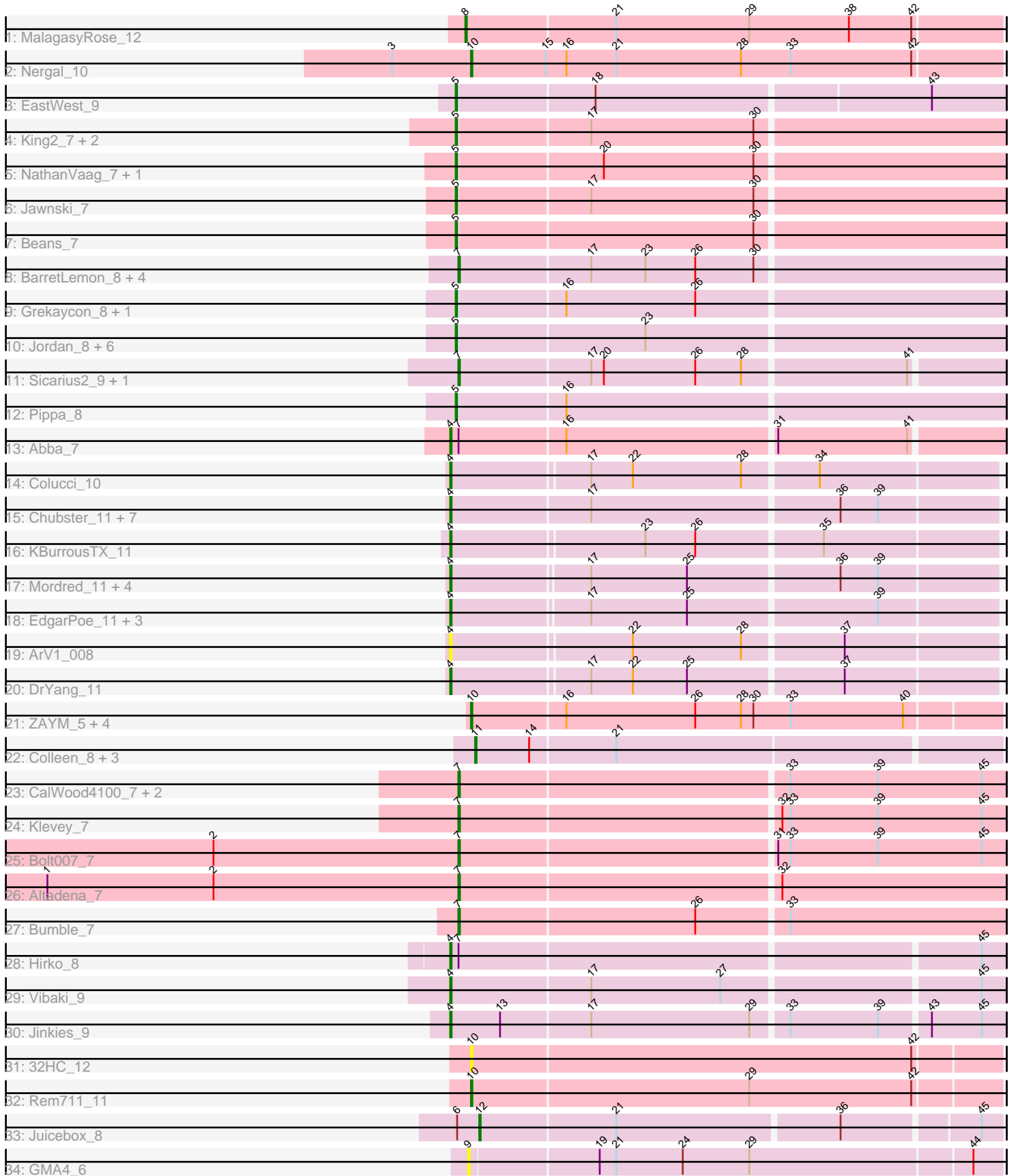


Pham 163576



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 163576 Report

This analysis was run 04/28/24 on database version 559.

Pham number 163576 has 72 members, 9 are drafts.

