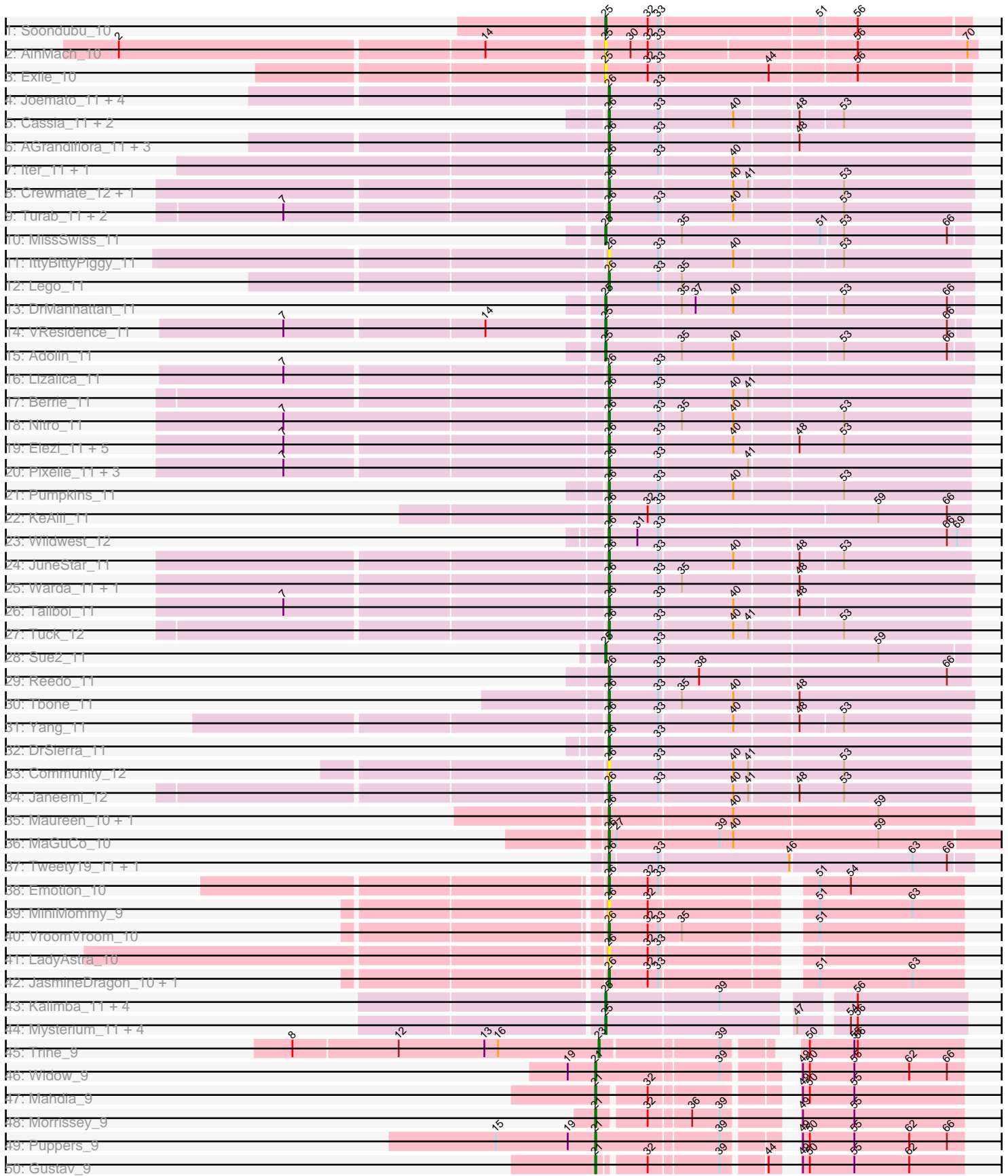


Pham 202745





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 202745 Report

This analysis was run 01/18/25 on database version 583.

Pham number 202745 has 147 members, 24 are drafts.

Phages represented in each track:

- Track 1 : Soondubu\_10
- Track 2 : AinMach\_10
- Track 3 : Exile\_10
- Track 4 : Joemato\_11, JohnDoe\_11, Cyan\_11, Simpson\_12, Kaylissa\_11
- Track 5 : Cassia\_11, TforTroy\_11, Shaffner\_12
- Track 6 : AGrandiflora\_11, YesChef\_11, Tutumahutu\_11, Powerpuff\_11
- Track 7 : lter\_11, Ascela\_11
- Track 8 : Crewmate\_12, ObiToo\_11
- Track 9 : Turab\_11, Adumb2043\_11, AEgle\_11
- Track 10 : MissSwiss\_11
- Track 11 : IttyBittyPiggy\_11
- Track 12 : Lego\_11
- Track 13 : DrManhattan\_11
- Track 14 : VResidence\_11
- Track 15 : Adolin\_11
- Track 16 : Lizalica\_11
- Track 17 : Berrie\_11
- Track 18 : Nitro\_11
- Track 19 : Elezi\_11, Jstan\_11, Eraser\_11, London\_11, Niobe\_11, Asa16\_11
- Track 20 : Pixelle\_11, Tian\_11, Amyev\_11, Phives\_12
- Track 21 : Pumpkins\_11
- Track 22 : KeAlii\_11
- Track 23 : Wildwest\_12
- Track 24 : JuneStar\_11
- Track 25 : Warda\_11, Mudpuppy\_11
- Track 26 : Tallboi\_11
- Track 27 : Tuck\_12
- Track 28 : Sue2\_11
- Track 29 : Reedo\_11
- Track 30 : Tbone\_11
- Track 31 : Yang\_11
- Track 32 : DrSierra\_11
- Track 33 : Community\_12
- Track 34 : Janeemi\_12
- Track 35 : Maureen\_10, Liebe\_10
- Track 36 : MaGuCo\_10
- Track 37 : Tweety19\_11, Snek\_11

- Track 38 : Emotion\_10
- Track 39 : MiniMommy\_9
- Track 40 : VroomVroom\_10
- Track 41 : LadyAstra\_10
- Track 42 : JasmineDragon\_10, ShakeltOph\_10
- Track 43 : Kalimba\_11, Cappuccino\_11, Donkey\_11, Gambol\_11, Sooty\_11
- Track 44 : Mysterium\_11, SpecialK\_11, Halsey\_11, Ashes\_11, Moss\_11
- Track 45 : Trine\_9
- Track 46 : Widow\_9
- Track 47 : Mahdia\_9
- Track 48 : Morrissey\_9
- Track 49 : Puppies\_9
- Track 50 : Gustav\_9
- Track 51 : Upyo\_9
- Track 52 : BackstagePass\_10
- Track 53 : Eyes\_10
- Track 54 : Doggs\_10, RayTheFireFly\_11, Coriander\_11, Moonflower\_11
- Track 55 : GEazy\_10
- Track 56 : BBQValindra\_10
- Track 57 : Kiko\_11
- Track 58 : TaronosaurusRx\_10
- Track 59 : Schnabeltier\_10, MagicMan\_10
- Track 60 : ZAYM\_10
- Track 61 : HannahD\_10, Bunker\_10
- Track 62 : DirtyBoi\_11, Hedwig\_11
- Track 63 : Opie\_10
- Track 64 : Dmitri\_11
- Track 65 : Bowser\_10
- Track 66 : Bock\_15, Mulch\_15, Nadeem\_15, Brylie\_15, Parada\_15, NancyRae\_15
- Track 67 : Chop\_15, Ayotoya\_15, GrandSlam\_15, Hamood\_15
- Track 68 : Francois\_15
- Track 69 : WheatThin\_15
- Track 70 : BetterKatz\_15, Pimento\_16
- Track 71 : DelRio\_16
- Track 72 : Zodiariah\_11
- Track 73 : Ruthy\_12
- Track 74 : MakCheese\_13
- Track 75 : ArchiDore\_12
- Track 76 : Malibo\_10
- Track 77 : DumpsterDude\_12
- Track 78 : Tarzan\_10, DonkeyMan\_10
- Track 79 : Hibiscus\_10, Jojo24\_10
- Track 80 : Reyja\_11
- Track 81 : Heinz\_10
- Track 82 : Santhid\_10
- Track 83 : Cen1621\_9
- Track 84 : Honk\_9
- Track 85 : Percival\_10, Gretchen\_10
- Track 86 : UtzChips\_9, Barnstormer\_9
- Track 87 : Floof\_10
- Track 88 : IAmGroot\_10
- Track 89 : Zeta1847\_9
- Track 90 : GardenState\_10

