang\_12
- Track 47 : YesChef\_12, Tbone\_12, Mudpuppy\_12, Joemato\_12, JohnDoe\_12, Lego\_12, Simpson\_13, Powerpuff\_12, Cyan\_12, Iter\_12, Kaylissa\_12, Tutumahutu\_12, AGrandiflora\_12, Warda\_12, Lizalica\_12, Ascela\_12
- Track 48 : Tian\_12, Amyev\_12, Phives\_13
- Track 49 : Adumb2043\_12, Nitro\_12, Tallboi\_12, Turab\_12, Amploria\_12, AEgle\_12
- Track 50 : Schaffner\_12, IttyBittyPiggy\_12, Flutur\_12, Pumpkins\_12
- Track 51 : Crewmate\_13
- Track 52 : ObiToo\_12
- Track 53 : MissSwiss\_12
- Track 54 : Pixelle\_12
- Track 55 : Reedo\_12
- Track 56 : DrManhattan\_12, Adolin\_12
- Track 57 : VResidence\_12
- Track 58 : Berrie\_12
- Track 59 : JuneStar\_12
- Track 60 : DrSierra\_12
- Track 61 : Cassia\_12
- Track 62 : KeAlii\_12
- Track 63 : Sue2\_12
- Track 64 : Wildwest\_13
- Track 65 : Tuck\_13, Community\_13
- Track 66 : Janeemi\_13
- Track 67 : Liebe\_11, IUFootball\_11, Maureen\_11
- Track 68 : MaGuCo\_11
- Track 69 : Snek\_12, Tweety19\_12
- Track 70 : Emotion\_11
- Track 71 : MiniMommy\_10, JasmineDragon\_11, ShakeltOph\_11

- Track 72 : VroomVroom\_11
- Track 73 : Origami\_11, JohnThicc\_11, FiveHead\_11, LadyAstra\_11
- Track 74 : Ashes\_12, SpecialK\_12, Halsey\_12, RockScotty\_12, Moss\_12
- Track 75 : Mysterium\_12, Gumpizza\_12, Stuu\_12, Beaupre\_12, Giorgio\_12
- Track 76 : Gambol\_12, Sooty\_12, Cappuccino\_12, Kalimba\_12, Donkey\_12, Sabourin\_12
- Track 77 : Soondubu\_11
- Track 78 : Exile\_11
- Track 79 : AinMach\_11
- Track 80 : SPB78\_12
- Track 81 : VWB\_11
- Track 82 : Rowa\_11
- Track 83 : Nesbitt\_11
- Track 84 : AbbeyMikolon\_11
- Track 85 : Doucette\_12, B22\_12
- Track 86 : E6\_13
- Track 87 : G4\_12
- Track 88 : PFR2\_09, PFR1\_09
- Track 89 : Floral\_13, BritBrat\_13, EMSquaredA\_13, Pollux\_13, Lilas\_13, Bradissa\_13, EnalisNailo\_13, Marteena\_13
- Track 90 : Angelique\_13
- Track 91 : Posh\_13
- Track 92 : Wrigley\_13, Jablanski\_13, Pytheas\_13, Confidence\_13
- Track 93 : BeeGee\_13, Cashline\_13
- Track 94 : LonelyBoi\_13
- Track 95 : Morkie\_11, PhorbesPhlower\_11
- Track 96 : Lucky10\_11
- Track 97 : Ecliptus\_12, ODay\_12
- Track 98 : Budski\_12, Phabuloso\_12, Kamaru\_12, CheeseTouch\_12, Holliday\_12, LitninMcQueen\_12
- Track 99 : Malisha\_12
- Track 100 : BotCity\_12, Horus\_12, BENtherdunthat\_12, ShawBrad\_12, Frickyeah\_12, Leroy\_12, Asapag\_12
- Track 101 : Periwinkle\_12
- Track 102 : Kenna\_12, Lutum\_12
- Track 103 : Getalong\_12, Whitney\_12
- Track 104 : Squiddly\_13, Phistory\_12
- Track 105 : Spooky\_12
- Track 106 : Kuwabara\_12, BearBQ\_12, MortyNRick\_12, Birdsong\_12, Apricot\_12, Crater\_12
- Track 107 : Swervy\_11, Slay\_11, AylexOG\_12, SarBear\_11
- Track 108 : Jovita\_11
- Track 109 : BAjuniper\_11
- Track 110 : Lahqtemish\_11, PastaFagioli\_11
- Track 111 : Squirrel\_11, Olliecat\_11
- Track 112 : Doobus\_11, CroZenni\_11, Albright\_11
- Track 113 : Cashington\_11, Solea\_12, Milomuff\_12, Johnathan\_11, SansAfet\_11, DickRichards\_11, Softsoap\_11, Abigail\_11, LimaBean\_11, Burritobowl\_11
- Track 114 : Phisb\_11
- Track 115 : TukTuk\_11, CupcakePrincess\_11, Jabb\_11, MsUbiquitous\_11
- Track 116 : BelmontSKP\_12, AnnaLie\_12
- Track 117 : Pecas\_11, Eula\_11
- Track 118 : Kenzers\_11, Lynlen\_11, BubbaBear\_11

- Track 119 : Shayna\_10
- Track 120 : Bernstein\_10, Armstrong\_10, Coltrane\_10, Clayda5\_10, Rollins\_10, Vitas\_10, Skylord\_10, Brahms\_10
- Track 121 : DirtyBubble\_11
- Track 122 : SirBeanington\_11
- Track 123 : Akino08\_11
- Track 124 : Quenya\_12
- Track 125 : Rona\_11, ChiliPepper\_11, Kamdara\_11, Sharkboy\_11, Kieran\_11, Dismas\_11
- Track 126 : Buldak\_11
- Track 127 : Gack\_10
- Track 128 : Lilo27\_11
- Track 129 : WalkingDead\_11
- Track 130 : Bengal\_11
- Track 131 : Katzastrophic\_11
- Track 132 : FlameThrower\_11
- Track 133 : PhigPhack\_11
- Track 134 : PondAmelia\_14
- Track 135 : QMacho\_12
- Track 136 : Elva\_12
- Track 137 : SunnyD\_10
- Track 138 : Arroyo\_12
- Track 139 : Kate33\_11, BabyDaisy\_12, IndyLu\_11
- Track 140 : Stromboli\_11
- Track 141 : Icarian\_12
- Track 142 : CliffHanger\_12
- Track 143 : Albedo\_11
- Track 144 : Stoor\_11, SanaSana\_12
- Track 145 : Franklin22\_10
- Track 146 : Loviatar\_11
- Track 147 : Eden\_10
- Track 148 : Nicky22\_12
- Track 149 : Celaena\_11
- Track 150 : Didgeridoo\_12
- Track 151 : Bachaco\_11
- Track 152 : Finalfrontier\_12
- Track 153 : Teagster\_10
- Track 154 : Avocadoman\_11
- Track 155 : BabyYoda\_11
- Track 156 : AvGardian\_11
- Track 157 : Zeta1847\_10
- Track 158 : Honk\_10
- Track 159 : Barnstormer\_10, UtzChips\_10
- Track 160 : SuMoo\_10
- Track 161 : GardenState\_11, IAmGroot\_11
- Track 162 : Gretchen\_11, Floof\_11, SuperHands\_12, Percival\_11, Forester\_20
- Track 163 : Caron\_10
- Track 164 : Mabodamaca\_11
- Track 165 : Cen1621\_10
- Track 166 : Soul22\_13, Avani\_13, Che9d\_13, Blarby\_14, Zapner\_14, Jabbawokkie\_14, Yoshi\_13, Demsculpinboyz\_13, SilverChicken\_13
- Track 167 : Rooter\_11, Sarge\_11
- Track 168 : BrayBeast\_11

- Track 169 : Alatato\_10
- Track 170 : JeanClaude\_11, Shoya\_10
- Track 171 : Kumotta\_12
- Track 172 : Pigu\_11
- Track 173 : Gibbzilla\_13
- Track 174 : MargaretKali\_12
- Track 175 : CocoCinnamon\_15
- Track 176 : Maja\_11
- Track 177 : NoSwimming\_13, Scotia\_13
- Track 178 : Aoka\_12
- Track 179 : PrairieDogTown\_12, EvenBluerMoon\_12
- Track 180 : JanetJ\_12
- Track 181 : CallinAllBarbz\_11
- Track 182 : BaileyBlu\_11
- Track 183 : GrimEater\_12, Jankie\_13
- Track 184 : Elfy\_10
- Track 185 : AnnabelLee\_13, Neuville\_13, CardboardBox\_13, ChamoyPickle\_13, Roberts\_13, Gerri43\_13, ChipsNGuac\_13
- Track 186 : Makima\_14
- Track 187 : Agamoto\_15
- Track 188 : Audell\_16, LastNadiia\_16
- Track 189 : Studio\_13
- Track 190 : Ezurina\_12
- Track 191 : TripleC\_16
- Track 192 : TMaxx\_13
- Track 193 : Mireles\_13
- Track 194 : Stellammi\_9
- Track 195 : Nebkiss\_9, Gaia\_9
- Track 196 : Hilltopfarm\_18, Typha\_18
- Track 197 : Faiyaz\_18, AuntGwenStacy\_18
- Track 198 : Bipper\_18, Cracklewink\_18
- Track 199 : Spartoi\_10
- Track 200 : Kromp\_13
- Track 201 : DS6A\_15
- Track 202 : Shambre1\_12
- Track 203 : LilSpotty\_11
- Track 204 : Sleepyhead\_12

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

The start number called the most often in the published annotations is 24, it was called in 65 of the 387 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Aledel\_10, AppleCider\_14, AustinPowers\_10, Beethoven\_14, Bennie\_10, BigMack\_10, Bodacious\_10, BrotherBLo\_14, CallieOMalley\_14, Canowicakte\_14, Carpal\_14, ChewChew\_10, Cholula\_14, Christian\_10, CristinaYang\_10, Dino\_14, DrRobert\_10, DreamTeam\_10, EstebanJulior\_10, Eunoia\_10, Fluke\_14, Gisselle\_10, Glenn\_14, Graynor\_14, HeadNerd\_10, Huckleberry\_10, HunterDalle\_10, Immaculata\_14, Jumboset\_14, Kalizoi\_14, Kittykat\_10, Korra\_14, Lasagna\_10,

Lennox\_10, LilStuart\_10, Litotes\_14, Lucy\_10, Makoto\_10, MamaPearl\_10, MeganNoll\_14, Moki\_10, MrGloopy\_14, Nancia\_10, OMalley\_10, OurGirlNessie\_10, PartyCup\_14, PitaDog\_10, Potatoes\_14, Preamble\_10, Pterodactyl\_10, RAP15\_14, Riovina\_10, Riverdale\_14, Rozby\_14, Savage2526\_14, Scuttle\_14, Supakev\_10, Suppi\_14, TattModd\_14, Urla\_10, Vallejo\_14, Vulture\_10, Wawa\_14, Wayne\_14, WonderBoy\_10, Zorro\_14,

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

• Chridison\_10, Daiboju\_10, Herb\_10, KingBob\_10, Maria1952\_10, MrBoss\_14, PinkFriday\_10, Pumancara\_10, Sergei\_10, Temper16\_10,

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

• AEgle\_12, AGrandiflora\_12, AbbeyMikolon\_11, Abidatro\_12, Abigail\_11, Adolin\_12, AdoptaAdorbs\_11, Adumb2043\_12, Agamoto\_15, AinMach\_11, Akino08\_11, Alata\_10, Albanese\_14, Albedo\_11, Albright\_11, AlexMinion\_11, Amanises\_13, Amelia\_13, AmiCi24\_11, Amphitrite\_11, Amploria\_12, Amyev\_12, Andrew\_12, Angelique\_13, AnnaLie\_12, AnnabelLee\_13, Antrice\_12, Aoka\_12, Apricot\_12, Armstrong\_10, Arroyo\_12, Asa16\_12, Asapag\_12, Ascela\_12, Ashes\_12, Atlantica\_11, Audell\_16, AuntGwenStacy\_18, AvGardian\_11, Avani\_13, Avocadoman\_11, AylexOG\_12, Azaz\_11, B22\_12, BAjuniper\_11, BENtherdunthat\_12, Babushka\_11, BabyDaisy\_12, BabyYoda\_11, Bachaco\_11, BaileyBlu\_11, Barnstormer\_10, Basilisk\_12, BearBQ\_12, Beaupre\_12, Bedetta\_13, BeeGee\_13, BelmontSKP\_12, Bengal\_11, Bernstein\_10, Berrie\_12, Bible12\_13, Bipper\_18, Birdsong\_12, Blarby\_14, BotCity\_12, Bradissa\_13, Brahms\_10, BrayBeast\_11, BritBrat\_13, Brynnie\_12, BubbaBear\_11, Budski\_12, Buldak\_11, Burritobowl\_11, CallinAllBarbz\_11, Camara\_11, Cappuccino\_12, CardboardBox\_13, Caron\_10, Cashington\_11, Cashline\_13, Cassia\_12, Celaena\_11, Cen1621\_10, ChamoyPickle\_13, Che9d\_13, CheeseTouch\_12, Chickaboom\_11, Chicken\_12, ChiliPepper\_11, ChipsNGuac\_13, Clayda5\_10, CliffHanger\_12, CocoCinnamon\_15, Coltrane\_10, Colusalem\_12, Community\_13, Confidence\_13, Coral\_12, Cote\_13, Cracklewink\_18, Crater\_12, Crewmate\_13, CroZenni\_11, CupcakePrincess\_11, Cyan\_12, Cygnet\_12, DS6A\_15, DanHam62\_11, Daob\_13, Demsculpinboyz\_13, DickRichards\_11, Didgeridoo\_12, DirtyBubble\_11, Dismas\_11, Donkey\_12, Doobus\_11, Doucette\_12, DrManhattan\_12, DrSierra\_12, E6\_13, EMSquaredA\_13, Ecliptus\_12, Eden\_10, Eesa\_12, Elezi\_12, Elfy\_10, Elva\_12, Emotion\_11, EnalisNailo\_13, Eraser\_12, Eula\_11, EvenBluerMoon\_12, Exile\_11, Ezurina\_12, Faiyaz\_18, Finalfrontier\_12, Fingolfin\_11, FiveHead\_11, FlameThrower\_11, Floof\_11, Floral\_13, Flutur\_12, Forester\_20, Franklin22\_10, Frickyeah\_12, G4\_12, Gack\_10, Gaia\_9, Galaxy\_12, Gambol\_12, GardenState\_11, Gerri43\_13, Getalong\_12, Gibbzilla\_13, Giorgio\_12, Glotell\_11, Gravel\_13, GreenHearts\_14, Greenhouse\_14, Gretchen\_11, GrimEater\_12, Gumpizza\_12, Halsey\_12, HamCheese\_11, HannahPhantana\_13, Hilltopfarm\_18, Holliday\_12, Honk\_10, Horus\_12, Huntingdon\_14, IAmGroot\_11, IUFootball\_11, Icarian\_12, IndyLu\_11, Iter\_12, IttyBittyPiggy\_12, Jabb\_11, Jabbawokkie\_14, Jablanski\_13, Jamun\_12, Janeemi\_13, JanetJ\_12, Jankie\_13, JasmineDragon\_11, JeanClaude\_11, Jerole\_13, Joann\_14, Joemato\_12, JohnDoe\_12, JohnThicc\_11, Johnathan\_11, Jovita\_11, Jstan\_12, JuneStar\_12, Juno112\_11, KHumphrey\_11, Kalimba\_12, Kamaru\_12, Kamdara\_11, Kate33\_11, Katzastrophic\_11, Kaylissa\_12, KeAlii\_12, KendraB23\_13, Kenna\_12, Kenzers\_11, Kepler\_12, Kieran\_11, Kromp\_13, Kuleana\_12, Kumotta\_12, Kuwabara\_12, LadyAstra\_11, Lahqtemish\_11, Lakshmi\_14, Laphuphu24k\_11, LastNadiia\_16, Lego\_12, Leona\_11, Leroy\_12, Liebe\_11, LilSpotty\_11, Lilas\_13, Lilo27\_11, LimaBean\_11, LitninMcQueen\_12, LittleTokyo\_12, Lizalica\_12, London\_12, LonelyBoi\_13, Loviatar\_11, Lucky10\_11, Lunar\_13, Lutum\_12,

Lynlen\_11, MaGuCo\_11, Mabodamaca\_11, Maja\_11, Makima\_14, Malisha\_12, MargaretKali\_12, Marteena\_13, Maureen\_11, Melons\_13, Milomuff\_12, MiniMommy\_10, Mireles\_13, Misaeng\_14, MissSwiss\_12, Morkie\_11, MortyNRick\_12, Moss\_12, MsUbiquitous\_11, Mudpuppy\_12, Mysterium\_12, Nebkiss\_9, Nesbitt\_11, Neuville\_13, Niblet\_12, Nicky22\_12, Niobe\_12, Nitro\_12, NoSwimming\_13, Nubia\_14, ODay\_12, ObiToo\_12, Olliecat\_11, Oppalora\_11, Orcanus\_12, Origami\_11, OtsoOtso\_12, Oxynfrius\_14, PFR1\_09, PFR2\_09, PastaFagioli\_11, Pecas\_11, Pelletreau\_13, Percival\_11, Periwinkle\_12, Phabuloso\_12, PhigPhack\_11, PhirstandPhine\_13, Phisb\_11, Phistory\_12, Phives\_13, PhluffyCoco\_11, PhorbesPhlower\_11, Pigu\_11, Pineda\_13, Pixelle\_12, Polka\_12, Pollux\_13, PondAmelia\_14, Posh\_13, Powerpuff\_12, PrairieDogTown\_12, Pumpkins\_12, Pytheas\_13, QMacho\_12, Quenya\_12, Rattail\_11, RcigaStruga\_14, RedFox\_11, Reedo\_12, Renna12\_12, Roberts\_13, RockScotty\_12, Rollins\_10, Rona\_11, Rooter\_11, Rowa\_11, Ruchi\_12, SPB78\_12, Sabourin\_12, SanaSana\_12, SansAfet\_11, SarBear\_11, Sarge\_11, Schaffner\_12, Scotia\_13, ShakeltOph\_11, Shambre1\_12, Sharkboy\_11, ShawBrad\_12, Shayna\_10, Shen\_13, Shoya\_10, SilverChicken\_13, Simpson\_13, SirBeanington\_11, Skelbel\_12, Skylord\_10, Slay\_11, Sleepyhead\_12, Snek\_12, Softsoap\_11, Solea\_12, Soondubu\_11, Sooty\_12, Soul22\_13, Spartoi\_10, SpecialK\_12, Spooky\_12, Squiddly\_13, Squircle\_11, Stellammi\_9, Stoor\_11, Stromboli\_11, StuartMinion\_11, Studio\_13, Stuu\_12, SuMoo\_10, Subaru\_12, Sue2\_12, SunnyD\_10, SuperHands\_12, Swervy\_11, TMaxx\_13, Tallboi\_12, TaylorSipht\_12, Tbone\_12, Teagster\_10, TforTroy\_12, ThursdayNight\_11, Tian\_12, Toad24\_13, TripleC\_16, Tuck\_13, TukTuk\_11, Turab\_12, Tutumahutu\_12, Tweety19\_12, Typha\_18, UtzChips\_10, VResidence\_12, VWB\_11, Vitas\_10, VroomVroom\_11, Vulpecula\_12, WalkingDead\_11, Warda\_12, Westrich\_13, Whitney\_12, Wildwest\_13, WileyE\_11, Wrigley\_13, Yang\_12, YesChef\_12, Yoshi\_13, Zapner\_14, Zeta1847\_10, Zhuangyuan\_13, Zixiang\_12,

### Summary by start number:

#### Start 14:

- Found in 14 of 471 ( 3.0% ) of genes in pham
- No Manual Annotations of this start.
- Called 7.1% of time when present
- Phage (with cluster) where this start called: Amanises\_13 (AS1),

#### Start 17:

- Found in 1 of 471 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 387
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Rowa\_11 (BL),

#### Start 18:

- Found in 6 of 471 ( 1.3% ) of genes in pham
- Manual Annotations of this start: 4 of 387
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Bipper\_18 (Y), Cracklewink\_18 (Y), Hilltopfarm\_18 (Y), Typha\_18 (Y),

#### Start 20:

- Found in 72 of 471 ( 15.3% ) of genes in pham
- Manual Annotations of this start: 45 of 387
- Called 93.1% of time when present

- Phage (with cluster) where this start called: Abidatro\_12 (AS1), AdoptaAdorbs\_11 (AS3), AlexMinion\_11 (AS3), Amelia\_13 (AS2), AmiCi24\_11 (AS3), Amphitrite\_11 (AS3), Andrew\_12 (AS3), Antrice\_12 (AS2), Atlantica\_11 (AS3), AuntGwenStacy\_18 (Y), Azaz\_11 (AS3), Babushka\_11 (AS3), Basilisk\_12 (AS1), Bedetta\_13 (AS2), Bibble12\_13 (AS2), Brynnie\_12 (AS1), Camara\_11 (AS3), Chickaboom\_11 (AS1), Chicken\_12 (AS1), Colusalem\_12 (AS2), Coral\_12 (AS2), Cote\_13 (AS2), Cygnet\_12 (AS2), DanHam62\_11 (AS3), Daob\_13 (AS2), Eesa\_12 (AS1), Faiyaz\_18 (Y), Fingolfin\_11 (AS3), Galaxy\_12 (AS1), Glotell\_11 (AS3), Gravel\_13 (AS1), HamCheese\_11 (AS3), HannahPhantana\_13 (AS2), Jamun\_12 (AS1), Jerole\_13 (AS2), Juno112\_11 (AS3), KHumphrey\_11 (AS3), KendraB23\_13 (AS1), Kepler\_12 (AS2), Kuleana\_12 (AS2), Laphuphu24k\_11 (AS3), Leona\_11 (AS3), LittleTokyo\_12 (AS2), Lunar\_13 (AS2), Melons\_13 (AS2), Niblet\_12 (AS1), Oppalora\_11 (AS3), Orcanus\_12 (AS1), OtsoOtso\_12 (AS2), Pelletreau\_13 (AS1), PhirstandPhine\_13 (AS2), PhluffyCoco\_11 (AS3), Pineda\_13 (AS2), Polka\_12 (AS2), Rattail\_11 (AS3), RedFox\_11 (AS3), Renna12\_12 (AS3), Ruchi\_12 (AS1), Shen\_13 (AS1), StuartMinion\_11 (AS3), TaylorSipht\_12 (AS1), Toad24\_13 (AS1), Vulpecula\_12 (AS1), Westrich\_13 (AS1), WileyE\_11 (AS1), Zhuangyuan\_13 (AS2), Zixiang\_12 (AS1),

