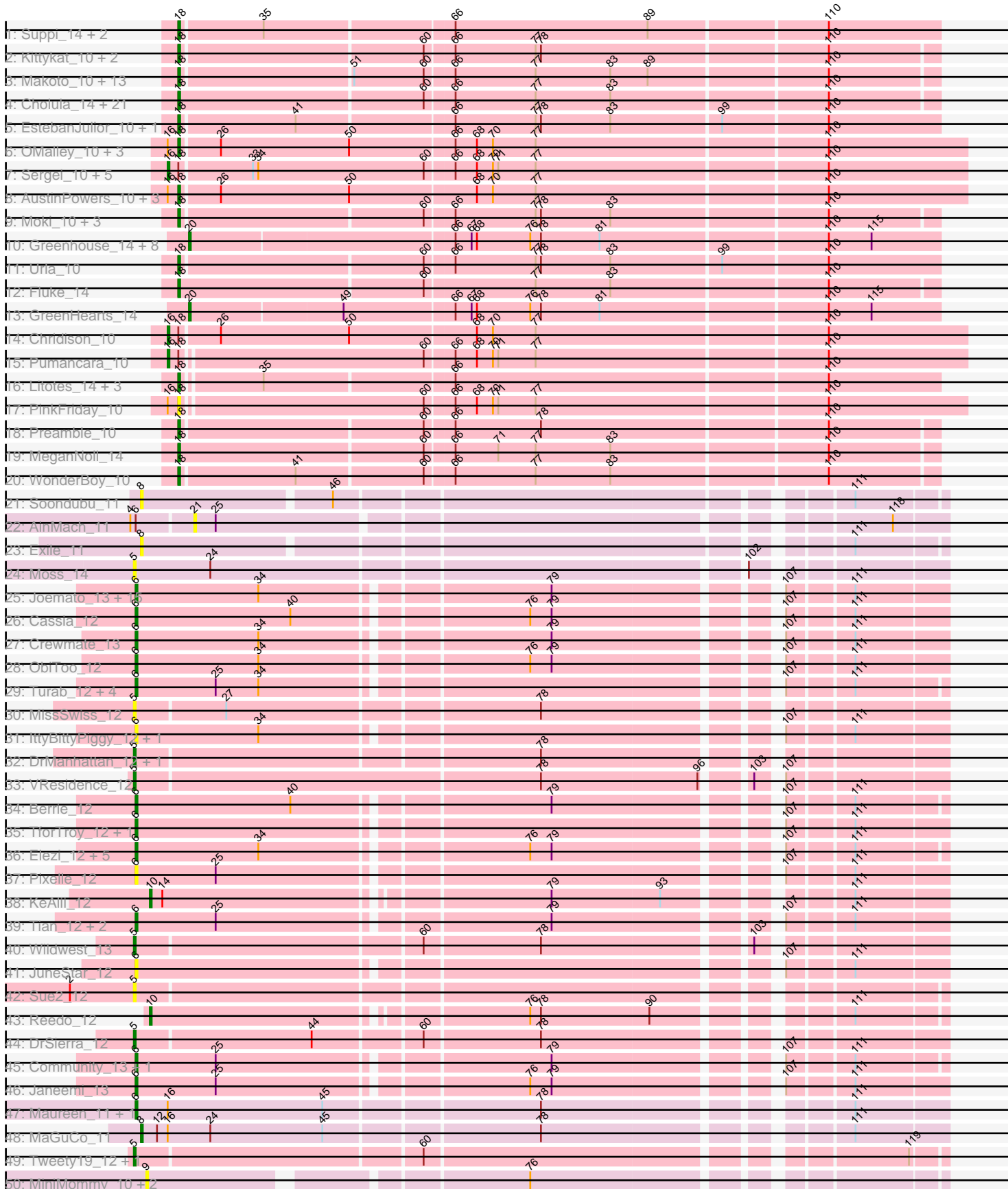
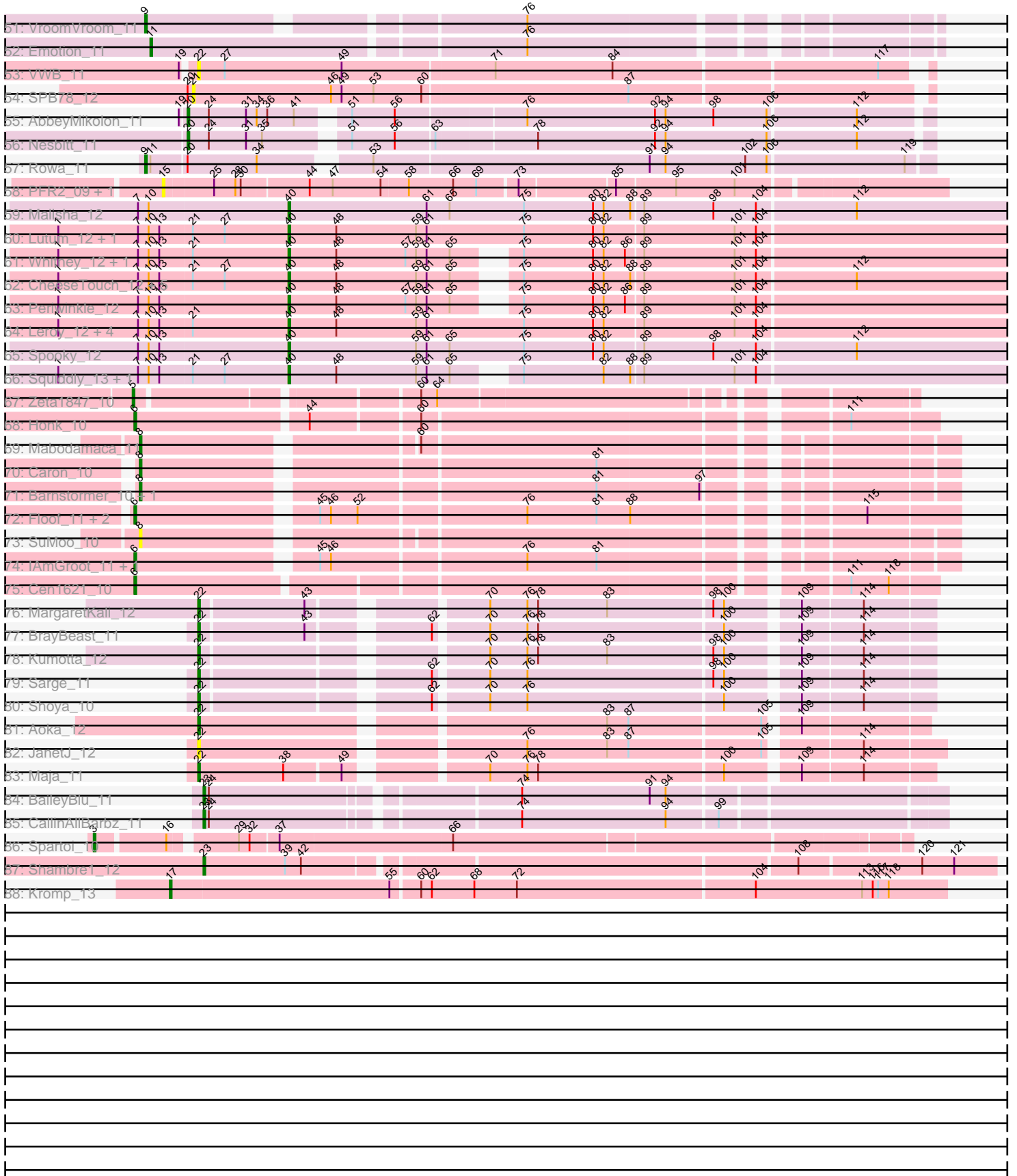


Pham 157594



Pham 157594



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 157594 Report

This analysis was run 04/13/24 on database version 558.

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 157594 has 203 members, 37 are drafts.

Phages represented in each track:

- Track 1 : Suppi\_14, Canowicakte\_14, Wayne\_14
- Track 2 : Kittykat\_10, DreamTeam\_10, Gisselle\_10
- Track 3 : Makoto\_10, CristinaYang\_10, PitaDog\_10, Lasagna\_10, LilStuart\_10, DrRobert\_10, Nancia\_10, OurGirlNessie\_10, Bodacious\_10, Christian\_10, Lucy\_10, Lennox\_10, ChewChew\_10, Pterodactyl\_10
- Track 4 : Cholula\_14, BigMack\_10, Carpal\_14, RAP15\_14, Dino\_14, Wawa\_14, Potatoes\_14, Korra\_14, Glenn\_14, TattModd\_14, Scuttle\_14, Jumboset\_14, Vallejo\_14, Rozby\_14, MrGloopy\_14, Riverdale\_14, Savage2526\_14, BrotherBLo\_14, Immaculata\_14, Beethoven\_14, Kalizoi\_14, Zorro\_14
- Track 5 : EstebanJulior\_10, MamaPearl\_10
- Track 6 : OMalley\_10, Eunoia\_10, Aledel\_10, Riovina\_10
- Track 7 : Sergei\_10, KingBob\_10, Herb\_10, Temper16\_10, Maria1952\_10, Daiboju\_10
- Track 8 : AustinPowers\_10, HunterDalle\_10, Vulture\_10, Supakev\_10
- Track 9 : Moki\_10, Huckleberry\_10, HeadNerd\_10, Bennie\_10
- Track 10 : Greenhouse\_14, Lakshmi\_14, Albanese\_14, Oxynfrius\_14, Joann\_14, RcigaStruga\_14, Huntingdon\_14, Nubia\_14, Misaeng\_14
- Track 11 : Urla\_10
- Track 12 : Fluke\_14
- Track 13 : GreenHearts\_14
- Track 14 : Chridison\_10
- Track 15 : Pumancara\_10
- Track 16 : Litotes\_14, PartyCup\_14, CallieOMalley\_14, AppleCider\_14
- Track 17 : PinkFriday\_10
- Track 18 : Preamble\_10
- Track 19 : MeganNoll\_14
- Track 20 : WonderBoy\_10
- Track 21 : Soondubu\_11
- Track 22 : AinMach\_11
- Track 23 : Exile\_11
- Track 24 : Moss\_14
- Track 25 : Joemato\_13, Iter\_12, AGrandiflora\_12, Cyan\_12, YesChef\_12, Lizalica\_12, Simpson\_13, Kaylissa\_12, Lego\_12, Warda\_12, JohnDoe\_12,

