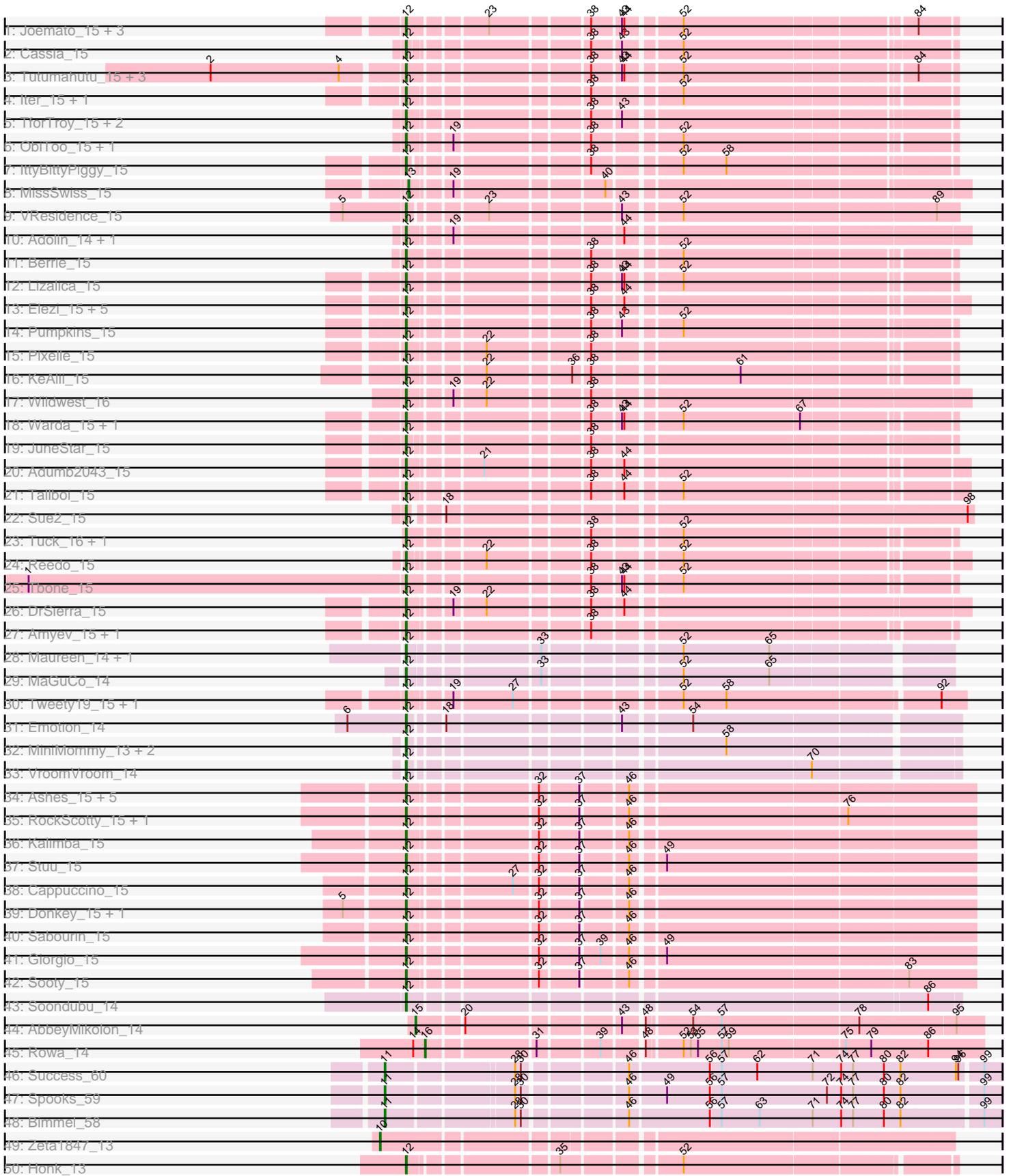
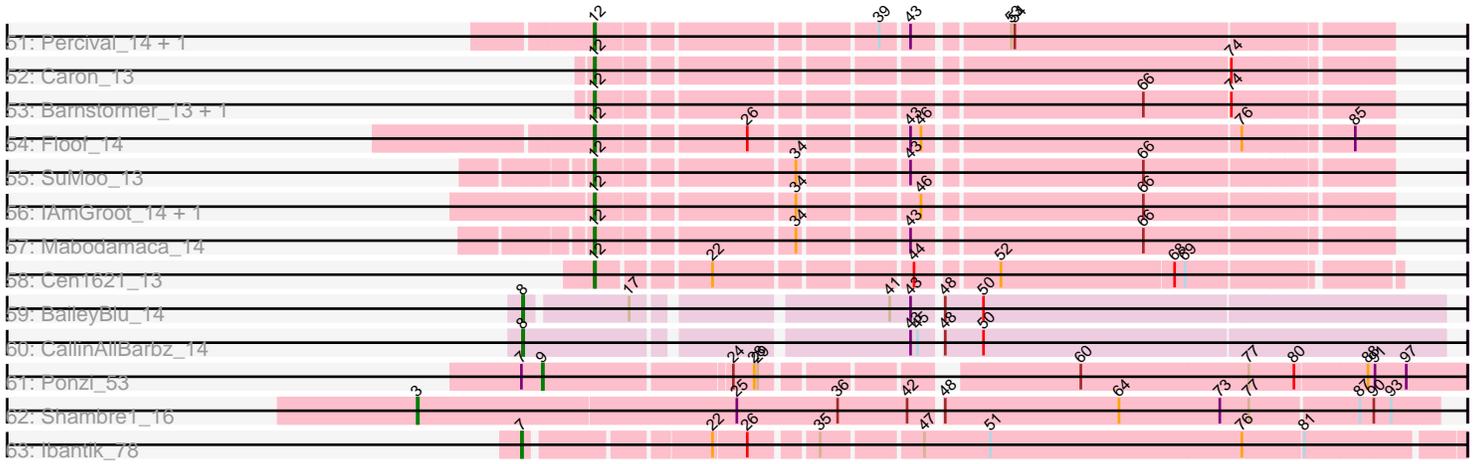