Phages represented in each track:

- Track 1 : MalagasyRose\_12
- Track 2 : Nergal\_10
- Track 3 : EastWest\_9
- Track 4 : King2\_7, Brent\_7, Franzy\_7
- Track 5 : NathanVaag\_7, Piccoletto\_7
- Track 6 : Jawnski\_7
- Track 7 : Beans\_7
- Track 8 : BarretLemon\_8, GravityBall\_8, StevieBAY\_8, Timinator\_8, LeeroyJ\_8
- Track 9 : Grekaycon\_8, BossLady\_8
- Track 10 : Jordan\_8, Shade\_8, Martha\_8, TaeYoung\_8, JKerns\_8, Sonny\_8, Zartrosa\_8
- Track 11 : Sicarius2\_9, Wyborn\_9
- Track 12 : Pippa\_8
- Track 13 : Abba\_7
- Track 14 : Colucci\_10
- Track 15 : Chubster\_11, Lymara\_11, RosiePosie\_11, Linus\_11, JayCookie\_11, MoyaNatalis\_11, Chocolat\_11, PrincessTrina\_11
- Track 16 : KBurrousTX\_11
- Track 17 : Mordred\_11, HumptyDumpty\_11, JaNo\_11, Kabreeze\_11, Scavito\_11
- Track 18 : EdgarPoe\_11, Chipper1996\_110, Tophat\_11, Conboy\_11
- Track 19 : ArV1\_008
- Track 20 : DrYang\_11
- Track 21 : ZAYM\_5, MagicMan\_5, Schnabeltier\_5, Opie\_5, TaronosaurusRx\_5
- Track 22 : Colleen\_8, Arianna\_8, Poushou\_8, TouchMeNot\_8
- Track 23 : CalWood4100\_7, Prairie\_7, Lilmac1015\_7
- Track 24 : Klevey\_7
- Track 25 : Bolt007\_7
- Track 26 : Altadena\_7
- Track 27 : Bumble\_7
- Track 28 : Hirko\_8
- Track 29 : Vibaki\_9
- Track 30 : Jinkies\_9
- Track 31 : 32HC\_12
- Track 32 : Rem711\_11
- Track 33 : Juicebox\_8
- Track 34 : GMA4\_6

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

The start number called the most often in the published annotations is 4, it was called in 22 of the 63 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Abba\_7, ArV1\_008, Chipper1996\_110, Chocolat\_11, Chubster\_11, Colucci\_10, Conboy\_11, DrYang\_11, EdgarPoe\_11, Hirko\_8, HumptyDumpty\_11, JaNo\_11, JayCookie\_11, Jinkies\_9, KBurrousTX\_11, Kabreeze\_11, Linus\_11, Lymara\_11, Mordred\_11, MoyaNatalis\_11, PrincessTrina\_11, RosiePosie\_11, Scavito\_11, Tophat\_11, Vibaki\_9,

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

- 

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

- 32HC\_12, Altadena\_7, Arianna\_8, BarretLemon\_8, Beans\_7, Bolt007\_7, BossLady\_8, Brent\_7, Bumble\_7, CalWood4100\_7, Colleen\_8, EastWest\_9, Franzy\_7, GMA4\_6, GravityBall\_8, Grekaycon\_8, JKerns\_8, Jawnski\_7, Jordan\_8, Juicebox\_8, King2\_7, Klevey\_7, LeeroyJ\_8, Lilmac1015\_7, MagicMan\_5, MalagasyRose\_12, Martha\_8, NathanVaag\_7, Nergal\_10, Opie\_5, Piccoletto\_7, Pippa\_8, Poushou\_8, Prairie\_7, Rem711\_11, Schnabeltier\_5, Shade\_8, Sicarius2\_9, Sonny\_8, StevieBAY\_8, TaeYoung\_8, TaronosaurusRx\_5, Timinator\_8, TouchMeNot\_8, Wyborn\_9, ZAYM\_5, Zartrosa\_8,

### **Summary by start number:**

Start 4:

- Found in 25 of 72 ( 34.7% ) of genes in pham
- Manual Annotations of this start: 22 of 63
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abba\_7 (AO3), ArV1\_008 (AR), Chipper1996\_110 (AR), Chocolat\_11 (AR), Chubster\_11 (AR), Colucci\_10 (AR), Conboy\_11 (AR), DrYang\_11 (AR), EdgarPoe\_11 (AR), Hirko\_8 (FL), HumptyDumpty\_11 (AR), JaNo\_11 (AR), JayCookie\_11 (AR), Jinkies\_9 (FL), KBurrousTX\_11 (AR), Kabreeze\_11 (AR), Linus\_11 (AR), Lymara\_11 (AR), Mordred\_11 (AR), MoyaNatalis\_11 (AR), PrincessTrina\_11 (AR), RosiePosie\_11 (AR), Scavito\_11 (AR), Tophat\_11 (AR), Vibaki\_9 (FL),

