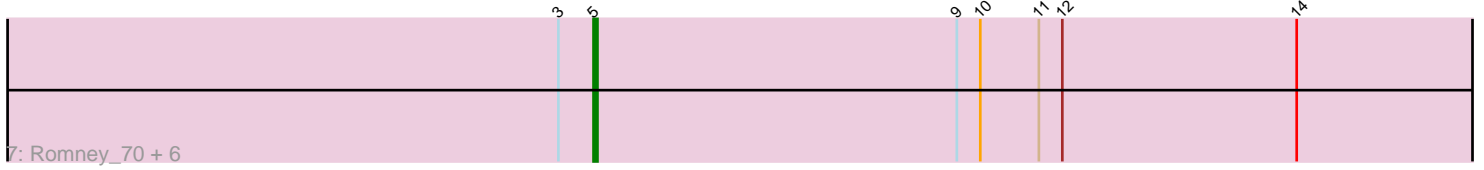
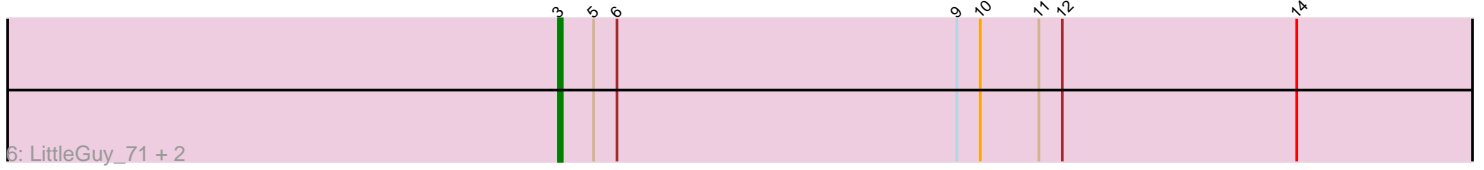
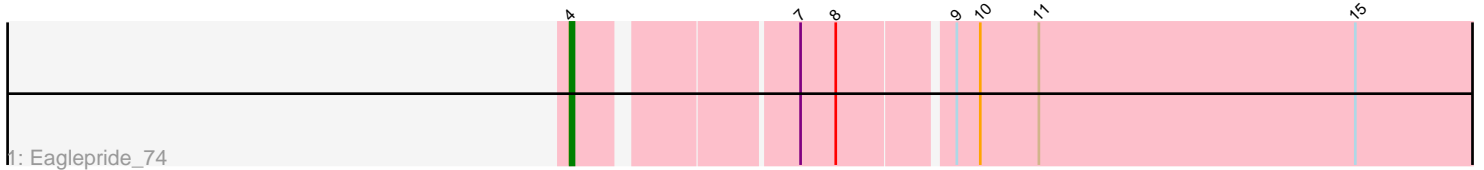


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Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. 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 163686 Report

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

Pham number 163686 has 48 members, 0 are drafts.

Phages represented in each track:

- Track 1 : Eaglepride\_74
- Track 2 : Bartimeaus\_71, Commander\_69, Lemur\_71, Sparxx\_72
- Track 3 : Wander\_71, Cocoaberry\_71, Iracema64\_71, Houdini22\_70, NotAPhaseMom\_70, Funston\_70, Avle17\_71, Maverick\_70, Eris\_70, JoongJeon\_70, Phacado\_71, Palestino\_70
- Track 4 : Ruin\_71, Caelakin\_70, Dhanush\_71, Peaches\_69, HamSlice\_67, Burger\_69, Annyong\_70, Broseidon\_71
- Track 5 : Abdiel\_71, Thanksgivukkah\_70, Clarenza\_70, BubbleTrouble\_70, Eapen\_71, Kratark\_70, Bombshell\_71, Bruiser\_70, Millski\_70, KFPoly\_70
- Track 6 : LittleGuy\_71, ICleared\_70, Nyxis\_70
- Track 7 : Romney\_70, Wilbur\_71, Medusa\_71, Druantia\_70, Melvin\_73, TinaFeyge\_69, Blackmoor\_70
- Track 8 : MeeZee\_70, Gadost\_71
- Track 9 : Morrow\_73

