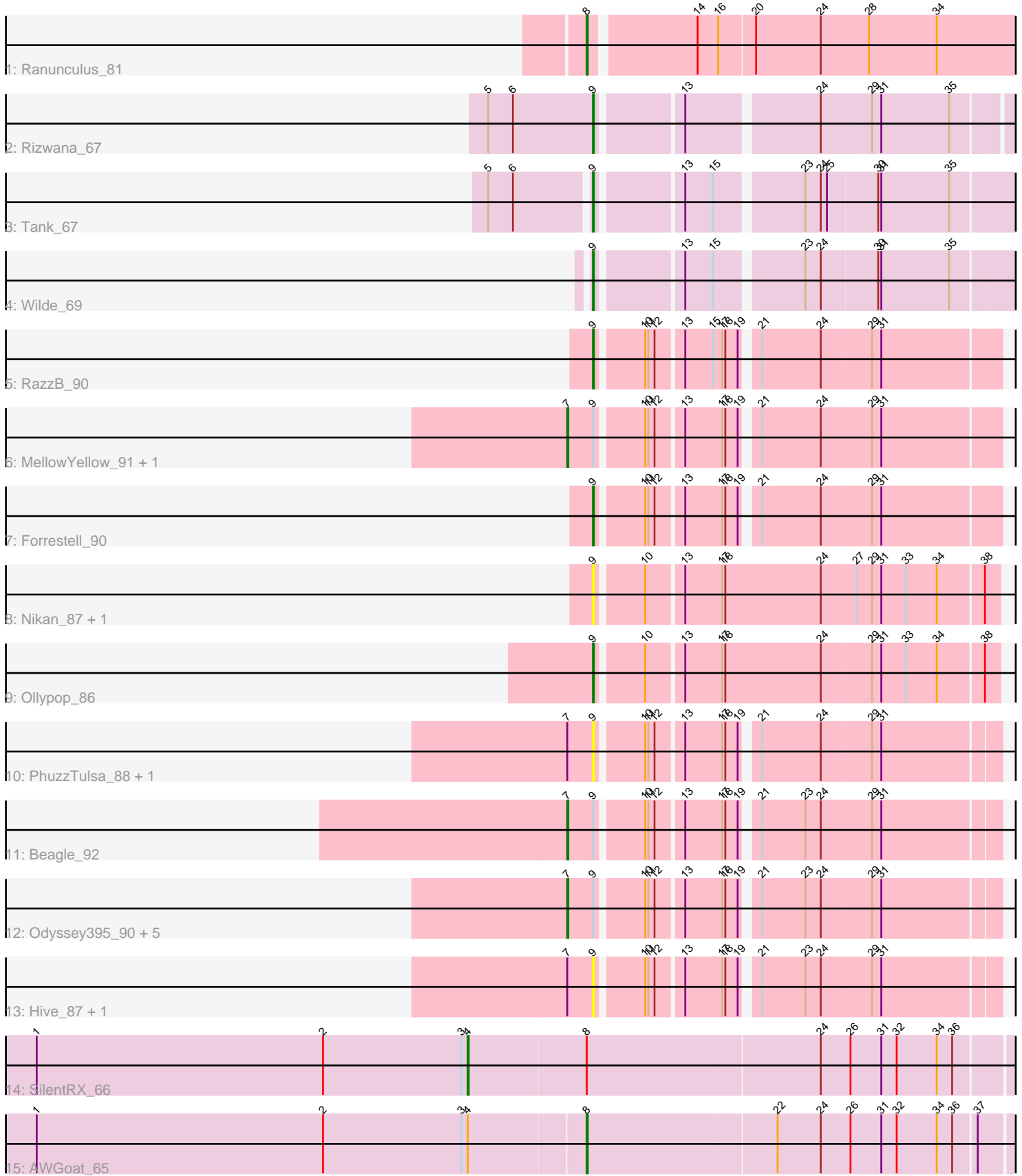


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Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. 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 309197 Report

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

Pham number 309197 has 24 members, 6 are drafts.

