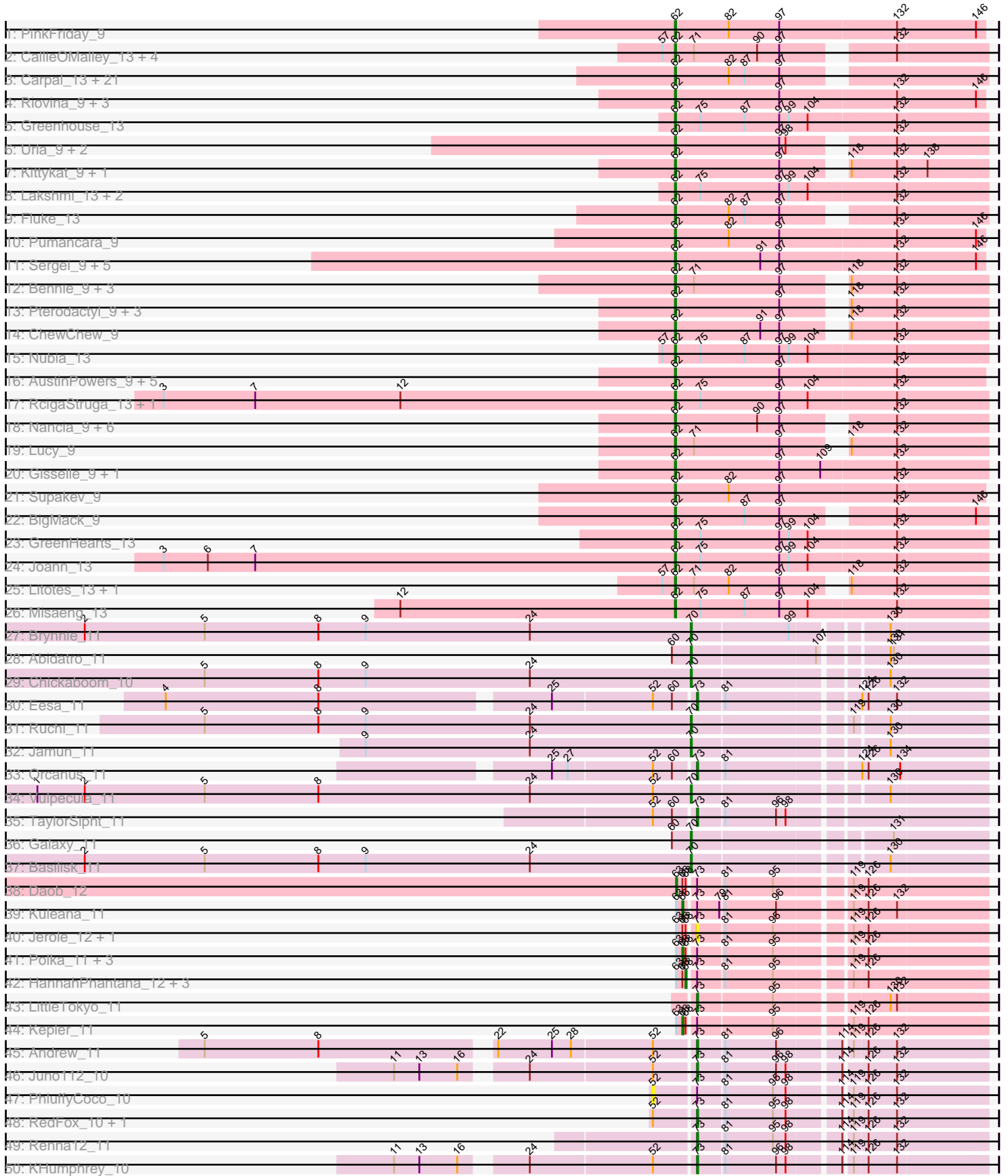
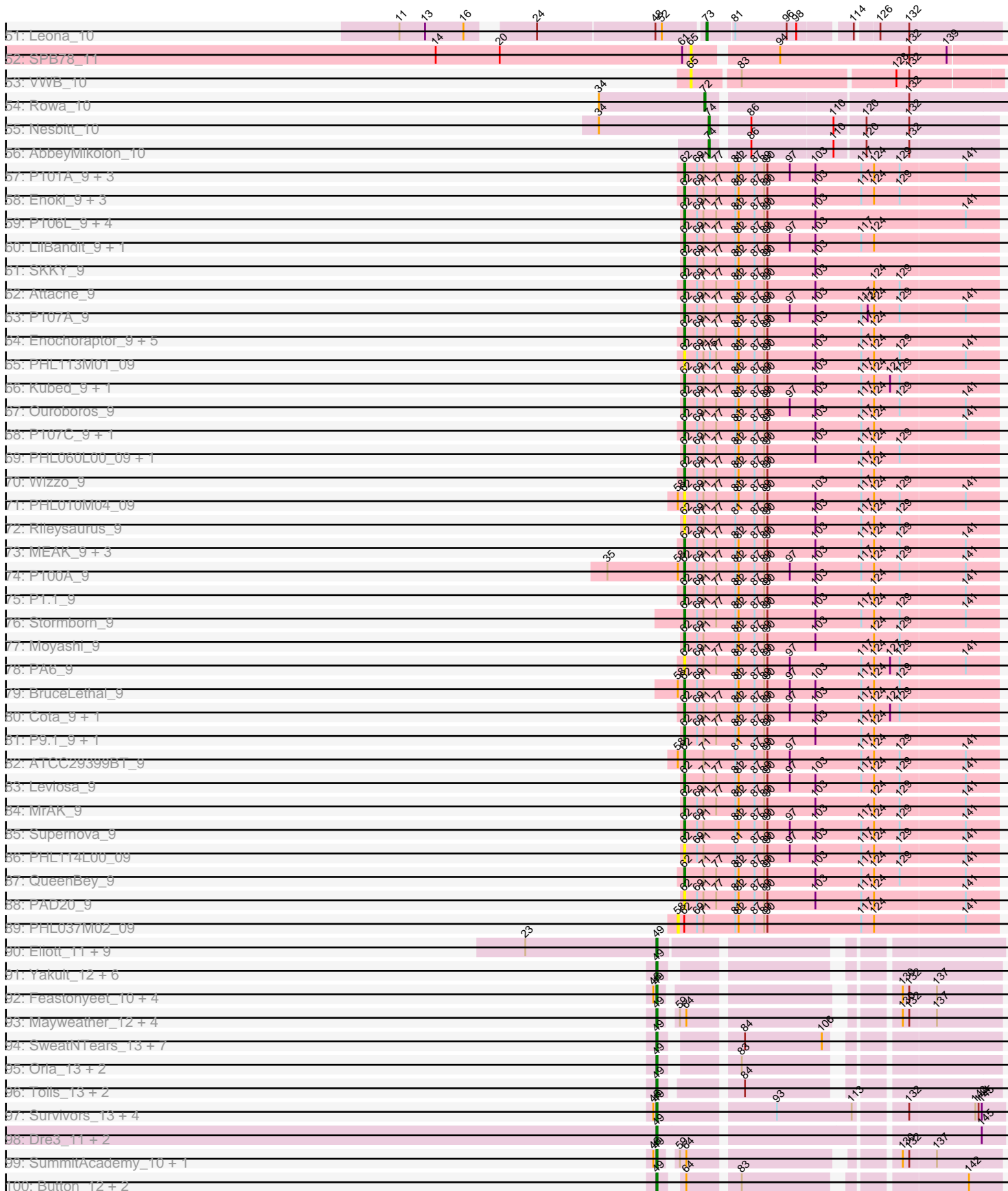


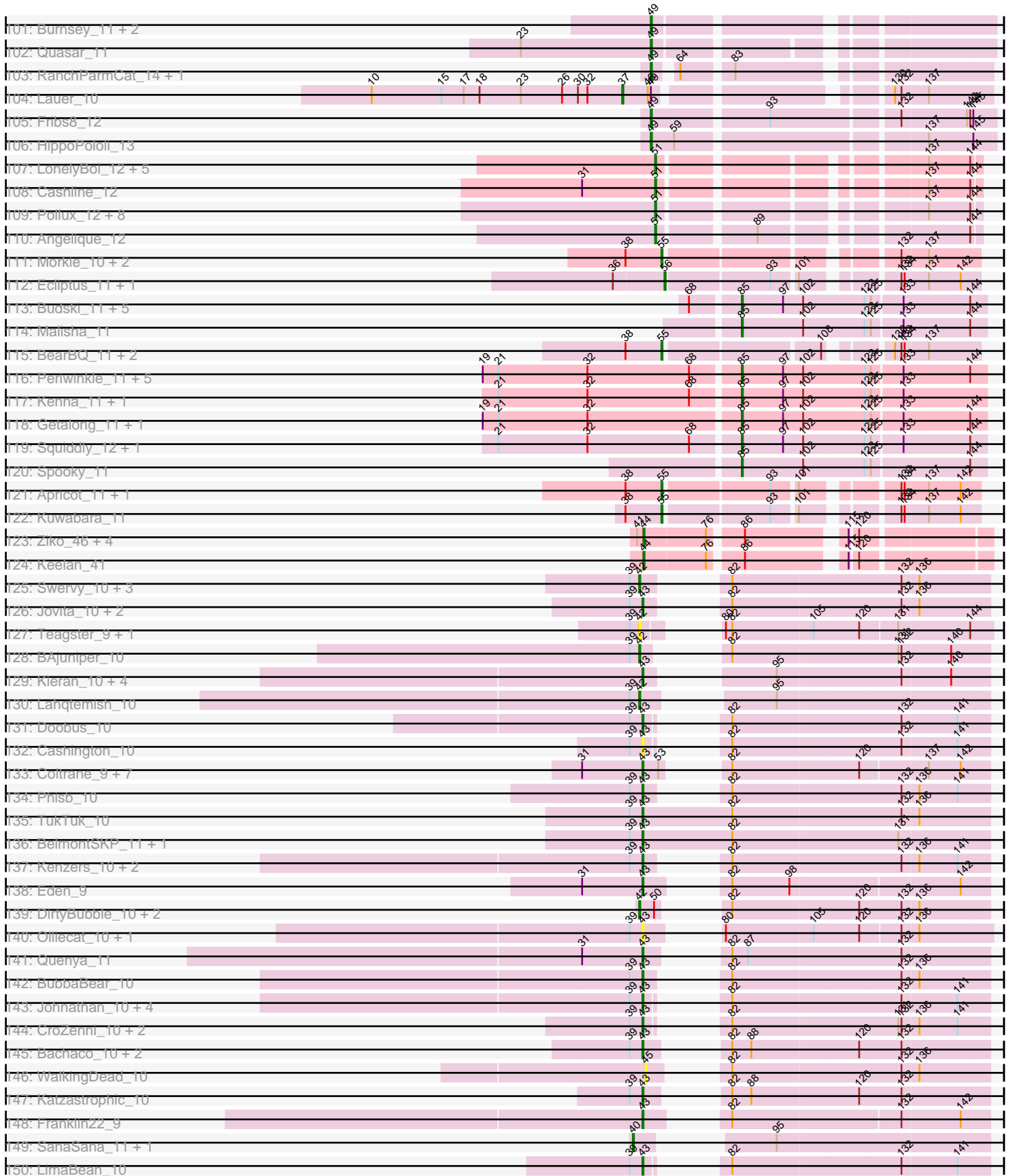
Pham 196204



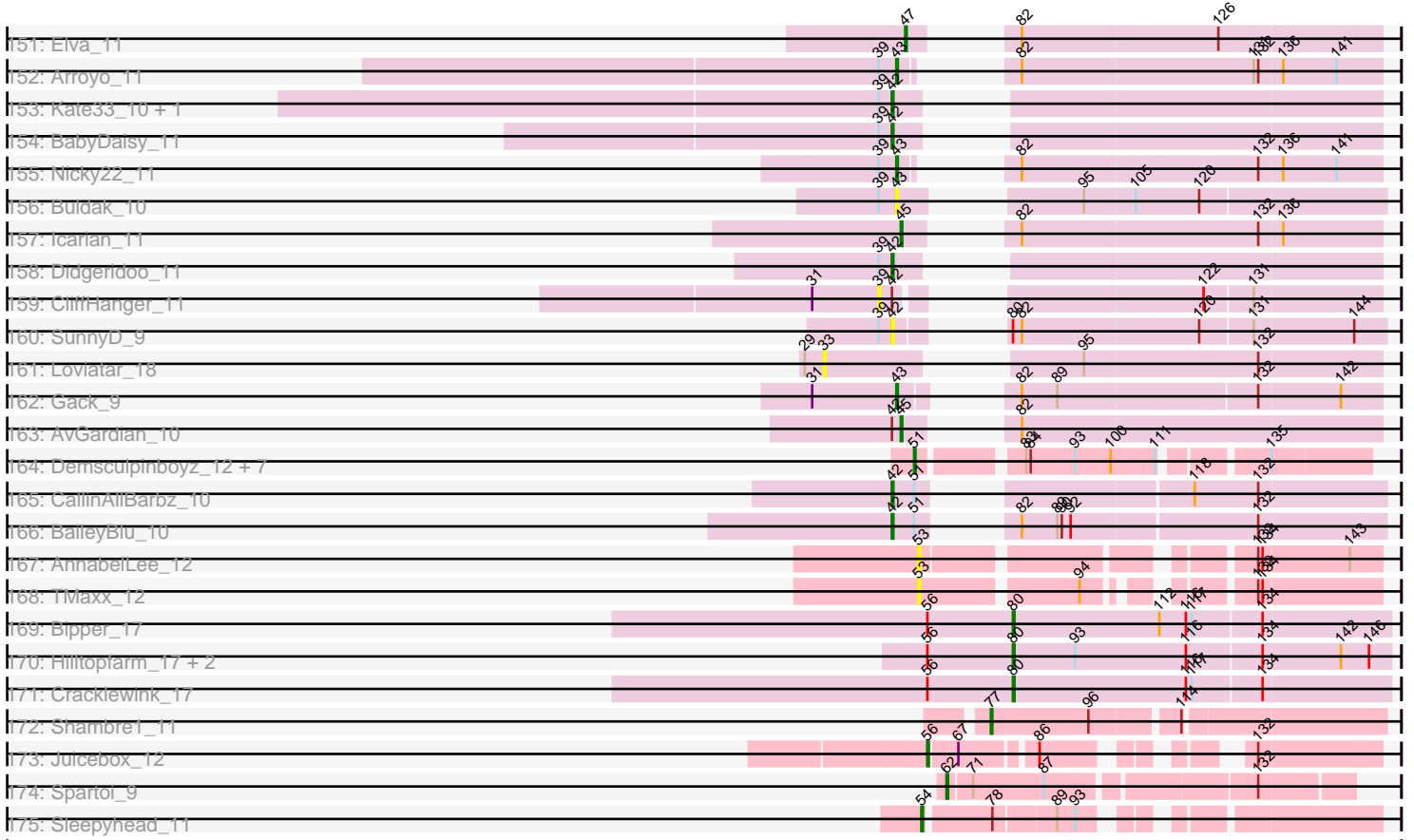
Pham 196204



Pham 196204



Pham 196204



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 196204 Report

This analysis was run 12/09/24 on database version 580.

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 196204 has 389 members, 49 are drafts.

Phages represented in each track:

- Track 1 : PinkFriday\_9
- Track 2 : CallieOMalley\_13, AppleCider\_13, Wayne\_13, Suppi\_13, Canowicakte\_13
- Track 3 : Carpal\_13, Dino\_13, Cholula\_13, Korra\_13, Glenn\_13, Kalizoi\_13, Vallejo\_13, Wawa\_13, TattModd\_13, BrotherBLo\_13, Zorro\_13, RAP15\_13, Jumboset\_13, Rozby\_13, MrGloopy\_13, Riverdale\_13, MeganNoll\_13, Scuttle\_13, Potatoes\_13, Savage2526\_13, Immaculata\_13, Beethoven\_13
- Track 4 : Riovina\_9, Eunoia\_9, Aledel\_9, OMalley\_9
- Track 5 : Greenhouse\_13
- Track 6 : Urla\_9, EstebanJulior\_9, MamaPearl\_9
- Track 7 : Kittykat\_9, Preamble\_9
- Track 8 : Lakshmi\_13, Oxynfrius\_13, Albanese\_13
- Track 9 : Fluke\_13
- Track 10 : Pumancara\_9
- Track 11 : Sergei\_9, Maria1952\_9, Temper16\_9, Daiboju\_9, KingBob\_9, Herb\_9
- Track 12 : Bennie\_9, Moki\_9, Huckleberry\_9, HeadNerd\_9
- Track 13 : Pterodactyl\_9, Lennox\_9, PitaDog\_9, Makoto\_9
- Track 14 : ChewChew\_9
- Track 15 : Nubia\_13
- Track 16 : AustinPowers\_9, DrRobert\_9, Vulture\_9, WonderBoy\_9, Chridison\_9, HunterDalle\_9
- Track 17 : RcigaStruga\_13, Huntingdon\_13
- Track 18 : Nancia\_9, Bodacious\_9, Lasagna\_9, OurGirlNessie\_9, Christian\_9, CristinaYang\_9, LilStuart\_9
- Track 19 : Lucy\_9
- Track 20 : Gisselle\_9, DreamTeam\_9
- Track 21 : Supakev\_9
- Track 22 : BigMack\_9
- Track 23 : GreenHearts\_13
- Track 24 : Joann\_13
- Track 25 : Litotes\_13, PartyCup\_13
- Track 26 : Misaeng\_13
- Track 27 : Brynnie\_11
- Track 28 : Abidatro\_11

- Track 29 : Chickaboom\_10
- Track 30 : Eesa\_11
- Track 31 : Ruchi\_11
- Track 32 : Jamun\_11
- Track 33 : Orcanus\_11
- Track 34 : Vulpecula\_11
- Track 35 : TaylorSipht\_11
- Track 36 : Galaxy\_11
- Track 37 : Basilisk\_11
- Track 38 : Daob\_12
- Track 39 : Kuleana\_11
- Track 40 : Jerole\_12, Colusalem\_11
- Track 41 : Polka\_11, Coral\_11, Melons\_12, Cote\_12
- Track 42 : HannahPhantana\_12, Bedetta\_12, Amelia\_12, Lunar\_12
- Track 43 : LittleTokyo\_11
- Track 44 : Kepler\_11
- Track 45 : Andrew\_11
- Track 46 : Juno112\_10
- Track 47 : PhluffyCoco\_10
- Track 48 : RedFox\_10, Camara\_10
- Track 49 : Renna12\_11
- Track 50 : KHumphrey\_10
- Track 51 : Leona\_10
- Track 52 : SPB78\_11
- Track 53 : VWB\_10
- Track 54 : Rowa\_10
- Track 55 : Nesbitt\_10
- Track 56 : AbbeyMikolon\_10
- Track 57 : P101A\_9, DrParker\_9, P100.1\_9, P105\_9
- Track 58 : Enoki\_9, PAS50\_9, P100D\_9, PHL067M10\_09
- Track 59 : P106L\_9, P106I\_9, P106C\_9, P106M\_9, P106A\_9
- Track 60 : LilBandit\_9, P104B\_9
- Track 61 : SKKY\_9
- Track 62 : Attacne\_9
- Track 63 : P107A\_9
- Track 64 : Enochoraptor\_9, PHL071N05\_09, Pirate\_9, P14.4\_9, P108C\_9, Aquarius\_9
- Track 65 : PHL113M01\_09
- Track 66 : Kubed\_9, PHL112N00\_09
- Track 67 : Ouroboros\_9
- Track 68 : P107C\_9, ATCC29399BC\_9
- Track 69 : PHL060L00\_09, Lauchelly\_9
- Track 70 : Wizzo\_9
- Track 71 : PHL010M04\_09
- Track 72 : Rileysaurus\_9
- Track 73 : MEAK\_9, Procrass1\_9, Solid\_9, P104A\_9
- Track 74 : P100A\_9
- Track 75 : P1.1\_9
- Track 76 : Stormborn\_9
- Track 77 : Moyashi\_9
- Track 78 : PA6\_9
- Track 79 : BruceLethal\_9
- Track 80 : Cota\_9, Keiki\_9