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

The start number called the most often in the published annotations is 3, it was called in 29 of the 48 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Abdiel\_71, Avle17\_71, Bartimeaus\_71, Bombshell\_71, Bruiser\_70, BubbleTrouble\_70, Clarenza\_70, Cocoaberry\_71, Commander\_69, Eapen\_71, Eris\_70, Funston\_70, Houdini22\_70, ICleared\_70, Iracema64\_71, JoongJeon\_70, KFPoly\_70, Kratark\_70, Lemur\_71, LittleGuy\_71, Maverick\_70, Millski\_70, NotAPhaseMom\_70, Nyxis\_70, Palestino\_70, Phacado\_71, Sparxx\_72, Thanksgivukkah\_70, Wander\_71,

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

- Annyong\_70, Blackmoor\_70, Broseidon\_71, Burger\_69, Caelakin\_70, Dhanush\_71, Druantia\_70, Gadost\_71, HamSlice\_67, Medusa\_71, MeeZee\_70, Melvin\_73, Morrow\_73, Peaches\_69, Romney\_70, Ruin\_71, TinaFeyge\_69, Wilbur\_71,

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

- Eaglepride\_74,

### Summary by start number:

#### Start 3:

- Found in 47 of 48 ( 97.9% ) of genes in pham
- Manual Annotations of this start: 29 of 48
- Called 61.7% of time when present
- Phage (with cluster) where this start called: Abdiel\_71 (A4), Avle17\_71 (A4), Bartimeaus\_71 (A4), Bombshell\_71 (A4), Bruiser\_70 (A4), BubbleTrouble\_70 (A4), Clarenza\_70 (A4), Cocoaberry\_71 (A4), Commander\_69 (A4), Eapen\_71 (A4), Eris\_70 (A4), Funston\_70 (A4), Houdini22\_70 (A4), ICleared\_70 (A4), Iracema64\_71 (A4), JoongJeon\_70 (A4), KFPoly\_70 (A4), Kratak\_70 (A4), Lemur\_71 (A4), LittleGuy\_71 (A4), Maverick\_70 (A4), Millski\_70 (A4), NotAPhaseMom\_70 (A4), Nyxis\_70 (A4), Palestino\_70 (A4), Phacado\_71 (A4), Sparxx\_72 (A4), Thanksgivukkah\_70 (A4), Wander\_71 (A4),

#### Start 4:

- Found in 1 of 48 ( 2.1% ) of genes in pham
- Manual Annotations of this start: 1 of 48
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Eaglepride\_74 (A10),

#### Start 5:

- Found in 47 of 48 ( 97.9% ) of genes in pham
- Manual Annotations of this start: 18 of 48
- Called 38.3% of time when present
- Phage (with cluster) where this start called: Annyong\_70 (A4), Blackmoor\_70 (A4), Broseidon\_71 (A4), Burger\_69 (A4), Caelakin\_70 (A4), Dhanush\_71 (A4), Druantia\_70 (A4), Gadost\_71 (A4), HamSlice\_67 (A4), Medusa\_71 (A4), MeeZee\_70 (A4), Melvin\_73 (A4), Morrow\_73 (A4), Peaches\_69 (A4), Romney\_70 (A4), Ruin\_71 (A4), TinaFeyge\_69 (A4), Wilbur\_71 (A4),

### Summary by clusters:

There are 2 clusters represented in this pham: A10, A4,

#### Info for manual annotations of cluster A10:

- Start number 4 was manually annotated 1 time for cluster A10.

#### Info for manual annotations of cluster A4:

- Start number 3 was manually annotated 29 times for cluster A4.
- Start number 5 was manually annotated 18 times for cluster A4.