Phages represented in each track:

- Track 1 : Ranunculus\_81
- Track 2 : Rizwana\_67
- Track 3 : Tank\_67
- Track 4 : Wilde\_69
- Track 5 : RazzB\_90
- Track 6 : MellowYellow\_91, NyleyClemson\_89
- Track 7 : Forrestell\_90
- Track 8 : Nikan\_87, Ren19\_83
- Track 9 : Ollypop\_86
- Track 10 : PhuzzTulsa\_88, Popstraw\_86
- Track 11 : Beagle\_92
- Track 12 : Odyssey395\_90, Pointis\_87, RIPWilbur\_89, Pureglobe5\_90, DogYard\_90, Kubulix\_90
- Track 13 : Hive\_87, BetaFish\_90
- Track 14 : SilentRX\_66
- Track 15 : AWGoat\_65

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

The start number called the most often in the published annotations is 7, it was called in 9 of the 18 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Beagle\_92, DogYard\_90, Kubulix\_90, MellowYellow\_91, NyleyClemson\_89, Odyssey395\_90, Pointis\_87, Pureglobe5\_90, RIPWilbur\_89,

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

- BetaFish\_90, Hive\_87, PhuzzTulsa\_88, Popstraw\_86,

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

- AWGoat\_65, Forrestell\_90, Nikan\_87, Ollypop\_86, Ranunculus\_81, RazzB\_90, Ren19\_83, Rizwana\_67, SilentRX\_66, Tank\_67, Wilde\_69,

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

Start 4:

- Found in 2 of 24 ( 8.3% ) of genes in pham
- Manual Annotations of this start: 1 of 18
- Called 50.0% of time when present
- Phage (with cluster) where this start called: SilentRX\_66 (AP4),

Start 7:

- Found in 13 of 24 ( 54.2% ) of genes in pham
- Manual Annotations of this start: 9 of 18
- Called 69.2% of time when present
- Phage (with cluster) where this start called: Beagle\_92 (AP2), DogYard\_90 (AP2), Kubulix\_90 (AP2), MellowYellow\_91 (AP2), NyleyClemson\_89 (AP2), Odyssey395\_90 (AP2), Pointis\_87 (AP2), Pureglobe5\_90 (AP2), RIPWilbur\_89 (AP2),

Start 8:

- Found in 3 of 24 ( 12.5% ) of genes in pham
- Manual Annotations of this start: 2 of 18
- Called 66.7% of time when present
- Phage (with cluster) where this start called: AWGoat\_65 (AP4), Ranunculus\_81 (AP),

Start 9:

- Found in 21 of 24 ( 87.5% ) of genes in pham
- Manual Annotations of this start: 6 of 18
- Called 57.1% of time when present
- Phage (with cluster) where this start called: BetaFish\_90 (AP2), Forrestell\_90 (AP2), Hive\_87 (AP2), Nikan\_87 (AP2), Ollypop\_86 (AP2), PhuzzTulsa\_88 (AP2), Popstraw\_86 (AP2), RazzB\_90 (AP2), Ren19\_83 (AP2), Rizwana\_67 (AP1), Tank\_67 (AP1), Wilde\_69 (AP1),

**Summary by clusters:**

There are 4 clusters represented in this pham: AP2, AP, AP1, AP4,

Info for manual annotations of cluster AP:

- Start number 8 was manually annotated 1 time for cluster AP.

Info for manual annotations of cluster AP1:

- Start number 9 was manually annotated 3 times for cluster AP1.

Info for manual annotations of cluster AP2:

- Start number 7 was manually annotated 9 times for cluster AP2.
- Start number 9 was manually annotated 3 times for cluster AP2.

Info for manual annotations of cluster AP4:

- Start number 4 was manually annotated 1 time for cluster AP4.
- Start number 8 was manually annotated 1 time for cluster AP4.

**Gene Information:**

Gene: AWGoat\_65 Start: 46189, Stop: 45791, Start Num: 8

Candidate Starts for AWGoat\_65:

(1, 46720), (2, 46441), (3, 46306), (Start: 4 @46300 has 1 MA's), (Start: 8 @46189 has 2 MA's), (22, 46009), (24, 45967), (26, 45940), (31, 45910), (32, 45895), (34, 45856), (36, 45841), (37, 45820),

Gene: Beagle\_92 Start: 52878, Stop: 52492, Start Num: 7

Candidate Starts for Beagle\_92:

(Start: 7 @52878 has 9 MA's), (Start: 9 @52854 has 6 MA's), (10, 52812), (11, 52809), (12, 52803), (13, 52779), (17, 52743), (18, 52740), (19, 52728), (21, 52716), (23, 52674), (24, 52659), (29, 52611), (31, 52602),