- Track 81 : P9.1\_9, PHL111M01\_09
- Track 82 : ATCC29399BT\_9
- Track 83 : Leviosa\_9
- Track 84 : MrAK\_9
- Track 85 : Supernova\_9
- Track 86 : PHL114L00\_09
- Track 87 : QueenBey\_9
- Track 88 : PAD20\_9
- Track 89 : PHL037M02\_09
- Track 90 : Elliott\_11, Nina\_12, RedBaron\_12, Cozz\_11, PsychoKiller\_11, Typhonomachy\_12, Carsonalex\_12, Sopespian\_11, Axym\_11, MunkgeeRoachy\_11
- Track 91 : Yakult\_12, Amok\_10, AndPeggy\_10, AikoCarson\_10, Yarn\_10, Emalyn\_10, BillDoor\_13
- Track 92 : Feastonyeet\_10, KayGee\_11, BigChungus\_10, Elinal\_12, Vine\_12
- Track 93 : Mayweather\_12, SheckWes\_10, MAnor\_11, CherryonLim\_12, Pons\_11
- Track 94 : SweatNTears\_13, MScarn\_13, SketchMex\_10, Troje\_11, Horseradish\_12, Yummy\_12, Biskit\_12, Buttrmlkdreams\_11
- Track 95 : Orla\_13, Nodigi\_13, Hexbug\_13
- Track 96 : Tolls\_13, SteamedHams\_13, GTE2\_09
- Track 97 : Survivors\_13, MaVan\_13, Zareef\_15, Azira\_13, Nibbles\_13
- Track 98 : Dre3\_11, Cleo\_11, Gibbous\_11
- Track 99 : SummitAcademy\_10, PotPie\_11
- Track 100 : Button\_12, Jamzy\_14, GiKK\_14
- Track 101 : Burnsey\_11, Agatha\_11, GoldHunter\_12
- Track 102 : Quasar\_11
- Track 103 : RanchParmCat\_14, Margaret\_14
- Track 104 : Lauer\_10
- Track 105 : Fribs8\_12
- Track 106 : HippoPololi\_13
- Track 107 : LonelyBoi\_12, Posh\_12, BeeGee\_12, Wrigley\_12, Jablanski\_12, Pytheas\_12
- Track 108 : Cashline\_12
- Track 109 : Pollux\_12, BritBrat\_12, EMSquaredA\_12, Lilas\_12, Bradissa\_12, Floral\_12, EnalisNailo\_12, Confidence\_12, Marteena\_12
- Track 110 : Angelique\_12
- Track 111 : Morkie\_10, PhorbesPhlower\_10, Lucky10\_10
- Track 112 : Ecliptus\_11, ODay\_11
- Track 113 : Budski\_11, Kamaru\_11, CheeseTouch\_11, LitninMcQueen\_11, Phabuloso\_11, Holliday\_11
- Track 114 : Malisha\_11
- Track 115 : BearBQ\_11, MortyNRick\_11, Birdsong\_11
- Track 116 : Periwinkle\_11, Horus\_11, BENtherdunthat\_11, Frickyeah\_11, Leroy\_11, Asapag\_11
- Track 117 : Kenna\_11, Lutum\_11
- Track 118 : Getalong\_11, Whitney\_11
- Track 119 : Squiddly\_12, Phistory\_11
- Track 120 : Spooky\_11
- Track 121 : Apricot\_11, Crater\_11
- Track 122 : Kuwabara\_11
- Track 123 : Ziko\_46, Guey18\_48, Volt\_45, Fryberger\_43, Ronaldo\_46
- Track 124 : Keelan\_41
- Track 125 : Swervy\_10, Slay\_10, Finalfrontier\_11, SarBear\_10
- Track 126 : Jovita\_10, Eula\_10, QMacho\_11

- Track 127 : Teagster\_9, Shayna\_9
- Track 128 : BAjuniper\_10
- Track 129 : Kieran\_10, Rona\_10, Sharkboy\_10, ChiliPepper\_10, Dismas\_10
- Track 130 : Lahqtemish\_10
- Track 131 : Doobus\_10
- Track 132 : Cashington\_10
- Track 133 : Coltrane\_9, Skylord\_9, Clayda5\_9, Rollins\_9, Vitas\_9, Brahms\_9, Armstrong\_9, Bernstein\_9
- Track 134 : Phisb\_10
- Track 135 : TukTuk\_10
- Track 136 : BelmontSKP\_11, AnnaLie\_11
- Track 137 : Kenzers\_10, Lynlen\_10, Albedo\_10
- Track 138 : Eden\_9
- Track 139 : DirtyBubble\_10, Stromboli\_10, BabyYoda\_10
- Track 140 : Olliecat\_10, Squiracle\_10
- Track 141 : Quenya\_11
- Track 142 : BubbaBear\_10
- Track 143 : Johnathan\_10, Avocadoman\_10, Albright\_10, Abigail\_10, Burritobowl\_10
- Track 144 : CroZenni\_10, SansAfet\_10, DickRichards\_10
- Track 145 : Bachaco\_10, FlameThrower\_10, Celaena\_10
- Track 146 : WalkingDead\_10
- Track 147 : Katzastrophic\_10
- Track 148 : Franklin22\_9
- Track 149 : SanaSana\_11, Stoor\_10
- Track 150 : LimaBean\_10
- Track 151 : Elva\_11
- Track 152 : Arroyo\_11
- Track 153 : Kate33\_10, IndyLu\_10
- Track 154 : BabyDaisy\_11
- Track 155 : Nicky22\_11
- Track 156 : Buldak\_10
- Track 157 : Icarian\_11
- Track 158 : Didgeridoo\_11
- Track 159 : CliffHanger\_11
- Track 160 : SunnyD\_9
- Track 161 : Loviatar\_18
- Track 162 : Gack\_9
- Track 163 : AvGardian\_10
- Track 164 : Demsculpinboyz\_12, Avani\_12, Soul22\_12, Che9d\_12, Zapner\_13, Blarby\_13, Jabbawokkie\_13, Yoshi\_12
- Track 165 : CallinAllBarbz\_10
- Track 166 : BaileyBlu\_10
- Track 167 : AnnabelLee\_12
- Track 168 : TMaxx\_12
- Track 169 : Bipper\_17
- Track 170 : Hilltopfarm\_17, Typha\_17, AuntGwenStacy\_17
- Track 171 : Cracklewink\_17
- Track 172 : Shambre1\_11
- Track 173 : Juicebox\_12
- Track 174 : Spartoi\_9
- Track 175 : Sleepyhead\_11



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

The start number called the most often in the published annotations is 62, it was called in 127 of the 340 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ATCC29399BC\_9, ATCC29399BT\_9, Albanese\_13, Aledel\_9, AppleCider\_13, Aquarius\_9, Attacne\_9, AustinPowers\_9, Beethoven\_13, Bennie\_9, BigMack\_9, Bodacious\_9, BrotherBLo\_13, BruceLethal\_9, CallieOMalley\_13, Canowicakte\_13, Carpal\_13, ChewChew\_9, Cholula\_13, Chridison\_9, Christian\_9, Cota\_9, CristinaYang\_9, Daiboju\_9, Dino\_13, DrParker\_9, DrRobert\_9, DreamTeam\_9, Enochoraptor\_9, Enoki\_9, EstebanJulior\_9, Eunoia\_9, Fluke\_13, Gisselle\_9, Glenn\_13, GreenHearts\_13, Greenhouse\_13, HeadNerd\_9, Herb\_9, Huckleberry\_9, HunterDalle\_9, Huntingdon\_13, Immaculata\_13, Joann\_13, Jumboset\_13, Kalizoi\_13, Keiki\_9, KingBob\_9, Kittykat\_9, Korra\_13, Kubed\_9, Lakshmi\_13, Lasagna\_9, Lauchelly\_9, Lennox\_9, Leviosa\_9, LilBandit\_9, LilStuart\_9, Litotes\_13, Lucy\_9, MEAK\_9, Makoto\_9, MamaPearl\_9, Maria1952\_9, MeganNoll\_13, Misaeng\_13, Moki\_9, Moyashi\_9, MrAK\_9, MrGloopy\_13, Nancia\_9, Nubia\_13, OMalley\_9, OurGirlNessie\_9, Ouroboros\_9, Oxynfrius\_13, P1.1\_9, P100.1\_9, P100A\_9, P100D\_9, P101A\_9, P104A\_9, P104B\_9, P105\_9, P106A\_9, P106C\_9, P106I\_9, P106L\_9, P106M\_9, P107A\_9, P107C\_9, P108C\_9, P14.4\_9, P9.1\_9, PA6\_9, PAD20\_9, PAS50\_9, PHL010M04\_09, PHL060L00\_09, PHL067M10\_09, PHL071N05\_09, PHL111M01\_09, PHL112N00\_09, PHL113M01\_09, PHL114L00\_09, PartyCup\_13, PinkFriday\_9, Pirate\_9, PitaDog\_9, Potatoes\_13, Preamble\_9, Procrass1\_9, Pterodactyl\_9, Pumancara\_9, QueenBey\_9, RAP15\_13, RcigaStruga\_13, Rileysaurus\_9, Riovina\_9, Riverdale\_13, Rozby\_13, SKKY\_9, Savage2526\_13, Scuttle\_13, Sergei\_9, Solid\_9, Spartoi\_9, Stormborn\_9, Supakev\_9, Supernova\_9, Suppi\_13, TattModd\_13, Temper16\_9, Urla\_9, Vallejo\_13, Vulture\_9, Wawa\_13, Wayne\_13, Wizzo\_9, WonderBoy\_9, Zorro\_13,

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

- PHL037M02\_09,

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

- AbbeyMikolon\_10, Abidatro\_11, Abigail\_10, Agatha\_11, AikoCarson\_10, Albedo\_10, Albright\_10, Amelia\_12, Amok\_10, AndPeggy\_10, Andrew\_11, Angelique\_12, AnnaLie\_11, AnnabelLee\_12, Apricot\_11, Armstrong\_9, Arroyo\_11, Asapag\_11, AuntGwenStacy\_17, AvGardian\_10, Avani\_12, Avocadoman\_10, Axym\_11, Azira\_13, BAJuniper\_10, BENtherdunthat\_11, BabyDaisy\_11, BabyYoda\_10, Bachaco\_10, BaileyBlu\_10, Basilisk\_11, BearBQ\_11, Bedetta\_12, BeeGee\_12, BelmontSKP\_11, Bernstein\_9, BigChungus\_10, BillDoor\_13, Bipper\_17, Birdsong\_11, Biskit\_12, Blarby\_13, Bradissa\_12, Brahms\_9, BritBrat\_12, Brynnie\_11, BubbaBear\_10, Budski\_11, Buldak\_10, Burnsey\_11, Burritobowl\_10, Button\_12, Buttrmikedreams\_11, CallinAllBarbz\_10, Camara\_10, Carsonalex\_12, Cashington\_10, Cashline\_12, Celaena\_10, Che9d\_12, CheeseTouch\_11, CherryonLim\_12, Chickaboom\_10, ChiliPepper\_10, Clayda5\_9, Cleo\_11, CliffHanger\_11, Coltrane\_9, Colusalem\_11, Confidence\_12, Coral\_11, Cote\_12, Cozz\_11, Cracklewink\_17, Crater\_11, CroZenni\_10, Daob\_12, Demsculpinboyz\_12, DickRichards\_10, Didgeridoo\_11, DirtyBubble\_10, Dismas\_10, Doobus\_10, Dre3\_11, EMsquaredA\_12, Ecliptus\_11, Eden\_9, Eesa\_11, Elinal\_12, Elliott\_11, Elva\_11, Emalyn\_10,

EnalisNailo\_12, Eula\_10, Feastonyeet\_10, Finalfrontier\_11, FlameThrower\_10, Floral\_12, Franklin22\_9, Fribs8\_12, Frickyeah\_11, Fryberger\_43, GTE2\_09, Gack\_9, Galaxy\_11, Getalong\_11, GiKK\_14, Gibbous\_11, GoldHunter\_12, Guey18\_48, HannahPhantana\_12, Hexbug\_13, Hilltopfarm\_17, HippoPololi\_13, Holliday\_11, Horseradish\_12, Horus\_11, Icarian\_11, IndyLu\_10, Jabbawokkie\_13, Jablanski\_12, Jamun\_11, Jamzy\_14, Jerole\_12, Johnathan\_10, Jovita\_10, Juicebox\_12, Juno112\_10, KHumphrey\_10, Kamaru\_11, Kate33\_10, Katzastrophic\_10, KayGee\_11, Keelan\_41, Kenna\_11, Kenzers\_10, Kepler\_11, Kieran\_10, Kuleana\_11, Kuwabara\_11, Lahqtemish\_10, Lauer\_10, Leona\_10, Leroy\_11, Lilas\_12, LimaBean\_10, LitninMcQueen\_11, LittleTokyo\_11, LonelyBoi\_12, Loviatar\_18, Lucky10\_10, Lunar\_12, Lutum\_11, Lynlen\_10, MAnor\_11, MScarn\_13, MaVan\_13, Malisha\_11, Margaret\_14, Marteena\_12, Mayweather\_12, Melons\_12, Morkie\_10, MortyNRick\_11, MunkgeeRoachy\_11, Nesbitt\_10, Nibbles\_13, Nicky22\_11, Nina\_12, Nodigi\_13, ODay\_11, Olliecat\_10, Orcanus\_11, Orla\_13, Periwinkle\_11, Phabuloso\_11, Phisb\_10, Phistory\_11, PhluffyCoco\_10, PhorbesPhlower\_10, Polka\_11, Pollux\_12, Pons\_11, Posh\_12, PotPie\_11, PsychoKiller\_11, Pytheas\_12, QMacho\_11, Quasar\_11, Quenya\_11, RanchParmCat\_14, RedBaron\_12, RedFox\_10, Renna12\_11, Rollins\_9, Rona\_10, Ronaldo\_46, Rowa\_10, Ruchi\_11, SPB78\_11, SanaSana\_11, SansAfet\_10, SarBear\_10, Shambre1\_11, Sharkboy\_10, Shayna\_9, SheckWes\_10, SketchMex\_10, Skylord\_9, Slay\_10, Sleepyhead\_11, Sopespian\_11, Soul22\_12, Spooky\_11, Squiddly\_12, Squircle\_10, SteamedHams\_13, Stoor\_10, Stromboli\_10, SummitAcademy\_10, SunnyD\_9, Survivors\_13, SweatNTears\_13, Swervy\_10, TMaxx\_12, TaylorSipht\_11, Teagster\_9, Tolls\_13, Troje\_11, TukTuk\_10, Typha\_17, Typhonomachy\_12, VWB\_10, Vine\_12, Vitas\_9, Volt\_45, Vulpecula\_11, WalkingDead\_10, Whitney\_11, Wrigley\_12, Yakult\_12, Yarn\_10, Yoshi\_12, Yummy\_12, Zapner\_13, Zareef\_15, Ziko\_46,

### Summary by start number:

#### Start 33:

- Found in 1 of 389 ( 0.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Loviatar\_18 (EB),

#### Start 37:

- Found in 1 of 389 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 340
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Lauer\_10 (CT),

#### Start 39:

- Found in 45 of 389 ( 11.6% ) of genes in pham
- No Manual Annotations of this start.
- Called 2.2% of time when present
- Phage (with cluster) where this start called: CliffHanger\_11 (EB),

#### Start 40:

- Found in 2 of 389 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 2 of 340
- Called 100.0% of time when present
- Phage (with cluster) where this start called: SanaSana\_11 (EB), Stoor\_10 (EB),

Start 42:

- Found in 20 of 389 ( 5.1% ) of genes in pham
- Manual Annotations of this start: 14 of 340
- Called 90.0% of time when present
- Phage (with cluster) where this start called: BAjuniper\_10 (EB), BabyDaisy\_11 (EB), BabyYoda\_10 (EB), BaileyBlu\_10 (FP), CallinAllBarbz\_10 (FP), Didgeridoo\_11 (EB), DirtyBubble\_10 (EB), Finalfrontier\_11 (EB), IndyLu\_10 (EB), Kate33\_10 (EB), Lahqtemish\_10 (EB), SarBear\_10 (EB), Shayna\_9 (EB), Slay\_10 (EB), Stromboli\_10 (EB), SunnyD\_9 (EB), Swervy\_10 (EB), Teagster\_9 (EB),

Start 43:

- Found in 48 of 389 ( 12.3% ) of genes in pham
- Manual Annotations of this start: 44 of 340
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abigail\_10 (EB), Albedo\_10 (EB), Albright\_10 (EB), AnnaLie\_11 (EB), Armstrong\_9 (EB), Arroyo\_11 (EB), Avocadoman\_10 (EB), Bachaco\_10 (EB), BelmontSKP\_11 (EB), Bernstein\_9 (EB), Brahms\_9 (EB), BubbaBear\_10 (EB), Buldak\_10 (EB), Burritobowl\_10 (EB), Cashington\_10 (EB), Celaena\_10 (EB), ChiliPepper\_10 (EB), Clayda5\_9 (EB), Coltrane\_9 (EB), CroZenni\_10 (EB), DickRichards\_10 (EB), Dismas\_10 (EB), Doobus\_10 (EB), Eden\_9 (EB), Eula\_10 (EB), FlameThrower\_10 (EB), Franklin22\_9 (EB), Gack\_9 (EB), Johnathan\_10 (EB), Jovita\_10 (EB), Katzastrophic\_10 (EB), Kenzers\_10 (EB), Kieran\_10 (EB), LimaBean\_10 (EB), Lynlen\_10 (EB), Nicky22\_11 (EB), Olliecat\_10 (EB), Phisb\_10 (EB), QMacho\_11 (EB), Quenya\_11 (EB), Rollins\_9 (EB), Rona\_10 (EB), SansAfet\_10 (EB), Sharkboy\_10 (EB), Skylord\_9 (EB), Squircle\_10 (EB), TukTuk\_10 (EB), Vitas\_9 (EB),

Start 44:

- Found in 6 of 389 ( 1.5% ) of genes in pham
- Manual Annotations of this start: 6 of 340
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Fryberger\_43 (DP), Guey18\_48 (DP), Keelan\_41 (DP), Ronaldo\_46 (DP), Volt\_45 (DP), Ziko\_46 (DP),

Start 45:

- Found in 3 of 389 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 2 of 340
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AvGardian\_10 (EB), Icarian\_11 (EB), WalkingDead\_10 (EB),

Start 47:

- Found in 1 of 389 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 340
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Elva\_11 (EB),

Start 49:

- Found in 63 of 389 ( 16.2% ) of genes in pham
- Manual Annotations of this start: 52 of 340
- Called 98.4% of time when present

- Phage (with cluster) where this start called: Agatha\_11 (CT), AikoCarson\_10 (CT), Amok\_10 (CT), AndPeggy\_10 (CT), Axym\_11 (CT), Azira\_13 (CT), BigChungus\_10 (CT), BillDoor\_13 (CT), Biskit\_12 (CT), Burnsey\_11 (CT), Button\_12 (CT), Buttrmlkdreams\_11 (CT), Carsonalex\_12 (CT), CherryonLim\_12 (CT), Cleo\_11 (CT), Cozz\_11 (CT), Dre3\_11 (CT), Elinal\_12 (CT), Elliott\_11 (CT), Emalyn\_10 (CT), Feastonyeet\_10 (CT), Fribs8\_12 (CT), GTE2\_09 (CT), GiKK\_14 (CT), Gibbous\_11 (CT), GoldHunter\_12 (CT), Hexbug\_13 (CT), HippoPololi\_13 (CT), Horseradish\_12 (CT), Jamzy\_14 (CT), KayGee\_11 (CT), MAnor\_11 (CT), MScarn\_13 (CT), MaVan\_13 (CT), Margaret\_14 (CT), Mayweather\_12 (CT), MunkgeeRoachy\_11 (CT), Nibbles\_13 (CT), Nina\_12 (CT), Nodigi\_13 (CT), Orla\_13 (CT), Pons\_11 (CT), PotPie\_11 (CT), PsychoKiller\_11 (CT), Quasar\_11 (CT), RanchParmCat\_14 (CT), RedBaron\_12 (CT), SheckWes\_10 (CT), SketchMex\_10 (CT), Sopespian\_11 (CT), SteamedHams\_13 (CT), SummitAcademy\_10 (CT), Survivors\_13 (CT), SweatNTears\_13 (CT), Tolls\_13 (CT), Troje\_11 (CT), Typhonmarchy\_12 (CT), Vine\_12 (CT), Yakult\_12 (CT), Yarn\_10 (CT), Yummy\_12 (CT), Zareef\_15 (CT),

