



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 308882 Report

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

Pham number 308882 has 40 members, 11 are drafts.

Phages represented in each track:

- Track 1 : Ranunculus\_57
- Track 2 : Nikan\_64
- Track 3 : BetaFish\_65
- Track 4 : Kubulix\_66, Odyssey395\_66
- Track 5 : PhuzzTulsa\_63, RIPWilbur\_65
- Track 6 : DogYard\_65, Popstraw\_61
- Track 7 : NyleyClemson\_62, MellowYellow\_64, RazzB\_63
- Track 8 : Forrestell\_64
- Track 9 : Pureglobe5\_65
- Track 10 : Beagle\_66, Pointis\_63
- Track 11 : Hive\_62
- Track 12 : Ollypop\_60
- Track 13 : DanielleIgnace\_82
- Track 14 : Amo99\_92, Jollymon\_89, ColdSoup\_92
- Track 15 : Grumio\_92
- Track 16 : Makar\_94
- Track 17 : KingstonB\_89, DonTron\_90, Soos\_86, Sting\_89
- Track 18 : Stillion\_91
- Track 19 : Purplicious\_91
- Track 20 : Nicole72\_51
- Track 21 : ClearAsMud\_56, NoodlelyBoi\_54
- Track 22 : Megan\_50
- Track 23 : Cressida\_52
- Track 24 : MementoMori\_50
- Track 25 : Terij\_49
- Track 26 : Matzah\_51
- Track 27 : Cinna\_49
- Track 28 : Margaery\_48

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

The start number called the most often in the published annotations is 19, it was called in 14 of the 29 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Beagle\_66, DonTron\_90, Forrestell\_64, Grumio\_92, KingstonB\_89, Kubulix\_66, Makar\_94, MellowYellow\_64, Nikan\_64, NyleyClemson\_62, Odyssey395\_66, Ollypop\_60, Pointis\_63, Pureglobe5\_65, Purplicious\_91, RazzB\_63, Soos\_86, Stillion\_91, Sting\_89,

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:

- Amo99\_92, BetaFish\_65, Cinna\_49, ClearAsMud\_56, ColdSoup\_92, Cressida\_52, DanielleIgnace\_82, DogYard\_65, Hive\_62, Jollymon\_89, Margaery\_48, Matzah\_51, Megan\_50, MementoMori\_50, Nicole72\_51, NoodlelyBoi\_54, PhuzzTulsa\_63, Popstraw\_61, RIPWilbur\_65, Ranunculus\_57, Terij\_49,

### Summary by start number:

Start 15:

- Found in 4 of 40 ( 10.0% ) of genes in pham
- Manual Annotations of this start: 2 of 29
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Megan\_50 (EC), Nicole72\_51 (EC),

Start 16:

- Found in 3 of 40 ( 7.5% ) of genes in pham
- Manual Annotations of this start: 1 of 29
- Called 33.3% of time when present
- Phage (with cluster) where this start called: DanielleIgnace\_82 (AT),

Start 17:

- Found in 7 of 40 ( 17.5% ) of genes in pham
- Manual Annotations of this start: 3 of 29
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BetaFish\_65 (AP2), DogYard\_65 (AP2), Hive\_62 (AP2), PhuzzTulsa\_63 (AP2), Popstraw\_61 (AP2), RIPWilbur\_65 (AP2), Ranunculus\_57 (AP),

Start 18:

- Found in 11 of 40 ( 27.5% ) of genes in pham
- Manual Annotations of this start: 9 of 29
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Amo99\_92 (CP), Cinna\_49 (EI), ClearAsMud\_56 (EC), ColdSoup\_92 (CP), Cressida\_52 (EI), Jollymon\_89 (CP), Margaery\_48 (EI), Matzah\_51 (EI), MementoMori\_50 (EI), NoodlelyBoi\_54 (EC), Terij\_49 (EI),

Start 19:

- Found in 19 of 40 ( 47.5% ) of genes in pham
- Manual Annotations of this start: 14 of 29
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Beagle\_66 (AP2), DonTron\_90 (CP), Forrestell\_64 (AP2), Grumio\_92 (CP), KingstonB\_89 (CP), Kubulix\_66 (AP2), Makar\_94 (CP), MellowYellow\_64 (AP2), Nikan\_64 (AP2), NyleyClemson\_62 (AP2),

Odyssey395\_66 (AP2), Ollypop\_60 (AP2), Pointis\_63 (AP2), Pureglobe5\_65 (AP2), Purplicious\_91 (CP), RazzB\_63 (AP2), Soos\_86 (CP), Stillion\_91 (CP), Sting\_89 (CP),

### **Summary by clusters:**

There are 6 clusters represented in this pham: EI, AP2, EC, AP, AT, CP,

Info for manual annotations of cluster AP:

- Start number 17 was manually annotated 1 time for cluster AP.