Pham 291024



Pham 291024



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 291024 Report

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

Pham number 291024 has 96 members, 0 are drafts.

Phages represented in each track:

- Track 1 : Joemato\_15, JohnDoe\_15, Kaylissa\_15, Cyan\_15
- Track 2 : Cassia\_15
- Track 3 : Tutumahutu\_15, Lego\_15, YesChef\_15, Powerpuff\_15
- Track 4 : lter\_15, Ascela\_15
- Track 5 : TforTroy\_15, Yang\_15, Schaffner\_15
- Track 6 : ObiToo\_15, Crewmate\_16
- Track 7 : IttyBittyPiggy\_15
- Track 8 : MissSwiss\_15
- Track 9 : VResidence\_15
- Track 10 : Adolin\_14, DrManhattan\_15
- Track 11 : Berrie\_15
- Track 12 : Lizalica\_15
- Track 13 : Elezi\_15, Nitro\_15, Eraser\_15, London\_15, Niobe\_15, Asa16\_15
- Track 14 : Pumpkins\_15
- Track 15 : Pixelle\_15
- Track 16 : KeAlii\_15
- Track 17 : Wildwest\_16
- Track 18 : Warda\_15, Mudpuppy\_15
- Track 19 : JuneStar\_15
- Track 20 : Adumb2043\_15
- Track 21 : Tallboi\_15
- Track 22 : Sue2\_15
- Track 23 : Tuck\_16, Janeemi\_16
- Track 24 : Reedo\_15
- Track 25 : Tbone\_15
- Track 26 : DrSierra\_15
- Track 27 : Amyev\_15, Phives\_16
- Track 28 : Maureen\_14, Liebe\_14
- Track 29 : MaGuCo\_14
- Track 30 : Tweety19\_15, Snek\_15
- Track 31 : Emotion\_14
- Track 32 : MiniMommy\_13, JasmineDragon\_14, ShakeltOph\_14
- Track 33 : VroomVroom\_14
- Track 34 : Ashes\_15, Mysterium\_15, SpecialK\_15, Halsey\_15, Beaupre\_15, Gumpizza\_15
- Track 35 : RockScotty\_15, Moss\_15
- Track 36 : Kalimba\_15

- Track 37 : Stuu\_15
- Track 38 : Cappuccino\_15
- Track 39 : Donkey\_15, Gambol\_15
- Track 40 : Sabourin\_15
- Track 41 : Giorgio\_15
- Track 42 : Sooty\_15
- Track 43 : Soondubu\_14
- Track 44 : AbbeyMikolon\_14
- Track 45 : Rowa\_14
- Track 46 : Success\_60
- Track 47 : Spooks\_59
- Track 48 : Bimmel\_58
- Track 49 : Zeta1847\_13
- Track 50 : Honk\_13
- Track 51 : Percival\_14, Gretchen\_14
- Track 52 : Caron\_13
- Track 53 : Barnstormer\_13, UtzChips\_13
- Track 54 : Floof\_14
- Track 55 : SuMoo\_13
- Track 56 : IAmGroot\_14, GardenState\_14
- Track 57 : Mabodamaca\_14
- Track 58 : Cen1621\_13
- Track 59 : BaileyBlu\_14
- Track 60 : CallinAllBarbz\_14
- Track 61 : Ponzi\_53
- Track 62 : Shambre1\_16
- Track 63 : Ibantik\_78

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

The start number called the most often in the published annotations is 12, it was called in 84 of the 96 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