- Track 91 : Mabodamaca\_10
- Track 92 : SuMoo\_9
- Track 93 : Caron\_9
- Track 94 : IdentityCrisis\_11
- Track 95 : Elener\_12

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

The start number called the most often in the published annotations is 26, it was called in 61 of the 123 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AEgle\_11, AGrandiflora\_11, Adumb2043\_11, Amyev\_11, Asa16\_11, Ascela\_11, Barnstormer\_9, Berrie\_11, Caron\_9, Cassia\_11, Community\_12, Coriander\_11, Crewmate\_12, Cyan\_11, Dmitri\_11, Doggs\_10, DrSierra\_11, Elezi\_11, Emotion\_10, Eraser\_11, Floof\_10, GardenState\_10, Gretchen\_10, IAmGroot\_10, Iter\_11, IttyBittyPiggy\_11, Janeemi\_12, JasmineDragon\_10, Joemato\_11, JohnDoe\_11, Jstan\_11, JuneStar\_11, Kaylissa\_11, KeAlii\_11, LadyAstra\_10, Lego\_11, Liebe\_10, Lizalica\_11, London\_11, MaGuCo\_10, Mabodamaca\_10, Malibo\_10, Maureen\_10, MiniMommy\_9, Moonflower\_11, Mudpuppy\_11, Niobe\_11, Nitro\_11, ObiToo\_11, Percival\_10, Phives\_12, Pixelle\_11, Powerpuff\_11, Pumpkins\_11, RayTheFireFly\_11, Reedo\_11, Shaffner\_12, ShakeltOph\_10, Simpson\_12, Snek\_11, SuMoo\_9, Tallboi\_11, Tbone\_11, TforTroy\_11, Tian\_11, Tuck\_12, Turab\_11, Tutumahutu\_11, Tweety19\_11, UtzChips\_9, VroomVroom\_10, Warda\_11, Wildwest\_12, Yang\_11, YesChef\_11,

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

- 

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

- Adolin\_11, AinMach\_10, ArchiDore\_12, Ashes\_11, Ayotoya\_15, BBQValindra\_10, BackstagePass\_10, BetterKatz\_15, Bock\_15, Bowser\_10, Brylie\_15, Bunker\_10, Cappuccino\_11, Cen1621\_9, Chop\_15, DelRio\_16, DirtyBoi\_11, DonkeyMan\_10, Donkey\_11, DrManhattan\_11, DumpsterDude\_12, Elener\_12, Exile\_10, Eyes\_10, Francois\_15, GEazy\_10, Gambol\_11, GrandSlam\_15, Gustav\_9, Halsey\_11, Hamood\_15, HannahD\_10, Hedwig\_11, Heinz\_10, Hibiscus\_10, Honk\_9, IdentityCrisis\_11, Jojo24\_10, Kalimba\_11, Kiko\_11, MagicMan\_10, Mahdia\_9, MakCheese\_13, MissSwiss\_11, Morrissey\_9, Moss\_11, Mulch\_15, Mysterium\_11, Nadeem\_15, NancyRae\_15, Opie\_10, Parada\_15, Pimento\_16, Puppies\_9, Reyja\_11, Ruthy\_12, Santhid\_10, Schnabeltier\_10, Soondubu\_10, Sooty\_11, SpecialK\_11, Sue2\_11, TaronosaurusRx\_10, Tarzan\_10, Trine\_9, Upyo\_9, VResidence\_11, WheatThin\_15, Widow\_9, ZAYM\_10, Zeta1847\_9, Zodiariah\_11,

**Summary by start number:**

Start 20:

- Found in 7 of 147 ( 4.8% ) of genes in pham
- Manual Annotations of this start: 3 of 123
- Called 57.1% of time when present

- Phage (with cluster) where this start called: BackstagePass\_10 (DB), Bunker\_10 (DB), HannahD\_10 (DB), Upyo\_9 (CD),

#### Start 21:

- Found in 12 of 147 ( 8.2% ) of genes in pham
- Manual Annotations of this start: 10 of 123
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DonkeyMan\_10 (DY), Gustav\_9 (CD), Heinz\_10 (DY), Hibiscus\_10 (DY), Jojo24\_10 (DY), Mahdia\_9 (CD), Morrissey\_9 (CD), Poppers\_9 (CD), Reyja\_11 (DY), Santhid\_10 (DY), Tarzan\_10 (DY), Widow\_9 (CD),

#### Start 23:

- Found in 32 of 147 ( 21.8% ) of genes in pham
- Manual Annotations of this start: 14 of 123
- Called 50.0% of time when present
- Phage (with cluster) where this start called: BBQValindra\_10 (DB), Bowser\_10 (DB), DirtyBoi\_11 (DB), Eyes\_10 (DB), Francois\_15 (DI), GEazy\_10 (DB), Hedwig\_11 (DB), IdentityCrisis\_11 (singleton), Kiko\_11 (DB), MagicMan\_10 (DB), Opie\_10 (DB), Schnabeltier\_10 (DB), TaronosaurusRx\_10 (DB), Trine\_9 (CD), WheatThin\_15 (DI), ZAYM\_10 (DB),

#### Start 24:

- Found in 20 of 147 ( 13.6% ) of genes in pham
- Manual Annotations of this start: 15 of 123
- Called 90.0% of time when present
- Phage (with cluster) where this start called: ArchiDore\_12 (DW), Ayotoya\_15 (DI), BetterKatz\_15 (DI), Bock\_15 (DI), Brylie\_15 (DI), Chop\_15 (DI), DelRio\_16 (DI), DumpsterDude\_12 (DW), GrandSlam\_15 (DI), Hamood\_15 (DI), MakCheese\_13 (DW), Mulch\_15 (DI), Nadeem\_15 (DI), NancyRae\_15 (DI), Parada\_15 (DI), Pimento\_16 (DI), Ruthy\_12 (DW), Zodiariah\_11 (DW),

