



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 293146 Report

This analysis was run 04/18/26 on database version 643.

Pham number 293146 has 21 members, 8 are drafts.

Phages represented in each track:

- Track 1 : Ranunculus\_80
- Track 2 : Forrestell\_89
- Track 3 : Odyssey395\_89, DogYard\_89, Kubulix\_89
- Track 4 : NyleyClemson\_89, MellowYellow\_90
- Track 5 : Beagle\_91
- Track 6 : Pointis\_86
- Track 7 : Hive\_86, Popstraw\_85, Pureglobe5\_89
- Track 8 : PhuzzTulsa\_87
- Track 9 : Nikan\_86, Ren19\_82
- Track 10 : RazzB\_89
- Track 11 : Ollypop\_85
- Track 12 : RIPWilbur\_88
- Track 13 : BetaFish\_89
- Track 14 : SilentRX\_65
- Track 15 : AWGoat\_64

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

The start number called the most often in the published annotations is 3, it was called in 10 of the 13 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Beagle\_91, DogYard\_89, Forrestell\_89, Hive\_86, Kubulix\_89, MellowYellow\_90, Nikan\_86, NyleyClemson\_89, Odyssey395\_89, Ollypop\_85, PhuzzTulsa\_87, Pointis\_86, Popstraw\_85, Pureglobe5\_89, RIPWilbur\_88, RazzB\_89, Ren19\_82,

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

- BetaFish\_89,

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

- AWGoat\_64, Ranunculus\_80, SilentRX\_65,

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

#### Start 2:

- Found in 8 of 21 ( 38.1% ) of genes in pham
- No Manual Annotations of this start.
- Called 12.5% of time when present
- Phage (with cluster) where this start called: BetaFish\_89 (AP2),

#### Start 3:

- Found in 18 of 21 ( 85.7% ) of genes in pham
- Manual Annotations of this start: 10 of 13
- Called 94.4% of time when present
- Phage (with cluster) where this start called: Beagle\_91 (AP2), DogYard\_89 (AP2), Forrestell\_89 (AP2), Hive\_86 (AP2), Kubulix\_89 (AP2), MellowYellow\_90 (AP2), Nikan\_86 (AP2), NyleyClemson\_89 (AP2), Odyssey395\_89 (AP2), Ollypop\_85 (AP2), PhuzzTulsa\_87 (AP2), Pointis\_86 (AP2), Popstraw\_85 (AP2), Pureglobe5\_89 (AP2), RIPWilbur\_88 (AP2), RazzB\_89 (AP2), Ren19\_82 (AP2),

#### Start 4:

- Found in 5 of 21 ( 23.8% ) of genes in pham
- Manual Annotations of this start: 2 of 13
- Called 40.0% of time when present
- Phage (with cluster) where this start called: AWGoat\_64 (AP4), SilentRX\_65 (AP4),

#### Start 8:

- Found in 1 of 21 ( 4.8% ) of genes in pham
- Manual Annotations of this start: 1 of 13
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ranunculus\_80 (AP),

### **Summary by clusters:**

There are 3 clusters represented in this pham: AP2, AP, 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 AP2:

- Start number 3 was manually annotated 10 times for cluster AP2.

Info for manual annotations of cluster AP4:

- Start number 4 was manually annotated 2 times for cluster AP4.

### **Gene Information:**

Gene: AWGoat\_64 Start: 45791, Stop: 45282, Start Num: 4

Candidate Starts for AWGoat\_64:

(Start: 4 @45791 has 2 MA's), (6, 45782), (13, 45707), (17, 45638), (25, 45491), (32, 45326), (34, 45314), (35, 45302), (36, 45299),

Gene: Beagle\_91 Start: 52495, Stop: 51929, Start Num: 3

Candidate Starts for Beagle\_91:

(Start: 3 @52495 has 10 MA's), (7, 52453), (11, 52402), (14, 52366), (16, 52330), (19, 52276), (25, 52177), (26, 52081), (28, 52057), (29, 52033), (33, 52009), (39, 51961),

Gene: BetaFish\_89 Start: 52731, Stop: 52144, Start Num: 2

Candidate Starts for BetaFish\_89:

(2, 52731), (Start: 3 @52710 has 10 MA's), (6, 52692), (7, 52668), (11, 52617), (14, 52581), (16, 52545), (19, 52491), (25, 52392), (26, 52296), (28, 52272), (29, 52248), (33, 52224), (38, 52188), (39, 52176),

Gene: DogYard\_89 Start: 52200, Stop: 51634, Start Num: 3

Candidate Starts for DogYard\_89:

(2, 52221), (Start: 3 @52200 has 10 MA's), (6, 52182), (7, 52158), (11, 52107), (14, 52071), (16, 52035), (19, 51981), (25, 51882), (26, 51786), (28, 51762), (29, 51738), (33, 51714), (38, 51678), (39, 51666),

Gene: Forrestell\_89 Start: 51443, Stop: 50877, Start Num: 3

Candidate Starts for Forrestell\_89:

(Start: 3 @51443 has 10 MA's), (6, 51425), (7, 51401), (11, 51350), (14, 51314), (16, 51278), (26, 51029), (28, 51005), (29, 50981), (41, 50885),

Gene: Hive\_86 Start: 52180, Stop: 51614, Start Num: 3

Candidate Starts for Hive\_86:

(Start: 3 @52180 has 10 MA's), (6, 52162), (7, 52138), (11, 52087), (14, 52051), (16, 52015), (19, 51961), (25, 51862), (26, 51766), (28, 51742), (29, 51718), (33, 51694), (39, 51646),

Gene: Kubulix\_89 Start: 51867, Stop: 51301, Start Num: 3

Candidate Starts for Kubulix\_89:

(2, 51888), (Start: 3 @51867 has 10 MA's), (6, 51849), (7, 51825), (11, 51774), (14, 51738), (16, 51702), (19, 51648), (25, 51549), (26, 51453), (28, 51429), (29, 51405), (33, 51381), (38, 51345), (39, 51333),

Gene: MellowYellow\_90 Start: 52109, Stop: 51543, Start Num: 3

Candidate Starts for MellowYellow\_90:

(Start: 3 @52109 has 10 MA's), (7, 52067), (11, 52016), (14, 51980), (16, 51944), (26, 51695), (28, 51671), (29, 51647), (41, 51551),

Gene: Nikan\_86 Start: 51845, Stop: 51306, Start Num: 3

Candidate Starts for Nikan\_86:

(2, 51869), (Start: 3 @51845 has 10 MA's), (Start: 4 @51836 has 2 MA's), (10, 51785), (16, 51704), (18, 51671), (21, 51638), (24, 51557), (28, 51434), (29, 51410), (37, 51356), (39, 51338),

Gene: NyleyClemson\_89 Start: 51727, Stop: 51161, Start Num: 3

Candidate Starts for NyleyClemson\_89:

(Start: 3 @51727 has 10 MA's), (7, 51685), (11, 51634), (14, 51598), (16, 51562), (26, 51313), (28, 51289), (29, 51265), (41, 51169),

Gene: Odyssey395\_89 Start: 51889, Stop: 51323, Start Num: 3

Candidate Starts for Odyssey395\_89:

(2, 51910), (Start: 3 @51889 has 10 MA's), (6, 51871), (7, 51847), (11, 51796), (14, 51760), (16, 51724), (19, 51670), (25, 51571), (26, 51475), (28, 51451), (29, 51427), (33, 51403), (38, 51367), (39, 51355),

Gene: Ollypop\_85 Start: 53217, Stop: 52621, Start Num: 3

Candidate Starts for Ollypop\_85:

(1, 53301), (2, 53241), (Start: 3 @53217 has 10 MA's), (Start: 4 @53208 has 2 MA's), (16, 53019), (17, 53013), (22, 52941), (23, 52926), (24, 52872), (25, 52866), (28, 52749), (29, 52725), (37, 52671), (39, 52653), (40, 52641),

Gene: PhuzzTulsa\_87 Start: 52337, Stop: 51783, Start Num: 3

Candidate Starts for PhuzzTulsa\_87:

(Start: 3 @52337 has 10 MA's), (7, 52298), (16, 52184), (19, 52130), (25, 52031), (26, 51935), (28, 51911), (29, 51887), (33, 51863), (38, 51827), (39, 51815),

Gene: Pointis\_86 Start: 51785, Stop: 51228, Start Num: 3

Candidate Starts for Pointis\_86:

(2, 51806), (Start: 3 @51785 has 10 MA's), (6, 51767), (7, 51743), (16, 51629), (19, 51575), (25, 51476), (26, 51380), (28, 51356), (29, 51332), (33, 51308), (38, 51272), (39, 51260),

Gene: Popstraw\_85 Start: 51959, Stop: 51393, Start Num: 3

Candidate Starts for Popstraw\_85:

(Start: 3 @51959 has 10 MA's), (6, 51941), (7, 51917), (11, 51866), (14, 51830), (16, 51794), (19, 51740), (25, 51641), (26, 51545), (28, 51521), (29, 51497), (33, 51473), (39, 51425),

Gene: Pureglobe5\_89 Start: 52441, Stop: 51875, Start Num: 3

Candidate Starts for Pureglobe5\_89:

(Start: 3 @52441 has 10 MA's), (6, 52423), (7, 52399), (11, 52348), (14, 52312), (16, 52276), (19, 52222), (25, 52123), (26, 52027), (28, 52003), (29, 51979), (33, 51955), (39, 51907),

Gene: RIPWilbur\_88 Start: 51764, Stop: 51198, Start Num: 3

Candidate Starts for RIPWilbur\_88:

(Start: 3 @51764 has 10 MA's), (6, 51746), (7, 51722), (11, 51671), (14, 51635), (16, 51599), (19, 51545), (25, 51446), (26, 51350), (28, 51326), (29, 51302), (33, 51278), (38, 51242), (39, 51230),

Gene: Ranunculus\_80 Start: 53611, Stop: 53102, Start Num: 8

Candidate Starts for Ranunculus\_80:

(Start: 8 @53611 has 1 MA's), (12, 53566), (15, 53503), (20, 53437), (25, 53347), (26, 53254), (27, 53248), (30, 53203),

Gene: RazzB\_89 Start: 51853, Stop: 51287, Start Num: 3

Candidate Starts for RazzB\_89:

(Start: 3 @51853 has 10 MA's), (7, 51811), (9, 51793), (11, 51760), (14, 51724), (16, 51688), (19, 51634), (25, 51535), (26, 51439), (28, 51415), (29, 51391), (33, 51367), (38, 51331), (39, 51319),

Gene: Ren19\_82 Start: 51391, Stop: 50852, Start Num: 3

Candidate Starts for Ren19\_82:

(2, 51415), (Start: 3 @51391 has 10 MA's), (Start: 4 @51382 has 2 MA's), (10, 51331), (16, 51250), (18, 51217), (21, 51184), (24, 51103), (28, 50980), (29, 50956), (37, 50902), (39, 50884),

Gene: SilentRX\_65 Start: 46598, Stop: 46119, Start Num: 4

Candidate Starts for SilentRX\_65:

(Start: 4 @46598 has 2 MA's), (5, 46592), (17, 46475), (25, 46328), (31, 46166), (32, 46163), (34, 46151), (35, 46139), (36, 46136),