#### Start 22:

- Found in 17 of 471 ( 3.6% ) of genes in pham
- Manual Annotations of this start: 9 of 387
- Called 52.9% of time when present
- Phage (with cluster) where this start called: Chridison\_10 (AK), Daiboju\_10 (AK), Herb\_10 (AK), KingBob\_10 (AK), Maria1952\_10 (AK), PinkFriday\_10 (AK), Pumancara\_10 (AK), Sergei\_10 (AK), Temper16\_10 (AK),

#### Start 24:

- Found in 76 of 471 ( 16.1% ) of genes in pham
- Manual Annotations of this start: 65 of 387
- Called 86.8% of time when present
- Phage (with cluster) where this start called: Aledel\_10 (AK), AppleCider\_14 (AK), AustinPowers\_10 (AK), Beethoven\_14 (AK), Bennie\_10 (AK), BigMack\_10 (AK), Bodacious\_10 (AK), BrotherBLo\_14 (AK), CallieOMalley\_14 (AK), Canowicakte\_14 (AK), Carpal\_14 (AK), ChewChew\_10 (AK), Cholula\_14 (AK), Christian\_10 (AK), CristinaYang\_10 (AK), Dino\_14 (AK), DrRobert\_10 (AK), DreamTeam\_10 (AK), EstebanJulior\_10 (AK), Eunoia\_10 (AK), Fluke\_14 (AK), Gisselle\_10 (AK), Glenn\_14 (AK), Graynor\_14 (AK), HeadNerd\_10 (AK), Huckleberry\_10 (AK), HunterDalle\_10 (AK), Immaculata\_14 (AK), Jumboset\_14 (AK), Kalizoi\_14 (AK), Kittykat\_10 (AK), Korra\_14 (AK), Lasagna\_10 (AK), Lennox\_10 (AK), LilStuart\_10 (AK), Litotes\_14 (AK), Lucy\_10 (AK), Makoto\_10 (AK), MamaPearl\_10 (AK), MeganNoll\_14 (AK), Moki\_10 (AK), MrGloopy\_14 (AK), Nancia\_10 (AK), OMalley\_10 (AK), OurGirlNessie\_10 (AK), PartyCup\_14 (AK), PitaDog\_10 (AK), Potatoes\_14 (AK), Preamble\_10 (AK), Pterodactyl\_10 (AK), RAP15\_14 (AK), Rivovina\_10 (AK), Riverdale\_14 (AK), Rozby\_14 (AK), Savage2526\_14 (AK), Scuttle\_14 (AK), Supakev\_10 (AK), Suppi\_14 (AK), TattModd\_14 (AK), Urlia\_10 (AK), Vallejo\_14 (AK), Vulture\_10 (AK), Wawa\_14 (AK), Wayne\_14 (AK), WonderBoy\_10 (AK), Zorro\_14 (AK),

#### Start 26:

- Found in 10 of 471 ( 2.1% ) of genes in pham
- Manual Annotations of this start: 10 of 387
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Albanese\_14 (AK), GreenHearts\_14 (AK), Greenhouse\_14 (AK), Huntingdon\_14 (AK), Joann\_14 (AK), Lakshmi\_14 (AK), Misaeng\_14 (AK), Nubia\_14 (AK), Oxynfrius\_14 (AK), RcigaStruga\_14 (AK),

#### Start 28:

- Found in 5 of 471 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 3 of 387
- Called 60.0% of time when present
- Phage (with cluster) where this start called: AbbeyMikolon\_11 (BL), Kromp\_13 (singleton), Nesbitt\_11 (BL),

#### Start 29:

- Found in 18 of 471 ( 3.8% ) of genes in pham
- Manual Annotations of this start: 17 of 387
- Called 94.4% of time when present
- Phage (with cluster) where this start called: Ashes\_12 (AZ5), Beaupre\_12 (AZ5), Cappuccino\_12 (AZ5), Donkey\_12 (AZ5), Gambol\_12 (AZ5), Giorgio\_12 (AZ5), Gumpizza\_12 (AZ5), Halsey\_12 (AZ5), Kalimba\_12 (AZ5), Moss\_12 (AZ5), Mysterium\_12 (AZ5), RockScotty\_12 (AZ5), Sabourin\_12 (AZ5), Sooty\_12 (AZ5), SpecialK\_12 (AZ5), Stuu\_12 (AZ5), Zeta1847\_10 (EH),

#### Start 30:

- Found in 62 of 471 ( 13.2% ) of genes in pham
- Manual Annotations of this start: 46 of 387
- Called 98.4% of time when present
- Phage (with cluster) where this start called: AEgle\_12 (AZ1), AGrandiflora\_12 (AZ1), Adumb2043\_12 (AZ1), Amploria\_12 (AZ1), Amyev\_12 (AZ1), Asa16\_12 (AZ1), Ascela\_12 (AZ1), Berrie\_12 (AZ1), Cassia\_12 (AZ1), Cen1621\_10 (EH), Community\_13 (AZ1), Crewmate\_13 (AZ1), Cyan\_12 (AZ1), Elezi\_12 (AZ1), Eraser\_12 (AZ1), Floof\_11 (EH), Flutur\_12 (AZ), Forester\_20 (EH), GardenState\_11 (EH), Gretchen\_11 (EH), Honk\_10 (EH), IAmGroot\_11 (EH), IUFootball\_11 (AZ2), Iter\_12 (AZ1), IttyBittyPiggy\_12 (AZ1), Janeemi\_13 (AZ1), Joemato\_12 (AZ1), JohnDoe\_12 (AZ1), Jstan\_12 (AZ1), JuneStar\_12 (AZ1), Kaylissa\_12 (AZ1), Lego\_12 (AZ1), Liebe\_11 (AZ2), Lizalica\_12 (AZ1), London\_12 (AZ1), Maureen\_11 (AZ2), Mudpuppy\_12 (AZ1), Niobe\_12 (AZ1), Nitro\_12 (AZ1), ObiToo\_12 (AZ1), Percival\_11 (EH), Phives\_13 (AZ1), Pixelle\_12 (AZ1), Powerpuff\_12 (AZ1), Pumpkins\_12 (AZ1), SPB78\_12 (BA), Schaffner\_12 (AZ1), Simpson\_13 (AZ1), Skelbel\_12 (AZ1), Subaru\_12 (AZ1), SuperHands\_12 (EH), Tallboi\_12 (AZ1), Tbone\_12 (AZ1), TforTroy\_12 (AZ1), Tian\_12 (AZ1), Tuck\_13 (AZ1), Turab\_12 (AZ1), Tutumahutu\_12 (AZ1), Warda\_12 (AZ1), Yang\_12 (AZ1), YesChef\_12 (AZ1),

#### Start 31:

- Found in 58 of 471 ( 12.3% ) of genes in pham
- Manual Annotations of this start: 38 of 387
- Called 98.3% of time when present
- Phage (with cluster) where this start called: Adolin\_12 (AZ1), Agamoto\_15 (FR), AnnabelLee\_13 (FR), Asapag\_12 (DN1), Audell\_16 (FR), BENtherdunthat\_12 (DN1), Barnstormer\_10 (EH), BotCity\_12 (DN), Budski\_12 (DN), CardboardBox\_13 (FR), Caron\_10 (EH), ChamoyPickle\_13 (FR), CheeseTouch\_12 (DN1), ChipsNGuac\_13 (FR), DrManhattan\_12 (AZ1), DrSierra\_12 (AZ1), Exile\_11 (AZ6), Ezurina\_12 (FR), Frickyeah\_12 (DN1), Gerri43\_13 (FR), Getalong\_12 (DN1), Holliday\_12 (DN1), Horus\_12 (DN1), Kamaru\_12 (DN1), Kenna\_12 (DN1), LastNadiia\_16 (FR), Leroy\_12 (DN1), LitninMcQueen\_12 (DN1), Lutum\_12 (DN1), MaGuCo\_11 (AZ2),

Mabodamaca\_11 (EH), Makima\_14 (FR), Malisha\_12 (DN), Mireles\_13 (FR), MissSwiss\_12 (AZ1), Neuville\_13 (FR), Periwinkle\_12 (DN1), Phabuloso\_12 (DN1), Phistory\_12 (DN1), Roberts\_13 (FR), ShawBrad\_12 (DN1), Snek\_12 (AZ3), Soondubu\_11 (AZ6), Spooky\_12 (DN2), Squiddly\_13 (DN2), Studio\_13 (FR), SuMoo\_10 (EH), Sue2\_12 (AZ1), TMaxx\_13 (FR), ThursdayNight\_11 (AZ), TripleC\_16 (FR), Tweety19\_12 (AZ3), UtzChips\_10 (EH), VResidence\_12 (AZ1), VWB\_11 (BA), Whitney\_12 (DN1), Wildwest\_13 (AZ1),

#### Start 32:

- Found in 20 of 471 ( 4.2% ) of genes in pham
- Manual Annotations of this start: 16 of 387
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Apricot\_12 (DN3), BearBQ\_12 (DN), Birdsong\_12 (DN), Crater\_12 (DN3), Ecliptus\_12 (DN), FiveHead\_11 (AZ4), JasmineDragon\_11 (AZ4), JohnThicc\_11 (AZ4), Kuwabara\_12 (DN4), LadyAstra\_11 (AZ4), Lucky10\_11 (DH), MiniMommy\_10 (AZ4), Morkie\_11 (DH), MortyNRick\_12 (DN), ODay\_12 (DN), Origami\_11 (AZ4), PhorbPhlower\_11 (DH), ShakeltOph\_11 (AZ4), Spartoi\_10 (singleton), VroomVroom\_11 (AZ4),

#### Start 34:

- Found in 9 of 471 ( 1.9% ) of genes in pham
- Manual Annotations of this start: 8 of 387
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Buldak\_11 (EB), Gibbzilla\_13 (FB), KeAlii\_12 (AZ1), Olliecat\_11 (EB), Reedo\_12 (AZ1), Shayna\_10 (EB), Squircle\_11 (EB), SunnyD\_10 (EB), Teagster\_10 (EB),

#### Start 35:

- Found in 6 of 471 ( 1.3% ) of genes in pham
- Manual Annotations of this start: 4 of 387
- Called 66.7% of time when present
- Phage (with cluster) where this start called: CliffHanger\_12 (EB), Eden\_10 (EB), Emotion\_11 (AZ4), Franklin22\_10 (EB),

#### Start 36:

- Found in 1 of 471 ( 0.2% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Elfy\_10 (FP),

#### Start 37:

- Found in 83 of 471 ( 17.6% ) of genes in pham
- Manual Annotations of this start: 60 of 387
- Called 84.3% of time when present
- Phage (with cluster) where this start called: Abigail\_11 (EB), Akino08\_11 (EB), Alatato\_10 (FB), Albedo\_11 (EB), Albright\_11 (EB), AnnaLie\_12 (EB), Aoka\_12 (FO), Arroyo\_12 (EB), Avocadoman\_11 (EB), AylexOG\_12 (EB), BabyDaisy\_12 (EB), BabyYoda\_11 (EB), BelmontSKP\_12 (EB), Bengal\_11 (EB), BrayBeast\_11 (FB), BubbaBear\_11 (EB), Burritobowl\_11 (EB), Cashington\_11 (EB), CocoCinnamon\_15 (FO), CroZenni\_11 (EB), CupcakePrincess\_11 (EB), DickRichards\_11 (EB), Doobus\_11 (EB), Elva\_12 (EB), Eula\_11 (EB), EvenBluerMoon\_12 (FO), Finalfrontier\_12 (EB), Icarian\_12 (EB), IndyLu\_11 (EB), Jabb\_11 (EB), JanetJ\_12 (FO), JeanClaude\_11 (FB), Johnathan\_11 (EB), Jovita\_11 (EB), Kate33\_11 (EB),

Kenzers\_11 (EB), Kumotta\_12 (FB), Lilo27\_11 (EB), LimaBean\_11 (EB), Loviatar\_11 (EB), Lynlen\_11 (EB), Maja\_11 (FO), MargaretKali\_12 (FB), Milomuff\_12 (EB), MsUbiquitous\_11 (EB), Nicky22\_12 (EB), NoSwimming\_13 (FO), Pecas\_11 (EB), PhigPhack\_11 (EB), Phisb\_11 (EB), Pigu\_11 (FB), PondAmelia\_14 (EB), PrairieDogTown\_12 (FO), QMacho\_12 (EB), Rooter\_11 (FB), SanaSana\_12 (EB), SansAfet\_11 (EB), SarBear\_11 (EB), Sarge\_11 (FB), Scotia\_13 (FO), Shoya\_10 (FB), SirBeanington\_11 (EB), Slay\_11 (EB), Softsoap\_11 (EB), Solea\_12 (EB), Stoor\_11 (EB), Stromboli\_11 (EB), Swervy\_11 (EB), TukTuk\_11 (EB), WalkingDead\_11 (EB),

#### Start 38:

- Found in 9 of 471 ( 1.9% ) of genes in pham
- Manual Annotations of this start: 7 of 387
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Avani\_13 (F2), Blarby\_14 (F), Che9d\_13 (F2), Demsculpinboyz\_13 (F2), Jabbarwokie\_14 (F2), SilverChicken\_13 (F2), Soul22\_13 (F2), Yoshi\_13 (F2), Zapner\_14 (F2),

#### Start 39:

- Found in 15 of 471 ( 3.2% ) of genes in pham
- Manual Annotations of this start: 14 of 387
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AvGardian\_11 (EB), Bachaco\_11 (EB), Celaena\_11 (EB), ChiliPepper\_11 (EB), Didgeridoo\_12 (EB), Dismas\_11 (EB), FlameThrower\_11 (EB), Kamdara\_11 (EB), Katzastrophic\_11 (EB), Kieran\_11 (EB), Lahqtemish\_11 (EB), PastaFagioli\_11 (EB), Quenya\_12 (EB), Rona\_11 (EB), Sharkboy\_11 (EB),

#### Start 40:

- Found in 24 of 471 ( 5.1% ) of genes in pham
- Manual Annotations of this start: 18 of 387
- Called 83.3% of time when present
- Phage (with cluster) where this start called: Angelique\_13 (CY1), BeeGee\_13 (CY5), Bradissa\_13 (CY1), BritBrat\_13 (CY2), Cashline\_13 (CY6), Confidence\_13 (CY1), EMSquaredA\_13 (CY1), EnalisNailo\_13 (CY1), Floral\_13 (CY1), Jablanski\_13 (CY3), Lilas\_13 (CY1), LonelyBoi\_13 (CY7), Marteenaa\_13 (CY1), PFR1\_09 (BX), PFR2\_09 (BX), Pollux\_13 (CY1), Posh\_13 (CY4), Pytheas\_13 (CY3), Shambre1\_12 (singleton), Wrigley\_13 (CY4),

#### Start 41:

- Found in 30 of 471 ( 6.4% ) of genes in pham
- Manual Annotations of this start: 15 of 387
- Called 53.3% of time when present
- Phage (with cluster) where this start called: Armstrong\_10 (EB), BAjuniper\_11 (EB), Bernstein\_10 (EB), Brahms\_10 (EB), Clayda5\_10 (EB), Coltrane\_10 (EB), DS6A\_15 (singleton), DirtyBubble\_11 (EB), Gack\_10 (EB), Gaia\_9 (X), LilSpotty\_11 (singleton), Nebkiss\_9 (X), Rollins\_10 (EB), Skylord\_10 (EB), Stellammi\_9 (UNK), Vitas\_10 (EB),

#### Start 43:

- Found in 14 of 471 ( 3.0% ) of genes in pham
- Manual Annotations of this start: 2 of 387
- Called 28.6% of time when present

- Phage (with cluster) where this start called: BaileyBlu\_11 (FP), CallinAllBarbz\_11 (FP), GrimEater\_12 (FP), Jankie\_13 (FP),

Start 47:

- Found in 7 of 471 ( 1.5% ) of genes in pham
- No Manual Annotations of this start.
- Called 14.3% of time when present
- Phage (with cluster) where this start called: AinMach\_11 (AZ7),

Start 48:

- Found in 23 of 471 ( 4.9% ) of genes in pham
- No Manual Annotations of this start.
- Called 4.3% of time when present
- Phage (with cluster) where this start called: MrBoss\_14 (AK),

Start 49:

- Found in 10 of 471 ( 2.1% ) of genes in pham
- Manual Annotations of this start: 5 of 387
- Called 50.0% of time when present
- Phage (with cluster) where this start called: B22\_12 (BW), Doucette\_12 (BW), E6\_13 (BW), G4\_12 (BW), Sleepyhead\_12 (singleton),

### **Summary by clusters:**

There are 41 clusters represented in this pham: DN, FP, FR, BA, DH, CY2, BL, singleton, FB, BW, BX, FO, UNK, CY3, F, DN4, DN1, DN3, DN2, CY6, AS3, AS2, AS1, CY7, EH, CY5, CY4, AK, EB, Y, X, AZ, CY1, F2, AZ1, AZ2, AZ3, AZ4, AZ5, AZ6, AZ7,

Info for manual annotations of cluster AK:

- Start number 22 was manually annotated 9 times for cluster AK.
- Start number 24 was manually annotated 65 times for cluster AK.
- Start number 26 was manually annotated 10 times for cluster AK.

Info for manual annotations of cluster AS1:

- Start number 20 was manually annotated 13 times for cluster AS1.

Info for manual annotations of cluster AS2:

- Start number 20 was manually annotated 17 times for cluster AS2.

Info for manual annotations of cluster AS3:

- Start number 20 was manually annotated 14 times for cluster AS3.

Info for manual annotations of cluster AZ1:

- Start number 30 was manually annotated 37 times for cluster AZ1.
- Start number 31 was manually annotated 7 times for cluster AZ1.
- Start number 34 was manually annotated 2 times for cluster AZ1.

Info for manual annotations of cluster AZ2:

- Start number 30 was manually annotated 2 times for cluster AZ2.
- Start number 31 was manually annotated 1 time for cluster AZ2.

Info for manual annotations of cluster AZ3:

- Start number 31 was manually annotated 2 times for cluster AZ3.

Info for manual annotations of cluster AZ4:

- Start number 32 was manually annotated 4 times for cluster AZ4.
- Start number 35 was manually annotated 1 time for cluster AZ4.

Info for manual annotations of cluster AZ5:

- Start number 29 was manually annotated 16 times for cluster AZ5.

Info for manual annotations of cluster AZ6:

- Start number 31 was manually annotated 1 time for cluster AZ6.

Info for manual annotations of cluster BL:

- Start number 17 was manually annotated 1 time for cluster BL.
- Start number 28 was manually annotated 2 times for cluster BL.

Info for manual annotations of cluster BW:

- Start number 49 was manually annotated 4 times for cluster BW.

Info for manual annotations of cluster CY1:

- Start number 40 was manually annotated 9 times for cluster CY1.

Info for manual annotations of cluster CY2:

- Start number 40 was manually annotated 1 time for cluster CY2.

Info for manual annotations of cluster CY3:

- Start number 40 was manually annotated 2 times for cluster CY3.

Info for manual annotations of cluster CY4:

- Start number 40 was manually annotated 2 times for cluster CY4.

Info for manual annotations of cluster CY5:

- Start number 40 was manually annotated 1 time for cluster CY5.

Info for manual annotations of cluster CY6:

- Start number 40 was manually annotated 1 time for cluster CY6.

Info for manual annotations of cluster CY7:

- Start number 40 was manually annotated 1 time for cluster CY7.

Info for manual annotations of cluster DH:

- Start number 32 was manually annotated 3 times for cluster DH.

Info for manual annotations of cluster DN:

- Start number 31 was manually annotated 3 times for cluster DN.
- Start number 32 was manually annotated 5 times for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 31 was manually annotated 15 times for cluster DN1.

Info for manual annotations of cluster DN2:

- Start number 31 was manually annotated 2 times for cluster DN2.

Info for manual annotations of cluster DN3:

- Start number 32 was manually annotated 2 times for cluster DN3.

Info for manual annotations of cluster DN4:

- Start number 32 was manually annotated 1 time for cluster DN4.

Info for manual annotations of cluster EB:

- Start number 34 was manually annotated 6 times for cluster EB.
- Start number 35 was manually annotated 3 times for cluster EB.
- Start number 37 was manually annotated 46 times for cluster EB.
- Start number 39 was manually annotated 14 times for cluster EB.
- Start number 41 was manually annotated 11 times for cluster EB.

Info for manual annotations of cluster EH:

- Start number 29 was manually annotated 1 time for cluster EH.
- Start number 30 was manually annotated 7 times for cluster EH.
- Start number 31 was manually annotated 5 times for cluster EH.

Info for manual annotations of cluster F2:

- Start number 38 was manually annotated 7 times for cluster F2.

Info for manual annotations of cluster FB:

- Start number 37 was manually annotated 6 times for cluster FB.

Info for manual annotations of cluster FO:

- Start number 37 was manually annotated 8 times for cluster FO.

Info for manual annotations of cluster FP:

- Start number 43 was manually annotated 2 times for cluster FP.

Info for manual annotations of cluster FR:

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

Info for manual annotations of cluster X:

- Start number 41 was manually annotated 2 times for cluster X.

Info for manual annotations of cluster Y:

- Start number 18 was manually annotated 4 times for cluster Y.
- Start number 20 was manually annotated 1 time for cluster Y.