#### Start 25:

- Found in 20 of 147 ( 13.6% ) of genes in pham
- Manual Annotations of this start: 17 of 123
- Called 95.0% of time when present
- Phage (with cluster) where this start called: Adolin\_11 (AZ1), AinMach\_10 (AZ), Ashes\_11 (AZ5), Cappuccino\_11 (AZ5), Donkey\_11 (AZ5), DrManhattan\_11 (AZ1), Elener\_12 (singleton), Exile\_10 (AZ), Gambol\_11 (AZ5), Halsey\_11 (AZ5), Kalimba\_11 (AZ5), MissSwiss\_11 (AZ1), Moss\_11 (AZ5), Mysterium\_11 (AZ5), Soondubu\_10 (AZ), Sooty\_11 (AZ5), SpecialK\_11 (AZ5), Sue2\_11 (AZ1), VResidence\_11 (AZ1),

#### Start 26:

- Found in 75 of 147 ( 51.0% ) of genes in pham
- Manual Annotations of this start: 61 of 123
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AEgle\_11 (AZ1), AGrandiflora\_11 (AZ1), Adumb2043\_11 (AZ1), Amyev\_11 (AZ1), Asa16\_11 (AZ1), Ascela\_11 (AZ1), Barnstormer\_9 (EH), Berrie\_11 (AZ1), Caron\_9 (EH), Cassia\_11 (AZ1), Community\_12 (AZ1), Coriander\_11 (DB), Crewmate\_12 (AZ1), Cyan\_11 (AZ1), Dmitri\_11 (DB), Doggs\_10 (DB), DrSierra\_11 (AZ1), Elezi\_11 (AZ1), Emotion\_10 (AZ4), Eraser\_11 (AZ1), Floof\_10 (EH), GardenState\_10 (EH), Gretchen\_10 (EH),

IAmGroot\_10 (EH), Iter\_11 (AZ1), IttyBittyPiggy\_11 (AZ1), Janeemi\_12 (AZ1), JasmineDragon\_10 (AZ4), Joemato\_11 (AZ1), JohnDoe\_11 (AZ1), Jstan\_11 (AZ1), JuneStar\_11 (AZ1), Kaylissa\_11 (AZ1), KeAlii\_11 (AZ1), LadyAstra\_10 (AZ4), Lego\_11 (AZ1), Liebe\_10 (AZ2), Lizalica\_11 (AZ1), London\_11 (AZ1), MaGuCo\_10 (AZ2), Mabodamaca\_10 (EH), Malibo\_10 (DW), Maureen\_10 (AZ2), MiniMommy\_9 (AZ4), Moonflower\_11 (DB), Mudpuppy\_11 (AZ1), Niobe\_11 (AZ1), Nitro\_11 (AZ1), ObiToo\_11 (AZ1), Percival\_10 (EH), Phives\_12 (AZ1), Pixelle\_11 (AZ1), Powerpuff\_11 (AZ1), Pumpkins\_11 (AZ1), RayTheFireFly\_11 (DB), Reedo\_11 (AZ1), Shaffner\_12 (AZ1), ShakeltOph\_10 (AZ4), Simpson\_12 (AZ1), Sneek\_11 (AZ3), SuMoo\_9 (EH), Tallboi\_11 (AZ1), Tbone\_11 (AZ1), TforTroy\_11 (AZ1), Tian\_11 (AZ1), Tuck\_12 (AZ1), Turab\_11 (AZ1), Tutumahutu\_11 (AZ1), Tweety19\_11 (AZ3), UtzChips\_9 (EH), VroomVroom\_10 (AZ4), Warda\_11 (AZ1), Wildwest\_12 (AZ1), Yang\_11 (AZ1), YesChef\_11 (AZ1),

Start 27:

- Found in 4 of 147 ( 2.7% ) of genes in pham
- Manual Annotations of this start: 3 of 123
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Cen1621\_9 (EH), Honk\_9 (EH), Zeta1847\_9 (EH),

### Summary by clusters:

There are 13 clusters represented in this pham: singleton, AZ, EH, DI, DB, CD, DW, DY, AZ1, AZ2, AZ3, AZ4, AZ5,

Info for manual annotations of cluster AZ:

- Start number 25 was manually annotated 1 time for cluster AZ.

Info for manual annotations of cluster AZ1:

- Start number 25 was manually annotated 5 times for cluster AZ1.
- Start number 26 was manually annotated 39 times for cluster AZ1.

Info for manual annotations of cluster AZ2:

- Start number 26 was manually annotated 3 times for cluster AZ2.

Info for manual annotations of cluster AZ3:

- Start number 26 was manually annotated 2 times for cluster AZ3.

Info for manual annotations of cluster AZ4:

- Start number 26 was manually annotated 3 times for cluster AZ4.

Info for manual annotations of cluster AZ5:

- Start number 25 was manually annotated 10 times for cluster AZ5.

Info for manual annotations of cluster CD:

- Start number 20 was manually annotated 1 time for cluster CD.
- Start number 21 was manually annotated 5 times for cluster CD.
- Start number 23 was manually annotated 1 time for cluster CD.

Info for manual annotations of cluster DB:

- Start number 20 was manually annotated 2 times for cluster DB.
- Start number 23 was manually annotated 10 times for cluster DB.

- Start number 26 was manually annotated 3 times for cluster DB.

Info for manual annotations of cluster DI:

- Start number 23 was manually annotated 2 times for cluster DI.
- Start number 24 was manually annotated 13 times for cluster DI.

Info for manual annotations of cluster DW:

- Start number 24 was manually annotated 2 times for cluster DW.
- Start number 26 was manually annotated 1 time for cluster DW.

Info for manual annotations of cluster DY:

- Start number 21 was manually annotated 5 times for cluster DY.

Info for manual annotations of cluster EH:

- Start number 26 was manually annotated 10 times for cluster EH.
- Start number 27 was manually annotated 3 times for cluster EH.

### **Gene Information:**

Gene: AEgle\_11 Start: 8744, Stop: 9049, Start Num: 26

Candidate Starts for AEgle\_11:

(7, 8474), (Start: 26 @8744 has 61 MA's), (33, 8786), (40, 8849), (53, 8939),

Gene: AGrandiflora\_11 Start: 8731, Stop: 9039, Start Num: 26

Candidate Starts for AGrandiflora\_11:

(Start: 26 @8731 has 61 MA's), (33, 8773), (48, 8887),

Gene: Adolin\_11 Start: 8716, Stop: 9024, Start Num: 25

Candidate Starts for Adolin\_11:

(Start: 25 @8716 has 17 MA's), (35, 8779), (40, 8824), (53, 8914), (66, 9004),

Gene: Adumb2043\_11 Start: 8743, Stop: 9048, Start Num: 26

Candidate Starts for Adumb2043\_11:

(7, 8473), (Start: 26 @8743 has 61 MA's), (33, 8785), (40, 8848), (53, 8938),

Gene: AinMach\_10 Start: 7842, Stop: 8153, Start Num: 25

Candidate Starts for AinMach\_10:

(2, 7434), (14, 7746), (Start: 25 @7842 has 17 MA's), (30, 7863), (32, 7878), (33, 7887), (56, 8049), (70, 8145),

Gene: Amyev\_11 Start: 8759, Stop: 9064, Start Num: 26

Candidate Starts for Amyev\_11:

(7, 8489), (Start: 26 @8759 has 61 MA's), (33, 8801), (41, 8876),

Gene: ArchiDore\_12 Start: 8060, Stop: 8335, Start Num: 24

Candidate Starts for ArchiDore\_12:

(Start: 24 @8060 has 15 MA's), (41, 8180), (49, 8210),

Gene: Asa16\_11 Start: 8713, Stop: 9018, Start Num: 26

Candidate Starts for Asa16\_11:

(7, 8443), (Start: 26 @8713 has 61 MA's), (33, 8755), (40, 8818), (48, 8869), (53, 8908),



Gene: Ascela\_11 Start: 8748, Stop: 9053, Start Num: 26

Candidate Starts for Ascela\_11:

(Start: 26 @8748 has 61 MA's), (33, 8790), (40, 8853),

Gene: Ashes\_11 Start: 8267, Stop: 8554, Start Num: 25

Candidate Starts for Ashes\_11:

(Start: 25 @8267 has 17 MA's), (47, 8417), (54, 8453), (56, 8459),

Gene: Ayotoya\_15 Start: 9620, Stop: 9898, Start Num: 24

Candidate Starts for Ayotoya\_15:

(Start: 23 @9617 has 14 MA's), (Start: 24 @9620 has 15 MA's), (40, 9731), (49, 9773), (52, 9791), (55, 9818),

Gene: BBQValindra\_10 Start: 7210, Stop: 7500, Start Num: 23

Candidate Starts for BBQValindra\_10:

(Start: 20 @7204 has 3 MA's), (Start: 23 @7210 has 14 MA's), (32, 7246), (39, 7306), (54, 7402), (60, 7432), (66, 7486),

Gene: BackstagePass\_10 Start: 7181, Stop: 7477, Start Num: 20

Candidate Starts for BackstagePass\_10:

(Start: 20 @7181 has 3 MA's), (Start: 23 @7187 has 14 MA's), (32, 7223), (39, 7283), (54, 7379), (60, 7409), (66, 7463),

Gene: Barnstormer\_9 Start: 7938, Stop: 8219, Start Num: 26

Candidate Starts for Barnstormer\_9:

(Start: 26 @7938 has 61 MA's), (42, 8052),

Gene: Berrie\_11 Start: 8715, Stop: 9020, Start Num: 26

Candidate Starts for Berrie\_11:

(Start: 26 @8715 has 61 MA's), (33, 8757), (40, 8820), (41, 8832),

Gene: BetterKatz\_15 Start: 9588, Stop: 9866, Start Num: 24

Candidate Starts for BetterKatz\_15:

(6, 9243), (Start: 23 @9585 has 14 MA's), (Start: 24 @9588 has 15 MA's), (37, 9666), (40, 9699), (41, 9711), (49, 9741), (55, 9786), (58, 9801),

Gene: Bock\_15 Start: 9338, Stop: 9616, Start Num: 24

Candidate Starts for Bock\_15:

(Start: 23 @9335 has 14 MA's), (Start: 24 @9338 has 15 MA's), (37, 9416), (40, 9449), (41, 9461), (49, 9491), (55, 9536), (58, 9551),

Gene: Bowser\_10 Start: 7208, Stop: 7498, Start Num: 23

Candidate Starts for Bowser\_10:

(Start: 23 @7208 has 14 MA's), (34, 7256), (39, 7304), (49, 7358), (60, 7430),

Gene: Brylie\_15 Start: 9335, Stop: 9613, Start Num: 24

Candidate Starts for Brylie\_15:

(Start: 23 @9332 has 14 MA's), (Start: 24 @9335 has 15 MA's), (37, 9413), (40, 9446), (41, 9458), (49, 9488), (55, 9533), (58, 9548),

Gene: Bunker\_10 Start: 7204, Stop: 7500, Start Num: 20

Candidate Starts for Bunker\_10:

(Start: 20 @7204 has 3 MA's), (Start: 23 @7210 has 14 MA's), (32, 7246), (39, 7306), (60, 7432), (66, 7486),

Gene: Cappuccino\_11 Start: 8176, Stop: 8463, Start Num: 25

Candidate Starts for Cappuccino\_11:

(Start: 25 @8176 has 17 MA's), (39, 8272), (56, 8368),

Gene: Caron\_9 Start: 7966, Stop: 8247, Start Num: 26

Candidate Starts for Caron\_9:

(3, 7567), (9, 7708), (Start: 26 @7966 has 61 MA's), (35, 8023), (42, 8080),

Gene: Cassia\_11 Start: 8837, Stop: 9139, Start Num: 26

Candidate Starts for Cassia\_11:

(Start: 26 @8837 has 61 MA's), (33, 8879), (40, 8942), (48, 8993), (53, 9029),

Gene: Cen1621\_9 Start: 7077, Stop: 7358, Start Num: 27

Candidate Starts for Cen1621\_9:

(14, 6987), (Start: 27 @7077 has 3 MA's), (29, 7083), (37, 7143),

Gene: Chop\_15 Start: 9368, Stop: 9646, Start Num: 24

Candidate Starts for Chop\_15:

(Start: 23 @9365 has 14 MA's), (Start: 24 @9368 has 15 MA's), (40, 9479), (49, 9521), (52, 9539), (55, 9566),

Gene: Community\_12 Start: 9794, Stop: 10099, Start Num: 26

Candidate Starts for Community\_12:

(Start: 26 @9794 has 61 MA's), (33, 9836), (40, 9899), (41, 9911), (53, 9989),

Gene: Coriander\_11 Start: 7607, Stop: 7876, Start Num: 26

Candidate Starts for Coriander\_11:

(Start: 26 @7607 has 61 MA's), (37, 7673), (49, 7736), (50, 7742), (54, 7778), (57, 7796),

Gene: Crewmate\_12 Start: 9180, Stop: 9488, Start Num: 26

Candidate Starts for Crewmate\_12:

(Start: 26 @9180 has 61 MA's), (40, 9285), (41, 9297), (53, 9375),

Gene: Cyan\_11 Start: 8735, Stop: 9040, Start Num: 26

Candidate Starts for Cyan\_11:

(Start: 26 @8735 has 61 MA's), (33, 8777),

Gene: DelRio\_16 Start: 9845, Stop: 10123, Start Num: 24

Candidate Starts for DelRio\_16:

(6, 9500), (Start: 23 @9842 has 14 MA's), (Start: 24 @9845 has 15 MA's), (40, 9956), (49, 9998), (52, 10016), (55, 10043), (61, 10076), (62, 10079),

Gene: DirtyBoi\_11 Start: 7580, Stop: 7870, Start Num: 23

Candidate Starts for DirtyBoi\_11:

(Start: 23 @7580 has 14 MA's), (49, 7730),

Gene: Dmitri\_11 Start: 7589, Stop: 7858, Start Num: 26

Candidate Starts for Dmitri\_11:

(Start: 26 @7589 has 61 MA's), (32, 7616), (37, 7655), (41, 7688), (43, 7700), (50, 7724), (54, 7760), (57, 7778),

Gene: Doggs\_10 Start: 7304, Stop: 7573, Start Num: 26

Candidate Starts for Doggs\_10:

(Start: 26 @7304 has 61 MA's), (37, 7370), (49, 7433), (50, 7439), (54, 7475), (57, 7493),

