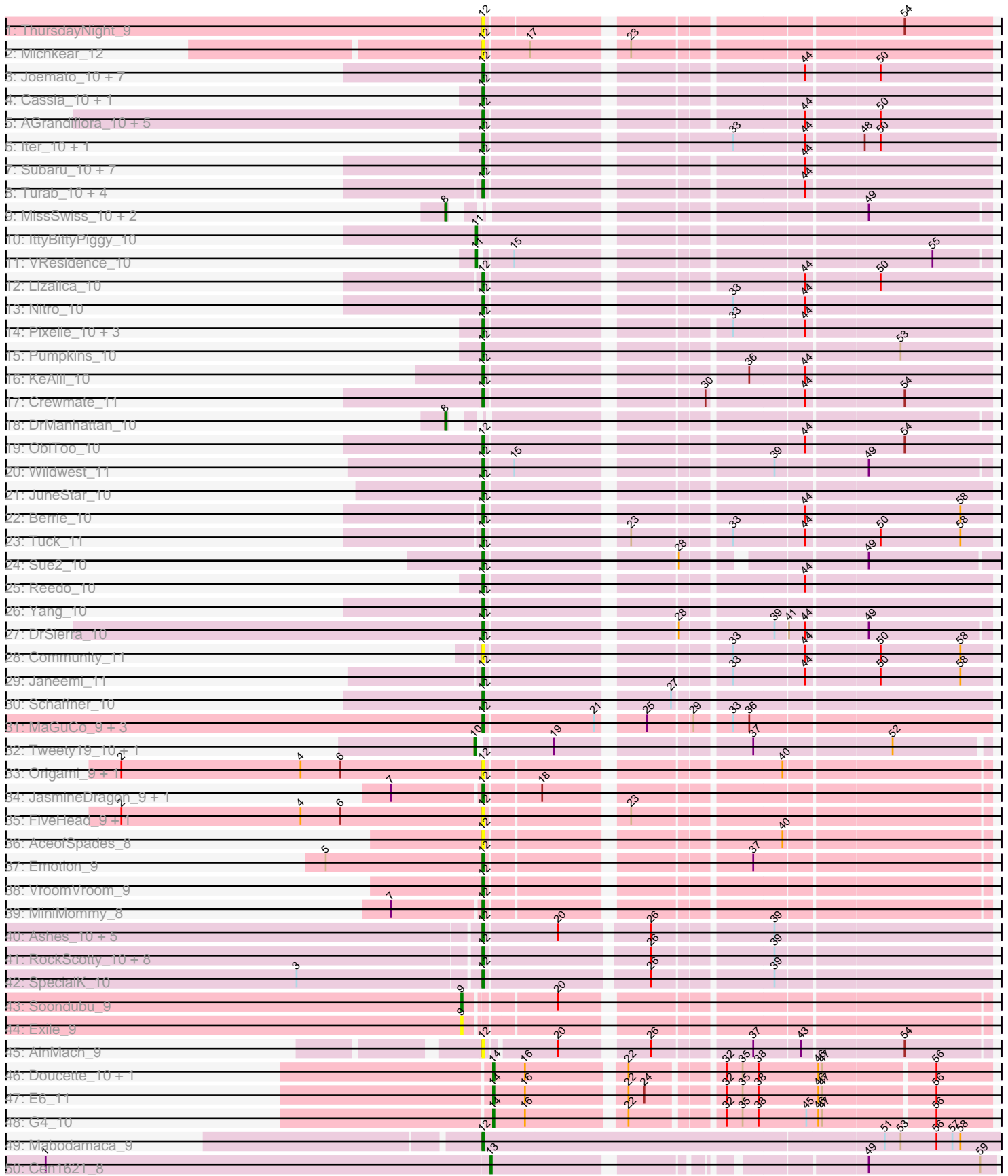


Pham 311395





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 311395 Report

This analysis was run 06/27/26 on database version 652.

Pham number 311395 has 114 members, 22 are drafts.

Phages represented in each track:

- Track 1 : ThursdayNight\_9
- Track 2 : Michkear\_12
- Track 3 : Joemato\_10, JohnDoe\_10, Simpson\_11, Kaylissa\_10, Warda\_10, Tbone\_10, Cyan\_10, Mudpuppy\_10
- Track 4 : Cassia\_10, TforTroy\_10
- Track 5 : AGrandiflora\_10, Lego\_10, YesChef\_10, Flutur\_10, Tutumahutu\_10, Powerpuff\_10
- Track 6 : Iter\_10, Ascela\_10
- Track 7 : Subaru\_10, Elezi\_10, Jstan\_10, London\_10, Eraser\_10, Niobe\_10, Skelbel\_10, Asa16\_10
- Track 8 : Turab\_10, Tallboi\_10, Adumb2043\_10, Amploria\_10, AEgle\_10
- Track 9 : MissSwiss\_10, Adolin\_10, PandaPo\_10
- Track 10 : IttyBittyPiggy\_10
- Track 11 : VResidence\_10
- Track 12 : Lizalica\_10
- Track 13 : Nitro\_10
- Track 14 : Pixelle\_10, Tian\_10, Amyev\_10, Phives\_11
- Track 15 : Pumpkins\_10
- Track 16 : KeAlii\_10
- Track 17 : Crewmate\_11
- Track 18 : DrManhattan\_10
- Track 19 : ObiToo\_10
- Track 20 : Wildwest\_11
- Track 21 : JuneStar\_10
- Track 22 : Berrie\_10
- Track 23 : Tuck\_11
- Track 24 : Sue2\_10
- Track 25 : Reedo\_10
- Track 26 : Yang\_10
- Track 27 : DrSierra\_10
- Track 28 : Community\_11
- Track 29 : Janeemi\_11
- Track 30 : Schaffner\_10
- Track 31 : MaGuCo\_9, IUFootball\_9, Liebe\_9, Maureen\_9
- Track 32 : Tweety19\_10, Snek\_10
- Track 33 : Origami\_9, LadyAstra\_9
- Track 34 : JasmineDragon\_9, ShakeltOph\_9