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

Gene: AEgle\_12 Start: 9049, Stop: 9459, Start Num: 30

Candidate Starts for AEgle\_12:

(Start: 30 @9049 has 46 MA's), (51, 9094), (61, 9118), (164, 9379), (171, 9412),

Gene: AGrandiflora\_12 Start: 9036, Stop: 9449, Start Num: 30  
Candidate Starts for AGrandiflora\_12:  
(Start: 30 @9036 has 46 MA's), (61, 9105), (124, 9255), (164, 9366), (171, 9399),

Gene: AbbeyMikolon\_11 Start: 7783, Stop: 8178, Start Num: 28  
Candidate Starts for AbbeyMikolon\_11:  
(25, 7780), (Start: 28 @7783 has 3 MA's), (Start: 35 @7795 has 4 MA's), (46, 7816), (48, 7822), (50, 7828), (55, 7843), (74, 7864), (83, 7888), (111, 7957), (136, 8029), (138, 8035), (151, 8062), (164, 8092), (177, 8140),

Gene: Abidatro\_12 Start: 8321, Stop: 8764, Start Num: 20  
Candidate Starts for Abidatro\_12:  
(Start: 20 @8321 has 45 MA's), (Start: 43 @8363 has 2 MA's), (64, 8417), (88, 8471), (89, 8474), (101, 8507), (137, 8606), (148, 8633), (155, 8657), (157, 8663), (162, 8672),

Gene: Abigail\_11 Start: 8030, Stop: 8425, Start Num: 37  
Candidate Starts for Abigail\_11:  
(6, 7904), (Start: 37 @8030 has 60 MA's), (54, 8069), (74, 8096), (103, 8174), (140, 8273), (152, 8306), (181, 8399),

Gene: Adolin\_12 Start: 9024, Stop: 9440, Start Num: 31  
Candidate Starts for Adolin\_12:  
(Start: 31 @9024 has 38 MA's), (122, 9240),

Gene: AdoptaAdorbs\_11 Start: 7902, Stop: 8342, Start Num: 20  
Candidate Starts for AdoptaAdorbs\_11:  
(Start: 20 @7902 has 45 MA's), (45, 7953), (89, 8055), (90, 8058), (105, 8094), (108, 8100), (115, 8115), (137, 8187), (148, 8214), (178, 8313), (181, 8319), (182, 8331),

Gene: Adumb2043\_12 Start: 9048, Stop: 9458, Start Num: 30  
Candidate Starts for Adumb2043\_12:  
(Start: 30 @9048 has 46 MA's), (51, 9093), (61, 9117), (164, 9378), (171, 9411),

Gene: Agamoto\_15 Start: 10788, Stop: 11180, Start Num: 31  
Candidate Starts for Agamoto\_15:  
(Start: 31 @10788 has 38 MA's), (Start: 40 @10800 has 18 MA's), (82, 10890), (87, 10902), (119, 10974), (137, 11031), (184, 11172),

Gene: AinMach\_11 Start: 8183, Stop: 8566, Start Num: 47  
Candidate Starts for AinMach\_11:  
(Start: 30 @8150 has 46 MA's), (Start: 31 @8153 has 38 MA's), (47, 8183), (51, 8195), (177, 8537),

Gene: Akino08\_11 Start: 8216, Stop: 8611, Start Num: 37  
Candidate Starts for Akino08\_11:  
(6, 8090), (Start: 37 @8216 has 60 MA's), (Start: 41 @8219 has 15 MA's), (68, 8279), (161, 8510), (168, 8543), (174, 8564),

Gene: Alatato\_10 Start: 7192, Stop: 7572, Start Num: 37  
Candidate Starts for Alatato\_10:  
(Start: 37 @7192 has 60 MA's), (63, 7252), (78, 7270), (111, 7357), (115, 7363), (148, 7459), (149, 7465), (171, 7534),

Gene: Albanese\_14 Start: 10476, Stop: 10886, Start Num: 26

Candidate Starts for Albanese\_14:

(Start: 26 @10476 has 10 MA's), (94, 10620), (97, 10629), (98, 10632), (111, 10662), (115, 10668), (125, 10701), (172, 10824), (178, 10848),

Gene: Albedo\_11 Start: 7905, Stop: 8300, Start Num: 37

Candidate Starts for Albedo\_11:

(6, 7779), (Start: 37 @7905 has 60 MA's), (54, 7944), (103, 8049), (140, 8148), (152, 8181), (181, 8274),

Gene: Albright\_11 Start: 7911, Stop: 8306, Start Num: 37

Candidate Starts for Albright\_11:

(6, 7785), (Start: 37 @7911 has 60 MA's), (74, 7977), (103, 8055), (140, 8154), (152, 8187), (181, 8280),

Gene: Aledel\_10 Start: 7551, Stop: 7982, Start Num: 24

Candidate Starts for Aledel\_10:

(Start: 22 @7545 has 9 MA's), (Start: 24 @7551 has 65 MA's), (Start: 37 @7572 has 60 MA's), (71, 7644), (94, 7701), (98, 7713), (101, 7722), (113, 7746), (172, 7905),

Gene: AlexMinion\_11 Start: 7928, Stop: 8371, Start Num: 20

Candidate Starts for AlexMinion\_11:

(14, 7916), (Start: 20 @7928 has 45 MA's), (73, 8036), (90, 8084), (105, 8120), (108, 8126), (137, 8213), (148, 8240), (178, 8339), (181, 8345), (182, 8357),

Gene: Amanises\_13 Start: 8480, Stop: 8932, Start Num: 14

Candidate Starts for Amanises\_13:

(14, 8480), (Start: 20 @8492 has 45 MA's), (61, 8582), (82, 8624), (88, 8642), (89, 8645), (105, 8684), (137, 8777), (148, 8804), (155, 8828), (167, 8864), (178, 8900),

Gene: Amelia\_13 Start: 8497, Stop: 8940, Start Num: 20

Candidate Starts for Amelia\_13:

(Start: 20 @8497 has 45 MA's), (61, 8587), (64, 8593), (88, 8647), (89, 8650), (105, 8689), (148, 8809), (155, 8833), (178, 8905), (181, 8911),

Gene: AmiCi24\_11 Start: 7902, Stop: 8342, Start Num: 20

Candidate Starts for AmiCi24\_11:

(Start: 20 @7902 has 45 MA's), (45, 7953), (89, 8055), (90, 8058), (105, 8094), (108, 8100), (115, 8115), (137, 8187), (148, 8214), (178, 8313), (181, 8319), (182, 8331),

Gene: Amphitrite\_11 Start: 7900, Stop: 8340, Start Num: 20

Candidate Starts for Amphitrite\_11:

(Start: 20 @7900 has 45 MA's), (45, 7951), (89, 8053), (90, 8056), (105, 8092), (108, 8098), (115, 8113), (137, 8185), (148, 8212), (178, 8311), (181, 8317), (182, 8329),

Gene: Amploria\_12 Start: 9048, Stop: 9458, Start Num: 30

Candidate Starts for Amploria\_12:

(Start: 30 @9048 has 46 MA's), (51, 9093), (61, 9117), (164, 9378), (171, 9411),

Gene: Amyev\_12 Start: 9064, Stop: 9477, Start Num: 30

Candidate Starts for Amyev\_12:

(Start: 30 @9064 has 46 MA's), (51, 9109), (124, 9283), (164, 9394), (171, 9427),

Gene: Andrew\_12 Start: 8281, Stop: 8724, Start Num: 20

Candidate Starts for Andrew\_12:

(Start: 20 @8281 has 45 MA's), (45, 8332), (61, 8371), (69, 8380), (88, 8431), (89, 8434), (90, 8437), (105, 8473), (108, 8479), (148, 8593), (152, 8608), (178, 8692), (181, 8698), (182, 8710),

Gene: Angelique\_13 Start: 8261, Stop: 8653, Start Num: 40

Candidate Starts for Angelique\_13:

(Start: 40 @8261 has 18 MA's), (122, 8465),

Gene: AnnaLie\_12 Start: 8320, Stop: 8715, Start Num: 37

Candidate Starts for AnnaLie\_12:

(6, 8194), (Start: 37 @8320 has 60 MA's), (54, 8359), (74, 8386), (103, 8464), (140, 8563), (152, 8596), (181, 8689),

Gene: AnnabelLee\_13 Start: 7727, Stop: 8119, Start Num: 31

Candidate Starts for AnnabelLee\_13:

(Start: 31 @7727 has 38 MA's), (81, 7826), (82, 7829), (101, 7880), (103, 7883), (137, 7970), (138, 7973), (177, 8087), (184, 8111),

Gene: Antrice\_12 Start: 8237, Stop: 8680, Start Num: 20

Candidate Starts for Antrice\_12:

(14, 8225), (Start: 20 @8237 has 45 MA's), (90, 8393), (115, 8450), (132, 8507), (133, 8510), (155, 8573), (157, 8579), (167, 8612), (178, 8648), (182, 8666),

Gene: Aoka\_12 Start: 8710, Stop: 9090, Start Num: 37

Candidate Starts for Aoka\_12:

(Start: 37 @8710 has 60 MA's), (127, 8923), (130, 8935), (156, 9007), (163, 9022),

Gene: AppleCider\_14 Start: 10411, Stop: 10824, Start Num: 24

Candidate Starts for AppleCider\_14:

(Start: 24 @10411 has 65 MA's), (48, 10456), (94, 10558), (172, 10762),

Gene: Apricot\_12 Start: 7390, Stop: 7773, Start Num: 32

Candidate Starts for Apricot\_12:

(Start: 32 @7390 has 16 MA's), (58, 7444), (60, 7450), (67, 7462), (77, 7486), (152, 7669), (181, 7759),

Gene: Armstrong\_10 Start: 7692, Stop: 8081, Start Num: 41

Candidate Starts for Armstrong\_10:

(Start: 41 @7692 has 15 MA's), (103, 7833), (111, 7851), (166, 8004), (168, 8013), (175, 8037), (182, 8067),

Gene: Arroyo\_12 Start: 8381, Stop: 8776, Start Num: 37

Candidate Starts for Arroyo\_12:

(6, 8255), (Start: 37 @8381 has 60 MA's), (74, 8447), (103, 8525), (140, 8624), (152, 8657), (181, 8750),

Gene: Asa16\_12 Start: 9018, Stop: 9428, Start Num: 30

Candidate Starts for Asa16\_12:

(Start: 30 @9018 has 46 MA's), (61, 9087), (121, 9225), (124, 9237), (164, 9348), (171, 9381),

Gene: Asapag\_12 Start: 7041, Stop: 7451, Start Num: 31

Candidate Starts for Asapag\_12:

(4, 6912), (8, 6957), (9, 6963), (10, 6969), (12, 6987), (Start: 31 @7041 has 38 MA's), (45, 7068), (64, 7113), (68, 7119), (87, 7173), (102, 7212), (107, 7218), (118, 7239), (133, 7290), (137, 7302),

Gene: Ascela\_12 Start: 9053, Stop: 9463, Start Num: 30

Candidate Starts for Ascela\_12:

(Start: 30 @9053 has 46 MA's), (61, 9122), (124, 9272), (164, 9383), (171, 9416),

Gene: Ashes\_12 Start: 8547, Stop: 8966, Start Num: 29

Candidate Starts for Ashes\_12:

(Start: 29 @8547 has 17 MA's), (50, 8589), (159, 8871),

Gene: Atlantica\_11 Start: 7902, Stop: 8342, Start Num: 20

Candidate Starts for Atlantica\_11:

(Start: 20 @7902 has 45 MA's), (45, 7953), (89, 8055), (90, 8058), (105, 8094), (108, 8100), (115, 8115), (137, 8187), (148, 8214), (178, 8313), (181, 8319), (182, 8331),

Gene: Audell\_16 Start: 11067, Stop: 11459, Start Num: 31

Candidate Starts for Audell\_16:

(Start: 31 @11067 has 38 MA's), (62, 11130), (103, 11223), (119, 11253), (136, 11307), (137, 11310), (138, 11313), (151, 11349), (184, 11451),

Gene: AuntGwenStacy\_18 Start: 11997, Stop: 12434, Start Num: 20

Candidate Starts for AuntGwenStacy\_18:

(Start: 18 @11994 has 4 MA's), (Start: 20 @11997 has 45 MA's), (54, 12075), (62, 12084), (65, 12090), (70, 12096), (97, 12174), (126, 12240), (137, 12276), (165, 12351), (176, 12390),

Gene: AustinPowers\_10 Start: 7552, Stop: 7983, Start Num: 24

Candidate Starts for AustinPowers\_10:

(Start: 22 @7546 has 9 MA's), (Start: 24 @7552 has 65 MA's), (Start: 37 @7573 has 60 MA's), (71, 7645), (98, 7714), (101, 7723), (113, 7747), (172, 7906),

Gene: AvGardian\_11 Start: 7970, Stop: 8365, Start Num: 39

Candidate Starts for AvGardian\_11:

(Start: 39 @7970 has 14 MA's), (68, 8033), (103, 8114), (131, 8189), (140, 8213), (152, 8246), (161, 8264), (181, 8339),

Gene: Avani\_13 Start: 7213, Stop: 7617, Start Num: 38

Candidate Starts for Avani\_13:

(Start: 38 @7213 has 7 MA's), (53, 7246), (79, 7306), (103, 7372), (148, 7492), (151, 7504), (164, 7540), (170, 7570),

Gene: Avocadoman\_11 Start: 7969, Stop: 8364, Start Num: 37

Candidate Starts for Avocadoman\_11:

(Start: 37 @7969 has 60 MA's), (54, 8008), (74, 8035), (103, 8113), (140, 8212), (152, 8245), (181, 8338),

Gene: AylexOG\_12 Start: 8256, Stop: 8651, Start Num: 37

Candidate Starts for AylexOG\_12:

(6, 8130), (Start: 37 @8256 has 60 MA's), (54, 8295), (74, 8322), (103, 8400), (152, 8532), (181, 8625),

Gene: Azaz\_11 Start: 7953, Stop: 8393, Start Num: 20

Candidate Starts for Azaz\_11:

(Start: 20 @7953 has 45 MA's), (89, 8106), (90, 8109), (105, 8145), (108, 8151), (115, 8166), (137, 8238), (148, 8265), (178, 8364), (181, 8370), (182, 8382),

Gene: B22\_12 Start: 7687, Stop: 8055, Start Num: 49

Candidate Starts for B22\_12:

(2, 7486), (Start: 49 @7687 has 5 MA's), (76, 7744), (96, 7795), (136, 7906), (141, 7912), (145, 7924),

Gene: BAjuniper\_11 Start: 7857, Stop: 8243, Start Num: 41

Candidate Starts for BAjuniper\_11:

(3, 7680), (Start: 41 @7857 has 15 MA's), (103, 7995), (110, 8010), (159, 8139), (168, 8175),

Gene: BENtherdunthat\_12 Start: 7041, Stop: 7451, Start Num: 31

Candidate Starts for BENtherdunthat\_12:

(4, 6912), (8, 6957), (9, 6963), (10, 6969), (12, 6987), (Start: 31 @7041 has 38 MA's), (45, 7068), (64, 7113), (68, 7119), (87, 7173), (102, 7212), (107, 7218), (118, 7239), (133, 7290), (137, 7302),

Gene: Babushka\_11 Start: 7950, Stop: 8390, Start Num: 20

Candidate Starts for Babushka\_11:

(Start: 20 @7950 has 45 MA's), (89, 8103), (90, 8106), (105, 8142), (108, 8148), (111, 8157), (137, 8235), (148, 8262), (178, 8361), (181, 8367), (182, 8379),

Gene: BabyDaisy\_12 Start: 8133, Stop: 8531, Start Num: 37

Candidate Starts for BabyDaisy\_12:

(Start: 37 @8133 has 60 MA's), (140, 8379), (174, 8484),

Gene: BabyYoda\_11 Start: 8162, Stop: 8557, Start Num: 37

Candidate Starts for BabyYoda\_11:

(6, 8036), (Start: 37 @8162 has 60 MA's), (Start: 41 @8165 has 15 MA's), (68, 8225), (146, 8420), (161, 8456), (168, 8489), (174, 8510),

Gene: Bachaco\_11 Start: 8051, Stop: 8449, Start Num: 39

Candidate Starts for Bachaco\_11:

(1, 7853), (3, 7877), (5, 7913), (Start: 39 @8051 has 14 MA's), (48, 8072), (152, 8330), (161, 8348), (168, 8381),

Gene: BaileyBlu\_11 Start: 6789, Stop: 7178, Start Num: 43

Candidate Starts for BaileyBlu\_11:

(Start: 43 @6789 has 2 MA's), (44, 6792), (110, 6951), (136, 7023), (140, 7032),

Gene: Barnstormer\_10 Start: 8216, Stop: 8632, Start Num: 31

Candidate Starts for Barnstormer\_10:

(Start: 31 @8216 has 38 MA's), (132, 8456), (152, 8513),

Gene: Basilisk\_12 Start: 8645, Stop: 9088, Start Num: 20

Candidate Starts for Basilisk\_12:

(7, 8570), (Start: 20 @8645 has 45 MA's), (Start: 43 @8687 has 2 MA's), (48, 8705), (64, 8741), (88, 8795), (89, 8798), (105, 8837), (125, 8891), (137, 8930), (148, 8957), (155, 8981), (157, 8987),

Gene: BearBQ\_12 Start: 7390, Stop: 7773, Start Num: 32

Candidate Starts for BearBQ\_12:

(Start: 32 @7390 has 16 MA's), (58, 7444), (60, 7450), (67, 7462), (77, 7486), (152, 7669), (181, 7759),

Gene: Beaupre\_12 Start: 8548, Stop: 8967, Start Num: 29

Candidate Starts for Beaupre\_12:

(Start: 29 @8548 has 17 MA's), (50, 8590), (122, 8767), (159, 8872),

Gene: Bedetta\_13 Start: 8497, Stop: 8940, Start Num: 20

Candidate Starts for Bedetta\_13:

(Start: 20 @8497 has 45 MA's), (61, 8587), (64, 8593), (88, 8647), (89, 8650), (105, 8689), (148, 8809), (155, 8833), (178, 8905), (181, 8911),

Gene: BeeGee\_13 Start: 8263, Stop: 8649, Start Num: 40

Candidate Starts for BeeGee\_13:

(11, 8182), (Start: 40 @8263 has 18 MA's),

Gene: Beethoven\_14 Start: 10371, Stop: 10784, Start Num: 24

Candidate Starts for Beethoven\_14:

(Start: 24 @10371 has 65 MA's), (88, 10506), (94, 10521), (113, 10566), (127, 10608), (172, 10725),

Gene: BelmontSKP\_12 Start: 8320, Stop: 8715, Start Num: 37

Candidate Starts for BelmontSKP\_12:

(6, 8194), (Start: 37 @8320 has 60 MA's), (54, 8359), (74, 8386), (103, 8464), (140, 8563), (152, 8596), (181, 8689),

Gene: Bengal\_11 Start: 7911, Stop: 8306, Start Num: 37

Candidate Starts for Bengal\_11:

(6, 7785), (Start: 37 @7911 has 60 MA's), (54, 7950), (74, 7977), (140, 8154), (152, 8187), (181, 8280),

Gene: Bennie\_10 Start: 7516, Stop: 7926, Start Num: 24

Candidate Starts for Bennie\_10:

(Start: 24 @7516 has 65 MA's), (88, 7648), (94, 7663), (113, 7708), (115, 7711), (127, 7750), (172, 7867),

Gene: Bernstein\_10 Start: 7752, Stop: 8141, Start Num: 41

Candidate Starts for Bernstein\_10:

(Start: 41 @7752 has 15 MA's), (103, 7893), (111, 7911), (166, 8064), (168, 8073), (175, 8097), (182, 8127),

Gene: Berrie\_12 Start: 9020, Stop: 9430, Start Num: 30

Candidate Starts for Berrie\_12:

(Start: 30 @9020 has 46 MA's), (71, 9107), (124, 9239), (164, 9350), (171, 9383),

Gene: Bible12\_13 Start: 8500, Stop: 8943, Start Num: 20

Candidate Starts for Bible12\_13:

(Start: 20 @8500 has 45 MA's), (61, 8590), (64, 8596), (88, 8650), (89, 8653), (105, 8692), (148, 8812), (155, 8836), (178, 8908), (181, 8914),

Gene: BigMack\_10 Start: 7516, Stop: 7926, Start Num: 24

Candidate Starts for BigMack\_10:

(Start: 24 @7516 has 65 MA's), (88, 7648), (94, 7663), (113, 7708), (127, 7750), (172, 7867),

Gene: Bipper\_18 Start: 12080, Stop: 12517, Start Num: 18

Candidate Starts for Bipper\_18:

(Start: 18 @12080 has 4 MA's), (Start: 20 @12083 has 45 MA's), (50, 12146), (54, 12158), (62, 12167), (70, 12179), (90, 12239), (117, 12296), (126, 12323), (128, 12332), (138, 12362), (160, 12419), (169, 12449), (176, 12473),

Gene: Birdsong\_12 Start: 7390, Stop: 7773, Start Num: 32

Candidate Starts for Birdsong\_12:

(Start: 32 @7390 has 16 MA's), (58, 7444), (60, 7450), (67, 7462), (77, 7486), (152, 7669), (181, 7759),

Gene: Blarby\_14 Start: 7737, Stop: 8141, Start Num: 38

Candidate Starts for Blarby\_14:

(Start: 38 @7737 has 7 MA's), (53, 7770), (79, 7830), (103, 7896), (148, 8016), (151, 8028), (164, 8064), (170, 8094),

Gene: Bodacious\_10 Start: 7514, Stop: 7924, Start Num: 24

Candidate Starts for Bodacious\_10:

(Start: 24 @7514 has 65 MA's), (74, 7607), (88, 7646), (94, 7661), (113, 7706), (127, 7748), (134, 7769), (172, 7865),

Gene: BotCity\_12 Start: 7039, Stop: 7449, Start Num: 31

Candidate Starts for BotCity\_12:

(4, 6910), (8, 6955), (9, 6961), (10, 6967), (12, 6985), (Start: 31 @7039 has 38 MA's), (45, 7066), (64, 7111), (68, 7117), (87, 7171), (102, 7210), (107, 7216), (118, 7237), (133, 7288), (137, 7300),

Gene: Bradissa\_13 Start: 8267, Stop: 8653, Start Num: 40

Candidate Starts for Bradissa\_13:

(Start: 40 @8267 has 18 MA's), (61, 8324),

Gene: Brahms\_10 Start: 7692, Stop: 8081, Start Num: 41

Candidate Starts for Brahms\_10:

(Start: 41 @7692 has 15 MA's), (103, 7833), (111, 7851), (166, 8004), (168, 8013), (175, 8037), (182, 8067),

Gene: BrayBeast\_11 Start: 7602, Stop: 7979, Start Num: 37

Candidate Starts for BrayBeast\_11:

(Start: 37 @7602 has 60 MA's), (63, 7659), (93, 7716), (101, 7743), (111, 7764), (115, 7770), (149, 7872), (163, 7908), (171, 7941),

Gene: BritBrat\_13 Start: 8269, Stop: 8655, Start Num: 40

Candidate Starts for BritBrat\_13:

(Start: 40 @8269 has 18 MA's), (61, 8326),

Gene: BrotherBLo\_14 Start: 10378, Stop: 10791, Start Num: 24

Candidate Starts for BrotherBLo\_14:

(Start: 24 @10378 has 65 MA's), (88, 10513), (94, 10528), (113, 10573), (127, 10615), (172, 10732),

Gene: Brynnie\_12 Start: 8457, Stop: 8900, Start Num: 20

Candidate Starts for Brynnie\_12:

(Start: 20 @8457 has 45 MA's), (Start: 43 @8499 has 2 MA's), (64, 8553), (88, 8607), (89, 8610), (105, 8649), (125, 8703), (137, 8742), (148, 8769), (155, 8793), (157, 8799),

Gene: BubbaBear\_11 Start: 7905, Stop: 8300, Start Num: 37

Candidate Starts for BubbaBear\_11:

(Start: 37 @7905 has 60 MA's), (54, 7944), (103, 8049), (140, 8148), (152, 8181), (181, 8274),

Gene: Budski\_12 Start: 7046, Stop: 7438, Start Num: 31

Candidate Starts for Budski\_12:

(4, 6917), (8, 6962), (9, 6968), (10, 6974), (12, 6992), (15, 7010), (Start: 31 @7046 has 38 MA's), (45, 7073), (64, 7118), (68, 7124), (74, 7136), (87, 7160), (102, 7199), (107, 7205), (114, 7220), (118, 7226), (133, 7277), (137, 7289), (157, 7343),

Gene: Buldak\_11 Start: 8189, Stop: 8584, Start Num: 34

Candidate Starts for Buldak\_11:

