



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 202993 Report

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

Pham number 202993 has 53 members, 11 are drafts.

Phages represented in each track:

- Track 1 : DustyMartin\_1, Shapes\_1, Rowdy\_1, LeoAvram\_1
- Track 2 : Phlei\_1
- Track 3 : Caraxes\_4
- Track 4 : Calvinny\_1, Snickers\_1
- Track 5 : MeeZee\_1, Maverick\_1, Shaka\_1, Marchesa\_1, TiroTheta9\_1, Rockstar\_1, Peaches\_1, Caelakin\_1, DropBear\_1
- Track 6 : Backyardigan\_1
- Track 7 : Bonamassa\_1, Swirley\_1
- Track 8 : Twigg\_1
- Track 9 : CosmicSans\_2, UhSalsa\_2, Alpacados\_2, Rhodalysa\_2, Bradshaw\_2, Harlequin\_2, RER2\_65, Swann\_2, Rasputin\_2, Erik\_2, Yoncess\_2, Espica\_2, Nancinator\_2, Bryce\_2, RexFury\_2, Natosaleda\_2, Shuman\_2, Phrankenstein\_2, StCroix\_2, Takoda\_2, TWAMP\_2, Naiad\_2, Lillie\_2, AppleCloud\_1, Gollum\_2, Hiro\_2, Krishelle\_2, PhailMary\_2
- Track 10 : Jester\_2, Belenaria\_2
- Track 11 : Bonanza\_2
- Track 12 : Partridge\_2

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

The start number called the most often in the published annotations is 2, it was called in 37 of the 42 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Alpacados\_2, AppleCloud\_1, Backyardigan\_1, Bonamassa\_1, Bradshaw\_2, Bryce\_2, Caelakin\_1, CosmicSans\_2, DropBear\_1, Erik\_2, Espica\_2, Gollum\_2, Harlequin\_2, Hiro\_2, Krishelle\_2, Lillie\_2, Marchesa\_1, Maverick\_1, MeeZee\_1, Naiad\_2, Nancinator\_2, Natosaleda\_2, Peaches\_1, PhailMary\_2, Phrankenstein\_2, RER2\_65, Rasputin\_2, RexFury\_2, Rhodalysa\_2, Rockstar\_1, Shaka\_1, Shuman\_2, StCroix\_2, Swann\_2, Swirley\_1, TWAMP\_2, Takoda\_2, TiroTheta9\_1, UhSalsa\_2, Yoncess\_2,

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

- Belenaria\_2, Bonanza\_2, DustyMartin\_1, Jester\_2, LeoAvram\_1, Partridge\_2, Phlei\_1, Rowdy\_1, Shapes\_1, Twigg\_1,

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

- Calvinny\_1, Caraxes\_4, Snickers\_1,

### Summary by start number:

Start 1:

- Found in 32 of 53 ( 60.4% ) of genes in pham
- Manual Annotations of this start: 1 of 42
- Called 3.1% of time when present
- Phage (with cluster) where this start called: Bonanza\_2 (CA),

Start 2:

- Found in 50 of 53 ( 94.3% ) of genes in pham
- Manual Annotations of this start: 37 of 42
- Called 80.0% of time when present
- Phage (with cluster) where this start called: Alpacados\_2 (CA), AppleCloud\_1 (CA), Backyardigan\_1 (A4), Bonamassa\_1 (A5), Bradshaw\_2 (CA), Bryce\_2 (CA), Caelakin\_1 (A4), CosmicSans\_2 (CA), DropBear\_1 (A3), Erik\_2 (CA), Espica\_2 (CA), Gollum\_2 (CA), Harlequin\_2 (CA), Hiro\_2 (CA), Krishelle\_2 (CA), Lillie\_2 (CA), Marchesa\_1 (A3), Maverick\_1 (A4), MeeZee\_1 (A4), Naiad\_2 (CA), Nancinator\_2 (CA), Natosaleda\_2 (CA), Peaches\_1 (A4), PhailMary\_2 (CA), Phrankenstein\_2 (CA), RER2\_65 (CA), Rasputin\_2 (CA), RexFury\_2 (CA), Rhodalysa\_2 (CA), Rockstar\_1 (A3), Shaka\_1 (A4), Shuman\_2 (CA), StCroix\_2 (CA), Swann\_2 (CA), Swirley\_1 (A5), TWAMP\_2 (CA), Takoda\_2 (CA), TiroTheta9\_1 (A4), UhSalsa\_2 (CA), Yoncess\_2 (CA),

