



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 281129 Report

This analysis was run 02/07/26 on database version 634.

Pham number 281129 has 10 members, 2 are drafts.

Phages represented in each track:

- Track 1 : Garak\_86, ToneTone\_82, Helmet\_87, Artemis2UCLA\_84, Zaka\_85, BennyP\_84
- Track 2 : Tucker\_85, Indra\_88
- Track 3 : CloudWang3\_85, Hammer\_85

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

The start number called the most often in the published annotations is 5, it was called in 4 of the 8 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- CloudWang3\_85, Hammer\_85, Indra\_88, Tucker\_85,

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

- Artemis2UCLA\_84, BennyP\_84, Garak\_86, Helmet\_87, ToneTone\_82, Zaka\_85,

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

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

Start 4:

- Found in 10 of 10 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 4 of 8
- Called 60.0% of time when present
- Phage (with cluster) where this start called: Artemis2UCLA\_84 (A6), BennyP\_84 (A6), Garak\_86 (A6), Helmet\_87 (A6), ToneTone\_82 (A6), Zaka\_85 (A6),

Start 5:

- Found in 10 of 10 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 4 of 8
- Called 40.0% of time when present
- Phage (with cluster) where this start called: CloudWang3\_85 (A6), Hammer\_85 (A6), Indra\_88 (A6), Tucker\_85 (A6),

## Summary by clusters:

There is one cluster represented in this pham: A6

Info for manual annotations of cluster A6:

- Start number 4 was manually annotated 4 times for cluster A6.
- Start number 5 was manually annotated 4 times for cluster A6.

### **Gene Information:**

Gene: Artemis2UCLA\_84 Start: 45607, Stop: 45476, Start Num: 4

Candidate Starts for Artemis2UCLA\_84:

(1, 45679), (2, 45667), (3, 45613), (Start: 4 @45607 has 4 MA's), (Start: 5 @45601 has 4 MA's), (6, 45565), (7, 45553), (10, 45508),

Gene: BennyP\_84 Start: 45772, Stop: 45641, Start Num: 4

Candidate Starts for BennyP\_84:

(1, 45844), (2, 45832), (3, 45778), (Start: 4 @45772 has 4 MA's), (Start: 5 @45766 has 4 MA's), (6, 45730), (7, 45718), (10, 45673),

Gene: CloudWang3\_85 Start: 46130, Stop: 46005, Start Num: 5

Candidate Starts for CloudWang3\_85:

(2, 46196), (3, 46142), (Start: 4 @46136 has 4 MA's), (Start: 5 @46130 has 4 MA's), (6, 46094), (7, 46082), (8, 46061), (9, 46049), (10, 46037),

Gene: Garak\_86 Start: 46069, Stop: 45938, Start Num: 4

Candidate Starts for Garak\_86:

(1, 46141), (2, 46129), (3, 46075), (Start: 4 @46069 has 4 MA's), (Start: 5 @46063 has 4 MA's), (6, 46027), (7, 46015), (10, 45970),

Gene: Hammer\_85 Start: 45448, Stop: 45323, Start Num: 5

Candidate Starts for Hammer\_85:

(2, 45514), (3, 45460), (Start: 4 @45454 has 4 MA's), (Start: 5 @45448 has 4 MA's), (6, 45412), (7, 45400), (8, 45379), (9, 45367), (10, 45355),

Gene: Helmet\_87 Start: 46069, Stop: 45938, Start Num: 4

Candidate Starts for Helmet\_87:

(1, 46141), (2, 46129), (3, 46075), (Start: 4 @46069 has 4 MA's), (Start: 5 @46063 has 4 MA's), (6, 46027), (7, 46015), (10, 45970),

Gene: Indra\_88 Start: 46064, Stop: 45939, Start Num: 5

Candidate Starts for Indra\_88:

(1, 46142), (2, 46130), (3, 46076), (Start: 4 @46070 has 4 MA's), (Start: 5 @46064 has 4 MA's), (6, 46028), (7, 46016), (10, 45971),

Gene: ToneTone\_82 Start: 45629, Stop: 45498, Start Num: 4

Candidate Starts for ToneTone\_82:

(1, 45701), (2, 45689), (3, 45635), (Start: 4 @45629 has 4 MA's), (Start: 5 @45623 has 4 MA's), (6, 45587), (7, 45575), (10, 45530),

Gene: Tucker\_85 Start: 45826, Stop: 45701, Start Num: 5

Candidate Starts for Tucker\_85:

(1, 45904), (2, 45892), (3, 45838), (Start: 4 @45832 has 4 MA's), (Start: 5 @45826 has 4 MA's), (6, 45790), (7, 45778), (10, 45733),

Gene: Zaka\_85 Start: 45700, Stop: 45569, Start Num: 4

Candidate Starts for Zaka\_85:

(1, 45772), (2, 45760), (3, 45706), (Start: 4 @45700 has 4 MA's), (Start: 5 @45694 has 4 MA's), (6, 45658), (7, 45646), (10, 45601),