Tutumahutu\_12, Tbone\_12, Powerpuff\_12, Ascela\_12, Mudpuppy\_12

- Track 26 : Cassia\_12
- Track 27 : Crewmate\_13
- Track 28 : ObiToo\_12
- Track 29 : Turab\_12, Tallboi\_12, Adumb2043\_12, AEgle\_12, Nitro\_12
- Track 30 : MissSwiss\_12
- Track 31 : IttyBittyPiggy\_12, Pumpkins\_22
- Track 32 : DrManhattan\_12, Adolin\_12
- Track 33 : VResidence\_12
- Track 34 : Berrie\_12
- Track 35 : TforTroy\_12, Yang\_12
- Track 36 : Elezi\_12, Eraser\_12, London\_12, Niobe\_12, Asa16\_12, Jstan\_12
- Track 37 : Pixelle\_12
- Track 38 : KeAlii\_12
- Track 39 : Tian\_12, Amyev\_12, Phives\_13
- Track 40 : Wildwest\_13
- Track 41 : JuneStar\_12
- Track 42 : Sue2\_12
- Track 43 : Reedo\_12
- Track 44 : DrSierra\_12
- Track 45 : Community\_13, Tuck\_13
- Track 46 : Janeemi\_13
- Track 47 : Maureen\_11, Liebe\_11
- Track 48 : MaGuCo\_11
- Track 49 : Tweety19\_12, Snek\_12
- Track 50 : MiniMommy\_10, JasmineDragon\_11, ShakeltOph\_11
- Track 51 : VroomVroom\_11
- Track 52 : Emotion\_11
- Track 53 : VWB\_11
- Track 54 : SPB78\_12
- Track 55 : AbbeyMikolon\_11
- Track 56 : Nesbitt\_11
- Track 57 : Rowa\_11
- Track 58 : PFR2\_09, PFR1\_09
- Track 59 : Malisha\_12
- Track 60 : Lutum\_12, Kenna\_12
- Track 61 : Whitney\_12, Getalong\_12
- Track 62 : CheeseTouch\_12, Budski\_12, Phabuloso\_12, LitninMcQueen\_12, Kamaru\_12, Holliday\_12
- Track 63 : Periwinkle\_12
- Track 64 : Leroy\_12, Horus\_12, Frickyyeah\_12, BENtherdunthat\_12, Asapag\_12
- Track 65 : Spooky\_12
- Track 66 : Squiddly\_13, Phistory\_12
- Track 67 : Zeta1847\_10
- Track 68 : Honk\_10
- Track 69 : Mabodamaca\_11
- Track 70 : Caron\_10
- Track 71 : Barnstormer\_10, UtzChips\_10
- Track 72 : Floof\_11, Percival\_11, Gretchen\_11
- Track 73 : SuMoo\_10
- Track 74 : IAmGroot\_11, GardenState\_11
- Track 75 : Cen1621\_10
- Track 76 : MargaretKali\_12

- Track 77 : BrayBeast\_11
- Track 78 : Kumotta\_12
- Track 79 : Sarge\_11
- Track 80 : Shoya\_10
- Track 81 : Aoka\_12
- Track 82 : JanetJ\_12
- Track 83 : Maja\_11
- Track 84 : BaileyBlu\_11
- Track 85 : CallinAllBarbz\_11
- Track 86 : Spartoi\_10
- Track 87 : Shambre1\_12
- Track 88 : Kromp\_13

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

The start number called the most often in the published annotations is 18, it was called in 62 of the 166 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Aledel\_10, AppleCider\_14, AustinPowers\_10, Beethoven\_14, Bennie\_10, BigMack\_10, Bodacious\_10, BrotherBLo\_14, CallieOMalley\_14, Canowicakte\_14, Carpal\_14, ChewChew\_10, Cholula\_14, Christian\_10, CristinaYang\_10, Dino\_14, DrRobert\_10, DreamTeam\_10, EstebanJulior\_10, Eunoia\_10, Fluke\_14, Gisselle\_10, Glenn\_14, HeadNerd\_10, Huckleberry\_10, HunterDalle\_10, Immaculata\_14, Jumboset\_14, Kalizoi\_14, Kittykat\_10, Korra\_14, Lasagna\_10, Lennox\_10, LilStuart\_10, Litotes\_14, Lucy\_10, Makoto\_10, MamaPearl\_10, MeganNoll\_14, Moki\_10, MrGloopy\_14, Nancia\_10, OMalley\_10, OurGirlNessie\_10, PartyCup\_14, PinkFriday\_10, PitaDog\_10, Potatoes\_14, Preamble\_10, Pterodactyl\_10, RAP15\_14, Rivovina\_10, Riverdale\_14, Rozby\_14, Savage2526\_14, Scuttle\_14, Supakev\_10, Suppi\_14, TattModd\_14, Urla\_10, Vallejo\_14, Vulture\_10, Wawa\_14, Wayne\_14, WonderBoy\_10, Zorro\_14,

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

- Chridison\_10, Daiboju\_10, Herb\_10, KingBob\_10, Maria1952\_10, Pumancara\_10, Sergei\_10, Temper16\_10,

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

- AEgle\_12, AGrandiflora\_12, AbbeyMikolon\_11, Adolin\_12, Adumb2043\_12, AinMach\_11, Albanese\_14, Amyev\_12, Aoka\_12, Asa16\_12, Asapag\_12, Ascela\_12, BENtherdunthat\_12, BaileyBlu\_11, Barnstormer\_10, Berrie\_12, BrayBeast\_11, Budski\_12, CallinAllBarbz\_11, Caron\_10, Cassia\_12, Cen1621\_10, CheeseTouch\_12, Community\_13, Crewmate\_13, Cyan\_12, DrManhattan\_12, DrSierra\_12, Elezi\_12, Emotion\_11, Eraser\_12, Exile\_11, Floof\_11, Frickyeah\_12, GardenState\_11, Getalong\_12, GreenHearts\_14, Greenhouse\_14, Gretchen\_11, Holliday\_12, Honk\_10, Horus\_12, Huntingdon\_14, IAmGroot\_11, Iter\_12, IttyBittyPiggy\_12, Janeemi\_13, JanetJ\_12, JasmineDragon\_11, Joann\_14, Joemato\_13, JohnDoe\_12, Jstan\_12, JuneStar\_12, Kamaru\_12, Kaylissa\_12, KeAlii\_12, Kenna\_12, Kromp\_13, Kumotta\_12, Lakshmi\_14, Lego\_12, Leroy\_12, Liebe\_11, LitninMcQueen\_12, Lizalica\_12, London\_12, Lutum\_12, MaGuCo\_11, Mabodamaca\_11, Maja\_11, Malisha\_12, MargaretKali\_12, Maureen\_11,

MiniMommy\_10, Misaeng\_14, MissSwiss\_12, Moss\_14, Mudpuppy\_12, Nesbitt\_11, Niobe\_12, Nitro\_12, Nubia\_14, ObiToo\_12, Oxynfrius\_14, PFR1\_09, PFR2\_09, Percival\_11, Periwinkle\_12, Phabuloso\_12, Phistory\_12, Phives\_13, Pixelle\_12, Powerpuff\_12, Pumpkins\_22, RcigaStruga\_14, Reedo\_12, Rowa\_11, SPB78\_12, Sarge\_11, ShakeltOph\_11, Shambre1\_12, Shoya\_10, Simpson\_13, Snek\_12, Soondubu\_11, Spartoi\_10, Spooky\_12, Squiddly\_13, SuMoo\_10, Sue2\_12, Tallboi\_12, Tbone\_12, TforTroy\_12, Tian\_12, Tuck\_13, Turab\_12, Tutumahutu\_12, Tweety19\_12, UtzChips\_10, VResidence\_12, VWB\_11, VroomVroom\_11, Warda\_12, Whitney\_12, Wildwest\_13, Yang\_12, YesChef\_12, Zeta1847\_10,

### Summary by start number:

#### Start 3:

- Found in 1 of 203 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 166
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Spartoi\_10 (singleton),

#### Start 5:

- Found in 11 of 203 ( 5.4% ) of genes in pham
- Manual Annotations of this start: 8 of 166
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Adolin\_12 (AZ1), DrManhattan\_12 (AZ1), DrSierra\_12 (AZ1), MissSwiss\_12 (AZ1), Moss\_14 (AZ), Snek\_12 (AZ3), Sue2\_12 (AZ1), Tweety19\_12 (AZ3), VResidence\_12 (AZ1), Wildwest\_13 (AZ1), Zeta1847\_10 (EH),

#### Start 6:

- Found in 53 of 203 ( 26.1% ) of genes in pham
- Manual Annotations of this start: 36 of 166
- Called 98.1% of time when present
- Phage (with cluster) where this start called: AEgle\_12 (AZ1), AGrandiflora\_12 (AZ1), Adumb2043\_12 (AZ1), Amyev\_12 (AZ1), Asa16\_12 (AZ1), Ascela\_12 (AZ1), Berrie\_12 (AZ1), Cassia\_12 (AZ1), Cen1621\_10 (EH), Community\_13 (AZ1), Crewmate\_13 (AZ1), Cyan\_12 (AZ1), Elezi\_12 (AZ1), Eraser\_12 (AZ1), Floof\_11 (EH), GardenState\_11 (EH), Gretchen\_11 (EH), Honk\_10 (EH), IAmGroot\_11 (EH), Iter\_12 (AZ1), IttyBittyPiggy\_12 (AZ1), Janeemi\_13 (AZ1), Joemato\_13 (AZ1), JohnDoe\_12 (AZ1), Jstan\_12 (AZ1), JuneStar\_12 (AZ1), Kaylissa\_12 (AZ1), Lego\_12 (AZ1), Liebe\_11 (AZ2), Lizalica\_12 (AZ1), London\_12 (AZ1), Maureen\_11 (AZ2), Mudpuppy\_12 (AZ1), Niobe\_12 (AZ1), Nitro\_12 (AZ1), ObiToo\_12 (AZ1), Percival\_11 (EH), Phives\_13 (AZ1), Pixelle\_12 (AZ1), Powerpuff\_12 (AZ1), Pumpkins\_22 (AZ1), Simpson\_13 (AZ1), Tallboi\_12 (AZ1), Tbone\_12 (AZ1), TforTroy\_12 (AZ1), Tian\_12 (AZ1), Tuck\_13 (AZ1), Turab\_12 (AZ1), Tutumahutu\_12 (AZ1), Warda\_12 (AZ1), Yang\_12 (AZ1), YesChef\_12 (AZ1),

#### Start 8:

- Found in 8 of 203 ( 3.9% ) of genes in pham
- Manual Annotations of this start: 5 of 166
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Barnstormer\_10 (EH), Caron\_10 (EH), Exile\_11 (AZ), MaGuCo\_11 (AZ2), Mabodamaca\_11 (EH), Soondubu\_11 (AZ), SuMoo\_10 (EH), UtzChips\_10 (EH),

Start 9:

- Found in 5 of 203 ( 2.5% ) of genes in pham
- Manual Annotations of this start: 2 of 166
- Called 100.0% of time when present
- Phage (with cluster) where this start called: JasmineDragon\_11 (AZ4), MiniMommy\_10 (AZ4), Rowa\_11 (BL), ShakeltOph\_11 (AZ4), VroomVroom\_11 (AZ4),

Start 10:

- Found in 22 of 203 ( 10.8% ) of genes in pham
- Manual Annotations of this start: 2 of 166
- Called 9.1% of time when present
- Phage (with cluster) where this start called: KeAlii\_12 (AZ1), Reedo\_12 (AZ1),

Start 11:

- Found in 2 of 203 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 1 of 166
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Emotion\_11 (AZ4),

Start 15:

- Found in 2 of 203 ( 1.0% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: PFR1\_09 (BX), PFR2\_09 (BX),

Start 16:

- Found in 21 of 203 ( 10.3% ) of genes in pham
- Manual Annotations of this start: 8 of 166
- Called 38.1% of time when present
- Phage (with cluster) where this start called: Chridison\_10 (AK), Daiboju\_10 (AK), Herb\_10 (AK), KingBob\_10 (AK), Maria1952\_10 (AK), Pumancara\_10 (AK), Sergej\_10 (AK), Temper16\_10 (AK),

