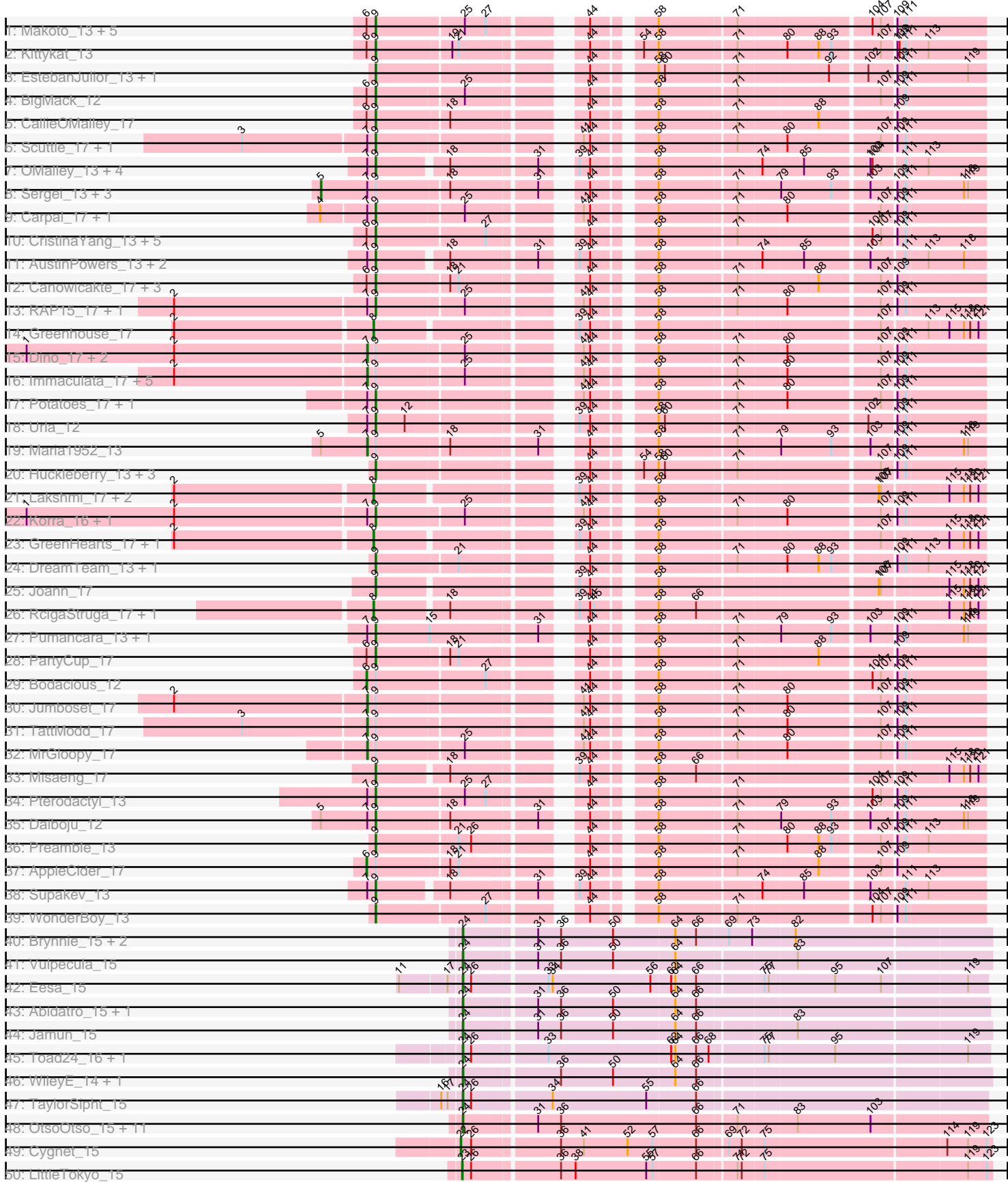
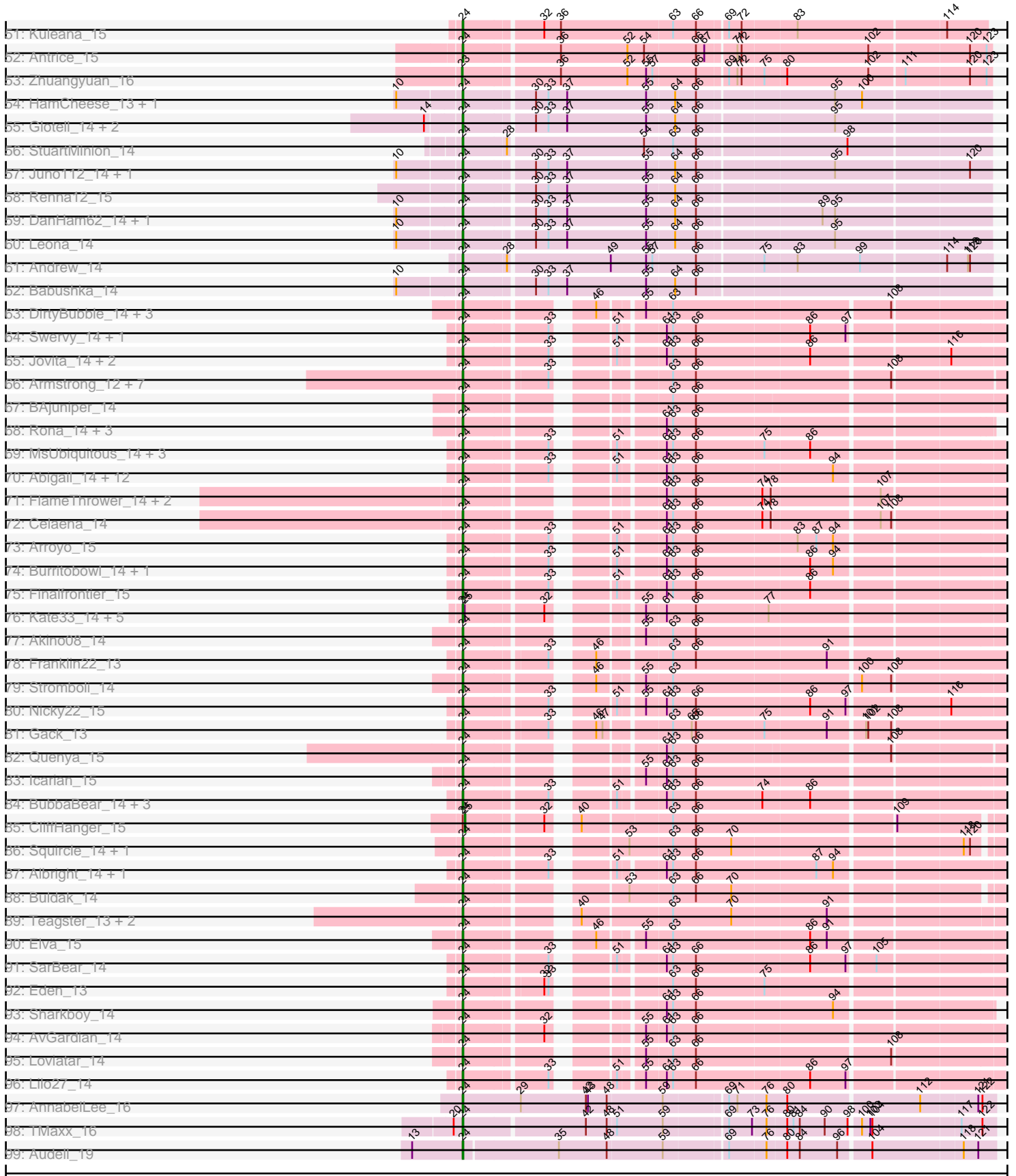


Pham 294432



# Pham 294432



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 294432 Report

This analysis was run 04/18/26 on database version 643.

Pham number 294432 has 210 members, 0 are drafts.

Phages represented in each track:

- Track 1 : Makoto\_13, PitaDog\_13, Christian\_13, DrRobert\_13, OurGirlNessie\_13, Lucy\_13
- Track 2 : Kittykat\_13
- Track 3 : EstebanJulior\_13, MamaPearl\_13
- Track 4 : BigMack\_12
- Track 5 : CallieOMalley\_17
- Track 6 : Scuttle\_17, Riverdale\_17
- Track 7 : OMalley\_13, Eunoia\_13, Aledel\_12, Chridison\_13, Riovina\_13
- Track 8 : Sergei\_13, KingBob\_13, Herb\_13, Temper16\_13
- Track 9 : Carpal\_17, Beethoven\_17
- Track 10 : CristinaYang\_13, Lasagna\_13, LilStuart\_13, Nancia\_13, Lennox\_13, ChewChew\_13
- Track 11 : AustinPowers\_13, HunterDalle\_13, Vulture\_13
- Track 12 : Canowicakte\_17, Suppi\_17, Wayne\_16, Litotes\_17
- Track 13 : RAP15\_17, Vallejo\_17
- Track 14 : Greenhouse\_17
- Track 15 : Dino\_17, BrotherBLo\_17, Zorro\_17
- Track 16 : Immaculata\_17, Glenn\_17, Rozby\_17, Savage2526\_17, MeganNoll\_16, Kalizoi\_17
- Track 17 : Potatoes\_17, Cholula\_17
- Track 18 : Urla\_12
- Track 19 : Maria1952\_13
- Track 20 : Huckleberry\_13, HeadNerd\_12, Bennie\_13, Moki\_13
- Track 21 : Lakshmi\_17, Albanese\_17, Oxyfnrius\_17
- Track 22 : Korra\_16, Wawa\_17
- Track 23 : GreenHearts\_17, Nubia\_16
- Track 24 : DreamTeam\_13, Gisselle\_13
- Track 25 : Joann\_17
- Track 26 : RcigaStruga\_17, Huntingdon\_17
- Track 27 : Pumancara\_13, PinkFriday\_13
- Track 28 : PartyCup\_17
- Track 29 : Bodacious\_12
- Track 30 : Jumboset\_17
- Track 31 : TattModd\_17
- Track 32 : MrGloopy\_17
- Track 33 : Misaeng\_17
- Track 34 : Pterodactyl\_13

- Track 35 : Daiboju\_12
- Track 36 : Preamble\_13
- Track 37 : AppleCider\_17
- Track 38 : Supakev\_13
- Track 39 : WonderBoy\_13
- Track 40 : Brynnie\_15, Ruchi\_15, Basilisk\_15
- Track 41 : Vulpecula\_15
- Track 42 : Eesa\_15
- Track 43 : Abidatro\_15, Galaxy\_15
- Track 44 : Jamun\_15
- Track 45 : Toad24\_16, Orcanus\_15
- Track 46 : WileyE\_14, Chickaboom\_14
- Track 47 : TaylorSipht\_15
- Track 48 : OtsoOtso\_15, Melons\_16, Polka\_15, Amelia\_16, Cote\_16, Lunar\_15, Daob\_16, Coral\_15, Colusalem\_15, Kepler\_15, HannahPhantana\_16, Jerole\_16
- Track 49 : Cygnet\_15
- Track 50 : LittleTokyo\_15
- Track 51 : Kuleana\_15
- Track 52 : Antrice\_15
- Track 53 : Zhuangyuan\_16
- Track 54 : HamCheese\_13, PhluffyCoco\_14
- Track 55 : Glotell\_14, KHumphrey\_14, AmiCi24\_14
- Track 56 : StuartMinion\_14
- Track 57 : Juno112\_14, Atlantica\_14
- Track 58 : Renna12\_15
- Track 59 : DanHam62\_14, RedFox\_14
- Track 60 : Leona\_14
- Track 61 : Andrew\_14
- Track 62 : Babushka\_14
- Track 63 : DirtyBubble\_14, Stoor\_14, SanaSana\_15, BabyYoda\_14
- Track 64 : Swervy\_14, Slay\_14
- Track 65 : Jovita\_14, QMacho\_15, Eula\_14
- Track 66 : Armstrong\_12, Clayda5\_13, Rollins\_12, Coltrane\_12, Vitas\_13, Brahms\_12, Bernstein\_12, Skylord\_13
- Track 67 : BAjuniper\_14
- Track 68 : Rona\_14, Kieran\_14, ChiliPepper\_14, Dismas\_14
- Track 69 : MsUbiquitous\_14, CupcakePrincess\_14, TukTuk\_14, Jabb\_14
- Track 70 : Abigail\_14, DickRichards\_14, PhigPhack\_14, Avocadoman\_14, CroZenni\_14, SansAfet\_14, Johnathan\_14, BelmontSKP\_15, LimaBean\_14, Kenzers\_14, Lynlen\_14, Bengal\_14, AnnaLie\_15
- Track 71 : FlameThrower\_14, Bachaco\_14, Katzastrophic\_14
- Track 72 : Celaena\_14
- Track 73 : Arroyo\_15
- Track 74 : Burritobowl\_14, Milomuff\_15
- Track 75 : Finalfrontier\_15
- Track 76 : Kate33\_14, BabyDaisy\_15, Didgeridoo\_15, IndyLu\_14, Lahqtemish\_14, PastaFagioli\_14
- Track 77 : Akino08\_14
- Track 78 : Franklin22\_13
- Track 79 : Stromboli\_14
- Track 80 : Nicky22\_15
- Track 81 : Gack\_13
- Track 82 : Quenya\_15

