



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 154705 Report

This analysis was run 04/12/24 on database version 558.

Pham number 154705 has 69 members, 21 are drafts.

Phages represented in each track:

- Track 1 : Exile\_5
- Track 2 : Soondubu\_5
- Track 3 : Warda\_5, AGrandiflora\_5, Tbone\_5, Mudpuppy\_5, Lizalica\_5
- Track 4 : Asa16\_5, Jstan\_5, Eraser\_5, Elezi\_5, Niobe\_5, Ascela\_5, London\_5, lter\_5
- Track 5 : Cyan\_5, Adolin\_5, DrManhattan\_5, Simpson\_5, Joemato\_5, Kaylissa\_5
- Track 6 : Pixelle\_5, Phives\_6
- Track 7 : Nitro\_5
- Track 8 : Cassia\_5, IttyBittyPiggy\_5, Yang\_5
- Track 9 : Lego\_5, YesChef\_5, Tutumahutu\_5, Crewmate\_6, JohnDoe\_5, ObiToo\_5, Powerpuff\_5
- Track 10 : Amyev\_5, Tian\_5
- Track 11 : KeAlii\_5
- Track 12 : JuneStar\_5
- Track 13 : AEgle\_5, Turab\_5, Adumb2043\_5
- Track 14 : Pumpkins\_12
- Track 15 : Community\_6, Tuck\_6
- Track 16 : Berrie\_5
- Track 17 : Reedo\_5
- Track 18 : VResidence\_5
- Track 19 : Janeemi\_6
- Track 20 : Sue2\_5
- Track 21 : Wildwest\_6
- Track 22 : TforTroy\_5
- Track 23 : Tallboi\_5
- Track 24 : MissSwiss\_5
- Track 25 : DrSierra\_5
- Track 26 : IAmGroot\_5
- Track 27 : Gretchen\_5, Percival\_5
- Track 28 : Rasovi\_8, Htur\_8
- Track 29 : Typher\_8
- Track 30 : SBlackberry\_8, Zanella\_8, TurboVicky\_8
- Track 31 : Goodman\_8, Johann\_8
- Track 32 : PermaG\_8
- Track 33 : Cicada\_8
- Track 34 : Jera\_9
- Track 35 : FireCastle\_7

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

The start number called the most often in the published annotations is 14, it was called in 42 of the 48 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AEgle\_5, AGrandiflora\_5, Adolin\_5, Adumb2043\_5, Amyev\_5, Asa16\_5, Ascela\_5, Berrie\_5, Cicada\_8, Community\_6, Crewmate\_6, Cyan\_5, DrManhattan\_5, DrSierra\_5, Elezi\_5, Eraser\_5, Exile\_5, FireCastle\_7, Goodman\_8, Htur\_8, Iter\_5, Janeemi\_6, Jera\_9, Joemato\_5, Johann\_8, JohnDoe\_5, Jstan\_5, Kaylissa\_5, KeAlii\_5, Lego\_5, Lizalica\_5, London\_5, MissSwiss\_5, Mudpuppy\_5, Niobe\_5, Nitro\_5, ObiToo\_5, PermaG\_8, Phives\_6, Pixelle\_5, Powerpuff\_5, Rasovi\_8, Reedo\_5, SBlackberry\_8, Simpson\_5, Soondubu\_5, Sue2\_5, Tallboi\_5, Tbone\_5, Tian\_5, Tuck\_6, Turab\_5, TurboVicky\_8, Tutumahutu\_5, Typher\_8, VResidence\_5, Warda\_5, Wildwest\_6, YesChef\_5, Zanella\_8,

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

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

- Cassia\_5, Gretchen\_5, IAmGroot\_5, IttyBittyPiggy\_5, JuneStar\_5, Percival\_5, Pumpkins\_12, TforTroy\_5, Yang\_5,

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

Start 12:

- Found in 6 of 69 ( 8.7% ) of genes in pham
- Manual Annotations of this start: 3 of 48
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cassia\_5 (AZ1), IttyBittyPiggy\_5 (AZ1), JuneStar\_5 (AZ1), Pumpkins\_12 (AZ1), TforTroy\_5 (AZ1), Yang\_5 (AZ1),