### Gene Information:

Gene: Abdiel\_71 Start: 44630, Stop: 44394, Start Num: 3

Candidate Starts for Abdiel\_71:

(1, 44756), (Start: 3 @44630 has 29 MA's), (Start: 5 @44621 has 18 MA's), (9, 44528), (10, 44522), (11, 44507), (12, 44501), (14, 44441),

Gene: Annyong\_70 Start: 44654, Stop: 44427, Start Num: 5  
Candidate Starts for Annyong\_70:  
(1, 44789), (Start: 3 @44663 has 29 MA's), (Start: 5 @44654 has 18 MA's), (9, 44561), (10, 44555),  
(11, 44540), (12, 44534), (14, 44474),

Gene: Avle17\_71 Start: 44612, Stop: 44376, Start Num: 3  
Candidate Starts for Avle17\_71:  
(2, 44666), (Start: 3 @44612 has 29 MA's), (Start: 5 @44603 has 18 MA's), (9, 44510), (10, 44504),  
(11, 44489), (12, 44483), (14, 44423),

Gene: Bartimeaus\_71 Start: 44620, Stop: 44384, Start Num: 3  
Candidate Starts for Bartimeaus\_71:  
(Start: 3 @44620 has 29 MA's), (Start: 5 @44611 has 18 MA's), (9, 44518), (10, 44512), (11, 44497),  
(12, 44491), (14, 44431),

Gene: Blackmoor\_70 Start: 44611, Stop: 44384, Start Num: 5  
Candidate Starts for Blackmoor\_70:  
(Start: 3 @44620 has 29 MA's), (Start: 5 @44611 has 18 MA's), (9, 44518), (10, 44512), (11, 44497),  
(12, 44491), (14, 44431),

Gene: Bombshell\_71 Start: 44615, Stop: 44379, Start Num: 3  
Candidate Starts for Bombshell\_71:  
(1, 44741), (Start: 3 @44615 has 29 MA's), (Start: 5 @44606 has 18 MA's), (9, 44513), (10, 44507),  
(11, 44492), (12, 44486), (14, 44426),

Gene: Broseidon\_71 Start: 44612, Stop: 44385, Start Num: 5  
Candidate Starts for Broseidon\_71:  
(1, 44747), (Start: 3 @44621 has 29 MA's), (Start: 5 @44612 has 18 MA's), (9, 44519), (10, 44513),  
(11, 44498), (12, 44492), (14, 44432),

Gene: Bruiser\_70 Start: 44618, Stop: 44382, Start Num: 3  
Candidate Starts for Bruiser\_70:  
(1, 44744), (Start: 3 @44618 has 29 MA's), (Start: 5 @44609 has 18 MA's), (9, 44516), (10, 44510),  
(11, 44495), (12, 44489), (14, 44429),

Gene: BubbleTrouble\_70 Start: 44645, Stop: 44409, Start Num: 3  
Candidate Starts for BubbleTrouble\_70:  
(1, 44771), (Start: 3 @44645 has 29 MA's), (Start: 5 @44636 has 18 MA's), (9, 44543), (10, 44537),  
(11, 44522), (12, 44516), (14, 44456),

Gene: Burger\_69 Start: 44609, Stop: 44382, Start Num: 5  
Candidate Starts for Burger\_69:  
(1, 44744), (Start: 3 @44618 has 29 MA's), (Start: 5 @44609 has 18 MA's), (9, 44516), (10, 44510),  
(11, 44495), (12, 44489), (14, 44429),

Gene: Caelakin\_70 Start: 44609, Stop: 44382, Start Num: 5  
Candidate Starts for Caelakin\_70:  
(1, 44744), (Start: 3 @44618 has 29 MA's), (Start: 5 @44609 has 18 MA's), (9, 44516), (10, 44510),  
(11, 44495), (12, 44489), (14, 44429),

Gene: Clarenza\_70 Start: 44615, Stop: 44379, Start Num: 3  
Candidate Starts for Clarenza\_70:

(1, 44741), (Start: 3 @44615 has 29 MA's), (Start: 5 @44606 has 18 MA's), (9, 44513), (10, 44507), (11, 44492), (12, 44486), (14, 44426),