Gene: Donkey\_11 Start: 8176, Stop: 8463, Start Num: 25

Candidate Starts for Donkey\_11:

(Start: 25 @8176 has 17 MA's), (39, 8272), (56, 8368),

Gene: DonkeyMan\_10 Start: 7146, Stop: 7430, Start Num: 21

Candidate Starts for DonkeyMan\_10:

(11, 6927), (18, 7095), (Start: 21 @7146 has 10 MA's), (35, 7209),

Gene: DrManhattan\_11 Start: 8706, Stop: 9014, Start Num: 25

Candidate Starts for DrManhattan\_11:

(Start: 25 @8706 has 17 MA's), (35, 8769), (37, 8781), (40, 8814), (53, 8904), (66, 8994),

Gene: DrSierra\_11 Start: 8737, Stop: 9042, Start Num: 26

Candidate Starts for DrSierra\_11:

(Start: 26 @8737 has 61 MA's), (33, 8779),

Gene: DumpsterDude\_12 Start: 8073, Stop: 8348, Start Num: 24

Candidate Starts for DumpsterDude\_12:

(11, 7845), (Start: 24 @8073 has 15 MA's), (37, 8148), (49, 8223),

Gene: Elener\_12 Start: 9320, Stop: 9589, Start Num: 25

Candidate Starts for Elener\_12:

(Start: 25 @9320 has 17 MA's), (30, 9341), (37, 9395), (52, 9464), (54, 9488), (56, 9494), (66, 9572),

Gene: Elezi\_11 Start: 8714, Stop: 9019, Start Num: 26

Candidate Starts for Elezi\_11:

(7, 8444), (Start: 26 @8714 has 61 MA's), (33, 8756), (40, 8819), (48, 8870), (53, 8909),

Gene: Emotion\_10 Start: 7073, Stop: 7354, Start Num: 26

Candidate Starts for Emotion\_10:

(Start: 26 @7073 has 61 MA's), (32, 7106), (33, 7115), (51, 7229), (54, 7256),

Gene: Eraser\_11 Start: 8714, Stop: 9019, Start Num: 26

Candidate Starts for Eraser\_11:

(7, 8444), (Start: 26 @8714 has 61 MA's), (33, 8756), (40, 8819), (48, 8870), (53, 8909),

Gene: Exile\_10 Start: 8625, Stop: 8930, Start Num: 25

Candidate Starts for Exile\_10:

(Start: 25 @8625 has 17 MA's), (32, 8661), (33, 8670), (44, 8763), (56, 8835),

Gene: Eyes\_10 Start: 7217, Stop: 7507, Start Num: 23

Candidate Starts for Eyes\_10:

(Start: 23 @7217 has 14 MA's), (34, 7265), (39, 7313), (49, 7367), (54, 7409), (60, 7439), (66, 7493),

Gene: Floof\_10 Start: 7504, Stop: 7794, Start Num: 26

Candidate Starts for Floof\_10:

(14, 7414), (Start: 26 @7504 has 61 MA's), (39, 7600), (41, 7624), (54, 7693),

Gene: Francois\_15 Start: 9346, Stop: 9627, Start Num: 23

Candidate Starts for Francois\_15:

(Start: 23 @9346 has 14 MA's), (Start: 24 @9349 has 15 MA's), (40, 9460), (49, 9502), (55, 9547), (58, 9562), (65, 9610),

Gene: GEazy\_10 Start: 7219, Stop: 7509, Start Num: 23

Candidate Starts for GEazy\_10:

(Start: 20 @7213 has 3 MA's), (Start: 23 @7219 has 14 MA's), (32, 7255), (39, 7315), (60, 7441), (66, 7495),

Gene: Gambol\_11 Start: 8176, Stop: 8463, Start Num: 25

Candidate Starts for Gambol\_11:

(Start: 25 @8176 has 17 MA's), (39, 8272), (56, 8368),

Gene: GardenState\_10 Start: 8171, Stop: 8461, Start Num: 26

Candidate Starts for GardenState\_10:

(Start: 26 @8171 has 61 MA's), (39, 8264),

Gene: GrandSlam\_15 Start: 9368, Stop: 9646, Start Num: 24

Candidate Starts for GrandSlam\_15:

(Start: 23 @9365 has 14 MA's), (Start: 24 @9368 has 15 MA's), (40, 9479), (49, 9521), (52, 9539), (55, 9566),

Gene: Gretchen\_10 Start: 9050, Stop: 9340, Start Num: 26

Candidate Starts for Gretchen\_10:

(Start: 26 @9050 has 61 MA's), (37, 9125), (39, 9146), (54, 9239),

Gene: Gustav\_9 Start: 6894, Stop: 7172, Start Num: 21

Candidate Starts for Gustav\_9:

(Start: 21 @6894 has 10 MA's), (32, 6930), (39, 6987), (44, 7020), (49, 7032), (50, 7038), (55, 7077), (62, 7125),

Gene: Halsey\_11 Start: 8267, Stop: 8554, Start Num: 25

Candidate Starts for Halsey\_11:

(Start: 25 @8267 has 17 MA's), (47, 8417), (54, 8453), (56, 8459),

Gene: Hamood\_15 Start: 9368, Stop: 9646, Start Num: 24

Candidate Starts for Hamood\_15:

(Start: 23 @9365 has 14 MA's), (Start: 24 @9368 has 15 MA's), (40, 9479), (49, 9521), (52, 9539), (55, 9566),

Gene: HannahD\_10 Start: 7213, Stop: 7509, Start Num: 20

Candidate Starts for HannahD\_10:

(Start: 20 @7213 has 3 MA's), (Start: 23 @7219 has 14 MA's), (32, 7255), (39, 7315), (60, 7441), (66, 7495),

Gene: Hedwig\_11 Start: 7580, Stop: 7870, Start Num: 23

Candidate Starts for Hedwig\_11:

(Start: 23 @7580 has 14 MA's), (49, 7730),

Gene: Heinz\_10 Start: 7185, Stop: 7466, Start Num: 21

Candidate Starts for Heinz\_10:

(3, 6783), (11, 6966), (18, 7134), (Start: 21 @7185 has 10 MA's), (34, 7233), (37, 7260),

Gene: Hibiscus\_10 Start: 7156, Stop: 7443, Start Num: 21  
Candidate Starts for Hibiscus\_10:  
(11, 6937), (18, 7105), (Start: 21 @7156 has 10 MA's), (37, 7234),

Gene: Honk\_9 Start: 7045, Stop: 7326, Start Num: 27  
Candidate Starts for Honk\_9:  
(7, 6799), (14, 6955), (Start: 27 @7045 has 3 MA's), (32, 7072), (37, 7111),

Gene: IAmGroot\_10 Start: 8815, Stop: 9105, Start Num: 26  
Candidate Starts for IAmGroot\_10:  
(Start: 26 @8815 has 61 MA's), (39, 8908),

Gene: IdentityCrisis\_11 Start: 8164, Stop: 8412, Start Num: 23  
Candidate Starts for IdentityCrisis\_11:  
(Start: 23 @8164 has 14 MA's), (Start: 25 @8170 has 17 MA's), (49, 8281), (68, 8398),

Gene: Iter\_11 Start: 8748, Stop: 9053, Start Num: 26  
Candidate Starts for Iter\_11:  
(Start: 26 @8748 has 61 MA's), (33, 8790), (40, 8853),