Info for manual annotations of cluster AP2:

- Start number 17 was manually annotated 2 times for cluster AP2.
- Start number 19 was manually annotated 10 times for cluster AP2.

Info for manual annotations of cluster AT:

- Start number 16 was manually annotated 1 time for cluster AT.

Info for manual annotations of cluster CP:

- Start number 18 was manually annotated 1 time for cluster CP.
- Start number 19 was manually annotated 4 times for cluster CP.

Info for manual annotations of cluster EC:

- Start number 15 was manually annotated 2 times for cluster EC.
- Start number 18 was manually annotated 2 times for cluster EC.

Info for manual annotations of cluster EI:

- Start number 18 was manually annotated 6 times for cluster EI.

### **Gene Information:**

Gene: Amo99\_92 Start: 57137, Stop: 57514, Start Num: 18

Candidate Starts for Amo99\_92:

(4, 57020), (5, 57062), (12, 57110), (Start: 18 @57137 has 9 MA's), (28, 57260), (37, 57332), (42, 57371), (45, 57398), (52, 57494), (54, 57503),

Gene: Beagle\_66 Start: 42093, Stop: 41713, Start Num: 19

Candidate Starts for Beagle\_66:

(Start: 19 @42093 has 14 MA's), (21, 42036), (25, 42006), (26, 42003), (31, 41955), (33, 41922), (45, 41826), (46, 41802), (53, 41727),

Gene: BetaFish\_65 Start: 42852, Stop: 42472, Start Num: 17

Candidate Starts for BetaFish\_65:

(Start: 17 @42852 has 3 MA's), (21, 42795), (25, 42765), (31, 42714), (33, 42681), (36, 42654), (37, 42651), (38, 42645), (42, 42612), (45, 42585), (53, 42486),

Gene: Cinna\_49 Start: 35821, Stop: 36195, Start Num: 18

Candidate Starts for Cinna\_49:

(13, 35809), (Start: 18 @35821 has 9 MA's), (26, 35914), (28, 35941), (29, 35947), (37, 36013), (42, 36052), (45, 36082), (46, 36106),

Gene: ClearAsMud\_56 Start: 35804, Stop: 36175, Start Num: 18

Candidate Starts for ClearAsMud\_56:

(Start: 16 @35801 has 1 MA's), (Start: 18 @35804 has 9 MA's), (20, 35843), (23, 35870), (26, 35897), (29, 35930), (33, 35966), (37, 35996), (40, 36020), (46, 36086),

Gene: ColdSoup\_92 Start: 57218, Stop: 57595, Start Num: 18

Candidate Starts for ColdSoup\_92:

(4, 57101), (5, 57143), (12, 57191), (Start: 18 @57218 has 9 MA's), (28, 57341), (37, 57413), (42, 57452), (45, 57479), (52, 57575), (54, 57584),

Gene: Cressida\_52 Start: 35406, Stop: 35780, Start Num: 18

Candidate Starts for Cressida\_52:

(13, 35394), (Start: 18 @35406 has 9 MA's), (26, 35499), (28, 35526), (29, 35532), (37, 35598), (42, 35637), (45, 35667), (46, 35691), (49, 35730),

Gene: DanielleIgnace\_82 Start: 50102, Stop: 50482, Start Num: 16

Candidate Starts for DanielleIgnace\_82:

(10, 50048), (Start: 16 @50102 has 1 MA's), (25, 50192), (28, 50222), (35, 50285), (37, 50303), (39, 50324), (42, 50342), (45, 50369), (46, 50393), (49, 50432), (51, 50450),

Gene: DogYard\_65 Start: 42291, Stop: 41911, Start Num: 17

Candidate Starts for DogYard\_65:

(Start: 17 @42291 has 3 MA's), (21, 42234), (25, 42204), (26, 42201), (31, 42153), (33, 42120), (45, 42024), (53, 41925),

