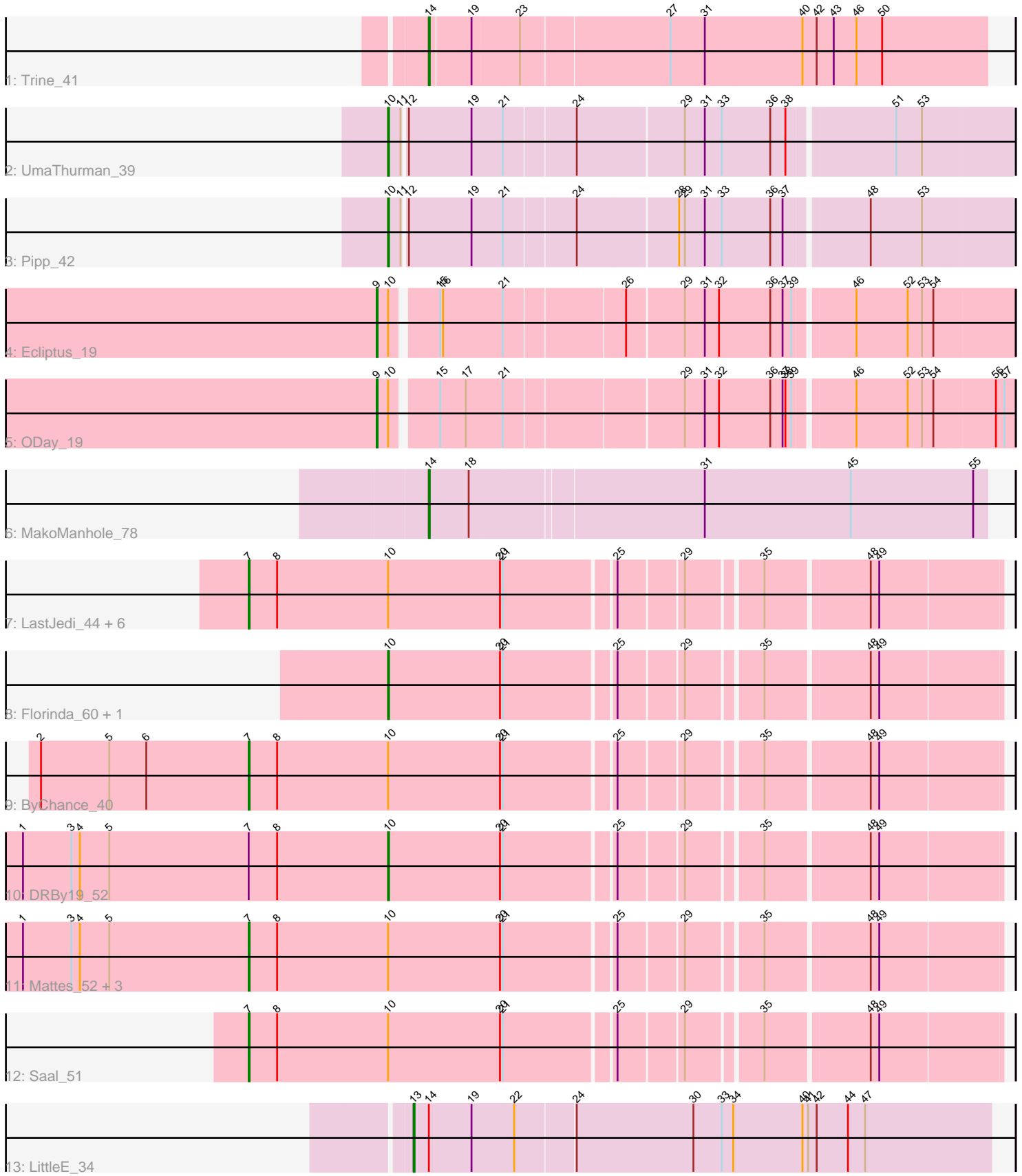


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Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. 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 309227 Report

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

Pham number 309227 has 23 members, 1 are drafts.