• Adolin\_14, Adumb2043\_15, Amyev\_15, Asa16\_15, Ascela\_15, Ashes\_15, Barnstormer\_13, Beaupre\_15, Berrie\_15, Cappuccino\_15, Caron\_13, Cassia\_15, Cen1621\_13, Crewmate\_16, Cyan\_15, Donkey\_15, DrManhattan\_15, DrSierra\_15, Elezi\_15, Emotion\_14, Eraser\_15, Floof\_14, Gambol\_15, GardenState\_14, Giorgio\_15, Gretchen\_14, Gumpizza\_15, Halsey\_15, Honk\_13, IAmGroot\_14, Iter\_15, IttyBittyPiggy\_15, Janeemi\_16, JasmineDragon\_14, Joemato\_15, JohnDoe\_15, JuneStar\_15, Kalimba\_15, Kaylissa\_15, KeAlii\_15, Lego\_15, Liebe\_14, Lizalica\_15, London\_15, MaGuCo\_14, Mabodamaca\_14, Maureen\_14, MiniMommy\_13, Moss\_15, Mudpuppy\_15, Mysterium\_15, Niobe\_15, Nitro\_15, ObiToo\_15, Percival\_14, Phives\_16, Pixelle\_15, Powerpuff\_15, Pumpkins\_15, Reedo\_15, RockScotty\_15, Sabourin\_15, Schaffner\_15, ShakeltOph\_14, Snek\_15, Soondubu\_14, Sooty\_15, SpecialK\_15, Stuu\_15, SuMoo\_13, Sue2\_15, Tallboi\_15, Tbone\_15, TforTroy\_15, Tuck\_16, Tutumahutu\_15, Tweety19\_15, UtzChips\_13, VResidence\_15, VroomVroom\_14, Warda\_15, Wildwest\_16, Yang\_15, YesChef\_15,

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

- 

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

- AbbeyMikolon\_14, BaileyBlu\_14, Bimmel\_58, CallinAllBarbz\_14, Ibantik\_78, MissSwiss\_15, Ponzi\_53, Rowa\_14, Shambre1\_16, Spooks\_59, Success\_60, Zeta1847\_13,

### Summary by start number:

Start 3:

- Found in 1 of 96 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 1 of 96
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Shambre1\_16 (singleton),

Start 7:

- Found in 2 of 96 ( 2.1% ) of genes in pham
- Manual Annotations of this start: 1 of 96
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Ibantik\_78 (singleton),

Start 8:

- Found in 2 of 96 ( 2.1% ) of genes in pham
- Manual Annotations of this start: 2 of 96
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BaileyBlu\_14 (FP), CallinAllBarbz\_14 (FP),

Start 9:

- Found in 1 of 96 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 1 of 96
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ponzi\_53 (singleton),

Start 10:

- Found in 1 of 96 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 1 of 96
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Zeta1847\_13 (EH),

Start 11:

- Found in 3 of 96 ( 3.1% ) of genes in pham
- Manual Annotations of this start: 3 of 96
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bimmel\_58 (BT), Spooks\_59 (BT), Success\_60 (BT),

Start 12:

- Found in 84 of 96 ( 87.5% ) of genes in pham
- Manual Annotations of this start: 84 of 96
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Adolin\_14 (AZ1), Adumb2043\_15 (AZ1), Amyev\_15 (AZ1), Asa16\_15 (AZ1), Ascela\_15 (AZ1), Ashes\_15 (AZ5),

Barnstormer\_13 (EH), Beaupre\_15 (AZ5), Berrie\_15 (AZ1), Cappuccino\_15 (AZ5), Caron\_13 (EH), Cassia\_15 (AZ1), Cen1621\_13 (EH), Crewmate\_16 (AZ1), Cyan\_15 (AZ1), Donkey\_15 (AZ5), DrManhattan\_15 (AZ1), DrSierra\_15 (AZ1), Elezi\_15 (AZ1), Emotion\_14 (AZ4), Eraser\_15 (AZ1), Floof\_14 (EH), Gambol\_15 (AZ5), GardenState\_14 (EH), Giorgio\_15 (AZ5), Gretchen\_14 (EH), Gumpizza\_15 (AZ5), Halsey\_15 (AZ5), Honk\_13 (EH), IAmGroot\_14 (EH), Iter\_15 (AZ1), IttyBittyPiggy\_15 (AZ1), Janeemi\_16 (AZ1), JasmineDragon\_14 (AZ4), Joemato\_15 (AZ1), JohnDoe\_15 (AZ1), JuneStar\_15 (AZ1), Kalimba\_15 (AZ5), Kaylissa\_15 (AZ1), KeAlii\_15 (AZ1), Lego\_15 (AZ1), Liebe\_14 (AZ2), Lizalica\_15 (AZ1), London\_15 (AZ1), MaGuCo\_14 (AZ2), Mabodamaca\_14 (EH), Maureen\_14 (AZ2), MiniMommy\_13 (AZ4), Moss\_15 (AZ5), Mudpuppy\_15 (AZ1), Mysterium\_15 (AZ5), Niobe\_15 (AZ1), Nitro\_15 (AZ1), ObiToo\_15 (AZ1), Percival\_14 (EH), Phives\_16 (AZ1), Pixelle\_15 (AZ1), Powerpuff\_15 (AZ1), Pumpkins\_15 (AZ1), Reedo\_15 (AZ1), RockScotty\_15 (AZ5), Sabourin\_15 (AZ5), Schaffner\_15 (AZ1), ShakeltOph\_14 (AZ4), Snek\_15 (AZ3), Soondubu\_14 (AZ6), Sooty\_15 (AZ5), SpecialK\_15 (AZ5), Stuu\_15 (AZ5), SuMoo\_13 (EH), Sue2\_15 (AZ1), Tallboi\_15 (AZ1), Tbone\_15 (AZ1), TforTroy\_15 (AZ1), Tuck\_16 (AZ1), Tutumahutu\_15 (AZ1), Tweety19\_15 (AZ3), UtzChips\_13 (EH), VResidence\_15 (AZ1), VroomVroom\_14 (AZ4), Warda\_15 (AZ1), Wildwest\_16 (AZ1), Yang\_15 (AZ1), YesChef\_15 (AZ1),