- Track 83 : Icarian\_15
- Track 84 : BubbaBear\_14, Albedo\_14, Doobus\_14, Phisb\_14
- Track 85 : CliffHanger\_15
- Track 86 : Squircle\_14, Olliecat\_14
- Track 87 : Albright\_14, Softsoap\_14
- Track 88 : Buldak\_14
- Track 89 : Teagster\_13, Shayna\_13, SunnyD\_13
- Track 90 : Elva\_15
- Track 91 : SarBear\_14
- Track 92 : Eden\_13
- Track 93 : Sharkboy\_14
- Track 94 : AvGardian\_14
- Track 95 : Loviatar\_14
- Track 96 : Lilo27\_14
- Track 97 : AnnabelLee\_16
- Track 98 : TMaxx\_16
- Track 99 : Audell\_19

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

The start number called the most often in the published annotations is 24, it was called in 123 of the 210 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Abidatro\_15, Abigail\_14, Akino08\_14, Albedo\_14, Albright\_14, Amelia\_16, AmiCi24\_14, Andrew\_14, AnnaLie\_15, AnnabelLee\_16, Antrice\_15, Armstrong\_12, Arroyo\_15, Atlantica\_14, Audell\_19, AvGardian\_14, Avocadoman\_14, BAJuniper\_14, Babushka\_14, BabyDaisy\_15, BabyYoda\_14, Bachaco\_14, Basilisk\_15, BelmontSKP\_15, Bengal\_14, Bernstein\_12, Brahms\_12, Brynnie\_15, BubbaBear\_14, Buldak\_14, Burritobowl\_14, Celaena\_14, Chickaboom\_14, ChiliPepper\_14, Clayda5\_13, Coltrane\_12, Colusalem\_15, Coral\_15, Cote\_16, CroZenni\_14, CupcakePrincess\_14, DanHam62\_14, Daob\_16, DickRichards\_14, Didgeridoo\_15, DirtyBubble\_14, Dismas\_14, Doobus\_14, Eden\_13, Eesa\_15, Elva\_15, Eula\_14, Finalfrontier\_15, FlameThrower\_14, Franklin22\_13, Gack\_13, Galaxy\_15, Glotell\_14, HamCheese\_13, HannahPhantana\_16, Icarian\_15, IndyLu\_14, Jabb\_14, Jamun\_15, Jerole\_16, Johnathan\_14, Jovita\_14, Juno112\_14, KHumphrey\_14, Kate33\_14, Katzastrophic\_14, Kenzers\_14, Kepler\_15, Kieran\_14, Kuleana\_15, Lahqtemish\_14, Leona\_14, Lilo27\_14, LimaBean\_14, Loviatar\_14, Lunar\_15, Lynlen\_14, Melons\_16, Milomuff\_15, MsUbiquitous\_14, Nicky22\_15, Olliecat\_14, Orcanus\_15, OtsoOtso\_15, PastaFagioli\_14, PhigPhack\_14, Phisb\_14, PhluffyCoco\_14, Polka\_15, QMacho\_15, Quenya\_15, RedFox\_14, Renna12\_15, Rollins\_12, Rona\_14, Ruchi\_15, SanaSana\_15, SansAfet\_14, SarBear\_14, Sharkboy\_14, Shayna\_13, Skylord\_13, Slay\_14, Softsoap\_14, Squircle\_14, Stoor\_14, Stromboli\_14, StuartMinion\_14, SunnyD\_13, Swervy\_14, TMaxx\_16, TaylorSipht\_15, Teagster\_13, Toad24\_16, TukTuk\_14, Vitas\_13, Vulpecula\_15, WileyE\_14,

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

- CliffHanger\_15,

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

- Albanese\_17, Aledel\_12, AppleCider\_17, AustinPowers\_13, Beethoven\_17, Bennie\_13, BigMack\_12, Bodacious\_12, BrotherBLo\_17, CallieOMalley\_17, Canowicakte\_17, Carpal\_17, ChewChew\_13, Cholula\_17, Chridison\_13, Christian\_13, CristinaYang\_13, Cygnet\_15, Daiboju\_12, Dino\_17, DrRobert\_13, DreamTeam\_13, EstebanJulior\_13, Eunoia\_13, Gisselle\_13, Glenn\_17, GreenHearts\_17, Greenhouse\_17, HeadNerd\_12, Herb\_13, Huckleberry\_13, HunterDalle\_13, Huntingdon\_17, Immaculata\_17, Joann\_17, Jumboset\_17, Kalizoi\_17, KingBob\_13, Kittykat\_13, Korra\_16, Lakshmi\_17, Lasagna\_13, Lennox\_13, LilStuart\_13, Litotes\_17, LittleTokyo\_15, Lucy\_13, Makoto\_13, MamaPearl\_13, Maria1952\_13, MeganNoll\_16, Misaeng\_17, Moki\_13, MrGloopy\_17, Nancia\_13, Nubia\_16, OMalley\_13, OurGirlNessie\_13, Oxynfrius\_17, PartyCup\_17, PinkFriday\_13, PitaDog\_13, Potatoes\_17, Preamble\_13, Pterodactyl\_13, Pumancara\_13, RAP15\_17, RcigaStruga\_17, Riovina\_13, Riverdale\_17, Rozby\_17, Savage2526\_17, Scuttle\_17, Sergei\_13, Supakev\_13, Suppi\_17, TattModd\_17, Temper16\_13, Urla\_12, Vallejo\_17, Vulture\_13, Wawa\_17, Wayne\_16, WonderBoy\_13, Zhuangyuan\_16, Zorro\_17,

### Summary by start number:

#### Start 5:

- Found in 6 of 210 ( 2.9% ) of genes in pham
- Manual Annotations of this start: 4 of 210
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Herb\_13 (AK), KingBob\_13 (AK), Sergei\_13 (AK), Temper16\_13 (AK),

#### Start 6:

- Found in 22 of 210 ( 10.5% ) of genes in pham
- Manual Annotations of this start: 2 of 210
- Called 9.1% of time when present
- Phage (with cluster) where this start called: AppleCider\_17 (AK), Bodacious\_12 (AK),

#### Start 7:

- Found in 41 of 210 ( 19.5% ) of genes in pham
- Manual Annotations of this start: 13 of 210
- Called 31.7% of time when present
- Phage (with cluster) where this start called: BrotherBLo\_17 (AK), Dino\_17 (AK), Glenn\_17 (AK), Immaculata\_17 (AK), Jumboset\_17 (AK), Kalizoi\_17 (AK), Maria1952\_13 (AK), MeganNoll\_16 (AK), MrGloopy\_17 (AK), Rozby\_17 (AK), Savage2526\_17 (AK), TattModd\_17 (AK), Zorro\_17 (AK),

#### Start 8:

- Found in 8 of 210 ( 3.8% ) of genes in pham
- Manual Annotations of this start: 8 of 210
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Albanese\_17 (AK), GreenHearts\_17 (AK), Greenhouse\_17 (AK), Huntingdon\_17 (AK), Lakshmi\_17 (AK), Nubia\_16 (AK), Oxynfrius\_17 (AK), RcigaStruga\_17 (AK),

#### Start 9:

- Found in 75 of 210 ( 35.7% ) of genes in pham
- Manual Annotations of this start: 56 of 210

- Called 74.7% of time when present
- Phage (with cluster) where this start called: Aledel\_12 (AK), AustinPowers\_13 (AK), Beethoven\_17 (AK), Bennie\_13 (AK), BigMack\_12 (AK), CallieOMalley\_17 (AK), Canowicakte\_17 (AK), Carpal\_17 (AK), ChewChew\_13 (AK), Cholula\_17 (AK), Chridison\_13 (AK), Christian\_13 (AK), CristinaYang\_13 (AK), Daiboju\_12 (AK), DrRobert\_13 (AK), DreamTeam\_13 (AK), EstebanJulior\_13 (AK), Eunoia\_13 (AK), Gisselle\_13 (AK), HeadNerd\_12 (AK), Huckleberry\_13 (AK), HunterDalle\_13 (AK), Joann\_17 (AK), Kittykat\_13 (AK), Korra\_16 (AK), Lasagna\_13 (AK), Lennox\_13 (AK), LilStuart\_13 (AK), Litotes\_17 (AK), Lucy\_13 (AK), Makoto\_13 (AK), MamaPearl\_13 (AK), Misaeng\_17 (AK), Moki\_13 (AK), Nancia\_13 (AK), OMalley\_13 (AK), OurGirlNessie\_13 (AK), PartyCup\_17 (AK), PinkFriday\_13 (AK), PitaDog\_13 (AK), Potatoes\_17 (AK), Preamble\_13 (AK), Pterodactyl\_13 (AK), Pumancara\_13 (AK), RAP15\_17 (AK), Riovina\_13 (AK), Riverdale\_17 (AK), Scuttle\_17 (AK), Supakev\_13 (AK), Suppi\_17 (AK), Urla\_12 (AK), Vallejo\_17 (AK), Vulture\_13 (AK), Wawa\_17 (AK), Wayne\_16 (AK), WonderBoy\_13 (AK),

#### Start 22:

- Found in 1 of 210 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 210
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cygnet\_15 (AS2),

#### Start 23:

- Found in 2 of 210 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 2 of 210
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LittleTokyo\_15 (AS2), Zhuangyuan\_16 (AS2),

#### Start 24:

- Found in 124 of 210 ( 59.0% ) of genes in pham
- Manual Annotations of this start: 123 of 210
- Called 99.2% of time when present
- Phage (with cluster) where this start called: Abidatro\_15 (AS1), Abigail\_14 (EB), Akino08\_14 (EB), Albedo\_14 (EB), Albright\_14 (EB), Amelia\_16 (AS2), AmiCi24\_14 (AS3), Andrew\_14 (AS3), AnnaLie\_15 (EB), AnnabelLee\_16 (FR), Antrice\_15 (AS2), Armstrong\_12 (EB), Arroyo\_15 (EB), Atlantica\_14 (AS3), Audell\_19 (FR), AvGardian\_14 (EB), Avocadoman\_14 (EB), BAjuniper\_14 (EB), Babushka\_14 (AS3), BabyDaisy\_15 (EB), BabyYoda\_14 (EB), Bachaco\_14 (EB), Basilisk\_15 (AS1), BelmontSKP\_15 (EB), Bengal\_14 (EB), Bernstein\_12 (EB), Brahms\_12 (EB), Brynnie\_15 (AS1), BubbaBear\_14 (EB), Buldak\_14 (EB), Burritobowl\_14 (EB), Celaena\_14 (EB), Chickaboom\_14 (AS1), ChiliPepper\_14 (EB), Clayda5\_13 (EB), Coltrane\_12 (EB), Colusalem\_15 (AS2), Coral\_15 (AS2), Cote\_16 (AS2), CroZenni\_14 (EB), CupcakePrincess\_14 (EB), DanHam62\_14 (AS3), Daob\_16 (AS2), DickRichards\_14 (EB), Didgeridoo\_15 (EB), DirtyBubble\_14 (EB), Dismas\_14 (EB), Doobus\_14 (EB), Eden\_13 (EB), Eesa\_15 (AS1), Elva\_15 (EB), Eula\_14 (EB), Finalfrontier\_15 (EB), FlameThrower\_14 (EB), Franklin22\_13 (EB), Gack\_13 (EB), Galaxy\_15 (AS1), Glotell\_14 (AS3), HamCheese\_13 (AS3), HannahPhantana\_16 (AS2), Icarian\_15 (EB), IndyLu\_14 (EB), Jabb\_14 (EB), Jamun\_15 (AS1), Jerole\_16 (AS2), Johnathan\_14 (EB), Jovita\_14 (EB), Juno112\_14 (AS3), KHumphrey\_14 (AS3), Kate33\_14 (EB), Katzastrophic\_14 (EB), Kenzers\_14 (EB), Kepler\_15 (AS2), Kieran\_14 (EB), Kuleana\_15 (AS2), Lahqtemish\_14 (EB), Leona\_14 (AS3), Lilo27\_14 (EB), LimaBean\_14 (EB), Loviatar\_14 (EB), Lunar\_15 (AS2), Lynlen\_14 (EB),