Gene: IttyBittyPiggy\_11 Start: 8739, Stop: 9041, Start Num: 26  
Candidate Starts for IttyBittyPiggy\_11:  
(Start: 26 @8739 has 61 MA's), (33, 8781), (40, 8844), (53, 8931),

Gene: Janeemi\_12 Start: 9825, Stop: 10130, Start Num: 26  
Candidate Starts for Janeemi\_12:  
(Start: 26 @9825 has 61 MA's), (33, 9867), (40, 9930), (41, 9942), (48, 9981), (53, 10020),

Gene: JasmineDragon\_10 Start: 7008, Stop: 7289, Start Num: 26  
Candidate Starts for JasmineDragon\_10:  
(Start: 26 @7008 has 61 MA's), (32, 7041), (33, 7050), (51, 7164), (63, 7245),

Gene: Joemato\_11 Start: 8735, Stop: 9040, Start Num: 26  
Candidate Starts for Joemato\_11:  
(Start: 26 @8735 has 61 MA's), (33, 8777),

Gene: JohnDoe\_11 Start: 8733, Stop: 9038, Start Num: 26  
Candidate Starts for JohnDoe\_11:  
(Start: 26 @8733 has 61 MA's), (33, 8775),

Gene: Jojo24\_10 Start: 7151, Stop: 7438, Start Num: 21  
Candidate Starts for Jojo24\_10:  
(11, 6932), (18, 7100), (Start: 21 @7151 has 10 MA's), (37, 7229),

Gene: Jstan\_11 Start: 8714, Stop: 9019, Start Num: 26  
Candidate Starts for Jstan\_11:  
(7, 8444), (Start: 26 @8714 has 61 MA's), (33, 8756), (40, 8819), (48, 8870), (53, 8909),

Gene: JuneStar\_11 Start: 8833, Stop: 9135, Start Num: 26  
Candidate Starts for JuneStar\_11:  
(Start: 26 @8833 has 61 MA's), (33, 8875), (40, 8938), (48, 8989), (53, 9025),

Gene: Kalimba\_11 Start: 8176, Stop: 8463, Start Num: 25

Candidate Starts for Kalimba\_11:

(Start: 25 @8176 has 17 MA's), (39, 8272), (56, 8368),

Gene: Kaylissa\_11 Start: 8736, Stop: 9041, Start Num: 26

Candidate Starts for Kaylissa\_11:

(Start: 26 @8736 has 61 MA's), (33, 8778),

Gene: KeAlii\_11 Start: 8765, Stop: 9073, Start Num: 26

Candidate Starts for KeAlii\_11:

(Start: 26 @8765 has 61 MA's), (32, 8798), (33, 8807), (59, 8993), (66, 9053),

Gene: Kiko\_11 Start: 7416, Stop: 7706, Start Num: 23

Candidate Starts for Kiko\_11:

(10, 7176), (Start: 20 @7410 has 3 MA's), (Start: 23 @7416 has 14 MA's), (41, 7536), (54, 7608),

Gene: LadyAstra\_10 Start: 7008, Stop: 7286, Start Num: 26

Candidate Starts for LadyAstra\_10:

(Start: 26 @7008 has 61 MA's), (32, 7041), (33, 7050),

Gene: Lego\_11 Start: 8734, Stop: 9042, Start Num: 26

Candidate Starts for Lego\_11:

(Start: 26 @8734 has 61 MA's), (33, 8776), (35, 8794),

Gene: Liebe\_10 Start: 7184, Stop: 7495, Start Num: 26

Candidate Starts for Liebe\_10:

(Start: 26 @7184 has 61 MA's), (40, 7289), (59, 7412),

Gene: Lizalica\_11 Start: 8720, Stop: 9028, Start Num: 26

Candidate Starts for Lizalica\_11:

(7, 8450), (Start: 26 @8720 has 61 MA's), (33, 8762),

Gene: London\_11 Start: 8714, Stop: 9019, Start Num: 26

Candidate Starts for London\_11:

(7, 8444), (Start: 26 @8714 has 61 MA's), (33, 8756), (40, 8819), (48, 8870), (53, 8909),

Gene: MaGuCo\_10 Start: 7043, Stop: 7435, Start Num: 26

Candidate Starts for MaGuCo\_10:

(Start: 26 @7043 has 61 MA's), (Start: 27 @7049 has 3 MA's), (39, 7136), (40, 7148), (59, 7271),

Gene: Mabodamaca\_10 Start: 8271, Stop: 8558, Start Num: 26

Candidate Starts for Mabodamaca\_10:

(Start: 26 @8271 has 61 MA's), (63, 8505), (66, 8535),

Gene: MagicMan\_10 Start: 7547, Stop: 7837, Start Num: 23

Candidate Starts for MagicMan\_10:

(Start: 23 @7547 has 14 MA's), (34, 7595), (39, 7643), (49, 7697), (60, 7769), (66, 7823),

Gene: Mahdia\_9 Start: 6893, Stop: 7174, Start Num: 21

Candidate Starts for Mahdia\_9:

(Start: 21 @6893 has 10 MA's), (32, 6932), (49, 7034), (50, 7040), (55, 7079),

Gene: MakCheese\_13 Start: 7880, Stop: 8155, Start Num: 24

Candidate Starts for MakCheese\_13:

(11, 7652), (Start: 24 @7880 has 15 MA's), (36, 7952), (45, 8027), (55, 8075), (56, 8078),

Gene: Malibo\_10 Start: 7477, Stop: 7743, Start Num: 26

Candidate Starts for Malibo\_10:

(Start: 26 @7477 has 61 MA's), (36, 7537), (41, 7573), (49, 7603), (50, 7609), (54, 7645), (59, 7669), (66, 7729),

Gene: Maureen\_10 Start: 7184, Stop: 7495, Start Num: 26

Candidate Starts for Maureen\_10:

(Start: 26 @7184 has 61 MA's), (40, 7289), (59, 7412),

Gene: MiniMommy\_9 Start: 7008, Stop: 7289, Start Num: 26

Candidate Starts for MiniMommy\_9:

(Start: 26 @7008 has 61 MA's), (32, 7041), (51, 7164), (63, 7245),

Gene: MissSwiss\_11 Start: 8710, Stop: 9018, Start Num: 25

Candidate Starts for MissSwiss\_11:

(Start: 25 @8710 has 17 MA's), (35, 8773), (51, 8890), (53, 8908), (66, 8998),

Gene: Moonflower\_11 Start: 7612, Stop: 7881, Start Num: 26

Candidate Starts for Moonflower\_11:

(Start: 26 @7612 has 61 MA's), (37, 7678), (49, 7741), (50, 7747), (54, 7783), (57, 7801),

Gene: Morrissey\_9 Start: 6870, Stop: 7154, Start Num: 21

Candidate Starts for Morrissey\_9:

(Start: 21 @6870 has 10 MA's), (32, 6909), (36, 6942), (39, 6966), (49, 7014), (55, 7059),

Gene: Moss\_11 Start: 8267, Stop: 8554, Start Num: 25

Candidate Starts for Moss\_11:

(Start: 25 @8267 has 17 MA's), (47, 8417), (54, 8453), (56, 8459),

Gene: Mudpuppy\_11 Start: 8734, Stop: 9042, Start Num: 26

Candidate Starts for Mudpuppy\_11:

(Start: 26 @8734 has 61 MA's), (33, 8776), (35, 8794), (48, 8890),

Gene: Mulch\_15 Start: 9335, Stop: 9613, Start Num: 24

Candidate Starts for Mulch\_15:

(Start: 23 @9332 has 14 MA's), (Start: 24 @9335 has 15 MA's), (37, 9413), (40, 9446), (41, 9458), (49, 9488), (55, 9533), (58, 9548),

Gene: Mysterium\_11 Start: 8268, Stop: 8555, Start Num: 25

Candidate Starts for Mysterium\_11:

(Start: 25 @8268 has 17 MA's), (47, 8418), (54, 8454), (56, 8460),

Gene: Nadeem\_15 Start: 9335, Stop: 9613, Start Num: 24

Candidate Starts for Nadeem\_15:

(Start: 23 @9332 has 14 MA's), (Start: 24 @9335 has 15 MA's), (37, 9413), (40, 9446), (41, 9458), (49, 9488), (55, 9533), (58, 9548),

Gene: NancyRae\_15 Start: 9335, Stop: 9613, Start Num: 24

Candidate Starts for NancyRae\_15:

(Start: 23 @9332 has 14 MA's), (Start: 24 @9335 has 15 MA's), (37, 9413), (40, 9446), (41, 9458), (49, 9488), (55, 9533), (58, 9548),

Gene: Niobe\_11 Start: 8714, Stop: 9019, Start Num: 26

Candidate Starts for Niobe\_11:

(7, 8444), (Start: 26 @8714 has 61 MA's), (33, 8756), (40, 8819), (48, 8870), (53, 8909),

Gene: Nitro\_11 Start: 8737, Stop: 9042, Start Num: 26

Candidate Starts for Nitro\_11:

(7, 8461), (Start: 26 @8737 has 61 MA's), (33, 8779), (35, 8797), (40, 8842), (53, 8932),

Gene: ObiToo\_11 Start: 8917, Stop: 9225, Start Num: 26

Candidate Starts for ObiToo\_11:

(Start: 26 @8917 has 61 MA's), (40, 9022), (41, 9034), (53, 9112),

Gene: Opie\_10 Start: 7562, Stop: 7852, Start Num: 23

Candidate Starts for Opie\_10:

(Start: 23 @7562 has 14 MA's), (32, 7598), (39, 7658), (54, 7754), (62, 7805),

Gene: Parada\_15 Start: 9335, Stop: 9613, Start Num: 24

Candidate Starts for Parada\_15:

(Start: 23 @9332 has 14 MA's), (Start: 24 @9335 has 15 MA's), (37, 9413), (40, 9446), (41, 9458), (49, 9488), (55, 9533), (58, 9548),

Gene: Percival\_10 Start: 8884, Stop: 9174, Start Num: 26

Candidate Starts for Percival\_10:

(Start: 26 @8884 has 61 MA's), (37, 8959), (39, 8980), (54, 9073),

Gene: Phives\_12 Start: 9819, Stop: 10124, Start Num: 26

Candidate Starts for Phives\_12:

(7, 9549), (Start: 26 @9819 has 61 MA's), (33, 9861), (41, 9936),

Gene: Pimento\_16 Start: 9539, Stop: 9817, Start Num: 24

Candidate Starts for Pimento\_16:

(6, 9194), (Start: 23 @9536 has 14 MA's), (Start: 24 @9539 has 15 MA's), (37, 9617), (40, 9650), (41, 9662), (49, 9692), (55, 9737), (58, 9752),

Gene: Pixelle\_11 Start: 8762, Stop: 9067, Start Num: 26

Candidate Starts for Pixelle\_11:

(7, 8492), (Start: 26 @8762 has 61 MA's), (33, 8804), (41, 8879),

Gene: Powerpuff\_11 Start: 8785, Stop: 9093, Start Num: 26

Candidate Starts for Powerpuff\_11:

(Start: 26 @8785 has 61 MA's), (33, 8827), (48, 8941),

Gene: Pumpkins\_11 Start: 8839, Stop: 9144, Start Num: 26

Candidate Starts for Pumpkins\_11:

(Start: 26 @8839 has 61 MA's), (33, 8881), (40, 8944), (53, 9034),

Gene: Puppies\_9 Start: 6807, Stop: 7094, Start Num: 21

Candidate Starts for Puppies\_9:

(15, 6720), (19, 6783), (Start: 21 @6807 has 10 MA's), (39, 6909), (49, 6954), (50, 6960), (55, 6999), (62, 7047), (66, 7080),



Gene: RayTheFireFly\_11 Start: 7613, Stop: 7882, Start Num: 26  
Candidate Starts for RayTheFireFly\_11:  
(Start: 26 @7613 has 61 MA's), (37, 7679), (49, 7742), (50, 7748), (54, 7784), (57, 7802),

Gene: Reedo\_11 Start: 8786, Stop: 9091, Start Num: 26  
Candidate Starts for Reedo\_11:  
(Start: 26 @8786 has 61 MA's), (33, 8828), (38, 8861), (66, 9071),

Gene: Reyja\_11 Start: 7295, Stop: 7579, Start Num: 21  
Candidate Starts for Reyja\_11:  
(18, 7244), (Start: 21 @7295 has 10 MA's), (37, 7370),

Gene: Ruthy\_12 Start: 8144, Stop: 8419, Start Num: 24  
Candidate Starts for Ruthy\_12:  
(11, 7916), (Start: 24 @8144 has 15 MA's), (37, 8219), (55, 8339),

Gene: Santhid\_10 Start: 7160, Stop: 7447, Start Num: 21  
Candidate Starts for Santhid\_10:  
(18, 7109), (Start: 21 @7160 has 10 MA's), (37, 7238),

Gene: Schnabeltier\_10 Start: 7548, Stop: 7838, Start Num: 23  
Candidate Starts for Schnabeltier\_10:  
(Start: 23 @7548 has 14 MA's), (34, 7596), (39, 7644), (49, 7698), (60, 7770), (66, 7824),

Gene: Shaffner\_12 Start: 8830, Stop: 9132, Start Num: 26  
Candidate Starts for Shaffner\_12:  
(Start: 26 @8830 has 61 MA's), (33, 8872), (40, 8935), (48, 8986), (53, 9022),

Gene: ShakeltOph\_10 Start: 7008, Stop: 7289, Start Num: 26  
Candidate Starts for ShakeltOph\_10:  
(Start: 26 @7008 has 61 MA's), (32, 7041), (33, 7050), (51, 7164), (63, 7245),

Gene: Simpson\_12 Start: 8735, Stop: 9040, Start Num: 26  
Candidate Starts for Simpson\_12:  
(Start: 26 @8735 has 61 MA's), (33, 8777),

Gene: Snek\_11 Start: 7822, Stop: 8127, Start Num: 26  
Candidate Starts for Snek\_11:  
(Start: 26 @7822 has 61 MA's), (33, 7861), (46, 7972), (63, 8077), (66, 8107),

Gene: Soondubu\_10 Start: 8626, Stop: 8931, Start Num: 25  
Candidate Starts for Soondubu\_10:  
(Start: 25 @8626 has 17 MA's), (32, 8662), (33, 8671), (51, 8806), (56, 8836),