#### Start 51:

- Found in 27 of 389 ( 6.9% ) of genes in pham
- Manual Annotations of this start: 24 of 340
- Called 92.6% of time when present
- Phage (with cluster) where this start called: Angelique\_12 (CY1), Avani\_12 (F2), BeeGee\_12 (CY), Blarby\_13 (F), Bradissa\_12 (CY1), BritBrat\_12 (CY2), Cashline\_12 (CY), Che9d\_12 (F2), Confidence\_12 (CY1), Demsculpinboyz\_12 (F2), EMSquaredA\_12 (CY1), EnalisNailo\_12 (CY1), Floral\_12 (CY1), Jabbawokkie\_13 (F2), Jablanski\_12 (CY), Lilas\_12 (CY1), LonelyBoi\_12 (CY), Marteena\_12 (CY1), Pollux\_12 (CY1), Posh\_12 (CY), Pytheas\_12 (CY), Soul22\_12 (F2), Wrigley\_12 (CY), Yoshi\_12 (F2), Zapner\_13 (F2),

#### Start 52:

- Found in 11 of 389 ( 2.8% ) of genes in pham
- No Manual Annotations of this start.
- Called 9.1% of time when present
- Phage (with cluster) where this start called: PhluffyCoco\_10 (AS3),

#### Start 53:

- Found in 10 of 389 ( 2.6% ) of genes in pham
- No Manual Annotations of this start.
- Called 20.0% of time when present
- Phage (with cluster) where this start called: AnnabelLee\_12 (FR), TMaxx\_12 (FR),

#### Start 54:

- Found in 1 of 389 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 340
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Sleepyhead\_11 (singleton),

#### Start 55:

- Found in 9 of 389 ( 2.3% ) of genes in pham
- Manual Annotations of this start: 8 of 340
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Apricot\_11 (DN3), BearBQ\_11 (DN), Birdsong\_11 (DN), Crater\_11 (DN3), Kuwabara\_11 (DN4), Lucky10\_10 (DH), Morkie\_10 (DH), MortyNRick\_11 (DN), PhorbesPhlower\_10 (DH),

Start 56:

- Found in 8 of 389 ( 2.1% ) of genes in pham
- Manual Annotations of this start: 3 of 340
- Called 37.5% of time when present
- Phage (with cluster) where this start called: Ecliptus\_11 (DN), Juicebox\_12 (singleton), ODay\_11 (DN),

Start 58:

- Found in 5 of 389 ( 1.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 20.0% of time when present
- Phage (with cluster) where this start called: PHL037M02\_09 (BU),

Start 62:

- Found in 142 of 389 ( 36.5% ) of genes in pham
- Manual Annotations of this start: 127 of 340
- Called 99.3% of time when present
- Phage (with cluster) where this start called: ATCC29399BC\_9 (BU), ATCC29399BT\_9 (BU), Albanese\_13 (AK), Aledel\_9 (AK), AppleCider\_13 (AK), Aquarius\_9 (BU), Attacne\_9 (BU), AustinPowers\_9 (AK), Beethoven\_13 (AK), Bennie\_9 (AK), BigMack\_9 (AK), Bodacious\_9 (AK), BrotherBLo\_13 (AK), BruceLethal\_9 (BU), CallieOMalley\_13 (AK), Canowicakte\_13 (AK), Carpal\_13 (AK), ChewChew\_9 (AK), Cholula\_13 (AK), Chridison\_9 (AK), Christian\_9 (AK), Cota\_9 (BU), CristinaYang\_9 (AK), Daiboju\_9 (AK), Dino\_13 (AK), DrParker\_9 (BU), DrRobert\_9 (AK), DreamTeam\_9 (AK), Enochoraptor\_9 (BU), Enoki\_9 (BU), EstebanJulior\_9 (AK), Eunoia\_9 (AK), Fluke\_13 (AK), Gisselle\_9 (AK), Glenn\_13 (AK), GreenHearts\_13 (AK), Greenhouse\_13 (AK), HeadNerd\_9 (AK), Herb\_9 (AK), Huckleberry\_9 (AK), HunterDalle\_9 (AK), Huntingdon\_13 (AK), Immaculata\_13 (AK), Joann\_13 (AK), Jumboset\_13 (AK), Kalizoi\_13 (AK), Keiki\_9 (BU), KingBob\_9 (AK), Kittykat\_9 (AK), Korra\_13 (AK), Kubed\_9 (BU), Lakshmi\_13 (AK), Lasagna\_9 (AK), Lauchelly\_9 (BU), Lennox\_9 (AK), Leviosa\_9 (BU), LilBandit\_9 (BU), LilStuart\_9 (AK), Litotes\_13 (AK), Lucy\_9 (AK), MEAK\_9 (BU), Makoto\_9 (AK), MamaPearl\_9 (AK), Maria1952\_9 (AK), MeganNoll\_13 (AK), Misaeng\_13 (AK), Moki\_9 (AK), Moyashi\_9 (BU), MrAK\_9 (BU), MrGloopy\_13 (AK), Nancia\_9 (AK), Nubia\_13 (AK), OMalley\_9 (AK), OurGirlNessie\_9 (AK), Ouroboros\_9 (BU), Oxyfrius\_13 (AK), P1.1\_9 (BU), P100.1\_9 (BU), P100A\_9 (BU), P100D\_9 (BU), P101A\_9 (BU), P104A\_9 (BU), P104B\_9 (BU), P105\_9 (BU), P106A\_9 (BU), P106C\_9 (BU), P106I\_9 (BU), P106L\_9 (BU), P106M\_9 (BU), P107A\_9 (BU), P107C\_9 (BU), P108C\_9 (BU), P14.4\_9 (BU), P9.1\_9 (BU), PA6\_9 (BU), PAD20\_9 (BU), PAS50\_9 (BU), PHL010M04\_09 (BU), PHL060L00\_09 (BU), PHL067M10\_09 (BU), PHL071N05\_09 (BU), PHL111M01\_09 (BU), PHL112N00\_09 (BU), PHL113M01\_09 (BU), PHL114L00\_09 (BU), PartyCup\_13 (AK), PinkFriday\_9 (AK), Pirate\_9 (BU), PitaDog\_9 (AK), Potatoes\_13 (AK), Preamble\_9 (AK), Procrass1\_9 (BU), Pterodactyl\_9 (AK), Pumancara\_9 (AK), QueenBey\_9 (BU), RAP15\_13 (AK), RcigaStruga\_13 (AK), Rileysaurus\_9 (BU), Rivovina\_9 (AK), Riverdale\_13 (AK), Rozby\_13 (AK), SKKY\_9 (BU), Savage2526\_13 (AK), Scuttle\_13 (AK), Sergei\_9 (AK), Solid\_9 (BU), Spartoi\_9 (singleton), Stormborn\_9 (BU), Supakev\_9 (AK), Supernova\_9 (BU), Suppi\_13 (AK), TattModd\_13 (AK), Temper16\_9 (AK), Urla\_9 (AK), Vallejo\_13 (AK), Vulture\_9 (AK), Wawa\_13 (AK), Wayne\_13 (AK), Wizzo\_9 (BU), WonderBoy\_9 (AK), Zorro\_13 (AK),

Start 63:

- Found in 13 of 389 ( 3.3% ) of genes in pham
- Manual Annotations of this start: 1 of 340
- Called 7.7% of time when present
- Phage (with cluster) where this start called: Daob\_12 (AS2),

#### Start 65:

- Found in 2 of 389 ( 0.5% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: SPB78\_11 (BA), VWB\_10 (BA),

#### Start 66:

- Found in 13 of 389 ( 3.3% ) of genes in pham
- Manual Annotations of this start: 6 of 340
- Called 46.2% of time when present
- Phage (with cluster) where this start called: Coral\_11 (AS2), Cote\_12 (AS2), Kepler\_11 (AS2), Kuleana\_11 (AS2), Melons\_12 (AS2), Polka\_11 (AS2),

#### Start 68:

- Found in 28 of 389 ( 7.2% ) of genes in pham
- Manual Annotations of this start: 3 of 340
- Called 14.3% of time when present
- Phage (with cluster) where this start called: Amelia\_12 (AS2), Bedetta\_12 (AS2), HannahPhantana\_12 (AS2), Lunar\_12 (AS2),

#### Start 70:

- Found in 8 of 389 ( 2.1% ) of genes in pham
- Manual Annotations of this start: 8 of 340
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abidatro\_11 (AS1), Basilisk\_11 (AS1), Brynnie\_11 (AS1), Chickaboom\_10 (AS1), Galaxy\_11 (AS1), Jamun\_11 (AS1), Ruchi\_11 (AS1), Vulpecula\_11 (AS1),

#### Start 72:

- Found in 1 of 389 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 340
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Rowa\_10 (BL),

#### Start 73:

- Found in 25 of 389 ( 6.4% ) of genes in pham
- Manual Annotations of this start: 10 of 340
- Called 52.0% of time when present
- Phage (with cluster) where this start called: Andrew\_11 (AS3), Camara\_10 (AS3), Colusalem\_11 (AS2), Eesa\_11 (AS1), Jerole\_12 (AS2), Juno112\_10 (AS3), KHumphrey\_10 (AS3), Leona\_10 (AS3), LittleTokyo\_11 (AS2), Orcanus\_11 (AS1), RedFox\_10 (AS3), Renna12\_11 (AS3), TaylorSipht\_11 (AS1),

#### Start 74:

- Found in 2 of 389 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 2 of 340
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AbbeyMikolon\_10 (BL), Nesbitt\_10 (BL),

Start 77:

- Found in 52 of 389 ( 13.4% ) of genes in pham
- Manual Annotations of this start: 1 of 340
- Called 1.9% of time when present
- Phage (with cluster) where this start called: Shambre1\_11 (singleton),

Start 80:

- Found in 10 of 389 ( 2.6% ) of genes in pham
- Manual Annotations of this start: 4 of 340
- Called 50.0% of time when present
- Phage (with cluster) where this start called: AuntGwenStacy\_17 (Y), Bipper\_17 (Y), Cracklewink\_17 (Y), Hilltopfarm\_17 (Y), Typha\_17 (Y),

Start 85:

- Found in 20 of 389 ( 5.1% ) of genes in pham
- Manual Annotations of this start: 19 of 340
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Asapag\_11 (DN1), BENtherdunthat\_11 (DN1), Budski\_11 (DN), CheeseTouch\_11 (DN1), Frickyeah\_11 (DN1), Getalong\_11 (DN1), Holliday\_11 (DN1), Horus\_11 (DN1), Kamaru\_11 (DN1), Kenna\_11 (DN1), Leroy\_11 (DN1), LitninMcQueen\_11 (DN1), Lutum\_11 (DN1), Malisha\_11 (DN), Periwinkle\_11 (DN1), Phabuloso\_11 (DN1), Phistory\_11 (DN1), Spooky\_11 (DN2), Squiddly\_12 (DN2), Whitney\_11 (DN1),

**Summary by clusters:**

There are 25 clusters represented in this pham: DN, FP, FR, BA, DH, AS2, BL, CY1, BU, DP, DN4, DN1, DN3, DN2, AS3, CY2, AS1, F, AK, EB, CY, Y, singleton, CT, F2,

Info for manual annotations of cluster AK:

- Start number 62 was manually annotated 83 times for cluster AK.

Info for manual annotations of cluster AS1:

- Start number 70 was manually annotated 8 times for cluster AS1.
- Start number 73 was manually annotated 3 times for cluster AS1.

Info for manual annotations of cluster AS2:

- Start number 63 was manually annotated 1 time for cluster AS2.
- Start number 66 was manually annotated 6 times for cluster AS2.
- Start number 68 was manually annotated 3 times for cluster AS2.
- Start number 73 was manually annotated 1 time for cluster AS2.

Info for manual annotations of cluster AS3:

- Start number 73 was manually annotated 6 times for cluster AS3.

Info for manual annotations of cluster BL:

- Start number 72 was manually annotated 1 time for cluster BL.
- Start number 74 was manually annotated 2 times for cluster BL.

Info for manual annotations of cluster BU:

- Start number 62 was manually annotated 43 times for cluster BU.

Info for manual annotations of cluster CT:

- Start number 37 was manually annotated 1 time for cluster CT.
- Start number 49 was manually annotated 52 times for cluster CT.

Info for manual annotations of cluster CY:

- Start number 51 was manually annotated 7 times for cluster CY.

Info for manual annotations of cluster CY1:

- Start number 51 was manually annotated 9 times for cluster CY1.

Info for manual annotations of cluster CY2:

- Start number 51 was manually annotated 1 time for cluster CY2.

Info for manual annotations of cluster DH:

- Start number 55 was manually annotated 3 times for cluster DH.

Info for manual annotations of cluster DN:

- Start number 55 was manually annotated 2 times for cluster DN.
- Start number 56 was manually annotated 2 times for cluster DN.
- Start number 85 was manually annotated 2 times for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 85 was manually annotated 15 times for cluster DN1.

Info for manual annotations of cluster DN2:

- Start number 85 was manually annotated 2 times for cluster DN2.

Info for manual annotations of cluster DN3:

- Start number 55 was manually annotated 2 times for cluster DN3.

Info for manual annotations of cluster DN4:

- Start number 55 was manually annotated 1 time for cluster DN4.

Info for manual annotations of cluster DP:

- Start number 44 was manually annotated 6 times for cluster DP.

Info for manual annotations of cluster EB:

- Start number 40 was manually annotated 2 times for cluster EB.
- Start number 42 was manually annotated 12 times for cluster EB.
- Start number 43 was manually annotated 44 times for cluster EB.
- Start number 45 was manually annotated 2 times for cluster EB.
- Start number 47 was manually annotated 1 time for cluster EB.

Info for manual annotations of cluster F2:

- Start number 51 was manually annotated 7 times for cluster F2.

Info for manual annotations of cluster FP:

- Start number 42 was manually annotated 2 times for cluster FP.

Info for manual annotations of cluster Y:



- Start number 80 was manually annotated 4 times for cluster Y.

### **Gene Information:**

Gene: ATCC29399BC\_9 Start: 6452, Stop: 6742, Start Num: 62

Candidate Starts for ATCC29399BC\_9:

(Start: 62 @6452 has 127 MA's), (69, 6464), (71, 6470), (Start: 77 @6482 has 1 MA's), (81, 6500), (82, 6503), (87, 6518), (89, 6527), (90, 6530), (103, 6575), (117, 6617), (124, 6629), (141, 6713),

Gene: ATCC29399BT\_9 Start: 6448, Stop: 6738, Start Num: 62

Candidate Starts for ATCC29399BT\_9:

(58, 6442), (Start: 62 @6448 has 127 MA's), (71, 6466), (81, 6496), (87, 6514), (89, 6523), (90, 6526), (97, 6547), (117, 6613), (124, 6625), (129, 6649), (141, 6709),

Gene: AbbeyMikolon\_10 Start: 7532, Stop: 7783, Start Num: 74

Candidate Starts for AbbeyMikolon\_10:

(Start: 74 @7532 has 2 MA's), (86, 7562), (110, 7637), (120, 7664), (132, 7703),

Gene: Abidatro\_11 Start: 8071, Stop: 8328, Start Num: 70

Candidate Starts for Abidatro\_11:

(60, 8053), (Start: 70 @8071 has 8 MA's), (107, 8185), (130, 8239), (131, 8242),

Gene: Abigail\_10 Start: 7773, Stop: 8030, Start Num: 43

Candidate Starts for Abigail\_10:

(39, 7761), (Start: 43 @7773 has 44 MA's), (82, 7794), (132, 7950), (141, 8001),

Gene: Agatha\_11 Start: 7257, Stop: 7538, Start Num: 49

Candidate Starts for Agatha\_11:

(Start: 49 @7257 has 52 MA's),

Gene: AikoCarson\_10 Start: 6987, Stop: 7256, Start Num: 49

Candidate Starts for AikoCarson\_10:

(Start: 49 @6987 has 52 MA's),

Gene: Albanese\_13 Start: 10184, Stop: 10474, Start Num: 62

Candidate Starts for Albanese\_13:

(Start: 62 @10184 has 127 MA's), (75, 10208), (97, 10283), (99, 10292), (104, 10310), (132, 10391),

Gene: Albedo\_10 Start: 7645, Stop: 7905, Start Num: 43

Candidate Starts for Albedo\_10:

(39, 7633), (Start: 43 @7645 has 44 MA's), (82, 7669), (132, 7825), (136, 7840), (141, 7876),

Gene: Albright\_10 Start: 7654, Stop: 7911, Start Num: 43

Candidate Starts for Albright\_10:

(39, 7642), (Start: 43 @7654 has 44 MA's), (82, 7675), (132, 7831), (141, 7882),

Gene: Aledel\_9 Start: 7261, Stop: 7548, Start Num: 62

Candidate Starts for Aledel\_9:

(Start: 62 @7261 has 127 MA's), (97, 7360), (132, 7468), (146, 7540),

Gene: Amelia\_12 Start: 8244, Stop: 8504, Start Num: 68

Candidate Starts for Amelia\_12:

(Start: 63 @8235 has 1 MA's), (Start: 66 @8241 has 6 MA's), (Start: 68 @8244 has 3 MA's), (Start: 73 @8250 has 10 MA's), (81, 8274), (95, 8319), (119, 8382), (126, 8394),

Gene: Amok\_10 Start: 6987, Stop: 7256, Start Num: 49

Candidate Starts for Amok\_10:

(Start: 49 @6987 has 52 MA's),

Gene: AndPeggy\_10 Start: 7275, Stop: 7547, Start Num: 49

Candidate Starts for AndPeggy\_10:

(Start: 49 @7275 has 52 MA's),

Gene: Andrew\_11 Start: 8034, Stop: 8288, Start Num: 73

Candidate Starts for Andrew\_11:

(5, 7596), (8, 7704), (22, 7854), (25, 7905), (28, 7923), (52, 7998), (Start: 73 @8034 has 10 MA's), (81, 8058), (96, 8106), (114, 8160), (119, 8166), (126, 8178), (132, 8205),

Gene: Angelique\_12 Start: 8007, Stop: 8264, Start Num: 51

Candidate Starts for Angelique\_12:

(Start: 51 @8007 has 24 MA's), (89, 8088), (144, 8256),

Gene: AnnaLie\_11 Start: 8000, Stop: 8320, Start Num: 43

Candidate Starts for AnnaLie\_11:

(39, 7988), (Start: 43 @8000 has 44 MA's), (82, 8084), (131, 8237),

Gene: AnnabelLee\_12 Start: 7464, Stop: 7730, Start Num: 53

Candidate Starts for AnnabelLee\_12:

(53, 7464), (132, 7650), (134, 7653), (143, 7710),

Gene: AppleCider\_13 Start: 10140, Stop: 10409, Start Num: 62

Candidate Starts for AppleCider\_13:

(57, 10128), (Start: 62 @10140 has 127 MA's), (71, 10158), (90, 10218), (97, 10239), (132, 10326),

Gene: Apricot\_11 Start: 7129, Stop: 7386, Start Num: 55

Candidate Starts for Apricot\_11:

(38, 7096), (Start: 55 @7129 has 8 MA's), (93, 7222), (101, 7243), (132, 7315), (134, 7318), (137, 7339), (142, 7369),

Gene: Aquarius\_9 Start: 6442, Stop: 6732, Start Num: 62

Candidate Starts for Aquarius\_9:

(Start: 62 @6442 has 127 MA's), (69, 6454), (71, 6460), (Start: 77 @6472 has 1 MA's), (81, 6490), (82, 6493), (87, 6508), (89, 6517), (90, 6520), (103, 6565), (117, 6607), (124, 6619),

Gene: Armstrong\_9 Start: 7425, Stop: 7688, Start Num: 43

Candidate Starts for Armstrong\_9:

(31, 7368), (Start: 43 @7425 has 44 MA's), (53, 7440), (82, 7455), (120, 7572), (137, 7632), (142, 7662),

Gene: Arroyo\_11 Start: 8124, Stop: 8381, Start Num: 43

Candidate Starts for Arroyo\_11:

(39, 8112), (Start: 43 @8124 has 44 MA's), (82, 8145), (131, 8298), (132, 8301), (136, 8316), (141, 8352),

Gene: Asapag\_11 Start: 6824, Stop: 7048, Start Num: 85

Candidate Starts for Asapag\_11:

(19, 6587), (21, 6602), (32, 6686), (Start: 68 @6782 has 3 MA's), (Start: 85 @6824 has 19 MA's), (97, 6863), (102, 6881), (123, 6938), (125, 6944), (133, 6971), (144, 7034),

Gene: Attacne\_9 Start: 6453, Stop: 6743, Start Num: 62

Candidate Starts for Attacne\_9:

(Start: 62 @6453 has 127 MA's), (69, 6465), (71, 6471), (Start: 77 @6483 has 1 MA's), (81, 6501), (82, 6504), (87, 6519), (89, 6528), (90, 6531), (103, 6576), (124, 6630), (129, 6654),

Gene: AuntGwenStacy\_17 Start: 11749, Stop: 11997, Start Num: 80

Candidate Starts for AuntGwenStacy\_17:

(Start: 56 @11692 has 3 MA's), (Start: 80 @11749 has 4 MA's), (93, 11791), (116, 11866), (134, 11914), (142, 11965), (146, 11983),

Gene: AustinPowers\_9 Start: 7262, Stop: 7549, Start Num: 62

Candidate Starts for AustinPowers\_9:

(Start: 62 @7262 has 127 MA's), (97, 7361), (132, 7469),

Gene: AvGardian\_10 Start: 7705, Stop: 7968, Start Num: 45

Candidate Starts for AvGardian\_10:

(Start: 42 @7699 has 14 MA's), (Start: 45 @7705 has 2 MA's), (82, 7732),

Gene: Avani\_12 Start: 6948, Stop: 7220, Start Num: 51

Candidate Starts for Avani\_12:

(Start: 51 @6948 has 24 MA's), (83, 7008), (84, 7011), (93, 7041), (100, 7065), (111, 7095), (135, 7155),

Gene: Avocadoman\_10 Start: 7712, Stop: 7969, Start Num: 43

Candidate Starts for Avocadoman\_10:

(39, 7700), (Start: 43 @7712 has 44 MA's), (82, 7733), (132, 7889), (141, 7940),

Gene: Axym\_11 Start: 7257, Stop: 7538, Start Num: 49

Candidate Starts for Axym\_11:

(23, 7134), (Start: 49 @7257 has 52 MA's),

Gene: Azira\_13 Start: 8163, Stop: 8462, Start Num: 49

Candidate Starts for Azira\_13:

(46, 8160), (Start: 49 @8163 has 52 MA's), (93, 8265), (113, 8334), (132, 8376), (143, 8436), (144, 8439), (145, 8442),

Gene: BAjuniper\_10 Start: 7595, Stop: 7852, Start Num: 42

Candidate Starts for BAjuniper\_10:

(39, 7586), (Start: 42 @7595 has 14 MA's), (82, 7616), (131, 7769), (132, 7772), (140, 7817),

Gene: BENtherdunthat\_11 Start: 6824, Stop: 7048, Start Num: 85

Candidate Starts for BENtherdunthat\_11:

(19, 6587), (21, 6602), (32, 6686), (Start: 68 @6782 has 3 MA's), (Start: 85 @6824 has 19 MA's), (97, 6863), (102, 6881), (123, 6938), (125, 6944), (133, 6971), (144, 7034),

Gene: BabyDaisy\_11 Start: 7870, Stop: 8133, Start Num: 42

Candidate Starts for BabyDaisy\_11:

(39, 7861), (Start: 42 @7870 has 14 MA's),

Gene: BabyYoda\_10 Start: 7899, Stop: 8162, Start Num: 42

Candidate Starts for BabyYoda\_10:

(Start: 42 @7899 has 14 MA's), (50, 7911), (82, 7926), (120, 8043), (132, 8082), (136, 8097),

Gene: Bachaco\_10 Start: 7786, Stop: 8049, Start Num: 43

Candidate Starts for Bachaco\_10:

(39, 7774), (Start: 43 @7786 has 44 MA's), (82, 7813), (88, 7831), (120, 7930), (132, 7969),

Gene: BaileyBlu\_10 Start: 6510, Stop: 6782, Start Num: 42

Candidate Starts for BaileyBlu\_10:

(Start: 42 @6510 has 14 MA's), (Start: 51 @6525 has 24 MA's), (82, 6546), (89, 6570), (90, 6573), (92, 6579), (132, 6699),

Gene: Basilisk\_11 Start: 8395, Stop: 8652, Start Num: 70

Candidate Starts for Basilisk\_11:

(2, 7819), (5, 7933), (8, 8041), (9, 8086), (24, 8242), (Start: 70 @8395 has 8 MA's), (130, 8563),

Gene: BearBQ\_11 Start: 7129, Stop: 7386, Start Num: 55

Candidate Starts for BearBQ\_11:

(38, 7096), (Start: 55 @7129 has 8 MA's), (108, 7264), (130, 7309), (132, 7315), (134, 7318), (137, 7339),

Gene: Bedetta\_12 Start: 8244, Stop: 8504, Start Num: 68

Candidate Starts for Bedetta\_12:

(Start: 63 @8235 has 1 MA's), (Start: 66 @8241 has 6 MA's), (Start: 68 @8244 has 3 MA's), (Start: 73 @8250 has 10 MA's), (81, 8274), (95, 8319), (119, 8382), (126, 8394),

Gene: BeeGee\_12 Start: 8009, Stop: 8266, Start Num: 51

Candidate Starts for BeeGee\_12:

(Start: 51 @8009 has 24 MA's), (137, 8219), (144, 8258),

Gene: Beethoven\_13 Start: 10100, Stop: 10369, Start Num: 62

Candidate Starts for Beethoven\_13:

(Start: 62 @10100 has 127 MA's), (82, 10151), (87, 10166), (97, 10199),

Gene: BelmontSKP\_11 Start: 8000, Stop: 8320, Start Num: 43

Candidate Starts for BelmontSKP\_11:

(39, 7988), (Start: 43 @8000 has 44 MA's), (82, 8084), (131, 8237),

Gene: Bennie\_9 Start: 7245, Stop: 7514, Start Num: 62

Candidate Starts for Bennie\_9:

(Start: 62 @7245 has 127 MA's), (71, 7263), (97, 7344), (118, 7389), (132, 7431),

Gene: Bernstein\_9 Start: 7485, Stop: 7748, Start Num: 43

Candidate Starts for Bernstein\_9:

(31, 7428), (Start: 43 @7485 has 44 MA's), (53, 7500), (82, 7515), (120, 7632), (137, 7692), (142, 7722),

Gene: BigChungus\_10 Start: 7054, Stop: 7326, Start Num: 49

Candidate Starts for BigChungus\_10:

(46, 7051), (Start: 49 @7054 has 52 MA's), (130, 7237), (132, 7243), (137, 7267),

Gene: BigMack\_9 Start: 7245, Stop: 7514, Start Num: 62  
Candidate Starts for BigMack\_9:  
(Start: 62 @7245 has 127 MA's), (87, 7311), (97, 7344), (132, 7431), (146, 7503),

Gene: BillDoor\_13 Start: 7240, Stop: 7512, Start Num: 49  
Candidate Starts for BillDoor\_13:  
(Start: 49 @7240 has 52 MA's),

Gene: Bipper\_17 Start: 11835, Stop: 12083, Start Num: 80  
Candidate Starts for Bipper\_17:  
(Start: 56 @11778 has 3 MA's), (Start: 80 @11835 has 4 MA's), (112, 11934), (116, 11952), (117, 11955), (134, 12000),

Gene: Birdsong\_11 Start: 7129, Stop: 7386, Start Num: 55  
Candidate Starts for Birdsong\_11:  
(38, 7096), (Start: 55 @7129 has 8 MA's), (108, 7264), (130, 7309), (132, 7315), (134, 7318), (137, 7339),

Gene: Biskit\_12 Start: 7241, Stop: 7519, Start Num: 49  
Candidate Starts for Biskit\_12:  
(Start: 49 @7241 has 52 MA's), (84, 7310), (106, 7382),

Gene: Blarby\_13 Start: 7472, Stop: 7744, Start Num: 51  
Candidate Starts for Blarby\_13:  
(Start: 51 @7472 has 24 MA's), (83, 7532), (84, 7535), (93, 7565), (100, 7589), (111, 7619), (135, 7679),

Gene: Bodacious\_9 Start: 7243, Stop: 7512, Start Num: 62  
Candidate Starts for Bodacious\_9:  
(Start: 62 @7243 has 127 MA's), (90, 7321), (97, 7342), (132, 7429),

Gene: Bradissa\_12 Start: 8013, Stop: 8270, Start Num: 51  
Candidate Starts for Bradissa\_12:  
(Start: 51 @8013 has 24 MA's), (137, 8223), (144, 8262),

Gene: Brahms\_9 Start: 7425, Stop: 7688, Start Num: 43  
Candidate Starts for Brahms\_9:  
(31, 7368), (Start: 43 @7425 has 44 MA's), (53, 7440), (82, 7455), (120, 7572), (137, 7632), (142, 7662),

Gene: BritBrat\_12 Start: 8015, Stop: 8272, Start Num: 51  
Candidate Starts for BritBrat\_12:  
(Start: 51 @8015 has 24 MA's), (137, 8225), (144, 8264),

Gene: BrotherBLo\_13 Start: 10107, Stop: 10376, Start Num: 62  
Candidate Starts for BrotherBLo\_13:  
(Start: 62 @10107 has 127 MA's), (82, 10158), (87, 10173), (97, 10206),

Gene: BruceLethal\_9 Start: 6441, Stop: 6731, Start Num: 62  
Candidate Starts for BruceLethal\_9:  
(58, 6435), (Start: 62 @6441 has 127 MA's), (69, 6453), (71, 6459), (81, 6489), (82, 6492), (87, 6507), (89, 6516), (90, 6519), (97, 6540), (103, 6564), (117, 6606), (124, 6618), (129, 6642),

Gene: Brynnie\_11 Start: 8207, Stop: 8464, Start Num: 70

Candidate Starts for Brynnie\_11:

(2, 7631), (5, 7745), (8, 7853), (9, 7898), (24, 8054), (Start: 70 @8207 has 8 MA's), (99, 8297), (130, 8375),

Gene: BubbaBear\_10 Start: 7645, Stop: 7905, Start Num: 43

Candidate Starts for BubbaBear\_10:

(39, 7633), (Start: 43 @7645 has 44 MA's), (82, 7669), (132, 7825), (136, 7840),

Gene: Budski\_11 Start: 6829, Stop: 7053, Start Num: 85

Candidate Starts for Budski\_11:

(Start: 68 @6787 has 3 MA's), (Start: 85 @6829 has 19 MA's), (97, 6868), (102, 6886), (123, 6943), (125, 6949), (133, 6976), (144, 7039),

Gene: Buldak\_10 Start: 7930, Stop: 8196, Start Num: 43

Candidate Starts for Buldak\_10:

(39, 7918), (Start: 43 @7930 has 44 MA's), (95, 8002), (105, 8035), (120, 8077),

Gene: Burnsey\_11 Start: 7258, Stop: 7539, Start Num: 49

Candidate Starts for Burnsey\_11:

(Start: 49 @7258 has 52 MA's),

Gene: Burritobowl\_10 Start: 7681, Stop: 7938, Start Num: 43

Candidate Starts for Burritobowl\_10:

(39, 7669), (Start: 43 @7681 has 44 MA's), (82, 7702), (132, 7858), (141, 7909),

Gene: Button\_12 Start: 7274, Stop: 7543, Start Num: 49

Candidate Starts for Button\_12:

(Start: 49 @7274 has 52 MA's), (64, 7289), (83, 7331), (142, 7514),

Gene: Buttrmlkdreams\_11 Start: 7235, Stop: 7504, Start Num: 49

Candidate Starts for Buttrmlkdreams\_11:

(Start: 49 @7235 has 52 MA's), (84, 7295), (106, 7367),

Gene: CallieOMalley\_13 Start: 10140, Stop: 10409, Start Num: 62

Candidate Starts for CallieOMalley\_13:

(57, 10128), (Start: 62 @10140 has 127 MA's), (71, 10158), (90, 10218), (97, 10239), (132, 10326),

Gene: CallinAllBarbz\_10 Start: 6520, Stop: 6792, Start Num: 42

Candidate Starts for CallinAllBarbz\_10:

(Start: 42 @6520 has 14 MA's), (Start: 51 @6535 has 24 MA's), (118, 6667), (132, 6709),

Gene: Camara\_10 Start: 7656, Stop: 7910, Start Num: 73

Candidate Starts for Camara\_10:

(52, 7620), (Start: 73 @7656 has 10 MA's), (81, 7680), (95, 7725), (98, 7737), (114, 7782), (119, 7788), (126, 7800), (132, 7827),

Gene: Canowicakte\_13 Start: 10175, Stop: 10444, Start Num: 62

Candidate Starts for Canowicakte\_13:

(57, 10163), (Start: 62 @10175 has 127 MA's), (71, 10193), (90, 10253), (97, 10274), (132, 10361),

Gene: Carpal\_13 Start: 10107, Stop: 10376, Start Num: 62

Candidate Starts for Carpal\_13:

(Start: 62 @10107 has 127 MA's), (82, 10158), (87, 10173), (97, 10206),

Gene: Carsonalex\_12 Start: 7314, Stop: 7595, Start Num: 49

Candidate Starts for Carsonalex\_12:

(23, 7191), (Start: 49 @7314 has 52 MA's),

Gene: Cashington\_10 Start: 7671, Stop: 7928, Start Num: 43

Candidate Starts for Cashington\_10:

(39, 7659), (Start: 43 @7671 has 44 MA's), (82, 7692), (132, 7848), (141, 7899),

Gene: Cashline\_12 Start: 7862, Stop: 8119, Start Num: 51

Candidate Starts for Cashline\_12:

(31, 7793), (Start: 51 @7862 has 24 MA's), (137, 8072), (144, 8111),

Gene: Celaena\_10 Start: 7723, Stop: 7986, Start Num: 43

Candidate Starts for Celaena\_10:

(39, 7711), (Start: 43 @7723 has 44 MA's), (82, 7750), (88, 7768), (120, 7867), (132, 7906),

Gene: Che9d\_12 Start: 6957, Stop: 7229, Start Num: 51

Candidate Starts for Che9d\_12:

(Start: 51 @6957 has 24 MA's), (83, 7017), (84, 7020), (93, 7050), (100, 7074), (111, 7104), (135, 7164),

Gene: CheeseTouch\_11 Start: 6829, Stop: 7053, Start Num: 85

Candidate Starts for CheeseTouch\_11:

(Start: 68 @6787 has 3 MA's), (Start: 85 @6829 has 19 MA's), (97, 6868), (102, 6886), (123, 6943), (125, 6949), (133, 6976), (144, 7039),

Gene: CherryonLim\_12 Start: 7780, Stop: 8052, Start Num: 49

Candidate Starts for CherryonLim\_12:

(Start: 49 @7780 has 52 MA's), (59, 7792), (64, 7798), (130, 7963), (132, 7969), (137, 7993),

Gene: ChewChew\_9 Start: 7242, Stop: 7511, Start Num: 62

Candidate Starts for ChewChew\_9:

(Start: 62 @7242 has 127 MA's), (91, 7323), (97, 7341), (118, 7386), (132, 7428),

Gene: Chickaboom\_10 Start: 7752, Stop: 8009, Start Num: 70

Candidate Starts for Chickaboom\_10:

(5, 7290), (8, 7398), (9, 7443), (24, 7599), (Start: 70 @7752 has 8 MA's), (130, 7920),

Gene: ChiliPepper\_10 Start: 7882, Stop: 8139, Start Num: 43

Candidate Starts for ChiliPepper\_10:

(Start: 43 @7882 has 44 MA's), (95, 7945), (132, 8059), (140, 8104),

Gene: Cholula\_13 Start: 10152, Stop: 10421, Start Num: 62

Candidate Starts for Cholula\_13:

(Start: 62 @10152 has 127 MA's), (82, 10203), (87, 10218), (97, 10251),

Gene: Chridison\_9 Start: 7262, Stop: 7549, Start Num: 62

Candidate Starts for Chridison\_9:

(Start: 62 @7262 has 127 MA's), (97, 7361), (132, 7469),

Gene: Christian\_9 Start: 7243, Stop: 7512, Start Num: 62

Candidate Starts for Christian\_9:

(Start: 62 @7243 has 127 MA's), (90, 7321), (97, 7342), (132, 7429),

Gene: Clayda5\_9 Start: 7425, Stop: 7688, Start Num: 43

Candidate Starts for Clayda5\_9:

(31, 7368), (Start: 43 @7425 has 44 MA's), (53, 7440), (82, 7455), (120, 7572), (137, 7632), (142, 7662),

Gene: Cleo\_11 Start: 7463, Stop: 7762, Start Num: 49

Candidate Starts for Cleo\_11:

(Start: 49 @7463 has 52 MA's), (145, 7742),

Gene: CliffHanger\_11 Start: 7617, Stop: 7886, Start Num: 39

Candidate Starts for CliffHanger\_11:

(31, 7572), (39, 7617), (Start: 42 @7626 has 14 MA's), (122, 7773), (131, 7803),

Gene: Coltrane\_9 Start: 7425, Stop: 7688, Start Num: 43

Candidate Starts for Coltrane\_9:

(31, 7368), (Start: 43 @7425 has 44 MA's), (53, 7440), (82, 7455), (120, 7572), (137, 7632), (142, 7662),

Gene: Colusalem\_11 Start: 8089, Stop: 8343, Start Num: 73

Candidate Starts for Colusalem\_11:

(Start: 63 @8074 has 1 MA's), (Start: 66 @8080 has 6 MA's), (Start: 68 @8083 has 3 MA's), (Start: 73 @8089 has 10 MA's), (81, 8113), (95, 8158), (119, 8221), (126, 8233),

Gene: Confidence\_12 Start: 8009, Stop: 8266, Start Num: 51

Candidate Starts for Confidence\_12:

(Start: 51 @8009 has 24 MA's), (137, 8219), (144, 8258),

Gene: Coral\_11 Start: 8080, Stop: 8343, Start Num: 66

Candidate Starts for Coral\_11:

(Start: 63 @8074 has 1 MA's), (Start: 66 @8080 has 6 MA's), (Start: 68 @8083 has 3 MA's), (Start: 73 @8089 has 10 MA's), (81, 8113), (95, 8158), (119, 8221), (126, 8233),

Gene: Cota\_9 Start: 6460, Stop: 6750, Start Num: 62

Candidate Starts for Cota\_9:

(Start: 62 @6460 has 127 MA's), (69, 6472), (71, 6478), (Start: 77 @6490 has 1 MA's), (81, 6508), (82, 6511), (87, 6526), (89, 6535), (90, 6538), (97, 6559), (103, 6583), (117, 6625), (124, 6637), (127, 6652), (129, 6661),

Gene: Cote\_12 Start: 8241, Stop: 8504, Start Num: 66

Candidate Starts for Cote\_12:

(Start: 63 @8235 has 1 MA's), (Start: 66 @8241 has 6 MA's), (Start: 68 @8244 has 3 MA's), (Start: 73 @8250 has 10 MA's), (81, 8274), (95, 8319), (119, 8382), (126, 8394),

Gene: Cozz\_11 Start: 7258, Stop: 7539, Start Num: 49

Candidate Starts for Cozz\_11:

(23, 7135), (Start: 49 @7258 has 52 MA's),

Gene: Cracklewink\_17 Start: 11835, Stop: 12083, Start Num: 80

Candidate Starts for Cracklewink\_17:



(Start: 56 @11778 has 3 MA's), (Start: 80 @11835 has 4 MA's), (116, 11952), (117, 11955), (134, 12000),

Gene: Crater\_11 Start: 7129, Stop: 7386, Start Num: 55

Candidate Starts for Crater\_11:

(38, 7096), (Start: 55 @7129 has 8 MA's), (93, 7222), (101, 7243), (132, 7315), (134, 7318), (137, 7339), (142, 7369),

Gene: CristinaYang\_9 Start: 7243, Stop: 7512, Start Num: 62

Candidate Starts for CristinaYang\_9:

(Start: 62 @7243 has 127 MA's), (90, 7321), (97, 7342), (132, 7429),

Gene: CroZenni\_10 Start: 7654, Stop: 7911, Start Num: 43

Candidate Starts for CroZenni\_10:

(39, 7642), (Start: 43 @7654 has 44 MA's), (82, 7675), (131, 7828), (132, 7831), (136, 7846), (141, 7882),

Gene: Daiboju\_9 Start: 7263, Stop: 7550, Start Num: 62

Candidate Starts for Daiboju\_9:

(Start: 62 @7263 has 127 MA's), (91, 7344), (97, 7362), (132, 7470), (146, 7542),

Gene: Daob\_12 Start: 8238, Stop: 8507, Start Num: 63

Candidate Starts for Daob\_12:

(Start: 63 @8238 has 1 MA's), (Start: 66 @8244 has 6 MA's), (Start: 68 @8247 has 3 MA's), (Start: 73 @8253 has 10 MA's), (81, 8277), (95, 8322), (119, 8385), (126, 8397),

Gene: Demsculpinboyz\_12 Start: 6948, Stop: 7220, Start Num: 51

Candidate Starts for Demsculpinboyz\_12:

(Start: 51 @6948 has 24 MA's), (83, 7008), (84, 7011), (93, 7041), (100, 7065), (111, 7095), (135, 7155),