Melons\_16 (AS2), Milomuff\_15 (EB), MsUbiquitous\_14 (EB), Nicky22\_15 (EB), Olliecat\_14 (EB), Orcanus\_15 (AS1), OtsoOtso\_15 (AS2), PastaFagioli\_14 (EB), PhigPhack\_14 (EB), Phisb\_14 (EB), PhluffyCoco\_14 (AS3), Polka\_15 (AS2), QMacho\_15 (EB), Quenya\_15 (EB), RedFox\_14 (AS3), Renna12\_15 (AS3), Rollins\_12 (EB), Rona\_14 (EB), Ruchi\_15 (AS1), SanaSana\_15 (EB), SansAfet\_14 (EB), SarBear\_14 (EB), Sharkboy\_14 (EB), Shayna\_13 (EB), Skylord\_13 (EB), Slay\_14 (EB), Softsoap\_14 (EB), Squircle\_14 (EB), Stoor\_14 (EB), Stromboli\_14 (EB), StuartMinion\_14 (AS3), SunnyD\_13 (EB), Swervy\_14 (EB), TMaxx\_16 (FR), TaylorSipht\_15 (AS1), Teagster\_13 (EB), Toad24\_16 (AS1), TukTuk\_14 (EB), Vitas\_13 (EB), Vulpecula\_15 (AS1), WileyE\_14 (AS1),

Start 25:

- Found in 31 of 210 ( 14.8% ) of genes in pham
- Manual Annotations of this start: 1 of 210
- Called 3.2% of time when present
- Phage (with cluster) where this start called: CliffHanger\_15 (EB),

### **Summary by clusters:**

There are 6 clusters represented in this pham: AS3, AS2, FR, AK, AS1, EB,

Info for manual annotations of cluster AK:

- Start number 5 was manually annotated 4 times for cluster AK.
- Start number 6 was manually annotated 2 times for cluster AK.
- Start number 7 was manually annotated 13 times for cluster AK.
- Start number 8 was manually annotated 8 times for cluster AK.
- Start number 9 was manually annotated 56 times for cluster AK.

Info for manual annotations of cluster AS1:

- Start number 24 was manually annotated 13 times for cluster AS1.

Info for manual annotations of cluster AS2:

- Start number 22 was manually annotated 1 time for cluster AS2.
- Start number 23 was manually annotated 2 times for cluster AS2.
- Start number 24 was manually annotated 14 times for cluster AS2.

Info for manual annotations of cluster AS3:

- Start number 24 was manually annotated 14 times for cluster AS3.

Info for manual annotations of cluster EB:

- Start number 24 was manually annotated 79 times for cluster EB.
- Start number 25 was manually annotated 1 time for cluster EB.

Info for manual annotations of cluster FR:

- Start number 24 was manually annotated 3 times for cluster FR.

### **Gene Information:**

Gene: Abidatro\_15 Start: 9744, Stop: 10471, Start Num: 24

Candidate Starts for Abidatro\_15:

(Start: 24 @9744 has 123 MA's), (31, 9840), (36, 9873), (50, 9948), (64, 10035), (66, 10065),

Gene: Abigail\_14 Start: 9362, Stop: 10053, Start Num: 24

Candidate Starts for Abigail\_14:

(Start: 24 @9362 has 123 MA's), (33, 9473), (51, 9536), (61, 9593), (63, 9602), (66, 9635), (94, 9827),

Gene: Akino08\_14 Start: 9518, Stop: 10209, Start Num: 24

Candidate Starts for Akino08\_14:

(Start: 24 @9518 has 123 MA's), (55, 9722), (63, 9758), (66, 9791),

Gene: Albanese\_17 Start: 11894, Stop: 12654, Start Num: 8

Candidate Starts for Albanese\_17:

(2, 11618), (Start: 8 @11894 has 8 MA's), (39, 12131), (44, 12146), (58, 12218), (106, 12512), (107, 12515), (115, 12602), (118, 12623), (120, 12632), (121, 12644),

Gene: Albedo\_14 Start: 9208, Stop: 9899, Start Num: 24

Candidate Starts for Albedo\_14:

(Start: 24 @9208 has 123 MA's), (33, 9319), (51, 9382), (61, 9439), (63, 9448), (66, 9481), (74, 9574), (86, 9640),

Gene: Albright\_14 Start: 9243, Stop: 9934, Start Num: 24

Candidate Starts for Albright\_14:

(Start: 24 @9243 has 123 MA's), (33, 9354), (51, 9417), (61, 9474), (63, 9483), (66, 9516), (87, 9684), (94, 9708),

Gene: Aledel\_12 Start: 8974, Stop: 9731, Start Num: 9

Candidate Starts for Aledel\_12:

(Start: 7 @8965 has 13 MA's), (Start: 9 @8974 has 56 MA's), (18, 9067), (31, 9181), (39, 9208), (44, 9223), (58, 9295), (74, 9433), (85, 9487), (103, 9574), (104, 9577), (111, 9619), (113, 9649),

Gene: Amelia\_16 Start: 9644, Stop: 10362, Start Num: 24

Candidate Starts for Amelia\_16:

(Start: 24 @9644 has 123 MA's), (31, 9740), (36, 9773), (66, 9965), (71, 10016), (83, 10097), (103, 10202),

Gene: AmiCi24\_14 Start: 9058, Stop: 9782, Start Num: 24

Candidate Starts for AmiCi24\_14:

(14, 9016), (Start: 24 @9058 has 123 MA's), (30, 9151), (33, 9169), (37, 9196), (55, 9310), (64, 9349), (66, 9379), (95, 9565),

Gene: Andrew\_14 Start: 9438, Stop: 10162, Start Num: 24

Candidate Starts for Andrew\_14:

(Start: 24 @9438 has 123 MA's), (28, 9498), (49, 9639), (55, 9690), (57, 9699), (66, 9759), (75, 9846), (83, 9891), (99, 9981), (114, 10098), (119, 10128), (120, 10131),

Gene: AnnaLie\_15 Start: 9652, Stop: 10343, Start Num: 24

Candidate Starts for AnnaLie\_15:

(Start: 24 @9652 has 123 MA's), (33, 9763), (51, 9826), (61, 9883), (63, 9892), (66, 9925), (94, 10117),

Gene: AnnabelLee\_16 Start: 8830, Stop: 9566, Start Num: 24

Candidate Starts for AnnabelLee\_16:

(Start: 24 @8830 has 123 MA's), (29, 8914), (42, 9007), (43, 9010), (48, 9037), (59, 9115), (69, 9199), (71, 9211), (76, 9250), (80, 9280), (112, 9463), (121, 9541), (122, 9547),

Gene: Antrice\_15 Start: 9399, Stop: 10123, Start Num: 24

Candidate Starts for Antrice\_15:

(Start: 24 @9399 has 123 MA's), (36, 9528), (52, 9624), (54, 9648), (66, 9720), (67, 9732), (71, 9771), (72, 9777), (102, 9954), (120, 10092), (123, 10116),

Gene: AppleCider\_17 Start: 11828, Stop: 12606, Start Num: 6

Candidate Starts for AppleCider\_17:

(Start: 6 @11828 has 2 MA's), (Start: 9 @11840 has 56 MA's), (18, 11939), (21, 11951), (44, 12095), (58, 12167), (71, 12272), (88, 12383), (107, 12464), (109, 12482),

Gene: Armstrong\_12 Start: 8785, Stop: 9494, Start Num: 24

Candidate Starts for Armstrong\_12:

(Start: 24 @8785 has 123 MA's), (33, 8893), (63, 9025), (66, 9058), (108, 9325),

Gene: Arroyo\_15 Start: 9713, Stop: 10404, Start Num: 24

Candidate Starts for Arroyo\_15:

(Start: 24 @9713 has 123 MA's), (33, 9824), (51, 9887), (61, 9944), (63, 9953), (66, 9986), (83, 10127), (87, 10154), (94, 10178),

Gene: Atlantica\_14 Start: 9060, Stop: 9784, Start Num: 24

Candidate Starts for Atlantica\_14:

(10, 8976), (Start: 24 @9060 has 123 MA's), (30, 9153), (33, 9171), (37, 9198), (55, 9312), (64, 9351), (66, 9381), (95, 9567), (120, 9753),

Gene: Audell\_19 Start: 12164, Stop: 12891, Start Num: 24

Candidate Starts for Audell\_19:

(13, 12092), (Start: 24 @12164 has 123 MA's), (35, 12296), (48, 12365), (59, 12443), (69, 12527), (76, 12578), (80, 12605), (84, 12623), (96, 12677), (104, 12719), (118, 12845), (121, 12866),

Gene: AustinPowers\_13 Start: 8975, Stop: 9732, Start Num: 9

Candidate Starts for AustinPowers\_13:

(Start: 7 @8966 has 13 MA's), (Start: 9 @8975 has 56 MA's), (18, 9068), (31, 9182), (39, 9209), (44, 9224), (58, 9296), (74, 9434), (85, 9488), (103, 9575), (111, 9620), (113, 9650), (118, 9701),

Gene: AvGardian\_14 Start: 9267, Stop: 9958, Start Num: 24

Candidate Starts for AvGardian\_14:

(Start: 24 @9267 has 123 MA's), (32, 9372), (55, 9471), (61, 9498), (63, 9507), (66, 9540),

Gene: Avocadoman\_14 Start: 9305, Stop: 9996, Start Num: 24

Candidate Starts for Avocadoman\_14:

(Start: 24 @9305 has 123 MA's), (33, 9416), (51, 9479), (61, 9536), (63, 9545), (66, 9578), (94, 9770),

Gene: BAjuniper\_14 Start: 8933, Stop: 9645, Start Num: 24

Candidate Starts for BAjuniper\_14:

(Start: 24 @8933 has 123 MA's), (63, 9173), (66, 9206),

Gene: Babushka\_14 Start: 9108, Stop: 9832, Start Num: 24

Candidate Starts for Babushka\_14:

(10, 9024), (Start: 24 @9108 has 123 MA's), (30, 9201), (33, 9219), (37, 9246), (55, 9360), (64, 9399), (66, 9429),

Gene: BabyDaisy\_15 Start: 9464, Stop: 10155, Start Num: 24

Candidate Starts for BabyDaisy\_15:

(Start: 24 @9464 has 123 MA's), (Start: 25 @9467 has 1 MA's), (32, 9569), (55, 9668), (61, 9695), (66, 9737), (77, 9839),

Gene: BabyYoda\_14 Start: 9464, Stop: 10155, Start Num: 24

Candidate Starts for BabyYoda\_14:

(Start: 24 @9464 has 123 MA's), (46, 9614), (55, 9668), (63, 9704), (108, 10004),

Gene: Bachaco\_14 Start: 9138, Stop: 9847, Start Num: 24

Candidate Starts for Bachaco\_14:

(Start: 24 @9138 has 123 MA's), (61, 9369), (63, 9378), (66, 9411), (74, 9504), (78, 9516), (107, 9660),

Gene: Basilisk\_15 Start: 10064, Stop: 10794, Start Num: 24

Candidate Starts for Basilisk\_15:

(Start: 24 @10064 has 123 MA's), (31, 10160), (36, 10193), (50, 10268), (64, 10355), (66, 10385), (69, 10430), (73, 10463), (82, 10520),

Gene: Beethoven\_17 Start: 11795, Stop: 12561, Start Num: 9

Candidate Starts for Beethoven\_17:

