# Pham 289658



1: Helmet_76 + 23

2: Cookiedough_74

3: Gladiator_71

4: Kazan_76 + 1

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 289658 Report

This analysis was run 03/28/26 on database version 641.

Pham number 289658 has 28 members, 2 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_73, 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 23 of the 26 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Artemis2UCLA_73, BennyP_73, 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:
•

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 26
• 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: 23 of 26
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Artemis2UCLA_73 (A6), BennyP_73 (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 23 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 23 MA's), (6, 41630), (7, 41549), (8, 41525), (9, 41417), (10, 41414), (11, 41390),

Gene: BennyP_73 Start: 41847, Stop: 41548, Start Num: 5
Candidate Starts for BennyP_73:
(3, 41943), (Start: 4 @41910 has 3 MA's), (Start: 5 @41847 has 23 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 23 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 23 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 23 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 23 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 23 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 23 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 23 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 23 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 23 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 23 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 23 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 23 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 23 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 23 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 23 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 23 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 23 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 23 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 23 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 23 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 23 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 23 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 23 MA's), (6, 42102), (7, 42021), (8, 41997), (9, 41889), (10, 41886), (11, 41862),