Gene: DickRichards\_10 Start: 8148, Stop: 8405, Start Num: 43

Candidate Starts for DickRichards\_10:

(39, 8136), (Start: 43 @8148 has 44 MA's), (82, 8169), (131, 8322), (132, 8325), (136, 8340), (141, 8376),

Gene: Didgeridoo\_11 Start: 7870, Stop: 8133, Start Num: 42

Candidate Starts for Didgeridoo\_11:

(39, 7861), (Start: 42 @7870 has 14 MA's),

Gene: Dino\_13 Start: 10106, Stop: 10375, Start Num: 62

Candidate Starts for Dino\_13:

(Start: 62 @10106 has 127 MA's), (82, 10157), (87, 10172), (97, 10205),

Gene: DirtyBubble\_10 Start: 7907, Stop: 8170, Start Num: 42

Candidate Starts for DirtyBubble\_10:

(Start: 42 @7907 has 14 MA's), (50, 7919), (82, 7934), (120, 8051), (132, 8090), (136, 8105),

Gene: Dismas\_10 Start: 7882, Stop: 8139, Start Num: 43

Candidate Starts for Dismas\_10:

(Start: 43 @7882 has 44 MA's), (95, 7945), (132, 8059), (140, 8104),

Gene: Doobus\_10 Start: 7885, Stop: 8142, Start Num: 43

Candidate Starts for Doobus\_10:

(39, 7873), (Start: 43 @7885 has 44 MA's), (82, 7906), (132, 8062), (141, 8113),

Gene: DrParker\_9 Start: 6467, Stop: 6757, Start Num: 62

Candidate Starts for DrParker\_9:

(Start: 62 @6467 has 127 MA's), (69, 6479), (71, 6485), (Start: 77 @6497 has 1 MA's), (81, 6515), (82, 6518), (87, 6533), (89, 6542), (90, 6545), (97, 6566), (103, 6590), (117, 6632), (124, 6644), (129, 6668), (141, 6728),

Gene: DrRobert\_9 Start: 7243, Stop: 7512, Start Num: 62

Candidate Starts for DrRobert\_9:

(Start: 62 @7243 has 127 MA's), (97, 7342), (132, 7429),

Gene: Dre3\_11 Start: 7410, Stop: 7709, Start Num: 49

Candidate Starts for Dre3\_11:

(Start: 49 @7410 has 52 MA's), (145, 7689),

Gene: DreamTeam\_9 Start: 7289, Stop: 7579, Start Num: 62

Candidate Starts for DreamTeam\_9:

(Start: 62 @7289 has 127 MA's), (97, 7388), (109, 7427), (132, 7496),

Gene: EMSquaredA\_12 Start: 8015, Stop: 8272, Start Num: 51

Candidate Starts for EMSquaredA\_12:

(Start: 51 @8015 has 24 MA's), (137, 8225), (144, 8264),

Gene: Ecliptus\_11 Start: 6857, Stop: 7114, Start Num: 56

Candidate Starts for Ecliptus\_11:

(36, 6812), (Start: 56 @6857 has 3 MA's), (93, 6950), (101, 6971), (132, 7043), (134, 7046), (137, 7067), (142, 7097),

Gene: Eden\_9 Start: 7514, Stop: 7780, Start Num: 43

Candidate Starts for Eden\_9:

(31, 7457), (Start: 43 @7514 has 44 MA's), (82, 7547), (98, 7601), (142, 7754),

Gene: Eesa\_11 Start: 8248, Stop: 8502, Start Num: 73

Candidate Starts for Eesa\_11:

(4, 7771), (8, 7915), (25, 8119), (52, 8212), (60, 8230), (Start: 73 @8248 has 10 MA's), (81, 8272), (124, 8386), (126, 8392), (132, 8419),

Gene: Elinal\_12 Start: 7035, Stop: 7307, Start Num: 49

Candidate Starts for Elinal\_12:

(46, 7032), (Start: 49 @7035 has 52 MA's), (130, 7218), (132, 7224), (137, 7248),

Gene: Elliott\_11 Start: 7257, Stop: 7538, Start Num: 49

Candidate Starts for Elliott\_11:

(23, 7134), (Start: 49 @7257 has 52 MA's),

Gene: Elva\_11 Start: 7965, Stop: 8225, Start Num: 47

Candidate Starts for Elva\_11:

(Start: 47 @7965 has 1 MA's), (82, 7989), (126, 8118),

Gene: Emalyn\_10 Start: 6986, Stop: 7255, Start Num: 49

Candidate Starts for Emalyn\_10:

(Start: 49 @6986 has 52 MA's),

Gene: EnalisNailo\_12 Start: 8015, Stop: 8272, Start Num: 51

Candidate Starts for EnalisNailo\_12:

(Start: 51 @8015 has 24 MA's), (137, 8225), (144, 8264),

Gene: Enochoraptor\_9 Start: 6463, Stop: 6753, Start Num: 62

Candidate Starts for Enochoraptor\_9:

(Start: 62 @6463 has 127 MA's), (69, 6475), (71, 6481), (Start: 77 @6493 has 1 MA's), (81, 6511), (82, 6514), (87, 6529), (89, 6538), (90, 6541), (103, 6586), (117, 6628), (124, 6640),

Gene: Enoki\_9 Start: 6448, Stop: 6738, Start Num: 62

Candidate Starts for Enoki\_9:

(Start: 62 @6448 has 127 MA's), (69, 6460), (71, 6466), (Start: 77 @6478 has 1 MA's), (81, 6496), (82, 6499), (87, 6514), (89, 6523), (90, 6526), (103, 6571), (117, 6613), (124, 6625), (129, 6649),

Gene: EstebanJulior\_9 Start: 7287, Stop: 7556, Start Num: 62

Candidate Starts for EstebanJulior\_9:

(Start: 62 @7287 has 127 MA's), (97, 7386), (98, 7392), (132, 7473),

Gene: Eula\_10 Start: 7652, Stop: 7912, Start Num: 43

Candidate Starts for Eula\_10:

(39, 7640), (Start: 43 @7652 has 44 MA's), (82, 7676), (132, 7832), (136, 7847),

Gene: Eunoia\_9 Start: 7261, Stop: 7548, Start Num: 62

Candidate Starts for Eunoia\_9:

(Start: 62 @7261 has 127 MA's), (97, 7360), (132, 7468), (146, 7540),

Gene: Feastonyeet\_10 Start: 7054, Stop: 7326, Start Num: 49

Candidate Starts for Feastonyeet\_10:

(46, 7051), (Start: 49 @7054 has 52 MA's), (130, 7237), (132, 7243), (137, 7267),

Gene: Finalfrontier\_11 Start: 8160, Stop: 8423, Start Num: 42

Candidate Starts for Finalfrontier\_11:

(39, 8151), (Start: 42 @8160 has 14 MA's), (82, 8187), (132, 8343), (136, 8358),

Gene: FlameThrower\_10 Start: 7611, Stop: 7874, Start Num: 43

Candidate Starts for FlameThrower\_10:

(39, 7599), (Start: 43 @7611 has 44 MA's), (82, 7638), (88, 7656), (120, 7755), (132, 7794),

Gene: Floral\_12 Start: 8015, Stop: 8272, Start Num: 51

Candidate Starts for Floral\_12:

(Start: 51 @8015 has 24 MA's), (137, 8225), (144, 8264),

Gene: Fluke\_13 Start: 10148, Stop: 10417, Start Num: 62

Candidate Starts for Fluke\_13:

(Start: 62 @10148 has 127 MA's), (82, 10199), (87, 10214), (97, 10247), (132, 10334),

Gene: Franklin22\_9 Start: 7495, Stop: 7761, Start Num: 43

Candidate Starts for Franklin22\_9:

(Start: 43 @7495 has 44 MA's), (82, 7528), (132, 7681), (142, 7735),

Gene: Fribs8\_12 Start: 7976, Stop: 8275, Start Num: 49

Candidate Starts for Fribs8\_12:

(Start: 49 @7976 has 52 MA's), (93, 8078), (132, 8189), (143, 8249), (144, 8252), (145, 8255),

Gene: Frickyeah\_11 Start: 6824, Stop: 7048, Start Num: 85

Candidate Starts for Frickyeah\_11:

(19, 6587), (21, 6602), (32, 6686), (Start: 68 @6782 has 3 MA's), (Start: 85 @6824 has 19 MA's), (97, 6863), (102, 6881), (123, 6938), (125, 6944), (133, 6971), (144, 7034),

Gene: Fryberger\_43 Start: 16293, Stop: 16577, Start Num: 44

Candidate Starts for Fryberger\_43:

(41, 16287), (Start: 44 @16293 has 6 MA's), (76, 16350), (86, 16377), (115, 16458), (120, 16464),

Gene: GTE2\_09 Start: 6936, Stop: 7208, Start Num: 49

Candidate Starts for GTE2\_09:

(Start: 49 @6936 has 52 MA's), (84, 6999),

Gene: Gack\_9 Start: 7565, Stop: 7828, Start Num: 43

Candidate Starts for Gack\_9:

(31, 7508), (Start: 43 @7565 has 44 MA's), (82, 7595), (89, 7619), (132, 7748), (142, 7802),

Gene: Galaxy\_11 Start: 8078, Stop: 8335, Start Num: 70

Candidate Starts for Galaxy\_11:

(60, 8060), (Start: 70 @8078 has 8 MA's), (131, 8249),

Gene: Getalong\_11 Start: 6824, Stop: 7048, Start Num: 85

Candidate Starts for Getalong\_11:

(19, 6587), (21, 6602), (32, 6686), (Start: 85 @6824 has 19 MA's), (97, 6863), (102, 6881), (123, 6938), (125, 6944), (133, 6971), (144, 7034),

Gene: GiKK\_14 Start: 7577, Stop: 7846, Start Num: 49

Candidate Starts for GiKK\_14:

(Start: 49 @7577 has 52 MA's), (64, 7592), (83, 7634), (142, 7817),

Gene: Gibbous\_11 Start: 7410, Stop: 7709, Start Num: 49

Candidate Starts for Gibbous\_11:

(Start: 49 @7410 has 52 MA's), (145, 7689),

Gene: Gisselle\_9 Start: 7289, Stop: 7579, Start Num: 62

Candidate Starts for Gisselle\_9:

(Start: 62 @7289 has 127 MA's), (97, 7388), (109, 7427), (132, 7496),

Gene: Glenn\_13 Start: 10158, Stop: 10427, Start Num: 62

Candidate Starts for Glenn\_13:

(Start: 62 @10158 has 127 MA's), (82, 10209), (87, 10224), (97, 10257),

Gene: GoldHunter\_12 Start: 7258, Stop: 7539, Start Num: 49

Candidate Starts for GoldHunter\_12:

(Start: 49 @7258 has 52 MA's),

Gene: GreenHearts\_13 Start: 10230, Stop: 10520, Start Num: 62

Candidate Starts for GreenHearts\_13:

(Start: 62 @10230 has 127 MA's), (75, 10254), (97, 10329), (99, 10338), (104, 10356), (132, 10437),

Gene: Greenhouse\_13 Start: 10155, Stop: 10445, Start Num: 62  
Candidate Starts for Greenhouse\_13:  
(Start: 62 @10155 has 127 MA's), (75, 10179), (87, 10221), (97, 10254), (99, 10263), (104, 10281),  
(132, 10362),

Gene: Guey18\_48 Start: 17486, Stop: 17770, Start Num: 44  
Candidate Starts for Guey18\_48:  
(41, 17480), (Start: 44 @17486 has 6 MA's), (76, 17543), (86, 17570), (115, 17651), (120, 17657),

Gene: HannahPhantana\_12 Start: 8247, Stop: 8507, Start Num: 68  
Candidate Starts for HannahPhantana\_12:  
(Start: 63 @8238 has 1 MA's), (Start: 66 @8244 has 6 MA's), (Start: 68 @8247 has 3 MA's), (Start: 73  
@8253 has 10 MA's), (81, 8277), (95, 8322), (119, 8385), (126, 8397),

Gene: HeadNerd\_9 Start: 7245, Stop: 7514, Start Num: 62  
Candidate Starts for HeadNerd\_9:  
(Start: 62 @7245 has 127 MA's), (71, 7263), (97, 7344), (118, 7389), (132, 7431),

Gene: Herb\_9 Start: 7263, Stop: 7550, Start Num: 62  
Candidate Starts for Herb\_9:  
(Start: 62 @7263 has 127 MA's), (91, 7344), (97, 7362), (132, 7470), (146, 7542),

Gene: Hexbug\_13 Start: 8263, Stop: 8532, Start Num: 49  
Candidate Starts for Hexbug\_13:  
(Start: 49 @8263 has 52 MA's), (83, 8320),

Gene: Hilltopfarm\_17 Start: 11779, Stop: 12027, Start Num: 80  
Candidate Starts for Hilltopfarm\_17:  
(Start: 56 @11722 has 3 MA's), (Start: 80 @11779 has 4 MA's), (93, 11821), (116, 11896), (134,  
11944), (142, 11995), (146, 12013),

Gene: HippoPololi\_13 Start: 8062, Stop: 8361, Start Num: 49  
Candidate Starts for HippoPololi\_13:  
(Start: 49 @8062 has 52 MA's), (59, 8083), (137, 8299), (145, 8341),

Gene: Holliday\_11 Start: 6829, Stop: 7053, Start Num: 85  
Candidate Starts for Holliday\_11:  
(Start: 68 @6787 has 3 MA's), (Start: 85 @6829 has 19 MA's), (97, 6868), (102, 6886), (123, 6943),  
(125, 6949), (133, 6976), (144, 7039),

Gene: Horseradish\_12 Start: 7139, Stop: 7417, Start Num: 49  
Candidate Starts for Horseradish\_12:  
(Start: 49 @7139 has 52 MA's), (84, 7208), (106, 7280),

Gene: Horus\_11 Start: 6824, Stop: 7048, Start Num: 85  
Candidate Starts for Horus\_11:  
(19, 6587), (21, 6602), (32, 6686), (Start: 68 @6782 has 3 MA's), (Start: 85 @6824 has 19 MA's), (97,  
6863), (102, 6881), (123, 6938), (125, 6944), (133, 6971), (144, 7034),

Gene: Huckleberry\_9 Start: 7245, Stop: 7514, Start Num: 62  
Candidate Starts for Huckleberry\_9:  
(Start: 62 @7245 has 127 MA's), (71, 7263), (97, 7344), (118, 7389), (132, 7431),

Gene: HunterDalle\_9 Start: 7261, Stop: 7548, Start Num: 62

Candidate Starts for HunterDalle\_9:

(Start: 62 @7261 has 127 MA's), (97, 7360), (132, 7468),

Gene: Huntingdon\_13 Start: 10141, Stop: 10431, Start Num: 62

Candidate Starts for Huntingdon\_13:

(3, 9655), (7, 9742), (12, 9880), (Start: 62 @10141 has 127 MA's), (75, 10165), (97, 10240), (104, 10267), (132, 10348),

Gene: Icarian\_11 Start: 7889, Stop: 8152, Start Num: 45

Candidate Starts for Icarian\_11:

(Start: 45 @7889 has 2 MA's), (82, 7916), (132, 8072), (136, 8087),

Gene: Immaculata\_13 Start: 10152, Stop: 10421, Start Num: 62

Candidate Starts for Immaculata\_13:

(Start: 62 @10152 has 127 MA's), (82, 10203), (87, 10218), (97, 10251),

Gene: IndyLu\_10 Start: 7694, Stop: 7957, Start Num: 42

Candidate Starts for IndyLu\_10:

(39, 7685), (Start: 42 @7694 has 14 MA's),

Gene: Jabbawokkie\_13 Start: 7471, Stop: 7743, Start Num: 51

Candidate Starts for Jabbawokkie\_13:

(Start: 51 @7471 has 24 MA's), (83, 7531), (84, 7534), (93, 7564), (100, 7588), (111, 7618), (135, 7678),

Gene: Jablanski\_12 Start: 7862, Stop: 8119, Start Num: 51

Candidate Starts for Jablanski\_12:

(Start: 51 @7862 has 24 MA's), (137, 8072), (144, 8111),

Gene: Jamun\_11 Start: 8419, Stop: 8676, Start Num: 70

Candidate Starts for Jamun\_11:

(9, 8110), (24, 8266), (Start: 70 @8419 has 8 MA's), (130, 8587),

Gene: Jamzy\_14 Start: 7587, Stop: 7856, Start Num: 49

Candidate Starts for Jamzy\_14:

(Start: 49 @7587 has 52 MA's), (64, 7602), (83, 7644), (142, 7827),

Gene: Jerole\_12 Start: 8250, Stop: 8504, Start Num: 73

Candidate Starts for Jerole\_12:

(Start: 63 @8235 has 1 MA's), (Start: 66 @8241 has 6 MA's), (Start: 68 @8244 has 3 MA's), (Start: 73 @8250 has 10 MA's), (81, 8274), (95, 8319), (119, 8382), (126, 8394),

Gene: Joann\_13 Start: 10133, Stop: 10423, Start Num: 62

Candidate Starts for Joann\_13:

(3, 9647), (6, 9689), (7, 9734), (Start: 62 @10133 has 127 MA's), (75, 10157), (97, 10232), (99, 10241), (104, 10259), (132, 10340),

Gene: Johnathan\_10 Start: 7654, Stop: 7911, Start Num: 43

Candidate Starts for Johnathan\_10:

(39, 7642), (Start: 43 @7654 has 44 MA's), (82, 7675), (132, 7831), (141, 7882),

Gene: Jovita\_10 Start: 7753, Stop: 8013, Start Num: 43

Candidate Starts for Jovita\_10:

(39, 7741), (Start: 43 @7753 has 44 MA's), (82, 7777), (132, 7933), (136, 7948),

Gene: Juicebox\_12 Start: 8597, Stop: 8833, Start Num: 56

Candidate Starts for Juicebox\_12:

(Start: 56 @8597 has 3 MA's), (67, 8615), (86, 8660), (132, 8753),

Gene: Jumboset\_13 Start: 10101, Stop: 10370, Start Num: 62

Candidate Starts for Jumboset\_13:

(Start: 62 @10101 has 127 MA's), (82, 10152), (87, 10167), (97, 10200),

Gene: Juno112\_10 Start: 7656, Stop: 7910, Start Num: 73

Candidate Starts for Juno112\_10:

(11, 7398), (13, 7422), (16, 7458), (24, 7506), (52, 7620), (Start: 73 @7656 has 10 MA's), (81, 7680), (96, 7728), (98, 7737), (114, 7782), (126, 7800), (132, 7827),

Gene: KHumphrey\_10 Start: 7655, Stop: 7909, Start Num: 73

Candidate Starts for KHumphrey\_10:

(11, 7397), (13, 7421), (16, 7457), (24, 7505), (52, 7619), (Start: 73 @7655 has 10 MA's), (81, 7679), (96, 7727), (98, 7736), (114, 7781), (119, 7787), (126, 7799), (132, 7826),

Gene: Kalizoi\_13 Start: 10100, Stop: 10369, Start Num: 62

Candidate Starts for Kalizoi\_13:

(Start: 62 @10100 has 127 MA's), (82, 10151), (87, 10166), (97, 10199),

Gene: Kamaru\_11 Start: 6829, Stop: 7053, Start Num: 85

Candidate Starts for Kamaru\_11:

(Start: 68 @6787 has 3 MA's), (Start: 85 @6829 has 19 MA's), (97, 6868), (102, 6886), (123, 6943), (125, 6949), (133, 6976), (144, 7039),

Gene: Kate33\_10 Start: 7693, Stop: 7956, Start Num: 42

Candidate Starts for Kate33\_10:

(39, 7684), (Start: 42 @7693 has 14 MA's),

Gene: Katzastrophic\_10 Start: 7786, Stop: 8049, Start Num: 43

Candidate Starts for Katzastrophic\_10:

(39, 7774), (Start: 43 @7786 has 44 MA's), (82, 7813), (88, 7831), (120, 7930), (132, 7969),

Gene: KayGee\_11 Start: 7035, Stop: 7307, Start Num: 49

Candidate Starts for KayGee\_11:

(46, 7032), (Start: 49 @7035 has 52 MA's), (130, 7218), (132, 7224), (137, 7248),

Gene: Keelan\_41 Start: 16268, Stop: 16552, Start Num: 44

Candidate Starts for Keelan\_41:

(Start: 44 @16268 has 6 MA's), (76, 16325), (86, 16352), (115, 16433), (120, 16439),

Gene: Keiki\_9 Start: 6460, Stop: 6750, Start Num: 62

Candidate Starts for Keiki\_9:

(Start: 62 @6460 has 127 MA's), (69, 6472), (71, 6478), (Start: 77 @6490 has 1 MA's), (81, 6508), (82, 6511), (87, 6526), (89, 6535), (90, 6538), (97, 6559), (103, 6583), (117, 6625), (124, 6637), (127, 6652), (129, 6661),

Gene: Kenna\_11 Start: 6824, Stop: 7048, Start Num: 85

Candidate Starts for Kenna\_11:

(21, 6602), (32, 6686), (Start: 68 @6782 has 3 MA's), (Start: 85 @6824 has 19 MA's), (97, 6863), (102, 6881), (123, 6938), (125, 6944), (133, 6971),

Gene: Kenzers\_10 Start: 7668, Stop: 7928, Start Num: 43

Candidate Starts for Kenzers\_10:

(39, 7656), (Start: 43 @7668 has 44 MA's), (82, 7692), (132, 7848), (136, 7863), (141, 7899),

Gene: Kepler\_11 Start: 8079, Stop: 8342, Start Num: 66

Candidate Starts for Kepler\_11:

(Start: 63 @8073 has 1 MA's), (Start: 66 @8079 has 6 MA's), (Start: 68 @8082 has 3 MA's), (Start: 73 @8088 has 10 MA's), (95, 8157), (119, 8220), (126, 8232),

Gene: Kieran\_10 Start: 7885, Stop: 8142, Start Num: 43

Candidate Starts for Kieran\_10:

(Start: 43 @7885 has 44 MA's), (95, 7948), (132, 8062), (140, 8107),

Gene: KingBob\_9 Start: 7263, Stop: 7550, Start Num: 62

Candidate Starts for KingBob\_9:

(Start: 62 @7263 has 127 MA's), (91, 7344), (97, 7362), (132, 7470), (146, 7542),

Gene: Kittykat\_9 Start: 7286, Stop: 7555, Start Num: 62

Candidate Starts for Kittykat\_9:

(Start: 62 @7286 has 127 MA's), (97, 7385), (118, 7430), (132, 7472), (138, 7499),

Gene: Korra\_13 Start: 10106, Stop: 10375, Start Num: 62

Candidate Starts for Korra\_13:

(Start: 62 @10106 has 127 MA's), (82, 10157), (87, 10172), (97, 10205),

Gene: Kubed\_9 Start: 6450, Stop: 6740, Start Num: 62

Candidate Starts for Kubed\_9:

(Start: 62 @6450 has 127 MA's), (69, 6462), (71, 6468), (Start: 77 @6480 has 1 MA's), (81, 6498), (82, 6501), (87, 6516), (89, 6525), (90, 6528), (103, 6573), (117, 6615), (124, 6627), (127, 6642), (129, 6651),

Gene: Kuleana\_11 Start: 8039, Stop: 8302, Start Num: 66

Candidate Starts for Kuleana\_11:

(Start: 63 @8033 has 1 MA's), (Start: 66 @8039 has 6 MA's), (Start: 73 @8048 has 10 MA's), (79, 8069), (81, 8072), (96, 8120), (119, 8180), (126, 8192), (132, 8219),

Gene: Kuwabara\_11 Start: 7129, Stop: 7386, Start Num: 55

Candidate Starts for Kuwabara\_11:

(38, 7096), (Start: 55 @7129 has 8 MA's), (93, 7222), (101, 7243), (132, 7315), (134, 7318), (137, 7339), (142, 7369),

Gene: Lahqtemish\_10 Start: 7738, Stop: 8001, Start Num: 42

Candidate Starts for Lahqtemish\_10:

(39, 7729), (Start: 42 @7738 has 14 MA's), (95, 7807),

Gene: Lakshmi\_13 Start: 10160, Stop: 10450, Start Num: 62

Candidate Starts for Lakshmi\_13:

(Start: 62 @10160 has 127 MA's), (75, 10184), (97, 10259), (99, 10268), (104, 10286), (132, 10367),



Gene: Lasagna\_9 Start: 7243, Stop: 7512, Start Num: 62  
Candidate Starts for Lasagna\_9:  
(Start: 62 @7243 has 127 MA's), (90, 7321), (97, 7342), (132, 7429),

Gene: Lauchelly\_9 Start: 6445, Stop: 6735, Start Num: 62  
Candidate Starts for Lauchelly\_9:  
(Start: 62 @6445 has 127 MA's), (69, 6457), (71, 6463), (Start: 77 @6475 has 1 MA's), (81, 6493),  
(82, 6496), (87, 6511), (89, 6520), (90, 6523), (103, 6568), (117, 6610), (124, 6622), (129, 6646),

Gene: Lauer\_10 Start: 7057, Stop: 7356, Start Num: 37  
Candidate Starts for Lauer\_10:  
(10, 6820), (15, 6886), (17, 6907), (18, 6922), (23, 6961), (26, 7000), (30, 7015), (32, 7024), (Start: 37  
@7057 has 1 MA's), (46, 7081), (Start: 49 @7084 has 52 MA's), (130, 7267), (132, 7273), (137, 7297),

Gene: Lennox\_9 Start: 7243, Stop: 7512, Start Num: 62  
Candidate Starts for Lennox\_9:  
(Start: 62 @7243 has 127 MA's), (97, 7342), (118, 7387), (132, 7429),

Gene: Leona\_10 Start: 7706, Stop: 7960, Start Num: 73  
Candidate Starts for Leona\_10:  
(11, 7448), (13, 7472), (16, 7508), (24, 7556), (48, 7664), (52, 7670), (Start: 73 @7706 has 10 MA's),  
(81, 7730), (96, 7778), (98, 7787), (114, 7832), (126, 7850), (132, 7877),

Gene: Leroy\_11 Start: 6825, Stop: 7049, Start Num: 85  
Candidate Starts for Leroy\_11:  
(19, 6588), (21, 6603), (32, 6687), (Start: 68 @6783 has 3 MA's), (Start: 85 @6825 has 19 MA's), (97,  
6864), (102, 6882), (123, 6939), (125, 6945), (133, 6972), (144, 7035),

Gene: Leviosa\_9 Start: 6466, Stop: 6756, Start Num: 62  
Candidate Starts for Leviosa\_9:  
(Start: 62 @6466 has 127 MA's), (71, 6484), (Start: 77 @6496 has 1 MA's), (81, 6514), (82, 6517),  
(87, 6532), (89, 6541), (90, 6544), (97, 6565), (103, 6589), (117, 6631), (124, 6643), (129, 6667), (141,  
6727),

Gene: LilBandit\_9 Start: 6450, Stop: 6740, Start Num: 62  
Candidate Starts for LilBandit\_9:  
(Start: 62 @6450 has 127 MA's), (69, 6462), (71, 6468), (Start: 77 @6480 has 1 MA's), (81, 6498),  
(82, 6501), (87, 6516), (89, 6525), (90, 6528), (97, 6549), (103, 6573), (117, 6615), (124, 6627),

Gene: LilStuart\_9 Start: 7243, Stop: 7512, Start Num: 62  
Candidate Starts for LilStuart\_9:  
(Start: 62 @7243 has 127 MA's), (90, 7321), (97, 7342), (132, 7429),

Gene: Lilas\_12 Start: 8015, Stop: 8272, Start Num: 51  
Candidate Starts for Lilas\_12:  
(Start: 51 @8015 has 24 MA's), (137, 8225), (144, 8264),

Gene: LimaBean\_10 Start: 7654, Stop: 7911, Start Num: 43  
Candidate Starts for LimaBean\_10:  
(39, 7642), (Start: 43 @7654 has 44 MA's), (82, 7675), (132, 7831), (141, 7882),

Gene: LitninMcQueen\_11 Start: 6829, Stop: 7053, Start Num: 85  
Candidate Starts for LitninMcQueen\_11:

(Start: 68 @6787 has 3 MA's), (Start: 85 @6829 has 19 MA's), (97, 6868), (102, 6886), (123, 6943), (125, 6949), (133, 6976), (144, 7039),

Gene: Litotes\_13 Start: 10128, Stop: 10397, Start Num: 62

Candidate Starts for Litotes\_13:

(57, 10116), (Start: 62 @10128 has 127 MA's), (71, 10146), (82, 10179), (97, 10227), (118, 10272), (132, 10314),

Gene: LittleTokyo\_11 Start: 7988, Stop: 8242, Start Num: 73

Candidate Starts for LittleTokyo\_11:

(Start: 73 @7988 has 10 MA's), (95, 8057), (130, 8153), (132, 8159),

Gene: LonelyBoi\_12 Start: 7862, Stop: 8119, Start Num: 51

Candidate Starts for LonelyBoi\_12:

(Start: 51 @7862 has 24 MA's), (137, 8072), (144, 8111),

Gene: Loviatar\_18 Start: 7923, Stop: 8231, Start Num: 33

Candidate Starts for Loviatar\_18:

(29, 7911), (33, 7923), (95, 8037), (132, 8151),

Gene: Lucky10\_10 Start: 6338, Stop: 6595, Start Num: 55

Candidate Starts for Lucky10\_10:

(38, 6305), (Start: 55 @6338 has 8 MA's), (132, 6524), (137, 6548),

Gene: Lucy\_9 Start: 7234, Stop: 7503, Start Num: 62

Candidate Starts for Lucy\_9:

(Start: 62 @7234 has 127 MA's), (71, 7252), (97, 7333), (118, 7378), (132, 7420),

Gene: Lunar\_12 Start: 8244, Stop: 8504, Start Num: 68

Candidate Starts for Lunar\_12:

(Start: 63 @8235 has 1 MA's), (Start: 66 @8241 has 6 MA's), (Start: 68 @8244 has 3 MA's), (Start: 73 @8250 has 10 MA's), (81, 8274), (95, 8319), (119, 8382), (126, 8394),

Gene: Lutum\_11 Start: 6824, Stop: 7048, Start Num: 85

Candidate Starts for Lutum\_11:

(21, 6602), (32, 6686), (Start: 68 @6782 has 3 MA's), (Start: 85 @6824 has 19 MA's), (97, 6863), (102, 6881), (123, 6938), (125, 6944), (133, 6971),

Gene: Lynlen\_10 Start: 7668, Stop: 7928, Start Num: 43

Candidate Starts for Lynlen\_10:

(39, 7656), (Start: 43 @7668 has 44 MA's), (82, 7692), (132, 7848), (136, 7863), (141, 7899),

Gene: MAnor\_11 Start: 7025, Stop: 7297, Start Num: 49

Candidate Starts for MAnor\_11:

(Start: 49 @7025 has 52 MA's), (59, 7037), (64, 7043), (130, 7208), (132, 7214), (137, 7238),

Gene: MEAK\_9 Start: 6452, Stop: 6742, Start Num: 62

Candidate Starts for MEAK\_9:

(Start: 62 @6452 has 127 MA's), (69, 6464), (71, 6470), (Start: 77 @6482 has 1 MA's), (81, 6500), (82, 6503), (87, 6518), (89, 6527), (90, 6530), (103, 6575), (117, 6617), (124, 6629), (129, 6653), (141, 6713),

Gene: MScarn\_13 Start: 7235, Stop: 7504, Start Num: 49

Candidate Starts for MScarn\_13:  
(Start: 49 @7235 has 52 MA's), (84, 7295), (106, 7367),

Gene: MaVan\_13 Start: 8163, Stop: 8462, Start Num: 49  
Candidate Starts for MaVan\_13:  
(46, 8160), (Start: 49 @8163 has 52 MA's), (93, 8265), (113, 8334), (132, 8376), (143, 8436), (144, 8439), (145, 8442),

Gene: Makoto\_9 Start: 7243, Stop: 7512, Start Num: 62  
Candidate Starts for Makoto\_9:  
(Start: 62 @7243 has 127 MA's), (97, 7342), (118, 7387), (132, 7429),

Gene: Malisha\_11 Start: 7874, Stop: 8098, Start Num: 85  
Candidate Starts for Malisha\_11:  
(Start: 85 @7874 has 19 MA's), (102, 7931), (123, 7988), (125, 7994), (133, 8021), (144, 8084),

Gene: MamaPearl\_9 Start: 7287, Stop: 7556, Start Num: 62  
Candidate Starts for MamaPearl\_9:  
(Start: 62 @7287 has 127 MA's), (97, 7386), (98, 7392), (132, 7473),

Gene: Margaret\_14 Start: 7972, Stop: 8241, Start Num: 49  
Candidate Starts for Margaret\_14:  
(Start: 49 @7972 has 52 MA's), (64, 7987), (83, 8029),

Gene: Maria1952\_9 Start: 7263, Stop: 7550, Start Num: 62  
Candidate Starts for Maria1952\_9:  
(Start: 62 @7263 has 127 MA's), (91, 7344), (97, 7362), (132, 7470), (146, 7542),

Gene: Marteena\_12 Start: 8015, Stop: 8272, Start Num: 51  
Candidate Starts for Marteena\_12:  
(Start: 51 @8015 has 24 MA's), (137, 8225), (144, 8264),

Gene: Mayweather\_12 Start: 7658, Stop: 7930, Start Num: 49  
Candidate Starts for Mayweather\_12:  
(Start: 49 @7658 has 52 MA's), (59, 7670), (64, 7676), (130, 7841), (132, 7847), (137, 7871),

Gene: MeganNoll\_13 Start: 10158, Stop: 10427, Start Num: 62  
Candidate Starts for MeganNoll\_13:  
(Start: 62 @10158 has 127 MA's), (82, 10209), (87, 10224), (97, 10257),

Gene: Melons\_12 Start: 8241, Stop: 8504, Start Num: 66  
Candidate Starts for Melons\_12:  
(Start: 63 @8235 has 1 MA's), (Start: 66 @8241 has 6 MA's), (Start: 68 @8244 has 3 MA's), (Start: 73 @8250 has 10 MA's), (81, 8274), (95, 8319), (119, 8382), (126, 8394),

Gene: Misaeng\_13 Start: 10206, Stop: 10496, Start Num: 62  
Candidate Starts for Misaeng\_13:  
(12, 9945), (Start: 62 @10206 has 127 MA's), (75, 10230), (87, 10272), (97, 10305), (104, 10332), (132, 10413),

Gene: Moki\_9 Start: 7245, Stop: 7514, Start Num: 62  
Candidate Starts for Moki\_9:  
(Start: 62 @7245 has 127 MA's), (71, 7263), (97, 7344), (118, 7389), (132, 7431),

Gene: Morkie\_10 Start: 6300, Stop: 6557, Start Num: 55  
Candidate Starts for Morkie\_10:  
(38, 6267), (Start: 55 @6300 has 8 MA's), (132, 6486), (137, 6510),

Gene: MortyNRick\_11 Start: 7129, Stop: 7386, Start Num: 55  
Candidate Starts for MortyNRick\_11:  
(38, 7096), (Start: 55 @7129 has 8 MA's), (108, 7264), (130, 7309), (132, 7315), (134, 7318), (137, 7339),

Gene: Moyashi\_9 Start: 6470, Stop: 6760, Start Num: 62  
Candidate Starts for Moyashi\_9:  
(Start: 62 @6470 has 127 MA's), (69, 6482), (71, 6488), (81, 6518), (82, 6521), (87, 6536), (89, 6545), (90, 6548), (103, 6593), (124, 6647), (129, 6671),

Gene: MrAK\_9 Start: 6479, Stop: 6769, Start Num: 62  
Candidate Starts for MrAK\_9:  
(Start: 62 @6479 has 127 MA's), (69, 6491), (71, 6497), (Start: 77 @6509 has 1 MA's), (81, 6527), (82, 6530), (87, 6545), (89, 6554), (90, 6557), (103, 6602), (124, 6656), (129, 6680), (141, 6740),

Gene: MrGloopy\_13 Start: 10091, Stop: 10360, Start Num: 62  
Candidate Starts for MrGloopy\_13:  
(Start: 62 @10091 has 127 MA's), (82, 10142), (87, 10157), (97, 10190),

Gene: MunkgeeRoachy\_11 Start: 7305, Stop: 7586, Start Num: 49  
Candidate Starts for MunkgeeRoachy\_11:  
(23, 7182), (Start: 49 @7305 has 52 MA's),

Gene: Nancia\_9 Start: 7243, Stop: 7512, Start Num: 62  
Candidate Starts for Nancia\_9:  
(Start: 62 @7243 has 127 MA's), (90, 7321), (97, 7342), (132, 7429),

Gene: Nesbitt\_10 Start: 7604, Stop: 7855, Start Num: 74  
Candidate Starts for Nesbitt\_10:  
(34, 7502), (Start: 74 @7604 has 2 MA's), (86, 7634), (110, 7709), (120, 7736), (132, 7775),

Gene: Nibbles\_13 Start: 8163, Stop: 8462, Start Num: 49  
Candidate Starts for Nibbles\_13:  
(46, 8160), (Start: 49 @8163 has 52 MA's), (93, 8265), (113, 8334), (132, 8376), (143, 8436), (144, 8439), (145, 8442),

Gene: Nicky22\_11 Start: 8102, Stop: 8359, Start Num: 43  
Candidate Starts for Nicky22\_11:  
(39, 8090), (Start: 43 @8102 has 44 MA's), (82, 8123), (132, 8279), (136, 8294), (141, 8330),

Gene: Nina\_12 Start: 8291, Stop: 8572, Start Num: 49  
Candidate Starts for Nina\_12:  
(23, 8168), (Start: 49 @8291 has 52 MA's),

Gene: Nodigi\_13 Start: 8256, Stop: 8525, Start Num: 49  
Candidate Starts for Nodigi\_13:  
(Start: 49 @8256 has 52 MA's), (83, 8313),

Gene: Nubia\_13 Start: 10120, Stop: 10410, Start Num: 62  
Candidate Starts for Nubia\_13:  
(57, 10108), (Start: 62 @10120 has 127 MA's), (75, 10144), (87, 10186), (97, 10219), (99, 10228),  
(104, 10246), (132, 10327),

Gene: ODay\_11 Start: 6855, Stop: 7112, Start Num: 56  
Candidate Starts for ODay\_11:  
(36, 6810), (Start: 56 @6855 has 3 MA's), (93, 6948), (101, 6969), (132, 7041), (134, 7044), (137,  
7065), (142, 7095),

Gene: OMalley\_9 Start: 7261, Stop: 7548, Start Num: 62  
Candidate Starts for OMalley\_9:  
(Start: 62 @7261 has 127 MA's), (97, 7360), (132, 7468), (146, 7540),

Gene: Olliecat\_10 Start: 7885, Stop: 8151, Start Num: 43  
Candidate Starts for Olliecat\_10:  
(39, 7873), (Start: 43 @7885 has 44 MA's), (Start: 80 @7909 has 4 MA's), (105, 7990), (120, 8032),  
(132, 8068), (136, 8083),

Gene: Orcanus\_11 Start: 8038, Stop: 8292, Start Num: 73  
Candidate Starts for Orcanus\_11:  
(25, 7909), (27, 7924), (52, 8002), (60, 8020), (Start: 73 @8038 has 10 MA's), (81, 8062), (124, 8176),  
(126, 8182), (134, 8212),

Gene: Orla\_13 Start: 8260, Stop: 8529, Start Num: 49  
Candidate Starts for Orla\_13:  
(Start: 49 @8260 has 52 MA's), (83, 8317),

Gene: OurGirlNessie\_9 Start: 7234, Stop: 7503, Start Num: 62  
Candidate Starts for OurGirlNessie\_9:  
(Start: 62 @7234 has 127 MA's), (90, 7312), (97, 7333), (132, 7420),

Gene: Ouroboros\_9 Start: 6453, Stop: 6743, Start Num: 62  
Candidate Starts for Ouroboros\_9:  
(Start: 62 @6453 has 127 MA's), (69, 6465), (71, 6471), (Start: 77 @6483 has 1 MA's), (81, 6501),  
(82, 6504), (87, 6519), (89, 6528), (90, 6531), (97, 6552), (103, 6576), (117, 6618), (124, 6630), (129,  
6654), (141, 6714),

Gene: Oxynfrius\_13 Start: 10133, Stop: 10423, Start Num: 62  
Candidate Starts for Oxynfrius\_13:  
(Start: 62 @10133 has 127 MA's), (75, 10157), (97, 10232), (99, 10241), (104, 10259), (132, 10340),

Gene: P1.1\_9 Start: 6453, Stop: 6743, Start Num: 62  
Candidate Starts for P1.1\_9:  
(Start: 62 @6453 has 127 MA's), (69, 6465), (71, 6471), (Start: 77 @6483 has 1 MA's), (81, 6501),  
(82, 6504), (87, 6519), (89, 6528), (90, 6531), (103, 6576), (124, 6630), (141, 6714),