#### Start 13:

- Found in 1 of 96 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 1 of 96
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MissSwiss\_15 (AZ1),

#### Start 15:

- Found in 1 of 96 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 1 of 96
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AbbeyMikolon\_14 (BL),

#### Start 16:

- Found in 1 of 96 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 1 of 96
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Rowa\_14 (BL),

### Summary by clusters:

There are 11 clusters represented in this pham: FP, singleton, EH, BL, BT, AZ1, AZ2, AZ3, AZ4, AZ5, AZ6,

#### Info for manual annotations of cluster AZ1:

- Start number 12 was manually annotated 45 times for cluster AZ1.
- Start number 13 was manually annotated 1 time for cluster AZ1.

#### Info for manual annotations of cluster AZ2:

- Start number 12 was manually annotated 3 times for cluster AZ2.

#### Info for manual annotations of cluster AZ3:

- Start number 12 was manually annotated 2 times for cluster AZ3.

Info for manual annotations of cluster AZ4:

- Start number 12 was manually annotated 5 times for cluster AZ4.

Info for manual annotations of cluster AZ5:

- Start number 12 was manually annotated 16 times for cluster AZ5.

Info for manual annotations of cluster AZ6:

- Start number 12 was manually annotated 1 time for cluster AZ6.

Info for manual annotations of cluster BL:

- Start number 15 was manually annotated 1 time for cluster BL.
- Start number 16 was manually annotated 1 time for cluster BL.

Info for manual annotations of cluster BT:

- Start number 11 was manually annotated 3 times for cluster BT.

Info for manual annotations of cluster EH:

- Start number 10 was manually annotated 1 time for cluster EH.
- Start number 12 was manually annotated 12 times for cluster EH.

Info for manual annotations of cluster FP:

- Start number 8 was manually annotated 2 times for cluster FP.

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

Gene: AbbeyMikolon\_14 Start: 8843, Stop: 9489, Start Num: 15

Candidate Starts for AbbeyMikolon\_14:

(Start: 15 @8843 has 1 MA's), (20, 8894), (43, 9068), (48, 9089), (54, 9140), (57, 9173), (78, 9338), (95, 9455),

Gene: Adolin\_14 Start: 10098, Stop: 10726, Start Num: 12

Candidate Starts for Adolin\_14:

(Start: 12 @10098 has 84 MA's), (19, 10143), (44, 10329),

Gene: Adumb2043\_15 Start: 10120, Stop: 10736, Start Num: 12

Candidate Starts for Adumb2043\_15:

(Start: 12 @10120 has 84 MA's), (21, 10198), (38, 10315), (44, 10351),

Gene: Amyev\_15 Start: 10132, Stop: 10733, Start Num: 12

Candidate Starts for Amyev\_15:

(Start: 12 @10132 has 84 MA's), (38, 10327),

Gene: Asa16\_15 Start: 10090, Stop: 10706, Start Num: 12

Candidate Starts for Asa16\_15:

(Start: 12 @10090 has 84 MA's), (38, 10285), (44, 10321),

Gene: Ascela\_15 Start: 10125, Stop: 10726, Start Num: 12

Candidate Starts for Ascela\_15:

(Start: 12 @10125 has 84 MA's), (38, 10320), (52, 10416),

Gene: Ashes\_15 Start: 9665, Stop: 10305, Start Num: 12

Candidate Starts for Ashes\_15:

(Start: 12 @9665 has 84 MA's), (32, 9806), (37, 9851), (46, 9902),

Gene: BaileyBlu\_14 Start: 7870, Stop: 8609, Start Num: 8

Candidate Starts for BaileyBlu\_14:

(Start: 8 @7870 has 2 MA's), (17, 7951), (41, 8146), (43, 8164), (48, 8185), (50, 8218),

Gene: Barnstormer\_13 Start: 9304, Stop: 9917, Start Num: 12

Candidate Starts for Barnstormer\_13:

(Start: 12 @9304 has 84 MA's), (66, 9724), (74, 9796),

Gene: Beaupre\_15 Start: 9666, Stop: 10306, Start Num: 12

Candidate Starts for Beaupre\_15:

(Start: 12 @9666 has 84 MA's), (32, 9807), (37, 9852), (46, 9903),

Gene: Berrie\_15 Start: 10094, Stop: 10698, Start Num: 12

Candidate Starts for Berrie\_15:

(Start: 12 @10094 has 84 MA's), (38, 10292), (52, 10388),

Gene: Bimmel\_58 Start: 32464, Stop: 33182, Start Num: 11

Candidate Starts for Bimmel\_58:

(Start: 11 @32464 has 3 MA's), (28, 32611), (30, 32617), (46, 32728), (56, 32824), (57, 32839), (63, 32887), (71, 32953), (74, 32989), (77, 33004), (80, 33043), (82, 33064), (99, 33160),

Gene: CallinAllBarbz\_14 Start: 7880, Stop: 8628, Start Num: 8

Candidate Starts for CallinAllBarbz\_14:

(Start: 8 @7880 has 2 MA's), (43, 8183), (45, 8189), (48, 8204), (50, 8237),

Gene: Cappuccino\_15 Start: 9570, Stop: 10210, Start Num: 12

Candidate Starts for Cappuccino\_15:

(Start: 12 @9570 has 84 MA's), (27, 9684), (32, 9711), (37, 9756), (46, 9807),

Gene: Caron\_13 Start: 9346, Stop: 9959, Start Num: 12

Candidate Starts for Caron\_13:

(Start: 12 @9346 has 84 MA's), (74, 9838),

Gene: Cassia\_15 Start: 10208, Stop: 10809, Start Num: 12

Candidate Starts for Cassia\_15:

(Start: 12 @10208 has 84 MA's), (38, 10400), (43, 10433), (52, 10496),

Gene: Cen1621\_13 Start: 8442, Stop: 9049, Start Num: 12

Candidate Starts for Cen1621\_13:

(Start: 12 @8442 has 84 MA's), (22, 8526), (44, 8676), (52, 8736), (68, 8883), (69, 8892),

Gene: Crewmate\_16 Start: 10566, Stop: 11167, Start Num: 12

Candidate Starts for Crewmate\_16:

(Start: 12 @10566 has 84 MA's), (19, 10611), (38, 10761), (52, 10857),

Gene: Cyan\_15 Start: 10113, Stop: 10717, Start Num: 12

Candidate Starts for Cyan\_15:

(Start: 12 @10113 has 84 MA's), (23, 10200), (38, 10311), (43, 10344), (44, 10347), (52, 10407), (84, 10674),

Gene: Donkey\_15 Start: 9570, Stop: 10210, Start Num: 12  
Candidate Starts for Donkey\_15:  
(5, 9507), (Start: 12 @9570 has 84 MA's), (32, 9711), (37, 9756), (46, 9807),

Gene: DrManhattan\_15 Start: 10088, Stop: 10716, Start Num: 12  
Candidate Starts for DrManhattan\_15:  
(Start: 12 @10088 has 84 MA's), (19, 10133), (44, 10319),

Gene: DrSierra\_15 Start: 10119, Stop: 10744, Start Num: 12  
Candidate Starts for DrSierra\_15:  
(Start: 12 @10119 has 84 MA's), (19, 10164), (22, 10200), (38, 10314), (44, 10350),

Gene: Elezi\_15 Start: 10091, Stop: 10707, Start Num: 12  
Candidate Starts for Elezi\_15:  
(Start: 12 @10091 has 84 MA's), (38, 10286), (44, 10322),

Gene: Emotion\_14 Start: 8425, Stop: 9035, Start Num: 12  
Candidate Starts for Emotion\_14:  
(6, 8359), (Start: 12 @8425 has 84 MA's), (18, 8458), (43, 8650), (54, 8725),

Gene: Eraser\_15 Start: 10091, Stop: 10707, Start Num: 12  
Candidate Starts for Eraser\_15:  
(Start: 12 @10091 has 84 MA's), (38, 10286), (44, 10322),

Gene: Floof\_14 Start: 8909, Stop: 9522, Start Num: 12  
Candidate Starts for Floof\_14:  
(Start: 12 @8909 has 84 MA's), (26, 9026), (43, 9143), (46, 9152), (76, 9410), (85, 9491),

Gene: Gambol\_15 Start: 9570, Stop: 10210, Start Num: 12  
Candidate Starts for Gambol\_15:  
(5, 9507), (Start: 12 @9570 has 84 MA's), (32, 9711), (37, 9756), (46, 9807),

Gene: GardenState\_14 Start: 9573, Stop: 10186, Start Num: 12  
Candidate Starts for GardenState\_14:  
(Start: 12 @9573 has 84 MA's), (34, 9726), (46, 9816), (66, 9993),

Gene: Giorgio\_15 Start: 9673, Stop: 10313, Start Num: 12  
Candidate Starts for Giorgio\_15:  
(Start: 12 @9673 has 84 MA's), (32, 9814), (37, 9859), (39, 9880), (46, 9910), (49, 9943),

Gene: Gretchen\_14 Start: 10435, Stop: 11048, Start Num: 12  
Candidate Starts for Gretchen\_14:  
(Start: 12 @10435 has 84 MA's), (39, 10648), (43, 10669), (53, 10741), (54, 10744),

Gene: Gumpizza\_15 Start: 9666, Stop: 10306, Start Num: 12  
Candidate Starts for Gumpizza\_15:  
(Start: 12 @9666 has 84 MA's), (32, 9807), (37, 9852), (46, 9903),

Gene: Halsey\_15 Start: 9665, Stop: 10305, Start Num: 12  
Candidate Starts for Halsey\_15:  
(Start: 12 @9665 has 84 MA's), (32, 9806), (37, 9851), (46, 9902),

Gene: Honk\_13 Start: 8396, Stop: 9000, Start Num: 12

Candidate Starts for Honk\_13:  
(Start: 12 @8396 has 84 MA's), (35, 8558), (52, 8687),

Gene: IAmGroot\_14 Start: 10217, Stop: 10830, Start Num: 12  
Candidate Starts for IAmGroot\_14:  
(Start: 12 @10217 has 84 MA's), (34, 10370), (46, 10460), (66, 10637),