(Start: 34 @8189 has 8 MA's), (91, 8306), (101, 8333), (103, 8336), (132, 8414), (147, 8450), (150, 8459), (168, 8516), (175, 8540),

Gene: Burritobowl\_11 Start: 7938, Stop: 8333, Start Num: 37

Candidate Starts for Burritobowl\_11:

(6, 7812), (Start: 37 @7938 has 60 MA's), (54, 7977), (74, 8004), (103, 8082), (140, 8181), (152, 8214), (181, 8307),

Gene: CallieOMalley\_14 Start: 10411, Stop: 10824, Start Num: 24

Candidate Starts for CallieOMalley\_14:

(Start: 24 @10411 has 65 MA's), (48, 10456), (94, 10558), (172, 10762),

Gene: CallinAllBarbz\_11 Start: 6799, Stop: 7188, Start Num: 43

Candidate Starts for CallinAllBarbz\_11:

(Start: 43 @6799 has 2 MA's), (44, 6802), (110, 6961), (140, 7042), (151, 7069),

Gene: Camara\_11 Start: 7903, Stop: 8343, Start Num: 20

Candidate Starts for Camara\_11:

(Start: 20 @7903 has 45 MA's), (45, 7954), (89, 8056), (90, 8059), (105, 8095), (108, 8101), (115, 8116), (137, 8188), (148, 8215), (178, 8314), (181, 8320), (182, 8332),

Gene: Canowicakte\_14 Start: 10446, Stop: 10859, Start Num: 24

Candidate Starts for Canowicakte\_14:

(Start: 24 @10446 has 65 MA's), (48, 10491), (94, 10593), (134, 10701), (172, 10797),

Gene: Cappuccino\_12 Start: 8456, Stop: 8875, Start Num: 29

Candidate Starts for Cappuccino\_12:

(Start: 29 @8456 has 17 MA's), (50, 8498), (159, 8780),

Gene: CardboardBox\_13 Start: 7727, Stop: 8119, Start Num: 31

Candidate Starts for CardboardBox\_13:

(Start: 31 @7727 has 38 MA's), (81, 7826), (82, 7829), (101, 7880), (103, 7883), (137, 7970), (138, 7973), (177, 8087), (184, 8111),

Gene: Caron\_10 Start: 8244, Stop: 8660, Start Num: 31

Candidate Starts for Caron\_10:

(Start: 31 @8244 has 38 MA's), (132, 8484),

Gene: Carpal\_14 Start: 10378, Stop: 10791, Start Num: 24

Candidate Starts for Carpal\_14:

(Start: 24 @10378 has 65 MA's), (88, 10513), (94, 10528), (113, 10573), (127, 10615), (172, 10732),

Gene: Cashington\_11 Start: 7928, Stop: 8323, Start Num: 37

Candidate Starts for Cashington\_11:

(6, 7802), (Start: 37 @7928 has 60 MA's), (54, 7967), (74, 7994), (103, 8072), (140, 8171), (152, 8204), (181, 8297),

Gene: Cashline\_13 Start: 8116, Stop: 8508, Start Num: 40

Candidate Starts for Cashline\_13:

(11, 8035), (Start: 40 @8116 has 18 MA's),

Gene: Cassia\_12 Start: 9139, Stop: 9552, Start Num: 30

Candidate Starts for Cassia\_12:

(Start: 30 @9139 has 46 MA's), (71, 9226), (121, 9346), (124, 9358), (164, 9469), (171, 9502),

Gene: Celaena\_11 Start: 7988, Stop: 8386, Start Num: 39

Candidate Starts for Celaena\_11:

(5, 7850), (21, 7952), (27, 7970), (Start: 39 @7988 has 14 MA's), (48, 8009), (152, 8267), (161, 8285), (168, 8318),

Gene: Cen1621\_10 Start: 7355, Stop: 7771, Start Num: 30

Candidate Starts for Cen1621\_10:

(Start: 30 @7355 has 46 MA's), (171, 7724), (177, 7745),

Gene: ChamoyPickle\_13 Start: 7727, Stop: 8119, Start Num: 31

Candidate Starts for ChamoyPickle\_13:

(Start: 31 @7727 has 38 MA's), (81, 7826), (82, 7829), (101, 7880), (103, 7883), (137, 7970), (138, 7973), (177, 8087), (184, 8111),

Gene: Che9d\_13 Start: 7222, Stop: 7626, Start Num: 38

Candidate Starts for Che9d\_13:

(Start: 38 @7222 has 7 MA's), (53, 7255), (79, 7315), (103, 7381), (148, 7501), (151, 7513), (164, 7549), (170, 7579),

Gene: CheeseTouch\_12 Start: 7046, Stop: 7438, Start Num: 31

Candidate Starts for CheeseTouch\_12:

(4, 6917), (8, 6962), (9, 6968), (10, 6974), (12, 6992), (15, 7010), (Start: 31 @7046 has 38 MA's), (45, 7073), (64, 7118), (68, 7124), (74, 7136), (87, 7160), (102, 7199), (107, 7205), (114, 7220), (118, 7226), (133, 7277), (137, 7289), (157, 7343),

Gene: ChewChew\_10 Start: 7513, Stop: 7923, Start Num: 24

Candidate Starts for ChewChew\_10:

(Start: 24 @7513 has 65 MA's), (74, 7606), (88, 7645), (94, 7660), (113, 7705), (127, 7747), (134, 7768), (172, 7864),

Gene: Chickaboom\_11 Start: 8002, Stop: 8445, Start Num: 20

Candidate Starts for Chickaboom\_11:

(Start: 20 @8002 has 45 MA's), (Start: 43 @8044 has 2 MA's), (48, 8062), (64, 8098), (88, 8152), (89, 8155), (105, 8194), (125, 8248), (137, 8287), (148, 8314), (155, 8338), (157, 8344),

Gene: Chicken\_12 Start: 8281, Stop: 8721, Start Num: 20

Candidate Starts for Chicken\_12:

(Start: 20 @8281 has 45 MA's), (61, 8371), (64, 8377), (82, 8413), (88, 8431), (89, 8434), (105, 8473), (137, 8566), (148, 8593), (155, 8617), (167, 8653), (178, 8689),

Gene: ChiliPepper\_11 Start: 8141, Stop: 8542, Start Num: 39

Candidate Starts for ChiliPepper\_11:

(Start: 39 @8141 has 14 MA's), (103, 8291), (146, 8405), (168, 8474),

Gene: ChipsNGuac\_13 Start: 7727, Stop: 8119, Start Num: 31

Candidate Starts for ChipsNGuac\_13:

(Start: 31 @7727 has 38 MA's), (81, 7826), (82, 7829), (101, 7880), (103, 7883), (137, 7970), (138, 7973), (177, 8087), (184, 8111),

Gene: Cholula\_14 Start: 10423, Stop: 10836, Start Num: 24

Candidate Starts for Cholula\_14:

(Start: 24 @10423 has 65 MA's), (88, 10558), (94, 10573), (113, 10618), (127, 10660), (172, 10777),

Gene: Chridison\_10 Start: 7546, Stop: 7983, Start Num: 22

Candidate Starts for Chridison\_10:

(Start: 22 @7546 has 9 MA's), (Start: 24 @7552 has 65 MA's), (Start: 37 @7573 has 60 MA's), (71, 7645), (98, 7714), (101, 7723), (113, 7747), (172, 7906),

Gene: Christian\_10 Start: 7514, Stop: 7924, Start Num: 24

Candidate Starts for Christian\_10:

(Start: 24 @7514 has 65 MA's), (74, 7607), (88, 7646), (94, 7661), (113, 7706), (127, 7748), (134, 7769), (172, 7865),

Gene: Clayda5\_10 Start: 7692, Stop: 8081, Start Num: 41

Candidate Starts for Clayda5\_10:

(Start: 41 @7692 has 15 MA's), (103, 7833), (111, 7851), (166, 8004), (168, 8013), (175, 8037), (182, 8067),

Gene: CliffHanger\_12 Start: 7883, Stop: 8278, Start Num: 35

Candidate Starts for CliffHanger\_12:

(Start: 35 @7883 has 4 MA's), (97, 8015), (131, 8105), (150, 8153), (161, 8177), (175, 8234),

Gene: CocoCinnamon\_15 Start: 8936, Stop: 9316, Start Num: 37

Candidate Starts for CocoCinnamon\_15:

(Start: 37 @8936 has 60 MA's), (111, 9101), (115, 9107), (148, 9203), (149, 9209), (163, 9245), (171, 9278),

Gene: Coltrane\_10 Start: 7692, Stop: 8081, Start Num: 41

Candidate Starts for Coltrane\_10:

(Start: 41 @7692 has 15 MA's), (103, 7833), (111, 7851), (166, 8004), (168, 8013), (175, 8037), (182, 8067),

Gene: Colusalem\_12 Start: 8336, Stop: 8779, Start Num: 20

Candidate Starts for Colusalem\_12:

(Start: 20 @8336 has 45 MA's), (61, 8426), (64, 8432), (88, 8486), (89, 8489), (105, 8528), (148, 8648), (155, 8672), (178, 8744), (181, 8750),

Gene: Community\_13 Start: 10099, Stop: 10509, Start Num: 30

Candidate Starts for Community\_13:

(Start: 30 @10099 has 46 MA's), (51, 10144), (124, 10318), (164, 10429), (171, 10462),

Gene: Confidence\_13 Start: 8263, Stop: 8649, Start Num: 40

Candidate Starts for Confidence\_13:

(11, 8182), (Start: 40 @8263 has 18 MA's), (52, 8299), (61, 8320),

Gene: Coral\_12 Start: 8336, Stop: 8779, Start Num: 20

Candidate Starts for Coral\_12:

(Start: 20 @8336 has 45 MA's), (61, 8426), (64, 8432), (88, 8486), (89, 8489), (105, 8528), (148, 8648), (155, 8672), (178, 8744), (181, 8750),

Gene: Cote\_13 Start: 8497, Stop: 8940, Start Num: 20

Candidate Starts for Cote\_13:

(Start: 20 @8497 has 45 MA's), (61, 8587), (64, 8593), (88, 8647), (89, 8650), (105, 8689), (148, 8809), (155, 8833), (178, 8905), (181, 8911),

Gene: Cracklewink\_18 Start: 12080, Stop: 12517, Start Num: 18

Candidate Starts for Cracklewink\_18:

(Start: 18 @12080 has 4 MA's), (Start: 20 @12083 has 45 MA's), (50, 12146), (54, 12158), (62, 12167), (70, 12179), (90, 12239), (117, 12296), (126, 12323), (128, 12332), (138, 12362), (160, 12419), (169, 12449), (176, 12473),

Gene: Crater\_12 Start: 7390, Stop: 7773, Start Num: 32

Candidate Starts for Crater\_12:

(Start: 32 @7390 has 16 MA's), (58, 7444), (60, 7450), (67, 7462), (77, 7486), (152, 7669), (181, 7759),

Gene: Crewmate\_13 Start: 9485, Stop: 9898, Start Num: 30

Candidate Starts for Crewmate\_13:

(Start: 30 @9485 has 46 MA's), (61, 9554), (124, 9704), (164, 9815), (171, 9848),

Gene: CristinaYang\_10 Start: 7514, Stop: 7924, Start Num: 24

Candidate Starts for CristinaYang\_10:

(Start: 24 @7514 has 65 MA's), (74, 7607), (88, 7646), (94, 7661), (113, 7706), (127, 7748), (134, 7769), (172, 7865),

Gene: CroZenni\_11 Start: 7911, Stop: 8306, Start Num: 37

Candidate Starts for CroZenni\_11:

(6, 7785), (Start: 37 @7911 has 60 MA's), (74, 7977), (103, 8055), (140, 8154), (152, 8187), (181, 8280),

Gene: CupcakePrincess\_11 Start: 7951, Stop: 8346, Start Num: 37

Candidate Starts for CupcakePrincess\_11:

(6, 7825), (Start: 37 @7951 has 60 MA's), (54, 7990), (74, 8017), (103, 8095), (152, 8227), (181, 8320),

Gene: Cyan\_12 Start: 9040, Stop: 9453, Start Num: 30

Candidate Starts for Cyan\_12:

(Start: 30 @9040 has 46 MA's), (61, 9109), (124, 9259), (164, 9370), (171, 9403),

Gene: Cygnet\_12 Start: 8279, Stop: 8722, Start Num: 20

Candidate Starts for Cygnet\_12:

(Start: 20 @8279 has 45 MA's), (48, 8339), (51, 8348), (69, 8378), (88, 8429), (115, 8492), (129, 8540), (132, 8549), (133, 8552), (155, 8615), (158, 8624), (167, 8654), (178, 8690), (182, 8708),

Gene: DS6A\_15 Start: 10364, Stop: 10735, Start Num: 41

Candidate Starts for DS6A\_15:

(Start: 41 @10364 has 15 MA's), (68, 10427), (74, 10439), (88, 10466), (106, 10511), (116, 10532), (133, 10586), (138, 10601), (151, 10628), (156, 10643), (165, 10664), (172, 10688),

Gene: Daiboju\_10 Start: 7547, Stop: 7984, Start Num: 22

Candidate Starts for Daiboju\_10:

(Start: 22 @7547 has 9 MA's), (Start: 24 @7553 has 65 MA's), (46, 7592), (47, 7595), (88, 7688), (94, 7703), (98, 7715), (101, 7724), (103, 7727), (113, 7748), (172, 7907),

Gene: DanHam62\_11 Start: 7902, Stop: 8342, Start Num: 20

Candidate Starts for DanHam62\_11:

(Start: 20 @7902 has 45 MA's), (45, 7953), (89, 8055), (90, 8058), (105, 8094), (108, 8100), (115, 8115), (137, 8187), (148, 8214), (178, 8313), (181, 8319), (182, 8331),

Gene: Daob\_13 Start: 8500, Stop: 8943, Start Num: 20

Candidate Starts for Daob\_13:

(Start: 20 @8500 has 45 MA's), (61, 8590), (64, 8596), (88, 8650), (89, 8653), (105, 8692), (148, 8812), (155, 8836), (178, 8908), (181, 8914),

Gene: Demsculpinboyz\_13 Start: 7213, Stop: 7617, Start Num: 38

Candidate Starts for Demsculpinboyz\_13:

(Start: 38 @7213 has 7 MA's), (53, 7246), (79, 7306), (103, 7372), (148, 7492), (151, 7504), (164, 7540), (170, 7570),

Gene: DickRichards\_11 Start: 8405, Stop: 8800, Start Num: 37

Candidate Starts for DickRichards\_11:

(6, 8279), (Start: 37 @8405 has 60 MA's), (54, 8444), (74, 8471), (103, 8549), (140, 8648), (152, 8681), (181, 8774),

Gene: Didgeridoo\_12 Start: 8135, Stop: 8533, Start Num: 39

Candidate Starts for Didgeridoo\_12:

(Start: 39 @8135 has 14 MA's), (140, 8381), (174, 8486),

Gene: Dino\_14 Start: 10377, Stop: 10790, Start Num: 24

Candidate Starts for Dino\_14:

(Start: 24 @10377 has 65 MA's), (88, 10512), (94, 10527), (113, 10572), (127, 10614), (172, 10731),

Gene: DirtyBubble\_11 Start: 8173, Stop: 8565, Start Num: 41

Candidate Starts for DirtyBubble\_11:

(6, 8044), (Start: 37 @8170 has 60 MA's), (Start: 41 @8173 has 15 MA's), (68, 8233), (146, 8428), (161, 8464), (168, 8497), (174, 8518),

Gene: Dismas\_11 Start: 8141, Stop: 8542, Start Num: 39

Candidate Starts for Dismas\_11:

(Start: 39 @8141 has 14 MA's), (103, 8291), (146, 8405), (168, 8474),

Gene: Donkey\_12 Start: 8456, Stop: 8875, Start Num: 29

Candidate Starts for Donkey\_12:

(Start: 29 @8456 has 17 MA's), (50, 8498), (159, 8780),

Gene: Doobus\_11 Start: 8142, Stop: 8537, Start Num: 37

Candidate Starts for Doobus\_11:

(6, 8016), (Start: 37 @8142 has 60 MA's), (74, 8208), (103, 8286), (140, 8385), (152, 8418), (181, 8511),

Gene: Doucette\_12 Start: 7747, Stop: 8115, Start Num: 49

Candidate Starts for Doucette\_12:

(2, 7546), (Start: 49 @7747 has 5 MA's), (76, 7804), (96, 7855), (136, 7966), (141, 7972), (145, 7984),

Gene: DrManhattan\_12 Start: 9014, Stop: 9430, Start Num: 31

Candidate Starts for DrManhattan\_12:

(Start: 31 @9014 has 38 MA's), (122, 9230),

Gene: DrRobert\_10 Start: 7514, Stop: 7924, Start Num: 24

Candidate Starts for DrRobert\_10:

(Start: 24 @7514 has 65 MA's), (74, 7607), (88, 7646), (94, 7661), (113, 7706), (127, 7748), (134, 7769), (172, 7865),

Gene: DrSierra\_12 Start: 9047, Stop: 9463, Start Num: 31

Candidate Starts for DrSierra\_12:

(Start: 31 @9047 has 38 MA's), (76, 9143), (96, 9200), (122, 9263),

Gene: DreamTeam\_10 Start: 7581, Stop: 7991, Start Num: 24

Candidate Starts for DreamTeam\_10:

(Start: 24 @7581 has 65 MA's), (88, 7713), (94, 7728), (113, 7773), (115, 7776), (172, 7932),

Gene: E6\_13 Start: 7798, Stop: 8166, Start Num: 49

Candidate Starts for E6\_13:

(2, 7597), (Start: 49 @7798 has 5 MA's), (76, 7855), (96, 7906), (136, 8017), (141, 8023), (145, 8035), (151, 8056),

Gene: EMSquaredA\_13 Start: 8269, Stop: 8655, Start Num: 40

Candidate Starts for EMSquaredA\_13:

(Start: 40 @8269 has 18 MA's), (61, 8326),

Gene: Ecliptus\_12 Start: 7118, Stop: 7501, Start Num: 32

Candidate Starts for Ecliptus\_12:

(Start: 32 @7118 has 16 MA's), (Start: 43 @7133 has 2 MA's), (58, 7172), (60, 7178), (67, 7190), (77, 7214), (152, 7397), (181, 7487),

Gene: Eden\_10 Start: 7777, Stop: 8181, Start Num: 35

Candidate Starts for Eden\_10:

(Start: 35 @7777 has 4 MA's), (Start: 41 @7783 has 15 MA's), (103, 7933), (111, 7951), (132, 8011), (148, 8047), (168, 8113),

Gene: Eesa\_12 Start: 8495, Stop: 8935, Start Num: 20

Candidate Starts for Eesa\_12:

(14, 8483), (Start: 20 @8495 has 45 MA's), (61, 8585), (64, 8591), (82, 8627), (88, 8645), (89, 8648), (105, 8687), (137, 8780), (148, 8807), (155, 8831), (167, 8867), (178, 8903),

Gene: Elezi\_12 Start: 9019, Stop: 9429, Start Num: 30

Candidate Starts for Elezi\_12:

(Start: 30 @9019 has 46 MA's), (61, 9088), (121, 9226), (124, 9238), (164, 9349), (171, 9382),

Gene: Elfy\_10 Start: 6715, Stop: 7113, Start Num: 36

Candidate Starts for Elfy\_10:

(23, 6688), (27, 6700), (36, 6715), (48, 6742), (74, 6796), (84, 6823), (94, 6850), (105, 6877), (110, 6889), (136, 6961), (148, 6985), (155, 7009),

Gene: Elva\_12 Start: 8225, Stop: 8620, Start Num: 37

Candidate Starts for Elva\_12:

(6, 8099), (Start: 37 @8225 has 60 MA's), (103, 8369), (146, 8483), (161, 8519), (168, 8552), (174, 8573),

Gene: Emotion\_11 Start: 7354, Stop: 7758, Start Num: 35  
Candidate Starts for Emotion\_11:  
(Start: 35 @7354 has 4 MA's), (121, 7555),

Gene: EnalisNailo\_13 Start: 8269, Stop: 8655, Start Num: 40  
Candidate Starts for EnalisNailo\_13:  
(Start: 40 @8269 has 18 MA's), (61, 8326),

Gene: Eraser\_12 Start: 9019, Stop: 9429, Start Num: 30  
Candidate Starts for Eraser\_12:  
(Start: 30 @9019 has 46 MA's), (61, 9088), (121, 9226), (124, 9238), (164, 9349), (171, 9382),

Gene: EstebanJulior\_10 Start: 7558, Stop: 7971, Start Num: 24  
Candidate Starts for EstebanJulior\_10:  
(Start: 24 @7558 has 65 MA's), (54, 7621), (94, 7705), (113, 7750), (115, 7753), (127, 7792), (152, 7852), (172, 7909),

Gene: Eula\_11 Start: 7912, Stop: 8307, Start Num: 37  
Candidate Starts for Eula\_11:  
(Start: 37 @7912 has 60 MA's), (54, 7951), (74, 7978), (92, 8029), (103, 8056), (152, 8188), (181, 8281),

Gene: Eunoia\_10 Start: 7551, Stop: 7982, Start Num: 24  
Candidate Starts for Eunoia\_10:  
(Start: 22 @7545 has 9 MA's), (Start: 24 @7551 has 65 MA's), (Start: 37 @7572 has 60 MA's), (71, 7644), (94, 7701), (98, 7713), (101, 7722), (113, 7746), (172, 7905),

Gene: EvenBluerMoon\_12 Start: 8744, Stop: 9133, Start Num: 37  
Candidate Starts for EvenBluerMoon\_12:  
(Start: 37 @8744 has 60 MA's), (101, 8891), (127, 8957), (130, 8969),

Gene: Exile\_11 Start: 8927, Stop: 9337, Start Num: 31  
Candidate Starts for Exile\_11:  
(Start: 31 @8927 has 38 MA's), (171, 9290),

Gene: Ezurina\_12 Start: 7295, Stop: 7687, Start Num: 31  
Candidate Starts for Ezurina\_12:  
(Start: 31 @7295 has 38 MA's), (44, 7316), (82, 7397), (101, 7448), (103, 7451), (137, 7538), (138, 7541), (177, 7655), (184, 7679),

Gene: Faiyaz\_18 Start: 11997, Stop: 12434, Start Num: 20  
Candidate Starts for Faiyaz\_18:  
(Start: 18 @11994 has 4 MA's), (Start: 20 @11997 has 45 MA's), (54, 12075), (62, 12084), (65, 12090), (70, 12096), (97, 12174), (126, 12240), (137, 12276), (165, 12351), (176, 12390),

Gene: Finalfrontier\_12 Start: 8424, Stop: 8819, Start Num: 37  
Candidate Starts for Finalfrontier\_12:  
(Start: 37 @8424 has 60 MA's), (54, 8463), (74, 8490), (103, 8568), (152, 8700), (181, 8793),

Gene: Fingolfin\_11 Start: 7903, Stop: 8343, Start Num: 20

Candidate Starts for Fingolfin\_11:

(Start: 20 @7903 has 45 MA's), (45, 7954), (89, 8056), (90, 8059), (105, 8095), (108, 8101), (115, 8116), (137, 8188), (148, 8215), (178, 8314), (181, 8320), (182, 8332),

Gene: FiveHead\_11 Start: 7283, Stop: 7678, Start Num: 32

Candidate Starts for FiveHead\_11:

(Start: 32 @7283 has 16 MA's), (121, 7475),

Gene: FlameThrower\_11 Start: 7876, Stop: 8274, Start Num: 39

Candidate Starts for FlameThrower\_11:

(1, 7678), (Start: 39 @7876 has 14 MA's), (48, 7897), (152, 8155), (161, 8173), (168, 8206),

Gene: Floof\_11 Start: 7791, Stop: 8213, Start Num: 30

Candidate Starts for Floof\_11:

(Start: 30 @7791 has 46 MA's), (78, 7884), (79, 7890), (85, 7905), (121, 7995), (132, 8034), (139, 8052), (173, 8163),

Gene: Floral\_13 Start: 8269, Stop: 8655, Start Num: 40

Candidate Starts for Floral\_13:

(Start: 40 @8269 has 18 MA's), (61, 8326),

Gene: Fluke\_14 Start: 10419, Stop: 10832, Start Num: 24

Candidate Starts for Fluke\_14:

(Start: 24 @10419 has 65 MA's), (88, 10554), (113, 10614), (127, 10656), (172, 10773),

Gene: Flutur\_12 Start: 9039, Stop: 9452, Start Num: 30

Candidate Starts for Flutur\_12:

(Start: 30 @9039 has 46 MA's), (61, 9108), (164, 9369), (171, 9402),

Gene: Forester\_20 Start: 9343, Stop: 9765, Start Num: 30

Candidate Starts for Forester\_20:

(Start: 30 @9343 has 46 MA's), (78, 9436), (79, 9442), (85, 9457), (121, 9547), (132, 9586), (139, 9604), (173, 9715),

Gene: Franklin22\_10 Start: 7758, Stop: 8153, Start Num: 35

Candidate Starts for Franklin22\_10:

(Start: 35 @7758 has 4 MA's), (Start: 41 @7764 has 15 MA's), (103, 7905), (111, 7923), (168, 8085),

Gene: Frickyeah\_12 Start: 7041, Stop: 7451, Start Num: 31

Candidate Starts for Frickyeah\_12:

(4, 6912), (8, 6957), (9, 6963), (10, 6969), (12, 6987), (Start: 31 @7041 has 38 MA's), (45, 7068), (64, 7113), (68, 7119), (87, 7173), (102, 7212), (107, 7218), (118, 7239), (133, 7290), (137, 7302),

Gene: G4\_12 Start: 7735, Stop: 8103, Start Num: 49

Candidate Starts for G4\_12:

(2, 7534), (Start: 49 @7735 has 5 MA's), (76, 7792), (136, 7954), (141, 7960), (145, 7972), (153, 7996),

Gene: Gack\_10 Start: 7830, Stop: 8219, Start Num: 41

Candidate Starts for Gack\_10:

(Start: 41 @7830 has 15 MA's), (83, 7917), (103, 7971), (110, 7986), (142, 8076), (161, 8118), (168, 8151),

Gene: Gaia\_9 Start: 7642, Stop: 8013, Start Num: 41

Candidate Starts for Gaia\_9:

(Start: 41 @7642 has 15 MA's), (85, 7738), (92, 7759), (102, 7786), (104, 7789), (107, 7792), (114, 7807), (133, 7864), (137, 7876), (155, 7921), (175, 7981), (177, 7987), (178, 7993),

Gene: Galaxy\_12 Start: 8328, Stop: 8771, Start Num: 20

Candidate Starts for Galaxy\_12:

(Start: 20 @8328 has 45 MA's), (64, 8424), (88, 8478), (89, 8481), (101, 8514), (137, 8613), (148, 8640), (155, 8664), (157, 8670), (162, 8679),

Gene: Gambol\_12 Start: 8456, Stop: 8875, Start Num: 29

Candidate Starts for Gambol\_12:

(Start: 29 @8456 has 17 MA's), (50, 8498), (159, 8780),

Gene: GardenState\_11 Start: 8458, Stop: 8877, Start Num: 30

Candidate Starts for GardenState\_11:

(Start: 30 @8458 has 46 MA's), (78, 8551), (79, 8557), (121, 8662), (132, 8701),

Gene: Gerri43\_13 Start: 7727, Stop: 8119, Start Num: 31

Candidate Starts for Gerri43\_13:

(Start: 31 @7727 has 38 MA's), (81, 7826), (82, 7829), (101, 7880), (103, 7883), (137, 7970), (138, 7973), (177, 8087), (184, 8111),

Gene: Getalong\_12 Start: 7041, Stop: 7433, Start Num: 31

Candidate Starts for Getalong\_12:

(4, 6912), (8, 6957), (9, 6963), (10, 6969), (12, 6987), (Start: 31 @7041 has 38 MA's), (45, 7068), (61, 7107), (64, 7113), (68, 7119), (74, 7131), (87, 7155), (102, 7194), (107, 7200), (112, 7212), (118, 7221), (133, 7272), (137, 7284),

Gene: Gibbzilla\_13 Start: 7779, Stop: 8162, Start Num: 34

Candidate Starts for Gibbzilla\_13:

(Start: 29 @7770 has 17 MA's), (Start: 34 @7779 has 8 MA's), (75, 7863), (90, 7905), (103, 7938), (175, 8118),

Gene: Giorgio\_12 Start: 8549, Stop: 8968, Start Num: 29

Candidate Starts for Giorgio\_12:

(Start: 29 @8549 has 17 MA's), (50, 8591), (122, 8768), (159, 8873),

Gene: Gisselle\_10 Start: 7581, Stop: 7991, Start Num: 24

Candidate Starts for Gisselle\_10:

(Start: 24 @7581 has 65 MA's), (88, 7713), (94, 7728), (113, 7773), (115, 7776), (172, 7932),

Gene: Glenn\_14 Start: 10429, Stop: 10842, Start Num: 24

Candidate Starts for Glenn\_14:

(Start: 24 @10429 has 65 MA's), (88, 10564), (94, 10579), (113, 10624), (127, 10666), (172, 10783),

Gene: Glotell\_11 Start: 7902, Stop: 8342, Start Num: 20

Candidate Starts for Glotell\_11:

(Start: 20 @7902 has 45 MA's), (45, 7953), (89, 8055), (90, 8058), (105, 8094), (108, 8100), (115, 8115), (137, 8187), (148, 8214), (178, 8313), (181, 8319), (182, 8331),

Gene: Gravel\_13 Start: 8491, Stop: 8931, Start Num: 20

Candidate Starts for Gravel\_13:

(14, 8479), (Start: 20 @8491 has 45 MA's), (61, 8581), (82, 8623), (88, 8641), (89, 8644), (105, 8683), (137, 8776), (148, 8803), (155, 8827), (167, 8863), (178, 8899),

Gene: Graynor\_14 Start: 10435, Stop: 10845, Start Num: 24

Candidate Starts for Graynor\_14:

(Start: 24 @10435 has 65 MA's), (48, 10477), (94, 10579), (172, 10783),

Gene: GreenHearts\_14 Start: 10522, Stop: 10932, Start Num: 26

Candidate Starts for GreenHearts\_14:

(Start: 26 @10522 has 10 MA's), (70, 10606), (94, 10666), (97, 10675), (98, 10678), (111, 10708), (115, 10714), (125, 10747), (172, 10870), (178, 10894),

Gene: Greenhouse\_14 Start: 10447, Stop: 10857, Start Num: 26

Candidate Starts for Greenhouse\_14:

(Start: 26 @10447 has 10 MA's), (94, 10591), (97, 10600), (98, 10603), (111, 10633), (115, 10639), (125, 10672), (172, 10795), (178, 10819),

Gene: Gretchen\_11 Start: 9337, Stop: 9759, Start Num: 30

Candidate Starts for Gretchen\_11:

(Start: 30 @9337 has 46 MA's), (78, 9430), (79, 9436), (85, 9451), (121, 9541), (132, 9580), (139, 9598), (173, 9709),

Gene: GrimEater\_12 Start: 6797, Stop: 7189, Start Num: 43

Candidate Starts for GrimEater\_12:

(Start: 37 @6791 has 60 MA's), (Start: 43 @6797 has 2 MA's), (45, 6806), (110, 6962), (136, 7034), (140, 7043),

Gene: Gumpizza\_12 Start: 8548, Stop: 8967, Start Num: 29

Candidate Starts for Gumpizza\_12:

(Start: 29 @8548 has 17 MA's), (50, 8590), (122, 8767), (159, 8872),

Gene: Halsey\_12 Start: 8547, Stop: 8966, Start Num: 29

Candidate Starts for Halsey\_12:

(Start: 29 @8547 has 17 MA's), (50, 8589), (159, 8871),

Gene: HamCheese\_11 Start: 7902, Stop: 8342, Start Num: 20

Candidate Starts for HamCheese\_11:

(Start: 20 @7902 has 45 MA's), (45, 7953), (89, 8055), (90, 8058), (105, 8094), (108, 8100), (115, 8115), (137, 8187), (148, 8214), (178, 8313), (181, 8319), (182, 8331),

Gene: HannahPhantana\_13 Start: 8500, Stop: 8943, Start Num: 20

Candidate Starts for HannahPhantana\_13:

(Start: 20 @8500 has 45 MA's), (61, 8590), (64, 8596), (88, 8650), (89, 8653), (105, 8692), (148, 8812), (155, 8836), (178, 8908), (181, 8914),

Gene: HeadNerd\_10 Start: 7516, Stop: 7926, Start Num: 24

Candidate Starts for HeadNerd\_10:

(Start: 24 @7516 has 65 MA's), (88, 7648), (94, 7663), (113, 7708), (115, 7711), (127, 7750), (172, 7867),

Gene: Herb\_10 Start: 7547, Stop: 7984, Start Num: 22

Candidate Starts for Herb\_10:

(Start: 22 @7547 has 9 MA's), (Start: 24 @7553 has 65 MA's), (46, 7592), (47, 7595), (88, 7688), (94, 7703), (98, 7715), (101, 7724), (103, 7727), (113, 7748), (172, 7907),

Gene: Hilltopfarm\_18 Start: 12024, Stop: 12464, Start Num: 18

Candidate Starts for Hilltopfarm\_18:

(Start: 18 @12024 has 4 MA's), (Start: 20 @12027 has 45 MA's), (54, 12105), (62, 12114), (65, 12120), (70, 12126), (97, 12204), (126, 12270), (137, 12306), (165, 12381), (176, 12420),

Gene: Holliday\_12 Start: 7046, Stop: 7438, Start Num: 31

Candidate Starts for Holliday\_12:

(4, 6917), (8, 6962), (9, 6968), (10, 6974), (12, 6992), (15, 7010), (Start: 31 @7046 has 38 MA's), (45, 7073), (64, 7118), (68, 7124), (74, 7136), (87, 7160), (102, 7199), (107, 7205), (114, 7220), (118, 7226), (133, 7277), (137, 7289), (157, 7343),

Gene: Honk\_10 Start: 7323, Stop: 7739, Start Num: 30

Candidate Starts for Honk\_10:

(Start: 30 @7323 has 46 MA's), (76, 7416), (96, 7473), (171, 7692),

Gene: Horus\_12 Start: 7041, Stop: 7451, Start Num: 31

Candidate Starts for Horus\_12:

(4, 6912), (8, 6957), (9, 6963), (10, 6969), (12, 6987), (Start: 31 @7041 has 38 MA's), (45, 7068), (64, 7113), (68, 7119), (87, 7173), (102, 7212), (107, 7218), (118, 7239), (133, 7290), (137, 7302),

Gene: Huckleberry\_10 Start: 7516, Stop: 7926, Start Num: 24

Candidate Starts for Huckleberry\_10:

(Start: 24 @7516 has 65 MA's), (88, 7648), (94, 7663), (113, 7708), (115, 7711), (127, 7750), (172, 7867),

Gene: HunterDalle\_10 Start: 7551, Stop: 7982, Start Num: 24

Candidate Starts for HunterDalle\_10:

(Start: 22 @7545 has 9 MA's), (Start: 24 @7551 has 65 MA's), (Start: 37 @7572 has 60 MA's), (71, 7644), (98, 7713), (101, 7722), (113, 7746), (172, 7905),

Gene: Huntingdon\_14 Start: 10433, Stop: 10843, Start Num: 26

Candidate Starts for Huntingdon\_14:

(Start: 26 @10433 has 10 MA's), (94, 10577), (97, 10586), (98, 10589), (111, 10619), (115, 10625), (125, 10658), (172, 10781), (178, 10805),

Gene: IAmGroot\_11 Start: 9102, Stop: 9521, Start Num: 30

Candidate Starts for IAmGroot\_11:

(Start: 30 @9102 has 46 MA's), (78, 9195), (79, 9201), (121, 9306), (132, 9345),

Gene: IUFootball\_11 Start: 7496, Stop: 7915, Start Num: 30

Candidate Starts for IUFootball\_11:

(Start: 30 @7496 has 46 MA's), (Start: 41 @7514 has 15 MA's), (78, 7601), (122, 7715), (171, 7865),

Gene: Icarian\_12 Start: 8152, Stop: 8547, Start Num: 37

Candidate Starts for Icarian\_12:

(Start: 37 @8152 has 60 MA's), (68, 8215), (94, 8272), (168, 8479), (174, 8500),

Gene: Immaculata\_14 Start: 10423, Stop: 10836, Start Num: 24

Candidate Starts for Immaculata\_14:

(Start: 24 @10423 has 65 MA's), (88, 10558), (94, 10573), (113, 10618), (127, 10660), (172, 10777),

Gene: IndyLu\_11 Start: 7957, Stop: 8355, Start Num: 37

Candidate Starts for IndyLu\_11:

(Start: 37 @7957 has 60 MA's), (140, 8203), (174, 8308),

Gene: Iter\_12 Start: 9053, Stop: 9463, Start Num: 30

Candidate Starts for Iter\_12:

(Start: 30 @9053 has 46 MA's), (61, 9122), (124, 9272), (164, 9383), (171, 9416),

Gene: IttyBittyPiggy\_12 Start: 9041, Stop: 9454, Start Num: 30

Candidate Starts for IttyBittyPiggy\_12:

(Start: 30 @9041 has 46 MA's), (61, 9110), (164, 9371), (171, 9404),

Gene: Jabb\_11 Start: 7951, Stop: 8346, Start Num: 37

Candidate Starts for Jabb\_11:

(6, 7825), (Start: 37 @7951 has 60 MA's), (54, 7990), (74, 8017), (103, 8095), (152, 8227), (181, 8320),

Gene: Jabbawokkie\_14 Start: 7736, Stop: 8140, Start Num: 38

Candidate Starts for Jabbawokkie\_14:

(Start: 38 @7736 has 7 MA's), (53, 7769), (79, 7829), (103, 7895), (148, 8015), (151, 8027), (164, 8063), (170, 8093),

Gene: Jablanski\_13 Start: 8116, Stop: 8502, Start Num: 40

Candidate Starts for Jablanski\_13:

(11, 8035), (Start: 40 @8116 has 18 MA's), (52, 8152), (61, 8173),

Gene: Jamun\_12 Start: 8669, Stop: 9112, Start Num: 20

Candidate Starts for Jamun\_12:

(Start: 20 @8669 has 45 MA's), (Start: 43 @8711 has 2 MA's), (48, 8729), (64, 8765), (88, 8819), (89, 8822), (105, 8861), (125, 8915), (137, 8954), (148, 8981), (155, 9005), (157, 9011),

Gene: Janeemi\_13 Start: 10130, Stop: 10543, Start Num: 30

Candidate Starts for Janeemi\_13:

(Start: 30 @10130 has 46 MA's), (51, 10175), (121, 10337), (124, 10349), (164, 10460), (171, 10493),

Gene: JanetJ\_12 Start: 8526, Stop: 8915, Start Num: 37

Candidate Starts for JanetJ\_12:

(Start: 37 @8526 has 60 MA's), (111, 8694), (127, 8739), (130, 8751), (156, 8823), (171, 8871),

Gene: Jankie\_13 Start: 6796, Stop: 7188, Start Num: 43

Candidate Starts for Jankie\_13:

(Start: 37 @6790 has 60 MA's), (Start: 43 @6796 has 2 MA's), (45, 6805), (110, 6961), (136, 7033), (140, 7042),

Gene: JasmineDragon\_11 Start: 7286, Stop: 7681, Start Num: 32

Candidate Starts for JasmineDragon\_11:

(Start: 32 @7286 has 16 MA's), (121, 7478),

Gene: JeanClaude\_11 Start: 7509, Stop: 7886, Start Num: 37

Candidate Starts for JeanClaude\_11:

(Start: 37 @7509 has 60 MA's), (93, 7623), (101, 7650), (111, 7671), (149, 7779), (163, 7815), (171, 7848),

Gene: Jerole\_13 Start: 8497, Stop: 8940, Start Num: 20

Candidate Starts for Jerole\_13:

(Start: 20 @8497 has 45 MA's), (61, 8587), (64, 8593), (88, 8647), (89, 8650), (105, 8689), (148, 8809), (155, 8833), (178, 8905), (181, 8911),

Gene: Joann\_14 Start: 10425, Stop: 10835, Start Num: 26

Candidate Starts for Joann\_14:

(Start: 26 @10425 has 10 MA's), (94, 10569), (97, 10578), (98, 10581), (111, 10611), (115, 10617), (125, 10650), (172, 10773), (178, 10797),

Gene: Joemato\_12 Start: 9040, Stop: 9453, Start Num: 30

Candidate Starts for Joemato\_12:

(Start: 30 @9040 has 46 MA's), (61, 9109), (124, 9259), (164, 9370), (171, 9403),

Gene: JohnDoe\_12 Start: 9038, Stop: 9451, Start Num: 30

Candidate Starts for JohnDoe\_12:

(Start: 30 @9038 has 46 MA's), (61, 9107), (124, 9257), (164, 9368), (171, 9401),

Gene: JohnThicc\_11 Start: 7283, Stop: 7678, Start Num: 32

Candidate Starts for JohnThicc\_11:

(Start: 32 @7283 has 16 MA's), (121, 7475),

Gene: Johnathan\_11 Start: 7911, Stop: 8306, Start Num: 37

Candidate Starts for Johnathan\_11:

(6, 7785), (Start: 37 @7911 has 60 MA's), (54, 7950), (74, 7977), (103, 8055), (140, 8154), (152, 8187), (181, 8280),

Gene: Jovita\_11 Start: 8013, Stop: 8408, Start Num: 37

Candidate Starts for Jovita\_11:

(Start: 37 @8013 has 60 MA's), (54, 8052), (74, 8079), (103, 8157), (152, 8289), (181, 8382),

Gene: Jstan\_12 Start: 9019, Stop: 9429, Start Num: 30

Candidate Starts for Jstan\_12:

(Start: 30 @9019 has 46 MA's), (61, 9088), (121, 9226), (124, 9238), (164, 9349), (171, 9382),

Gene: Jumboset\_14 Start: 10372, Stop: 10785, Start Num: 24

Candidate Starts for Jumboset\_14:

(Start: 24 @10372 has 65 MA's), (88, 10507), (94, 10522), (113, 10567), (127, 10609), (172, 10726),

Gene: JuneStar\_12 Start: 9135, Stop: 9548, Start Num: 30

Candidate Starts for JuneStar\_12:

(Start: 30 @9135 has 46 MA's), (164, 9465), (171, 9498),

Gene: Juno112\_11 Start: 7903, Stop: 8343, Start Num: 20

Candidate Starts for Juno112\_11:

(Start: 20 @7903 has 45 MA's), (45, 7954), (89, 8056), (90, 8059), (105, 8095), (108, 8101), (115, 8116), (137, 8188), (148, 8215), (178, 8314), (181, 8320), (182, 8332),

Gene: KHumphrey\_11 Start: 7902, Stop: 8342, Start Num: 20

Candidate Starts for KHumphrey\_11:

(Start: 20 @7902 has 45 MA's), (45, 7953), (89, 8055), (90, 8058), (105, 8094), (108, 8100), (115, 8115), (137, 8187), (148, 8214), (178, 8313), (181, 8319), (182, 8331),

Gene: Kalimba\_12 Start: 8456, Stop: 8875, Start Num: 29

Candidate Starts for Kalimba\_12:

(Start: 29 @8456 has 17 MA's), (50, 8498), (159, 8780),

Gene: Kalizoi\_14 Start: 10371, Stop: 10784, Start Num: 24

Candidate Starts for Kalizoi\_14:

(Start: 24 @10371 has 65 MA's), (88, 10506), (94, 10521), (113, 10566), (127, 10608), (172, 10725),

Gene: Kamaru\_12 Start: 7046, Stop: 7438, Start Num: 31

Candidate Starts for Kamaru\_12:

(4, 6917), (8, 6962), (9, 6968), (10, 6974), (12, 6992), (15, 7010), (Start: 31 @7046 has 38 MA's), (45, 7073), (64, 7118), (68, 7124), (74, 7136), (87, 7160), (102, 7199), (107, 7205), (114, 7220), (118, 7226), (133, 7277), (137, 7289), (157, 7343),

Gene: Kamdara\_11 Start: 8140, Stop: 8541, Start Num: 39

Candidate Starts for Kamdara\_11:

(Start: 39 @8140 has 14 MA's), (103, 8290), (146, 8404), (168, 8473),

Gene: Kate33\_11 Start: 7956, Stop: 8354, Start Num: 37

Candidate Starts for Kate33\_11:

(Start: 37 @7956 has 60 MA's), (140, 8202), (174, 8307),

Gene: Katzastrophic\_11 Start: 8051, Stop: 8449, Start Num: 39

Candidate Starts for Katzastrophic\_11:

(5, 7913), (Start: 39 @8051 has 14 MA's), (48, 8072), (152, 8330), (161, 8348), (168, 8381),

Gene: Kaylissa\_12 Start: 9041, Stop: 9454, Start Num: 30

Candidate Starts for Kaylissa\_12:

(Start: 30 @9041 has 46 MA's), (61, 9110), (124, 9260), (164, 9371), (171, 9404),

Gene: KeAlii\_12 Start: 9073, Stop: 9474, Start Num: 34

Candidate Starts for KeAlii\_12:

(Start: 34 @9073 has 8 MA's), (Start: 40 @9079 has 18 MA's), (124, 9280), (145, 9340), (171, 9424),

Gene: KendraB23\_13 Start: 8492, Stop: 8932, Start Num: 20

Candidate Starts for KendraB23\_13:

(14, 8480), (Start: 20 @8492 has 45 MA's), (61, 8582), (82, 8624), (88, 8642), (89, 8645), (105, 8684), (137, 8777), (148, 8804), (155, 8828), (167, 8864), (178, 8900),