Gene: Sooty\_11 Start: 8177, Stop: 8464, Start Num: 25  
Candidate Starts for Sooty\_11:  
(Start: 25 @8177 has 17 MA's), (39, 8273), (56, 8369),

Gene: SpecialK\_11 Start: 8174, Stop: 8461, Start Num: 25  
Candidate Starts for SpecialK\_11:  
(Start: 25 @8174 has 17 MA's), (47, 8324), (54, 8360), (56, 8366),

Gene: SuMoo\_9 Start: 7231, Stop: 7518, Start Num: 26  
Candidate Starts for SuMoo\_9:  
(Start: 26 @7231 has 61 MA's), (63, 7465), (66, 7495),

Gene: Sue2\_11 Start: 8727, Stop: 9035, Start Num: 25  
Candidate Starts for Sue2\_11:  
(Start: 25 @8727 has 17 MA's), (33, 8772), (59, 8958),

Gene: Tallboi\_11 Start: 8748, Stop: 9050, Start Num: 26  
Candidate Starts for Tallboi\_11:  
(7, 8478), (Start: 26 @8748 has 61 MA's), (33, 8790), (40, 8853), (48, 8904),

Gene: TaronosaurusRx\_10 Start: 7561, Stop: 7851, Start Num: 23  
Candidate Starts for TaronosaurusRx\_10:  
(Start: 23 @7561 has 14 MA's), (32, 7597), (39, 7657), (49, 7711), (60, 7783), (62, 7804),

Gene: Tarzan\_10 Start: 7151, Stop: 7435, Start Num: 21  
Candidate Starts for Tarzan\_10:  
(11, 6932), (18, 7100), (Start: 21 @7151 has 10 MA's), (35, 7214),

Gene: Tbone\_11 Start: 8728, Stop: 9036, Start Num: 26  
Candidate Starts for Tbone\_11:  
(Start: 26 @8728 has 61 MA's), (33, 8770), (35, 8788), (40, 8833), (48, 8884),

Gene: TforTroy\_11 Start: 8862, Stop: 9164, Start Num: 26  
Candidate Starts for TforTroy\_11:  
(Start: 26 @8862 has 61 MA's), (33, 8904), (40, 8967), (48, 9018), (53, 9054),

Gene: Tian\_11 Start: 8759, Stop: 9064, Start Num: 26  
Candidate Starts for Tian\_11:  
(7, 8489), (Start: 26 @8759 has 61 MA's), (33, 8801), (41, 8876),

Gene: Trine\_9 Start: 6815, Stop: 7090, Start Num: 23  
Candidate Starts for Trine\_9:  
(8, 6551), (12, 6641), (13, 6716), (16, 6728), (Start: 23 @6815 has 14 MA's), (39, 6911), (50, 6956),  
(55, 6995), (56, 6998),

Gene: Tuck\_12 Start: 9774, Stop: 10079, Start Num: 26  
Candidate Starts for Tuck\_12:  
(Start: 26 @9774 has 61 MA's), (33, 9816), (40, 9879), (41, 9891), (53, 9969),

Gene: Turab\_11 Start: 8743, Stop: 9048, Start Num: 26  
Candidate Starts for Turab\_11:  
(7, 8473), (Start: 26 @8743 has 61 MA's), (33, 8785), (40, 8848), (53, 8938),

Gene: Tutumahutu\_11 Start: 8785, Stop: 9093, Start Num: 26  
Candidate Starts for Tutumahutu\_11:  
(Start: 26 @8785 has 61 MA's), (33, 8827), (48, 8941),

Gene: Tweety19\_11 Start: 7821, Stop: 8126, Start Num: 26  
Candidate Starts for Tweety19\_11:  
(Start: 26 @7821 has 61 MA's), (33, 7860), (46, 7971), (63, 8076), (66, 8106),

Gene: Upyo\_9 Start: 6827, Stop: 7114, Start Num: 20

Candidate Starts for Upyo\_9:

(1, 6347), (4, 6449), (5, 6473), (15, 6746), (17, 6767), (Start: 20 @6827 has 3 MA's), (22, 6833), (28, 6854), (50, 6980), (54, 7016), (55, 7019), (64, 7088), (66, 7100), (67, 7103),

Gene: UtzChips\_9 Start: 7926, Stop: 8207, Start Num: 26

Candidate Starts for UtzChips\_9:

(Start: 26 @7926 has 61 MA's), (42, 8040),

Gene: VResidence\_11 Start: 8797, Stop: 9105, Start Num: 25

Candidate Starts for VResidence\_11:

(7, 8530), (14, 8698), (Start: 25 @8797 has 17 MA's), (66, 9088),

Gene: VroomVroom\_10 Start: 7020, Stop: 7301, Start Num: 26

Candidate Starts for VroomVroom\_10:

(Start: 26 @7020 has 61 MA's), (32, 7053), (33, 7062), (35, 7080), (51, 7176),

Gene: Warda\_11 Start: 8731, Stop: 9039, Start Num: 26

Candidate Starts for Warda\_11:

(Start: 26 @8731 has 61 MA's), (33, 8773), (35, 8791), (48, 8887),

Gene: WheatThin\_15 Start: 9332, Stop: 9613, Start Num: 23

Candidate Starts for WheatThin\_15:

(Start: 23 @9332 has 14 MA's), (Start: 24 @9335 has 15 MA's), (37, 9413), (40, 9446), (41, 9458), (49, 9488), (55, 9533), (58, 9548),

Gene: Widow\_9 Start: 6798, Stop: 7085, Start Num: 21

Candidate Starts for Widow\_9:

(19, 6774), (Start: 21 @6798 has 10 MA's), (39, 6900), (49, 6945), (50, 6951), (55, 6990), (62, 7038), (66, 7071),

Gene: Wildwest\_12 Start: 9644, Stop: 9949, Start Num: 26

Candidate Starts for Wildwest\_12:

(Start: 26 @9644 has 61 MA's), (31, 9668), (33, 9686), (66, 9929), (69, 9938),

Gene: Yang\_11 Start: 8832, Stop: 9134, Start Num: 26

Candidate Starts for Yang\_11:

(Start: 26 @8832 has 61 MA's), (33, 8874), (40, 8937), (48, 8988), (53, 9024),

Gene: YesChef\_11 Start: 8785, Stop: 9093, Start Num: 26

Candidate Starts for YesChef\_11:

(Start: 26 @8785 has 61 MA's), (33, 8827), (48, 8941),

Gene: ZAYM\_10 Start: 7554, Stop: 7844, Start Num: 23

Candidate Starts for ZAYM\_10:

(Start: 23 @7554 has 14 MA's), (39, 7650), (49, 7704), (60, 7776), (62, 7797), (66, 7830),

Gene: Zeta1847\_9 Start: 7022, Stop: 7303, Start Num: 27

Candidate Starts for Zeta1847\_9:

(14, 6935), (Start: 27 @7022 has 3 MA's), (32, 7049),

Gene: Zodiariah\_11 Start: 7870, Stop: 8145, Start Num: 24

Candidate Starts for Zodiariah\_11:

(Start: 24 @7870 has 15 MA's), (45, 8017), (49, 8020), (55, 8065), (56, 8068),