Gene: Ibantik\_78 Start: 36465, Stop: 37210, Start Num: 7  
Candidate Starts for Ibantik\_78:  
(Start: 7 @36465 has 1 MA's), (22, 36606), (26, 36633), (35, 36681), (47, 36759), (51, 36816), (76, 37032), (81, 37083),

Gene: Iter\_15 Start: 10125, Stop: 10726, Start Num: 12  
Candidate Starts for Iter\_15:  
(Start: 12 @10125 has 84 MA's), (38, 10320), (52, 10416),

Gene: IttyBittyPiggy\_15 Start: 10108, Stop: 10706, Start Num: 12  
Candidate Starts for IttyBittyPiggy\_15:  
(Start: 12 @10108 has 84 MA's), (38, 10297), (52, 10393), (58, 10447),

Gene: Janeemi\_16 Start: 11204, Stop: 11808, Start Num: 12  
Candidate Starts for Janeemi\_16:  
(Start: 12 @11204 has 84 MA's), (38, 11402), (52, 11498),

Gene: JasmineDragon\_14 Start: 8354, Stop: 8961, Start Num: 12  
Candidate Starts for JasmineDragon\_14:  
(Start: 12 @8354 has 84 MA's), (58, 8696),

Gene: Joemato\_15 Start: 10113, Stop: 10717, Start Num: 12  
Candidate Starts for Joemato\_15:  
(Start: 12 @10113 has 84 MA's), (23, 10200), (38, 10311), (43, 10344), (44, 10347), (52, 10407), (84, 10674),

Gene: JohnDoe\_15 Start: 10108, Stop: 10712, Start Num: 12  
Candidate Starts for JohnDoe\_15:  
(Start: 12 @10108 has 84 MA's), (23, 10195), (38, 10306), (43, 10339), (44, 10342), (52, 10402), (84, 10669),

Gene: JuneStar\_15 Start: 10206, Stop: 10807, Start Num: 12  
Candidate Starts for JuneStar\_15:  
(Start: 12 @10206 has 84 MA's), (38, 10398),

Gene: Kalimba\_15 Start: 9571, Stop: 10211, Start Num: 12  
Candidate Starts for Kalimba\_15:  
(Start: 12 @9571 has 84 MA's), (32, 9712), (37, 9757), (46, 9808),

Gene: Kaylissa\_15 Start: 10114, Stop: 10718, Start Num: 12  
Candidate Starts for Kaylissa\_15:  
(Start: 12 @10114 has 84 MA's), (23, 10201), (38, 10312), (43, 10345), (44, 10348), (52, 10408), (84, 10675),

Gene: KeAlii\_15 Start: 10157, Stop: 10758, Start Num: 12  
Candidate Starts for KeAlii\_15:

(Start: 12 @10157 has 84 MA's), (22, 10238), (36, 10334), (38, 10352), (61, 10520),

Gene: Lego\_15 Start: 10113, Stop: 10717, Start Num: 12

Candidate Starts for Lego\_15:

(2, 9882), (4, 10044), (Start: 12 @10113 has 84 MA's), (38, 10311), (43, 10344), (44, 10347), (52, 10407), (84, 10674),

Gene: Liebe\_14 Start: 8595, Stop: 9193, Start Num: 12

Candidate Starts for Liebe\_14:

(Start: 12 @8595 has 84 MA's), (33, 8739), (52, 8886), (65, 8994),

Gene: Lizalica\_15 Start: 10098, Stop: 10702, Start Num: 12

Candidate Starts for Lizalica\_15:

(Start: 12 @10098 has 84 MA's), (38, 10296), (43, 10329), (44, 10332), (52, 10392),

Gene: London\_15 Start: 10091, Stop: 10707, Start Num: 12

Candidate Starts for London\_15:

(Start: 12 @10091 has 84 MA's), (38, 10286), (44, 10322),

Gene: MaGuCo\_14 Start: 8529, Stop: 9127, Start Num: 12

Candidate Starts for MaGuCo\_14:

(Start: 12 @8529 has 84 MA's), (33, 8673), (52, 8820), (65, 8928),

Gene: Mabodamaca\_14 Start: 9642, Stop: 10255, Start Num: 12

Candidate Starts for Mabodamaca\_14:

(Start: 12 @9642 has 84 MA's), (34, 9795), (43, 9876), (66, 10062),

Gene: Maureen\_14 Start: 8595, Stop: 9193, Start Num: 12

Candidate Starts for Maureen\_14:

(Start: 12 @8595 has 84 MA's), (33, 8739), (52, 8886), (65, 8994),

Gene: MiniMommy\_13 Start: 8355, Stop: 8962, Start Num: 12

Candidate Starts for MiniMommy\_13:

(Start: 12 @8355 has 84 MA's), (58, 8697),

Gene: MissSwiss\_15 Start: 10094, Stop: 10716, Start Num: 13

Candidate Starts for MissSwiss\_15:

(Start: 13 @10094 has 1 MA's), (19, 10136), (40, 10304),

Gene: Moss\_15 Start: 9665, Stop: 10305, Start Num: 12

Candidate Starts for Moss\_15:

(Start: 12 @9665 has 84 MA's), (32, 9806), (37, 9851), (46, 9902), (76, 10157),

Gene: Mudpuppy\_15 Start: 10112, Stop: 10716, Start Num: 12

Candidate Starts for Mudpuppy\_15:

(Start: 12 @10112 has 84 MA's), (38, 10310), (43, 10343), (44, 10346), (52, 10406), (67, 10550),

Gene: Mysterium\_15 Start: 9666, Stop: 10306, Start Num: 12

Candidate Starts for Mysterium\_15:

(Start: 12 @9666 has 84 MA's), (32, 9807), (37, 9852), (46, 9903),

Gene: Niobe\_15 Start: 10091, Stop: 10707, Start Num: 12

Candidate Starts for Niobe\_15:

(Start: 12 @10091 has 84 MA's), (38, 10286), (44, 10322),

Gene: Nitro\_15 Start: 10114, Stop: 10715, Start Num: 12

Candidate Starts for Nitro\_15:

(Start: 12 @10114 has 84 MA's), (38, 10309), (44, 10345),

Gene: ObiToo\_15 Start: 10303, Stop: 10904, Start Num: 12

Candidate Starts for ObiToo\_15:

(Start: 12 @10303 has 84 MA's), (19, 10348), (38, 10498), (52, 10594),

Gene: Percival\_14 Start: 10269, Stop: 10882, Start Num: 12

Candidate Starts for Percival\_14:

(Start: 12 @10269 has 84 MA's), (39, 10482), (43, 10503), (53, 10575), (54, 10578),

Gene: Phives\_16 Start: 11192, Stop: 11793, Start Num: 12

Candidate Starts for Phives\_16:

(Start: 12 @11192 has 84 MA's), (38, 11387),

Gene: Pixelle\_15 Start: 10135, Stop: 10736, Start Num: 12

Candidate Starts for Pixelle\_15:

(Start: 12 @10135 has 84 MA's), (22, 10216), (38, 10330),

Gene: Ponzi\_53 Start: 29867, Stop: 30597, Start Num: 9

Candidate Starts for Ponzi\_53:

(Start: 7 @29849 has 1 MA's), (Start: 9 @29867 has 1 MA's), (24, 30020), (28, 30038), (29, 30041), (60, 30269), (77, 30413), (80, 30452), (88, 30512), (91, 30518), (97, 30545),

Gene: Powerpuff\_15 Start: 10164, Stop: 10768, Start Num: 12

Candidate Starts for Powerpuff\_15:

(2, 9933), (4, 10095), (Start: 12 @10164 has 84 MA's), (38, 10362), (43, 10395), (44, 10398), (52, 10458), (84, 10725),

Gene: Pumpkins\_15 Start: 10215, Stop: 10819, Start Num: 12

Candidate Starts for Pumpkins\_15:

(Start: 12 @10215 has 84 MA's), (38, 10410), (43, 10443), (52, 10506),

Gene: Reedo\_15 Start: 10171, Stop: 10784, Start Num: 12

Candidate Starts for Reedo\_15:

(Start: 12 @10171 has 84 MA's), (22, 10249), (38, 10363), (52, 10459),

Gene: RockScotty\_15 Start: 9665, Stop: 10305, Start Num: 12

Candidate Starts for RockScotty\_15:

(Start: 12 @9665 has 84 MA's), (32, 9806), (37, 9851), (46, 9902), (76, 10157),

Gene: Rowa\_14 Start: 8677, Stop: 9314, Start Num: 16

Candidate Starts for Rowa\_14:

(14, 8662), (Start: 16 @8677 has 1 MA's), (31, 8800), (39, 8869), (48, 8911), (52, 8950), (53, 8959), (55, 8968), (57, 8995), (59, 9004), (75, 9145), (79, 9175), (86, 9244),

Gene: Sabourin\_15 Start: 9570, Stop: 10210, Start Num: 12

Candidate Starts for Sabourin\_15:

(Start: 12 @9570 has 84 MA's), (32, 9711), (37, 9756), (46, 9807),

Gene: Schaffner\_15 Start: 10202, Stop: 10806, Start Num: 12

Candidate Starts for Schaffner\_15:

(Start: 12 @10202 has 84 MA's), (38, 10397), (43, 10430),

Gene: ShakeltOph\_14 Start: 8354, Stop: 8961, Start Num: 12

Candidate Starts for ShakeltOph\_14:

(Start: 12 @8354 has 84 MA's), (58, 8696),

Gene: Shambre1\_16 Start: 10117, Stop: 10979, Start Num: 3

Candidate Starts for Shambre1\_16:

(Start: 3 @10117 has 1 MA's), (25, 10390), (36, 10477), (42, 10537), (48, 10561), (64, 10711), (73, 10798), (77, 10822), (87, 10912), (90, 10924), (93, 10939),

Gene: Snek\_15 Start: 9207, Stop: 9826, Start Num: 12

Candidate Starts for Snek\_15:

(Start: 12 @9207 has 84 MA's), (19, 9252), (27, 9321), (52, 9498), (58, 9552), (92, 9795),

Gene: Soondubu\_14 Start: 10020, Stop: 10639, Start Num: 12

Candidate Starts for Soondubu\_14:

(Start: 12 @10020 has 84 MA's), (86, 10602),

Gene: Sooty\_15 Start: 9572, Stop: 10212, Start Num: 12

Candidate Starts for Sooty\_15:

(Start: 12 @9572 has 84 MA's), (32, 9713), (37, 9758), (46, 9809), (83, 10130),

Gene: SpecialK\_15 Start: 9572, Stop: 10212, Start Num: 12

Candidate Starts for SpecialK\_15:

(Start: 12 @9572 has 84 MA's), (32, 9713), (37, 9758), (46, 9809),

Gene: Spooks\_59 Start: 33765, Stop: 34483, Start Num: 11

Candidate Starts for Spooks\_59:

(Start: 11 @33765 has 3 MA's), (28, 33912), (30, 33918), (46, 34029), (49, 34071), (56, 34125), (57, 34140), (72, 34272), (74, 34290), (77, 34305), (80, 34344), (82, 34365), (99, 34461),

Gene: Stuu\_15 Start: 9665, Stop: 10305, Start Num: 12

Candidate Starts for Stuu\_15:

(Start: 12 @9665 has 84 MA's), (32, 9806), (37, 9851), (46, 9902), (49, 9935),

Gene: SuMoo\_13 Start: 8599, Stop: 9212, Start Num: 12

Candidate Starts for SuMoo\_13:

(Start: 12 @8599 has 84 MA's), (34, 8752), (43, 8833), (66, 9019),

Gene: Success\_60 Start: 32884, Stop: 33602, Start Num: 11

Candidate Starts for Success\_60:

(Start: 11 @32884 has 3 MA's), (28, 33031), (30, 33037), (46, 33148), (56, 33244), (57, 33259), (62, 33304), (71, 33373), (74, 33409), (77, 33424), (80, 33463), (82, 33484), (94, 33553), (96, 33556), (99, 33580),

Gene: Sue2\_15 Start: 10128, Stop: 10759, Start Num: 12

Candidate Starts for Sue2\_15:

(Start: 12 @10128 has 84 MA's), (18, 10158), (98, 10752),

Gene: Tallboi\_15 Start: 10118, Stop: 10734, Start Num: 12

Candidate Starts for Tallboi\_15:

(Start: 12 @10118 has 84 MA's), (38, 10313), (44, 10349), (52, 10409),

Gene: Tbone\_15 Start: 10117, Stop: 10721, Start Num: 12

Candidate Starts for Tbone\_15:

(1, 9646), (Start: 12 @10117 has 84 MA's), (38, 10315), (43, 10348), (44, 10351), (52, 10411),

Gene: TforTroy\_15 Start: 10233, Stop: 10837, Start Num: 12

Candidate Starts for TforTroy\_15:

(Start: 12 @10233 has 84 MA's), (38, 10428), (43, 10461),

Gene: Tuck\_16 Start: 11156, Stop: 11760, Start Num: 12

Candidate Starts for Tuck\_16:

(Start: 12 @11156 has 84 MA's), (38, 11354), (52, 11450),

Gene: Tutumahutu\_15 Start: 10164, Stop: 10768, Start Num: 12

Candidate Starts for Tutumahutu\_15:

(2, 9933), (4, 10095), (Start: 12 @10164 has 84 MA's), (38, 10362), (43, 10395), (44, 10398), (52, 10458), (84, 10725),

Gene: Tweety19\_15 Start: 9206, Stop: 9825, Start Num: 12

Candidate Starts for Tweety19\_15:

(Start: 12 @9206 has 84 MA's), (19, 9251), (27, 9320), (52, 9497), (58, 9551), (92, 9794),

Gene: UtzChips\_13 Start: 9292, Stop: 9905, Start Num: 12

Candidate Starts for UtzChips\_13:

(Start: 12 @9292 has 84 MA's), (66, 9712), (74, 9784),

Gene: VResidence\_15 Start: 10200, Stop: 10816, Start Num: 12

Candidate Starts for VResidence\_15:

(5, 10125), (Start: 12 @10200 has 84 MA's), (23, 10281), (43, 10425), (52, 10488), (89, 10788),

Gene: VroomVroom\_14 Start: 8366, Stop: 8973, Start Num: 12

Candidate Starts for VroomVroom\_14:

(Start: 12 @8366 has 84 MA's), (70, 8813),

Gene: Warda\_15 Start: 10109, Stop: 10713, Start Num: 12

Candidate Starts for Warda\_15:

(Start: 12 @10109 has 84 MA's), (38, 10307), (43, 10340), (44, 10343), (52, 10403), (67, 10547),

Gene: Wildwest\_16 Start: 11039, Stop: 11667, Start Num: 12

Candidate Starts for Wildwest\_16:

(Start: 12 @11039 has 84 MA's), (19, 11084), (22, 11120), (38, 11234),

Gene: Yang\_15 Start: 10203, Stop: 10807, Start Num: 12

Candidate Starts for Yang\_15:

(Start: 12 @10203 has 84 MA's), (38, 10398), (43, 10431),

Gene: YesChef\_15 Start: 10164, Stop: 10768, Start Num: 12

Candidate Starts for YesChef\_15:

(2, 9933), (4, 10095), (Start: 12 @10164 has 84 MA's), (38, 10362), (43, 10395), (44, 10398), (52, 10458), (84, 10725),

Gene: Zeta1847\_13 Start: 8400, Stop: 9055, Start Num: 10  
Candidate Starts for Zeta1847\_13:  
(Start: 10 @8400 has 1 MA's),