- Track 35 : FiveHead\_9, JohnThicc\_9
- Track 36 : AceofSpades\_8
- Track 37 : Emotion\_9
- Track 38 : VroomVroom\_9
- Track 39 : MiniMommy\_8
- Track 40 : Ashes\_10, Mysterium\_10, Gumpizza\_10, Beaupre\_10, Giorgio\_10, Stuu\_10
- Track 41 : RockScotty\_10, Kalimba\_10, Halsey\_10, Cappuccino\_10, Donkey\_10, Sabourin\_10, Gambol\_10, Moss\_10, Sooty\_10
- Track 42 : SpecialK\_10
- Track 43 : Soondubu\_9
- Track 44 : Exile\_9
- Track 45 : AinMach\_9
- Track 46 : Doucette\_10, B22\_10
- Track 47 : E6\_11
- Track 48 : G4\_10
- Track 49 : Mabodamaca\_9
- Track 50 : Cen1621\_8
- Track 51 : Honk\_8
- Track 52 : SuperHands\_9, Forester\_9, Percival\_9, Gretchen\_9
- Track 53 : GardenState\_9, IAmGroot\_9
- Track 54 : Barnstormer\_8, UtzChips\_8
- Track 55 : Zeta1847\_8
- Track 56 : Floof\_9
- Track 57 : Caron\_8
- Track 58 : SuMoo\_8

***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 77 of the 92 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AEgle\_10, AGrandiflora\_10, AceofSpades\_8, Adumb2043\_10, AinMach\_9, Amploria\_10, Amyev\_10, Asa16\_10, Ascela\_10, Ashes\_10, Barnstormer\_8, Beaupre\_10, Berrie\_10, Cappuccino\_10, Caron\_8, Cassia\_10, Community\_11, Crewmate\_11, Cyan\_10, Donkey\_10, DrSierra\_10, Elezi\_10, Emotion\_9, Eraser\_10, FiveHead\_9, Floof\_9, Flutur\_10, Forester\_9, Gambol\_10, GardenState\_9, Giorgio\_10, Gretchen\_9, Gumpizza\_10, Halsey\_10, IAmGroot\_9, IUFootball\_9, Iter\_10, Janeemi\_11, JasmineDragon\_9, Joemato\_10, JohnDoe\_10, JohnThicc\_9, Jstan\_10, JuneStar\_10, Kalimba\_10, Kaylissa\_10, KeAlii\_10, LadyAstra\_9, Lego\_10, Liebe\_9, Lizalica\_10, London\_10, MaGuCo\_9, Mabodamaca\_9, Maureen\_9, Michkear\_12, MiniMommy\_8, Moss\_10, Mudpuppy\_10, Mysterium\_10, Niobe\_10, Nitro\_10, ObiToo\_10, Origami\_9, Percival\_9, Phives\_11, Pixelle\_10, Powerpuff\_10, Pumpkins\_10, Reedo\_10, RockScotty\_10, Sabourin\_10, Schaffner\_10, ShakeltOph\_9, Simpson\_11, Skelbel\_10, Sooty\_10, SpecialK\_10, Stuu\_10, SuMoo\_8, Subaru\_10, Sue2\_10, SuperHands\_9, Tallboi\_10, Tbone\_10, TforTroy\_10, ThursdayNight\_9, Tian\_10, Tuck\_11, Turab\_10, Tutumahutu\_10, UtzChips\_8, VroomVroom\_9, Warda\_10, Wildwest\_11, Yang\_10, YesChef\_10,

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

- 

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

- Adolin\_10, B22\_10, Cen1621\_8, Doucette\_10, DrManhattan\_10, E6\_11, Exile\_9, G4\_10, Honk\_8, IttyBittyPiggy\_10, MissSwiss\_10, PandaPo\_10, Sneek\_10, Soondubu\_9, Tweety19\_10, VResidence\_10, Zeta1847\_8,

### Summary by start number:

Start 8:

- Found in 4 of 114 ( 3.5% ) of genes in pham
- Manual Annotations of this start: 3 of 92
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Adolin\_10 (AZ1), DrManhattan\_10 (AZ1), MissSwiss\_10 (AZ1), PandaPo\_10 (AZ1),

Start 9:

- Found in 2 of 114 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 1 of 92
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Exile\_9 (AZ6), Soondubu\_9 (AZ6),