Start 17:

- Found in 1 of 203 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 166
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kromp\_13 (singleton),

Start 18:

- Found in 74 of 203 ( 36.5% ) of genes in pham
- Manual Annotations of this start: 62 of 166
- Called 89.2% of time when present
- Phage (with cluster) where this start called: Aledel\_10 (AK), AppleCider\_14 (AK), AustinPowers\_10 (AK), Beethoven\_14 (AK), Bennie\_10 (AK), BigMack\_10 (AK), Bodacious\_10 (AK), BrotherBLo\_14 (AK), CallieOMalley\_14 (AK), Canowicakte\_14 (AK), Carpal\_14 (AK), ChewChew\_10 (AK), Cholula\_14 (AK), Christian\_10 (AK), CristinaYang\_10 (AK), Dino\_14 (AK), DrRobert\_10 (AK), DreamTeam\_10 (AK), EstebanJulior\_10 (AK), Eunoia\_10 (AK), Fluke\_14 (AK), Gisselle\_10 (AK), Glenn\_14 (AK), HeadNerd\_10 (AK), Huckleberry\_10 (AK), HunterDalle\_10 (AK), Immaculata\_14 (AK), Jumboset\_14 (AK), Kalizoi\_14 (AK), Kittykat\_10 (AK), Korra\_14 (AK), Lasagna\_10 (AK), Lennox\_10 (AK), LilStuart\_10 (AK), Litotes\_14 (AK),

Lucy\_10 (AK), Makoto\_10 (AK), MamaPearl\_10 (AK), MeganNoll\_14 (AK), Moki\_10 (AK), MrGloopy\_14 (AK), Nancia\_10 (AK), OMalley\_10 (AK), OurGirlNessie\_10 (AK), PartyCup\_14 (AK), PinkFriday\_10 (AK), PitaDog\_10 (AK), Potatoes\_14 (AK), Preamble\_10 (AK), Pterodactyl\_10 (AK), RAP15\_14 (AK), Rivovina\_10 (AK), Riverdale\_14 (AK), Rozby\_14 (AK), Savage2526\_14 (AK), Scuttle\_14 (AK), Supakev\_10 (AK), Suppi\_14 (AK), TattModd\_14 (AK), Uria\_10 (AK), Vallejo\_14 (AK), Vulture\_10 (AK), Wawa\_14 (AK), Wayne\_14 (AK), WonderBoy\_10 (AK), Zorro\_14 (AK),

#### Start 20:

- Found in 14 of 203 ( 6.9% ) of genes in pham
- Manual Annotations of this start: 12 of 166
- Called 85.7% of time when present
- Phage (with cluster) where this start called: AbbeyMikolon\_11 (BL), Albanese\_14 (AK), GreenHearts\_14 (AK), Greenhouse\_14 (AK), Huntingdon\_14 (AK), Joann\_14 (AK), Lakshmi\_14 (AK), Misaeng\_14 (AK), Nesbitt\_11 (BL), Nubia\_14 (AK), Oxyntrius\_14 (AK), RcigaStruga\_14 (AK),

#### Start 21:

- Found in 19 of 203 ( 9.4% ) of genes in pham
- No Manual Annotations of this start.
- Called 10.5% of time when present
- Phage (with cluster) where this start called: AinMach\_11 (AZ), SPB78\_12 (BA),

#### Start 22:

- Found in 9 of 203 ( 4.4% ) of genes in pham
- Manual Annotations of this start: 7 of 166
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aoka\_12 (FO), BrayBeast\_11 (FB), JanetJ\_12 (FO), Kumotta\_12 (FB), Maja\_11 (FO), MargaretKali\_12 (FB), Sarge\_11 (FB), Shoya\_10 (FB), VWB\_11 (BA),

#### Start 23:

- Found in 3 of 203 ( 1.5% ) of genes in pham
- Manual Annotations of this start: 3 of 166
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BaileyBlu\_11 (FP), CallinAllBarbz\_11 (FP), Shambre1\_12 (singleton),

#### Start 40:

- Found in 22 of 203 ( 10.8% ) of genes in pham
- Manual Annotations of this start: 18 of 166
- Called 90.9% of time when present
- Phage (with cluster) where this start called: Asapag\_12 (DN1), BENtherdunthat\_12 (DN1), Budski\_12 (DN), CheeseTouch\_12 (DN1), Frickyeah\_12 (DN1), Getalong\_12 (DN1), Holliday\_12 (DN1), Horus\_12 (DN1), Kamaru\_12 (DN1), Kenna\_12 (DN1), Leroy\_12 (DN1), LitninMcQueen\_12 (DN1), Lutum\_12 (DN1), Malisha\_12 (DN), Periwinkle\_12 (DN1), Phabuloso\_12 (DN1), Phistory\_12 (DN1), Spooky\_12 (DN2), Squiddly\_13 (DN2), Whitney\_12 (DN1),

#### Summary by clusters:



There are 17 clusters represented in this pham: FP, DN, singleton, AZ, EH, BL, AZ4, AK, BA, FB, DN1, DN2, AZ1, AZ2, AZ3, BX, FO,

Info for manual annotations of cluster AK:

- Start number 16 was manually annotated 8 times for cluster AK.
- Start number 18 was manually annotated 62 times for cluster AK.
- Start number 20 was manually annotated 10 times for cluster AK.

Info for manual annotations of cluster AZ1:

- Start number 5 was manually annotated 5 times for cluster AZ1.
- Start number 6 was manually annotated 27 times for cluster AZ1.
- Start number 10 was manually annotated 2 times for cluster AZ1.

Info for manual annotations of cluster AZ2:

- Start number 6 was manually annotated 2 times for cluster AZ2.
- Start number 8 was manually annotated 1 time for cluster AZ2.

Info for manual annotations of cluster AZ3:

- Start number 5 was manually annotated 2 times for cluster AZ3.

Info for manual annotations of cluster AZ4:

- Start number 9 was manually annotated 1 time for cluster AZ4.
- Start number 11 was manually annotated 1 time for cluster AZ4.

Info for manual annotations of cluster BL:

- Start number 9 was manually annotated 1 time for cluster BL.
- Start number 20 was manually annotated 2 times for cluster BL.

Info for manual annotations of cluster DN:

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

Info for manual annotations of cluster DN1:

- Start number 40 was manually annotated 14 times for cluster DN1.

Info for manual annotations of cluster DN2:

- Start number 40 was manually annotated 2 times for cluster DN2.

Info for manual annotations of cluster EH:

- Start number 5 was manually annotated 1 time for cluster EH.
- Start number 6 was manually annotated 7 times for cluster EH.
- Start number 8 was manually annotated 4 times for cluster EH.

Info for manual annotations of cluster FB:

- Start number 22 was manually annotated 5 times for cluster FB.

Info for manual annotations of cluster FO:

- Start number 22 was manually annotated 2 times for cluster FO.

Info for manual annotations of cluster FP:

- Start number 23 was manually annotated 2 times for cluster FP.

**Gene Information:**

Gene: AEgle\_12 Start: 9049, Stop: 9459, Start Num: 6

Candidate Starts for AEgle\_12:

(Start: 6 @9049 has 36 MA's), (25, 9094), (34, 9118), (107, 9379), (111, 9412),

Gene: AGrandiflora\_12 Start: 9036, Stop: 9449, Start Num: 6

Candidate Starts for AGrandiflora\_12:

(Start: 6 @9036 has 36 MA's), (34, 9105), (79, 9255), (107, 9366), (111, 9399),

Gene: AbbeyMikolon\_11 Start: 7783, Stop: 8178, Start Num: 20

Candidate Starts for AbbeyMikolon\_11:

(19, 7780), (Start: 20 @7783 has 12 MA's), (24, 7795), (31, 7816), (34, 7822), (36, 7828), (41, 7843), (51, 7864), (56, 7888), (76, 7957), (92, 8029), (94, 8035), (98, 8062), (106, 8092), (112, 8140),

Gene: Adolin\_12 Start: 9024, Stop: 9440, Start Num: 5

Candidate Starts for Adolin\_12:

(Start: 5 @9024 has 8 MA's), (78, 9240),

Gene: Adumb2043\_12 Start: 9048, Stop: 9458, Start Num: 6

Candidate Starts for Adumb2043\_12:

(Start: 6 @9048 has 36 MA's), (25, 9093), (34, 9117), (107, 9378), (111, 9411),

Gene: AinMach\_11 Start: 8183, Stop: 8566, Start Num: 21

Candidate Starts for AinMach\_11:

(4, 8150), (Start: 6 @8153 has 36 MA's), (21, 8183), (25, 8195), (118, 8537),

Gene: Albanese\_14 Start: 10476, Stop: 10886, Start Num: 20

Candidate Starts for Albanese\_14:

(Start: 20 @10476 has 12 MA's), (66, 10620), (67, 10629), (68, 10632), (76, 10662), (78, 10668), (81, 10701), (110, 10824), (115, 10848),

Gene: Aledel\_10 Start: 7551, Stop: 7982, Start Num: 18

Candidate Starts for Aledel\_10:

(Start: 16 @7545 has 8 MA's), (Start: 18 @7551 has 62 MA's), (26, 7572), (50, 7644), (66, 7701), (68, 7713), (70, 7722), (77, 7746), (110, 7905),

Gene: Amyev\_12 Start: 9064, Stop: 9477, Start Num: 6

Candidate Starts for Amyev\_12:

(Start: 6 @9064 has 36 MA's), (25, 9109), (79, 9283), (107, 9394), (111, 9427),

Gene: Aoka\_12 Start: 8710, Stop: 9090, Start Num: 22

Candidate Starts for Aoka\_12:

(Start: 22 @8710 has 7 MA's), (83, 8923), (87, 8935), (105, 9007), (109, 9022),

Gene: AppleCider\_14 Start: 10411, Stop: 10824, Start Num: 18

Candidate Starts for AppleCider\_14:

(Start: 18 @10411 has 62 MA's), (35, 10456), (66, 10558), (110, 10762),

Gene: Asa16\_12 Start: 9018, Stop: 9428, Start Num: 6

Candidate Starts for Asa16\_12:

(Start: 6 @9018 has 36 MA's), (34, 9087), (76, 9225), (79, 9237), (107, 9348), (111, 9381),

Gene: Asapag\_12 Start: 7041, Stop: 7451, Start Num: 40

Candidate Starts for Asapag\_12:

(1, 6912), (7, 6957), (Start: 10 @6963 has 2 MA's), (13, 6969), (21, 6987), (Start: 40 @7041 has 18 MA's), (48, 7068), (59, 7113), (61, 7119), (75, 7173), (80, 7212), (82, 7218), (89, 7239), (101, 7290), (104, 7302),

Gene: Ascela\_12 Start: 9053, Stop: 9463, Start Num: 6

Candidate Starts for Ascela\_12:

(Start: 6 @9053 has 36 MA's), (34, 9122), (79, 9272), (107, 9383), (111, 9416),

Gene: AustinPowers\_10 Start: 7552, Stop: 7983, Start Num: 18

Candidate Starts for AustinPowers\_10:

(Start: 16 @7546 has 8 MA's), (Start: 18 @7552 has 62 MA's), (26, 7573), (50, 7645), (68, 7714), (70, 7723), (77, 7747), (110, 7906),

Gene: BENtherdunthat\_12 Start: 7041, Stop: 7451, Start Num: 40

Candidate Starts for BENtherdunthat\_12:

(1, 6912), (7, 6957), (Start: 10 @6963 has 2 MA's), (13, 6969), (21, 6987), (Start: 40 @7041 has 18 MA's), (48, 7068), (59, 7113), (61, 7119), (75, 7173), (80, 7212), (82, 7218), (89, 7239), (101, 7290), (104, 7302),

Gene: BaileyBlu\_11 Start: 6789, Stop: 7178, Start Num: 23

Candidate Starts for BaileyBlu\_11:

(Start: 23 @6789 has 3 MA's), (24, 6792), (74, 6951), (91, 7023), (94, 7032),

Gene: Barnstormer\_10 Start: 8216, Stop: 8632, Start Num: 8

Candidate Starts for Barnstormer\_10:

(Start: 8 @8216 has 5 MA's), (81, 8456), (97, 8513),

Gene: Beethoven\_14 Start: 10371, Stop: 10784, Start Num: 18

Candidate Starts for Beethoven\_14:

(Start: 18 @10371 has 62 MA's), (60, 10506), (66, 10521), (77, 10566), (83, 10608), (110, 10725),

Gene: Bennie\_10 Start: 7516, Stop: 7926, Start Num: 18

Candidate Starts for Bennie\_10:

(Start: 18 @7516 has 62 MA's), (60, 7648), (66, 7663), (77, 7708), (78, 7711), (83, 7750), (110, 7867),

Gene: Berrie\_12 Start: 9020, Stop: 9430, Start Num: 6

Candidate Starts for Berrie\_12:

(Start: 6 @9020 has 36 MA's), (Start: 40 @9107 has 18 MA's), (79, 9239), (107, 9350), (111, 9383),

Gene: BigMack\_10 Start: 7516, Stop: 7926, Start Num: 18

Candidate Starts for BigMack\_10:

(Start: 18 @7516 has 62 MA's), (60, 7648), (66, 7663), (77, 7708), (83, 7750), (110, 7867),

Gene: Bodacious\_10 Start: 7514, Stop: 7924, Start Num: 18

Candidate Starts for Bodacious\_10:

(Start: 18 @7514 has 62 MA's), (51, 7607), (60, 7646), (66, 7661), (77, 7706), (83, 7748), (89, 7769), (110, 7865),

Gene: BrayBeast\_11 Start: 7602, Stop: 7979, Start Num: 22

Candidate Starts for BrayBeast\_11:

(Start: 22 @7602 has 7 MA's), (43, 7659), (62, 7716), (70, 7743), (76, 7764), (78, 7770), (100, 7872), (109, 7908), (114, 7941),

Gene: BrotherBLo\_14 Start: 10378, Stop: 10791, Start Num: 18

Candidate Starts for BrotherBLo\_14:

(Start: 18 @10378 has 62 MA's), (60, 10513), (66, 10528), (77, 10573), (83, 10615), (110, 10732),

Gene: Budski\_12 Start: 7046, Stop: 7438, Start Num: 40

Candidate Starts for Budski\_12:

(1, 6917), (7, 6962), (Start: 10 @6968 has 2 MA's), (13, 6974), (21, 6992), (27, 7010), (Start: 40 @7046 has 18 MA's), (48, 7073), (59, 7118), (61, 7124), (65, 7136), (75, 7160), (80, 7199), (82, 7205), (88, 7220), (89, 7226), (101, 7277), (104, 7289), (112, 7343),

Gene: CallieOMalley\_14 Start: 10411, Stop: 10824, Start Num: 18

Candidate Starts for CallieOMalley\_14:

(Start: 18 @10411 has 62 MA's), (35, 10456), (66, 10558), (110, 10762),

Gene: CallinAllBarbz\_11 Start: 6799, Stop: 7188, Start Num: 23

Candidate Starts for CallinAllBarbz\_11:

(Start: 23 @6799 has 3 MA's), (24, 6802), (74, 6961), (94, 7042), (99, 7069),

Gene: Canowicakte\_14 Start: 10446, Stop: 10859, Start Num: 18

Candidate Starts for Canowicakte\_14:

(Start: 18 @10446 has 62 MA's), (35, 10491), (66, 10593), (89, 10701), (110, 10797),

Gene: Caron\_10 Start: 8244, Stop: 8660, Start Num: 8

Candidate Starts for Caron\_10:

(Start: 8 @8244 has 5 MA's), (81, 8484),

Gene: Carpal\_14 Start: 10378, Stop: 10791, Start Num: 18

Candidate Starts for Carpal\_14:

(Start: 18 @10378 has 62 MA's), (60, 10513), (66, 10528), (77, 10573), (83, 10615), (110, 10732),

Gene: Cassia\_12 Start: 9139, Stop: 9552, Start Num: 6

Candidate Starts for Cassia\_12:

(Start: 6 @9139 has 36 MA's), (Start: 40 @9226 has 18 MA's), (76, 9346), (79, 9358), (107, 9469), (111, 9502),

Gene: Cen1621\_10 Start: 7355, Stop: 7771, Start Num: 6

Candidate Starts for Cen1621\_10:

(Start: 6 @7355 has 36 MA's), (111, 7724), (118, 7745),

Gene: CheeseTouch\_12 Start: 7046, Stop: 7438, Start Num: 40

Candidate Starts for CheeseTouch\_12:

(1, 6917), (7, 6962), (Start: 10 @6968 has 2 MA's), (13, 6974), (21, 6992), (27, 7010), (Start: 40 @7046 has 18 MA's), (48, 7073), (59, 7118), (61, 7124), (65, 7136), (75, 7160), (80, 7199), (82, 7205), (88, 7220), (89, 7226), (101, 7277), (104, 7289), (112, 7343),

Gene: ChewChew\_10 Start: 7513, Stop: 7923, Start Num: 18

Candidate Starts for ChewChew\_10:

(Start: 18 @7513 has 62 MA's), (51, 7606), (60, 7645), (66, 7660), (77, 7705), (83, 7747), (89, 7768), (110, 7864),

Gene: Cholula\_14 Start: 10423, Stop: 10836, Start Num: 18

Candidate Starts for Cholula\_14:

(Start: 18 @10423 has 62 MA's), (60, 10558), (66, 10573), (77, 10618), (83, 10660), (110, 10777),

Gene: Chridison\_10 Start: 7546, Stop: 7983, Start Num: 16

Candidate Starts for Chridison\_10:

(Start: 16 @7546 has 8 MA's), (Start: 18 @7552 has 62 MA's), (26, 7573), (50, 7645), (68, 7714), (70, 7723), (77, 7747), (110, 7906),

Gene: Christian\_10 Start: 7514, Stop: 7924, Start Num: 18

Candidate Starts for Christian\_10:

(Start: 18 @7514 has 62 MA's), (51, 7607), (60, 7646), (66, 7661), (77, 7706), (83, 7748), (89, 7769), (110, 7865),

Gene: Community\_13 Start: 10099, Stop: 10509, Start Num: 6

Candidate Starts for Community\_13:

(Start: 6 @10099 has 36 MA's), (25, 10144), (79, 10318), (107, 10429), (111, 10462),

Gene: Crewmate\_13 Start: 9485, Stop: 9898, Start Num: 6

Candidate Starts for Crewmate\_13:

(Start: 6 @9485 has 36 MA's), (34, 9554), (79, 9704), (107, 9815), (111, 9848),

Gene: CristinaYang\_10 Start: 7514, Stop: 7924, Start Num: 18

Candidate Starts for CristinaYang\_10:

(Start: 18 @7514 has 62 MA's), (51, 7607), (60, 7646), (66, 7661), (77, 7706), (83, 7748), (89, 7769), (110, 7865),

Gene: Cyan\_12 Start: 9040, Stop: 9453, Start Num: 6

Candidate Starts for Cyan\_12:

(Start: 6 @9040 has 36 MA's), (34, 9109), (79, 9259), (107, 9370), (111, 9403),

Gene: Daiboju\_10 Start: 7547, Stop: 7984, Start Num: 16

Candidate Starts for Daiboju\_10:

(Start: 16 @7547 has 8 MA's), (Start: 18 @7553 has 62 MA's), (33, 7592), (34, 7595), (60, 7688), (66, 7703), (68, 7715), (70, 7724), (71, 7727), (77, 7748), (110, 7907),

Gene: Dino\_14 Start: 10377, Stop: 10790, Start Num: 18

Candidate Starts for Dino\_14:

(Start: 18 @10377 has 62 MA's), (60, 10512), (66, 10527), (77, 10572), (83, 10614), (110, 10731),

Gene: DrManhattan\_12 Start: 9014, Stop: 9430, Start Num: 5

Candidate Starts for DrManhattan\_12:

(Start: 5 @9014 has 8 MA's), (78, 9230),

Gene: DrRobert\_10 Start: 7514, Stop: 7924, Start Num: 18

Candidate Starts for DrRobert\_10:

(Start: 18 @7514 has 62 MA's), (51, 7607), (60, 7646), (66, 7661), (77, 7706), (83, 7748), (89, 7769), (110, 7865),

Gene: DrSierra\_12 Start: 9047, Stop: 9463, Start Num: 5

Candidate Starts for DrSierra\_12:  
(Start: 5 @9047 has 8 MA's), (44, 9143), (60, 9200), (78, 9263),

Gene: DreamTeam\_10 Start: 7581, Stop: 7991, Start Num: 18  
Candidate Starts for DreamTeam\_10:  
(Start: 18 @7581 has 62 MA's), (60, 7713), (66, 7728), (77, 7773), (78, 7776), (110, 7932),

Gene: Elezi\_12 Start: 9019, Stop: 9429, Start Num: 6  
Candidate Starts for Elezi\_12:  
(Start: 6 @9019 has 36 MA's), (34, 9088), (76, 9226), (79, 9238), (107, 9349), (111, 9382),

Gene: Emotion\_11 Start: 7354, Stop: 7758, Start Num: 11  
Candidate Starts for Emotion\_11:  
(Start: 11 @7354 has 1 MA's), (76, 7555),

Gene: Eraser\_12 Start: 9019, Stop: 9429, Start Num: 6  
Candidate Starts for Eraser\_12:  
(Start: 6 @9019 has 36 MA's), (34, 9088), (76, 9226), (79, 9238), (107, 9349), (111, 9382),

Gene: EstebanJulior\_10 Start: 7558, Stop: 7971, Start Num: 18  
Candidate Starts for EstebanJulior\_10:  
(Start: 18 @7558 has 62 MA's), (41, 7621), (66, 7705), (77, 7750), (78, 7753), (83, 7792), (99, 7852), (110, 7909),

Gene: Eunoia\_10 Start: 7551, Stop: 7982, Start Num: 18  
Candidate Starts for Eunoia\_10:  
(Start: 16 @7545 has 8 MA's), (Start: 18 @7551 has 62 MA's), (26, 7572), (50, 7644), (66, 7701), (68, 7713), (70, 7722), (77, 7746), (110, 7905),