Start 5:

- Found in 18 of 72 ( 25.0% ) of genes in pham
- Manual Annotations of this start: 18 of 63
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Beans\_7 (AO1), BossLady\_8 (AO2), Brent\_7 (AO1), EastWest\_9 (AO), Franzy\_7 (AO1), Grekaycon\_8 (AO2), JKerns\_8 (AO2), Jawnski\_7 (AO1), Jordan\_8 (AO2), King2\_7 (AO1), Martha\_8 (AO2), NathanVaag\_7 (AO1), Piccoletto\_7 (AO1), Pippa\_8 (AO2), Shade\_8 (AO2), Sonny\_8 (AO2), TaeYoung\_8 (AO2), Zartrosa\_8 (AO2),

Start 7:

- Found in 16 of 72 ( 22.2% ) of genes in pham
- Manual Annotations of this start: 12 of 63
- Called 87.5% of time when present
- Phage (with cluster) where this start called: Altadena\_7 (FH), BarretLemon\_8 (AO2), Bolt007\_7 (FH), Bumble\_7 (FH), CalWood4100\_7 (FH), GravityBall\_8 (AO2), Klevey\_7 (FH), LeeroyJ\_8 (AO2), Lilmac1015\_7 (FH), Prairie\_7 (FH), Sicarius2\_9 (AO2), StevieBAY\_8 (AO2), Timinator\_8 (AO2), Wyborn\_9 (AO2),

#### Start 8:

- Found in 1 of 72 ( 1.4% ) of genes in pham
- Manual Annotations of this start: 1 of 63
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MalagasyRose\_12 (AG),

#### Start 9:

- Found in 1 of 72 ( 1.4% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: GMA4\_6 (singleton),

#### Start 10:

- Found in 8 of 72 ( 11.1% ) of genes in pham
- Manual Annotations of this start: 5 of 63
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 32HC\_12 (Z), MagicMan\_5 (DB), Nergal\_10 (AG), Opie\_5 (DB), Rem711\_11 (Z), Schnabeltier\_5 (DB), TaronosaurusRx\_5 (DB), ZAYM\_5 (DB),

#### Start 11:

- Found in 4 of 72 ( 5.6% ) of genes in pham
- Manual Annotations of this start: 4 of 63
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Arianna\_8 (EO), Colleen\_8 (EO), Poushou\_8 (EO), TouchMeNot\_8 (EO),

#### Start 12:

- Found in 1 of 72 ( 1.4% ) of genes in pham
- Manual Annotations of this start: 1 of 63
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Juicebox\_8 (singleton),

### Summary by clusters:

There are 12 clusters represented in this pham: EO, AG, DB, singleton, AO, AR, AO3, AO2, AO1, FH, Z, FL,

Info for manual annotations of cluster AG:

- Start number 8 was manually annotated 1 time for cluster AG.
- Start number 10 was manually annotated 1 time for cluster AG.

Info for manual annotations of cluster AO:

- Start number 5 was manually annotated 1 time for cluster AO.

Info for manual annotations of cluster AO1:

- Start number 5 was manually annotated 7 times for cluster AO1.

Info for manual annotations of cluster AO2:

- Start number 5 was manually annotated 10 times for cluster AO2.
- Start number 7 was manually annotated 6 times for cluster AO2.

Info for manual annotations of cluster AO3:

- Start number 4 was manually annotated 1 time for cluster AO3.

Info for manual annotations of cluster AR:

- Start number 4 was manually annotated 18 times for cluster AR.

Info for manual annotations of cluster DB:

- Start number 10 was manually annotated 3 times for cluster DB.

Info for manual annotations of cluster EO:

- Start number 11 was manually annotated 4 times for cluster EO.

Info for manual annotations of cluster FH:

- Start number 7 was manually annotated 6 times for cluster FH.

Info for manual annotations of cluster FL:

- Start number 4 was manually annotated 3 times for cluster FL.

Info for manual annotations of cluster Z:

- Start number 10 was manually annotated 1 time for cluster Z.