Gene: DonTron\_90 Start: 57337, Stop: 57711, Start Num: 19

Candidate Starts for DonTron\_90:

(Start: 19 @57337 has 14 MA's), (28, 57457), (37, 57529), (42, 57568), (45, 57595), (52, 57691), (54, 57700),

Gene: Forrestell\_64 Start: 41195, Stop: 40815, Start Num: 19

Candidate Starts for Forrestell\_64:

(7, 41267), (8, 41264), (Start: 19 @41195 has 14 MA's), (21, 41138), (25, 41108), (26, 41105), (36, 40997), (37, 40994), (38, 40988), (45, 40928), (53, 40829),

Gene: Grumio\_92 Start: 56950, Stop: 57324, Start Num: 19

Candidate Starts for Grumio\_92:

(9, 56890), (11, 56902), (Start: 19 @56950 has 14 MA's), (28, 57070), (37, 57142), (42, 57181), (45, 57208), (52, 57304), (54, 57313),

Gene: Hive\_62 Start: 42316, Stop: 41936, Start Num: 17

Candidate Starts for Hive\_62:

(Start: 17 @42316 has 3 MA's), (21, 42259), (25, 42229), (26, 42226), (31, 42178), (33, 42145), (45, 42049), (46, 42025), (53, 41950),

Gene: Jollymon\_89 Start: 57218, Stop: 57595, Start Num: 18

Candidate Starts for Jollymon\_89:

(4, 57101), (5, 57143), (12, 57191), (Start: 18 @57218 has 9 MA's), (28, 57341), (37, 57413), (42, 57452), (45, 57479), (52, 57575), (54, 57584),

Gene: KingstonB\_89 Start: 56754, Stop: 57128, Start Num: 19

Candidate Starts for KingstonB\_89:

(Start: 19 @56754 has 14 MA's), (28, 56874), (37, 56946), (42, 56985), (45, 57012), (52, 57108), (54, 57117),

Gene: Kubulix\_66 Start: 42206, Stop: 41826, Start Num: 19

Candidate Starts for Kubulix\_66:

(Start: 19 @42206 has 14 MA's), (21, 42149), (25, 42119), (26, 42116), (31, 42068), (33, 42035), (41, 41978), (45, 41939), (53, 41840),

Gene: Makar\_94 Start: 57054, Stop: 57428, Start Num: 19

Candidate Starts for Makar\_94:

(9, 56994), (Start: 19 @57054 has 14 MA's), (28, 57174), (37, 57246), (42, 57285), (45, 57312), (46, 57336), (52, 57408),

Gene: Margaery\_48 Start: 35050, Stop: 35424, Start Num: 18

Candidate Starts for Margaery\_48:

(Start: 18 @35050 has 9 MA's), (26, 35143), (28, 35170), (29, 35176), (37, 35242), (39, 35263), (40, 35266), (42, 35281), (45, 35311), (46, 35335),

Gene: Matzah\_51 Start: 35905, Stop: 36279, Start Num: 18

Candidate Starts for Matzah\_51:

(13, 35893), (Start: 15 @35899 has 2 MA's), (Start: 18 @35905 has 9 MA's), (26, 35998), (28, 36025), (29, 36031), (37, 36097), (42, 36136), (45, 36166), (46, 36190),

Gene: Megan\_50 Start: 38560, Stop: 38913, Start Num: 15

Candidate Starts for Megan\_50:

(Start: 15 @38560 has 2 MA's), (22, 38632), (27, 38683), (35, 38743), (43, 38821), (44, 38827), (46, 38854), (48, 38890),

Gene: MellowYellow\_64 Start: 41656, Stop: 41276, Start Num: 19

Candidate Starts for MellowYellow\_64:

(7, 41728), (8, 41725), (Start: 19 @41656 has 14 MA's), (21, 41599), (25, 41569), (26, 41566), (36, 41458), (37, 41455), (38, 41449), (45, 41389), (53, 41290),

Gene: MementoMori\_50 Start: 35488, Stop: 35862, Start Num: 18

Candidate Starts for MementoMori\_50:

(Start: 15 @35482 has 2 MA's), (Start: 18 @35488 has 9 MA's), (26, 35581), (28, 35608), (29, 35614), (37, 35680), (42, 35719), (45, 35749), (46, 35773),