Gene: Exile\_11 Start: 8927, Stop: 9337, Start Num: 8  
Candidate Starts for Exile\_11:  
(Start: 8 @8927 has 5 MA's), (111, 9290),

Gene: Floof\_11 Start: 7791, Stop: 8213, Start Num: 6  
Candidate Starts for Floof\_11:  
(Start: 6 @7791 has 36 MA's), (45, 7884), (46, 7890), (52, 7905), (76, 7995), (81, 8034), (88, 8052), (115, 8163),

Gene: Fluke\_14 Start: 10419, Stop: 10832, Start Num: 18  
Candidate Starts for Fluke\_14:  
(Start: 18 @10419 has 62 MA's), (60, 10554), (77, 10614), (83, 10656), (110, 10773),

Gene: Frickyeah\_12 Start: 7041, Stop: 7451, Start Num: 40  
Candidate Starts for Frickyeah\_12:  
(1, 6912), (7, 6957), (Start: 10 @6963 has 2 MA's), (13, 6969), (21, 6987), (Start: 40 @7041 has 18 MA's), (48, 7068), (59, 7113), (61, 7119), (75, 7173), (80, 7212), (82, 7218), (89, 7239), (101, 7290), (104, 7302),

Gene: GardenState\_11 Start: 8458, Stop: 8877, Start Num: 6  
Candidate Starts for GardenState\_11:  
(Start: 6 @8458 has 36 MA's), (45, 8551), (46, 8557), (76, 8662), (81, 8701),

Gene: Getalong\_12 Start: 7041, Stop: 7433, Start Num: 40

Candidate Starts for Getalong\_12:

(1, 6912), (7, 6957), (Start: 10 @6963 has 2 MA's), (13, 6969), (21, 6987), (Start: 40 @7041 has 18 MA's), (48, 7068), (57, 7107), (59, 7113), (61, 7119), (65, 7131), (75, 7155), (80, 7194), (82, 7200), (86, 7212), (89, 7221), (101, 7272), (104, 7284),

Gene: Gisselle\_10 Start: 7581, Stop: 7991, Start Num: 18

Candidate Starts for Gisselle\_10:

(Start: 18 @7581 has 62 MA's), (60, 7713), (66, 7728), (77, 7773), (78, 7776), (110, 7932),

Gene: Glenn\_14 Start: 10429, Stop: 10842, Start Num: 18

Candidate Starts for Glenn\_14:

(Start: 18 @10429 has 62 MA's), (60, 10564), (66, 10579), (77, 10624), (83, 10666), (110, 10783),

Gene: GreenHearts\_14 Start: 10522, Stop: 10932, Start Num: 20

Candidate Starts for GreenHearts\_14:

(Start: 20 @10522 has 12 MA's), (49, 10606), (66, 10666), (67, 10675), (68, 10678), (76, 10708), (78, 10714), (81, 10747), (110, 10870), (115, 10894),

Gene: Greenhouse\_14 Start: 10447, Stop: 10857, Start Num: 20

Candidate Starts for Greenhouse\_14:

(Start: 20 @10447 has 12 MA's), (66, 10591), (67, 10600), (68, 10603), (76, 10633), (78, 10639), (81, 10672), (110, 10795), (115, 10819),

Gene: Gretchen\_11 Start: 9337, Stop: 9759, Start Num: 6

Candidate Starts for Gretchen\_11:

(Start: 6 @9337 has 36 MA's), (45, 9430), (46, 9436), (52, 9451), (76, 9541), (81, 9580), (88, 9598), (115, 9709),

Gene: HeadNerd\_10 Start: 7516, Stop: 7926, Start Num: 18

Candidate Starts for HeadNerd\_10:

(Start: 18 @7516 has 62 MA's), (60, 7648), (66, 7663), (77, 7708), (78, 7711), (83, 7750), (110, 7867),

Gene: Herb\_10 Start: 7547, Stop: 7984, Start Num: 16

Candidate Starts for Herb\_10:

(Start: 16 @7547 has 8 MA's), (Start: 18 @7553 has 62 MA's), (33, 7592), (34, 7595), (60, 7688), (66, 7703), (68, 7715), (70, 7724), (71, 7727), (77, 7748), (110, 7907),

Gene: Holliday\_12 Start: 7046, Stop: 7438, Start Num: 40

Candidate Starts for Holliday\_12:

(1, 6917), (7, 6962), (Start: 10 @6968 has 2 MA's), (13, 6974), (21, 6992), (27, 7010), (Start: 40 @7046 has 18 MA's), (48, 7073), (59, 7118), (61, 7124), (65, 7136), (75, 7160), (80, 7199), (82, 7205), (88, 7220), (89, 7226), (101, 7277), (104, 7289), (112, 7343),

Gene: Honk\_10 Start: 7323, Stop: 7739, Start Num: 6

Candidate Starts for Honk\_10:

(Start: 6 @7323 has 36 MA's), (44, 7416), (60, 7473), (111, 7692),

Gene: Horus\_12 Start: 7041, Stop: 7451, Start Num: 40

Candidate Starts for Horus\_12:

(1, 6912), (7, 6957), (Start: 10 @6963 has 2 MA's), (13, 6969), (21, 6987), (Start: 40 @7041 has 18 MA's), (48, 7068), (59, 7113), (61, 7119), (75, 7173), (80, 7212), (82, 7218), (89, 7239), (101, 7290), (104, 7302),

Gene: Huckleberry\_10 Start: 7516, Stop: 7926, Start Num: 18  
Candidate Starts for Huckleberry\_10:  
(Start: 18 @7516 has 62 MA's), (60, 7648), (66, 7663), (77, 7708), (78, 7711), (83, 7750), (110, 7867),

Gene: HunterDalle\_10 Start: 7551, Stop: 7982, Start Num: 18  
Candidate Starts for HunterDalle\_10:  
(Start: 16 @7545 has 8 MA's), (Start: 18 @7551 has 62 MA's), (26, 7572), (50, 7644), (68, 7713), (70, 7722), (77, 7746), (110, 7905),

Gene: Huntingdon\_14 Start: 10433, Stop: 10843, Start Num: 20  
Candidate Starts for Huntingdon\_14:  
(Start: 20 @10433 has 12 MA's), (66, 10577), (67, 10586), (68, 10589), (76, 10619), (78, 10625), (81, 10658), (110, 10781), (115, 10805),

Gene: IAmGroot\_11 Start: 9102, Stop: 9521, Start Num: 6  
Candidate Starts for IAmGroot\_11:  
(Start: 6 @9102 has 36 MA's), (45, 9195), (46, 9201), (76, 9306), (81, 9345),

Gene: Immaculata\_14 Start: 10423, Stop: 10836, Start Num: 18  
Candidate Starts for Immaculata\_14:  
(Start: 18 @10423 has 62 MA's), (60, 10558), (66, 10573), (77, 10618), (83, 10660), (110, 10777),

Gene: Iter\_12 Start: 9053, Stop: 9463, Start Num: 6  
Candidate Starts for Iter\_12:  
(Start: 6 @9053 has 36 MA's), (34, 9122), (79, 9272), (107, 9383), (111, 9416),

Gene: IttyBittyPiggy\_12 Start: 9041, Stop: 9454, Start Num: 6  
Candidate Starts for IttyBittyPiggy\_12:  
(Start: 6 @9041 has 36 MA's), (34, 9110), (107, 9371), (111, 9404),

Gene: Janeemi\_13 Start: 10130, Stop: 10543, Start Num: 6  
Candidate Starts for Janeemi\_13:  
(Start: 6 @10130 has 36 MA's), (25, 10175), (76, 10337), (79, 10349), (107, 10460), (111, 10493),

Gene: JanetJ\_12 Start: 8526, Stop: 8915, Start Num: 22  
Candidate Starts for JanetJ\_12:  
(Start: 22 @8526 has 7 MA's), (76, 8694), (83, 8739), (87, 8751), (105, 8823), (114, 8871),

Gene: JasmineDragon\_11 Start: 7286, Stop: 7681, Start Num: 9  
Candidate Starts for JasmineDragon\_11:  
(Start: 9 @7286 has 2 MA's), (76, 7478),

Gene: Joann\_14 Start: 10425, Stop: 10835, Start Num: 20  
Candidate Starts for Joann\_14:  
(Start: 20 @10425 has 12 MA's), (66, 10569), (67, 10578), (68, 10581), (76, 10611), (78, 10617), (81, 10650), (110, 10773), (115, 10797),

Gene: Joemato\_13 Start: 9040, Stop: 9453, Start Num: 6  
Candidate Starts for Joemato\_13:  
(Start: 6 @9040 has 36 MA's), (34, 9109), (79, 9259), (107, 9370), (111, 9403),

Gene: JohnDoe\_12 Start: 9038, Stop: 9451, Start Num: 6  
Candidate Starts for JohnDoe\_12:



(Start: 6 @9038 has 36 MA's), (34, 9107), (79, 9257), (107, 9368), (111, 9401),

Gene: Jstan\_12 Start: 9019, Stop: 9429, Start Num: 6

Candidate Starts for Jstan\_12:

(Start: 6 @9019 has 36 MA's), (34, 9088), (76, 9226), (79, 9238), (107, 9349), (111, 9382),

Gene: Jumboset\_14 Start: 10372, Stop: 10785, Start Num: 18

Candidate Starts for Jumboset\_14:

(Start: 18 @10372 has 62 MA's), (60, 10507), (66, 10522), (77, 10567), (83, 10609), (110, 10726),

Gene: JuneStar\_12 Start: 9135, Stop: 9548, Start Num: 6

Candidate Starts for JuneStar\_12:

(Start: 6 @9135 has 36 MA's), (107, 9465), (111, 9498),

Gene: Kalizoi\_14 Start: 10371, Stop: 10784, Start Num: 18

Candidate Starts for Kalizoi\_14:

(Start: 18 @10371 has 62 MA's), (60, 10506), (66, 10521), (77, 10566), (83, 10608), (110, 10725),

Gene: Kamaru\_12 Start: 7046, Stop: 7438, Start Num: 40

Candidate Starts for Kamaru\_12:

(1, 6917), (7, 6962), (Start: 10 @6968 has 2 MA's), (13, 6974), (21, 6992), (27, 7010), (Start: 40 @7046 has 18 MA's), (48, 7073), (59, 7118), (61, 7124), (65, 7136), (75, 7160), (80, 7199), (82, 7205), (88, 7220), (89, 7226), (101, 7277), (104, 7289), (112, 7343),

Gene: Kaylissa\_12 Start: 9041, Stop: 9454, Start Num: 6

Candidate Starts for Kaylissa\_12:

(Start: 6 @9041 has 36 MA's), (34, 9110), (79, 9260), (107, 9371), (111, 9404),

Gene: KeAlii\_12 Start: 9073, Stop: 9474, Start Num: 10

Candidate Starts for KeAlii\_12:

(Start: 10 @9073 has 2 MA's), (14, 9079), (79, 9280), (93, 9340), (111, 9424),

Gene: Kenna\_12 Start: 7041, Stop: 7451, Start Num: 40

Candidate Starts for Kenna\_12:

(1, 6912), (7, 6957), (Start: 10 @6963 has 2 MA's), (13, 6969), (21, 6987), (27, 7005), (Start: 40 @7041 has 18 MA's), (48, 7068), (59, 7113), (61, 7119), (75, 7173), (80, 7212), (82, 7218), (89, 7239), (101, 7290), (104, 7302),

Gene: KingBob\_10 Start: 7547, Stop: 7984, Start Num: 16

Candidate Starts for KingBob\_10:

(Start: 16 @7547 has 8 MA's), (Start: 18 @7553 has 62 MA's), (33, 7592), (34, 7595), (60, 7688), (66, 7703), (68, 7715), (70, 7724), (71, 7727), (77, 7748), (110, 7907),

Gene: Kittykat\_10 Start: 7557, Stop: 7967, Start Num: 18

Candidate Starts for Kittykat\_10:

(Start: 18 @7557 has 62 MA's), (60, 7689), (66, 7704), (77, 7749), (78, 7752), (110, 7908),

Gene: Korra\_14 Start: 10377, Stop: 10790, Start Num: 18

Candidate Starts for Korra\_14:

(Start: 18 @10377 has 62 MA's), (60, 10512), (66, 10527), (77, 10572), (83, 10614), (110, 10731),

Gene: Kromp\_13 Start: 9303, Stop: 9734, Start Num: 17

Candidate Starts for Kromp\_13:

(Start: 17 @9303 has 1 MA's), (55, 9426), (60, 9441), (62, 9447), (68, 9471), (72, 9495), (104, 9627), (113, 9687), (116, 9693), (117, 9696), (118, 9702),

Gene: Kumotta\_12 Start: 8443, Stop: 8820, Start Num: 22

Candidate Starts for Kumotta\_12:

(Start: 22 @8443 has 7 MA's), (70, 8584), (76, 8605), (78, 8611), (83, 8650), (98, 8707), (100, 8713), (109, 8749), (114, 8782),

Gene: Lakshmi\_14 Start: 10452, Stop: 10862, Start Num: 20

Candidate Starts for Lakshmi\_14:

(Start: 20 @10452 has 12 MA's), (66, 10596), (67, 10605), (68, 10608), (76, 10638), (78, 10644), (81, 10677), (110, 10800), (115, 10824),

Gene: Lasagna\_10 Start: 7514, Stop: 7924, Start Num: 18

Candidate Starts for Lasagna\_10:

(Start: 18 @7514 has 62 MA's), (51, 7607), (60, 7646), (66, 7661), (77, 7706), (83, 7748), (89, 7769), (110, 7865),

Gene: Lego\_12 Start: 9039, Stop: 9452, Start Num: 6

Candidate Starts for Lego\_12:

(Start: 6 @9039 has 36 MA's), (34, 9108), (79, 9258), (107, 9369), (111, 9402),

Gene: Lennox\_10 Start: 7514, Stop: 7924, Start Num: 18

Candidate Starts for Lennox\_10:

(Start: 18 @7514 has 62 MA's), (51, 7607), (60, 7646), (66, 7661), (77, 7706), (83, 7748), (89, 7769), (110, 7865),

Gene: Leroy\_12 Start: 7042, Stop: 7452, Start Num: 40

Candidate Starts for Leroy\_12:

(1, 6913), (7, 6958), (Start: 10 @6964 has 2 MA's), (13, 6970), (21, 6988), (Start: 40 @7042 has 18 MA's), (48, 7069), (59, 7114), (61, 7120), (75, 7174), (80, 7213), (82, 7219), (89, 7240), (101, 7291), (104, 7303),

Gene: Liebe\_11 Start: 7496, Stop: 7915, Start Num: 6

Candidate Starts for Liebe\_11:

(Start: 6 @7496 has 36 MA's), (Start: 16 @7514 has 8 MA's), (45, 7601), (78, 7715), (111, 7865),

Gene: LilStuart\_10 Start: 7514, Stop: 7924, Start Num: 18

Candidate Starts for LilStuart\_10:

(Start: 18 @7514 has 62 MA's), (51, 7607), (60, 7646), (66, 7661), (77, 7706), (83, 7748), (89, 7769), (110, 7865),

Gene: LitninMcQueen\_12 Start: 7046, Stop: 7438, Start Num: 40

Candidate Starts for LitninMcQueen\_12:

(1, 6917), (7, 6962), (Start: 10 @6968 has 2 MA's), (13, 6974), (21, 6992), (27, 7010), (Start: 40 @7046 has 18 MA's), (48, 7073), (59, 7118), (61, 7124), (65, 7136), (75, 7160), (80, 7199), (82, 7205), (88, 7220), (89, 7226), (101, 7277), (104, 7289), (112, 7343),

Gene: Litotes\_14 Start: 10399, Stop: 10809, Start Num: 18

Candidate Starts for Litotes\_14:

(Start: 18 @10399 has 62 MA's), (35, 10441), (66, 10543), (110, 10747),

Gene: Lizalica\_12 Start: 9025, Stop: 9438, Start Num: 6

Candidate Starts for Lizalica\_12:

(Start: 6 @9025 has 36 MA's), (34, 9094), (79, 9244), (107, 9355), (111, 9388),

Gene: London\_12 Start: 9019, Stop: 9429, Start Num: 6

Candidate Starts for London\_12:

(Start: 6 @9019 has 36 MA's), (34, 9088), (76, 9226), (79, 9238), (107, 9349), (111, 9382),

Gene: Lucy\_10 Start: 7505, Stop: 7915, Start Num: 18

Candidate Starts for Lucy\_10:

(Start: 18 @7505 has 62 MA's), (51, 7598), (60, 7637), (66, 7652), (77, 7697), (83, 7739), (89, 7760), (110, 7856),

Gene: Lutum\_12 Start: 7041, Stop: 7451, Start Num: 40

Candidate Starts for Lutum\_12:

(1, 6912), (7, 6957), (Start: 10 @6963 has 2 MA's), (13, 6969), (21, 6987), (27, 7005), (Start: 40 @7041 has 18 MA's), (48, 7068), (59, 7113), (61, 7119), (75, 7173), (80, 7212), (82, 7218), (89, 7239), (101, 7290), (104, 7302),

Gene: MaGuCo\_11 Start: 7435, Stop: 7851, Start Num: 8

Candidate Starts for MaGuCo\_11:

(Start: 8 @7435 has 5 MA's), (12, 7444), (Start: 16 @7450 has 8 MA's), (24, 7474), (45, 7537), (78, 7651), (111, 7801),

Gene: Mabodamaca\_11 Start: 8555, Stop: 8968, Start Num: 8

Candidate Starts for Mabodamaca\_11:

(Start: 8 @8555 has 5 MA's), (60, 8696),

Gene: Maja\_11 Start: 8064, Stop: 8444, Start Num: 22

Candidate Starts for Maja\_11:

(Start: 22 @8064 has 7 MA's), (38, 8112), (49, 8142), (70, 8208), (76, 8229), (78, 8235), (100, 8337), (109, 8373), (114, 8406),

Gene: Makoto\_10 Start: 7514, Stop: 7924, Start Num: 18

Candidate Starts for Makoto\_10:

(Start: 18 @7514 has 62 MA's), (51, 7607), (60, 7646), (66, 7661), (77, 7706), (83, 7748), (89, 7769), (110, 7865),

Gene: Malisha\_12 Start: 8091, Stop: 8501, Start Num: 40

Candidate Starts for Malisha\_12:

(7, 8007), (Start: 10 @8013 has 2 MA's), (Start: 40 @8091 has 18 MA's), (61, 8169), (65, 8181), (75, 8223), (80, 8262), (82, 8268), (88, 8283), (89, 8289), (98, 8328), (104, 8352), (112, 8406),

Gene: MamaPearl\_10 Start: 7558, Stop: 7971, Start Num: 18

Candidate Starts for MamaPearl\_10:

(Start: 18 @7558 has 62 MA's), (41, 7621), (66, 7705), (77, 7750), (78, 7753), (83, 7792), (99, 7852), (110, 7909),

Gene: MargaretKali\_12 Start: 8078, Stop: 8455, Start Num: 22

Candidate Starts for MargaretKali\_12:

(Start: 22 @8078 has 7 MA's), (43, 8135), (70, 8219), (76, 8240), (78, 8246), (83, 8285), (98, 8342), (100, 8348), (109, 8384), (114, 8417),

Gene: Maria1952\_10 Start: 7547, Stop: 7984, Start Num: 16

Candidate Starts for Maria1952\_10:

(Start: 16 @7547 has 8 MA's), (Start: 18 @7553 has 62 MA's), (33, 7592), (34, 7595), (60, 7688), (66, 7703), (68, 7715), (70, 7724), (71, 7727), (77, 7748), (110, 7907),

Gene: Maureen\_11 Start: 7496, Stop: 7915, Start Num: 6

Candidate Starts for Maureen\_11:

(Start: 6 @7496 has 36 MA's), (Start: 16 @7514 has 8 MA's), (45, 7601), (78, 7715), (111, 7865),

Gene: MeganNoll\_14 Start: 10429, Stop: 10842, Start Num: 18

Candidate Starts for MeganNoll\_14:

(Start: 18 @10429 has 62 MA's), (60, 10564), (66, 10579), (71, 10603), (77, 10624), (83, 10666), (110, 10783),

Gene: MiniMommy\_10 Start: 7286, Stop: 7681, Start Num: 9

Candidate Starts for MiniMommy\_10:

(Start: 9 @7286 has 2 MA's), (76, 7478),

Gene: Misaeng\_14 Start: 10498, Stop: 10908, Start Num: 20

Candidate Starts for Misaeng\_14:

(Start: 20 @10498 has 12 MA's), (66, 10642), (67, 10651), (68, 10654), (76, 10684), (78, 10690), (81, 10723), (110, 10846), (115, 10870),

Gene: MissSwiss\_12 Start: 9018, Stop: 9434, Start Num: 5

Candidate Starts for MissSwiss\_12:

(Start: 5 @9018 has 8 MA's), (27, 9066), (78, 9234),

Gene: Moki\_10 Start: 7516, Stop: 7926, Start Num: 18

Candidate Starts for Moki\_10:

(Start: 18 @7516 has 62 MA's), (60, 7648), (66, 7663), (77, 7708), (78, 7711), (83, 7750), (110, 7867),

Gene: Moss\_14 Start: 8547, Stop: 8966, Start Num: 5

Candidate Starts for Moss\_14:

(Start: 5 @8547 has 8 MA's), (24, 8589), (102, 8871),

Gene: MrGloopy\_14 Start: 10362, Stop: 10775, Start Num: 18

Candidate Starts for MrGloopy\_14:

(Start: 18 @10362 has 62 MA's), (60, 10497), (66, 10512), (77, 10557), (83, 10599), (110, 10716),

Gene: Mudpuppy\_12 Start: 9039, Stop: 9452, Start Num: 6

Candidate Starts for Mudpuppy\_12:

(Start: 6 @9039 has 36 MA's), (34, 9108), (79, 9258), (107, 9369), (111, 9402),

Gene: Nancia\_10 Start: 7514, Stop: 7924, Start Num: 18

Candidate Starts for Nancia\_10:

(Start: 18 @7514 has 62 MA's), (51, 7607), (60, 7646), (66, 7661), (77, 7706), (83, 7748), (89, 7769), (110, 7865),