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

Gene: 32HC\_12 Start: 7864, Stop: 8238, Start Num: 10

Candidate Starts for 32HC\_12:

(Start: 10 @7864 has 5 MA's), (42, 8179),

Gene: Abba\_7 Start: 6995, Stop: 7381, Start Num: 4

Candidate Starts for Abba\_7:

(Start: 4 @6995 has 22 MA's), (Start: 7 @7001 has 12 MA's), (16, 7076), (31, 7223), (41, 7316),

Gene: Altadena\_7 Start: 6762, Stop: 7148, Start Num: 7

Candidate Starts for Altadena\_7:

(1, 6465), (2, 6585), (Start: 7 @6762 has 12 MA's), (32, 6987),

Gene: ArV1\_008 Start: 7635, Stop: 8015, Start Num: 4

Candidate Starts for ArV1\_008:

(Start: 4 @7635 has 22 MA's), (22, 7761), (28, 7839), (37, 7908),

Gene: Arianna\_8 Start: 6945, Stop: 7313, Start Num: 11

Candidate Starts for Arianna\_8:

(Start: 11 @6945 has 4 MA's), (14, 6984), (21, 7044),

Gene: BarretLemon\_8 Start: 7142, Stop: 7528, Start Num: 7

Candidate Starts for BarretLemon\_8:  
(Start: 7 @7142 has 12 MA's), (17, 7235), (23, 7274), (26, 7310), (30, 7352),

Gene: Beans\_7 Start: 6812, Stop: 7198, Start Num: 5  
Candidate Starts for Beans\_7:  
(Start: 5 @6812 has 18 MA's), (30, 7022),

Gene: Bolt007\_7 Start: 6714, Stop: 7100, Start Num: 7  
Candidate Starts for Bolt007\_7:  
(2, 6537), (Start: 7 @6714 has 12 MA's), (31, 6936), (33, 6945), (39, 7008), (45, 7083),

Gene: BossLady\_8 Start: 7160, Stop: 7546, Start Num: 5  
Candidate Starts for BossLady\_8:  
(Start: 5 @7160 has 18 MA's), (16, 7235), (26, 7328),

Gene: Brent\_7 Start: 6810, Stop: 7196, Start Num: 5  
Candidate Starts for Brent\_7:  
(Start: 5 @6810 has 18 MA's), (17, 6903), (30, 7020),

Gene: Bumble\_7 Start: 6769, Stop: 7155, Start Num: 7  
Candidate Starts for Bumble\_7:  
(Start: 7 @6769 has 12 MA's), (26, 6937), (33, 7000),

Gene: CalWood4100\_7 Start: 6693, Stop: 7079, Start Num: 7  
Candidate Starts for CalWood4100\_7:  
(Start: 7 @6693 has 12 MA's), (33, 6924), (39, 6987), (45, 7062),

Gene: Chipper1996\_110 Start: 9277, Stop: 9657, Start Num: 4  
Candidate Starts for Chipper1996\_110:  
(Start: 4 @9277 has 22 MA's), (17, 9373), (25, 9442), (39, 9574),

Gene: Chocolat\_11 Start: 9275, Stop: 9658, Start Num: 4  
Candidate Starts for Chocolat\_11:  
(Start: 4 @9275 has 22 MA's), (17, 9374), (36, 9548), (39, 9575),

Gene: Chubster\_11 Start: 9045, Stop: 9428, Start Num: 4  
Candidate Starts for Chubster\_11:  
(Start: 4 @9045 has 22 MA's), (17, 9144), (36, 9318), (39, 9345),

Gene: Colleen\_8 Start: 6945, Stop: 7313, Start Num: 11  
Candidate Starts for Colleen\_8:  
(Start: 11 @6945 has 4 MA's), (14, 6984), (21, 7044),

Gene: Colucci\_10 Start: 8778, Stop: 9158, Start Num: 4  
Candidate Starts for Colucci\_10:  
(Start: 4 @8778 has 22 MA's), (17, 8874), (22, 8904), (28, 8982), (34, 9033),

Gene: Conboy\_11 Start: 9276, Stop: 9656, Start Num: 4  
Candidate Starts for Conboy\_11:  
(Start: 4 @9276 has 22 MA's), (17, 9372), (25, 9441), (39, 9573),

Gene: DrYang\_11 Start: 9210, Stop: 9590, Start Num: 4  
Candidate Starts for DrYang\_11:

(Start: 4 @9210 has 22 MA's), (17, 9306), (22, 9336), (25, 9375), (37, 9483),

Gene: EastWest\_9 Start: 7229, Stop: 7612, Start Num: 5

Candidate Starts for EastWest\_9:

(Start: 5 @7229 has 18 MA's), (18, 7325), (43, 7559),

Gene: EdgarPoe\_11 Start: 9276, Stop: 9656, Start Num: 4

Candidate Starts for EdgarPoe\_11:

(Start: 4 @9276 has 22 MA's), (17, 9372), (25, 9441), (39, 9573),

Gene: Franzy\_7 Start: 6810, Stop: 7196, Start Num: 5

Candidate Starts for Franzy\_7:

(Start: 5 @6810 has 18 MA's), (17, 6903), (30, 7020),

Gene: GMA4\_6 Start: 5937, Stop: 6311, Start Num: 9

Candidate Starts for GMA4\_6:

(9, 5937), (19, 6027), (21, 6039), (24, 6087), (29, 6135), (44, 6291),

Gene: GravityBall\_8 Start: 7142, Stop: 7528, Start Num: 7

Candidate Starts for GravityBall\_8:

(Start: 7 @7142 has 12 MA's), (17, 7235), (23, 7274), (26, 7310), (30, 7352),

Gene: Grekaycon\_8 Start: 7169, Stop: 7555, Start Num: 5

Candidate Starts for Grekaycon\_8:

(Start: 5 @7169 has 18 MA's), (16, 7244), (26, 7337),

Gene: Hirko\_8 Start: 8319, Stop: 8705, Start Num: 4

Candidate Starts for Hirko\_8:

(Start: 4 @8319 has 22 MA's), (Start: 7 @8325 has 12 MA's), (45, 8688),

Gene: HumptyDumpty\_11 Start: 9275, Stop: 9655, Start Num: 4

Candidate Starts for HumptyDumpty\_11:

(Start: 4 @9275 has 22 MA's), (17, 9371), (25, 9440), (36, 9545), (39, 9572),

Gene: JKerns\_8 Start: 7199, Stop: 7585, Start Num: 5

Candidate Starts for JKerns\_8:

(Start: 5 @7199 has 18 MA's), (23, 7331),

Gene: JaNo\_11 Start: 9275, Stop: 9655, Start Num: 4

Candidate Starts for JaNo\_11:

(Start: 4 @9275 has 22 MA's), (17, 9371), (25, 9440), (36, 9545), (39, 9572),

Gene: Jawnski\_7 Start: 6807, Stop: 7193, Start Num: 5

Candidate Starts for Jawnski\_7:

(Start: 5 @6807 has 18 MA's), (17, 6900), (30, 7017),

Gene: JayCookie\_11 Start: 9275, Stop: 9658, Start Num: 4

Candidate Starts for JayCookie\_11:

(Start: 4 @9275 has 22 MA's), (17, 9374), (36, 9548), (39, 9575),

Gene: Jinkies\_9 Start: 7642, Stop: 8028, Start Num: 4

Candidate Starts for Jinkies\_9:

(Start: 4 @7642 has 22 MA's), (13, 7678), (17, 7741), (29, 7855), (33, 7879), (39, 7942), (43, 7975), (45, 8011),

Gene: Jordan\_8 Start: 7169, Stop: 7555, Start Num: 5

Candidate Starts for Jordan\_8:

(Start: 5 @7169 has 18 MA's), (23, 7301),

Gene: Juicebox\_8 Start: 6592, Stop: 6951, Start Num: 12

Candidate Starts for Juicebox\_8:

(6, 6577), (Start: 12 @6592 has 1 MA's), (21, 6688), (36, 6844), (45, 6937),

Gene: KBurrousTX\_11 Start: 9054, Stop: 9434, Start Num: 4

Candidate Starts for KBurrousTX\_11:

(Start: 4 @9054 has 22 MA's), (23, 9189), (26, 9225), (35, 9312),

Gene: Kabreeze\_11 Start: 9275, Stop: 9655, Start Num: 4

Candidate Starts for Kabreeze\_11:

(Start: 4 @9275 has 22 MA's), (17, 9371), (25, 9440), (36, 9545), (39, 9572),

Gene: King2\_7 Start: 6812, Stop: 7198, Start Num: 5

Candidate Starts for King2\_7:

(Start: 5 @6812 has 18 MA's), (17, 6905), (30, 7022),

Gene: Klevey\_7 Start: 6702, Stop: 7088, Start Num: 7

Candidate Starts for Klevey\_7:

(Start: 7 @6702 has 12 MA's), (32, 6927), (33, 6933), (39, 6996), (45, 7071),

Gene: LeeroyJ\_8 Start: 7141, Stop: 7527, Start Num: 7

Candidate Starts for LeeroyJ\_8:

(Start: 7 @7141 has 12 MA's), (17, 7234), (23, 7273), (26, 7309), (30, 7351),

Gene: Lilmac1015\_7 Start: 6693, Stop: 7079, Start Num: 7

Candidate Starts for Lilmac1015\_7:

(Start: 7 @6693 has 12 MA's), (33, 6924), (39, 6987), (45, 7062),

Gene: Linus\_11 Start: 9272, Stop: 9655, Start Num: 4

Candidate Starts for Linus\_11:

(Start: 4 @9272 has 22 MA's), (17, 9371), (36, 9545), (39, 9572),

Gene: Lymara\_11 Start: 9262, Stop: 9645, Start Num: 4

Candidate Starts for Lymara\_11:

(Start: 4 @9262 has 22 MA's), (17, 9361), (36, 9535), (39, 9562),

Gene: MagicMan\_5 Start: 5039, Stop: 5413, Start Num: 10

Candidate Starts for MagicMan\_5:

(Start: 10 @5039 has 5 MA's), (16, 5105), (26, 5198), (28, 5231), (30, 5240), (33, 5267), (40, 5348),

Gene: MalagasyRose\_12 Start: 7571, Stop: 7951, Start Num: 8

Candidate Starts for MalagasyRose\_12:

(Start: 8 @7571 has 1 MA's), (21, 7676), (29, 7772), (38, 7844), (42, 7889),

Gene: Martha\_8 Start: 7106, Stop: 7492, Start Num: 5

Candidate Starts for Martha\_8:



(Start: 5 @7106 has 18 MA's), (23, 7238),

Gene: Mordred\_11 Start: 9275, Stop: 9655, Start Num: 4

Candidate Starts for Mordred\_11:

(Start: 4 @9275 has 22 MA's), (17, 9371), (25, 9440), (36, 9545), (39, 9572),

Gene: MoyaNatalis\_11 Start: 9275, Stop: 9658, Start Num: 4

Candidate Starts for MoyaNatalis\_11:

(Start: 4 @9275 has 22 MA's), (17, 9374), (36, 9548), (39, 9575),

Gene: NathanVaag\_7 Start: 6812, Stop: 7198, Start Num: 5

Candidate Starts for NathanVaag\_7:

(Start: 5 @6812 has 18 MA's), (20, 6914), (30, 7022),

Gene: Nergal\_10 Start: 8026, Stop: 8406, Start Num: 10

Candidate Starts for Nergal\_10:

(3, 7969), (Start: 10 @8026 has 5 MA's), (15, 8080), (16, 8095), (21, 8131), (28, 8221), (33, 8257), (42, 8344),

Gene: Opie\_5 Start: 5048, Stop: 5422, Start Num: 10

Candidate Starts for Opie\_5:

(Start: 10 @5048 has 5 MA's), (16, 5114), (26, 5207), (28, 5240), (30, 5249), (33, 5276), (40, 5357),

Gene: Piccoletto\_7 Start: 6813, Stop: 7199, Start Num: 5

Candidate Starts for Piccoletto\_7:

(Start: 5 @6813 has 18 MA's), (20, 6915), (30, 7023),

Gene: Pippa\_8 Start: 7199, Stop: 7585, Start Num: 5

Candidate Starts for Pippa\_8:

(Start: 5 @7199 has 18 MA's), (16, 7274),

Gene: Poushou\_8 Start: 6945, Stop: 7313, Start Num: 11

Candidate Starts for Poushou\_8:

(Start: 11 @6945 has 4 MA's), (14, 6984), (21, 7044),

Gene: Prairie\_7 Start: 6702, Stop: 7088, Start Num: 7

Candidate Starts for Prairie\_7:

(Start: 7 @6702 has 12 MA's), (33, 6933), (39, 6996), (45, 7071),

Gene: PrincessTrina\_11 Start: 9275, Stop: 9658, Start Num: 4

Candidate Starts for PrincessTrina\_11:

(Start: 4 @9275 has 22 MA's), (17, 9374), (36, 9548), (39, 9575),

Gene: Rem711\_11 Start: 7918, Stop: 8292, Start Num: 10

Candidate Starts for Rem711\_11:

(Start: 10 @7918 has 5 MA's), (29, 8116), (42, 8233),

Gene: RosiePosie\_11 Start: 9275, Stop: 9658, Start Num: 4

Candidate Starts for RosiePosie\_11:

(Start: 4 @9275 has 22 MA's), (17, 9374), (36, 9548), (39, 9575),

Gene: Scavito\_11 Start: 9275, Stop: 9655, Start Num: 4

Candidate Starts for Scavito\_11:

(Start: 4 @9275 has 22 MA's), (17, 9371), (25, 9440), (36, 9545), (39, 9572),

Gene: Schnabeltier\_5 Start: 5040, Stop: 5414, Start Num: 10

Candidate Starts for Schnabeltier\_5:

(Start: 10 @5040 has 5 MA's), (16, 5106), (26, 5199), (28, 5232), (30, 5241), (33, 5268), (40, 5349),

Gene: Shade\_8 Start: 7148, Stop: 7534, Start Num: 5

Candidate Starts for Shade\_8:

(Start: 5 @7148 has 18 MA's), (23, 7280),

Gene: Sicarius2\_9 Start: 7705, Stop: 8085, Start Num: 7

Candidate Starts for Sicarius2\_9:

(Start: 7 @7705 has 12 MA's), (17, 7798), (20, 7807), (26, 7873), (28, 7906), (41, 8020),

Gene: Sonny\_8 Start: 7169, Stop: 7555, Start Num: 5

Candidate Starts for Sonny\_8:

(Start: 5 @7169 has 18 MA's), (23, 7301),

Gene: StevieBAY\_8 Start: 7142, Stop: 7528, Start Num: 7

Candidate Starts for StevieBAY\_8:

(Start: 7 @7142 has 12 MA's), (17, 7235), (23, 7274), (26, 7310), (30, 7352),

Gene: TaeYoung\_8 Start: 7169, Stop: 7555, Start Num: 5

Candidate Starts for TaeYoung\_8:

(Start: 5 @7169 has 18 MA's), (23, 7301),

Gene: TaronosaurusRx\_5 Start: 5047, Stop: 5421, Start Num: 10

Candidate Starts for TaronosaurusRx\_5:

(Start: 10 @5047 has 5 MA's), (16, 5113), (26, 5206), (28, 5239), (30, 5248), (33, 5275), (40, 5356),

Gene: Timinator\_8 Start: 7141, Stop: 7527, Start Num: 7

Candidate Starts for Timinator\_8:

(Start: 7 @7141 has 12 MA's), (17, 7234), (23, 7273), (26, 7309), (30, 7351),

Gene: Tophat\_11 Start: 9277, Stop: 9657, Start Num: 4

Candidate Starts for Tophat\_11:

(Start: 4 @9277 has 22 MA's), (17, 9373), (25, 9442), (39, 9574),

Gene: TouchMeNot\_8 Start: 6945, Stop: 7313, Start Num: 11

Candidate Starts for TouchMeNot\_8:

(Start: 11 @6945 has 4 MA's), (14, 6984), (21, 7044),

Gene: Vibaki\_9 Start: 8796, Stop: 9182, Start Num: 4

Candidate Starts for Vibaki\_9:

(Start: 4 @8796 has 22 MA's), (17, 8895), (27, 8988), (45, 9165),

Gene: Wyborn\_9 Start: 7566, Stop: 7946, Start Num: 7

Candidate Starts for Wyborn\_9:

(Start: 7 @7566 has 12 MA's), (17, 7659), (20, 7668), (26, 7734), (28, 7767), (41, 7881),

Gene: ZAYM\_5 Start: 5040, Stop: 5414, Start Num: 10

Candidate Starts for ZAYM\_5:

(Start: 10 @5040 has 5 MA's), (16, 5106), (26, 5199), (28, 5232), (30, 5241), (33, 5268), (40, 5349),

Gene: Zartrosa\_8 Start: 7169, Stop: 7555, Start Num: 5  
Candidate Starts for Zartrosa\_8:  
(Start: 5 @7169 has 18 MA's), (23, 7301),