Gene: Cocoaberry\_71 Start: 44619, Stop: 44383, Start Num: 3

Candidate Starts for Cocoaberry\_71:

(2, 44673), (Start: 3 @44619 has 29 MA's), (Start: 5 @44610 has 18 MA's), (9, 44517), (10, 44511), (11, 44496), (12, 44490), (14, 44430),

Gene: Commander\_69 Start: 44616, Stop: 44380, Start Num: 3

Candidate Starts for Commander\_69:

(Start: 3 @44616 has 29 MA's), (Start: 5 @44607 has 18 MA's), (9, 44514), (10, 44508), (11, 44493), (12, 44487), (14, 44427),

Gene: Dhanush\_71 Start: 44612, Stop: 44385, Start Num: 5

Candidate Starts for Dhanush\_71:

(1, 44747), (Start: 3 @44621 has 29 MA's), (Start: 5 @44612 has 18 MA's), (9, 44519), (10, 44513), (11, 44498), (12, 44492), (14, 44432),

Gene: Druantia\_70 Start: 44612, Stop: 44385, Start Num: 5

Candidate Starts for Druantia\_70:

(Start: 3 @44621 has 29 MA's), (Start: 5 @44612 has 18 MA's), (9, 44519), (10, 44513), (11, 44498), (12, 44492), (14, 44432),

Gene: Eaglepride\_74 Start: 44537, Stop: 44316, Start Num: 4

Candidate Starts for Eaglepride\_74:

(Start: 4 @44537 has 1 MA's), (7, 44486), (8, 44477), (9, 44450), (10, 44444), (11, 44429), (15, 44348),

Gene: Eapen\_71 Start: 44613, Stop: 44377, Start Num: 3

Candidate Starts for Eapen\_71:

(1, 44739), (Start: 3 @44613 has 29 MA's), (Start: 5 @44604 has 18 MA's), (9, 44511), (10, 44505), (11, 44490), (12, 44484), (14, 44424),

Gene: Eris\_70 Start: 44630, Stop: 44394, Start Num: 3

Candidate Starts for Eris\_70:

(2, 44684), (Start: 3 @44630 has 29 MA's), (Start: 5 @44621 has 18 MA's), (9, 44528), (10, 44522), (11, 44507), (12, 44501), (14, 44441),

Gene: Funston\_70 Start: 44615, Stop: 44379, Start Num: 3

Candidate Starts for Funston\_70:

(2, 44669), (Start: 3 @44615 has 29 MA's), (Start: 5 @44606 has 18 MA's), (9, 44513), (10, 44507), (11, 44492), (12, 44486), (14, 44426),

Gene: Gadost\_71 Start: 44610, Stop: 44383, Start Num: 5

Candidate Starts for Gadost\_71:

(2, 44673), (Start: 3 @44619 has 29 MA's), (Start: 5 @44610 has 18 MA's), (9, 44517), (10, 44511), (11, 44496), (12, 44490), (14, 44430),

Gene: HamSlice\_67 Start: 44608, Stop: 44381, Start Num: 5

Candidate Starts for HamSlice\_67:

(1, 44743), (Start: 3 @44617 has 29 MA's), (Start: 5 @44608 has 18 MA's), (9, 44515), (10, 44509), (11, 44494), (12, 44488), (14, 44428),

Gene: Houdini22\_70 Start: 44619, Stop: 44383, Start Num: 3

Candidate Starts for Houdini22\_70:

(2, 44673), (Start: 3 @44619 has 29 MA's), (Start: 5 @44610 has 18 MA's), (9, 44517), (10, 44511), (11, 44496), (12, 44490), (14, 44430),

Gene: ICleared\_70 Start: 44686, Stop: 44450, Start Num: 3

Candidate Starts for ICleared\_70:

(Start: 3 @44686 has 29 MA's), (Start: 5 @44677 has 18 MA's), (6, 44671), (9, 44584), (10, 44578), (11, 44563), (12, 44557), (14, 44497),