Phages represented in each track:

- Track 1 : Trine\_41
- Track 2 : UmaThurman\_39
- Track 3 : Pipp\_42
- Track 4 : Ecliptus\_19
- Track 5 : ODay\_19
- Track 6 : MakoManhole\_78
- Track 7 : LastJedi\_44, Jennelsea\_46, Zizzle\_54, Donkeykong\_49, Pippy\_48, Brocalys\_45, Clifton\_45
- Track 8 : Florinda\_60, Quico\_57
- Track 9 : ByChance\_40
- Track 10 : DRBy19\_52
- Track 11 : Mattes\_52, James\_52, SwagPigglett\_54, BobaPhett\_52
- Track 12 : Saal\_51
- Track 13 : LittleE\_34

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

The start number called the most often in the published annotations is 7, it was called in 12 of the 22 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- BobaPhett\_52, Brocalys\_45, ByChance\_40, Clifton\_45, Donkeykong\_49, James\_52, Jennelsea\_46, LastJedi\_44, Mattes\_52, Pippy\_48, Saal\_51, SwagPigglett\_54, Zizzle\_54,

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

- DRBy19\_52,

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

- Ecliptus\_19, Florinda\_60, LittleE\_34, MakoManhole\_78, ODay\_19, Pipp\_42, Quico\_57, Trine\_41, UmaThurman\_39,

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

Start 7:

- Found in 14 of 23 ( 60.9% ) of genes in pham
- Manual Annotations of this start: 12 of 22
- Called 92.9% of time when present
- Phage (with cluster) where this start called: BobaPhett\_52 (F1), Brocalys\_45 (F1), ByChance\_40 (F1), Clifton\_45 (F1), Donkeykong\_49 (F1), James\_52 (F1), Jennelsea\_46 (F1), LastJedi\_44 (F1), Mattes\_52 (F1), Pippy\_48 (F1), Saal\_51 (F1), SwagPiggett\_54 (F1), Zizzle\_54 (F1),

Start 9:

- Found in 2 of 23 ( 8.7% ) of genes in pham
- Manual Annotations of this start: 2 of 22
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ecliptus\_19 (DN), ODay\_19 (DN),

Start 10:

- Found in 20 of 23 ( 87.0% ) of genes in pham
- Manual Annotations of this start: 5 of 22
- Called 25.0% of time when present
- Phage (with cluster) where this start called: DRBy19\_52 (F1), Florinda\_60 (F1), Pipp\_42 (CV), Quico\_57 (F1), UmaThurman\_39 (CV),

Start 13:

- Found in 1 of 23 ( 4.3% ) of genes in pham
- Manual Annotations of this start: 1 of 22
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LittleE\_34 (J),

Start 14:

- Found in 3 of 23 ( 13.0% ) of genes in pham
- Manual Annotations of this start: 2 of 22
- Called 66.7% of time when present
- Phage (with cluster) where this start called: MakoManhole\_78 (DR), Trine\_41 (CD),

**Summary by clusters:**

There are 6 clusters represented in this pham: DN, F1, J, CD, DR, CV,

Info for manual annotations of cluster CD:

- Start number 14 was manually annotated 1 time for cluster CD.

Info for manual annotations of cluster CV:

- Start number 10 was manually annotated 2 times for cluster CV.

Info for manual annotations of cluster DN:

- Start number 9 was manually annotated 2 times for cluster DN.

Info for manual annotations of cluster DR:

- Start number 14 was manually annotated 1 time for cluster DR.

Info for manual annotations of cluster F1:

- Start number 7 was manually annotated 12 times for cluster F1.
- Start number 10 was manually annotated 3 times for cluster F1.

Info for manual annotations of cluster J:

•Start number 13 was manually annotated 1 time for cluster J.

**Gene Information:**

Gene: BobaPhett\_52 Start: 38087, Stop: 38833, Start Num: 7

Candidate Starts for BobaPhett\_52:

(1, 37850), (3, 37901), (4, 37910), (5, 37940), (Start: 7 @38087 has 12 MA's), (8, 38117), (Start: 10 @38234 has 5 MA's), (20, 38351), (21, 38354), (25, 38462), (29, 38525), (35, 38597), (48, 38699), (49, 38708),

Gene: Brocalys\_45 Start: 32741, Stop: 33487, Start Num: 7

Candidate Starts for Brocalys\_45:

(Start: 7 @32741 has 12 MA's), (8, 32771), (Start: 10 @32888 has 5 MA's), (20, 33005), (21, 33008), (25, 33116), (29, 33179), (35, 33251), (48, 33353), (49, 33362),

Gene: ByChance\_40 Start: 31112, Stop: 31858, Start Num: 7

Candidate Starts for ByChance\_40:

(2, 30893), (5, 30965), (6, 31004), (Start: 7 @31112 has 12 MA's), (8, 31142), (Start: 10 @31259 has 5 MA's), (20, 31376), (21, 31379), (25, 31487), (29, 31550), (35, 31622), (48, 31724), (49, 31733),

Gene: Clifton\_45 Start: 33092, Stop: 33838, Start Num: 7

Candidate Starts for Clifton\_45:

(Start: 7 @33092 has 12 MA's), (8, 33122), (Start: 10 @33239 has 5 MA's), (20, 33356), (21, 33359), (25, 33467), (29, 33530), (35, 33602), (48, 33704), (49, 33713),

Gene: DRBy19\_52 Start: 37021, Stop: 37620, Start Num: 10

Candidate Starts for DRBy19\_52:

(1, 36637), (3, 36688), (4, 36697), (5, 36727), (Start: 7 @36874 has 12 MA's), (8, 36904), (Start: 10 @37021 has 5 MA's), (20, 37138), (21, 37141), (25, 37249), (29, 37312), (35, 37384), (48, 37486), (49, 37495),

Gene: Donkeykong\_49 Start: 37223, Stop: 37969, Start Num: 7

Candidate Starts for Donkeykong\_49:

(Start: 7 @37223 has 12 MA's), (8, 37253), (Start: 10 @37370 has 5 MA's), (20, 37487), (21, 37490), (25, 37598), (29, 37661), (35, 37733), (48, 37835), (49, 37844),

Gene: Ecliptus\_19 Start: 10338, Stop: 10967, Start Num: 9

Candidate Starts for Ecliptus\_19:

(Start: 9 @10338 has 2 MA's), (Start: 10 @10350 has 5 MA's), (15, 10392), (16, 10395), (21, 10458), (26, 10578), (29, 10635), (31, 10656), (32, 10671), (36, 10725), (37, 10737), (39, 10746), (46, 10803), (52, 10857), (53, 10872), (54, 10884),

Gene: Florinda\_60 Start: 37866, Stop: 38465, Start Num: 10

Candidate Starts for Florinda\_60:

(Start: 10 @37866 has 5 MA's), (20, 37983), (21, 37986), (25, 38094), (29, 38157), (35, 38229), (48, 38331), (49, 38340),

Gene: James\_52 Start: 36965, Stop: 37711, Start Num: 7

Candidate Starts for James\_52:

(1, 36728), (3, 36779), (4, 36788), (5, 36818), (Start: 7 @36965 has 12 MA's), (8, 36995), (Start: 10 @37112 has 5 MA's), (20, 37229), (21, 37232), (25, 37340), (29, 37403), (35, 37475), (48, 37577), (49, 37586),

Gene: Jennelsea\_46 Start: 34395, Stop: 35141, Start Num: 7

Candidate Starts for Jennelsea\_46:

(Start: 7 @34395 has 12 MA's), (8, 34425), (Start: 10 @34542 has 5 MA's), (20, 34659), (21, 34662), (25, 34770), (29, 34833), (35, 34905), (48, 35007), (49, 35016),

Gene: LastJedi\_44 Start: 33135, Stop: 33881, Start Num: 7

Candidate Starts for LastJedi\_44:

(Start: 7 @33135 has 12 MA's), (8, 33165), (Start: 10 @33282 has 5 MA's), (20, 33399), (21, 33402), (25, 33510), (29, 33573), (35, 33645), (48, 33747), (49, 33756),

Gene: LittleE\_34 Start: 25888, Stop: 25292, Start Num: 13

Candidate Starts for LittleE\_34:

(Start: 13 @25888 has 1 MA's), (Start: 14 @25873 has 2 MA's), (19, 25828), (22, 25786), (24, 25726), (30, 25603), (33, 25573), (34, 25561), (40, 25489), (41, 25483), (42, 25474), (44, 25441), (47, 25423),