Gene: BetaFish\_90 Start: 53069, Stop: 52707, Start Num: 9

Candidate Starts for BetaFish\_90:

(Start: 7 @53093 has 9 MA's), (Start: 9 @53069 has 6 MA's), (10, 53027), (11, 53024), (12, 53018), (13, 52994), (17, 52958), (18, 52955), (19, 52943), (21, 52931), (23, 52889), (24, 52874), (29, 52826), (31, 52817),

Gene: DogYard\_90 Start: 52583, Stop: 52197, Start Num: 7

Candidate Starts for DogYard\_90:

(Start: 7 @52583 has 9 MA's), (Start: 9 @52559 has 6 MA's), (10, 52517), (11, 52514), (12, 52508), (13, 52484), (17, 52448), (18, 52445), (19, 52433), (21, 52421), (23, 52379), (24, 52364), (29, 52316), (31, 52307),

Gene: Forrestell\_90 Start: 51805, Stop: 51440, Start Num: 9

Candidate Starts for Forrestell\_90:

(Start: 9 @51805 has 6 MA's), (10, 51763), (11, 51760), (12, 51754), (13, 51730), (17, 51694), (18, 51691), (19, 51679), (21, 51667), (24, 51610), (29, 51562), (31, 51553),

Gene: Hive\_87 Start: 52539, Stop: 52177, Start Num: 9

Candidate Starts for Hive\_87:

(Start: 7 @52563 has 9 MA's), (Start: 9 @52539 has 6 MA's), (10, 52497), (11, 52494), (12, 52488), (13, 52464), (17, 52428), (18, 52425), (19, 52413), (21, 52401), (23, 52359), (24, 52344), (29, 52296), (31, 52287),

Gene: Kubulix\_90 Start: 52250, Stop: 51864, Start Num: 7

Candidate Starts for Kubulix\_90:

(Start: 7 @52250 has 9 MA's), (Start: 9 @52226 has 6 MA's), (10, 52184), (11, 52181), (12, 52175), (13, 52151), (17, 52115), (18, 52112), (19, 52100), (21, 52088), (23, 52046), (24, 52031), (29, 51983), (31, 51974),

Gene: MellowYellow\_91 Start: 52495, Stop: 52106, Start Num: 7

Candidate Starts for MellowYellow\_91:

(Start: 7 @52495 has 9 MA's), (Start: 9 @52471 has 6 MA's), (10, 52429), (11, 52426), (12, 52420), (13, 52396), (17, 52360), (18, 52357), (19, 52345), (21, 52333), (24, 52276), (29, 52228), (31, 52219),

Gene: Nikan\_87 Start: 52219, Stop: 51845, Start Num: 9

Candidate Starts for Nikan\_87:

(Start: 9 @52219 has 6 MA's), (10, 52177), (13, 52144), (17, 52108), (18, 52105), (24, 52012), (27, 51979), (29, 51964), (31, 51955), (33, 51931), (34, 51901), (38, 51859),

Gene: NyleyClemson\_89 Start: 52113, Stop: 51724, Start Num: 7

Candidate Starts for NyleyClemson\_89:

(Start: 7 @52113 has 9 MA's), (Start: 9 @52089 has 6 MA's), (10, 52047), (11, 52044), (12, 52038), (13, 52014), (17, 51978), (18, 51975), (19, 51963), (21, 51951), (24, 51894), (29, 51846), (31, 51837),

Gene: Odyssey395\_90 Start: 52272, Stop: 51886, Start Num: 7

Candidate Starts for Odyssey395\_90:

(Start: 7 @52272 has 9 MA's), (Start: 9 @52248 has 6 MA's), (10, 52206), (11, 52203), (12, 52197), (13, 52173), (17, 52137), (18, 52134), (19, 52122), (21, 52110), (23, 52068), (24, 52053), (29, 52005), (31, 51996),

Gene: Ollypop\_86 Start: 53591, Stop: 53217, Start Num: 9

Candidate Starts for Ollypop\_86:

(Start: 9 @53591 has 6 MA's), (10, 53549), (13, 53516), (17, 53480), (18, 53477), (24, 53384), (29, 53336), (31, 53327), (33, 53303), (34, 53273), (38, 53231),

Gene: PhuzzTulsa\_88 Start: 52696, Stop: 52334, Start Num: 9

Candidate Starts for PhuzzTulsa\_88:

(Start: 7 @52720 has 9 MA's), (Start: 9 @52696 has 6 MA's), (10, 52654), (11, 52651), (12, 52645), (13, 52621), (17, 52585), (18, 52582), (19, 52570), (21, 52558), (24, 52501), (29, 52453), (31, 52444),

Gene: Pointis\_87 Start: 52168, Stop: 51782, Start Num: 7

Candidate Starts for Pointis\_87:

(Start: 7 @52168 has 9 MA's), (Start: 9 @52144 has 6 MA's), (10, 52102), (11, 52099), (12, 52093), (13, 52069), (17, 52033), (18, 52030), (19, 52018), (21, 52006), (23, 51964), (24, 51949), (29, 51901), (31, 51892),

Gene: Popstraw\_86 Start: 52318, Stop: 51956, Start Num: 9

Candidate Starts for Popstraw\_86:

(Start: 7 @52342 has 9 MA's), (Start: 9 @52318 has 6 MA's), (10, 52276), (11, 52273), (12, 52267), (13, 52243), (17, 52207), (18, 52204), (19, 52192), (21, 52180), (24, 52123), (29, 52075), (31, 52066),

Gene: Pureglobe5\_90 Start: 52824, Stop: 52438, Start Num: 7

Candidate Starts for Pureglobe5\_90:

(Start: 7 @52824 has 9 MA's), (Start: 9 @52800 has 6 MA's), (10, 52758), (11, 52755), (12, 52749), (13, 52725), (17, 52689), (18, 52686), (19, 52674), (21, 52662), (23, 52620), (24, 52605), (29, 52557), (31, 52548),

Gene: RIPWilbur\_89 Start: 52147, Stop: 51761, Start Num: 7

Candidate Starts for RIPWilbur\_89:

(Start: 7 @52147 has 9 MA's), (Start: 9 @52123 has 6 MA's), (10, 52081), (11, 52078), (12, 52072), (13, 52048), (17, 52012), (18, 52009), (19, 51997), (21, 51985), (23, 51943), (24, 51928), (29, 51880), (31, 51871),

Gene: Ranunculus\_81 Start: 54003, Stop: 53608, Start Num: 8

Candidate Starts for Ranunculus\_81:

(Start: 8 @54003 has 2 MA's), (14, 53907), (16, 53889), (20, 53856), (24, 53793), (28, 53748), (34, 53682),

Gene: RazzB\_90 Start: 52215, Stop: 51850, Start Num: 9

Candidate Starts for RazzB\_90:

(Start: 9 @52215 has 6 MA's), (10, 52173), (11, 52170), (12, 52164), (13, 52140), (15, 52113), (17, 52104), (18, 52101), (19, 52089), (21, 52077), (24, 52020), (29, 51972), (31, 51963),

Gene: Ren19\_83 Start: 51765, Stop: 51391, Start Num: 9

Candidate Starts for Ren19\_83:

(Start: 9 @51765 has 6 MA's), (10, 51723), (13, 51690), (17, 51654), (18, 51651), (24, 51558), (27, 51525), (29, 51510), (31, 51501), (33, 51477), (34, 51447), (38, 51405),

Gene: Rizwana\_67 Start: 47617, Stop: 47243, Start Num: 9

Candidate Starts for Rizwana\_67:

(5, 47719), (6, 47695), (Start: 9 @47617 has 6 MA's), (13, 47542), (24, 47422), (29, 47374), (31, 47365), (35, 47299),

Gene: SilentRX\_66 Start: 47110, Stop: 46598, Start Num: 4

Candidate Starts for SilentRX\_66:

(1, 47530), (2, 47251), (3, 47116), (Start: 4 @47110 has 1 MA's), (Start: 8 @46996 has 2 MA's), (24, 46774), (26, 46747), (31, 46717), (32, 46702), (34, 46663), (36, 46648),

Gene: Tank\_67 Start: 47597, Stop: 47217, Start Num: 9

Candidate Starts for Tank\_67:

(5, 47690), (6, 47666), (Start: 9 @47597 has 6 MA's), (13, 47522), (15, 47495), (23, 47417), (24, 47402), (25, 47396), (30, 47348), (31, 47345), (35, 47279),

Gene: Wilde\_69 Start: 47896, Stop: 47516, Start Num: 9

Candidate Starts for Wilde\_69:

(Start: 9 @47896 has 6 MA's), (13, 47821), (15, 47794), (23, 47716), (24, 47701), (30, 47647), (31, 47644), (35, 47578),