Gene: Kenna\_12 Start: 7041, Stop: 7451, Start Num: 31

Candidate Starts for Kenna\_12:

(4, 6912), (8, 6957), (9, 6963), (10, 6969), (12, 6987), (15, 7005), (Start: 31 @7041 has 38 MA's), (45, 7068), (64, 7113), (68, 7119), (87, 7173), (102, 7212), (107, 7218), (118, 7239), (133, 7290), (137, 7302),

Gene: Kenzers\_11 Start: 7928, Stop: 8323, Start Num: 37

Candidate Starts for Kenzers\_11:

(Start: 37 @7928 has 60 MA's), (54, 7967), (103, 8072), (140, 8171), (152, 8204), (181, 8297),

Gene: Kepler\_12 Start: 8335, Stop: 8778, Start Num: 20

Candidate Starts for Kepler\_12:

(Start: 20 @8335 has 45 MA's), (61, 8425), (64, 8431), (88, 8485), (89, 8488), (105, 8527), (148, 8647), (155, 8671), (178, 8743), (181, 8749),

Gene: Kieran\_11 Start: 8144, Stop: 8545, Start Num: 39  
Candidate Starts for Kieran\_11:  
(Start: 39 @8144 has 14 MA's), (103, 8294), (146, 8408), (168, 8477),

Gene: KingBob\_10 Start: 7547, Stop: 7984, Start Num: 22  
Candidate Starts for KingBob\_10:  
(Start: 22 @7547 has 9 MA's), (Start: 24 @7553 has 65 MA's), (46, 7592), (47, 7595), (88, 7688), (94, 7703), (98, 7715), (101, 7724), (103, 7727), (113, 7748), (172, 7907),

Gene: Kittykat\_10 Start: 7557, Stop: 7967, Start Num: 24  
Candidate Starts for Kittykat\_10:  
(Start: 24 @7557 has 65 MA's), (88, 7689), (94, 7704), (113, 7749), (115, 7752), (172, 7908),

Gene: Korra\_14 Start: 10377, Stop: 10790, Start Num: 24  
Candidate Starts for Korra\_14:  
(Start: 24 @10377 has 65 MA's), (88, 10512), (94, 10527), (113, 10572), (127, 10614), (172, 10731),

Gene: Kromp\_13 Start: 9303, Stop: 9734, Start Num: 28  
Candidate Starts for Kromp\_13:  
(Start: 28 @9303 has 3 MA's), (82, 9426), (88, 9441), (90, 9447), (98, 9471), (109, 9495), (157, 9627), (174, 9687), (176, 9693), (177, 9696), (178, 9702),

Gene: Kuleana\_12 Start: 8295, Stop: 8735, Start Num: 20  
Candidate Starts for Kuleana\_12:  
(Start: 20 @8295 has 45 MA's), (61, 8385), (64, 8391), (73, 8403), (89, 8448), (105, 8487), (115, 8508), (136, 8577), (137, 8580), (148, 8607), (150, 8616), (155, 8631), (178, 8703), (181, 8709),

Gene: Kumotta\_12 Start: 8443, Stop: 8820, Start Num: 37  
Candidate Starts for Kumotta\_12:  
(Start: 37 @8443 has 60 MA's), (101, 8584), (111, 8605), (115, 8611), (127, 8650), (148, 8707), (149, 8713), (163, 8749), (171, 8782),

Gene: Kuwabara\_12 Start: 7390, Stop: 7773, Start Num: 32  
Candidate Starts for Kuwabara\_12:  
(Start: 32 @7390 has 16 MA's), (58, 7444), (60, 7450), (67, 7462), (77, 7486), (152, 7669), (181, 7759),

Gene: LadyAstra\_11 Start: 7283, Stop: 7678, Start Num: 32  
Candidate Starts for LadyAstra\_11:  
(Start: 32 @7283 has 16 MA's), (121, 7475),

Gene: Lahqtemish\_11 Start: 8003, Stop: 8401, Start Num: 39  
Candidate Starts for Lahqtemish\_11:  
(Start: 39 @8003 has 14 MA's), (54, 8042), (140, 8249), (174, 8354),

Gene: Lakshmi\_14 Start: 10452, Stop: 10862, Start Num: 26  
Candidate Starts for Lakshmi\_14:  
(Start: 26 @10452 has 10 MA's), (94, 10596), (97, 10605), (98, 10608), (111, 10638), (115, 10644), (125, 10677), (172, 10800), (178, 10824),

Gene: Laphuphu24k\_11 Start: 7902, Stop: 8342, Start Num: 20  
Candidate Starts for Laphuphu24k\_11:

(Start: 20 @7902 has 45 MA's), (45, 7953), (89, 8055), (90, 8058), (105, 8094), (108, 8100), (115, 8115), (137, 8187), (148, 8214), (178, 8313), (181, 8319), (182, 8331),

Gene: Lasagna\_10 Start: 7514, Stop: 7924, Start Num: 24

Candidate Starts for Lasagna\_10:

(Start: 24 @7514 has 65 MA's), (74, 7607), (88, 7646), (94, 7661), (113, 7706), (127, 7748), (134, 7769), (172, 7865),

Gene: LastNadiia\_16 Start: 10019, Stop: 10411, Start Num: 31

Candidate Starts for LastNadiia\_16:

(Start: 31 @10019 has 38 MA's), (62, 10082), (103, 10175), (119, 10205), (136, 10259), (137, 10262), (138, 10265), (151, 10301), (184, 10403),

Gene: Lego\_12 Start: 9039, Stop: 9452, Start Num: 30

Candidate Starts for Lego\_12:

(Start: 30 @9039 has 46 MA's), (61, 9108), (124, 9258), (164, 9369), (171, 9402),

Gene: Lennox\_10 Start: 7514, Stop: 7924, Start Num: 24

Candidate Starts for Lennox\_10:

(Start: 24 @7514 has 65 MA's), (74, 7607), (88, 7646), (94, 7661), (113, 7706), (127, 7748), (134, 7769), (172, 7865),

Gene: Leona\_11 Start: 7953, Stop: 8393, Start Num: 20

Candidate Starts for Leona\_11:

(Start: 20 @7953 has 45 MA's), (89, 8106), (90, 8109), (105, 8145), (108, 8151), (115, 8166), (137, 8238), (148, 8265), (178, 8364), (181, 8370), (182, 8382),

Gene: Leroy\_12 Start: 7042, Stop: 7452, Start Num: 31

Candidate Starts for Leroy\_12:

(4, 6913), (8, 6958), (9, 6964), (10, 6970), (12, 6988), (Start: 31 @7042 has 38 MA's), (45, 7069), (64, 7114), (68, 7120), (87, 7174), (102, 7213), (107, 7219), (118, 7240), (133, 7291), (137, 7303),

Gene: Liebe\_11 Start: 7496, Stop: 7915, Start Num: 30

Candidate Starts for Liebe\_11:

(Start: 30 @7496 has 46 MA's), (Start: 41 @7514 has 15 MA's), (78, 7601), (122, 7715), (171, 7865),

Gene: LilSpotty\_11 Start: 7105, Stop: 7479, Start Num: 41

Candidate Starts for LilSpotty\_11:

(Start: 40 @7102 has 18 MA's), (Start: 41 @7105 has 15 MA's), (92, 7219), (94, 7222), (133, 7330), (137, 7342), (138, 7345), (155, 7384), (180, 7459),

Gene: LilStuart\_10 Start: 7514, Stop: 7924, Start Num: 24

Candidate Starts for LilStuart\_10:

(Start: 24 @7514 has 65 MA's), (74, 7607), (88, 7646), (94, 7661), (113, 7706), (127, 7748), (134, 7769), (172, 7865),

Gene: Lilas\_13 Start: 8269, Stop: 8655, Start Num: 40

Candidate Starts for Lilas\_13:

(Start: 40 @8269 has 18 MA's), (61, 8326),

Gene: Lilo27\_11 Start: 7888, Stop: 8283, Start Num: 37

Candidate Starts for Lilo27\_11:

(Start: 37 @7888 has 60 MA's), (54, 7927), (74, 7954), (103, 8032), (140, 8131), (152, 8164), (181, 8257),

Gene: LimaBean\_11 Start: 7911, Stop: 8306, Start Num: 37

Candidate Starts for LimaBean\_11:

(6, 7785), (Start: 37 @7911 has 60 MA's), (54, 7950), (74, 7977), (103, 8055), (140, 8154), (152, 8187), (181, 8280),

Gene: LitninMcQueen\_12 Start: 7046, Stop: 7438, Start Num: 31

Candidate Starts for LitninMcQueen\_12:

(4, 6917), (8, 6962), (9, 6968), (10, 6974), (12, 6992), (15, 7010), (Start: 31 @7046 has 38 MA's), (45, 7073), (64, 7118), (68, 7124), (74, 7136), (87, 7160), (102, 7199), (107, 7205), (114, 7220), (118, 7226), (133, 7277), (137, 7289), (157, 7343),

Gene: Litotes\_14 Start: 10399, Stop: 10809, Start Num: 24

Candidate Starts for Litotes\_14:

(Start: 24 @10399 has 65 MA's), (48, 10441), (94, 10543), (172, 10747),

Gene: LittleTokyo\_12 Start: 8235, Stop: 8678, Start Num: 20

Candidate Starts for LittleTokyo\_12:

(14, 8223), (16, 8226), (Start: 20 @8235 has 45 MA's), (115, 8448), (129, 8496), (132, 8505), (133, 8508), (137, 8520), (155, 8571), (158, 8580), (178, 8646), (182, 8664),

Gene: Lizalica\_12 Start: 9025, Stop: 9438, Start Num: 30

Candidate Starts for Lizalica\_12:

(Start: 30 @9025 has 46 MA's), (61, 9094), (124, 9244), (164, 9355), (171, 9388),

Gene: London\_12 Start: 9019, Stop: 9429, Start Num: 30

Candidate Starts for London\_12:

(Start: 30 @9019 has 46 MA's), (61, 9088), (121, 9226), (124, 9238), (164, 9349), (171, 9382),

Gene: LonelyBoi\_13 Start: 8116, Stop: 8502, Start Num: 40

Candidate Starts for LonelyBoi\_13:

(11, 8035), (Start: 40 @8116 has 18 MA's), (61, 8173),

Gene: Loviatar\_11 Start: 8231, Stop: 8626, Start Num: 37

Candidate Starts for Loviatar\_11:

(6, 8105), (Start: 37 @8231 has 60 MA's), (Start: 41 @8234 has 15 MA's), (68, 8294), (146, 8489), (161, 8525), (168, 8558), (174, 8579),

Gene: Lucky10\_11 Start: 6599, Stop: 6982, Start Num: 32

Candidate Starts for Lucky10\_11:

(Start: 32 @6599 has 16 MA's), (58, 6653), (60, 6659), (67, 6671), (77, 6695), (101, 6755),

Gene: Lucy\_10 Start: 7505, Stop: 7915, Start Num: 24

Candidate Starts for Lucy\_10:

(Start: 24 @7505 has 65 MA's), (74, 7598), (88, 7637), (94, 7652), (113, 7697), (127, 7739), (134, 7760), (172, 7856),

Gene: Lunar\_13 Start: 8497, Stop: 8940, Start Num: 20

Candidate Starts for Lunar\_13:

(Start: 20 @8497 has 45 MA's), (61, 8587), (64, 8593), (88, 8647), (89, 8650), (105, 8689), (148, 8809), (155, 8833), (178, 8905), (181, 8911),

Gene: Lutum\_12 Start: 7041, Stop: 7451, Start Num: 31

Candidate Starts for Lutum\_12:

(4, 6912), (8, 6957), (9, 6963), (10, 6969), (12, 6987), (15, 7005), (Start: 31 @7041 has 38 MA's), (45, 7068), (64, 7113), (68, 7119), (87, 7173), (102, 7212), (107, 7218), (118, 7239), (133, 7290), (137, 7302),

Gene: Lynlen\_11 Start: 7928, Stop: 8323, Start Num: 37

Candidate Starts for Lynlen\_11:

(Start: 37 @7928 has 60 MA's), (54, 7967), (103, 8072), (140, 8171), (152, 8204), (181, 8297),

Gene: MaGuCo\_11 Start: 7435, Stop: 7851, Start Num: 31

Candidate Starts for MaGuCo\_11:

(Start: 31 @7435 has 38 MA's), (Start: 37 @7444 has 60 MA's), (Start: 41 @7450 has 15 MA's), (50, 7474), (78, 7537), (122, 7651), (171, 7801),

Gene: Mabodamaca\_11 Start: 8555, Stop: 8968, Start Num: 31

Candidate Starts for Mabodamaca\_11:

(Start: 31 @8555 has 38 MA's), (96, 8696),

Gene: Maja\_11 Start: 8064, Stop: 8444, Start Num: 37

Candidate Starts for Maja\_11:

(Start: 37 @8064 has 60 MA's), (57, 8112), (78, 8142), (101, 8208), (111, 8229), (115, 8235), (149, 8337), (163, 8373), (171, 8406),

Gene: Makima\_14 Start: 9103, Stop: 9495, Start Num: 31

Candidate Starts for Makima\_14:

(Start: 31 @9103 has 38 MA's), (62, 9166), (103, 9259), (119, 9289), (136, 9343), (137, 9346), (138, 9349), (151, 9385), (184, 9487),

Gene: Makoto\_10 Start: 7514, Stop: 7924, Start Num: 24

Candidate Starts for Makoto\_10:

(Start: 24 @7514 has 65 MA's), (74, 7607), (88, 7646), (94, 7661), (113, 7706), (127, 7748), (134, 7769), (172, 7865),

Gene: Malisha\_12 Start: 8091, Stop: 8501, Start Num: 31

Candidate Starts for Malisha\_12:

(8, 8007), (9, 8013), (Start: 31 @8091 has 38 MA's), (68, 8169), (74, 8181), (87, 8223), (102, 8262), (107, 8268), (114, 8283), (118, 8289), (129, 8328), (137, 8352), (157, 8406),

Gene: MamaPearl\_10 Start: 7558, Stop: 7971, Start Num: 24

Candidate Starts for MamaPearl\_10:

(Start: 24 @7558 has 65 MA's), (54, 7621), (94, 7705), (113, 7750), (115, 7753), (127, 7792), (152, 7852), (172, 7909),

Gene: MargaretKali\_12 Start: 8078, Stop: 8455, Start Num: 37

Candidate Starts for MargaretKali\_12:

(Start: 37 @8078 has 60 MA's), (63, 8135), (101, 8219), (111, 8240), (115, 8246), (127, 8285), (148, 8342), (149, 8348), (163, 8384), (171, 8417),

Gene: Maria1952\_10 Start: 7547, Stop: 7984, Start Num: 22

Candidate Starts for Maria1952\_10:

(Start: 22 @7547 has 9 MA's), (Start: 24 @7553 has 65 MA's), (46, 7592), (47, 7595), (88, 7688), (94, 7703), (98, 7715), (101, 7724), (103, 7727), (113, 7748), (172, 7907),

Gene: Marteena\_13 Start: 8269, Stop: 8655, Start Num: 40

Candidate Starts for Marteena\_13:

(Start: 40 @8269 has 18 MA's), (61, 8326),

Gene: Maureen\_11 Start: 7496, Stop: 7915, Start Num: 30

Candidate Starts for Maureen\_11:

(Start: 30 @7496 has 46 MA's), (Start: 41 @7514 has 15 MA's), (78, 7601), (122, 7715), (171, 7865),

Gene: MeganNoll\_14 Start: 10429, Stop: 10842, Start Num: 24

Candidate Starts for MeganNoll\_14:

(Start: 24 @10429 has 65 MA's), (88, 10564), (94, 10579), (103, 10603), (113, 10624), (127, 10666), (172, 10783),

Gene: Melons\_13 Start: 8497, Stop: 8940, Start Num: 20

Candidate Starts for Melons\_13:

(Start: 20 @8497 has 45 MA's), (61, 8587), (64, 8593), (88, 8647), (89, 8650), (105, 8689), (148, 8809), (155, 8833), (178, 8905), (181, 8911),

Gene: Milomuff\_12 Start: 8297, Stop: 8692, Start Num: 37

Candidate Starts for Milomuff\_12:

(6, 8171), (Start: 37 @8297 has 60 MA's), (54, 8336), (74, 8363), (103, 8441), (140, 8540), (152, 8573), (181, 8666),

Gene: MiniMommy\_10 Start: 7286, Stop: 7681, Start Num: 32

Candidate Starts for MiniMommy\_10:

(Start: 32 @7286 has 16 MA's), (121, 7478),

Gene: Mireles\_13 Start: 7499, Stop: 7891, Start Num: 31

Candidate Starts for Mireles\_13:

(Start: 31 @7499 has 38 MA's), (103, 7655), (119, 7685), (137, 7742), (138, 7745), (184, 7883),

Gene: Misaeng\_14 Start: 10498, Stop: 10908, Start Num: 26

Candidate Starts for Misaeng\_14:

(Start: 26 @10498 has 10 MA's), (94, 10642), (97, 10651), (98, 10654), (111, 10684), (115, 10690), (125, 10723), (172, 10846), (178, 10870),

Gene: MissSwiss\_12 Start: 9018, Stop: 9434, Start Num: 31

Candidate Starts for MissSwiss\_12:

(Start: 31 @9018 has 38 MA's), (53, 9066), (122, 9234),

Gene: Moki\_10 Start: 7516, Stop: 7926, Start Num: 24

Candidate Starts for Moki\_10:

(Start: 24 @7516 has 65 MA's), (88, 7648), (94, 7663), (113, 7708), (115, 7711), (127, 7750), (172, 7867),

Gene: Morkie\_11 Start: 6561, Stop: 6944, Start Num: 32

Candidate Starts for Morkie\_11:

(Start: 32 @6561 has 16 MA's), (58, 6615), (60, 6621), (67, 6633), (77, 6657), (101, 6717), (150, 6834), (152, 6840), (181, 6930),

Gene: MortyNRick\_12 Start: 7390, Stop: 7773, Start Num: 32  
Candidate Starts for MortyNRick\_12:  
(Start: 32 @7390 has 16 MA's), (58, 7444), (60, 7450), (67, 7462), (77, 7486), (152, 7669), (181, 7759),

Gene: Moss\_12 Start: 8547, Stop: 8966, Start Num: 29  
Candidate Starts for Moss\_12:  
(Start: 29 @8547 has 17 MA's), (50, 8589), (159, 8871),

Gene: MrBoss\_14 Start: 10441, Stop: 10809, Start Num: 48  
Candidate Starts for MrBoss\_14:  
(Start: 24 @10399 has 65 MA's), (48, 10441), (88, 10528), (94, 10543), (172, 10747),

Gene: MrGloopy\_14 Start: 10362, Stop: 10775, Start Num: 24  
Candidate Starts for MrGloopy\_14:  
(Start: 24 @10362 has 65 MA's), (88, 10497), (94, 10512), (113, 10557), (127, 10599), (172, 10716),

Gene: MsUbiquitous\_11 Start: 7951, Stop: 8346, Start Num: 37  
Candidate Starts for MsUbiquitous\_11:  
(6, 7825), (Start: 37 @7951 has 60 MA's), (54, 7990), (74, 8017), (103, 8095), (152, 8227), (181, 8320),

Gene: Mudpuppy\_12 Start: 9039, Stop: 9452, Start Num: 30  
Candidate Starts for Mudpuppy\_12:  
(Start: 30 @9039 has 46 MA's), (61, 9108), (124, 9258), (164, 9369), (171, 9402),

Gene: Mysterium\_12 Start: 8548, Stop: 8967, Start Num: 29  
Candidate Starts for Mysterium\_12:  
(Start: 29 @8548 has 17 MA's), (50, 8590), (122, 8767), (159, 8872),

Gene: Nancia\_10 Start: 7514, Stop: 7924, Start Num: 24  
Candidate Starts for Nancia\_10:  
(Start: 24 @7514 has 65 MA's), (74, 7607), (88, 7646), (94, 7661), (113, 7706), (127, 7748), (134, 7769), (172, 7865),

Gene: Nebkiss\_9 Start: 7643, Stop: 8014, Start Num: 41  
Candidate Starts for Nebkiss\_9:  
(Start: 41 @7643 has 15 MA's), (85, 7739), (92, 7760), (102, 7787), (104, 7790), (107, 7793), (114, 7808), (133, 7865), (137, 7877), (155, 7922), (175, 7982), (177, 7988), (178, 7994),

Gene: Nesbitt\_11 Start: 7855, Stop: 8250, Start Num: 28  
Candidate Starts for Nesbitt\_11:  
(Start: 28 @7855 has 3 MA's), (Start: 35 @7867 has 4 MA's), (46, 7888), (Start: 49 @7897 has 5 MA's), (74, 7936), (83, 7960), (90, 7981), (115, 8035), (136, 8101), (138, 8107), (164, 8164), (177, 8212),

Gene: Neuville\_13 Start: 7727, Stop: 8119, Start Num: 31  
Candidate Starts for Neuville\_13:  
(Start: 31 @7727 has 38 MA's), (81, 7826), (82, 7829), (101, 7880), (103, 7883), (137, 7970), (138, 7973), (177, 8087), (184, 8111),

Gene: Niblet\_12 Start: 8281, Stop: 8721, Start Num: 20  
Candidate Starts for Niblet\_12:  
(Start: 20 @8281 has 45 MA's), (61, 8371), (64, 8377), (82, 8413), (88, 8431), (89, 8434), (105, 8473), (137, 8566), (148, 8593), (155, 8617), (167, 8653), (178, 8689),

Gene: Nicky22\_12 Start: 8359, Stop: 8754, Start Num: 37

Candidate Starts for Nicky22\_12:

(Start: 37 @8359 has 60 MA's), (54, 8398), (85, 8455), (103, 8503), (152, 8635), (181, 8728),

Gene: Niobe\_12 Start: 9019, Stop: 9429, Start Num: 30

Candidate Starts for Niobe\_12:

(Start: 30 @9019 has 46 MA's), (61, 9088), (121, 9226), (124, 9238), (164, 9349), (171, 9382),

Gene: Nitro\_12 Start: 9042, Stop: 9452, Start Num: 30

Candidate Starts for Nitro\_12:

(Start: 30 @9042 has 46 MA's), (51, 9087), (61, 9111), (164, 9372), (171, 9405),

Gene: NoSwimming\_13 Start: 9693, Stop: 10082, Start Num: 37

Candidate Starts for NoSwimming\_13:

(Start: 37 @9693 has 60 MA's), (51, 9726), (111, 9861), (120, 9879), (156, 9990), (163, 10005),

Gene: Nubia\_14 Start: 10412, Stop: 10822, Start Num: 26

Candidate Starts for Nubia\_14:

(Start: 26 @10412 has 10 MA's), (94, 10556), (97, 10565), (98, 10568), (111, 10598), (115, 10604), (125, 10637), (172, 10760), (178, 10784),

