



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 311904 Report

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

Pham number 311904 has 28 members, 1 are drafts.

Phages represented in each track:

- Track 1 : Helmet\_76, Yokurt\_73, Garak\_75, Jeffabunny\_74, BlessJoy\_74, ToneTone\_71, Hammer\_74, Zulu\_75, Gruunaga\_73, Lilbunny\_73, Roksolana\_74, CloudWang3\_74, Blue7\_75, Rifter\_74, Temprado\_75, WunderPhul\_74, BennyP\_74, Zaka\_74, Artemis2UCLA\_73, Tucker\_74, Koko\_75, Hexamo\_73, Indra\_77, Wiks\_73
- Track 2 : Cookiedough\_74
- Track 3 : Gladiator\_71
- Track 4 : Kazan\_75, SmellyB\_74

### ***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 24 of the 27 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Artemis2UCLA\_73, BennyP\_74, BlessJoy\_74, Blue7\_75, CloudWang3\_74, Garak\_75, Gladiator\_71, Gruunaga\_73, Hammer\_74, Helmet\_76, Hexamo\_73, Indra\_77, Jeffabunny\_74, Koko\_75, Lilbunny\_73, Rifter\_74, Roksolana\_74, Temprado\_75, ToneTone\_71, Tucker\_74, Wiks\_73, WunderPhul\_74, Yokurt\_73, Zaka\_74, Zulu\_75,

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:

- Cookiedough\_74, Kazan\_75, SmellyB\_74,

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

Start 4:

- Found in 28 of 28 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 3 of 27
- Called 10.7% of time when present
- Phage (with cluster) where this start called: Cookiedough\_74 (A6), Kazan\_75 (A6), SmellyB\_74 (A6),

#### Start 5:

- Found in 25 of 28 ( 89.3% ) of genes in pham
- Manual Annotations of this start: 24 of 27
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Artemis2UCLA\_73 (A6), BennyP\_74 (A6), BlessJoy\_74 (A6), Blue7\_75 (A6), CloudWang3\_74 (A6), Garak\_75 (A6), Gladiator\_71 (A6), Gruunaga\_73 (A6), Hammer\_74 (A6), Helmet\_76 (A6), Hexamo\_73 (A6), Indra\_77 (A6), Jeffabunny\_74 (A6), Koko\_75 (A6), Lilbunny\_73 (A6), Rifter\_74 (A6), Roksolana\_74 (A6), Temprado\_75 (A6), ToneTone\_71 (A6), Tucker\_74 (A6), Wiks\_73 (A6), WunderPhul\_74 (A6), Yokurt\_73 (A6), Zaka\_74 (A6), Zulu\_75 (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 3 times for cluster A6.
- Start number 5 was manually annotated 24 times for cluster A6.

#### **Gene Information:**

Gene: Artemis2UCLA\_73 Start: 41681, Stop: 41382, Start Num: 5

Candidate Starts for Artemis2UCLA\_73:

(3, 41777), (Start: 4 @41744 has 3 MA's), (Start: 5 @41681 has 24 MA's), (6, 41630), (7, 41549), (8, 41525), (9, 41417), (10, 41414), (11, 41390),

Gene: BennyP\_74 Start: 41847, Stop: 41548, Start Num: 5

Candidate Starts for BennyP\_74:

(3, 41943), (Start: 4 @41910 has 3 MA's), (Start: 5 @41847 has 24 MA's), (6, 41796), (7, 41715), (8, 41691), (9, 41583), (10, 41580), (11, 41556),

Gene: BlessJoy\_74 Start: 42203, Stop: 41904, Start Num: 5

Candidate Starts for BlessJoy\_74:

(3, 42299), (Start: 4 @42266 has 3 MA's), (Start: 5 @42203 has 24 MA's), (6, 42152), (7, 42071), (8, 42047), (9, 41939), (10, 41936), (11, 41912),

Gene: Blue7\_75 Start: 41901, Stop: 41602, Start Num: 5

Candidate Starts for Blue7\_75:

(3, 41997), (Start: 4 @41964 has 3 MA's), (Start: 5 @41901 has 24 MA's), (6, 41850), (7, 41769), (8, 41745), (9, 41637), (10, 41634), (11, 41610),