Start 13:

- Found in 3 of 69 ( 4.3% ) of genes in pham
- Manual Annotations of this start: 3 of 48
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Gretchen\_5 (EH), IAmGroot\_5 (EH), Percival\_5 (EH),

Start 14:

- Found in 60 of 69 ( 87.0% ) of genes in pham
- Manual Annotations of this start: 42 of 48
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AEgle\_5 (AZ1), AGrandiflora\_5 (AZ1), Adolin\_5 (AZ1), Adumb2043\_5 (AZ1), Amyev\_5 (AZ1), Asa16\_5 (AZ1), Ascela\_5 (AZ1), Berrie\_5 (AZ1), Cicada\_8 (EJ), Community\_6 (AZ1), Crewmate\_6 (AZ1), Cyan\_5 (AZ1), DrManhattan\_5 (AZ1), DrSierra\_5 (AZ1), Elezi\_5 (AZ1), Eraser\_5 (AZ1), Exile\_5 (AZ), FireCastle\_7 (EJ), Goodman\_8 (EJ), Htur\_8 (EJ), Iter\_5 (AZ1), Janeemi\_6 (AZ1), Jera\_9 (EJ), Joemato\_5 (AZ1), Johann\_8 (EJ), JohnDoe\_5 (AZ1),

Jstan\_5 (AZ1), Kaylissa\_5 (AZ1), KeAlii\_5 (AZ1), Lego\_5 (AZ1), Lizalica\_5 (AZ1), London\_5 (AZ1), MissSwiss\_5 (AZ1), Mudpuppy\_5 (AZ1), Niobe\_5 (AZ1), Nitro\_5 (AZ1), ObiToo\_5 (AZ1), PermaG\_8 (EJ), Phives\_6 (AZ1), Pixelle\_5 (AZ1), Powerpuff\_5 (AZ1), Rasovi\_8 (EJ), Reedo\_5 (AZ1), SBlackberry\_8 (EJ), Simpson\_5 (AZ1), Soondubu\_5 (AZ), Sue2\_5 (AZ1), Tallboi\_5 (AZ1), Tbone\_5 (AZ1), Tian\_5 (AZ1), Tuck\_6 (AZ1), Turab\_5 (AZ1), TurboVicky\_8 (EJ), Tutumahutu\_5 (AZ1), Typher\_8 (EJ), VResidence\_5 (AZ1), Warda\_5 (AZ1), Wildwest\_6 (AZ1), YesChef\_5 (AZ1), Zanella\_8 (EJ),

### **Summary by clusters:**

There are 4 clusters represented in this pham: AZ1, AZ, EH, EJ,

Info for manual annotations of cluster AZ1:

- Start number 12 was manually annotated 3 times for cluster AZ1.
- Start number 14 was manually annotated 31 times for cluster AZ1.

Info for manual annotations of cluster EH:

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

Info for manual annotations of cluster EJ:

- Start number 14 was manually annotated 11 times for cluster EJ.

### **Gene Information:**

Gene: AEgle\_5 Start: 5771, Stop: 6130, Start Num: 14

Candidate Starts for AEgle\_5:

(Start: 14 @5771 has 42 MA's), (16, 5858), (29, 5981), (30, 5993), (39, 6107),

Gene: AGrandiflora\_5 Start: 5774, Stop: 6133, Start Num: 14

Candidate Starts for AGrandiflora\_5:

(Start: 14 @5774 has 42 MA's), (26, 5969), (30, 5996), (39, 6110),

Gene: Adolin\_5 Start: 5792, Stop: 6151, Start Num: 14

Candidate Starts for Adolin\_5:

(Start: 14 @5792 has 42 MA's), (30, 6014), (39, 6128),

Gene: Adumb2043\_5 Start: 5770, Stop: 6129, Start Num: 14

Candidate Starts for Adumb2043\_5:

(Start: 14 @5770 has 42 MA's), (16, 5857), (29, 5980), (30, 5992), (39, 6106),

Gene: Amyev\_5 Start: 5786, Stop: 6145, Start Num: 14

Candidate Starts for Amyev\_5:

(11, 5780), (Start: 14 @5786 has 42 MA's), (16, 5873), (26, 5981), (30, 6008), (39, 6122),

Gene: Asa16\_5 Start: 5767, Stop: 6126, Start Num: 14

Candidate Starts for Asa16\_5:

(Start: 14 @5767 has 42 MA's), (16, 5854), (26, 5962), (30, 5989), (39, 6103),

Gene: Ascela\_5 Start: 5773, Stop: 6132, Start Num: 14

Candidate Starts for Ascela\_5:  
(Start: 14 @5773 has 42 MA's), (16, 5860), (26, 5968), (30, 5995), (39, 6109),

Gene: Berrie\_5 Start: 5770, Stop: 6129, Start Num: 14  
Candidate Starts for Berrie\_5:  
(Start: 14 @5770 has 42 MA's), (18, 5872), (26, 5965), (30, 5992), (39, 6106),

Gene: Cassia\_5 Start: 5874, Stop: 6233, Start Num: 12  
Candidate Starts for Cassia\_5:  
(Start: 12 @5874 has 3 MA's), (16, 5961), (30, 6096), (39, 6210),

Gene: Cicada\_8 Start: 7987, Stop: 7616, Start Num: 14  
Candidate Starts for Cicada\_8:  
(4, 8095), (Start: 14 @7987 has 42 MA's), (21, 7867), (32, 7717),

Gene: Community\_6 Start: 6846, Stop: 7205, Start Num: 14  
Candidate Starts for Community\_6:  
(Start: 14 @6846 has 42 MA's), (26, 7041), (29, 7056), (30, 7068), (39, 7182),

Gene: Crewmate\_6 Start: 6206, Stop: 6565, Start Num: 14  
Candidate Starts for Crewmate\_6:  
(Start: 14 @6206 has 42 MA's), (30, 6428), (39, 6542),

Gene: Cyan\_5 Start: 5778, Stop: 6137, Start Num: 14  
Candidate Starts for Cyan\_5:  
(Start: 14 @5778 has 42 MA's), (30, 6000), (39, 6114),

Gene: DrManhattan\_5 Start: 5791, Stop: 6150, Start Num: 14  
Candidate Starts for DrManhattan\_5:  
(Start: 14 @5791 has 42 MA's), (30, 6013), (39, 6127),

Gene: DrSierra\_5 Start: 5787, Stop: 6146, Start Num: 14  
Candidate Starts for DrSierra\_5:  
(Start: 14 @5787 has 42 MA's), (18, 5889), (21, 5907), (24, 5958), (26, 5982), (30, 6009), (35, 6075),  
(39, 6123),

Gene: Elezi\_5 Start: 5768, Stop: 6127, Start Num: 14  
Candidate Starts for Elezi\_5:  
(Start: 14 @5768 has 42 MA's), (16, 5855), (26, 5963), (30, 5990), (39, 6104),

Gene: Eraser\_5 Start: 5768, Stop: 6127, Start Num: 14  
Candidate Starts for Eraser\_5:  
(Start: 14 @5768 has 42 MA's), (16, 5855), (26, 5963), (30, 5990), (39, 6104),

Gene: Exile\_5 Start: 5786, Stop: 6139, Start Num: 14  
Candidate Starts for Exile\_5:  
(Start: 14 @5786 has 42 MA's), (15, 5807), (30, 6002),

Gene: FireCastle\_7 Start: 7827, Stop: 7465, Start Num: 14  
Candidate Starts for FireCastle\_7:  
(5, 7902), (6, 7893), (Start: 14 @7827 has 42 MA's), (16, 7746), (20, 7731), (28, 7632),

Gene: Goodman\_8 Start: 7981, Stop: 7610, Start Num: 14

Candidate Starts for Goodman\_8:  
(1, 8269), (2, 8239), (3, 8188), (9, 8011), (Start: 14 @7981 has 42 MA's), (32, 7711), (33, 7708),