(4, 11723), (Start: 7 @11786 has 13 MA's), (Start: 9 @11795 has 56 MA's), (Start: 25 @11915 has 1 MA's), (41, 12041), (44, 12050), (58, 12122), (71, 12227), (80, 12293), (107, 12419), (109, 12437), (111, 12449),

Gene: BelmontSKP\_15 Start: 9652, Stop: 10343, Start Num: 24

Candidate Starts for BelmontSKP\_15:

(Start: 24 @9652 has 123 MA's), (33, 9763), (51, 9826), (61, 9883), (63, 9892), (66, 9925), (94, 10117),

Gene: Bengal\_14 Start: 9243, Stop: 9934, Start Num: 24

Candidate Starts for Bengal\_14:

(Start: 24 @9243 has 123 MA's), (33, 9354), (51, 9417), (61, 9474), (63, 9483), (66, 9516), (94, 9708),

Gene: Bennie\_13 Start: 8948, Stop: 9714, Start Num: 9

Candidate Starts for Bennie\_13:

(Start: 9 @8948 has 56 MA's), (44, 9203), (54, 9254), (58, 9275), (60, 9284), (71, 9380), (107, 9572), (109, 9590), (111, 9602),

Gene: Bernstein\_12 Start: 8845, Stop: 9554, Start Num: 24

Candidate Starts for Bernstein\_12:

(Start: 24 @8845 has 123 MA's), (33, 8953), (63, 9085), (66, 9118), (108, 9385),

Gene: BigMack\_12 Start: 8944, Stop: 9710, Start Num: 9

Candidate Starts for BigMack\_12:

(Start: 6 @8932 has 2 MA's), (Start: 9 @8944 has 56 MA's), (Start: 25 @9064 has 1 MA's), (44, 9199), (58, 9271), (71, 9376), (107, 9568), (109, 9586), (111, 9598),

Gene: Bodacious\_12 Start: 8930, Stop: 9711, Start Num: 6

Candidate Starts for Bodacious\_12:

(Start: 6 @8930 has 2 MA's), (Start: 9 @8942 has 56 MA's), (27, 9095), (44, 9200), (58, 9272), (71, 9377), (104, 9557), (107, 9569), (109, 9587), (111, 9599),

Gene: Brahms\_12 Start: 8785, Stop: 9494, Start Num: 24

Candidate Starts for Brahms\_12:

(Start: 24 @8785 has 123 MA's), (33, 8893), (63, 9025), (66, 9058), (108, 9325),

Gene: BrotherBLo\_17 Start: 11792, Stop: 12567, Start Num: 7

Candidate Starts for BrotherBLo\_17:

(1, 11306), (2, 11519), (Start: 7 @11792 has 13 MA's), (Start: 9 @11801 has 56 MA's), (Start: 25 @11921 has 1 MA's), (41, 12047), (44, 12056), (58, 12128), (71, 12233), (80, 12299), (107, 12425), (109, 12443), (111, 12455),

Gene: Brynnie\_15 Start: 9876, Stop: 10606, Start Num: 24

Candidate Starts for Brynnie\_15:

(Start: 24 @9876 has 123 MA's), (31, 9972), (36, 10005), (50, 10080), (64, 10167), (66, 10197), (69, 10242), (73, 10275), (82, 10332),

Gene: BubbaBear\_14 Start: 9208, Stop: 9899, Start Num: 24

Candidate Starts for BubbaBear\_14:

(Start: 24 @9208 has 123 MA's), (33, 9319), (51, 9382), (61, 9439), (63, 9448), (66, 9481), (74, 9574), (86, 9640),

Gene: Buldak\_14 Start: 9315, Stop: 10006, Start Num: 24

Candidate Starts for Buldak\_14:

(Start: 24 @9315 has 123 MA's), (53, 9507), (63, 9567), (66, 9600), (70, 9651),

Gene: Burritobowl\_14 Start: 9270, Stop: 9961, Start Num: 24

Candidate Starts for Burritobowl\_14:

(Start: 24 @9270 has 123 MA's), (33, 9381), (51, 9444), (61, 9501), (63, 9510), (66, 9543), (86, 9702), (94, 9735),

Gene: CallieOMalley\_17 Start: 11840, Stop: 12606, Start Num: 9

Candidate Starts for CallieOMalley\_17:

(Start: 6 @11828 has 2 MA's), (Start: 9 @11840 has 56 MA's), (18, 11939), (44, 12095), (58, 12167), (71, 12272), (88, 12383), (109, 12482),

Gene: Canowicakte\_17 Start: 11875, Stop: 12641, Start Num: 9

Candidate Starts for Canowicakte\_17:

(Start: 6 @11863 has 2 MA's), (Start: 9 @11875 has 56 MA's), (18, 11974), (21, 11986), (44, 12130), (58, 12202), (71, 12307), (88, 12418), (107, 12499), (109, 12517),

Gene: Carpal\_17 Start: 11802, Stop: 12568, Start Num: 9

Candidate Starts for Carpal\_17:

(4, 11730), (Start: 7 @11793 has 13 MA's), (Start: 9 @11802 has 56 MA's), (Start: 25 @11922 has 1 MA's), (41, 12048), (44, 12057), (58, 12129), (71, 12234), (80, 12300), (107, 12426), (109, 12444), (111, 12456),

Gene: Celaena\_14 Start: 9074, Stop: 9783, Start Num: 24

Candidate Starts for Celaena\_14:

(Start: 24 @9074 has 123 MA's), (61, 9305), (63, 9314), (66, 9347), (74, 9440), (78, 9452), (107, 9596), (108, 9611),

Gene: ChewChew\_13 Start: 8941, Stop: 9710, Start Num: 9

Candidate Starts for ChewChew\_13:

(Start: 6 @8929 has 2 MA's), (Start: 9 @8941 has 56 MA's), (27, 9094), (44, 9199), (58, 9271), (71, 9376), (104, 9556), (107, 9568), (109, 9586), (111, 9598),

Gene: Chickaboom\_14 Start: 9421, Stop: 10145, Start Num: 24

Candidate Starts for Chickaboom\_14:

(Start: 24 @9421 has 123 MA's), (36, 9550), (50, 9625), (64, 9712), (66, 9742),

Gene: ChiliPepper\_14 Start: 9439, Stop: 10115, Start Num: 24

Candidate Starts for ChiliPepper\_14:

(Start: 24 @9439 has 123 MA's), (61, 9670), (63, 9679), (66, 9712),

Gene: Cholula\_17 Start: 11847, Stop: 12613, Start Num: 9

Candidate Starts for Cholula\_17:

(Start: 7 @11838 has 13 MA's), (Start: 9 @11847 has 56 MA's), (41, 12093), (44, 12102), (58, 12174), (71, 12279), (80, 12345), (107, 12471), (109, 12489), (111, 12501),

Gene: Chridison\_13 Start: 8975, Stop: 9732, Start Num: 9

Candidate Starts for Chridison\_13:

(Start: 7 @8966 has 13 MA's), (Start: 9 @8975 has 56 MA's), (18, 9068), (31, 9182), (39, 9209), (44, 9224), (58, 9296), (74, 9434), (85, 9488), (103, 9575), (104, 9578), (111, 9620), (113, 9650),

Gene: Christian\_13 Start: 8942, Stop: 9711, Start Num: 9

Candidate Starts for Christian\_13:

(Start: 6 @8930 has 2 MA's), (Start: 9 @8942 has 56 MA's), (Start: 25 @9065 has 1 MA's), (27, 9095), (44, 9200), (58, 9272), (71, 9377), (104, 9557), (107, 9569), (109, 9587), (111, 9599),

Gene: Clayda5\_13 Start: 8785, Stop: 9494, Start Num: 24

Candidate Starts for Clayda5\_13:

(Start: 24 @8785 has 123 MA's), (33, 8893), (63, 9025), (66, 9058), (108, 9325),

Gene: CliffHanger\_15 Start: 8971, Stop: 9659, Start Num: 25

Candidate Starts for CliffHanger\_15:

(Start: 24 @8968 has 123 MA's), (Start: 25 @8971 has 1 MA's), (32, 9073), (40, 9097), (63, 9217), (66, 9250), (109, 9523),

Gene: Coltrane\_12 Start: 8785, Stop: 9494, Start Num: 24

Candidate Starts for Coltrane\_12:

(Start: 24 @8785 has 123 MA's), (33, 8893), (63, 9025), (66, 9058), (108, 9325),

Gene: Colusalem\_15 Start: 9483, Stop: 10201, Start Num: 24

Candidate Starts for Colusalem\_15:

(Start: 24 @9483 has 123 MA's), (31, 9579), (36, 9612), (66, 9804), (71, 9855), (83, 9936), (103, 10041),

Gene: Coral\_15 Start: 9483, Stop: 10201, Start Num: 24

Candidate Starts for Coral\_15:

(Start: 24 @9483 has 123 MA's), (31, 9579), (36, 9612), (66, 9804), (71, 9855), (83, 9936), (103, 10041),

Gene: Cote\_16 Start: 9644, Stop: 10362, Start Num: 24

Candidate Starts for Cote\_16:

(Start: 24 @9644 has 123 MA's), (31, 9740), (36, 9773), (66, 9965), (71, 10016), (83, 10097), (103, 10202),

Gene: CristinaYang\_13 Start: 8942, Stop: 9711, Start Num: 9

Candidate Starts for CristinaYang\_13:

(Start: 6 @8930 has 2 MA's), (Start: 9 @8942 has 56 MA's), (27, 9095), (44, 9200), (58, 9272), (71, 9377), (104, 9557), (107, 9569), (109, 9587), (111, 9599),

Gene: CroZenni\_14 Start: 9243, Stop: 9934, Start Num: 24

Candidate Starts for CroZenni\_14:

(Start: 24 @9243 has 123 MA's), (33, 9354), (51, 9417), (61, 9474), (63, 9483), (66, 9516), (94, 9708),

Gene: CupcakePrincess\_14 Start: 9283, Stop: 9974, Start Num: 24

Candidate Starts for CupcakePrincess\_14:

(Start: 24 @9283 has 123 MA's), (33, 9394), (51, 9457), (61, 9514), (63, 9523), (66, 9556), (75, 9652), (86, 9715),

Gene: Cygnet\_15 Start: 9436, Stop: 10160, Start Num: 22

Candidate Starts for Cygnet\_15:

(Start: 22 @9436 has 1 MA's), (26, 9448), (36, 9565), (41, 9598), (52, 9661), (57, 9697), (66, 9757), (69, 9796), (72, 9814), (75, 9844), (114, 10096), (119, 10126), (123, 10153),

Gene: Daiboju\_12 Start: 8974, Stop: 9737, Start Num: 9

Candidate Starts for Daiboju\_12:

(Start: 5 @8899 has 4 MA's), (Start: 7 @8965 has 13 MA's), (Start: 9 @8974 has 56 MA's), (18, 9073), (31, 9187), (44, 9229), (58, 9301), (71, 9406), (79, 9460), (93, 9532), (103, 9580), (109, 9613), (111, 9625), (118, 9706), (119, 9712),

Gene: DanHam62\_14 Start: 9060, Stop: 9784, Start Num: 24

Candidate Starts for DanHam62\_14:

(10, 8976), (Start: 24 @9060 has 123 MA's), (30, 9153), (33, 9171), (37, 9198), (55, 9312), (64, 9351), (66, 9381), (89, 9549), (95, 9567),

Gene: Daob\_16 Start: 9647, Stop: 10365, Start Num: 24

Candidate Starts for Daob\_16:

(Start: 24 @9647 has 123 MA's), (31, 9743), (36, 9776), (66, 9968), (71, 10019), (83, 10100), (103, 10205),

Gene: DickRichards\_14 Start: 9737, Stop: 10428, Start Num: 24

Candidate Starts for DickRichards\_14:

(Start: 24 @9737 has 123 MA's), (33, 9848), (51, 9911), (61, 9968), (63, 9977), (66, 10010), (94, 10202),

Gene: Didgeridoo\_15 Start: 9466, Stop: 10157, Start Num: 24

Candidate Starts for Didgeridoo\_15:

(Start: 24 @9466 has 123 MA's), (Start: 25 @9469 has 1 MA's), (32, 9571), (55, 9670), (61, 9697), (66, 9739), (77, 9841),

Gene: Dino\_17 Start: 11791, Stop: 12566, Start Num: 7

Candidate Starts for Dino\_17:

(1, 11305), (2, 11518), (Start: 7 @11791 has 13 MA's), (Start: 9 @11800 has 56 MA's), (Start: 25 @11920 has 1 MA's), (41, 12046), (44, 12055), (58, 12127), (71, 12232), (80, 12298), (107, 12424), (109, 12442), (111, 12454),

Gene: DirtyBubble\_14 Start: 9472, Stop: 10163, Start Num: 24

Candidate Starts for DirtyBubble\_14:

(Start: 24 @9472 has 123 MA's), (46, 9622), (55, 9676), (63, 9712), (108, 10012),

Gene: Dismas\_14 Start: 9439, Stop: 10115, Start Num: 24

Candidate Starts for Dismas\_14:

(Start: 24 @9439 has 123 MA's), (61, 9670), (63, 9679), (66, 9712),

Gene: Doobus\_14 Start: 9474, Stop: 10165, Start Num: 24

Candidate Starts for Doobus\_14:

(Start: 24 @9474 has 123 MA's), (33, 9585), (51, 9648), (61, 9705), (63, 9714), (66, 9747), (74, 9840), (86, 9906),

Gene: DrRobert\_13 Start: 8942, Stop: 9711, Start Num: 9

Candidate Starts for DrRobert\_13:

(Start: 6 @8930 has 2 MA's), (Start: 9 @8942 has 56 MA's), (Start: 25 @9065 has 1 MA's), (27, 9095), (44, 9200), (58, 9272), (71, 9377), (104, 9557), (107, 9569), (109, 9587), (111, 9599),

Gene: DreamTeam\_13 Start: 9012, Stop: 9778, Start Num: 9

Candidate Starts for DreamTeam\_13:

(Start: 9 @9012 has 56 MA's), (21, 9123), (44, 9267), (58, 9339), (71, 9444), (80, 9510), (88, 9555), (93, 9573), (109, 9654), (111, 9666), (113, 9696),

Gene: Eden\_13 Start: 8899, Stop: 9614, Start Num: 24

Candidate Starts for Eden\_13:

(Start: 24 @8899 has 123 MA's), (32, 9001), (33, 9007), (63, 9139), (66, 9172), (75, 9268),

Gene: Eesa\_15 Start: 9662, Stop: 10383, Start Num: 24

Candidate Starts for Eesa\_15:

(11, 9584), (17, 9647), (Start: 24 @9662 has 123 MA's), (26, 9674), (33, 9776), (34, 9782), (56, 9923), (62, 9950), (64, 9956), (66, 9986), (75, 10073), (77, 10079), (95, 10172), (107, 10238), (119, 10355),

Gene: Elva\_15 Start: 9524, Stop: 10215, Start Num: 24

Candidate Starts for Elva\_15:

(Start: 24 @9524 has 123 MA's), (46, 9674), (55, 9728), (63, 9764), (86, 9956), (91, 9980),

Gene: EstebanJulior\_13 Start: 8981, Stop: 9747, Start Num: 9

Candidate Starts for EstebanJulior\_13:

(Start: 9 @8981 has 56 MA's), (44, 9236), (58, 9308), (60, 9317), (71, 9413), (92, 9539), (102, 9587), (109, 9623), (111, 9635), (119, 9722),

Gene: Eula\_14 Start: 9244, Stop: 9935, Start Num: 24

Candidate Starts for Eula\_14:

(Start: 24 @9244 has 123 MA's), (33, 9355), (51, 9418), (61, 9475), (63, 9484), (66, 9517), (86, 9676), (116, 9862),

Gene: Eunoia\_13 Start: 8974, Stop: 9731, Start Num: 9

Candidate Starts for Eunoia\_13:

(Start: 7 @8965 has 13 MA's), (Start: 9 @8974 has 56 MA's), (18, 9067), (31, 9181), (39, 9208), (44, 9223), (58, 9295), (74, 9433), (85, 9487), (103, 9574), (104, 9577), (111, 9619), (113, 9649),

Gene: Finalfrontier\_15 Start: 9756, Stop: 10447, Start Num: 24

Candidate Starts for Finalfrontier\_15:

(Start: 24 @9756 has 123 MA's), (33, 9867), (51, 9930), (61, 9987), (63, 9996), (66, 10029), (86, 10188),

Gene: FlameThrower\_14 Start: 8962, Stop: 9671, Start Num: 24

Candidate Starts for FlameThrower\_14:

(Start: 24 @8962 has 123 MA's), (61, 9193), (63, 9202), (66, 9235), (74, 9328), (78, 9340), (107, 9484),

Gene: Franklin22\_13 Start: 8878, Stop: 9596, Start Num: 24

Candidate Starts for Franklin22\_13:

(Start: 24 @8878 has 123 MA's), (33, 8986), (46, 9025), (63, 9118), (66, 9151), (91, 9334),

Gene: Gack\_13 Start: 8940, Stop: 9655, Start Num: 24

Candidate Starts for Gack\_13:

(Start: 24 @8940 has 123 MA's), (33, 9048), (46, 9087), (47, 9096), (63, 9180), (65, 9207), (66, 9213), (75, 9309), (91, 9396), (101, 9444), (102, 9447), (108, 9480),

Gene: Galaxy\_15 Start: 9750, Stop: 10477, Start Num: 24

Candidate Starts for Galaxy\_15:

(Start: 24 @9750 has 123 MA's), (31, 9846), (36, 9879), (50, 9954), (64, 10041), (66, 10071),

Gene: Gisselle\_13 Start: 9012, Stop: 9778, Start Num: 9

Candidate Starts for Gisselle\_13:

(Start: 9 @9012 has 56 MA's), (21, 9123), (44, 9267), (58, 9339), (71, 9444), (80, 9510), (88, 9555), (93, 9573), (109, 9654), (111, 9666), (113, 9696),

Gene: Glenn\_17 Start: 11843, Stop: 12618, Start Num: 7

Candidate Starts for Glenn\_17:

(2, 11570), (Start: 7 @11843 has 13 MA's), (Start: 9 @11852 has 56 MA's), (Start: 25 @11972 has 1 MA's), (41, 12098), (44, 12107), (58, 12179), (71, 12284), (80, 12350), (107, 12476), (109, 12494), (111, 12506),

Gene: Glotell\_14 Start: 9058, Stop: 9782, Start Num: 24

Candidate Starts for Glotell\_14:

(14, 9016), (Start: 24 @9058 has 123 MA's), (30, 9151), (33, 9169), (37, 9196), (55, 9310), (64, 9349), (66, 9379), (95, 9565),

Gene: GreenHearts\_17 Start: 11941, Stop: 12701, Start Num: 8

Candidate Starts for GreenHearts\_17:

(2, 11665), (Start: 8 @11941 has 8 MA's), (39, 12178), (44, 12193), (58, 12265), (107, 12562), (115, 12649), (118, 12670), (120, 12679), (121, 12691),

Gene: Greenhouse\_17 Start: 11865, Stop: 12625, Start Num: 8

Candidate Starts for Greenhouse\_17:

(2, 11589), (Start: 8 @11865 has 8 MA's), (39, 12102), (44, 12117), (58, 12189), (107, 12486), (113, 12546), (115, 12573), (118, 12594), (120, 12603), (121, 12615),

Gene: HamCheese\_13 Start: 9060, Stop: 9784, Start Num: 24

Candidate Starts for HamCheese\_13:

(10, 8976), (Start: 24 @9060 has 123 MA's), (30, 9153), (33, 9171), (37, 9198), (55, 9312), (64, 9351), (66, 9381), (95, 9567), (100, 9606),

Gene: HannahPhantana\_16 Start: 9647, Stop: 10365, Start Num: 24

Candidate Starts for HannahPhantana\_16:

(Start: 24 @9647 has 123 MA's), (31, 9743), (36, 9776), (66, 9968), (71, 10019), (83, 10100), (103, 10205),

Gene: HeadNerd\_12 Start: 8948, Stop: 9714, Start Num: 9

Candidate Starts for HeadNerd\_12:

(Start: 9 @8948 has 56 MA's), (44, 9203), (54, 9254), (58, 9275), (60, 9284), (71, 9380), (107, 9572), (109, 9590), (111, 9602),

Gene: Herb\_13 Start: 8899, Stop: 9737, Start Num: 5

Candidate Starts for Herb\_13:

(Start: 5 @8899 has 4 MA's), (Start: 7 @8965 has 13 MA's), (Start: 9 @8974 has 56 MA's), (18, 9073), (31, 9187), (44, 9229), (58, 9301), (71, 9406), (79, 9460), (93, 9532), (103, 9580), (109, 9613), (111, 9625), (118, 9706), (119, 9712),

Gene: Huckleberry\_13 Start: 8948, Stop: 9714, Start Num: 9

Candidate Starts for Huckleberry\_13:

(Start: 9 @8948 has 56 MA's), (44, 9203), (54, 9254), (58, 9275), (60, 9284), (71, 9380), (107, 9572), (109, 9590), (111, 9602),

Gene: HunterDalle\_13 Start: 8974, Stop: 9731, Start Num: 9

Candidate Starts for HunterDalle\_13:

(Start: 7 @8965 has 13 MA's), (Start: 9 @8974 has 56 MA's), (18, 9067), (31, 9181), (39, 9208), (44, 9223), (58, 9295), (74, 9433), (85, 9487), (103, 9574), (111, 9619), (113, 9649), (118, 9700),

Gene: Huntingdon\_17 Start: 11851, Stop: 12611, Start Num: 8

Candidate Starts for Huntingdon\_17:

(Start: 8 @11851 has 8 MA's), (18, 11947), (39, 12088), (44, 12103), (45, 12109), (58, 12175), (66, 12229), (115, 12559), (118, 12580), (120, 12589), (121, 12601),

Gene: Icarian\_15 Start: 9446, Stop: 10137, Start Num: 24

Candidate Starts for Icarian\_15:

(Start: 24 @9446 has 123 MA's), (55, 9650), (61, 9677), (63, 9686), (66, 9719),

Gene: Immaculata\_17 Start: 11837, Stop: 12612, Start Num: 7

Candidate Starts for Immaculata\_17:

(2, 11564), (Start: 7 @11837 has 13 MA's), (Start: 9 @11846 has 56 MA's), (Start: 25 @11966 has 1 MA's), (41, 12092), (44, 12101), (58, 12173), (71, 12278), (80, 12344), (107, 12470), (109, 12488), (111, 12500),

Gene: IndyLu\_14 Start: 9288, Stop: 9979, Start Num: 24

Candidate Starts for IndyLu\_14:

(Start: 24 @9288 has 123 MA's), (Start: 25 @9291 has 1 MA's), (32, 9393), (55, 9492), (61, 9519), (66, 9561), (77, 9663),

Gene: Jabb\_14 Start: 9283, Stop: 9974, Start Num: 24

Candidate Starts for Jabb\_14:

(Start: 24 @9283 has 123 MA's), (33, 9394), (51, 9457), (61, 9514), (63, 9523), (66, 9556), (75, 9652), (86, 9715),

Gene: Jamun\_15 Start: 10088, Stop: 10812, Start Num: 24

Candidate Starts for Jamun\_15:

(Start: 24 @10088 has 123 MA's), (31, 10184), (36, 10217), (50, 10292), (64, 10379), (66, 10409), (83, 10541),

Gene: Jerole\_16 Start: 9644, Stop: 10362, Start Num: 24

Candidate Starts for Jerole\_16:

(Start: 24 @9644 has 123 MA's), (31, 9740), (36, 9773), (66, 9965), (71, 10016), (83, 10097), (103, 10202),

Gene: Joann\_17 Start: 11845, Stop: 12605, Start Num: 9

Candidate Starts for Joann\_17:

(Start: 9 @11845 has 56 MA's), (39, 12082), (44, 12097), (58, 12169), (106, 12463), (107, 12466), (115, 12553), (118, 12574), (120, 12583), (121, 12595),

Gene: Johnathan\_14 Start: 9243, Stop: 9934, Start Num: 24

Candidate Starts for Johnathan\_14:

(Start: 24 @9243 has 123 MA's), (33, 9354), (51, 9417), (61, 9474), (63, 9483), (66, 9516), (94, 9708),

Gene: Jovita\_14 Start: 9345, Stop: 10036, Start Num: 24

Candidate Starts for Jovita\_14:

(Start: 24 @9345 has 123 MA's), (33, 9456), (51, 9519), (61, 9576), (63, 9585), (66, 9618), (86, 9777), (116, 9963),

Gene: Jumboset\_17 Start: 11786, Stop: 12561, Start Num: 7

Candidate Starts for Jumboset\_17:

(2, 11513), (Start: 7 @11786 has 13 MA's), (Start: 9 @11795 has 56 MA's), (41, 12041), (44, 12050), (58, 12122), (71, 12227), (80, 12293), (107, 12419), (109, 12437), (111, 12449),

Gene: Juno112\_14 Start: 9061, Stop: 9785, Start Num: 24

Candidate Starts for Juno112\_14:

(10, 8977), (Start: 24 @9061 has 123 MA's), (30, 9154), (33, 9172), (37, 9199), (55, 9313), (64, 9352), (66, 9382), (95, 9568), (120, 9754),

Gene: KHumphrey\_14 Start: 9058, Stop: 9782, Start Num: 24

Candidate Starts for KHumphrey\_14:

(14, 9016), (Start: 24 @9058 has 123 MA's), (30, 9151), (33, 9169), (37, 9196), (55, 9310), (64, 9349), (66, 9379), (95, 9565),

Gene: Kalizoi\_17 Start: 11785, Stop: 12560, Start Num: 7

Candidate Starts for Kalizoi\_17:

(2, 11512), (Start: 7 @11785 has 13 MA's), (Start: 9 @11794 has 56 MA's), (Start: 25 @11914 has 1 MA's), (41, 12040), (44, 12049), (58, 12121), (71, 12226), (80, 12292), (107, 12418), (109, 12436), (111, 12448),

Gene: Kate33\_14 Start: 9287, Stop: 9978, Start Num: 24

Candidate Starts for Kate33\_14:

(Start: 24 @9287 has 123 MA's), (Start: 25 @9290 has 1 MA's), (32, 9392), (55, 9491), (61, 9518), (66, 9560), (77, 9662),

Gene: Katzastrophic\_14 Start: 9137, Stop: 9846, Start Num: 24

Candidate Starts for Katzastrophic\_14:

(Start: 24 @9137 has 123 MA's), (61, 9368), (63, 9377), (66, 9410), (74, 9503), (78, 9515), (107, 9659),

Gene: Kenzers\_14 Start: 9260, Stop: 9951, Start Num: 24

Candidate Starts for Kenzers\_14:

(Start: 24 @9260 has 123 MA's), (33, 9371), (51, 9434), (61, 9491), (63, 9500), (66, 9533), (94, 9725),

Gene: Kepler\_15 Start: 9482, Stop: 10200, Start Num: 24

Candidate Starts for Kepler\_15:

(Start: 24 @9482 has 123 MA's), (31, 9578), (36, 9611), (66, 9803), (71, 9854), (83, 9935), (103, 10040),

Gene: Kieran\_14 Start: 9442, Stop: 10118, Start Num: 24  
Candidate Starts for Kieran\_14:  
(Start: 24 @9442 has 123 MA's), (61, 9673), (63, 9682), (66, 9715),

Gene: KingBob\_13 Start: 8899, Stop: 9737, Start Num: 5  
Candidate Starts for KingBob\_13:  
(Start: 5 @8899 has 4 MA's), (Start: 7 @8965 has 13 MA's), (Start: 9 @8974 has 56 MA's), (18, 9073), (31, 9187), (44, 9229), (58, 9301), (71, 9406), (79, 9460), (93, 9532), (103, 9580), (109, 9613), (111, 9625), (118, 9706), (119, 9712),

Gene: Kittykat\_13 Start: 8984, Stop: 9750, Start Num: 9  
Candidate Starts for Kittykat\_13:  
(Start: 6 @8972 has 2 MA's), (Start: 9 @8984 has 56 MA's), (19, 9086), (21, 9095), (44, 9239), (54, 9290), (58, 9311), (71, 9416), (80, 9482), (88, 9527), (93, 9545), (107, 9608), (109, 9626), (110, 9629), (111, 9638), (113, 9668),

Gene: Korra\_16 Start: 11800, Stop: 12566, Start Num: 9  
Candidate Starts for Korra\_16:  
(1, 11305), (2, 11518), (Start: 7 @11791 has 13 MA's), (Start: 9 @11800 has 56 MA's), (Start: 25 @11920 has 1 MA's), (41, 12046), (44, 12055), (58, 12127), (71, 12232), (80, 12298), (107, 12424), (109, 12442), (111, 12454),

Gene: Kuleana\_15 Start: 9441, Stop: 10159, Start Num: 24  
Candidate Starts for Kuleana\_15:  
(Start: 24 @9441 has 123 MA's), (32, 9546), (36, 9570), (63, 9729), (66, 9762), (69, 9801), (72, 9819), (83, 9894), (114, 10101),

Gene: Lahqtemish\_14 Start: 9360, Stop: 10051, Start Num: 24  
Candidate Starts for Lahqtemish\_14:  
(Start: 24 @9360 has 123 MA's), (Start: 25 @9363 has 1 MA's), (32, 9465), (55, 9564), (61, 9591), (66, 9633), (77, 9735),

Gene: Lakshmi\_17 Start: 11870, Stop: 12630, Start Num: 8  
Candidate Starts for Lakshmi\_17:  
(2, 11594), (Start: 8 @11870 has 8 MA's), (39, 12107), (44, 12122), (58, 12194), (106, 12488), (107, 12491), (115, 12578), (118, 12599), (120, 12608), (121, 12620),

Gene: Lasagna\_13 Start: 8942, Stop: 9711, Start Num: 9  
Candidate Starts for Lasagna\_13:  
(Start: 6 @8930 has 2 MA's), (Start: 9 @8942 has 56 MA's), (27, 9095), (44, 9200), (58, 9272), (71, 9377), (104, 9557), (107, 9569), (109, 9587), (111, 9599),

Gene: Lennox\_13 Start: 8942, Stop: 9711, Start Num: 9  
Candidate Starts for Lennox\_13:  
(Start: 6 @8930 has 2 MA's), (Start: 9 @8942 has 56 MA's), (27, 9095), (44, 9200), (58, 9272), (71, 9377), (104, 9557), (107, 9569), (109, 9587), (111, 9599),

Gene: Leona\_14 Start: 9111, Stop: 9835, Start Num: 24  
Candidate Starts for Leona\_14:  
(10, 9027), (Start: 24 @9111 has 123 MA's), (30, 9204), (33, 9222), (37, 9249), (55, 9363), (64, 9402), (66, 9432), (95, 9618),

Gene: LilStuart\_13 Start: 8942, Stop: 9711, Start Num: 9

Candidate Starts for LilStuart\_13:

(Start: 6 @8930 has 2 MA's), (Start: 9 @8942 has 56 MA's), (27, 9095), (44, 9200), (58, 9272), (71, 9377), (104, 9557), (107, 9569), (109, 9587), (111, 9599),

Gene: Lilo27\_14 Start: 9220, Stop: 9911, Start Num: 24

Candidate Starts for Lilo27\_14:

(Start: 24 @9220 has 123 MA's), (33, 9331), (51, 9394), (55, 9424), (61, 9451), (63, 9460), (66, 9493), (86, 9652), (97, 9703),

Gene: LimaBean\_14 Start: 9243, Stop: 9934, Start Num: 24

Candidate Starts for LimaBean\_14:

(Start: 24 @9243 has 123 MA's), (33, 9354), (51, 9417), (61, 9474), (63, 9483), (66, 9516), (94, 9708),

Gene: Litotes\_17 Start: 11825, Stop: 12591, Start Num: 9

Candidate Starts for Litotes\_17:

(Start: 6 @11813 has 2 MA's), (Start: 9 @11825 has 56 MA's), (18, 11924), (21, 11936), (44, 12080), (58, 12152), (71, 12257), (88, 12368), (107, 12449), (109, 12467),

Gene: LittleTokyo\_15 Start: 9395, Stop: 10119, Start Num: 23

Candidate Starts for LittleTokyo\_15:

(Start: 23 @9395 has 2 MA's), (26, 9407), (36, 9524), (38, 9545), (55, 9647), (57, 9656), (66, 9716), (71, 9767), (72, 9773), (75, 9803), (119, 10085), (123, 10112),

Gene: Loviatar\_14 Start: 9533, Stop: 10224, Start Num: 24

Candidate Starts for Loviatar\_14:

(Start: 24 @9533 has 123 MA's), (55, 9737), (63, 9773), (66, 9806), (108, 10073),

Gene: Lucy\_13 Start: 8934, Stop: 9703, Start Num: 9

Candidate Starts for Lucy\_13:

(Start: 6 @8922 has 2 MA's), (Start: 9 @8934 has 56 MA's), (Start: 25 @9057 has 1 MA's), (27, 9087), (44, 9192), (58, 9264), (71, 9369), (104, 9549), (107, 9561), (109, 9579), (111, 9591),

Gene: Lunar\_15 Start: 9644, Stop: 10362, Start Num: 24

Candidate Starts for Lunar\_15:

(Start: 24 @9644 has 123 MA's), (31, 9740), (36, 9773), (66, 9965), (71, 10016), (83, 10097), (103, 10202),

Gene: Lynlen\_14 Start: 9260, Stop: 9951, Start Num: 24

Candidate Starts for Lynlen\_14:

(Start: 24 @9260 has 123 MA's), (33, 9371), (51, 9434), (61, 9491), (63, 9500), (66, 9533), (94, 9725),

Gene: Makoto\_13 Start: 8943, Stop: 9712, Start Num: 9

Candidate Starts for Makoto\_13:

(Start: 6 @8931 has 2 MA's), (Start: 9 @8943 has 56 MA's), (Start: 25 @9066 has 1 MA's), (27, 9096), (44, 9201), (58, 9273), (71, 9378), (104, 9558), (107, 9570), (109, 9588), (111, 9600),

Gene: MamaPearl\_13 Start: 8981, Stop: 9747, Start Num: 9

Candidate Starts for MamaPearl\_13:

(Start: 9 @8981 has 56 MA's), (44, 9236), (58, 9308), (60, 9317), (71, 9413), (92, 9539), (102, 9587), (109, 9623), (111, 9635), (119, 9722),

Gene: Maria1952\_13 Start: 8965, Stop: 9737, Start Num: 7

Candidate Starts for Maria1952\_13:

(Start: 5 @8899 has 4 MA's), (Start: 7 @8965 has 13 MA's), (Start: 9 @8974 has 56 MA's), (18, 9073), (31, 9187), (44, 9229), (58, 9301), (71, 9406), (79, 9460), (93, 9532), (103, 9580), (109, 9613), (111, 9625), (118, 9706), (119, 9712),

Gene: MeganNoll\_16 Start: 11843, Stop: 12618, Start Num: 7

Candidate Starts for MeganNoll\_16:

(2, 11570), (Start: 7 @11843 has 13 MA's), (Start: 9 @11852 has 56 MA's), (Start: 25 @11972 has 1 MA's), (41, 12098), (44, 12107), (58, 12179), (71, 12284), (80, 12350), (107, 12476), (109, 12494), (111, 12506),

Gene: Melons\_16 Start: 9644, Stop: 10362, Start Num: 24

Candidate Starts for Melons\_16:

(Start: 24 @9644 has 123 MA's), (31, 9740), (36, 9773), (66, 9965), (71, 10016), (83, 10097), (103, 10202),

Gene: Milomuff\_15 Start: 9629, Stop: 10320, Start Num: 24

Candidate Starts for Milomuff\_15:

(Start: 24 @9629 has 123 MA's), (33, 9740), (51, 9803), (61, 9860), (63, 9869), (66, 9902), (86, 10061), (94, 10094),

Gene: Misaeng\_17 Start: 11918, Stop: 12678, Start Num: 9

Candidate Starts for Misaeng\_17:

(Start: 9 @11918 has 56 MA's), (18, 12014), (39, 12155), (44, 12170), (58, 12242), (66, 12296), (115, 12626), (118, 12647), (120, 12656), (121, 12668),

Gene: Moki\_13 Start: 8948, Stop: 9714, Start Num: 9

Candidate Starts for Moki\_13:

(Start: 9 @8948 has 56 MA's), (44, 9203), (54, 9254), (58, 9275), (60, 9284), (71, 9380), (107, 9572), (109, 9590), (111, 9602),