Gene: Nesbitt\_11 Start: 7855, Stop: 8250, Start Num: 20

Candidate Starts for Nesbitt\_11:

(Start: 20 @7855 has 12 MA's), (24, 7867), (31, 7888), (35, 7897), (51, 7936), (56, 7960), (63, 7981), (78, 8035), (92, 8101), (94, 8107), (106, 8164), (112, 8212),

Gene: Niobe\_12 Start: 9019, Stop: 9429, Start Num: 6

Candidate Starts for Niobe\_12:

(Start: 6 @9019 has 36 MA's), (34, 9088), (76, 9226), (79, 9238), (107, 9349), (111, 9382),

Gene: Nitro\_12 Start: 9042, Stop: 9452, Start Num: 6

Candidate Starts for Nitro\_12:

(Start: 6 @9042 has 36 MA's), (25, 9087), (34, 9111), (107, 9372), (111, 9405),

Gene: Nubia\_14 Start: 10412, Stop: 10822, Start Num: 20

Candidate Starts for Nubia\_14:

(Start: 20 @10412 has 12 MA's), (66, 10556), (67, 10565), (68, 10568), (76, 10598), (78, 10604), (81, 10637), (110, 10760), (115, 10784),

Gene: OMalley\_10 Start: 7551, Stop: 7982, Start Num: 18

Candidate Starts for OMalley\_10:

(Start: 16 @7545 has 8 MA's), (Start: 18 @7551 has 62 MA's), (26, 7572), (50, 7644), (66, 7701), (68, 7713), (70, 7722), (77, 7746), (110, 7905),

Gene: ObiToo\_12 Start: 9222, Stop: 9635, Start Num: 6

Candidate Starts for ObiToo\_12:

(Start: 6 @9222 has 36 MA's), (34, 9291), (76, 9429), (79, 9441), (107, 9552), (111, 9585),

Gene: OurGirlNessie\_10 Start: 7505, Stop: 7915, Start Num: 18

Candidate Starts for OurGirlNessie\_10:

(Start: 18 @7505 has 62 MA's), (51, 7598), (60, 7637), (66, 7652), (77, 7697), (83, 7739), (89, 7760), (110, 7856),

Gene: Oxynfrius\_14 Start: 10425, Stop: 10835, Start Num: 20

Candidate Starts for Oxynfrius\_14:

(Start: 20 @10425 has 12 MA's), (66, 10569), (67, 10578), (68, 10581), (76, 10611), (78, 10617), (81, 10650), (110, 10773), (115, 10797),

Gene: PFR1\_09 Start: 7693, Stop: 8106, Start Num: 15

Candidate Starts for PFR1\_09:

(15, 7693), (25, 7720), (28, 7732), (30, 7735), (44, 7771), (47, 7783), (54, 7810), (58, 7825), (66, 7849), (69, 7861), (73, 7882), (85, 7933), (95, 7963), (101, 7996),

Gene: PFR2\_09 Start: 7693, Stop: 8106, Start Num: 15

Candidate Starts for PFR2\_09:

(15, 7693), (25, 7720), (28, 7732), (30, 7735), (44, 7771), (47, 7783), (54, 7810), (58, 7825), (66, 7849), (69, 7861), (73, 7882), (85, 7933), (95, 7963), (101, 7996),

Gene: PartyCup\_14 Start: 10446, Stop: 10856, Start Num: 18

Candidate Starts for PartyCup\_14:

(Start: 18 @10446 has 62 MA's), (35, 10488), (66, 10590), (110, 10794),

Gene: Percival\_11 Start: 9171, Stop: 9593, Start Num: 6

Candidate Starts for Percival\_11:

(Start: 6 @9171 has 36 MA's), (45, 9264), (46, 9270), (52, 9285), (76, 9375), (81, 9414), (88, 9432), (115, 9543),

Gene: Periwinkle\_12 Start: 7041, Stop: 7433, Start Num: 40

Candidate Starts for Periwinkle\_12:

(1, 6912), (7, 6957), (Start: 10 @6963 has 2 MA's), (13, 6969), (Start: 40 @7041 has 18 MA's), (48, 7068), (57, 7107), (59, 7113), (61, 7119), (65, 7131), (75, 7155), (80, 7194), (82, 7200), (86, 7212), (89, 7221), (101, 7272), (104, 7284),

Gene: Phabuloso\_12 Start: 7046, Stop: 7438, Start Num: 40

Candidate Starts for Phabuloso\_12:

(1, 6917), (7, 6962), (Start: 10 @6968 has 2 MA's), (13, 6974), (21, 6992), (27, 7010), (Start: 40 @7046 has 18 MA's), (48, 7073), (59, 7118), (61, 7124), (65, 7136), (75, 7160), (80, 7199), (82, 7205), (88, 7220), (89, 7226), (101, 7277), (104, 7289), (112, 7343),

Gene: Phistory\_12 Start: 7030, Stop: 7422, Start Num: 40

Candidate Starts for Phistory\_12:

(1, 6901), (7, 6946), (Start: 10 @6952 has 2 MA's), (13, 6958), (21, 6976), (27, 6994), (Start: 40 @7030 has 18 MA's), (48, 7057), (59, 7102), (61, 7108), (65, 7120), (75, 7144), (82, 7189), (88, 7204), (89, 7210), (101, 7261), (104, 7273),

Gene: Phives\_13 Start: 10124, Stop: 10537, Start Num: 6

Candidate Starts for Phives\_13:

(Start: 6 @10124 has 36 MA's), (25, 10169), (79, 10343), (107, 10454), (111, 10487),

Gene: PinkFriday\_10 Start: 7554, Stop: 7982, Start Num: 18

Candidate Starts for PinkFriday\_10:

(Start: 16 @7548 has 8 MA's), (Start: 18 @7554 has 62 MA's), (60, 7686), (66, 7701), (68, 7713), (70, 7722), (71, 7725), (77, 7746), (110, 7905),

Gene: PitaDog\_10 Start: 7505, Stop: 7915, Start Num: 18

Candidate Starts for PitaDog\_10:

(Start: 18 @7505 has 62 MA's), (51, 7598), (60, 7637), (66, 7652), (77, 7697), (83, 7739), (89, 7760), (110, 7856),

Gene: Pixelle\_12 Start: 9067, Stop: 9480, Start Num: 6

Candidate Starts for Pixelle\_12:

(Start: 6 @9067 has 36 MA's), (25, 9112), (107, 9397), (111, 9430),

Gene: Potatoes\_14 Start: 10423, Stop: 10836, Start Num: 18

Candidate Starts for Potatoes\_14:

(Start: 18 @10423 has 62 MA's), (60, 10558), (66, 10573), (77, 10618), (83, 10660), (110, 10777),

Gene: Powerpuff\_12 Start: 9090, Stop: 9503, Start Num: 6

Candidate Starts for Powerpuff\_12:

(Start: 6 @9090 has 36 MA's), (34, 9159), (79, 9309), (107, 9420), (111, 9453),

Gene: Preamble\_10 Start: 7515, Stop: 7925, Start Num: 18

Candidate Starts for Preamble\_10:

(Start: 18 @7515 has 62 MA's), (60, 7647), (66, 7662), (78, 7710), (110, 7866),

Gene: Pterodactyl\_10 Start: 7506, Stop: 7916, Start Num: 18

Candidate Starts for Pterodactyl\_10:

(Start: 18 @7506 has 62 MA's), (51, 7599), (60, 7638), (66, 7653), (77, 7698), (83, 7740), (89, 7761), (110, 7857),

Gene: Pumancara\_10 Start: 7547, Stop: 7981, Start Num: 16

Candidate Starts for Pumancara\_10:

(Start: 16 @7547 has 8 MA's), (Start: 18 @7553 has 62 MA's), (60, 7685), (66, 7700), (68, 7712), (70, 7721), (71, 7724), (77, 7745), (110, 7904),

Gene: Pumpkins\_22 Start: 9144, Stop: 9557, Start Num: 6

Candidate Starts for Pumpkins\_22:

(Start: 6 @9144 has 36 MA's), (34, 9213), (107, 9474), (111, 9507),

Gene: RAP15\_14 Start: 10429, Stop: 10842, Start Num: 18

Candidate Starts for RAP15\_14:

(Start: 18 @10429 has 62 MA's), (60, 10564), (66, 10579), (77, 10624), (83, 10666), (110, 10783),

Gene: RcigaStruga\_14 Start: 10433, Stop: 10843, Start Num: 20

Candidate Starts for RcigaStruga\_14:

(Start: 20 @10433 has 12 MA's), (66, 10577), (67, 10586), (68, 10589), (76, 10619), (78, 10625), (81, 10658), (110, 10781), (115, 10805),

Gene: Reedo\_12 Start: 9091, Stop: 9489, Start Num: 10

Candidate Starts for Reedo\_12:

(Start: 10 @9091 has 2 MA's), (76, 9286), (78, 9292), (90, 9352), (111, 9442),

Gene: Riovina\_10 Start: 7551, Stop: 7982, Start Num: 18

Candidate Starts for Riovina\_10:

(Start: 16 @7545 has 8 MA's), (Start: 18 @7551 has 62 MA's), (26, 7572), (50, 7644), (66, 7701), (68, 7713), (70, 7722), (77, 7746), (110, 7905),

Gene: Riverdale\_14 Start: 10360, Stop: 10773, Start Num: 18

Candidate Starts for Riverdale\_14:

(Start: 18 @10360 has 62 MA's), (60, 10495), (66, 10510), (77, 10555), (83, 10597), (110, 10714),

Gene: Rowa\_11 Start: 7599, Stop: 8018, Start Num: 9

Candidate Starts for Rowa\_11:

(Start: 9 @7599 has 2 MA's), (Start: 11 @7602 has 1 MA's), (Start: 20 @7620 has 12 MA's), (34, 7659), (53, 7710), (91, 7863), (94, 7872), (102, 7917), (106, 7929), (119, 8004),

Gene: Rozby\_14 Start: 10360, Stop: 10773, Start Num: 18

Candidate Starts for Rozby\_14:

(Start: 18 @10360 has 62 MA's), (60, 10495), (66, 10510), (77, 10555), (83, 10597), (110, 10714),

Gene: SPB78\_12 Start: 8026, Stop: 8427, Start Num: 21

Candidate Starts for SPB78\_12:

(Start: 20 @8023 has 12 MA's), (21, 8026), (46, 8104), (49, 8110), (53, 8128), (60, 8155), (87, 8269),

Gene: Sarge\_11 Start: 7513, Stop: 7890, Start Num: 22

Candidate Starts for Sarge\_11:

(Start: 22 @7513 has 7 MA's), (62, 7627), (70, 7654), (76, 7675), (98, 7777), (100, 7783), (109, 7819), (114, 7852),

Gene: Savage2526\_14 Start: 10423, Stop: 10836, Start Num: 18

Candidate Starts for Savage2526\_14:

(Start: 18 @10423 has 62 MA's), (60, 10558), (66, 10573), (77, 10618), (83, 10660), (110, 10777),

Gene: Scuttle\_14 Start: 10429, Stop: 10842, Start Num: 18

Candidate Starts for Scuttle\_14:

(Start: 18 @10429 has 62 MA's), (60, 10564), (66, 10579), (77, 10624), (83, 10666), (110, 10783),