Gene: Gretchen\_5 Start: 6058, Stop: 6420, Start Num: 13  
Candidate Starts for Gretchen\_5:  
(Start: 13 @6058 has 3 MA's), (29, 6268), (37, 6367),

Gene: Htur\_8 Start: 8010, Stop: 7639, Start Num: 14  
Candidate Starts for Htur\_8:  
(7, 8052), (Start: 14 @8010 has 42 MA's), (19, 7911), (27, 7812), (40, 7656),

Gene: IAmGroot\_5 Start: 5830, Stop: 6207, Start Num: 13  
Candidate Starts for IAmGroot\_5:  
(Start: 13 @5830 has 3 MA's), (15, 5857), (25, 6034),

Gene: Iter\_5 Start: 5773, Stop: 6132, Start Num: 14  
Candidate Starts for Iter\_5:  
(Start: 14 @5773 has 42 MA's), (16, 5860), (26, 5968), (30, 5995), (39, 6109),

Gene: IttyBittyPiggy\_5 Start: 5769, Stop: 6128, Start Num: 12  
Candidate Starts for IttyBittyPiggy\_5:  
(Start: 12 @5769 has 3 MA's), (16, 5856), (30, 5991), (39, 6105),

Gene: Janeemi\_6 Start: 6878, Stop: 7237, Start Num: 14  
Candidate Starts for Janeemi\_6:  
(Start: 14 @6878 has 42 MA's), (29, 7088), (30, 7100), (39, 7214),

Gene: Jera\_9 Start: 7205, Stop: 6834, Start Num: 14  
Candidate Starts for Jera\_9:  
(7, 7247), (Start: 14 @7205 has 42 MA's), (17, 7121), (23, 7055), (32, 6935),

Gene: Joemato\_5 Start: 5778, Stop: 6137, Start Num: 14  
Candidate Starts for Joemato\_5:  
(Start: 14 @5778 has 42 MA's), (30, 6000), (39, 6114),

Gene: Johann\_8 Start: 7981, Stop: 7610, Start Num: 14  
Candidate Starts for Johann\_8:  
(1, 8269), (2, 8239), (3, 8188), (9, 8011), (Start: 14 @7981 has 42 MA's), (32, 7711), (33, 7708),

Gene: JohnDoe\_5 Start: 5776, Stop: 6135, Start Num: 14  
Candidate Starts for JohnDoe\_5:  
(Start: 14 @5776 has 42 MA's), (30, 5998), (39, 6112),

Gene: Jstan\_5 Start: 5768, Stop: 6127, Start Num: 14  
Candidate Starts for Jstan\_5:  
(Start: 14 @5768 has 42 MA's), (16, 5855), (26, 5963), (30, 5990), (39, 6104),

Gene: JuneStar\_5 Start: 5877, Stop: 6236, Start Num: 12  
Candidate Starts for JuneStar\_5:  
(Start: 12 @5877 has 3 MA's), (16, 5964), (30, 6099), (39, 6213),

Gene: Kaylissa\_5 Start: 5778, Stop: 6137, Start Num: 14  
Candidate Starts for Kaylissa\_5:

(Start: 14 @5778 has 42 MA's), (30, 6000), (39, 6114),

Gene: KeAlii\_5 Start: 5756, Stop: 6115, Start Num: 14

Candidate Starts for KeAlii\_5:

(8, 5723), (Start: 14 @5756 has 42 MA's), (26, 5951), (30, 5978), (31, 6017),

Gene: Lego\_5 Start: 5777, Stop: 6136, Start Num: 14

Candidate Starts for Lego\_5:

(Start: 14 @5777 has 42 MA's), (30, 5999), (39, 6113),

Gene: Lizalica\_5 Start: 5769, Stop: 6128, Start Num: 14

Candidate Starts for Lizalica\_5:

(Start: 14 @5769 has 42 MA's), (26, 5964), (30, 5991), (39, 6105),

Gene: London\_5 Start: 5768, Stop: 6127, Start Num: 14

Candidate Starts for London\_5:

(Start: 14 @5768 has 42 MA's), (16, 5855), (26, 5963), (30, 5990), (39, 6104),

Gene: MissSwiss\_5 Start: 5797, Stop: 6156, Start Num: 14

Candidate Starts for MissSwiss\_5:

(Start: 14 @5797 has 42 MA's), (26, 5992), (29, 6007), (31, 6058), (39, 6133),

Gene: Mudpuppy\_5 Start: 5777, Stop: 6136, Start Num: 14

Candidate Starts for Mudpuppy\_5:

(Start: 14 @5777 has 42 MA's), (26, 5972), (30, 5999), (39, 6113),

Gene: Niobe\_5 Start: 5768, Stop: 6127, Start Num: 14

Candidate Starts for Niobe\_5:

(Start: 14 @5768 has 42 MA's), (16, 5855), (26, 5963), (30, 5990), (39, 6104),

Gene: Nitro\_5 Start: 5777, Stop: 6136, Start Num: 14

Candidate Starts for Nitro\_5:

(Start: 14 @5777 has 42 MA's), (16, 5864), (30, 5999), (39, 6113),

Gene: ObiToo\_5 Start: 5956, Stop: 6315, Start Num: 14

Candidate Starts for ObiToo\_5:

(Start: 14 @5956 has 42 MA's), (30, 6178), (39, 6292),

Gene: Percival\_5 Start: 5891, Stop: 6253, Start Num: 13

Candidate Starts for Percival\_5:

(Start: 13 @5891 has 3 MA's), (29, 6101), (37, 6200),

Gene: PermaG\_8 Start: 7999, Stop: 7628, Start Num: 14

Candidate Starts for PermaG\_8:

(Start: 14 @7999 has 42 MA's), (22, 7870), (32, 7729), (38, 7663),

Gene: Phives\_6 Start: 6846, Stop: 7205, Start Num: 14

Candidate Starts for Phives\_6:

(11, 6840), (Start: 14 @6846 has 42 MA's), (16, 6933), (26, 7041), (29, 7056), (30, 7068), (39, 7182),

Gene: Pixelle\_5 Start: 5785, Stop: 6144, Start Num: 14

Candidate Starts for Pixelle\_5:

(11, 5779), (Start: 14 @5785 has 42 MA's), (16, 5872), (26, 5980), (29, 5995), (30, 6007), (39, 6121),

Gene: Powerpuff\_5 Start: 5828, Stop: 6187, Start Num: 14

Candidate Starts for Powerpuff\_5:

(Start: 14 @5828 has 42 MA's), (30, 6050), (39, 6164),

Gene: Pumpkins\_12 Start: 5874, Stop: 6233, Start Num: 12

Candidate Starts for Pumpkins\_12:

(Start: 12 @5874 has 3 MA's), (16, 5961), (26, 6069), (30, 6096), (39, 6210),

Gene: Rasovi\_8 Start: 8010, Stop: 7639, Start Num: 14

Candidate Starts for Rasovi\_8:

(7, 8052), (Start: 14 @8010 has 42 MA's), (19, 7911), (27, 7812), (40, 7656),

Gene: Reedo\_5 Start: 5791, Stop: 6153, Start Num: 14

Candidate Starts for Reedo\_5:

(Start: 14 @5791 has 42 MA's), (18, 5893), (30, 6013), (31, 6052), (39, 6127),

Gene: SBlackberry\_8 Start: 7964, Stop: 7593, Start Num: 14

Candidate Starts for SBlackberry\_8:

(7, 8006), (Start: 14 @7964 has 42 MA's), (17, 7880), (23, 7814), (32, 7694), (36, 7667),

Gene: Simpson\_5 Start: 5778, Stop: 6137, Start Num: 14

Candidate Starts for Simpson\_5:

(Start: 14 @5778 has 42 MA's), (30, 6000), (39, 6114),

Gene: Soondubu\_5 Start: 5790, Stop: 6143, Start Num: 14

Candidate Starts for Soondubu\_5:

(10, 5769), (Start: 14 @5790 has 42 MA's), (15, 5811), (16, 5871), (30, 6006),

Gene: Sue2\_5 Start: 5771, Stop: 6130, Start Num: 14

Candidate Starts for Sue2\_5:

(Start: 14 @5771 has 42 MA's), (30, 5993), (31, 6032),

Gene: Tallboi\_5 Start: 5786, Stop: 6145, Start Num: 14

Candidate Starts for Tallboi\_5:

(Start: 14 @5786 has 42 MA's), (26, 5981), (29, 5996), (30, 6008), (39, 6122),

Gene: Tbone\_5 Start: 5774, Stop: 6133, Start Num: 14

Candidate Starts for Tbone\_5:

(Start: 14 @5774 has 42 MA's), (26, 5969), (30, 5996), (39, 6110),

Gene: TforTroy\_5 Start: 5889, Stop: 6248, Start Num: 12

Candidate Starts for TforTroy\_5:

(Start: 12 @5889 has 3 MA's), (16, 5976), (30, 6111), (35, 6177), (39, 6225),

Gene: Tian\_5 Start: 5786, Stop: 6145, Start Num: 14

Candidate Starts for Tian\_5:

(11, 5780), (Start: 14 @5786 has 42 MA's), (16, 5873), (26, 5981), (30, 6008), (39, 6122),

Gene: Tuck\_6 Start: 6834, Stop: 7193, Start Num: 14

Candidate Starts for Tuck\_6:

(Start: 14 @6834 has 42 MA's), (26, 7029), (29, 7044), (30, 7056), (39, 7170),



Gene: Turab\_5 Start: 5770, Stop: 6129, Start Num: 14  
Candidate Starts for Turab\_5:  
(Start: 14 @5770 has 42 MA's), (16, 5857), (29, 5980), (30, 5992), (39, 6106),

Gene: TurboVicky\_8 Start: 7961, Stop: 7590, Start Num: 14  
Candidate Starts for TurboVicky\_8:  
(7, 8003), (Start: 14 @7961 has 42 MA's), (17, 7877), (23, 7811), (32, 7691), (36, 7664),

Gene: Tutumahutu\_5 Start: 5828, Stop: 6187, Start Num: 14  
Candidate Starts for Tutumahutu\_5:  
(Start: 14 @5828 has 42 MA's), (30, 6050), (39, 6164),

Gene: Typher\_8 Start: 7964, Stop: 7593, Start Num: 14  
Candidate Starts for Typher\_8:  
(Start: 14 @7964 has 42 MA's), (17, 7880), (23, 7814), (32, 7694),

Gene: VResidence\_5 Start: 5850, Stop: 6209, Start Num: 14  
Candidate Starts for VResidence\_5:  
(Start: 14 @5850 has 42 MA's), (30, 6072), (34, 6126), (39, 6186),

Gene: Warda\_5 Start: 5774, Stop: 6133, Start Num: 14  
Candidate Starts for Warda\_5:  
(Start: 14 @5774 has 42 MA's), (26, 5969), (30, 5996), (39, 6110),

Gene: Wildwest\_6 Start: 6717, Stop: 7076, Start Num: 14  
Candidate Starts for Wildwest\_6:  
(Start: 14 @6717 has 42 MA's), (18, 6819), (21, 6837), (26, 6912), (30, 6939), (35, 7005), (39, 7053),

Gene: Yang\_5 Start: 5872, Stop: 6231, Start Num: 12  
Candidate Starts for Yang\_5:  
(Start: 12 @5872 has 3 MA's), (16, 5959), (30, 6094), (39, 6208),

Gene: YesChef\_5 Start: 5828, Stop: 6187, Start Num: 14  
Candidate Starts for YesChef\_5:  
(Start: 14 @5828 has 42 MA's), (30, 6050), (39, 6164),

Gene: Zanella\_8 Start: 7961, Stop: 7590, Start Num: 14  
Candidate Starts for Zanella\_8:  
(7, 8003), (Start: 14 @7961 has 42 MA's), (17, 7877), (23, 7811), (32, 7691), (36, 7664),