Gene: MrGloopy\_17 Start: 11777, Stop: 12552, Start Num: 7

Candidate Starts for MrGloopy\_17:

(Start: 7 @11777 has 13 MA's), (Start: 9 @11786 has 56 MA's), (Start: 25 @11906 has 1 MA's), (41, 12032), (44, 12041), (58, 12113), (71, 12218), (80, 12284), (107, 12410), (109, 12428), (111, 12440),

Gene: MsUbiquitous\_14 Start: 9283, Stop: 9974, Start Num: 24

Candidate Starts for MsUbiquitous\_14:

(Start: 24 @9283 has 123 MA's), (33, 9394), (51, 9457), (61, 9514), (63, 9523), (66, 9556), (75, 9652), (86, 9715),

Gene: Nancia\_13 Start: 8942, Stop: 9711, Start Num: 9

Candidate Starts for Nancia\_13:

(Start: 6 @8930 has 2 MA's), (Start: 9 @8942 has 56 MA's), (27, 9095), (44, 9200), (58, 9272), (71, 9377), (104, 9557), (107, 9569), (109, 9587), (111, 9599),

Gene: Nicky22\_15 Start: 9691, Stop: 10382, Start Num: 24

Candidate Starts for Nicky22\_15:

(Start: 24 @9691 has 123 MA's), (33, 9802), (51, 9865), (55, 9895), (61, 9922), (63, 9931), (66, 9964), (86, 10123), (97, 10174), (116, 10309),

Gene: Nubia\_16 Start: 11830, Stop: 12590, Start Num: 8

Candidate Starts for Nubia\_16:

(2, 11554), (Start: 8 @11830 has 8 MA's), (39, 12067), (44, 12082), (58, 12154), (107, 12451), (115, 12538), (118, 12559), (120, 12568), (121, 12580),

Gene: OMalley\_13 Start: 8974, Stop: 9731, Start Num: 9

Candidate Starts for OMalley\_13:

(Start: 7 @8965 has 13 MA's), (Start: 9 @8974 has 56 MA's), (18, 9067), (31, 9181), (39, 9208), (44, 9223), (58, 9295), (74, 9433), (85, 9487), (103, 9574), (104, 9577), (111, 9619), (113, 9649),

Gene: Olliecat\_14 Start: 9271, Stop: 9962, Start Num: 24

Candidate Starts for Olliecat\_14:

(Start: 24 @9271 has 123 MA's), (53, 9463), (63, 9523), (66, 9556), (70, 9607), (118, 9919), (120, 9928),

Gene: Orcanus\_15 Start: 9449, Stop: 10170, Start Num: 24

Candidate Starts for Orcanus\_15:

(Start: 24 @9449 has 123 MA's), (26, 9461), (33, 9560), (62, 9734), (64, 9740), (66, 9770), (68, 9788), (75, 9857), (77, 9863), (95, 9956), (119, 10139),

Gene: OtsoOtso\_15 Start: 9483, Stop: 10201, Start Num: 24

Candidate Starts for OtsoOtso\_15:

(Start: 24 @9483 has 123 MA's), (31, 9579), (36, 9612), (66, 9804), (71, 9855), (83, 9936), (103, 10041),

Gene: OurGirlNessie\_13 Start: 8934, Stop: 9703, Start Num: 9

Candidate Starts for OurGirlNessie\_13:

(Start: 6 @8922 has 2 MA's), (Start: 9 @8934 has 56 MA's), (Start: 25 @9057 has 1 MA's), (27, 9087), (44, 9192), (58, 9264), (71, 9369), (104, 9549), (107, 9561), (109, 9579), (111, 9591),

Gene: Oxynfrius\_17 Start: 11843, Stop: 12603, Start Num: 8

Candidate Starts for Oxynfrius\_17:

(2, 11567), (Start: 8 @11843 has 8 MA's), (39, 12080), (44, 12095), (58, 12167), (106, 12461), (107, 12464), (115, 12551), (118, 12572), (120, 12581), (121, 12593),

Gene: PartyCup\_17 Start: 11872, Stop: 12638, Start Num: 9

Candidate Starts for PartyCup\_17:

(Start: 6 @11860 has 2 MA's), (Start: 9 @11872 has 56 MA's), (18, 11971), (21, 11983), (44, 12127), (58, 12199), (71, 12304), (88, 12415), (109, 12514),

Gene: PastaFagioli\_14 Start: 9348, Stop: 10039, Start Num: 24

Candidate Starts for PastaFagioli\_14:

(Start: 24 @9348 has 123 MA's), (Start: 25 @9351 has 1 MA's), (32, 9453), (55, 9552), (61, 9579), (66, 9621), (77, 9723),

Gene: PhigPhack\_14 Start: 9272, Stop: 9963, Start Num: 24

Candidate Starts for PhigPhack\_14:

(Start: 24 @9272 has 123 MA's), (33, 9383), (51, 9446), (61, 9503), (63, 9512), (66, 9545), (94, 9737),

Gene: Phisb\_14 Start: 9208, Stop: 9899, Start Num: 24

Candidate Starts for Phisb\_14:

(Start: 24 @9208 has 123 MA's), (33, 9319), (51, 9382), (61, 9439), (63, 9448), (66, 9481), (74, 9574), (86, 9640),

Gene: PhluffyCoco\_14 Start: 9060, Stop: 9784, Start Num: 24

Candidate Starts for PhluffyCoco\_14:

(10, 8976), (Start: 24 @9060 has 123 MA's), (30, 9153), (33, 9171), (37, 9198), (55, 9312), (64, 9351), (66, 9381), (95, 9567), (100, 9606),

Gene: PinkFriday\_13 Start: 8971, Stop: 9743, Start Num: 9

Candidate Starts for PinkFriday\_13:

(Start: 7 @8962 has 13 MA's), (Start: 9 @8971 has 56 MA's), (15, 9049), (31, 9193), (44, 9235), (58, 9307), (71, 9412), (79, 9466), (93, 9538), (103, 9586), (109, 9619), (111, 9631), (118, 9712), (119, 9718),

Gene: PitaDog\_13 Start: 8933, Stop: 9702, Start Num: 9

Candidate Starts for PitaDog\_13:

(Start: 6 @8921 has 2 MA's), (Start: 9 @8933 has 56 MA's), (Start: 25 @9056 has 1 MA's), (27, 9086), (44, 9191), (58, 9263), (71, 9368), (104, 9548), (107, 9560), (109, 9578), (111, 9590),

Gene: Polka\_15 Start: 9483, Stop: 10201, Start Num: 24

Candidate Starts for Polka\_15:

(Start: 24 @9483 has 123 MA's), (31, 9579), (36, 9612), (66, 9804), (71, 9855), (83, 9936), (103, 10041),

Gene: Potatoes\_17 Start: 11847, Stop: 12613, Start Num: 9

Candidate Starts for Potatoes\_17:

(Start: 7 @11838 has 13 MA's), (Start: 9 @11847 has 56 MA's), (41, 12093), (44, 12102), (58, 12174), (71, 12279), (80, 12345), (107, 12471), (109, 12489), (111, 12501),

Gene: Preamble\_13 Start: 8946, Stop: 9715, Start Num: 9

Candidate Starts for Preamble\_13:

(Start: 9 @8946 has 56 MA's), (21, 9060), (26, 9078), (44, 9204), (58, 9276), (71, 9381), (80, 9447), (88, 9492), (93, 9510), (107, 9573), (109, 9591), (111, 9603), (113, 9633),

Gene: Pterodactyl\_13 Start: 8935, Stop: 9704, Start Num: 9

Candidate Starts for Pterodactyl\_13:

(Start: 7 @8923 has 13 MA's), (Start: 9 @8935 has 56 MA's), (Start: 25 @9058 has 1 MA's), (27, 9088), (44, 9193), (58, 9265), (71, 9370), (104, 9550), (107, 9562), (109, 9580), (111, 9592),

Gene: Pumancara\_13 Start: 8970, Stop: 9742, Start Num: 9

Candidate Starts for Pumancara\_13:

(Start: 7 @8961 has 13 MA's), (Start: 9 @8970 has 56 MA's), (15, 9048), (31, 9192), (44, 9234), (58, 9306), (71, 9411), (79, 9465), (93, 9537), (103, 9585), (109, 9618), (111, 9630), (118, 9711), (119, 9717),

Gene: QMacho\_15 Start: 9727, Stop: 10418, Start Num: 24

Candidate Starts for QMacho\_15:

(Start: 24 @9727 has 123 MA's), (33, 9838), (51, 9901), (61, 9958), (63, 9967), (66, 10000), (86, 10159), (116, 10345),

Gene: Quenya\_15 Start: 9138, Stop: 9844, Start Num: 24

Candidate Starts for Quenya\_15:

(Start: 24 @9138 has 123 MA's), (61, 9369), (63, 9378), (66, 9411), (108, 9675),

Gene: RAP15\_17 Start: 11852, Stop: 12618, Start Num: 9

Candidate Starts for RAP15\_17:

(2, 11570), (Start: 7 @11843 has 13 MA's), (Start: 9 @11852 has 56 MA's), (Start: 25 @11972 has 1 MA's), (41, 12098), (44, 12107), (58, 12179), (71, 12284), (80, 12350), (107, 12476), (109, 12494), (111, 12506),

Gene: RcigaStruga\_17 Start: 11851, Stop: 12611, Start Num: 8

Candidate Starts for RcigaStruga\_17:

(Start: 8 @11851 has 8 MA's), (18, 11947), (39, 12088), (44, 12103), (45, 12109), (58, 12175), (66, 12229), (115, 12559), (118, 12580), (120, 12589), (121, 12601),

Gene: RedFox\_14 Start: 9060, Stop: 9784, Start Num: 24

Candidate Starts for RedFox\_14:

(10, 8976), (Start: 24 @9060 has 123 MA's), (30, 9153), (33, 9171), (37, 9198), (55, 9312), (64, 9351), (66, 9381), (89, 9549), (95, 9567),

Gene: Renna12\_15 Start: 9269, Stop: 9993, Start Num: 24

Candidate Starts for Renna12\_15:

(Start: 24 @9269 has 123 MA's), (30, 9362), (33, 9380), (37, 9407), (55, 9521), (64, 9560), (66, 9590),

Gene: Riovina\_13 Start: 8974, Stop: 9731, Start Num: 9

Candidate Starts for Riovina\_13:

(Start: 7 @8965 has 13 MA's), (Start: 9 @8974 has 56 MA's), (18, 9067), (31, 9181), (39, 9208), (44, 9223), (58, 9295), (74, 9433), (85, 9487), (103, 9574), (104, 9577), (111, 9619), (113, 9649),

Gene: Riverdale\_17 Start: 11782, Stop: 12548, Start Num: 9

Candidate Starts for Riverdale\_17:

(3, 11599), (Start: 7 @11773 has 13 MA's), (Start: 9 @11782 has 56 MA's), (41, 12028), (44, 12037), (58, 12109), (71, 12214), (80, 12280), (107, 12406), (109, 12424), (111, 12436),

Gene: Rollins\_12 Start: 8845, Stop: 9554, Start Num: 24

Candidate Starts for Rollins\_12:

(Start: 24 @8845 has 123 MA's), (33, 8953), (63, 9085), (66, 9118), (108, 9385),

Gene: Rona\_14 Start: 9439, Stop: 10115, Start Num: 24

Candidate Starts for Rona\_14:

(Start: 24 @9439 has 123 MA's), (61, 9670), (63, 9679), (66, 9712),

Gene: Rozby\_17 Start: 11774, Stop: 12549, Start Num: 7

Candidate Starts for Rozby\_17:

(2, 11501), (Start: 7 @11774 has 13 MA's), (Start: 9 @11783 has 56 MA's), (Start: 25 @11903 has 1 MA's), (41, 12029), (44, 12038), (58, 12110), (71, 12215), (80, 12281), (107, 12407), (109, 12425), (111, 12437),

Gene: Ruchi\_15 Start: 10010, Stop: 10740, Start Num: 24

Candidate Starts for Ruchi\_15:

(Start: 24 @10010 has 123 MA's), (31, 10106), (36, 10139), (50, 10214), (64, 10301), (66, 10331), (69, 10376), (73, 10409), (82, 10466),

Gene: SanaSana\_15 Start: 9463, Stop: 10154, Start Num: 24

Candidate Starts for SanaSana\_15:

(Start: 24 @9463 has 123 MA's), (46, 9613), (55, 9667), (63, 9703), (108, 10003),

Gene: SansAfet\_14 Start: 9254, Stop: 9945, Start Num: 24

Candidate Starts for SansAfet\_14:

(Start: 24 @9254 has 123 MA's), (33, 9365), (51, 9428), (61, 9485), (63, 9494), (66, 9527), (94, 9719),

Gene: SarBear\_14 Start: 9220, Stop: 9911, Start Num: 24

Candidate Starts for SarBear\_14:

(Start: 24 @9220 has 123 MA's), (33, 9331), (51, 9394), (61, 9451), (63, 9460), (66, 9493), (86, 9652), (97, 9703), (105, 9739),

Gene: Savage2526\_17 Start: 11837, Stop: 12612, Start Num: 7

Candidate Starts for Savage2526\_17:

(2, 11564), (Start: 7 @11837 has 13 MA's), (Start: 9 @11846 has 56 MA's), (Start: 25 @11966 has 1 MA's), (41, 12092), (44, 12101), (58, 12173), (71, 12278), (80, 12344), (107, 12470), (109, 12488), (111, 12500),

Gene: Scuttle\_17 Start: 11851, Stop: 12617, Start Num: 9

Candidate Starts for Scuttle\_17:

(3, 11668), (Start: 7 @11842 has 13 MA's), (Start: 9 @11851 has 56 MA's), (41, 12097), (44, 12106), (58, 12178), (71, 12283), (80, 12349), (107, 12475), (109, 12493), (111, 12505),

Gene: Sergei\_13 Start: 8899, Stop: 9737, Start Num: 5

Candidate Starts for Sergei\_13:

(Start: 5 @8899 has 4 MA's), (Start: 7 @8965 has 13 MA's), (Start: 9 @8974 has 56 MA's), (18, 9073), (31, 9187), (44, 9229), (58, 9301), (71, 9406), (79, 9460), (93, 9532), (103, 9580), (109, 9613), (111, 9625), (118, 9706), (119, 9712),

Gene: Sharkboy\_14 Start: 9438, Stop: 10114, Start Num: 24

Candidate Starts for Sharkboy\_14:

(Start: 24 @9438 has 123 MA's), (61, 9669), (63, 9678), (66, 9711), (94, 9903),

Gene: Shayna\_13 Start: 8829, Stop: 9529, Start Num: 24

Candidate Starts for Shayna\_13:

(Start: 24 @8829 has 123 MA's), (40, 8958), (63, 9081), (70, 9165), (91, 9297),

Gene: Skylord\_13 Start: 8785, Stop: 9494, Start Num: 24

Candidate Starts for Skylord\_13:

(Start: 24 @8785 has 123 MA's), (33, 8893), (63, 9025), (66, 9058), (108, 9325),

Gene: Slay\_14 Start: 9696, Stop: 10387, Start Num: 24

Candidate Starts for Slay\_14:

(Start: 24 @9696 has 123 MA's), (33, 9807), (51, 9870), (61, 9927), (63, 9936), (66, 9969), (86, 10128), (97, 10179),

Gene: Softsoap\_14 Start: 9243, Stop: 9934, Start Num: 24

Candidate Starts for Softsoap\_14:

(Start: 24 @9243 has 123 MA's), (33, 9354), (51, 9417), (61, 9474), (63, 9483), (66, 9516), (87, 9684), (94, 9708),

Gene: Squircle\_14 Start: 9270, Stop: 9961, Start Num: 24

Candidate Starts for Squircle\_14:

(Start: 24 @9270 has 123 MA's), (53, 9462), (63, 9522), (66, 9555), (70, 9606), (118, 9918), (120, 9927),

Gene: Stoor\_14 Start: 9460, Stop: 10151, Start Num: 24

Candidate Starts for Stoor\_14:

(Start: 24 @9460 has 123 MA's), (46, 9610), (55, 9664), (63, 9700), (108, 10000),

Gene: Stromboli\_14 Start: 9463, Stop: 10154, Start Num: 24

Candidate Starts for Stromboli\_14:

(Start: 24 @9463 has 123 MA's), (46, 9613), (55, 9667), (63, 9703), (100, 9961), (108, 10003),

Gene: StuartMinion\_14 Start: 9092, Stop: 9816, Start Num: 24

Candidate Starts for StuartMinion\_14:

(Start: 24 @9092 has 123 MA's), (28, 9152), (54, 9341), (63, 9380), (66, 9413), (98, 9617),

Gene: SunnyD\_13 Start: 8829, Stop: 9529, Start Num: 24

Candidate Starts for SunnyD\_13:

(Start: 24 @8829 has 123 MA's), (40, 8958), (63, 9081), (70, 9165), (91, 9297),

Gene: Supakev\_13 Start: 8976, Stop: 9733, Start Num: 9

Candidate Starts for Supakev\_13:

(Start: 7 @8967 has 13 MA's), (Start: 9 @8976 has 56 MA's), (18, 9069), (31, 9183), (39, 9210), (44, 9225), (58, 9297), (74, 9435), (85, 9489), (103, 9576), (111, 9621), (113, 9651),

Gene: Suppi\_17 Start: 11875, Stop: 12641, Start Num: 9

Candidate Starts for Suppi\_17:

(Start: 6 @11863 has 2 MA's), (Start: 9 @11875 has 56 MA's), (18, 11974), (21, 11986), (44, 12130), (58, 12202), (71, 12307), (88, 12418), (107, 12499), (109, 12517),

Gene: Swervy\_14 Start: 9220, Stop: 9911, Start Num: 24

Candidate Starts for Swervy\_14:

(Start: 24 @9220 has 123 MA's), (33, 9331), (51, 9394), (61, 9451), (63, 9460), (66, 9493), (86, 9652), (97, 9703),

Gene: TMaxx\_16 Start: 8696, Stop: 9420, Start Num: 24

Candidate Starts for TMaxx\_16:

(20, 8684), (Start: 24 @8696 has 123 MA's), (42, 8864), (48, 8894), (51, 8906), (59, 8972), (69, 9056), (73, 9089), (76, 9107), (80, 9134), (81, 9143), (84, 9152), (90, 9188), (98, 9221), (100, 9233), (103, 9245), (104, 9248), (117, 9371), (122, 9401),

Gene: TattModd\_17 Start: 11836, Stop: 12611, Start Num: 7

Candidate Starts for TattModd\_17:

(3, 11662), (Start: 7 @11836 has 13 MA's), (Start: 9 @11845 has 56 MA's), (41, 12091), (44, 12100), (58, 12172), (71, 12277), (80, 12343), (107, 12469), (109, 12487), (111, 12499),

Gene: TaylorSipht\_15 Start: 9540, Stop: 10261, Start Num: 24

Candidate Starts for TaylorSipht\_15:

(16, 9516), (17, 9522), (Start: 24 @9540 has 123 MA's), (26, 9552), (34, 9660), (55, 9795), (66, 9864),

Gene: Teagster\_13 Start: 8829, Stop: 9529, Start Num: 24

Candidate Starts for Teagster\_13:

(Start: 24 @8829 has 123 MA's), (40, 8958), (63, 9081), (70, 9165), (91, 9297),

Gene: Temper16\_13 Start: 8899, Stop: 9737, Start Num: 5

Candidate Starts for Temper16\_13:

(Start: 5 @8899 has 4 MA's), (Start: 7 @8965 has 13 MA's), (Start: 9 @8974 has 56 MA's), (18, 9073), (31, 9187), (44, 9229), (58, 9301), (71, 9406), (79, 9460), (93, 9532), (103, 9580), (109, 9613), (111, 9625), (118, 9706), (119, 9712),

Gene: Toad24\_16 Start: 9656, Stop: 10377, Start Num: 24

Candidate Starts for Toad24\_16:

(Start: 24 @9656 has 123 MA's), (26, 9668), (33, 9767), (62, 9941), (64, 9947), (66, 9977), (68, 9995), (75, 10064), (77, 10070), (95, 10163), (119, 10346),

Gene: TukTuk\_14 Start: 9280, Stop: 9971, Start Num: 24

Candidate Starts for TukTuk\_14:

(Start: 24 @9280 has 123 MA's), (33, 9391), (51, 9454), (61, 9511), (63, 9520), (66, 9553), (75, 9649), (86, 9712),

Gene: Urla\_12 Start: 8980, Stop: 9749, Start Num: 9

Candidate Starts for Urla\_12:

(Start: 7 @8971 has 13 MA's), (Start: 9 @8980 has 56 MA's), (12, 9022), (39, 9223), (44, 9238), (58, 9310), (60, 9319), (71, 9415), (102, 9589), (109, 9625), (111, 9637),

Gene: Vallejo\_17 Start: 11784, Stop: 12550, Start Num: 9

Candidate Starts for Vallejo\_17:

(2, 11502), (Start: 7 @11775 has 13 MA's), (Start: 9 @11784 has 56 MA's), (Start: 25 @11904 has 1 MA's), (41, 12030), (44, 12039), (58, 12111), (71, 12216), (80, 12282), (107, 12408), (109, 12426), (111, 12438),

Gene: Vitas\_13 Start: 8785, Stop: 9494, Start Num: 24

Candidate Starts for Vitas\_13:

(Start: 24 @8785 has 123 MA's), (33, 8893), (63, 9025), (66, 9058), (108, 9325),

Gene: Vulpecula\_15 Start: 10086, Stop: 10810, Start Num: 24

Candidate Starts for Vulpecula\_15:

(Start: 24 @10086 has 123 MA's), (31, 10182), (36, 10215), (50, 10290), (64, 10377), (83, 10539),

Gene: Vulture\_13 Start: 8974, Stop: 9731, Start Num: 9

Candidate Starts for Vulture\_13:

(Start: 7 @8965 has 13 MA's), (Start: 9 @8974 has 56 MA's), (18, 9067), (31, 9181), (39, 9208), (44, 9223), (58, 9295), (74, 9433), (85, 9487), (103, 9574), (111, 9619), (113, 9649), (118, 9700),

Gene: Wawa\_17 Start: 11821, Stop: 12587, Start Num: 9

Candidate Starts for Wawa\_17:

(1, 11326), (2, 11539), (Start: 7 @11812 has 13 MA's), (Start: 9 @11821 has 56 MA's), (Start: 25 @11941 has 1 MA's), (41, 12067), (44, 12076), (58, 12148), (71, 12253), (80, 12319), (107, 12445), (109, 12463), (111, 12475),

Gene: Wayne\_16 Start: 11921, Stop: 12687, Start Num: 9

Candidate Starts for Wayne\_16:

(Start: 6 @11909 has 2 MA's), (Start: 9 @11921 has 56 MA's), (18, 12020), (21, 12032), (44, 12176), (58, 12248), (71, 12353), (88, 12464), (107, 12545), (109, 12563),

Gene: WileyE\_14 Start: 9421, Stop: 10145, Start Num: 24

Candidate Starts for WileyE\_14:

(Start: 24 @9421 has 123 MA's), (36, 9550), (50, 9625), (64, 9712), (66, 9742),

Gene: WonderBoy\_13 Start: 8935, Stop: 9704, Start Num: 9

Candidate Starts for WonderBoy\_13:

(Start: 9 @8935 has 56 MA's), (27, 9088), (44, 9193), (58, 9265), (71, 9370), (104, 9550), (107, 9562), (109, 9580), (111, 9592),

Gene: Zhuangyuan\_16 Start: 9822, Stop: 10546, Start Num: 23

Candidate Starts for Zhuangyuan\_16:

(Start: 23 @9822 has 2 MA's), (36, 9951), (52, 10047), (55, 10074), (57, 10083), (66, 10143), (69, 10182), (71, 10194), (72, 10200), (75, 10230), (80, 10260), (102, 10377), (111, 10425), (120, 10515), (123, 10539),

Gene: Zorro\_17 Start: 11791, Stop: 12566, Start Num: 7

Candidate Starts for Zorro\_17:

(1, 11305), (2, 11518), (Start: 7 @11791 has 13 MA's), (Start: 9 @11800 has 56 MA's), (Start: 25 @11920 has 1 MA's), (41, 12046), (44, 12055), (58, 12127), (71, 12232), (80, 12298), (107, 12424), (109, 12442), (111, 12454),