Gene: Iracema64\_71 Start: 44882, Stop: 44646, Start Num: 3

Candidate Starts for Iracema64\_71:

(2, 44936), (Start: 3 @44882 has 29 MA's), (Start: 5 @44873 has 18 MA's), (9, 44780), (10, 44774), (11, 44759), (12, 44753), (14, 44693),

Gene: JoongJeon\_70 Start: 44612, Stop: 44376, Start Num: 3

Candidate Starts for JoongJeon\_70:

(2, 44666), (Start: 3 @44612 has 29 MA's), (Start: 5 @44603 has 18 MA's), (9, 44510), (10, 44504), (11, 44489), (12, 44483), (14, 44423),

Gene: KFPoly\_70 Start: 44612, Stop: 44376, Start Num: 3

Candidate Starts for KFPoly\_70:

(1, 44738), (Start: 3 @44612 has 29 MA's), (Start: 5 @44603 has 18 MA's), (9, 44510), (10, 44504), (11, 44489), (12, 44483), (14, 44423),

Gene: Kratark\_70 Start: 44652, Stop: 44416, Start Num: 3

Candidate Starts for Kratark\_70:

(1, 44778), (Start: 3 @44652 has 29 MA's), (Start: 5 @44643 has 18 MA's), (9, 44550), (10, 44544), (11, 44529), (12, 44523), (14, 44463),

Gene: Lemur\_71 Start: 44615, Stop: 44379, Start Num: 3

Candidate Starts for Lemur\_71:

(Start: 3 @44615 has 29 MA's), (Start: 5 @44606 has 18 MA's), (9, 44513), (10, 44507), (11, 44492), (12, 44486), (14, 44426),

Gene: LittleGuy\_71 Start: 44503, Stop: 44267, Start Num: 3

Candidate Starts for LittleGuy\_71:

(Start: 3 @44503 has 29 MA's), (Start: 5 @44494 has 18 MA's), (6, 44488), (9, 44401), (10, 44395), (11, 44380), (12, 44374), (14, 44314),

Gene: Maverick\_70 Start: 44615, Stop: 44379, Start Num: 3

Candidate Starts for Maverick\_70:

(2, 44669), (Start: 3 @44615 has 29 MA's), (Start: 5 @44606 has 18 MA's), (9, 44513), (10, 44507), (11, 44492), (12, 44486), (14, 44426),

Gene: Medusa\_71 Start: 44622, Stop: 44395, Start Num: 5

Candidate Starts for Medusa\_71:

(Start: 3 @44631 has 29 MA's), (Start: 5 @44622 has 18 MA's), (9, 44529), (10, 44523), (11, 44508), (12, 44502), (14, 44442),

Gene: MeeZee\_70 Start: 44603, Stop: 44376, Start Num: 5

Candidate Starts for MeeZee\_70:

(2, 44666), (Start: 3 @44612 has 29 MA's), (Start: 5 @44603 has 18 MA's), (9, 44510), (10, 44504), (11, 44489), (12, 44483), (14, 44423),

Gene: Melvin\_73 Start: 44604, Stop: 44377, Start Num: 5

Candidate Starts for Melvin\_73:

(Start: 3 @44613 has 29 MA's), (Start: 5 @44604 has 18 MA's), (9, 44511), (10, 44505), (11, 44490), (12, 44484), (14, 44424),

Gene: Millski\_70 Start: 44619, Stop: 44383, Start Num: 3

Candidate Starts for Millski\_70:

(1, 44745), (Start: 3 @44619 has 29 MA's), (Start: 5 @44610 has 18 MA's), (9, 44517), (10, 44511), (11, 44496), (12, 44490), (14, 44430),

Gene: Morrow\_73 Start: 44649, Stop: 44422, Start Num: 5

Candidate Starts for Morrow\_73:

(1, 44784), (Start: 3 @44658 has 29 MA's), (Start: 5 @44649 has 18 MA's), (9, 44556), (10, 44550), (11, 44535), (12, 44529), (13, 44472), (14, 44469),