Gene: MakoManhole\_78 Start: 59820, Stop: 59245, Start Num: 14

Candidate Starts for MakoManhole\_78:

(Start: 14 @59820 has 2 MA's), (18, 59778), (31, 59541), (45, 59388), (55, 59259),

Gene: Mattes\_52 Start: 36965, Stop: 37711, Start Num: 7

Candidate Starts for Mattes\_52:

(1, 36728), (3, 36779), (4, 36788), (5, 36818), (Start: 7 @36965 has 12 MA's), (8, 36995), (Start: 10 @37112 has 5 MA's), (20, 37229), (21, 37232), (25, 37340), (29, 37403), (35, 37475), (48, 37577), (49, 37586),

Gene: ODay\_19 Start: 10343, Stop: 10972, Start Num: 9

Candidate Starts for ODay\_19:

(Start: 9 @10343 has 2 MA's), (Start: 10 @10355 has 5 MA's), (15, 10397), (17, 10424), (21, 10463), (29, 10640), (31, 10661), (32, 10676), (36, 10730), (37, 10742), (38, 10745), (39, 10751), (46, 10808), (52, 10862), (53, 10877), (54, 10889), (56, 10952), (57, 10961),

Gene: Pipp\_42 Start: 32468, Stop: 33091, Start Num: 10

Candidate Starts for Pipp\_42:

(Start: 10 @32468 has 5 MA's), (11, 32480), (12, 32483), (19, 32549), (21, 32582), (24, 32654), (28, 32756), (29, 32762), (31, 32783), (33, 32801), (36, 32852), (37, 32864), (48, 32945), (53, 32999),

Gene: Pippy\_48 Start: 34698, Stop: 35444, Start Num: 7

Candidate Starts for Pippy\_48:

(Start: 7 @34698 has 12 MA's), (8, 34728), (Start: 10 @34845 has 5 MA's), (20, 34962), (21, 34965), (25, 35073), (29, 35136), (35, 35208), (48, 35310), (49, 35319),

Gene: Quico\_57 Start: 37686, Stop: 38285, Start Num: 10

Candidate Starts for Quico\_57:

(Start: 10 @37686 has 5 MA's), (20, 37803), (21, 37806), (25, 37914), (29, 37977), (35, 38049), (48, 38151), (49, 38160),

Gene: Saal\_51 Start: 36823, Stop: 37569, Start Num: 7

Candidate Starts for Saal\_51:

(Start: 7 @36823 has 12 MA's), (8, 36853), (Start: 10 @36970 has 5 MA's), (20, 37087), (21, 37090), (25, 37198), (29, 37261), (35, 37333), (48, 37435), (49, 37444),

Gene: SwagPiggett\_54 Start: 37856, Stop: 38602, Start Num: 7

Candidate Starts for SwagPiggett\_54:

(1, 37619), (3, 37670), (4, 37679), (5, 37709), (Start: 7 @37856 has 12 MA's), (8, 37886), (Start: 10 @38003 has 5 MA's), (20, 38120), (21, 38123), (25, 38231), (29, 38294), (35, 38366), (48, 38468), (49, 38477),

Gene: Trine\_41 Start: 32833, Stop: 32258, Start Num: 14

Candidate Starts for Trine\_41:

(Start: 14 @32833 has 2 MA's), (19, 32791), (23, 32743), (27, 32590), (31, 32554), (40, 32452), (42, 32437), (43, 32419), (46, 32395), (50, 32368),

Gene: UmaThurman\_39 Start: 32723, Stop: 33346, Start Num: 10

Candidate Starts for UmaThurman\_39:

(Start: 10 @32723 has 5 MA's), (11, 32735), (12, 32738), (19, 32804), (21, 32837), (24, 32909), (29, 33017), (31, 33038), (33, 33056), (36, 33107), (38, 33122), (51, 33227), (53, 33254),

Gene: Zizzle\_54 Start: 37540, Stop: 38286, Start Num: 7

Candidate Starts for Zizzle\_54:

(Start: 7 @37540 has 12 MA's), (8, 37570), (Start: 10 @37687 has 5 MA's), (20, 37804), (21, 37807), (25, 37915), (29, 37978), (35, 38050), (48, 38152), (49, 38161),