Start 10:

- Found in 2 of 114 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 2 of 92
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Sneek\_10 (AZ3), Tweety19\_10 (AZ3),

Start 11:

- Found in 2 of 114 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 2 of 92
- Called 100.0% of time when present
- Phage (with cluster) where this start called: IttyBittyPiggy\_10 (AZ1), VResidence\_10 (AZ1),

Start 12:

- Found in 97 of 114 ( 85.1% ) of genes in pham
- Manual Annotations of this start: 77 of 92
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AEgle\_10 (AZ1), AGrandiflora\_10 (AZ1), AceofSpades\_8 (AZ4), Adumb2043\_10 (AZ1), AinMach\_9 (AZ7), Amploria\_10 (AZ1), Amyev\_10 (AZ1), Asa16\_10 (AZ1), Ascela\_10 (AZ1), Ashes\_10 (AZ5), Barnstormer\_8 (EH), Beaupre\_10 (AZ5), Berrie\_10 (AZ1), Cappuccino\_10 (AZ5), Caron\_8 (EH), Cassia\_10 (AZ1), Community\_11 (AZ1), Crewmate\_11 (AZ1), Cyan\_10 (AZ1), Donkey\_10 (AZ5), DrSierra\_10 (AZ1), Elezi\_10 (AZ1), Emotion\_9 (AZ4), Eraser\_10 (AZ1), FiveHead\_9 (AZ4), Floof\_9 (EH), Flutur\_10 (AZ), Forester\_9 (EH), Gambol\_10 (AZ5), GardenState\_9 (EH), Giorgio\_10 (AZ5), Gretchen\_9 (EH), Gumpizza\_10 (AZ5), Halsey\_10 (AZ5), IAmGroot\_9 (EH), IUFootball\_9 (AZ2), Iter\_10 (AZ1), Janeemi\_11 (AZ1), JasmineDragon\_9 (AZ4), Joemato\_10 (AZ1), JohnDoe\_10 (AZ1), JohnThicc\_9 (AZ4), Jstan\_10 (AZ1), JuneStar\_10 (AZ1), Kalimba\_10 (AZ5), Kaylissa\_10 (AZ1), KeAlii\_10 (AZ1), LadyAstra\_9 (AZ4), Lego\_10 (AZ1), Liebe\_9 (AZ2), Lizalica\_10 (AZ1), London\_10 (AZ1), MaGuCo\_9 (AZ2), Mabodamaca\_9 (EH),

Maureen\_9 (AZ2), Michkear\_12 (AZ), MiniMommy\_8 (AZ4), Moss\_10 (AZ5), Mudpuppy\_10 (AZ1), Mysterium\_10 (AZ5), Niobe\_10 (AZ1), Nitro\_10 (AZ1), ObiToo\_10 (AZ1), Origami\_9 (AZ4), Percival\_9 (EH), Phives\_11 (AZ1), Pixelle\_10 (AZ1), Powerpuff\_10 (AZ1), Pumpkins\_10 (AZ1), Reedo\_10 (AZ1), RockScotty\_10 (AZ5), Sabourin\_10 (AZ5), Schaffner\_10 (AZ1), ShakeltOph\_9 (AZ4), Simpson\_11 (AZ1), Skelbel\_10 (AZ1), Sooty\_10 (AZ5), SpecialK\_10 (AZ5), Stuu\_10 (AZ5), SuMoo\_8 (EH), Subaru\_10 (AZ1), Sue2\_10 (AZ1), SuperHands\_9 (EH), Tallboi\_10 (AZ1), Tbone\_10 (AZ1), TforTroy\_10 (AZ1), ThursdayNight\_9 (AZ), Tian\_10 (AZ1), Tuck\_11 (AZ1), Turab\_10 (AZ1), Tutumahutu\_10 (AZ1), UtzChips\_8 (EH), VroomVroom\_9 (AZ4), Warda\_10 (AZ1), Wildwest\_11 (AZ1), Yang\_10 (AZ1), YesChef\_10 (AZ1),

Start 13:

- Found in 3 of 114 ( 2.6% ) of genes in pham
- Manual Annotations of this start: 3 of 92
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cen1621\_8 (EH), Honk\_8 (EH), Zeta1847\_8 (EH),

Start 14:

- Found in 4 of 114 ( 3.5% ) of genes in pham
- Manual Annotations of this start: 4 of 92
- Called 100.0% of time when present
- Phage (with cluster) where this start called: B22\_10 (BW), Doucette\_10 (BW), E6\_11 (BW), G4\_10 (BW),

### **Summary by clusters:**

There are 10 clusters represented in this pham: AZ, EH, BW, AZ1, AZ2, AZ3, AZ4, AZ5, AZ6, AZ7,

Info for manual annotations of cluster AZ1:

- Start number 8 was manually annotated 3 times for cluster AZ1.
- Start number 11 was manually annotated 2 times for cluster AZ1.
- Start number 12 was manually annotated 41 times 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 10 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 9 was manually annotated 1 time for cluster AZ6.

Info for manual annotations of cluster BW:

- Start number 14 was manually annotated 4 times for cluster BW.