Gene: NotAPhaseMom\_70 Start: 44619, Stop: 44383, Start Num: 3

Candidate Starts for NotAPhaseMom\_70:

(2, 44673), (Start: 3 @44619 has 29 MA's), (Start: 5 @44610 has 18 MA's), (9, 44517), (10, 44511), (11, 44496), (12, 44490), (14, 44430),

Gene: Nyxis\_70 Start: 44497, Stop: 44261, Start Num: 3

Candidate Starts for Nyxis\_70:

(Start: 3 @44497 has 29 MA's), (Start: 5 @44488 has 18 MA's), (6, 44482), (9, 44395), (10, 44389), (11, 44374), (12, 44368), (14, 44308),

Gene: Palestino\_70 Start: 44615, Stop: 44379, Start Num: 3

Candidate Starts for Palestino\_70:

(2, 44669), (Start: 3 @44615 has 29 MA's), (Start: 5 @44606 has 18 MA's), (9, 44513), (10, 44507), (11, 44492), (12, 44486), (14, 44426),

Gene: Peaches\_69 Start: 44608, Stop: 44381, Start Num: 5

Candidate Starts for Peaches\_69:

(1, 44743), (Start: 3 @44617 has 29 MA's), (Start: 5 @44608 has 18 MA's), (9, 44515), (10, 44509), (11, 44494), (12, 44488), (14, 44428),

Gene: Phacado\_71 Start: 44614, Stop: 44378, Start Num: 3

Candidate Starts for Phacado\_71:

(2, 44668), (Start: 3 @44614 has 29 MA's), (Start: 5 @44605 has 18 MA's), (9, 44512), (10, 44506), (11, 44491), (12, 44485), (14, 44425),

Gene: Romney\_70 Start: 44606, Stop: 44379, Start Num: 5

Candidate Starts for Romney\_70:

(Start: 3 @44615 has 29 MA's), (Start: 5 @44606 has 18 MA's), (9, 44513), (10, 44507), (11, 44492), (12, 44486), (14, 44426),

Gene: Ruin\_71 Start: 44602, Stop: 44375, Start Num: 5

Candidate Starts for Ruin\_71:

(1, 44737), (Start: 3 @44611 has 29 MA's), (Start: 5 @44602 has 18 MA's), (9, 44509), (10, 44503), (11, 44488), (12, 44482), (14, 44422),

Gene: Sparxx\_72 Start: 44614, Stop: 44378, Start Num: 3

Candidate Starts for Sparxx\_72:

(Start: 3 @44614 has 29 MA's), (Start: 5 @44605 has 18 MA's), (9, 44512), (10, 44506), (11, 44491), (12, 44485), (14, 44425),

Gene: Thanksgivukkah\_70 Start: 44616, Stop: 44380, Start Num: 3

Candidate Starts for Thanksgivukkah\_70:

(1, 44742), (Start: 3 @44616 has 29 MA's), (Start: 5 @44607 has 18 MA's), (9, 44514), (10, 44508), (11, 44493), (12, 44487), (14, 44427),

Gene: TinaFeyge\_69 Start: 44604, Stop: 44377, Start Num: 5

Candidate Starts for TinaFeyge\_69:

(Start: 3 @44613 has 29 MA's), (Start: 5 @44604 has 18 MA's), (9, 44511), (10, 44505), (11, 44490), (12, 44484), (14, 44424),

Gene: Wander\_71 Start: 44612, Stop: 44376, Start Num: 3

Candidate Starts for Wander\_71:

(2, 44666), (Start: 3 @44612 has 29 MA's), (Start: 5 @44603 has 18 MA's), (9, 44510), (10, 44504), (11, 44489), (12, 44483), (14, 44423),

Gene: Wilbur\_71 Start: 44606, Stop: 44379, Start Num: 5

Candidate Starts for Wilbur\_71:

(Start: 3 @44615 has 29 MA's), (Start: 5 @44606 has 18 MA's), (9, 44513), (10, 44507), (11, 44492), (12, 44486), (14, 44426),