Gene: ODay\_12 Start: 7116, Stop: 7499, Start Num: 32

Candidate Starts for ODay\_12:

(Start: 32 @7116 has 16 MA's), (Start: 43 @7131 has 2 MA's), (58, 7170), (60, 7176), (67, 7188), (77, 7212), (152, 7395), (181, 7485),

Gene: OMalley\_10 Start: 7551, Stop: 7982, Start Num: 24

Candidate Starts for OMalley\_10:

(Start: 22 @7545 has 9 MA's), (Start: 24 @7551 has 65 MA's), (Start: 37 @7572 has 60 MA's), (71, 7644), (94, 7701), (98, 7713), (101, 7722), (113, 7746), (172, 7905),

Gene: ObiToo\_12 Start: 9222, Stop: 9635, Start Num: 30

Candidate Starts for ObiToo\_12:

(Start: 30 @9222 has 46 MA's), (61, 9291), (121, 9429), (124, 9441), (164, 9552), (171, 9585),

Gene: Olliecat\_11 Start: 8144, Stop: 8536, Start Num: 34

Candidate Starts for Olliecat\_11:

(Start: 34 @8144 has 8 MA's), (46, 8159), (74, 8210), (91, 8258), (97, 8273), (123, 8339), (147, 8402), (150, 8411), (161, 8435), (175, 8492),

Gene: Oppalora\_11 Start: 7902, Stop: 8342, Start Num: 20

Candidate Starts for Oppalora\_11:

(Start: 20 @7902 has 45 MA's), (45, 7953), (89, 8055), (90, 8058), (105, 8094), (108, 8100), (115, 8115), (137, 8187), (148, 8214), (178, 8313), (181, 8319), (182, 8331),

Gene: Orcanus\_12 Start: 8285, Stop: 8725, Start Num: 20

Candidate Starts for Orcanus\_12:

(14, 8273), (Start: 20 @8285 has 45 MA's), (61, 8375), (82, 8417), (88, 8435), (89, 8438), (105, 8477), (137, 8570), (148, 8597), (155, 8621), (167, 8657), (178, 8693),

Gene: Origami\_11 Start: 7283, Stop: 7678, Start Num: 32

Candidate Starts for Origami\_11:

(Start: 32 @7283 has 16 MA's), (121, 7475),

Gene: OtsoOtso\_12 Start: 8336, Stop: 8779, Start Num: 20

Candidate Starts for OtsoOtso\_12:

(Start: 20 @8336 has 45 MA's), (61, 8426), (64, 8432), (88, 8486), (89, 8489), (105, 8528), (148, 8648), (155, 8672), (178, 8744), (181, 8750),

Gene: OurGirlNessie\_10 Start: 7505, Stop: 7915, Start Num: 24

Candidate Starts for OurGirlNessie\_10:

(Start: 24 @7505 has 65 MA's), (74, 7598), (88, 7637), (94, 7652), (113, 7697), (127, 7739), (134, 7760), (172, 7856),

Gene: Oxynfrius\_14 Start: 10425, Stop: 10835, Start Num: 26

Candidate Starts for Oxynfrius\_14:

(Start: 26 @10425 has 10 MA's), (94, 10569), (97, 10578), (98, 10581), (111, 10611), (115, 10617), (125, 10650), (172, 10773), (178, 10797),

Gene: PFR1\_09 Start: 7693, Stop: 8106, Start Num: 40

Candidate Starts for PFR1\_09:

(Start: 40 @7693 has 18 MA's), (Start: 49 @7720 has 5 MA's), (53, 7732), (54, 7735), (74, 7771), (78, 7783), (87, 7810), (92, 7825), (101, 7849), (108, 7861), (118, 7882), (132, 7933), (144, 7963), (152, 7996),

Gene: PFR2\_09 Start: 7693, Stop: 8106, Start Num: 40

Candidate Starts for PFR2\_09:

(Start: 40 @7693 has 18 MA's), (Start: 49 @7720 has 5 MA's), (53, 7732), (54, 7735), (74, 7771), (78, 7783), (87, 7810), (92, 7825), (101, 7849), (108, 7861), (118, 7882), (132, 7933), (144, 7963), (152, 7996),

Gene: PartyCup\_14 Start: 10446, Stop: 10856, Start Num: 24

Candidate Starts for PartyCup\_14:

(Start: 24 @10446 has 65 MA's), (48, 10488), (94, 10590), (172, 10794),

Gene: PastaFagioli\_11 Start: 7991, Stop: 8389, Start Num: 39

Candidate Starts for PastaFagioli\_11:

(Start: 39 @7991 has 14 MA's), (54, 8030), (140, 8237), (174, 8342),

Gene: Pecas\_11 Start: 7912, Stop: 8307, Start Num: 37

Candidate Starts for Pecas\_11:

(Start: 37 @7912 has 60 MA's), (54, 7951), (74, 7978), (92, 8029), (103, 8056), (152, 8188), (181, 8281),

Gene: Pelletreau\_13 Start: 8491, Stop: 8931, Start Num: 20

Candidate Starts for Pelletreau\_13:

(14, 8479), (Start: 20 @8491 has 45 MA's), (61, 8581), (82, 8623), (88, 8641), (89, 8644), (105, 8683), (137, 8776), (148, 8803), (155, 8827), (167, 8863), (178, 8899),

Gene: Percival\_11 Start: 9171, Stop: 9593, Start Num: 30

Candidate Starts for Percival\_11:

(Start: 30 @9171 has 46 MA's), (78, 9264), (79, 9270), (85, 9285), (121, 9375), (132, 9414), (139, 9432), (173, 9543),

Gene: Periwinkle\_12 Start: 7041, Stop: 7433, Start Num: 31

Candidate Starts for Periwinkle\_12:

(4, 6912), (8, 6957), (9, 6963), (10, 6969), (Start: 31 @7041 has 38 MA's), (45, 7068), (61, 7107), (64, 7113), (68, 7119), (74, 7131), (87, 7155), (102, 7194), (107, 7200), (112, 7212), (118, 7221), (133, 7272), (137, 7284),

Gene: Phabuloso\_12 Start: 7046, Stop: 7438, Start Num: 31

Candidate Starts for Phabuloso\_12:

(4, 6917), (8, 6962), (9, 6968), (10, 6974), (12, 6992), (15, 7010), (Start: 31 @7046 has 38 MA's), (45, 7073), (64, 7118), (68, 7124), (74, 7136), (87, 7160), (102, 7199), (107, 7205), (114, 7220), (118, 7226), (133, 7277), (137, 7289), (157, 7343),

Gene: PhigPhack\_11 Start: 7940, Stop: 8335, Start Num: 37

Candidate Starts for PhigPhack\_11:

(Start: 37 @7940 has 60 MA's), (74, 8006), (103, 8084), (140, 8183), (152, 8216), (181, 8309),

Gene: PhirstandPhine\_13 Start: 8497, Stop: 8940, Start Num: 20

Candidate Starts for PhirstandPhine\_13:

(Start: 20 @8497 has 45 MA's), (61, 8587), (64, 8593), (88, 8647), (89, 8650), (105, 8689), (148, 8809), (155, 8833), (178, 8905), (181, 8911),

Gene: Phisb\_11 Start: 7905, Stop: 8300, Start Num: 37

Candidate Starts for Phisb\_11:

(Start: 37 @7905 has 60 MA's), (54, 7944), (74, 7971), (103, 8049), (140, 8148), (152, 8181), (181, 8274),

Gene: Phistory\_12 Start: 7030, Stop: 7422, Start Num: 31

Candidate Starts for Phistory\_12:

(4, 6901), (8, 6946), (9, 6952), (10, 6958), (12, 6976), (15, 6994), (Start: 31 @7030 has 38 MA's), (45, 7057), (64, 7102), (68, 7108), (74, 7120), (87, 7144), (107, 7189), (114, 7204), (118, 7210), (133, 7261), (137, 7273),

Gene: Phives\_13 Start: 10124, Stop: 10537, Start Num: 30

Candidate Starts for Phives\_13:

(Start: 30 @10124 has 46 MA's), (51, 10169), (124, 10343), (164, 10454), (171, 10487),

Gene: PhluffyCoco\_11 Start: 7902, Stop: 8342, Start Num: 20

Candidate Starts for PhluffyCoco\_11:

(Start: 20 @7902 has 45 MA's), (45, 7953), (89, 8055), (90, 8058), (105, 8094), (108, 8100), (115, 8115), (137, 8187), (148, 8214), (178, 8313), (181, 8319), (182, 8331),

Gene: PhorbesPhlower\_11 Start: 6561, Stop: 6944, Start Num: 32

Candidate Starts for PhorbesPhlower\_11:

(Start: 32 @6561 has 16 MA's), (58, 6615), (60, 6621), (67, 6633), (77, 6657), (101, 6717), (150, 6834), (152, 6840), (181, 6930),

Gene: Pigu\_11 Start: 7154, Stop: 7531, Start Num: 37

Candidate Starts for Pigu\_11:

(Start: 37 @7154 has 60 MA's), (63, 7211), (78, 7229), (101, 7295), (111, 7316), (115, 7322), (149, 7424), (163, 7460), (171, 7493),

Gene: Pineda\_13 Start: 8497, Stop: 8940, Start Num: 20

Candidate Starts for Pineda\_13:

(Start: 20 @8497 has 45 MA's), (61, 8587), (64, 8593), (88, 8647), (89, 8650), (105, 8689), (148, 8809), (155, 8833), (178, 8905), (181, 8911),

Gene: PinkFriday\_10 Start: 7548, Stop: 7982, Start Num: 22

Candidate Starts for PinkFriday\_10:

(Start: 22 @7548 has 9 MA's), (Start: 24 @7554 has 65 MA's), (88, 7686), (94, 7701), (98, 7713), (101, 7722), (103, 7725), (113, 7746), (172, 7905),

Gene: PitaDog\_10 Start: 7505, Stop: 7915, Start Num: 24

Candidate Starts for PitaDog\_10:

(Start: 24 @7505 has 65 MA's), (74, 7598), (88, 7637), (94, 7652), (113, 7697), (127, 7739), (134, 7760), (172, 7856),

Gene: Pixelle\_12 Start: 9067, Stop: 9480, Start Num: 30

Candidate Starts for Pixelle\_12:

(Start: 30 @9067 has 46 MA's), (51, 9112), (164, 9397), (171, 9430),

Gene: Polka\_12 Start: 8336, Stop: 8779, Start Num: 20

Candidate Starts for Polka\_12:

(Start: 20 @8336 has 45 MA's), (61, 8426), (64, 8432), (88, 8486), (89, 8489), (105, 8528), (148, 8648), (155, 8672), (178, 8744), (181, 8750),

Gene: Pollux\_13 Start: 8269, Stop: 8655, Start Num: 40

Candidate Starts for Pollux\_13:

(Start: 40 @8269 has 18 MA's), (61, 8326),

Gene: PondAmelia\_14 Start: 8160, Stop: 8555, Start Num: 37

Candidate Starts for PondAmelia\_14:

(6, 8034), (Start: 37 @8160 has 60 MA's), (Start: 41 @8163 has 15 MA's), (68, 8223), (74, 8226), (161, 8454), (168, 8487), (174, 8508),

Gene: Posh\_13 Start: 8263, Stop: 8655, Start Num: 40

Candidate Starts for Posh\_13:

(11, 8182), (Start: 40 @8263 has 18 MA's),

Gene: Potatoes\_14 Start: 10423, Stop: 10836, Start Num: 24

Candidate Starts for Potatoes\_14:

(Start: 24 @10423 has 65 MA's), (88, 10558), (94, 10573), (113, 10618), (127, 10660), (172, 10777),

Gene: Powerpuff\_12 Start: 9090, Stop: 9503, Start Num: 30

Candidate Starts for Powerpuff\_12:

(Start: 30 @9090 has 46 MA's), (61, 9159), (124, 9309), (164, 9420), (171, 9453),

Gene: PrairieDogTown\_12 Start: 8746, Stop: 9135, Start Num: 37

Candidate Starts for PrairieDogTown\_12:

(Start: 37 @8746 has 60 MA's), (101, 8893), (127, 8959), (130, 8971),

Gene: Preamble\_10 Start: 7515, Stop: 7925, Start Num: 24

Candidate Starts for Preamble\_10:

(Start: 24 @7515 has 65 MA's), (88, 7647), (94, 7662), (115, 7710), (172, 7866),

Gene: Pterodactyl\_10 Start: 7506, Stop: 7916, Start Num: 24

Candidate Starts for Pterodactyl\_10:

(Start: 24 @7506 has 65 MA's), (74, 7599), (88, 7638), (94, 7653), (113, 7698), (127, 7740), (134, 7761), (172, 7857),

Gene: Pumancara\_10 Start: 7547, Stop: 7981, Start Num: 22

Candidate Starts for Pumancara\_10:

(Start: 22 @7547 has 9 MA's), (Start: 24 @7553 has 65 MA's), (88, 7685), (94, 7700), (98, 7712), (101, 7721), (103, 7724), (113, 7745), (172, 7904),

Gene: Pumpkins\_12 Start: 9144, Stop: 9557, Start Num: 30

Candidate Starts for Pumpkins\_12:

(Start: 30 @9144 has 46 MA's), (61, 9213), (164, 9474), (171, 9507),

Gene: Pytheas\_13 Start: 8116, Stop: 8502, Start Num: 40

Candidate Starts for Pytheas\_13:

(11, 8035), (Start: 40 @8116 has 18 MA's), (52, 8152), (61, 8173),

Gene: QMacho\_12 Start: 8395, Stop: 8790, Start Num: 37

Candidate Starts for QMacho\_12:

(Start: 37 @8395 has 60 MA's), (54, 8434), (74, 8461), (92, 8512), (103, 8539), (140, 8638), (152, 8671), (181, 8764),

Gene: Quenya\_12 Start: 8046, Stop: 8447, Start Num: 39

Candidate Starts for Quenya\_12:

(Start: 39 @8046 has 14 MA's), (103, 8196), (151, 8325), (152, 8328), (161, 8346), (168, 8379),

Gene: RAP15\_14 Start: 10429, Stop: 10842, Start Num: 24

Candidate Starts for RAP15\_14:

(Start: 24 @10429 has 65 MA's), (88, 10564), (94, 10579), (113, 10624), (127, 10666), (172, 10783),

Gene: Rattail\_11 Start: 7953, Stop: 8393, Start Num: 20

Candidate Starts for Rattail\_11:

(Start: 20 @7953 has 45 MA's), (89, 8106), (90, 8109), (105, 8145), (108, 8151), (115, 8166), (137, 8238), (148, 8265), (178, 8364), (181, 8370), (182, 8382),

Gene: RcigaStruga\_14 Start: 10433, Stop: 10843, Start Num: 26

Candidate Starts for RcigaStruga\_14:

(Start: 26 @10433 has 10 MA's), (94, 10577), (97, 10586), (98, 10589), (111, 10619), (115, 10625), (125, 10658), (172, 10781), (178, 10805),

Gene: RedFox\_11 Start: 7902, Stop: 8342, Start Num: 20

Candidate Starts for RedFox\_11:

(Start: 20 @7902 has 45 MA's), (45, 7953), (89, 8055), (90, 8058), (105, 8094), (108, 8100), (115, 8115), (137, 8187), (148, 8214), (178, 8313), (181, 8319), (182, 8331),

Gene: Reedo\_12 Start: 9091, Stop: 9489, Start Num: 34

Candidate Starts for Reedo\_12:

(Start: 34 @9091 has 8 MA's), (121, 9286), (122, 9292), (143, 9352), (171, 9442),

Gene: Renna12\_12 Start: 8102, Stop: 8545, Start Num: 20

Candidate Starts for Renna12\_12:

(Start: 20 @8102 has 45 MA's), (89, 8255), (90, 8258), (105, 8294), (108, 8300), (137, 8387), (148, 8414), (155, 8438), (181, 8519), (182, 8531),

Gene: Riovina\_10 Start: 7551, Stop: 7982, Start Num: 24

Candidate Starts for Riovina\_10:

(Start: 22 @7545 has 9 MA's), (Start: 24 @7551 has 65 MA's), (Start: 37 @7572 has 60 MA's), (71, 7644), (94, 7701), (98, 7713), (101, 7722), (113, 7746), (172, 7905),

Gene: Riverdale\_14 Start: 10360, Stop: 10773, Start Num: 24

Candidate Starts for Riverdale\_14:

(Start: 24 @10360 has 65 MA's), (88, 10495), (94, 10510), (113, 10555), (127, 10597), (172, 10714),

Gene: Roberts\_13 Start: 7727, Stop: 8119, Start Num: 31

Candidate Starts for Roberts\_13:

(Start: 31 @7727 has 38 MA's), (81, 7826), (82, 7829), (101, 7880), (103, 7883), (137, 7970), (138, 7973), (177, 8087), (184, 8111),

Gene: RockScotty\_12 Start: 8547, Stop: 8966, Start Num: 29

Candidate Starts for RockScotty\_12:

(Start: 29 @8547 has 17 MA's), (50, 8589), (159, 8871),

Gene: Rollins\_10 Start: 7752, Stop: 8141, Start Num: 41

Candidate Starts for Rollins\_10:

(Start: 41 @7752 has 15 MA's), (103, 7893), (111, 7911), (166, 8064), (168, 8073), (175, 8097), (182, 8127),

Gene: Rona\_11 Start: 8141, Stop: 8542, Start Num: 39

Candidate Starts for Rona\_11:

(Start: 39 @8141 has 14 MA's), (103, 8291), (146, 8405), (168, 8474),

Gene: Rooter\_11 Start: 7146, Stop: 7523, Start Num: 37

Candidate Starts for Rooter\_11:

(Start: 37 @7146 has 60 MA's), (93, 7260), (101, 7287), (111, 7308), (148, 7410), (149, 7416), (163, 7452), (171, 7485),

Gene: Rowa\_11 Start: 7599, Stop: 8018, Start Num: 17

Candidate Starts for Rowa\_11:

(Start: 17 @7599 has 1 MA's), (19, 7602), (Start: 28 @7620 has 3 MA's), (48, 7659), (78, 7710), (135, 7863), (138, 7872), (159, 7917), (164, 7929), (183, 8004),

Gene: Rozby\_14 Start: 10360, Stop: 10773, Start Num: 24

Candidate Starts for Rozby\_14:

(Start: 24 @10360 has 65 MA's), (88, 10495), (94, 10510), (113, 10555), (127, 10597), (172, 10714),

Gene: Ruchi\_12 Start: 8591, Stop: 9034, Start Num: 20

Candidate Starts for Ruchi\_12:

(Start: 20 @8591 has 45 MA's), (Start: 43 @8633 has 2 MA's), (48, 8651), (64, 8687), (88, 8741), (89, 8744), (105, 8783), (125, 8837), (137, 8876), (148, 8903), (155, 8927), (157, 8933),

Gene: SPB78\_12 Start: 8026, Stop: 8427, Start Num: 30

Candidate Starts for SPB78\_12:

(Start: 28 @8023 has 3 MA's), (Start: 30 @8026 has 46 MA's), (66, 8104), (70, 8110), (78, 8128), (88, 8155), (131, 8269),

Gene: Sabourin\_12 Start: 8456, Stop: 8875, Start Num: 29

Candidate Starts for Sabourin\_12:

(Start: 29 @8456 has 17 MA's), (50, 8498), (159, 8780),

Gene: SanaSana\_12 Start: 8160, Stop: 8555, Start Num: 37

Candidate Starts for SanaSana\_12:

(6, 8034), (Start: 37 @8160 has 60 MA's), (Start: 41 @8163 has 15 MA's), (68, 8223), (161, 8454), (168, 8487), (174, 8508),

Gene: SansAfet\_11 Start: 7922, Stop: 8317, Start Num: 37

Candidate Starts for SansAfet\_11:

(6, 7796), (Start: 37 @7922 has 60 MA's), (54, 7961), (74, 7988), (103, 8066), (140, 8165), (152, 8198), (181, 8291),

Gene: SarBear\_11 Start: 7888, Stop: 8283, Start Num: 37

Candidate Starts for SarBear\_11:

(6, 7762), (Start: 37 @7888 has 60 MA's), (54, 7927), (74, 7954), (103, 8032), (152, 8164), (181, 8257),

Gene: Sarge\_11 Start: 7513, Stop: 7890, Start Num: 37

Candidate Starts for Sarge\_11:

(Start: 37 @7513 has 60 MA's), (93, 7627), (101, 7654), (111, 7675), (148, 7777), (149, 7783), (163, 7819), (171, 7852),

Gene: Savage2526\_14 Start: 10423, Stop: 10836, Start Num: 24

Candidate Starts for Savage2526\_14:

(Start: 24 @10423 has 65 MA's), (88, 10558), (94, 10573), (113, 10618), (127, 10660), (172, 10777),

Gene: Schaffner\_12 Start: 9132, Stop: 9545, Start Num: 30

Candidate Starts for Schaffner\_12:

(Start: 30 @9132 has 46 MA's), (61, 9201), (164, 9462), (171, 9495),

Gene: Scotia\_13 Start: 9699, Stop: 10088, Start Num: 37

Candidate Starts for Scotia\_13:

(Start: 37 @9699 has 60 MA's), (51, 9732), (111, 9867), (120, 9885), (156, 9996), (163, 10011),

Gene: Scuttle\_14 Start: 10429, Stop: 10842, Start Num: 24

Candidate Starts for Scuttle\_14:

(Start: 24 @10429 has 65 MA's), (88, 10564), (94, 10579), (113, 10624), (127, 10666), (172, 10783),

Gene: Sergei\_10 Start: 7547, Stop: 7984, Start Num: 22

Candidate Starts for Sergei\_10:

(Start: 22 @7547 has 9 MA's), (Start: 24 @7553 has 65 MA's), (46, 7592), (47, 7595), (88, 7688), (94, 7703), (98, 7715), (101, 7724), (103, 7727), (113, 7748), (172, 7907),

Gene: ShakeltOph\_11 Start: 7286, Stop: 7681, Start Num: 32

Candidate Starts for ShakeltOph\_11:

(Start: 32 @7286 has 16 MA's), (121, 7478),

Gene: Shambre1\_12 Start: 8782, Stop: 9204, Start Num: 40

Candidate Starts for Shambre1\_12:

(Start: 40 @8782 has 18 MA's), (56, 8827), (60, 8836), (165, 9097), (182, 9163), (185, 9181),

Gene: Sharkboy\_11 Start: 8140, Stop: 8541, Start Num: 39

Candidate Starts for Sharkboy\_11:

(Start: 39 @8140 has 14 MA's), (103, 8290), (146, 8404), (168, 8473),

Gene: ShawBrad\_12 Start: 7046, Stop: 7456, Start Num: 31

Candidate Starts for ShawBrad\_12:

(4, 6917), (8, 6962), (9, 6968), (10, 6974), (12, 6992), (Start: 31 @7046 has 38 MA's), (45, 7073), (64, 7118), (68, 7124), (87, 7178), (102, 7217), (107, 7223), (118, 7244), (133, 7295), (137, 7307),