Start 3:

- Found in 32 of 53 ( 60.4% ) of genes in pham
- Manual Annotations of this start: 2 of 42
- Called 6.2% of time when present
- Phage (with cluster) where this start called: Belenaria\_2 (CA), Jester\_2 (CA),

Start 4:

- Found in 53 of 53 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 2 of 42
- Called 18.9% of time when present
- Phage (with cluster) where this start called: Calvinny\_1 (A3), Caraxes\_4 (A2), DustyMartin\_1 (A10), LeoAvram\_1 (A4), Partridge\_2 (CA), Phlei\_1 (A13), Rowdy\_1 (A10), Shapes\_1 (A10), Snickers\_1 (A3), Twigg\_1 (A5),

### Summary by clusters:

There are 7 clusters represented in this pham: A10, A13, CA, A3, A2, A5, A4,

Info for manual annotations of cluster A3:

- Start number 2 was manually annotated 1 time for cluster A3.

Info for manual annotations of cluster A4:

- Start number 2 was manually annotated 7 times for cluster A4.
- Start number 4 was manually annotated 1 time for cluster A4.

Info for manual annotations of cluster A5:

- Start number 2 was manually annotated 2 times for cluster A5.

Info for manual annotations of cluster CA:

- Start number 1 was manually annotated 1 time for cluster CA.
- Start number 2 was manually annotated 27 times for cluster CA.
- Start number 3 was manually annotated 2 times for cluster CA.
- Start number 4 was manually annotated 1 time for cluster CA.

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

Gene: Alpacados\_2 Start: 885, Stop: 718, Start Num: 2

Candidate Starts for Alpacados\_2:

(Start: 1 @912 has 1 MA's), (Start: 2 @885 has 37 MA's), (Start: 3 @879 has 2 MA's), (Start: 4 @846 has 2 MA's), (5, 825),

Gene: AppleCloud\_1 Start: 680, Stop: 513, Start Num: 2

Candidate Starts for AppleCloud\_1:

(Start: 1 @707 has 1 MA's), (Start: 2 @680 has 37 MA's), (Start: 3 @674 has 2 MA's), (Start: 4 @641 has 2 MA's), (5, 620),

Gene: Backyardigan\_1 Start: 676, Stop: 461, Start Num: 2

Candidate Starts for Backyardigan\_1:

(Start: 2 @676 has 37 MA's), (Start: 4 @637 has 2 MA's), (5, 616), (6, 562),

Gene: Belenaria\_2 Start: 879, Stop: 718, Start Num: 3

Candidate Starts for Belenaria\_2:

(Start: 1 @912 has 1 MA's), (Start: 2 @885 has 37 MA's), (Start: 3 @879 has 2 MA's), (Start: 4 @846 has 2 MA's), (5, 825),

Gene: Bonamassa\_1 Start: 741, Stop: 553, Start Num: 2

Candidate Starts for Bonamassa\_1:

(Start: 2 @741 has 37 MA's), (Start: 4 @702 has 2 MA's), (5, 681), (8, 603), (9, 585),

Gene: Bonanza\_2 Start: 912, Stop: 718, Start Num: 1

Candidate Starts for Bonanza\_2:

(Start: 1 @912 has 1 MA's), (Start: 2 @885 has 37 MA's), (Start: 3 @879 has 2 MA's), (Start: 4 @846 has 2 MA's), (5, 825),

Gene: Bradshaw\_2 Start: 885, Stop: 718, Start Num: 2

Candidate Starts for Bradshaw\_2:

(Start: 1 @912 has 1 MA's), (Start: 2 @885 has 37 MA's), (Start: 3 @879 has 2 MA's), (Start: 4 @846 has 2 MA's), (5, 825),

Gene: Bryce\_2 Start: 885, Stop: 718, Start Num: 2

Candidate Starts for Bryce\_2:

(Start: 1 @912 has 1 MA's), (Start: 2 @885 has 37 MA's), (Start: 3 @879 has 2 MA's), (Start: 4 @846 has 2 MA's), (5, 825),

Gene: Caelakin\_1 Start: 672, Stop: 457, Start Num: 2

Candidate Starts for Caelakin\_1:

(Start: 2 @672 has 37 MA's), (Start: 4 @633 has 2 MA's), (5, 612),

Gene: Calvinny\_1 Start: 692, Stop: 564, Start Num: 4

Candidate Starts for Calvinny\_1:

(Start: 4 @692 has 2 MA's), (5, 671),

Gene: Caraxes\_4 Start: 2318, Stop: 2187, Start Num: 4

Candidate Starts for Caraxes\_4:

(Start: 4 @2318 has 2 MA's), (5, 2297),

Gene: CosmicSans\_2 Start: 885, Stop: 718, Start Num: 2

Candidate Starts for CosmicSans\_2:

(Start: 1 @912 has 1 MA's), (Start: 2 @885 has 37 MA's), (Start: 3 @879 has 2 MA's), (Start: 4 @846 has 2 MA's), (5, 825),

Gene: DropBear\_1 Start: 619, Stop: 431, Start Num: 2

Candidate Starts for DropBear\_1:

(Start: 2 @619 has 37 MA's), (Start: 4 @580 has 2 MA's), (5, 559),

Gene: DustyMartin\_1 Start: 635, Stop: 486, Start Num: 4

Candidate Starts for DustyMartin\_1:

(Start: 2 @674 has 37 MA's), (Start: 4 @635 has 2 MA's), (5, 614),

Gene: Erik\_2 Start: 885, Stop: 718, Start Num: 2

Candidate Starts for Erik\_2:

(Start: 1 @912 has 1 MA's), (Start: 2 @885 has 37 MA's), (Start: 3 @879 has 2 MA's), (Start: 4 @846 has 2 MA's), (5, 825),

Gene: Espica\_2 Start: 885, Stop: 718, Start Num: 2

Candidate Starts for Espica\_2:

(Start: 1 @912 has 1 MA's), (Start: 2 @885 has 37 MA's), (Start: 3 @879 has 2 MA's), (Start: 4 @846 has 2 MA's), (5, 825),

Gene: Gollum\_2 Start: 885, Stop: 718, Start Num: 2

Candidate Starts for Gollum\_2:

(Start: 1 @912 has 1 MA's), (Start: 2 @885 has 37 MA's), (Start: 3 @879 has 2 MA's), (Start: 4 @846 has 2 MA's), (5, 825),

Gene: Harlequin\_2 Start: 885, Stop: 718, Start Num: 2

Candidate Starts for Harlequin\_2:

(Start: 1 @912 has 1 MA's), (Start: 2 @885 has 37 MA's), (Start: 3 @879 has 2 MA's), (Start: 4 @846 has 2 MA's), (5, 825),

Gene: Hiro\_2 Start: 885, Stop: 718, Start Num: 2

Candidate Starts for Hiro\_2:

(Start: 1 @912 has 1 MA's), (Start: 2 @885 has 37 MA's), (Start: 3 @879 has 2 MA's), (Start: 4 @846 has 2 MA's), (5, 825),

Gene: Jester\_2 Start: 879, Stop: 718, Start Num: 3  
Candidate Starts for Jester\_2:  
(Start: 1 @912 has 1 MA's), (Start: 2 @885 has 37 MA's), (Start: 3 @879 has 2 MA's), (Start: 4 @846 has 2 MA's), (5, 825),

Gene: Krishelle\_2 Start: 885, Stop: 718, Start Num: 2  
Candidate Starts for Krishelle\_2:  
(Start: 1 @912 has 1 MA's), (Start: 2 @885 has 37 MA's), (Start: 3 @879 has 2 MA's), (Start: 4 @846 has 2 MA's), (5, 825),

Gene: LeoAvram\_1 Start: 633, Stop: 457, Start Num: 4  
Candidate Starts for LeoAvram\_1:  
(Start: 2 @672 has 37 MA's), (Start: 4 @633 has 2 MA's), (5, 612),

Gene: Lillie\_2 Start: 885, Stop: 718, Start Num: 2  
Candidate Starts for Lillie\_2:  
(Start: 1 @912 has 1 MA's), (Start: 2 @885 has 37 MA's), (Start: 3 @879 has 2 MA's), (Start: 4 @846 has 2 MA's), (5, 825),

Gene: Marchesa\_1 Start: 619, Stop: 431, Start Num: 2  
Candidate Starts for Marchesa\_1:  
(Start: 2 @619 has 37 MA's), (Start: 4 @580 has 2 MA's), (5, 559),