Gene: CloudWang3\_74 Start: 42193, Stop: 41894, Start Num: 5

Candidate Starts for CloudWang3\_74:

(3, 42289), (Start: 4 @42256 has 3 MA's), (Start: 5 @42193 has 24 MA's), (6, 42142), (7, 42061), (8, 42037), (9, 41929), (10, 41926), (11, 41902),

Gene: Cookiedough\_74 Start: 42687, Stop: 42322, Start Num: 4

Candidate Starts for Cookiedough\_74:

(1, 42786), (2, 42753), (3, 42720), (Start: 4 @42687 has 3 MA's), (8, 42465),

Gene: Garak\_75 Start: 42144, Stop: 41845, Start Num: 5

Candidate Starts for Garak\_75:

(3, 42240), (Start: 4 @42207 has 3 MA's), (Start: 5 @42144 has 24 MA's), (6, 42093), (7, 42012), (8, 41988), (9, 41880), (10, 41877), (11, 41853),

Gene: Gladiator\_71 Start: 42047, Stop: 41748, Start Num: 5

Candidate Starts for Gladiator\_71:

(3, 42143), (Start: 4 @42110 has 3 MA's), (Start: 5 @42047 has 24 MA's), (6, 41996), (7, 41915), (8, 41891), (12, 41753),

Gene: Gruunaga\_73 Start: 42002, Stop: 41703, Start Num: 5

Candidate Starts for Gruunaga\_73:

(3, 42098), (Start: 4 @42065 has 3 MA's), (Start: 5 @42002 has 24 MA's), (6, 41951), (7, 41870), (8, 41846), (9, 41738), (10, 41735), (11, 41711),

Gene: Hammer\_74 Start: 41709, Stop: 41410, Start Num: 5

Candidate Starts for Hammer\_74:

(3, 41805), (Start: 4 @41772 has 3 MA's), (Start: 5 @41709 has 24 MA's), (6, 41658), (7, 41577), (8, 41553), (9, 41445), (10, 41442), (11, 41418),

Gene: Helmet\_76 Start: 42144, Stop: 41845, Start Num: 5

Candidate Starts for Helmet\_76:

(3, 42240), (Start: 4 @42207 has 3 MA's), (Start: 5 @42144 has 24 MA's), (6, 42093), (7, 42012), (8, 41988), (9, 41880), (10, 41877), (11, 41853),

Gene: Hexamo\_73 Start: 41678, Stop: 41379, Start Num: 5

Candidate Starts for Hexamo\_73:

(3, 41774), (Start: 4 @41741 has 3 MA's), (Start: 5 @41678 has 24 MA's), (6, 41627), (7, 41546), (8, 41522), (9, 41414), (10, 41411), (11, 41387),

Gene: Indra\_77 Start: 42145, Stop: 41846, Start Num: 5

Candidate Starts for Indra\_77:

(3, 42241), (Start: 4 @42208 has 3 MA's), (Start: 5 @42145 has 24 MA's), (6, 42094), (7, 42013), (8, 41989), (9, 41881), (10, 41878), (11, 41854),

Gene: Jeffabunny\_74 Start: 41771, Stop: 41472, Start Num: 5

Candidate Starts for Jeffabunny\_74:

(3, 41867), (Start: 4 @41834 has 3 MA's), (Start: 5 @41771 has 24 MA's), (6, 41720), (7, 41639), (8, 41615), (9, 41507), (10, 41504), (11, 41480),

Gene: Kazan\_75 Start: 42042, Stop: 41680, Start Num: 4

Candidate Starts for Kazan\_75:

(2, 42108), (3, 42075), (Start: 4 @42042 has 3 MA's), (8, 41823),

Gene: Koko\_75 Start: 42533, Stop: 42234, Start Num: 5

Candidate Starts for Koko\_75:

(3, 42629), (Start: 4 @42596 has 3 MA's), (Start: 5 @42533 has 24 MA's), (6, 42482), (7, 42401), (8, 42377), (9, 42269), (10, 42266), (11, 42242),