Gene: P100.1\_9 Start: 6443, Stop: 6733, Start Num: 62  
Candidate Starts for P100.1\_9:  
(Start: 62 @6443 has 127 MA's), (69, 6455), (71, 6461), (Start: 77 @6473 has 1 MA's), (81, 6491),  
(82, 6494), (87, 6509), (89, 6518), (90, 6521), (97, 6542), (103, 6566), (117, 6608), (124, 6620), (129,  
6644), (141, 6704),

Gene: P100A\_9 Start: 6464, Stop: 6754, Start Num: 62

Candidate Starts for P100A\_9:

(35, 6392), (58, 6458), (Start: 62 @6464 has 127 MA's), (69, 6476), (71, 6482), (Start: 77 @6494 has 1 MA's), (81, 6512), (82, 6515), (87, 6530), (89, 6539), (90, 6542), (97, 6563), (103, 6587), (117, 6629), (124, 6641), (129, 6665), (141, 6725),

Gene: P100D\_9 Start: 6447, Stop: 6737, Start Num: 62

Candidate Starts for P100D\_9:

(Start: 62 @6447 has 127 MA's), (69, 6459), (71, 6465), (Start: 77 @6477 has 1 MA's), (81, 6495), (82, 6498), (87, 6513), (89, 6522), (90, 6525), (103, 6570), (117, 6612), (124, 6624), (129, 6648),

Gene: P101A\_9 Start: 6446, Stop: 6736, Start Num: 62

Candidate Starts for P101A\_9:

(Start: 62 @6446 has 127 MA's), (69, 6458), (71, 6464), (Start: 77 @6476 has 1 MA's), (81, 6494), (82, 6497), (87, 6512), (89, 6521), (90, 6524), (97, 6545), (103, 6569), (117, 6611), (124, 6623), (129, 6647), (141, 6707),

Gene: P104A\_9 Start: 6448, Stop: 6738, Start Num: 62

Candidate Starts for P104A\_9:

(Start: 62 @6448 has 127 MA's), (69, 6460), (71, 6466), (Start: 77 @6478 has 1 MA's), (81, 6496), (82, 6499), (87, 6514), (89, 6523), (90, 6526), (103, 6571), (117, 6613), (124, 6625), (129, 6649), (141, 6709),

Gene: P104B\_9 Start: 6452, Stop: 6742, Start Num: 62

Candidate Starts for P104B\_9:

(Start: 62 @6452 has 127 MA's), (69, 6464), (71, 6470), (Start: 77 @6482 has 1 MA's), (81, 6500), (82, 6503), (87, 6518), (89, 6527), (90, 6530), (97, 6551), (103, 6575), (117, 6617), (124, 6629),

Gene: P105\_9 Start: 6442, Stop: 6732, Start Num: 62

Candidate Starts for P105\_9:

(Start: 62 @6442 has 127 MA's), (69, 6454), (71, 6460), (Start: 77 @6472 has 1 MA's), (81, 6490), (82, 6493), (87, 6508), (89, 6517), (90, 6520), (97, 6541), (103, 6565), (117, 6607), (124, 6619), (129, 6643), (141, 6703),

Gene: P106A\_9 Start: 6470, Stop: 6760, Start Num: 62

Candidate Starts for P106A\_9:

(Start: 62 @6470 has 127 MA's), (69, 6482), (71, 6488), (Start: 77 @6500 has 1 MA's), (81, 6518), (82, 6521), (87, 6536), (89, 6545), (90, 6548), (103, 6593), (141, 6731),

Gene: P106C\_9 Start: 6470, Stop: 6760, Start Num: 62

Candidate Starts for P106C\_9:

(Start: 62 @6470 has 127 MA's), (69, 6482), (71, 6488), (Start: 77 @6500 has 1 MA's), (81, 6518), (82, 6521), (87, 6536), (89, 6545), (90, 6548), (103, 6593), (141, 6731),

Gene: P106I\_9 Start: 6470, Stop: 6760, Start Num: 62

Candidate Starts for P106I\_9:

(Start: 62 @6470 has 127 MA's), (69, 6482), (71, 6488), (Start: 77 @6500 has 1 MA's), (81, 6518), (82, 6521), (87, 6536), (89, 6545), (90, 6548), (103, 6593), (141, 6731),

Gene: P106L\_9 Start: 6470, Stop: 6760, Start Num: 62

Candidate Starts for P106L\_9:

(Start: 62 @6470 has 127 MA's), (69, 6482), (71, 6488), (Start: 77 @6500 has 1 MA's), (81, 6518), (82, 6521), (87, 6536), (89, 6545), (90, 6548), (103, 6593), (141, 6731),

Gene: P106M\_9 Start: 6470, Stop: 6760, Start Num: 62

Candidate Starts for P106M\_9:

(Start: 62 @6470 has 127 MA's), (69, 6482), (71, 6488), (Start: 77 @6500 has 1 MA's), (81, 6518), (82, 6521), (87, 6536), (89, 6545), (90, 6548), (103, 6593), (141, 6731),

Gene: P107A\_9 Start: 6456, Stop: 6746, Start Num: 62

Candidate Starts for P107A\_9:

(Start: 62 @6456 has 127 MA's), (69, 6468), (71, 6474), (Start: 77 @6486 has 1 MA's), (81, 6504), (82, 6507), (87, 6522), (89, 6531), (90, 6534), (97, 6555), (103, 6579), (117, 6621), (121, 6627), (124, 6633), (129, 6657), (141, 6717),

Gene: P107C\_9 Start: 6452, Stop: 6742, Start Num: 62

Candidate Starts for P107C\_9:

(Start: 62 @6452 has 127 MA's), (69, 6464), (71, 6470), (Start: 77 @6482 has 1 MA's), (81, 6500), (82, 6503), (87, 6518), (89, 6527), (90, 6530), (103, 6575), (117, 6617), (124, 6629), (141, 6713),

Gene: P108C\_9 Start: 6456, Stop: 6746, Start Num: 62

Candidate Starts for P108C\_9:

(Start: 62 @6456 has 127 MA's), (69, 6468), (71, 6474), (Start: 77 @6486 has 1 MA's), (81, 6504), (82, 6507), (87, 6522), (89, 6531), (90, 6534), (103, 6579), (117, 6621), (124, 6633),

Gene: P14.4\_9 Start: 6447, Stop: 6737, Start Num: 62

Candidate Starts for P14.4\_9:

(Start: 62 @6447 has 127 MA's), (69, 6459), (71, 6465), (Start: 77 @6477 has 1 MA's), (81, 6495), (82, 6498), (87, 6513), (89, 6522), (90, 6525), (103, 6570), (117, 6612), (124, 6624),

Gene: P9.1\_9 Start: 6445, Stop: 6735, Start Num: 62

Candidate Starts for P9.1\_9:

(Start: 62 @6445 has 127 MA's), (69, 6457), (71, 6463), (Start: 77 @6475 has 1 MA's), (81, 6493), (82, 6496), (87, 6511), (89, 6520), (90, 6523), (103, 6568), (117, 6610), (124, 6622),

Gene: PA6\_9 Start: 6455, Stop: 6745, Start Num: 62

Candidate Starts for PA6\_9:

(Start: 62 @6455 has 127 MA's), (69, 6467), (71, 6473), (Start: 77 @6485 has 1 MA's), (81, 6503), (82, 6506), (87, 6521), (89, 6530), (90, 6533), (97, 6554), (117, 6620), (124, 6632), (127, 6647), (129, 6656), (141, 6716),

Gene: PAD20\_9 Start: 6453, Stop: 6743, Start Num: 62

Candidate Starts for PAD20\_9:

(Start: 62 @6453 has 127 MA's), (69, 6465), (71, 6471), (Start: 77 @6483 has 1 MA's), (81, 6501), (82, 6504), (87, 6519), (89, 6528), (90, 6531), (103, 6576), (117, 6618), (124, 6630), (141, 6714),

Gene: PAS50\_9 Start: 6450, Stop: 6740, Start Num: 62

Candidate Starts for PAS50\_9:

(Start: 62 @6450 has 127 MA's), (69, 6462), (71, 6468), (Start: 77 @6480 has 1 MA's), (81, 6498), (82, 6501), (87, 6516), (89, 6525), (90, 6528), (103, 6573), (117, 6615), (124, 6627), (129, 6651),

Gene: PHL010M04\_09 Start: 6444, Stop: 6734, Start Num: 62

Candidate Starts for PHL010M04\_09:

(58, 6438), (Start: 62 @6444 has 127 MA's), (69, 6456), (71, 6462), (Start: 77 @6474 has 1 MA's), (81, 6492), (82, 6495), (87, 6510), (89, 6519), (90, 6522), (103, 6567), (117, 6609), (124, 6621), (129, 6645), (141, 6705),

Gene: PHL037M02\_09 Start: 6444, Stop: 6740, Start Num: 58

Candidate Starts for PHL037M02\_09:

(58, 6444), (Start: 62 @6450 has 127 MA's), (69, 6462), (71, 6468), (81, 6498), (82, 6501), (87, 6516), (89, 6525), (90, 6528), (117, 6615), (124, 6627), (141, 6711),

Gene: PHL060L00\_09 Start: 6443, Stop: 6733, Start Num: 62

Candidate Starts for PHL060L00\_09:

(Start: 62 @6443 has 127 MA's), (69, 6455), (71, 6461), (Start: 77 @6473 has 1 MA's), (81, 6491), (82, 6494), (87, 6509), (89, 6518), (90, 6521), (103, 6566), (117, 6608), (124, 6620), (129, 6644),

Gene: PHL067M10\_09 Start: 6447, Stop: 6737, Start Num: 62

Candidate Starts for PHL067M10\_09:

(Start: 62 @6447 has 127 MA's), (69, 6459), (71, 6465), (Start: 77 @6477 has 1 MA's), (81, 6495), (82, 6498), (87, 6513), (89, 6522), (90, 6525), (103, 6570), (117, 6612), (124, 6624), (129, 6648),

Gene: PHL071N05\_09 Start: 6449, Stop: 6739, Start Num: 62

Candidate Starts for PHL071N05\_09:

(Start: 62 @6449 has 127 MA's), (69, 6461), (71, 6467), (Start: 77 @6479 has 1 MA's), (81, 6497), (82, 6500), (87, 6515), (89, 6524), (90, 6527), (103, 6572), (117, 6614), (124, 6626),

Gene: PHL111M01\_09 Start: 6453, Stop: 6743, Start Num: 62

Candidate Starts for PHL111M01\_09:

(Start: 62 @6453 has 127 MA's), (69, 6465), (71, 6471), (Start: 77 @6483 has 1 MA's), (81, 6501), (82, 6504), (87, 6519), (89, 6528), (90, 6531), (103, 6576), (117, 6618), (124, 6630),

Gene: PHL112N00\_09 Start: 6453, Stop: 6743, Start Num: 62

Candidate Starts for PHL112N00\_09:

(Start: 62 @6453 has 127 MA's), (69, 6465), (71, 6471), (Start: 77 @6483 has 1 MA's), (81, 6501), (82, 6504), (87, 6519), (89, 6528), (90, 6531), (103, 6576), (117, 6618), (124, 6630), (127, 6645), (129, 6654),

Gene: PHL113M01\_09 Start: 6453, Stop: 6743, Start Num: 62

Candidate Starts for PHL113M01\_09:

(Start: 62 @6453 has 127 MA's), (69, 6465), (71, 6471), (75, 6477), (Start: 77 @6483 has 1 MA's), (81, 6501), (82, 6504), (87, 6519), (89, 6528), (90, 6531), (103, 6576), (117, 6618), (124, 6630), (129, 6654), (141, 6714),

Gene: PHL114L00\_09 Start: 6452, Stop: 6742, Start Num: 62

Candidate Starts for PHL114L00\_09:

(Start: 62 @6452 has 127 MA's), (69, 6464), (71, 6470), (81, 6500), (87, 6518), (89, 6527), (90, 6530), (97, 6551), (103, 6575), (117, 6617), (124, 6629), (129, 6653), (141, 6713),

Gene: PartyCup\_13 Start: 10175, Stop: 10444, Start Num: 62

Candidate Starts for PartyCup\_13:

(57, 10163), (Start: 62 @10175 has 127 MA's), (71, 10193), (82, 10226), (97, 10274), (118, 10319), (132, 10361),

Gene: Periwinkle\_11 Start: 6824, Stop: 7048, Start Num: 85

Candidate Starts for Periwinkle\_11:

(19, 6587), (21, 6602), (32, 6686), (Start: 68 @6782 has 3 MA's), (Start: 85 @6824 has 19 MA's), (97, 6863), (102, 6881), (123, 6938), (125, 6944), (133, 6971), (144, 7034),



Gene: Phabuloso\_11 Start: 6829, Stop: 7053, Start Num: 85  
Candidate Starts for Phabuloso\_11:  
(Start: 68 @6787 has 3 MA's), (Start: 85 @6829 has 19 MA's), (97, 6868), (102, 6886), (123, 6943),  
(125, 6949), (133, 6976), (144, 7039),

Gene: Phisb\_10 Start: 7645, Stop: 7905, Start Num: 43  
Candidate Starts for Phisb\_10:  
(39, 7633), (Start: 43 @7645 has 44 MA's), (82, 7669), (132, 7825), (136, 7840), (141, 7876),

Gene: Phistory\_11 Start: 6813, Stop: 7037, Start Num: 85  
Candidate Starts for Phistory\_11:  
(21, 6591), (32, 6675), (Start: 68 @6771 has 3 MA's), (Start: 85 @6813 has 19 MA's), (97, 6852),  
(102, 6870), (123, 6927), (125, 6933), (133, 6960), (144, 7023),

Gene: PhluffyCoco\_10 Start: 7619, Stop: 7909, Start Num: 52  
Candidate Starts for PhluffyCoco\_10:  
(52, 7619), (Start: 73 @7655 has 10 MA's), (81, 7679), (95, 7724), (98, 7736), (114, 7781), (119,  
7787), (126, 7799), (132, 7826),

Gene: PhorbesPhlower\_10 Start: 6300, Stop: 6557, Start Num: 55  
Candidate Starts for PhorbesPhlower\_10:  
(38, 6267), (Start: 55 @6300 has 8 MA's), (132, 6486), (137, 6510),

Gene: PinkFriday\_9 Start: 7264, Stop: 7551, Start Num: 62  
Candidate Starts for PinkFriday\_9:  
(Start: 62 @7264 has 127 MA's), (82, 7315), (97, 7363), (132, 7471), (146, 7543),

Gene: Pirate\_9 Start: 6445, Stop: 6735, Start Num: 62  
Candidate Starts for Pirate\_9:  
(Start: 62 @6445 has 127 MA's), (69, 6457), (71, 6463), (Start: 77 @6475 has 1 MA's), (81, 6493),  
(82, 6496), (87, 6511), (89, 6520), (90, 6523), (103, 6568), (117, 6610), (124, 6622),

Gene: PitaDog\_9 Start: 7234, Stop: 7503, Start Num: 62  
Candidate Starts for PitaDog\_9:  
(Start: 62 @7234 has 127 MA's), (97, 7333), (118, 7378), (132, 7420),

Gene: Polka\_11 Start: 8080, Stop: 8343, Start Num: 66  
Candidate Starts for Polka\_11:  
(Start: 63 @8074 has 1 MA's), (Start: 66 @8080 has 6 MA's), (Start: 68 @8083 has 3 MA's), (Start: 73  
@8089 has 10 MA's), (81, 8113), (95, 8158), (119, 8221), (126, 8233),

Gene: Pollux\_12 Start: 8015, Stop: 8272, Start Num: 51  
Candidate Starts for Pollux\_12:  
(Start: 51 @8015 has 24 MA's), (137, 8225), (144, 8264),

Gene: Pons\_11 Start: 7037, Stop: 7309, Start Num: 49  
Candidate Starts for Pons\_11:  
(Start: 49 @7037 has 52 MA's), (59, 7049), (64, 7055), (130, 7220), (132, 7226), (137, 7250),

Gene: Posh\_12 Start: 8009, Stop: 8266, Start Num: 51  
Candidate Starts for Posh\_12:  
(Start: 51 @8009 has 24 MA's), (137, 8219), (144, 8258),

Gene: PotPie\_11 Start: 7888, Stop: 8160, Start Num: 49  
Candidate Starts for PotPie\_11:  
(46, 7885), (Start: 49 @7888 has 52 MA's), (59, 7900), (64, 7906), (130, 8071), (132, 8077), (137, 8101),

Gene: Potatoes\_13 Start: 10152, Stop: 10421, Start Num: 62  
Candidate Starts for Potatoes\_13:  
(Start: 62 @10152 has 127 MA's), (82, 10203), (87, 10218), (97, 10251),

Gene: Preamble\_9 Start: 7244, Stop: 7513, Start Num: 62  
Candidate Starts for Preamble\_9:  
(Start: 62 @7244 has 127 MA's), (97, 7343), (118, 7388), (132, 7430), (138, 7457),

Gene: Procrass1\_9 Start: 6452, Stop: 6742, Start Num: 62  
Candidate Starts for Procrass1\_9:  
(Start: 62 @6452 has 127 MA's), (69, 6464), (71, 6470), (Start: 77 @6482 has 1 MA's), (81, 6500), (82, 6503), (87, 6518), (89, 6527), (90, 6530), (103, 6575), (117, 6617), (124, 6629), (129, 6653), (141, 6713),

Gene: PsychoKiller\_11 Start: 7257, Stop: 7538, Start Num: 49  
Candidate Starts for PsychoKiller\_11:  
(23, 7134), (Start: 49 @7257 has 52 MA's),

Gene: Pterodactyl\_9 Start: 7235, Stop: 7504, Start Num: 62  
Candidate Starts for Pterodactyl\_9:  
(Start: 62 @7235 has 127 MA's), (97, 7334), (118, 7379), (132, 7421),

Gene: Pumancara\_9 Start: 7263, Stop: 7550, Start Num: 62  
Candidate Starts for Pumancara\_9:  
(Start: 62 @7263 has 127 MA's), (82, 7314), (97, 7362), (132, 7470), (146, 7542),

Gene: Pytheas\_12 Start: 7862, Stop: 8119, Start Num: 51  
Candidate Starts for Pytheas\_12:  
(Start: 51 @7862 has 24 MA's), (137, 8072), (144, 8111),

Gene: QMacho\_11 Start: 8135, Stop: 8395, Start Num: 43  
Candidate Starts for QMacho\_11:  
(39, 8123), (Start: 43 @8135 has 44 MA's), (82, 8159), (132, 8315), (136, 8330),

Gene: Quasar\_11 Start: 7872, Stop: 8147, Start Num: 49  
Candidate Starts for Quasar\_11:  
(23, 7749), (Start: 49 @7872 has 52 MA's),

Gene: QueenBey\_9 Start: 6446, Stop: 6736, Start Num: 62  
Candidate Starts for QueenBey\_9:  
(Start: 62 @6446 has 127 MA's), (71, 6464), (Start: 77 @6476 has 1 MA's), (81, 6494), (82, 6497), (87, 6512), (89, 6521), (90, 6524), (103, 6569), (117, 6611), (124, 6623), (129, 6647), (141, 6707),

Gene: Quenya\_11 Start: 7781, Stop: 8044, Start Num: 43  
Candidate Starts for Quenya\_11:  
(31, 7724), (Start: 43 @7781 has 44 MA's), (82, 7808), (87, 7823), (132, 7964),

Gene: RAP15\_13 Start: 10158, Stop: 10427, Start Num: 62

Candidate Starts for RAP15\_13:  
(Start: 62 @10158 has 127 MA's), (82, 10209), (87, 10224), (97, 10257),

Gene: RanchParmCat\_14 Start: 7972, Stop: 8241, Start Num: 49  
Candidate Starts for RanchParmCat\_14:  
(Start: 49 @7972 has 52 MA's), (64, 7987), (83, 8029),

Gene: RcigaStruga\_13 Start: 10141, Stop: 10431, Start Num: 62  
Candidate Starts for RcigaStruga\_13:  
(3, 9655), (7, 9742), (12, 9880), (Start: 62 @10141 has 127 MA's), (75, 10165), (97, 10240), (104, 10267), (132, 10348),

Gene: RedBaron\_12 Start: 7302, Stop: 7583, Start Num: 49  
Candidate Starts for RedBaron\_12:  
(23, 7179), (Start: 49 @7302 has 52 MA's),

Gene: RedFox\_10 Start: 7655, Stop: 7909, Start Num: 73  
Candidate Starts for RedFox\_10:  
(52, 7619), (Start: 73 @7655 has 10 MA's), (81, 7679), (95, 7724), (98, 7736), (114, 7781), (119, 7787), (126, 7799), (132, 7826),