Info for manual annotations of cluster EH:

- Start number 12 was manually annotated 12 times for cluster EH.
- Start number 13 was manually annotated 3 times for cluster EH.

### **Gene Information:**

Gene: AEgle\_10 Start: 8385, Stop: 8732, Start Num: 12

Candidate Starts for AEgle\_10:

(Start: 12 @8385 has 77 MA's), (44, 8598),

Gene: AGrandiflora\_10 Start: 8369, Stop: 8716, Start Num: 12

Candidate Starts for AGrandiflora\_10:

(Start: 12 @8369 has 77 MA's), (44, 8582), (50, 8633),

Gene: AceofSpades\_8 Start: 6670, Stop: 7011, Start Num: 12

Candidate Starts for AceofSpades\_8:

(Start: 12 @6670 has 77 MA's), (40, 6865),

Gene: Adolin\_10 Start: 8355, Stop: 8705, Start Num: 8

Candidate Starts for Adolin\_10:

(Start: 8 @8355 has 3 MA's), (49, 8616),

Gene: Adumb2043\_10 Start: 8384, Stop: 8731, Start Num: 12

Candidate Starts for Adumb2043\_10:

(Start: 12 @8384 has 77 MA's), (44, 8597),

Gene: AinMach\_9 Start: 7495, Stop: 7833, Start Num: 12

Candidate Starts for AinMach\_9:

(Start: 12 @7495 has 77 MA's), (20, 7543), (26, 7600), (37, 7666), (43, 7699), (54, 7771),

Gene: Amploria\_10 Start: 8384, Stop: 8731, Start Num: 12

Candidate Starts for Amploria\_10:

(Start: 12 @8384 has 77 MA's), (44, 8597),

Gene: Amyev\_10 Start: 8400, Stop: 8747, Start Num: 12

Candidate Starts for Amyev\_10:

(Start: 12 @8400 has 77 MA's), (33, 8562), (44, 8613),

Gene: Asa16\_10 Start: 8354, Stop: 8701, Start Num: 12

Candidate Starts for Asa16\_10:

(Start: 12 @8354 has 77 MA's), (44, 8567),

Gene: Ascela\_10 Start: 8380, Stop: 8736, Start Num: 12

Candidate Starts for Ascela\_10:

(Start: 12 @8380 has 77 MA's), (33, 8548), (44, 8599), (48, 8638), (50, 8650),

Gene: Ashes\_10 Start: 7908, Stop: 8258, Start Num: 12

Candidate Starts for Ashes\_10:

(Start: 12 @7908 has 77 MA's), (20, 7962), (26, 8022), (39, 8103),

Gene: B22\_10 Start: 7108, Stop: 7449, Start Num: 14

Candidate Starts for B22\_10:

(Start: 14 @7108 has 4 MA's), (16, 7132), (22, 7198), (32, 7258), (35, 7270), (38, 7282), (46, 7327), (47, 7330), (56, 7408),

Gene: Barnstormer\_8 Start: 7585, Stop: 7941, Start Num: 12

Candidate Starts for Barnstormer\_8:

(Start: 12 @7585 has 77 MA's), (34, 7756), (60, 7930),

Gene: Beaupre\_10 Start: 7909, Stop: 8259, Start Num: 12

Candidate Starts for Beaupre\_10:

(Start: 12 @7909 has 77 MA's), (20, 7963), (26, 8023), (39, 8104),

Gene: Berrie\_10 Start: 8356, Stop: 8703, Start Num: 12

Candidate Starts for Berrie\_10:

(Start: 12 @8356 has 77 MA's), (44, 8569), (58, 8680),

Gene: Cappuccino\_10 Start: 7817, Stop: 8167, Start Num: 12

Candidate Starts for Cappuccino\_10:

(Start: 12 @7817 has 77 MA's), (26, 7931), (39, 8012),

Gene: Caron\_8 Start: 7613, Stop: 7969, Start Num: 12

Candidate Starts for Caron\_8:

(Start: 12 @7613 has 77 MA's), (34, 7784), (60, 7958),

Gene: Cassia\_10 Start: 8476, Stop: 8826, Start Num: 12

Candidate Starts for Cassia\_10:

(Start: 12 @8476 has 77 MA's),

Gene: Cen1621\_8 Start: 6748, Stop: 7080, Start Num: 13

Candidate Starts for Cen1621\_8:

(1, 6415), (Start: 13 @6748 has 3 MA's), (49, 6985), (59, 7069),

Gene: Community\_11 Start: 9435, Stop: 9782, Start Num: 12

Candidate Starts for Community\_11:

(Start: 12 @9435 has 77 MA's), (33, 9597), (44, 9648), (50, 9699), (58, 9759),

Gene: Crewmate\_11 Start: 8821, Stop: 9168, Start Num: 12

Candidate Starts for Crewmate\_11:

(Start: 12 @8821 has 77 MA's), (30, 8968), (44, 9034), (54, 9103),

Gene: Cyan\_10 Start: 8373, Stop: 8720, Start Num: 12

Candidate Starts for Cyan\_10:

(Start: 12 @8373 has 77 MA's), (44, 8586), (50, 8637),

Gene: Donkey\_10 Start: 7817, Stop: 8167, Start Num: 12

Candidate Starts for Donkey\_10:

(Start: 12 @7817 has 77 MA's), (26, 7931), (39, 8012),

Gene: Doucette\_10 Start: 7168, Stop: 7509, Start Num: 14

Candidate Starts for Doucette\_10:

(Start: 14 @7168 has 4 MA's), (16, 7192), (22, 7258), (32, 7318), (35, 7330), (38, 7342), (46, 7387), (47, 7390), (56, 7468),

Gene: DrManhattan\_10 Start: 8345, Stop: 8695, Start Num: 8

Candidate Starts for DrManhattan\_10:

(Start: 8 @8345 has 3 MA's),

Gene: DrSierra\_10 Start: 8382, Stop: 8726, Start Num: 12

Candidate Starts for DrSierra\_10:

(Start: 12 @8382 has 77 MA's), (28, 8511), (39, 8574), (41, 8583), (44, 8595), (49, 8637),

Gene: E6\_11 Start: 7219, Stop: 7560, Start Num: 14

Candidate Starts for E6\_11:

(Start: 14 @7219 has 4 MA's), (16, 7243), (22, 7309), (24, 7321), (32, 7369), (35, 7381), (38, 7393), (46, 7438), (47, 7441), (56, 7519),

Gene: Elezi\_10 Start: 8355, Stop: 8702, Start Num: 12

Candidate Starts for Elezi\_10:

(Start: 12 @8355 has 77 MA's), (44, 8568),

Gene: Emotion\_9 Start: 6723, Stop: 7064, Start Num: 12

Candidate Starts for Emotion\_9:

(5, 6612), (Start: 12 @6723 has 77 MA's), (37, 6897),

Gene: Eraser\_10 Start: 8355, Stop: 8702, Start Num: 12

Candidate Starts for Eraser\_10:

(Start: 12 @8355 has 77 MA's), (44, 8568),

Gene: Exile\_9 Start: 8263, Stop: 8613, Start Num: 9

Candidate Starts for Exile\_9:

(Start: 9 @8263 has 1 MA's),

Gene: FiveHead\_9 Start: 6658, Stop: 6999, Start Num: 12

Candidate Starts for FiveHead\_9:

(2, 6388), (4, 6523), (6, 6553), (Start: 12 @6658 has 77 MA's), (23, 6751),

Gene: Floof\_9 Start: 7145, Stop: 7507, Start Num: 12

Candidate Starts for Floof\_9:

(Start: 12 @7145 has 77 MA's), (58, 7481), (60, 7496),

Gene: Flutur\_10 Start: 8372, Stop: 8719, Start Num: 12

Candidate Starts for Flutur\_10:

(Start: 12 @8372 has 77 MA's), (44, 8585), (50, 8636),

Gene: Forester\_9 Start: 8697, Stop: 9059, Start Num: 12

Candidate Starts for Forester\_9:

(Start: 12 @8697 has 77 MA's), (53, 8988), (58, 9033), (60, 9048),

Gene: G4\_10 Start: 7156, Stop: 7497, Start Num: 14

Candidate Starts for G4\_10:

(Start: 14 @7156 has 4 MA's), (16, 7180), (22, 7246), (32, 7306), (35, 7318), (38, 7330), (45, 7366), (46, 7375), (47, 7378), (56, 7456),

Gene: Gambol\_10 Start: 7817, Stop: 8167, Start Num: 12

Candidate Starts for Gambol\_10:

(Start: 12 @7817 has 77 MA's), (26, 7931), (39, 8012),

Gene: GardenState\_9 Start: 7818, Stop: 8174, Start Num: 12

Candidate Starts for GardenState\_9:

(Start: 12 @7818 has 77 MA's), (51, 8088),

Gene: Giorgio\_10 Start: 7910, Stop: 8260, Start Num: 12

Candidate Starts for Giorgio\_10:

(Start: 12 @7910 has 77 MA's), (20, 7964), (26, 8024), (39, 8105),

Gene: Gretchen\_9 Start: 8691, Stop: 9053, Start Num: 12

Candidate Starts for Gretchen\_9:

(Start: 12 @8691 has 77 MA's), (53, 8982), (58, 9027), (60, 9042),

Gene: Gumpizza\_10 Start: 7909, Stop: 8259, Start Num: 12

Candidate Starts for Gumpizza\_10:

(Start: 12 @7909 has 77 MA's), (20, 7963), (26, 8023), (39, 8104),

Gene: Halsey\_10 Start: 7908, Stop: 8258, Start Num: 12

Candidate Starts for Halsey\_10:

(Start: 12 @7908 has 77 MA's), (26, 8022), (39, 8103),

Gene: Honk\_8 Start: 6713, Stop: 7048, Start Num: 13

Candidate Starts for Honk\_8:

(Start: 13 @6713 has 3 MA's), (42, 6902), (49, 6953),

Gene: IAmGroot\_9 Start: 8462, Stop: 8818, Start Num: 12

Candidate Starts for IAmGroot\_9:

(Start: 12 @8462 has 77 MA's), (51, 8732),

Gene: IUFootball\_9 Start: 6828, Stop: 7175, Start Num: 12

Candidate Starts for IUFootball\_9:

(Start: 12 @6828 has 77 MA's), (21, 6909), (25, 6936), (29, 6966), (33, 6990), (36, 7002),

Gene: Iter\_10 Start: 8380, Stop: 8736, Start Num: 12

Candidate Starts for Iter\_10:

(Start: 12 @8380 has 77 MA's), (33, 8548), (44, 8599), (48, 8638), (50, 8650),

Gene: IttyBittyPiggy\_10 Start: 8374, Stop: 8727, Start Num: 11

Candidate Starts for IttyBittyPiggy\_10:

(Start: 11 @8374 has 2 MA's),

Gene: Janeemi\_11 Start: 9466, Stop: 9813, Start Num: 12

Candidate Starts for Janeemi\_11:

(Start: 12 @9466 has 77 MA's), (33, 9628), (44, 9679), (50, 9730), (58, 9790),

Gene: JasmineDragon\_9 Start: 6658, Stop: 6999, Start Num: 12

Candidate Starts for JasmineDragon\_9:

(7, 6595), (Start: 12 @6658 has 77 MA's), (18, 6697),

Gene: Joemato\_10 Start: 8373, Stop: 8720, Start Num: 12

Candidate Starts for Joemato\_10:  
(Start: 12 @8373 has 77 MA's), (44, 8586), (50, 8637),

Gene: JohnDoe\_10 Start: 8371, Stop: 8718, Start Num: 12  
Candidate Starts for JohnDoe\_10:  
(Start: 12 @8371 has 77 MA's), (44, 8584), (50, 8635),

Gene: JohnThicc\_9 Start: 6658, Stop: 6999, Start Num: 12  
Candidate Starts for JohnThicc\_9:  
(2, 6388), (4, 6523), (6, 6553), (Start: 12 @6658 has 77 MA's), (23, 6751),

Gene: Jstan\_10 Start: 8355, Stop: 8702, Start Num: 12  
Candidate Starts for Jstan\_10:  
(Start: 12 @8355 has 77 MA's), (44, 8568),

Gene: JuneStar\_10 Start: 8474, Stop: 8821, Start Num: 12  
Candidate Starts for JuneStar\_10:  
(Start: 12 @8474 has 77 MA's),

Gene: Kalimba\_10 Start: 7817, Stop: 8167, Start Num: 12  
Candidate Starts for Kalimba\_10:  
(Start: 12 @7817 has 77 MA's), (26, 7931), (39, 8012),

Gene: Kaylissa\_10 Start: 8374, Stop: 8721, Start Num: 12  
Candidate Starts for Kaylissa\_10:  
(Start: 12 @8374 has 77 MA's), (44, 8587), (50, 8638),

Gene: KeAlii\_10 Start: 8406, Stop: 8753, Start Num: 12  
Candidate Starts for KeAlii\_10:  
(Start: 12 @8406 has 77 MA's), (36, 8580), (44, 8619),

Gene: LadyAstra\_9 Start: 6658, Stop: 6999, Start Num: 12  
Candidate Starts for LadyAstra\_9:  
(2, 6388), (4, 6523), (6, 6553), (Start: 12 @6658 has 77 MA's), (40, 6853),

Gene: Lego\_10 Start: 8372, Stop: 8719, Start Num: 12  
Candidate Starts for Lego\_10:  
(Start: 12 @8372 has 77 MA's), (44, 8585), (50, 8636),

Gene: Liebe\_9 Start: 6828, Stop: 7175, Start Num: 12  
Candidate Starts for Liebe\_9:  
(Start: 12 @6828 has 77 MA's), (21, 6909), (25, 6936), (29, 6966), (33, 6990), (36, 7002),

Gene: Lizalica\_10 Start: 8361, Stop: 8708, Start Num: 12  
Candidate Starts for Lizalica\_10:  
(Start: 12 @8361 has 77 MA's), (44, 8574), (50, 8625),

Gene: London\_10 Start: 8355, Stop: 8702, Start Num: 12  
Candidate Starts for London\_10:  
(Start: 12 @8355 has 77 MA's), (44, 8568),

Gene: MaGuCo\_9 Start: 6687, Stop: 7034, Start Num: 12  
Candidate Starts for MaGuCo\_9:

(Start: 12 @6687 has 77 MA's), (21, 6768), (25, 6795), (29, 6825), (33, 6849), (36, 6861),

Gene: Mabodamaca\_9 Start: 7894, Stop: 8274, Start Num: 12

Candidate Starts for Mabodamaca\_9:

(Start: 12 @7894 has 77 MA's), (51, 8188), (53, 8200), (56, 8227), (57, 8239), (58, 8245),

Gene: Maureen\_9 Start: 6828, Stop: 7175, Start Num: 12

Candidate Starts for Maureen\_9:

(Start: 12 @6828 has 77 MA's), (21, 6909), (25, 6936), (29, 6966), (33, 6990), (36, 7002),

Gene: Michkear\_12 Start: 10287, Stop: 10634, Start Num: 12

Candidate Starts for Michkear\_12:

(Start: 12 @10287 has 77 MA's), (17, 10320), (23, 10383),

Gene: MiniMommy\_8 Start: 6658, Stop: 6999, Start Num: 12

Candidate Starts for MiniMommy\_8:

(7, 6595), (Start: 12 @6658 has 77 MA's),

Gene: MissSwiss\_10 Start: 8349, Stop: 8699, Start Num: 8

Candidate Starts for MissSwiss\_10:

(Start: 8 @8349 has 3 MA's), (49, 8610),

Gene: Moss\_10 Start: 7908, Stop: 8258, Start Num: 12

Candidate Starts for Moss\_10:

(Start: 12 @7908 has 77 MA's), (26, 8022), (39, 8103),

Gene: Mudpuppy\_10 Start: 8372, Stop: 8719, Start Num: 12

Candidate Starts for Mudpuppy\_10:

(Start: 12 @8372 has 77 MA's), (44, 8585), (50, 8636),

Gene: Mysterium\_10 Start: 7909, Stop: 8259, Start Num: 12

Candidate Starts for Mysterium\_10:

(Start: 12 @7909 has 77 MA's), (20, 7963), (26, 8023), (39, 8104),

Gene: Niobe\_10 Start: 8355, Stop: 8702, Start Num: 12

Candidate Starts for Niobe\_10:

(Start: 12 @8355 has 77 MA's), (44, 8568),

Gene: Nitro\_10 Start: 8372, Stop: 8725, Start Num: 12

Candidate Starts for Nitro\_10:

(Start: 12 @8372 has 77 MA's), (33, 8540), (44, 8591),

Gene: ObiToo\_10 Start: 8558, Stop: 8905, Start Num: 12

Candidate Starts for ObiToo\_10:

(Start: 12 @8558 has 77 MA's), (44, 8771), (54, 8840),

Gene: Origami\_9 Start: 6658, Stop: 6999, Start Num: 12

Candidate Starts for Origami\_9:

(2, 6388), (4, 6523), (6, 6553), (Start: 12 @6658 has 77 MA's), (40, 6853),

Gene: PandaPo\_10 Start: 8349, Stop: 8699, Start Num: 8

Candidate Starts for PandaPo\_10:

(Start: 8 @8349 has 3 MA's), (49, 8610),

Gene: Percival\_9 Start: 8525, Stop: 8887, Start Num: 12  
Candidate Starts for Percival\_9:  
(Start: 12 @8525 has 77 MA's), (53, 8816), (58, 8861), (60, 8876),

Gene: Phives\_11 Start: 9460, Stop: 9807, Start Num: 12  
Candidate Starts for Phives\_11:  
(Start: 12 @9460 has 77 MA's), (33, 9622), (44, 9673),

Gene: Pixelle\_10 Start: 8403, Stop: 8750, Start Num: 12  
Candidate Starts for Pixelle\_10:  
(Start: 12 @8403 has 77 MA's), (33, 8565), (44, 8616),

Gene: Powerpuff\_10 Start: 8423, Stop: 8770, Start Num: 12  
Candidate Starts for Powerpuff\_10:  
(Start: 12 @8423 has 77 MA's), (44, 8636), (50, 8687),

Gene: Pumpkins\_10 Start: 8478, Stop: 8828, Start Num: 12  
Candidate Starts for Pumpkins\_10:  
(Start: 12 @8478 has 77 MA's), (53, 8760),

Gene: Reedo\_10 Start: 8425, Stop: 8772, Start Num: 12  
Candidate Starts for Reedo\_10:  
(Start: 12 @8425 has 77 MA's), (44, 8638),

Gene: RockScotty\_10 Start: 7908, Stop: 8258, Start Num: 12  
Candidate Starts for RockScotty\_10:  
(Start: 12 @7908 has 77 MA's), (26, 8022), (39, 8103),

Gene: Sabourin\_10 Start: 7817, Stop: 8167, Start Num: 12  
Candidate Starts for Sabourin\_10:  
(Start: 12 @7817 has 77 MA's), (26, 7931), (39, 8012),

Gene: Schaffner\_10 Start: 8469, Stop: 8819, Start Num: 12  
Candidate Starts for Schaffner\_10:  
(Start: 12 @8469 has 77 MA's), (27, 8598),

Gene: ShakeltOph\_9 Start: 6658, Stop: 6999, Start Num: 12  
Candidate Starts for ShakeltOph\_9:  
(7, 6595), (Start: 12 @6658 has 77 MA's), (18, 6697),

Gene: Simpson\_11 Start: 8373, Stop: 8720, Start Num: 12  
Candidate Starts for Simpson\_11:  
(Start: 12 @8373 has 77 MA's), (44, 8586), (50, 8637),

Gene: Skelbel\_10 Start: 8355, Stop: 8702, Start Num: 12  
Candidate Starts for Skelbel\_10:  
(Start: 12 @8355 has 77 MA's), (44, 8568),

Gene: Snek\_10 Start: 7472, Stop: 7813, Start Num: 10  
Candidate Starts for Snek\_10:  
(Start: 10 @7472 has 2 MA's), (19, 7523), (37, 7649), (52, 7745),

Gene: Soondubu\_9 Start: 8264, Stop: 8614, Start Num: 9

Candidate Starts for Soondubu\_9:

(Start: 9 @8264 has 1 MA's), (20, 8324),

Gene: Sooty\_10 Start: 7818, Stop: 8168, Start Num: 12

Candidate Starts for Sooty\_10:

(Start: 12 @7818 has 77 MA's), (26, 7932), (39, 8013),

Gene: SpecialK\_10 Start: 7815, Stop: 8165, Start Num: 12

Candidate Starts for SpecialK\_10:

(3, 7683), (Start: 12 @7815 has 77 MA's), (26, 7929), (39, 8010),

Gene: Stuu\_10 Start: 7908, Stop: 8258, Start Num: 12

Candidate Starts for Stuu\_10:

(Start: 12 @7908 has 77 MA's), (20, 7962), (26, 8022), (39, 8103),

Gene: SuMoo\_8 Start: 6854, Stop: 7234, Start Num: 12

Candidate Starts for SuMoo\_8:

(Start: 12 @6854 has 77 MA's), (31, 7034), (39, 7070), (51, 7148), (53, 7160), (57, 7199), (58, 7205),

Gene: Subaru\_10 Start: 8355, Stop: 8702, Start Num: 12

Candidate Starts for Subaru\_10:

(Start: 12 @8355 has 77 MA's), (44, 8568),

Gene: Sue2\_10 Start: 8396, Stop: 8734, Start Num: 12

Candidate Starts for Sue2\_10:

(Start: 12 @8396 has 77 MA's), (28, 8525), (49, 8639),

Gene: SuperHands\_9 Start: 8697, Stop: 9059, Start Num: 12

Candidate Starts for SuperHands\_9:

(Start: 12 @8697 has 77 MA's), (53, 8988), (58, 9033), (60, 9048),

Gene: Tallboi\_10 Start: 8389, Stop: 8736, Start Num: 12

Candidate Starts for Tallboi\_10:

(Start: 12 @8389 has 77 MA's), (44, 8602),

Gene: Tbone\_10 Start: 8369, Stop: 8716, Start Num: 12

Candidate Starts for Tbone\_10:

(Start: 12 @8369 has 77 MA's), (44, 8582), (50, 8633),

Gene: TforTroy\_10 Start: 8501, Stop: 8851, Start Num: 12

Candidate Starts for TforTroy\_10:

(Start: 12 @8501 has 77 MA's),

Gene: ThursdayNight\_9 Start: 6880, Stop: 7224, Start Num: 12

Candidate Starts for ThursdayNight\_9:

(Start: 12 @6880 has 77 MA's), (54, 7159),

Gene: Tian\_10 Start: 8400, Stop: 8747, Start Num: 12

Candidate Starts for Tian\_10:

(Start: 12 @8400 has 77 MA's), (33, 8562), (44, 8613),

Gene: Tuck\_11 Start: 9415, Stop: 9762, Start Num: 12

Candidate Starts for Tuck\_11:

(Start: 12 @9415 has 77 MA's), (23, 9511), (33, 9577), (44, 9628), (50, 9679), (58, 9739),

Gene: Turab\_10 Start: 8384, Stop: 8731, Start Num: 12

Candidate Starts for Turab\_10:

(Start: 12 @8384 has 77 MA's), (44, 8597),

Gene: Tutumahutu\_10 Start: 8423, Stop: 8770, Start Num: 12

Candidate Starts for Tutumahutu\_10:

(Start: 12 @8423 has 77 MA's), (44, 8636), (50, 8687),

Gene: Tweety19\_10 Start: 7471, Stop: 7812, Start Num: 10

Candidate Starts for Tweety19\_10:

(Start: 10 @7471 has 2 MA's), (19, 7522), (37, 7648), (52, 7744),

Gene: UtzChips\_8 Start: 7573, Stop: 7929, Start Num: 12

Candidate Starts for UtzChips\_8:

(Start: 12 @7573 has 77 MA's), (34, 7744), (60, 7918),

Gene: VResidence\_10 Start: 8441, Stop: 8785, Start Num: 11

Candidate Starts for VResidence\_10:

(Start: 11 @8441 has 2 MA's), (15, 8462), (55, 8744),

Gene: VroomVroom\_9 Start: 6670, Stop: 7011, Start Num: 12

Candidate Starts for VroomVroom\_9:

(Start: 12 @6670 has 77 MA's),

Gene: Warda\_10 Start: 8369, Stop: 8716, Start Num: 12

Candidate Starts for Warda\_10:

(Start: 12 @8369 has 77 MA's), (44, 8582), (50, 8633),

Gene: Wildwest\_11 Start: 9289, Stop: 9633, Start Num: 12

Candidate Starts for Wildwest\_11:

(Start: 12 @9289 has 77 MA's), (15, 9310), (39, 9481), (49, 9544),

Gene: Yang\_10 Start: 8474, Stop: 8821, Start Num: 12

Candidate Starts for Yang\_10:

(Start: 12 @8474 has 77 MA's),

Gene: YesChef\_10 Start: 8423, Stop: 8770, Start Num: 12

Candidate Starts for YesChef\_10:

(Start: 12 @8423 has 77 MA's), (44, 8636), (50, 8687),

Gene: Zeta1847\_8 Start: 6684, Stop: 7025, Start Num: 13

Candidate Starts for Zeta1847\_8:

(1, 6363), (Start: 13 @6684 has 3 MA's), (49, 6933), (54, 6960),