Gene: Shayna\_10 Start: 7746, Stop: 8147, Start Num: 34

Candidate Starts for Shayna\_10:

(Start: 34 @7746 has 8 MA's), (94, 7875), (111, 7917), (127, 7962), (155, 8037), (168, 8079), (175, 8103),

Gene: Shen\_13 Start: 8492, Stop: 8932, Start Num: 20

Candidate Starts for Shen\_13:

(14, 8480), (Start: 20 @8492 has 45 MA's), (61, 8582), (82, 8624), (88, 8642), (89, 8645), (105, 8684), (137, 8777), (148, 8804), (155, 8828), (167, 8864), (178, 8900),

Gene: Shoya\_10 Start: 7149, Stop: 7526, Start Num: 37

Candidate Starts for Shoya\_10:

(Start: 37 @7149 has 60 MA's), (93, 7263), (101, 7290), (111, 7311), (149, 7419), (163, 7455), (171, 7488),

Gene: SilverChicken\_13 Start: 7213, Stop: 7617, Start Num: 38

Candidate Starts for SilverChicken\_13:

(Start: 38 @7213 has 7 MA's), (53, 7246), (79, 7306), (103, 7372), (148, 7492), (151, 7504), (164, 7540), (170, 7570),

Gene: Simpson\_13 Start: 9040, Stop: 9453, Start Num: 30

Candidate Starts for Simpson\_13:

(Start: 30 @9040 has 46 MA's), (61, 9109), (124, 9259), (164, 9370), (171, 9403),

Gene: SirBeanington\_11 Start: 7914, Stop: 8309, Start Num: 37

Candidate Starts for SirBeanington\_11:

(6, 7788), (Start: 37 @7914 has 60 MA's), (54, 7953), (74, 7980), (103, 8058), (140, 8157), (152, 8190), (181, 8283),

Gene: Skelbel\_12 Start: 9019, Stop: 9429, Start Num: 30

Candidate Starts for Skelbel\_12:

(Start: 30 @9019 has 46 MA's), (61, 9088), (121, 9226), (124, 9238), (164, 9349), (171, 9382),

Gene: Skylord\_10 Start: 7692, Stop: 8081, Start Num: 41

Candidate Starts for Skylord\_10:

(Start: 41 @7692 has 15 MA's), (103, 7833), (111, 7851), (166, 8004), (168, 8013), (175, 8037), (182, 8067),

Gene: Slay\_11 Start: 8364, Stop: 8759, Start Num: 37

Candidate Starts for Slay\_11:

(6, 8238), (Start: 37 @8364 has 60 MA's), (54, 8403), (74, 8430), (103, 8508), (152, 8640), (181, 8733),

Gene: Sleepyhead\_12 Start: 7869, Stop: 8279, Start Num: 49

Candidate Starts for Sleepyhead\_12:

(33, 7833), (Start: 49 @7869 has 5 MA's), (86, 7962), (100, 8004), (122, 8061), (125, 8070), (128, 8082), (144, 8124),

Gene: Snek\_12 Start: 8127, Stop: 8540, Start Num: 31

Candidate Starts for Snek\_12:

(Start: 31 @8127 has 38 MA's), (96, 8280), (179, 8523),

Gene: Softsoap\_11 Start: 7911, Stop: 8306, Start Num: 37

Candidate Starts for Softsoap\_11:

(6, 7785), (Start: 37 @7911 has 60 MA's), (54, 7950), (74, 7977), (103, 8055), (140, 8154), (152, 8187), (181, 8280),

Gene: Solea\_12 Start: 8297, Stop: 8692, Start Num: 37

Candidate Starts for Solea\_12:

(6, 8171), (Start: 37 @8297 has 60 MA's), (54, 8336), (74, 8363), (103, 8441), (140, 8540), (152, 8573), (181, 8666),

Gene: Soondubu\_11 Start: 8928, Stop: 9338, Start Num: 31

Candidate Starts for Soondubu\_11:

(Start: 31 @8928 has 38 MA's), (79, 9030), (171, 9291),

Gene: Sooty\_12 Start: 8457, Stop: 8876, Start Num: 29

Candidate Starts for Sooty\_12:

(Start: 29 @8457 has 17 MA's), (50, 8499), (159, 8781),

Gene: Soul22\_13 Start: 7212, Stop: 7616, Start Num: 38

Candidate Starts for Soul22\_13:

(Start: 38 @7212 has 7 MA's), (53, 7245), (79, 7305), (103, 7371), (148, 7491), (151, 7503), (164, 7539), (170, 7569),

Gene: Spartoi\_10 Start: 6599, Stop: 7030, Start Num: 32

Candidate Starts for Spartoi\_10:

(Start: 32 @6599 has 16 MA's), (Start: 49 @6635 has 5 MA's), (63, 6668), (72, 6674), (78, 6689), (118, 6785),

Gene: SpecialK\_12 Start: 8454, Stop: 8873, Start Num: 29

Candidate Starts for SpecialK\_12:

(Start: 29 @8454 has 17 MA's), (50, 8496), (159, 8778),

Gene: Spooky\_12 Start: 7039, Stop: 7449, Start Num: 31

Candidate Starts for Spooky\_12:

(8, 6955), (9, 6961), (10, 6967), (Start: 31 @7039 has 38 MA's), (64, 7111), (68, 7117), (74, 7129), (87, 7171), (102, 7210), (107, 7216), (118, 7237), (129, 7276), (137, 7300), (157, 7354),

Gene: Squiddly\_13 Start: 7726, Stop: 8118, Start Num: 31

Candidate Starts for Squiddly\_13:

(4, 7597), (8, 7642), (9, 7648), (10, 7654), (12, 7672), (15, 7690), (Start: 31 @7726 has 38 MA's), (45, 7753), (64, 7798), (68, 7804), (74, 7816), (87, 7840), (107, 7885), (114, 7900), (118, 7906), (133, 7957), (137, 7969),

Gene: Squiracle\_11 Start: 8143, Stop: 8535, Start Num: 34

Candidate Starts for Squiracle\_11:

(Start: 34 @8143 has 8 MA's), (46, 8158), (74, 8209), (91, 8257), (97, 8272), (123, 8338), (147, 8401), (150, 8410), (161, 8434), (175, 8491),

Gene: Stellammi\_9 Start: 6533, Stop: 6904, Start Num: 41

Candidate Starts for Stellammi\_9:

(Start: 41 @6533 has 15 MA's), (59, 6581), (68, 6599), (74, 6611), (95, 6659), (104, 6680), (107, 6683), (129, 6743), (137, 6767), (154, 6809), (175, 6872), (177, 6878),

Gene: Stoor\_11 Start: 8157, Stop: 8552, Start Num: 37

Candidate Starts for Stoor\_11:

(6, 8031), (Start: 37 @8157 has 60 MA's), (Start: 41 @8160 has 15 MA's), (68, 8220), (161, 8451), (168, 8484), (174, 8505),

Gene: Stromboli\_11 Start: 8161, Stop: 8556, Start Num: 37

Candidate Starts for Stromboli\_11:

(Start: 37 @8161 has 60 MA's), (Start: 41 @8164 has 15 MA's), (68, 8224), (146, 8419), (161, 8455), (168, 8488), (174, 8509),

Gene: StuartMinion\_11 Start: 7928, Stop: 8371, Start Num: 20

Candidate Starts for StuartMinion\_11:

(14, 7916), (Start: 20 @7928 has 45 MA's), (73, 8036), (90, 8084), (105, 8120), (108, 8126), (137, 8213), (148, 8240), (178, 8339), (181, 8345), (182, 8357),

Gene: Studio\_13 Start: 7486, Stop: 7878, Start Num: 31

Candidate Starts for Studio\_13:

(Start: 31 @7486 has 38 MA's), (Start: 49 @7525 has 5 MA's), (50, 7528), (82, 7588), (101, 7639), (103, 7642), (138, 7732), (177, 7846), (184, 7870),

Gene: Stuu\_12 Start: 8547, Stop: 8966, Start Num: 29

Candidate Starts for Stuu\_12:

(Start: 29 @8547 has 17 MA's), (50, 8589), (122, 8766), (159, 8871),

Gene: SuMoo\_10 Start: 7515, Stop: 7928, Start Num: 31

Candidate Starts for SuMoo\_10:

(Start: 31 @7515 has 38 MA's),

Gene: Subaru\_12 Start: 9019, Stop: 9429, Start Num: 30

Candidate Starts for Subaru\_12:

(Start: 30 @9019 has 46 MA's), (61, 9088), (121, 9226), (124, 9238), (164, 9349), (171, 9382),

Gene: Sue2\_12 Start: 9043, Stop: 9456, Start Num: 31

Candidate Starts for Sue2\_12:

(13, 9007), (Start: 31 @9043 has 38 MA's),

Gene: SunnyD\_10 Start: 7746, Stop: 8147, Start Num: 34

Candidate Starts for SunnyD\_10:

(Start: 34 @7746 has 8 MA's), (94, 7875), (111, 7917), (155, 8037), (168, 8079), (175, 8103),

Gene: Supakev\_10 Start: 7553, Stop: 7984, Start Num: 24

Candidate Starts for Supakev\_10:

(Start: 22 @7547 has 9 MA's), (Start: 24 @7553 has 65 MA's), (Start: 37 @7574 has 60 MA's), (71, 7646), (98, 7715), (101, 7724), (113, 7748), (172, 7907),

Gene: SuperHands\_12 Start: 9343, Stop: 9765, Start Num: 30

Candidate Starts for SuperHands\_12:

(Start: 30 @9343 has 46 MA's), (78, 9436), (79, 9442), (85, 9457), (121, 9547), (132, 9586), (139, 9604), (173, 9715),

Gene: Suppi\_14 Start: 10446, Stop: 10859, Start Num: 24

Candidate Starts for Suppi\_14:

(Start: 24 @10446 has 65 MA's), (48, 10491), (94, 10593), (134, 10701), (172, 10797),

Gene: Swervy\_11 Start: 7888, Stop: 8283, Start Num: 37

Candidate Starts for Swervy\_11:

(6, 7762), (Start: 37 @7888 has 60 MA's), (54, 7927), (74, 7954), (103, 8032), (152, 8164), (181, 8257),

Gene: TMaxx\_13 Start: 7597, Stop: 7989, Start Num: 31

Candidate Starts for TMaxx\_13:

(Start: 31 @7597 has 38 MA's), (82, 7699), (87, 7711), (138, 7843), (184, 7981),

Gene: Tallboi\_12 Start: 9050, Stop: 9463, Start Num: 30

Candidate Starts for Tallboi\_12:

(Start: 30 @9050 has 46 MA's), (51, 9095), (61, 9119), (164, 9380), (171, 9413),

Gene: TattModd\_14 Start: 10423, Stop: 10836, Start Num: 24

Candidate Starts for TattModd\_14:

(Start: 24 @10423 has 65 MA's), (88, 10558), (94, 10573), (113, 10618), (127, 10660), (172, 10777),

Gene: TaylorSipht\_12 Start: 8370, Stop: 8810, Start Num: 20

Candidate Starts for TaylorSipht\_12:

(Start: 20 @8370 has 45 MA's), (Start: 40 @8406 has 18 MA's), (69, 8469), (89, 8523), (90, 8526), (105, 8562), (130, 8634), (134, 8646), (148, 8682), (155, 8706), (167, 8742), (178, 8778),

Gene: Tbone\_12 Start: 9033, Stop: 9446, Start Num: 30

Candidate Starts for Tbone\_12:

(Start: 30 @9033 has 46 MA's), (61, 9102), (124, 9252), (164, 9363), (171, 9396),

Gene: Teagster\_10 Start: 7746, Stop: 8147, Start Num: 34

Candidate Starts for Teagster\_10:

(Start: 34 @7746 has 8 MA's), (94, 7875), (111, 7917), (155, 8037), (168, 8079), (175, 8103),

Gene: Temper16\_10 Start: 7547, Stop: 7984, Start Num: 22

Candidate Starts for Temper16\_10:

(Start: 22 @7547 has 9 MA's), (Start: 24 @7553 has 65 MA's), (46, 7592), (47, 7595), (88, 7688), (94, 7703), (98, 7715), (101, 7724), (103, 7727), (113, 7748), (172, 7907),

Gene: TforTroy\_12 Start: 9164, Stop: 9577, Start Num: 30

Candidate Starts for TforTroy\_12:

(Start: 30 @9164 has 46 MA's), (164, 9494), (171, 9527),

Gene: ThursdayNight\_11 Start: 7530, Stop: 7949, Start Num: 31

Candidate Starts for ThursdayNight\_11:

(Start: 31 @7530 has 38 MA's), (54, 7581), (78, 7632), (124, 7752), (171, 7896),

Gene: Tian\_12 Start: 9064, Stop: 9477, Start Num: 30

Candidate Starts for Tian\_12:

(Start: 30 @9064 has 46 MA's), (51, 9109), (124, 9283), (164, 9394), (171, 9427),

Gene: Toad24\_13 Start: 8492, Stop: 8932, Start Num: 20

Candidate Starts for Toad24\_13:

(14, 8480), (Start: 20 @8492 has 45 MA's), (61, 8582), (82, 8624), (88, 8642), (89, 8645), (105, 8684), (137, 8777), (148, 8804), (155, 8828), (167, 8864), (178, 8900),

Gene: TripleC\_16 Start: 11103, Stop: 11495, Start Num: 31

Candidate Starts for TripleC\_16:

(Start: 31 @11103 has 38 MA's), (80, 11199), (103, 11259), (136, 11343), (137, 11346), (184, 11487),

Gene: Tuck\_13 Start: 10079, Stop: 10489, Start Num: 30

Candidate Starts for Tuck\_13:

(Start: 30 @10079 has 46 MA's), (51, 10124), (124, 10298), (164, 10409), (171, 10442),

Gene: TukTuk\_11 Start: 7948, Stop: 8343, Start Num: 37

Candidate Starts for TukTuk\_11:

(6, 7822), (Start: 37 @7948 has 60 MA's), (54, 7987), (74, 8014), (103, 8092), (152, 8224), (181, 8317),

Gene: Turab\_12 Start: 9048, Stop: 9458, Start Num: 30

Candidate Starts for Turab\_12:

(Start: 30 @9048 has 46 MA's), (51, 9093), (61, 9117), (164, 9378), (171, 9411),

Gene: Tutumahutu\_12 Start: 9090, Stop: 9503, Start Num: 30

Candidate Starts for Tutumahutu\_12:

(Start: 30 @9090 has 46 MA's), (61, 9159), (124, 9309), (164, 9420), (171, 9453),

Gene: Tweety19\_12 Start: 8126, Stop: 8539, Start Num: 31

Candidate Starts for Tweety19\_12:

(Start: 31 @8126 has 38 MA's), (96, 8279), (179, 8522),

Gene: Typha\_18 Start: 11994, Stop: 12434, Start Num: 18

Candidate Starts for Typha\_18:

(Start: 18 @11994 has 4 MA's), (Start: 20 @11997 has 45 MA's), (54, 12075), (62, 12084), (65, 12090), (70, 12096), (97, 12174), (126, 12240), (137, 12276), (165, 12351), (176, 12390),

Gene: Urla\_10 Start: 7561, Stop: 7974, Start Num: 24

Candidate Starts for Urla\_10:

(Start: 24 @7561 has 65 MA's), (88, 7693), (94, 7708), (113, 7753), (115, 7756), (127, 7795), (152, 7855), (172, 7912),

Gene: UtzChips\_10 Start: 8204, Stop: 8620, Start Num: 31

Candidate Starts for UtzChips\_10:

(Start: 31 @8204 has 38 MA's), (132, 8444), (152, 8501),

Gene: VResidence\_12 Start: 9113, Stop: 9535, Start Num: 31

Candidate Starts for VResidence\_12:

(Start: 31 @9113 has 38 MA's), (122, 9335), (151, 9422), (161, 9443), (164, 9452),

Gene: VWB\_11 Start: 8079, Stop: 8474, Start Num: 31

Candidate Starts for VWB\_11:

(25, 8073), (Start: 31 @8079 has 38 MA's), (42, 8094), (70, 8160), (103, 8244), (128, 8310), (181, 8454),

Gene: Vallejo\_14 Start: 10361, Stop: 10774, Start Num: 24

Candidate Starts for Vallejo\_14:

(Start: 24 @10361 has 65 MA's), (88, 10496), (94, 10511), (113, 10556), (127, 10598), (172, 10715),

Gene: Vitas\_10 Start: 7692, Stop: 8081, Start Num: 41  
Candidate Starts for Vitas\_10:  
(Start: 41 @7692 has 15 MA's), (103, 7833), (111, 7851), (166, 8004), (168, 8013), (175, 8037), (182, 8067),

Gene: VroomVroom\_11 Start: 7298, Stop: 7693, Start Num: 32  
Candidate Starts for VroomVroom\_11:  
(Start: 32 @7298 has 16 MA's), (121, 7490),

Gene: Vulpecula\_12 Start: 8667, Stop: 9110, Start Num: 20  
Candidate Starts for Vulpecula\_12:  
(Start: 20 @8667 has 45 MA's), (Start: 43 @8709 has 2 MA's), (48, 8727), (64, 8763), (88, 8817), (89, 8820), (105, 8859), (125, 8913), (137, 8952), (148, 8979), (155, 9003), (157, 9009),

Gene: Vulture\_10 Start: 7551, Stop: 7982, Start Num: 24  
Candidate Starts for Vulture\_10:  
(Start: 22 @7545 has 9 MA's), (Start: 24 @7551 has 65 MA's), (Start: 37 @7572 has 60 MA's), (71, 7644), (98, 7713), (101, 7722), (113, 7746), (172, 7905),

Gene: WalkingDead\_11 Start: 8148, Stop: 8543, Start Num: 37  
Candidate Starts for WalkingDead\_11:  
(Start: 37 @8148 has 60 MA's), (Start: 41 @8151 has 15 MA's), (68, 8211), (74, 8214), (161, 8442), (168, 8475), (174, 8496),

Gene: Warda\_12 Start: 9036, Stop: 9449, Start Num: 30  
Candidate Starts for Warda\_12:  
(Start: 30 @9036 has 46 MA's), (61, 9105), (124, 9255), (164, 9366), (171, 9399),

Gene: Wawa\_14 Start: 10398, Stop: 10811, Start Num: 24  
Candidate Starts for Wawa\_14:  
(Start: 24 @10398 has 65 MA's), (88, 10533), (94, 10548), (113, 10593), (127, 10635), (172, 10752),

Gene: Wayne\_14 Start: 10492, Stop: 10905, Start Num: 24  
Candidate Starts for Wayne\_14:  
(Start: 24 @10492 has 65 MA's), (48, 10537), (94, 10639), (134, 10747), (172, 10843),

Gene: Westrich\_13 Start: 8480, Stop: 8920, Start Num: 20  
Candidate Starts for Westrich\_13:  
(14, 8468), (Start: 20 @8480 has 45 MA's), (61, 8570), (82, 8612), (88, 8630), (89, 8633), (105, 8672), (137, 8765), (148, 8792), (155, 8816), (167, 8852), (178, 8888),

Gene: Whitney\_12 Start: 7041, Stop: 7433, Start Num: 31  
Candidate Starts for Whitney\_12:  
(4, 6912), (8, 6957), (9, 6963), (10, 6969), (12, 6987), (Start: 31 @7041 has 38 MA's), (45, 7068), (61, 7107), (64, 7113), (68, 7119), (74, 7131), (87, 7155), (102, 7194), (107, 7200), (112, 7212), (118, 7221), (133, 7272), (137, 7284),

Gene: Wildwest\_13 Start: 9954, Stop: 10370, Start Num: 31  
Candidate Starts for Wildwest\_13:  
(Start: 31 @9954 has 38 MA's), (96, 10107), (122, 10170), (161, 10278),

Gene: WileyE\_11 Start: 8002, Stop: 8445, Start Num: 20

Candidate Starts for WileyE\_11:

(Start: 20 @8002 has 45 MA's), (Start: 43 @8044 has 2 MA's), (48, 8062), (64, 8098), (88, 8152), (89, 8155), (105, 8194), (125, 8248), (137, 8287), (148, 8314), (155, 8338), (157, 8344),

Gene: WonderBoy\_10 Start: 7514, Stop: 7924, Start Num: 24

Candidate Starts for WonderBoy\_10:

(Start: 24 @7514 has 65 MA's), (54, 7577), (88, 7646), (94, 7661), (113, 7706), (127, 7748), (172, 7865),

Gene: Wrigley\_13 Start: 8113, Stop: 8499, Start Num: 40

Candidate Starts for Wrigley\_13:

(11, 8032), (Start: 40 @8113 has 18 MA's), (52, 8149), (61, 8170),

Gene: Yang\_12 Start: 9134, Stop: 9547, Start Num: 30

Candidate Starts for Yang\_12:

(Start: 30 @9134 has 46 MA's), (164, 9464), (171, 9497),

Gene: YesChef\_12 Start: 9090, Stop: 9503, Start Num: 30

Candidate Starts for YesChef\_12:

(Start: 30 @9090 has 46 MA's), (61, 9159), (124, 9309), (164, 9420), (171, 9453),

Gene: Yoshi\_13 Start: 7212, Stop: 7616, Start Num: 38

Candidate Starts for Yoshi\_13:

(Start: 38 @7212 has 7 MA's), (53, 7245), (79, 7305), (103, 7371), (148, 7491), (151, 7503), (164, 7539), (170, 7569),

Gene: Zapner\_14 Start: 7737, Stop: 8141, Start Num: 38

Candidate Starts for Zapner\_14:

(Start: 38 @7737 has 7 MA's), (53, 7770), (79, 7830), (103, 7896), (148, 8016), (151, 8028), (164, 8064), (170, 8094),

Gene: Zeta1847\_10 Start: 7300, Stop: 7692, Start Num: 29

Candidate Starts for Zeta1847\_10:

(Start: 29 @7300 has 17 MA's), (96, 7444), (99, 7453),

Gene: Zhuangyuan\_13 Start: 8659, Stop: 9102, Start Num: 20

Candidate Starts for Zhuangyuan\_13:

(14, 8647), (16, 8650), (Start: 20 @8659 has 45 MA's), (45, 8710), (69, 8758), (132, 8929), (133, 8932), (155, 8995), (158, 9004), (167, 9034), (182, 9088),

Gene: Zixiang\_12 Start: 8281, Stop: 8721, Start Num: 20

Candidate Starts for Zixiang\_12:

(Start: 20 @8281 has 45 MA's), (61, 8371), (64, 8377), (82, 8413), (88, 8431), (89, 8434), (105, 8473), (137, 8566), (148, 8593), (155, 8617), (167, 8653), (178, 8689),

Gene: Zorro\_14 Start: 10377, Stop: 10790, Start Num: 24

Candidate Starts for Zorro\_14:

(Start: 24 @10377 has 65 MA's), (88, 10512), (94, 10527), (113, 10572), (127, 10614), (172, 10731),