Gene: Sergei\_10 Start: 7547, Stop: 7984, Start Num: 16

Candidate Starts for Sergei\_10:

(Start: 16 @7547 has 8 MA's), (Start: 18 @7553 has 62 MA's), (33, 7592), (34, 7595), (60, 7688), (66, 7703), (68, 7715), (70, 7724), (71, 7727), (77, 7748), (110, 7907),

Gene: ShakeltOph\_11 Start: 7286, Stop: 7681, Start Num: 9

Candidate Starts for ShakeltOph\_11:

(Start: 9 @7286 has 2 MA's), (76, 7478),

Gene: Shambre1\_12 Start: 8782, Stop: 9204, Start Num: 23

Candidate Starts for Shambre1\_12:

(Start: 23 @8782 has 3 MA's), (39, 8827), (42, 8836), (108, 9097), (120, 9163), (121, 9181),

Gene: Shoya\_10 Start: 7149, Stop: 7526, Start Num: 22

Candidate Starts for Shoya\_10:

(Start: 22 @7149 has 7 MA's), (62, 7263), (70, 7290), (76, 7311), (100, 7419), (109, 7455), (114, 7488),

Gene: Simpson\_13 Start: 9040, Stop: 9453, Start Num: 6

Candidate Starts for Simpson\_13:

(Start: 6 @9040 has 36 MA's), (34, 9109), (79, 9259), (107, 9370), (111, 9403),

Gene: Snek\_12 Start: 8127, Stop: 8540, Start Num: 5

Candidate Starts for Snek\_12:

(Start: 5 @8127 has 8 MA's), (60, 8280), (119, 8523),

Gene: Soondubu\_11 Start: 8928, Stop: 9338, Start Num: 8

Candidate Starts for Soondubu\_11:

(Start: 8 @8928 has 5 MA's), (46, 9030), (111, 9291),

Gene: Spartoi\_10 Start: 6599, Stop: 7030, Start Num: 3

Candidate Starts for Spartoi\_10:

(Start: 3 @6599 has 1 MA's), (Start: 16 @6635 has 8 MA's), (29, 6668), (32, 6674), (37, 6689), (66, 6785),

Gene: Spooky\_12 Start: 7039, Stop: 7449, Start Num: 40

Candidate Starts for Spooky\_12:

(7, 6955), (Start: 10 @6961 has 2 MA's), (13, 6967), (Start: 40 @7039 has 18 MA's), (59, 7111), (61, 7117), (65, 7129), (75, 7171), (80, 7210), (82, 7216), (89, 7237), (98, 7276), (104, 7300), (112, 7354),

Gene: Squiddly\_13 Start: 7726, Stop: 8118, Start Num: 40

Candidate Starts for Squiddly\_13:

(1, 7597), (7, 7642), (Start: 10 @7648 has 2 MA's), (13, 7654), (21, 7672), (27, 7690), (Start: 40 @7726 has 18 MA's), (48, 7753), (59, 7798), (61, 7804), (65, 7816), (75, 7840), (82, 7885), (88, 7900), (89, 7906), (101, 7957), (104, 7969),

Gene: SuMoo\_10 Start: 7515, Stop: 7928, Start Num: 8

Candidate Starts for SuMoo\_10:

(Start: 8 @7515 has 5 MA's),

Gene: Sue2\_12 Start: 9043, Stop: 9456, Start Num: 5



Candidate Starts for Sue2\_12:  
(2, 9007), (Start: 5 @9043 has 8 MA's),

Gene: Supakev\_10 Start: 7553, Stop: 7984, Start Num: 18  
Candidate Starts for Supakev\_10:  
(Start: 16 @7547 has 8 MA's), (Start: 18 @7553 has 62 MA's), (26, 7574), (50, 7646), (68, 7715), (70, 7724), (77, 7748), (110, 7907),

Gene: Suppi\_14 Start: 10446, Stop: 10859, Start Num: 18  
Candidate Starts for Suppi\_14:  
(Start: 18 @10446 has 62 MA's), (35, 10491), (66, 10593), (89, 10701), (110, 10797),

Gene: Tallboi\_12 Start: 9050, Stop: 9463, Start Num: 6  
Candidate Starts for Tallboi\_12:  
(Start: 6 @9050 has 36 MA's), (25, 9095), (34, 9119), (107, 9380), (111, 9413),

Gene: TattModd\_14 Start: 10423, Stop: 10836, Start Num: 18  
Candidate Starts for TattModd\_14:  
(Start: 18 @10423 has 62 MA's), (60, 10558), (66, 10573), (77, 10618), (83, 10660), (110, 10777),

Gene: Tbone\_12 Start: 9033, Stop: 9446, Start Num: 6  
Candidate Starts for Tbone\_12:  
(Start: 6 @9033 has 36 MA's), (34, 9102), (79, 9252), (107, 9363), (111, 9396),

Gene: Temper16\_10 Start: 7547, Stop: 7984, Start Num: 16  
Candidate Starts for Temper16\_10:  
(Start: 16 @7547 has 8 MA's), (Start: 18 @7553 has 62 MA's), (33, 7592), (34, 7595), (60, 7688), (66, 7703), (68, 7715), (70, 7724), (71, 7727), (77, 7748), (110, 7907),

Gene: TforTroy\_12 Start: 9164, Stop: 9577, Start Num: 6  
Candidate Starts for TforTroy\_12:  
(Start: 6 @9164 has 36 MA's), (107, 9494), (111, 9527),

Gene: Tian\_12 Start: 9064, Stop: 9477, Start Num: 6  
Candidate Starts for Tian\_12:  
(Start: 6 @9064 has 36 MA's), (25, 9109), (79, 9283), (107, 9394), (111, 9427),

Gene: Tuck\_13 Start: 10079, Stop: 10489, Start Num: 6  
Candidate Starts for Tuck\_13:  
(Start: 6 @10079 has 36 MA's), (25, 10124), (79, 10298), (107, 10409), (111, 10442),

Gene: Turab\_12 Start: 9048, Stop: 9458, Start Num: 6  
Candidate Starts for Turab\_12:  
(Start: 6 @9048 has 36 MA's), (25, 9093), (34, 9117), (107, 9378), (111, 9411),

Gene: Tutumahutu\_12 Start: 9090, Stop: 9503, Start Num: 6  
Candidate Starts for Tutumahutu\_12:  
(Start: 6 @9090 has 36 MA's), (34, 9159), (79, 9309), (107, 9420), (111, 9453),

Gene: Tweety19\_12 Start: 8126, Stop: 8539, Start Num: 5  
Candidate Starts for Tweety19\_12:  
(Start: 5 @8126 has 8 MA's), (60, 8279), (119, 8522),

Gene: Urla\_10 Start: 7561, Stop: 7974, Start Num: 18  
Candidate Starts for Urla\_10:  
(Start: 18 @7561 has 62 MA's), (60, 7693), (66, 7708), (77, 7753), (78, 7756), (83, 7795), (99, 7855),  
(110, 7912),

Gene: UtzChips\_10 Start: 8204, Stop: 8620, Start Num: 8  
Candidate Starts for UtzChips\_10:  
(Start: 8 @8204 has 5 MA's), (81, 8444), (97, 8501),

Gene: VResidence\_12 Start: 9113, Stop: 9535, Start Num: 5  
Candidate Starts for VResidence\_12:  
(Start: 5 @9113 has 8 MA's), (78, 9335), (96, 9422), (103, 9443), (107, 9452),

Gene: VWB\_11 Start: 8079, Stop: 8474, Start Num: 22  
Candidate Starts for VWB\_11:  
(19, 8073), (Start: 22 @8079 has 7 MA's), (27, 8094), (49, 8160), (71, 8244), (84, 8310), (117, 8454),

Gene: Vallejo\_14 Start: 10361, Stop: 10774, Start Num: 18  
Candidate Starts for Vallejo\_14:  
(Start: 18 @10361 has 62 MA's), (60, 10496), (66, 10511), (77, 10556), (83, 10598), (110, 10715),

Gene: VroomVroom\_11 Start: 7298, Stop: 7693, Start Num: 9  
Candidate Starts for VroomVroom\_11:  
(Start: 9 @7298 has 2 MA's), (76, 7490),

Gene: Vulture\_10 Start: 7551, Stop: 7982, Start Num: 18  
Candidate Starts for Vulture\_10:  
(Start: 16 @7545 has 8 MA's), (Start: 18 @7551 has 62 MA's), (26, 7572), (50, 7644), (68, 7713), (70,  
7722), (77, 7746), (110, 7905),

Gene: Warda\_12 Start: 9036, Stop: 9449, Start Num: 6  
Candidate Starts for Warda\_12:  
(Start: 6 @9036 has 36 MA's), (34, 9105), (79, 9255), (107, 9366), (111, 9399),

Gene: Wawa\_14 Start: 10398, Stop: 10811, Start Num: 18  
Candidate Starts for Wawa\_14:  
(Start: 18 @10398 has 62 MA's), (60, 10533), (66, 10548), (77, 10593), (83, 10635), (110, 10752),

Gene: Wayne\_14 Start: 10492, Stop: 10905, Start Num: 18  
Candidate Starts for Wayne\_14:  
(Start: 18 @10492 has 62 MA's), (35, 10537), (66, 10639), (89, 10747), (110, 10843),

Gene: Whitney\_12 Start: 7041, Stop: 7433, Start Num: 40  
Candidate Starts for Whitney\_12:  
(1, 6912), (7, 6957), (Start: 10 @6963 has 2 MA's), (13, 6969), (21, 6987), (Start: 40 @7041 has 18  
MA's), (48, 7068), (57, 7107), (59, 7113), (61, 7119), (65, 7131), (75, 7155), (80, 7194), (82, 7200),  
(86, 7212), (89, 7221), (101, 7272), (104, 7284),

Gene: Wildwest\_13 Start: 9954, Stop: 10370, Start Num: 5  
Candidate Starts for Wildwest\_13:  
(Start: 5 @9954 has 8 MA's), (60, 10107), (78, 10170), (103, 10278),

Gene: WonderBoy\_10 Start: 7514, Stop: 7924, Start Num: 18

Candidate Starts for WonderBoy\_10:

(Start: 18 @7514 has 62 MA's), (41, 7577), (60, 7646), (66, 7661), (77, 7706), (83, 7748), (110, 7865),

Gene: Yang\_12 Start: 9134, Stop: 9547, Start Num: 6

Candidate Starts for Yang\_12:

(Start: 6 @9134 has 36 MA's), (107, 9464), (111, 9497),

Gene: YesChef\_12 Start: 9090, Stop: 9503, Start Num: 6

Candidate Starts for YesChef\_12:

(Start: 6 @9090 has 36 MA's), (34, 9159), (79, 9309), (107, 9420), (111, 9453),

Gene: Zeta1847\_10 Start: 7300, Stop: 7692, Start Num: 5

Candidate Starts for Zeta1847\_10:

(Start: 5 @7300 has 8 MA's), (60, 7444), (64, 7453),

Gene: Zorro\_14 Start: 10377, Stop: 10790, Start Num: 18

Candidate Starts for Zorro\_14:

(Start: 18 @10377 has 62 MA's), (60, 10512), (66, 10527), (77, 10572), (83, 10614), (110, 10731),