Gene: Lilbunny\_73 Start: 41775, Stop: 41476, Start Num: 5

Candidate Starts for Lilbunny\_73:

(3, 41871), (Start: 4 @41838 has 3 MA's), (Start: 5 @41775 has 24 MA's), (6, 41724), (7, 41643), (8, 41619), (9, 41511), (10, 41508), (11, 41484),

Gene: Rifter\_74 Start: 41305, Stop: 41006, Start Num: 5

Candidate Starts for Rifter\_74:

(3, 41401), (Start: 4 @41368 has 3 MA's), (Start: 5 @41305 has 24 MA's), (6, 41254), (7, 41173), (8, 41149), (9, 41041), (10, 41038), (11, 41014),

Gene: Roksolana\_74 Start: 42039, Stop: 41740, Start Num: 5

Candidate Starts for Roksolana\_74:

(3, 42135), (Start: 4 @42102 has 3 MA's), (Start: 5 @42039 has 24 MA's), (6, 41988), (7, 41907), (8, 41883), (9, 41775), (10, 41772), (11, 41748),

Gene: SmellyB\_74 Start: 42036, Stop: 41674, Start Num: 4

Candidate Starts for SmellyB\_74:

(2, 42102), (3, 42069), (Start: 4 @42036 has 3 MA's), (8, 41817),

Gene: Temprado\_75 Start: 42144, Stop: 41845, Start Num: 5

Candidate Starts for Temprado\_75:

(3, 42240), (Start: 4 @42207 has 3 MA's), (Start: 5 @42144 has 24 MA's), (6, 42093), (7, 42012), (8, 41988), (9, 41880), (10, 41877), (11, 41853),

Gene: ToneTone\_71 Start: 41704, Stop: 41405, Start Num: 5

Candidate Starts for ToneTone\_71:

(3, 41800), (Start: 4 @41767 has 3 MA's), (Start: 5 @41704 has 24 MA's), (6, 41653), (7, 41572), (8, 41548), (9, 41440), (10, 41437), (11, 41413),

Gene: Tucker\_74 Start: 41907, Stop: 41608, Start Num: 5

Candidate Starts for Tucker\_74:

(3, 42003), (Start: 4 @41970 has 3 MA's), (Start: 5 @41907 has 24 MA's), (6, 41856), (7, 41775), (8, 41751), (9, 41643), (10, 41640), (11, 41616),

Gene: Wiks\_73 Start: 41775, Stop: 41476, Start Num: 5

Candidate Starts for Wiks\_73:

(3, 41871), (Start: 4 @41838 has 3 MA's), (Start: 5 @41775 has 24 MA's), (6, 41724), (7, 41643), (8, 41619), (9, 41511), (10, 41508), (11, 41484),

Gene: WunderPhul\_74 Start: 41773, Stop: 41474, Start Num: 5

Candidate Starts for WunderPhul\_74:

(3, 41869), (Start: 4 @41836 has 3 MA's), (Start: 5 @41773 has 24 MA's), (6, 41722), (7, 41641), (8, 41617), (9, 41509), (10, 41506), (11, 41482),

Gene: Yokurt\_73 Start: 41775, Stop: 41476, Start Num: 5

Candidate Starts for Yokurt\_73:

(3, 41871), (Start: 4 @41838 has 3 MA's), (Start: 5 @41775 has 24 MA's), (6, 41724), (7, 41643), (8, 41619), (9, 41511), (10, 41508), (11, 41484),

Gene: Zaka\_74 Start: 41775, Stop: 41476, Start Num: 5

Candidate Starts for Zaka\_74:

(3, 41871), (Start: 4 @41838 has 3 MA's), (Start: 5 @41775 has 24 MA's), (6, 41724), (7, 41643), (8, 41619), (9, 41511), (10, 41508), (11, 41484),

Gene: Zulu\_75 Start: 42153, Stop: 41854, Start Num: 5

Candidate Starts for Zulu\_75:

(3, 42249), (Start: 4 @42216 has 3 MA's), (Start: 5 @42153 has 24 MA's), (6, 42102), (7, 42021), (8, 41997), (9, 41889), (10, 41886), (11, 41862),