Gene: Maverick\_1 Start: 672, Stop: 457, Start Num: 2  
Candidate Starts for Maverick\_1:  
(Start: 2 @672 has 37 MA's), (Start: 4 @633 has 2 MA's), (5, 612),

Gene: MeeZee\_1 Start: 672, Stop: 457, Start Num: 2  
Candidate Starts for MeeZee\_1:  
(Start: 2 @672 has 37 MA's), (Start: 4 @633 has 2 MA's), (5, 612),

Gene: Naiad\_2 Start: 885, Stop: 718, Start Num: 2  
Candidate Starts for Naiad\_2:  
(Start: 1 @912 has 1 MA's), (Start: 2 @885 has 37 MA's), (Start: 3 @879 has 2 MA's), (Start: 4 @846 has 2 MA's), (5, 825),

Gene: Nancinator\_2 Start: 885, Stop: 718, Start Num: 2  
Candidate Starts for Nancinator\_2:  
(Start: 1 @912 has 1 MA's), (Start: 2 @885 has 37 MA's), (Start: 3 @879 has 2 MA's), (Start: 4 @846 has 2 MA's), (5, 825),

Gene: Natosaleda\_2 Start: 885, Stop: 718, Start Num: 2  
Candidate Starts for Natosaleda\_2:  
(Start: 1 @912 has 1 MA's), (Start: 2 @885 has 37 MA's), (Start: 3 @879 has 2 MA's), (Start: 4 @846 has 2 MA's), (5, 825),

Gene: Partridge\_2 Start: 841, Stop: 713, Start Num: 4  
Candidate Starts for Partridge\_2:  
(Start: 1 @907 has 1 MA's), (Start: 2 @880 has 37 MA's), (Start: 3 @874 has 2 MA's), (Start: 4 @841 has 2 MA's), (5, 820),

Gene: Peaches\_1 Start: 672, Stop: 457, Start Num: 2  
Candidate Starts for Peaches\_1:

(Start: 2 @672 has 37 MA's), (Start: 4 @633 has 2 MA's), (5, 612),

Gene: PhailMary\_2 Start: 885, Stop: 718, Start Num: 2

Candidate Starts for PhailMary\_2:

(Start: 1 @912 has 1 MA's), (Start: 2 @885 has 37 MA's), (Start: 3 @879 has 2 MA's), (Start: 4 @846 has 2 MA's), (5, 825),

Gene: Phlei\_1 Start: 645, Stop: 517, Start Num: 4

Candidate Starts for Phlei\_1:

(Start: 2 @684 has 37 MA's), (Start: 4 @645 has 2 MA's), (5, 624), (6, 570), (7, 558),

Gene: Phrankenstein\_2 Start: 885, Stop: 718, Start Num: 2

Candidate Starts for Phrankenstein\_2:

(Start: 1 @912 has 1 MA's), (Start: 2 @885 has 37 MA's), (Start: 3 @879 has 2 MA's), (Start: 4 @846 has 2 MA's), (5, 825),

Gene: RER2\_65 Start: 44343, Stop: 44176, Start Num: 2

Candidate Starts for RER2\_65:

(Start: 1 @44370 has 1 MA's), (Start: 2 @44343 has 37 MA's), (Start: 3 @44337 has 2 MA's), (Start: 4 @44304 has 2 MA's), (5, 44283),

Gene: Rasputin\_2 Start: 885, Stop: 718, Start Num: 2

Candidate Starts for Rasputin\_2:

(Start: 1 @912 has 1 MA's), (Start: 2 @885 has 37 MA's), (Start: 3 @879 has 2 MA's), (Start: 4 @846 has 2 MA's), (5, 825),

Gene: RexFury\_2 Start: 916, Stop: 749, Start Num: 2

Candidate Starts for RexFury\_2:

(Start: 1 @943 has 1 MA's), (Start: 2 @916 has 37 MA's), (Start: 3 @910 has 2 MA's), (Start: 4 @877 has 2 MA's), (5, 856),

Gene: Rhodalysa\_2 Start: 885, Stop: 718, Start Num: 2

Candidate Starts for Rhodalysa\_2:

(Start: 1 @912 has 1 MA's), (Start: 2 @885 has 37 MA's), (Start: 3 @879 has 2 MA's), (Start: 4 @846 has 2 MA's), (5, 825),

Gene: Rockstar\_1 Start: 622, Stop: 452, Start Num: 2

Candidate Starts for Rockstar\_1:

(Start: 2 @622 has 37 MA's), (Start: 4 @583 has 2 MA's), (5, 562),

Gene: Rowdy\_1 Start: 635, Stop: 486, Start Num: 4

Candidate Starts for Rowdy\_1:

(Start: 2 @674 has 37 MA's), (Start: 4 @635 has 2 MA's), (5, 614),

Gene: Shaka\_1 Start: 672, Stop: 457, Start Num: 2

Candidate Starts for Shaka\_1:

(Start: 2 @672 has 37 MA's), (Start: 4 @633 has 2 MA's), (5, 612),

Gene: Shapes\_1 Start: 635, Stop: 486, Start Num: 4

Candidate Starts for Shapes\_1:

(Start: 2 @674 has 37 MA's), (Start: 4 @635 has 2 MA's), (5, 614),

Gene: Shuman\_2 Start: 885, Stop: 718, Start Num: 2

Candidate Starts for Shuman\_2:

(Start: 1 @912 has 1 MA's), (Start: 2 @885 has 37 MA's), (Start: 3 @879 has 2 MA's), (Start: 4 @846 has 2 MA's), (5, 825),

Gene: Snickers\_1 Start: 687, Stop: 559, Start Num: 4

Candidate Starts for Snickers\_1:

(Start: 4 @687 has 2 MA's), (5, 666),

Gene: StCroix\_2 Start: 885, Stop: 718, Start Num: 2

Candidate Starts for StCroix\_2:

(Start: 1 @912 has 1 MA's), (Start: 2 @885 has 37 MA's), (Start: 3 @879 has 2 MA's), (Start: 4 @846 has 2 MA's), (5, 825),

Gene: Swann\_2 Start: 885, Stop: 718, Start Num: 2

Candidate Starts for Swann\_2:

(Start: 1 @912 has 1 MA's), (Start: 2 @885 has 37 MA's), (Start: 3 @879 has 2 MA's), (Start: 4 @846 has 2 MA's), (5, 825),

Gene: Swirley\_1 Start: 709, Stop: 521, Start Num: 2

Candidate Starts for Swirley\_1:

(Start: 2 @709 has 37 MA's), (Start: 4 @670 has 2 MA's), (5, 649), (8, 571), (9, 553),

Gene: TWAMP\_2 Start: 885, Stop: 718, Start Num: 2

Candidate Starts for TWAMP\_2:

(Start: 1 @912 has 1 MA's), (Start: 2 @885 has 37 MA's), (Start: 3 @879 has 2 MA's), (Start: 4 @846 has 2 MA's), (5, 825),

Gene: Takoda\_2 Start: 880, Stop: 713, Start Num: 2

Candidate Starts for Takoda\_2:

(Start: 1 @907 has 1 MA's), (Start: 2 @880 has 37 MA's), (Start: 3 @874 has 2 MA's), (Start: 4 @841 has 2 MA's), (5, 820),

Gene: TiroTheta9\_1 Start: 672, Stop: 457, Start Num: 2

Candidate Starts for TiroTheta9\_1:

(Start: 2 @672 has 37 MA's), (Start: 4 @633 has 2 MA's), (5, 612),

Gene: Twigg\_1 Start: 670, Stop: 521, Start Num: 4

Candidate Starts for Twigg\_1:

(Start: 2 @709 has 37 MA's), (Start: 4 @670 has 2 MA's), (5, 649), (8, 571), (9, 553),

Gene: UhSalsa\_2 Start: 885, Stop: 718, Start Num: 2

Candidate Starts for UhSalsa\_2:

(Start: 1 @912 has 1 MA's), (Start: 2 @885 has 37 MA's), (Start: 3 @879 has 2 MA's), (Start: 4 @846 has 2 MA's), (5, 825),

Gene: Yoncess\_2 Start: 885, Stop: 718, Start Num: 2

Candidate Starts for Yoncess\_2:

(Start: 1 @912 has 1 MA's), (Start: 2 @885 has 37 MA's), (Start: 3 @879 has 2 MA's), (Start: 4 @846 has 2 MA's), (5, 825),