Gene: Renna12\_11 Start: 7855, Stop: 8109, Start Num: 73  
Candidate Starts for Renna12\_11:  
(Start: 73 @7855 has 10 MA's), (81, 7879), (95, 7924), (98, 7936), (114, 7981), (119, 7987), (126, 7999), (132, 8026),

Gene: Rileysaurus\_9 Start: 6441, Stop: 6731, Start Num: 62  
Candidate Starts for Rileysaurus\_9:  
(Start: 62 @6441 has 127 MA's), (69, 6453), (71, 6459), (Start: 77 @6471 has 1 MA's), (81, 6489), (87, 6507), (89, 6516), (90, 6519), (103, 6564), (117, 6606), (124, 6618), (129, 6642),

Gene: Riovina\_9 Start: 7261, Stop: 7548, Start Num: 62  
Candidate Starts for Riovina\_9:  
(Start: 62 @7261 has 127 MA's), (97, 7360), (132, 7468), (146, 7540),

Gene: Riverdale\_13 Start: 10089, Stop: 10358, Start Num: 62  
Candidate Starts for Riverdale\_13:  
(Start: 62 @10089 has 127 MA's), (82, 10140), (87, 10155), (97, 10188),

Gene: Rollins\_9 Start: 7485, Stop: 7748, Start Num: 43  
Candidate Starts for Rollins\_9:  
(31, 7428), (Start: 43 @7485 has 44 MA's), (53, 7500), (82, 7515), (120, 7632), (137, 7692), (142, 7722),

Gene: Rona\_10 Start: 7882, Stop: 8139, Start Num: 43  
Candidate Starts for Rona\_10:  
(Start: 43 @7882 has 44 MA's), (95, 7945), (132, 8059), (140, 8104),

Gene: Ronaldo\_46 Start: 17223, Stop: 17507, Start Num: 44  
Candidate Starts for Ronaldo\_46:  
(41, 17217), (Start: 44 @17223 has 6 MA's), (76, 17280), (86, 17307), (115, 17388), (120, 17394),

Gene: Rowa\_10 Start: 7361, Stop: 7627, Start Num: 72

Candidate Starts for Rowa\_10:  
(34, 7262), (Start: 72 @7361 has 1 MA's), (132, 7535),

Gene: Rozby\_13 Start: 10089, Stop: 10358, Start Num: 62  
Candidate Starts for Rozby\_13:  
(Start: 62 @10089 has 127 MA's), (82, 10140), (87, 10155), (97, 10188),

Gene: Ruchi\_11 Start: 8341, Stop: 8598, Start Num: 70  
Candidate Starts for Ruchi\_11:  
(5, 7879), (8, 7987), (9, 8032), (24, 8188), (Start: 70 @8341 has 8 MA's), (119, 8479), (130, 8509),

Gene: SKKY\_9 Start: 6477, Stop: 6767, Start Num: 62  
Candidate Starts for SKKY\_9:  
(Start: 62 @6477 has 127 MA's), (69, 6489), (71, 6495), (Start: 77 @6507 has 1 MA's), (81, 6525),  
(82, 6528), (87, 6543), (89, 6552), (90, 6555), (103, 6600),

Gene: SPB78\_11 Start: 7748, Stop: 8026, Start Num: 65  
Candidate Starts for SPB78\_11:  
(14, 7511), (20, 7571), (61, 7742), (65, 7748), (94, 7820), (132, 7940), (139, 7973),

Gene: SanaSana\_11 Start: 7900, Stop: 8160, Start Num: 40  
Candidate Starts for SanaSana\_11:  
(Start: 40 @7900 has 2 MA's), (95, 7966),

Gene: SansAfet\_10 Start: 7665, Stop: 7922, Start Num: 43  
Candidate Starts for SansAfet\_10:  
(39, 7653), (Start: 43 @7665 has 44 MA's), (82, 7686), (131, 7839), (132, 7842), (136, 7857), (141,  
7893),

Gene: SarBear\_10 Start: 7625, Stop: 7888, Start Num: 42  
Candidate Starts for SarBear\_10:  
(39, 7616), (Start: 42 @7625 has 14 MA's), (82, 7652), (132, 7808), (136, 7823),

Gene: Savage2526\_13 Start: 10152, Stop: 10421, Start Num: 62  
Candidate Starts for Savage2526\_13:  
(Start: 62 @10152 has 127 MA's), (82, 10203), (87, 10218), (97, 10251),

Gene: Scuttle\_13 Start: 10158, Stop: 10427, Start Num: 62  
Candidate Starts for Scuttle\_13:  
(Start: 62 @10158 has 127 MA's), (82, 10209), (87, 10224), (97, 10257),

Gene: Sergei\_9 Start: 7263, Stop: 7550, Start Num: 62  
Candidate Starts for Sergei\_9:  
(Start: 62 @7263 has 127 MA's), (91, 7344), (97, 7362), (132, 7470), (146, 7542),

Gene: Shambre1\_11 Start: 8534, Stop: 8782, Start Num: 77  
Candidate Starts for Shambre1\_11:  
(Start: 77 @8534 has 1 MA's), (96, 8600), (114, 8654),

Gene: Sharkboy\_10 Start: 7881, Stop: 8138, Start Num: 43  
Candidate Starts for Sharkboy\_10:  
(Start: 43 @7881 has 44 MA's), (95, 7944), (132, 8058), (140, 8103),

Gene: Shayna\_9 Start: 7487, Stop: 7753, Start Num: 42

Candidate Starts for Shayna\_9:

(39, 7478), (Start: 42 @7487 has 14 MA's), (Start: 80 @7511 has 4 MA's), (82, 7517), (105, 7592), (120, 7634), (131, 7667), (144, 7733),

Gene: SheckWes\_10 Start: 7025, Stop: 7297, Start Num: 49

Candidate Starts for SheckWes\_10:

(Start: 49 @7025 has 52 MA's), (59, 7037), (64, 7043), (130, 7208), (132, 7214), (137, 7238),

Gene: SketchMex\_10 Start: 7241, Stop: 7519, Start Num: 49

Candidate Starts for SketchMex\_10:

(Start: 49 @7241 has 52 MA's), (84, 7310), (106, 7382),

Gene: Skylord\_9 Start: 7425, Stop: 7688, Start Num: 43

Candidate Starts for Skylord\_9:

(31, 7368), (Start: 43 @7425 has 44 MA's), (53, 7440), (82, 7455), (120, 7572), (137, 7632), (142, 7662),

Gene: Slay\_10 Start: 8101, Stop: 8364, Start Num: 42

Candidate Starts for Slay\_10:

(39, 8092), (Start: 42 @8101 has 14 MA's), (82, 8128), (132, 8284), (136, 8299),

Gene: Sleepyhead\_11 Start: 7625, Stop: 7879, Start Num: 54

Candidate Starts for Sleepyhead\_11:

(Start: 54 @7625 has 1 MA's), (78, 7667), (89, 7706), (93, 7718),

Gene: Solid\_9 Start: 6453, Stop: 6743, Start Num: 62

Candidate Starts for Solid\_9:

(Start: 62 @6453 has 127 MA's), (69, 6465), (71, 6471), (Start: 77 @6483 has 1 MA's), (81, 6501), (82, 6504), (87, 6519), (89, 6528), (90, 6531), (103, 6576), (117, 6618), (124, 6630), (129, 6654), (141, 6714),

Gene: Sopespian\_11 Start: 7257, Stop: 7538, Start Num: 49

Candidate Starts for Sopespian\_11:

(23, 7134), (Start: 49 @7257 has 52 MA's),

Gene: Soul22\_12 Start: 6947, Stop: 7219, Start Num: 51

Candidate Starts for Soul22\_12:

(Start: 51 @6947 has 24 MA's), (83, 7007), (84, 7010), (93, 7040), (100, 7064), (111, 7094), (135, 7154),

Gene: Spartoi\_9 Start: 6351, Stop: 6599, Start Num: 62

Candidate Starts for Spartoi\_9:

(Start: 62 @6351 has 127 MA's), (71, 6366), (87, 6414), (132, 6540),

Gene: Spooky\_11 Start: 6822, Stop: 7046, Start Num: 85

Candidate Starts for Spooky\_11:

(Start: 85 @6822 has 19 MA's), (102, 6879), (123, 6936), (125, 6942), (144, 7032),

Gene: Squiddly\_12 Start: 7509, Stop: 7733, Start Num: 85

Candidate Starts for Squiddly\_12:

(21, 7287), (32, 7371), (Start: 68 @7467 has 3 MA's), (Start: 85 @7509 has 19 MA's), (97, 7548), (102, 7566), (123, 7623), (125, 7629), (133, 7656), (144, 7719),

Gene: Squiracle\_10 Start: 7884, Stop: 8150, Start Num: 43

Candidate Starts for Squiracle\_10:

(39, 7872), (Start: 43 @7884 has 44 MA's), (Start: 80 @7908 has 4 MA's), (105, 7989), (120, 8031), (132, 8067), (136, 8082),

Gene: SteamedHams\_13 Start: 7276, Stop: 7548, Start Num: 49

Candidate Starts for SteamedHams\_13:

(Start: 49 @7276 has 52 MA's), (84, 7339),

Gene: Stoor\_10 Start: 7897, Stop: 8157, Start Num: 40

Candidate Starts for Stoor\_10:

(Start: 40 @7897 has 2 MA's), (95, 7963),

Gene: Stormborn\_9 Start: 6448, Stop: 6738, Start Num: 62

Candidate Starts for Stormborn\_9:

(Start: 62 @6448 has 127 MA's), (69, 6460), (71, 6466), (Start: 77 @6478 has 1 MA's), (81, 6496), (82, 6499), (87, 6514), (89, 6523), (90, 6526), (103, 6571), (117, 6613), (124, 6625), (129, 6649), (141, 6709),

Gene: Stromboli\_10 Start: 7898, Stop: 8161, Start Num: 42

Candidate Starts for Stromboli\_10:

(Start: 42 @7898 has 14 MA's), (50, 7910), (82, 7925), (120, 8042), (132, 8081), (136, 8096),

Gene: SummitAcademy\_10 Start: 7103, Stop: 7375, Start Num: 49

Candidate Starts for SummitAcademy\_10:

(46, 7100), (Start: 49 @7103 has 52 MA's), (59, 7115), (64, 7121), (130, 7286), (132, 7292), (137, 7316),

Gene: SunnyD\_9 Start: 7487, Stop: 7753, Start Num: 42

Candidate Starts for SunnyD\_9:

(39, 7478), (Start: 42 @7487 has 14 MA's), (Start: 80 @7511 has 4 MA's), (82, 7517), (120, 7634), (131, 7667), (144, 7733),

Gene: Supakev\_9 Start: 7263, Stop: 7550, Start Num: 62

Candidate Starts for Supakev\_9:

(Start: 62 @7263 has 127 MA's), (82, 7314), (97, 7362), (132, 7470),

Gene: Supernova\_9 Start: 6445, Stop: 6735, Start Num: 62

Candidate Starts for Supernova\_9:

(Start: 62 @6445 has 127 MA's), (69, 6457), (71, 6463), (81, 6493), (82, 6496), (87, 6511), (89, 6520), (90, 6523), (97, 6544), (103, 6568), (117, 6610), (124, 6622), (129, 6646), (141, 6706),

Gene: Suppi\_13 Start: 10175, Stop: 10444, Start Num: 62

Candidate Starts for Suppi\_13:

(57, 10163), (Start: 62 @10175 has 127 MA's), (71, 10193), (90, 10253), (97, 10274), (132, 10361),

Gene: Survivors\_13 Start: 8017, Stop: 8316, Start Num: 49

Candidate Starts for Survivors\_13:

(46, 8014), (Start: 49 @8017 has 52 MA's), (93, 8119), (113, 8188), (132, 8230), (143, 8290), (144, 8293), (145, 8296),

Gene: SweatNTears\_13 Start: 7761, Stop: 8030, Start Num: 49

Candidate Starts for SweatNTears\_13:  
(Start: 49 @7761 has 52 MA's), (84, 7821), (106, 7893),

Gene: Swervy\_10 Start: 7625, Stop: 7888, Start Num: 42  
Candidate Starts for Swervy\_10:  
(39, 7616), (Start: 42 @7625 has 14 MA's), (82, 7652), (132, 7808), (136, 7823),

Gene: TMaxx\_12 Start: 7340, Stop: 7600, Start Num: 53  
Candidate Starts for TMaxx\_12:  
(53, 7340), (94, 7439), (132, 7520), (134, 7523),

Gene: TattModd\_13 Start: 10152, Stop: 10421, Start Num: 62  
Candidate Starts for TattModd\_13:  
(Start: 62 @10152 has 127 MA's), (82, 10203), (87, 10218), (97, 10251),

Gene: TaylorSipht\_11 Start: 8123, Stop: 8377, Start Num: 73  
Candidate Starts for TaylorSipht\_11:  
(52, 8087), (60, 8105), (Start: 73 @8123 has 10 MA's), (81, 8147), (96, 8195), (98, 8204),

Gene: Teagster\_9 Start: 7487, Stop: 7753, Start Num: 42  
Candidate Starts for Teagster\_9:  
(39, 7478), (Start: 42 @7487 has 14 MA's), (Start: 80 @7511 has 4 MA's), (82, 7517), (105, 7592),  
(120, 7634), (131, 7667), (144, 7733),

Gene: Temper16\_9 Start: 7263, Stop: 7550, Start Num: 62  
Candidate Starts for Temper16\_9:  
(Start: 62 @7263 has 127 MA's), (91, 7344), (97, 7362), (132, 7470), (146, 7542),

Gene: Tolls\_13 Start: 7279, Stop: 7551, Start Num: 49  
Candidate Starts for Tolls\_13:  
(Start: 49 @7279 has 52 MA's), (84, 7342),

Gene: Troje\_11 Start: 7235, Stop: 7504, Start Num: 49  
Candidate Starts for Troje\_11:  
(Start: 49 @7235 has 52 MA's), (84, 7295), (106, 7367),

Gene: TukTuk\_10 Start: 7628, Stop: 7948, Start Num: 43  
Candidate Starts for TukTuk\_10:  
(39, 7616), (Start: 43 @7628 has 44 MA's), (82, 7712), (132, 7868), (136, 7883),

Gene: Typha\_17 Start: 11749, Stop: 11997, Start Num: 80  
Candidate Starts for Typha\_17:  
(Start: 56 @11692 has 3 MA's), (Start: 80 @11749 has 4 MA's), (93, 11791), (116, 11866), (134, 11914), (142, 11965), (146, 11983),

Gene: Typhonomachy\_12 Start: 7257, Stop: 7538, Start Num: 49  
Candidate Starts for Typhonomachy\_12:  
(23, 7134), (Start: 49 @7257 has 52 MA's),

Gene: Urla\_9 Start: 7290, Stop: 7559, Start Num: 62  
Candidate Starts for Urla\_9:  
(Start: 62 @7290 has 127 MA's), (97, 7389), (98, 7395), (132, 7476),

Gene: VWB\_10 Start: 7804, Stop: 8076, Start Num: 65

Candidate Starts for VWB\_10:

(65, 7804), (83, 7846), (128, 7984), (132, 7996),

Gene: Vallejo\_13 Start: 10090, Stop: 10359, Start Num: 62

Candidate Starts for Vallejo\_13:

(Start: 62 @10090 has 127 MA's), (82, 10141), (87, 10156), (97, 10189),

Gene: Vine\_12 Start: 8032, Stop: 8304, Start Num: 49

Candidate Starts for Vine\_12:

(46, 8029), (Start: 49 @8032 has 52 MA's), (130, 8215), (132, 8221), (137, 8245),

Gene: Vitas\_9 Start: 7425, Stop: 7688, Start Num: 43

Candidate Starts for Vitas\_9:

(31, 7368), (Start: 43 @7425 has 44 MA's), (53, 7440), (82, 7455), (120, 7572), (137, 7632), (142, 7662),

Gene: Volt\_45 Start: 17223, Stop: 17507, Start Num: 44

Candidate Starts for Volt\_45:

(41, 17217), (Start: 44 @17223 has 6 MA's), (76, 17280), (86, 17307), (115, 17388), (120, 17394),

Gene: Vulpecula\_11 Start: 8417, Stop: 8674, Start Num: 70

Candidate Starts for Vulpecula\_11:

(1, 7796), (2, 7841), (5, 7955), (8, 8063), (24, 8264), (52, 8381), (Start: 70 @8417 has 8 MA's), (130, 8585),

Gene: Vulture\_9 Start: 7261, Stop: 7548, Start Num: 62

Candidate Starts for Vulture\_9:

(Start: 62 @7261 has 127 MA's), (97, 7360), (132, 7468),

Gene: WalkingDead\_10 Start: 7885, Stop: 8148, Start Num: 45

Candidate Starts for WalkingDead\_10:

(Start: 45 @7885 has 2 MA's), (82, 7912), (132, 8068), (136, 8083),

Gene: Wawa\_13 Start: 10127, Stop: 10396, Start Num: 62

Candidate Starts for Wawa\_13:

(Start: 62 @10127 has 127 MA's), (82, 10178), (87, 10193), (97, 10226),

Gene: Wayne\_13 Start: 10221, Stop: 10490, Start Num: 62

Candidate Starts for Wayne\_13:

(57, 10209), (Start: 62 @10221 has 127 MA's), (71, 10239), (90, 10299), (97, 10320), (132, 10407),

Gene: Whitney\_11 Start: 6824, Stop: 7048, Start Num: 85

Candidate Starts for Whitney\_11:

(19, 6587), (21, 6602), (32, 6686), (Start: 85 @6824 has 19 MA's), (97, 6863), (102, 6881), (123, 6938), (125, 6944), (133, 6971), (144, 7034),

Gene: Wizzo\_9 Start: 6457, Stop: 6747, Start Num: 62

Candidate Starts for Wizzo\_9:

(Start: 62 @6457 has 127 MA's), (69, 6469), (71, 6475), (Start: 77 @6487 has 1 MA's), (81, 6505), (82, 6508), (87, 6523), (89, 6532), (90, 6535), (117, 6622), (124, 6634),

Gene: WonderBoy\_9 Start: 7243, Stop: 7512, Start Num: 62



Candidate Starts for WonderBoy\_9:  
(Start: 62 @7243 has 127 MA's), (97, 7342), (132, 7429),

Gene: Wrigley\_12 Start: 7859, Stop: 8116, Start Num: 51  
Candidate Starts for Wrigley\_12:  
(Start: 51 @7859 has 24 MA's), (137, 8069), (144, 8108),

Gene: Yakult\_12 Start: 7168, Stop: 7437, Start Num: 49  
Candidate Starts for Yakult\_12:  
(Start: 49 @7168 has 52 MA's),

Gene: Yarn\_10 Start: 7269, Stop: 7541, Start Num: 49  
Candidate Starts for Yarn\_10:  
(Start: 49 @7269 has 52 MA's),

Gene: Yoshi\_12 Start: 6947, Stop: 7219, Start Num: 51  
Candidate Starts for Yoshi\_12:  
(Start: 51 @6947 has 24 MA's), (83, 7007), (84, 7010), (93, 7040), (100, 7064), (111, 7094), (135, 7154),

Gene: Yummy\_12 Start: 7139, Stop: 7417, Start Num: 49  
Candidate Starts for Yummy\_12:  
(Start: 49 @7139 has 52 MA's), (84, 7208), (106, 7280),

Gene: Zapner\_13 Start: 7472, Stop: 7744, Start Num: 51  
Candidate Starts for Zapner\_13:  
(Start: 51 @7472 has 24 MA's), (83, 7532), (84, 7535), (93, 7565), (100, 7589), (111, 7619), (135, 7679),

Gene: Zareef\_15 Start: 8164, Stop: 8463, Start Num: 49  
Candidate Starts for Zareef\_15:  
(46, 8161), (Start: 49 @8164 has 52 MA's), (93, 8266), (113, 8335), (132, 8377), (143, 8437), (144, 8440), (145, 8443),

Gene: Ziko\_46 Start: 17163, Stop: 17447, Start Num: 44  
Candidate Starts for Ziko\_46:  
(41, 17157), (Start: 44 @17163 has 6 MA's), (76, 17220), (86, 17247), (115, 17328), (120, 17334),

Gene: Zorro\_13 Start: 10106, Stop: 10375, Start Num: 62  
Candidate Starts for Zorro\_13:  
(Start: 62 @10106 has 127 MA's), (82, 10157), (87, 10172), (97, 10205),