Gene: Nicole72\_51 Start: 39193, Stop: 39540, Start Num: 15

Candidate Starts for Nicole72\_51:

(10, 39142), (14, 39187), (Start: 15 @39193 has 2 MA's), (22, 39262), (24, 39274), (27, 39313), (30, 39328), (32, 39358), (34, 39367), (35, 39373), (43, 39451), (44, 39457), (46, 39484), (48, 39520),

Gene: Nikan\_64 Start: 42209, Stop: 41829, Start Num: 19

Candidate Starts for Nikan\_64:

(Start: 19 @42209 has 14 MA's), (21, 42152), (36, 42011), (37, 42008), (41, 41981), (42, 41969), (45, 41942), (50, 41864), (53, 41843),

Gene: NoodlelyBoi\_54 Start: 36016, Stop: 36387, Start Num: 18

Candidate Starts for NoodlelyBoi\_54:

(Start: 16 @36013 has 1 MA's), (Start: 18 @36016 has 9 MA's), (20, 36055), (23, 36082), (26, 36109), (29, 36142), (33, 36178), (37, 36208), (40, 36232), (46, 36298),

Gene: NyleyClemson\_62 Start: 41271, Stop: 40891, Start Num: 19

Candidate Starts for NyleyClemson\_62:

(7, 41343), (8, 41340), (Start: 19 @41271 has 14 MA's), (21, 41214), (25, 41184), (26, 41181), (36, 41073), (37, 41070), (38, 41064), (45, 41004), (53, 40905),

Gene: Odyssey395\_66 Start: 42330, Stop: 41950, Start Num: 19

Candidate Starts for Odyssey395\_66:

(Start: 19 @42330 has 14 MA's), (21, 42273), (25, 42243), (26, 42240), (31, 42192), (33, 42159), (41, 42102), (45, 42063), (53, 41964),

Gene: Ollypop\_60 Start: 42209, Stop: 41829, Start Num: 19

Candidate Starts for Ollypop\_60:

(7, 42284), (Start: 19 @42209 has 14 MA's), (21, 42152), (36, 42011), (37, 42008), (42, 41969), (45, 41942), (50, 41864),

Gene: PhuzzTulsa\_63 Start: 42557, Stop: 42177, Start Num: 17

Candidate Starts for PhuzzTulsa\_63:

(Start: 17 @42557 has 3 MA's), (21, 42500), (25, 42470), (31, 42419), (36, 42359), (37, 42356), (38, 42350), (45, 42290), (53, 42191),

Gene: Pointis\_63 Start: 42133, Stop: 41753, Start Num: 19

Candidate Starts for Pointis\_63:

(Start: 19 @42133 has 14 MA's), (21, 42076), (25, 42046), (26, 42043), (31, 41995), (33, 41962), (45, 41866), (46, 41842), (53, 41767),

Gene: Popstraw\_61 Start: 42050, Stop: 41670, Start Num: 17

Candidate Starts for Popstraw\_61:

(Start: 17 @42050 has 3 MA's), (21, 41993), (25, 41963), (26, 41960), (31, 41912), (33, 41879), (45, 41783), (53, 41684),

Gene: Pureglobe5\_65 Start: 42577, Stop: 42197, Start Num: 19

Candidate Starts for Pureglobe5\_65:

(Start: 19 @42577 has 14 MA's), (21, 42520), (25, 42490), (26, 42487), (31, 42439), (42, 42337), (45, 42310), (47, 42265), (53, 42211),

Gene: Purplicious\_91 Start: 56715, Stop: 57089, Start Num: 19

Candidate Starts for Purplicious\_91:

(9, 56655), (11, 56667), (Start: 19 @56715 has 14 MA's), (28, 56835), (37, 56907), (42, 56946), (45, 56973), (52, 57069), (54, 57078),

Gene: RIPWilbur\_65 Start: 42174, Stop: 41794, Start Num: 17

Candidate Starts for RIPWilbur\_65:

(Start: 17 @42174 has 3 MA's), (21, 42117), (25, 42087), (31, 42036), (36, 41976), (37, 41973), (38, 41967), (45, 41907), (53, 41808),

Gene: Ranunculus\_57 Start: 44381, Stop: 44001, Start Num: 17

Candidate Starts for Ranunculus\_57:

(6, 44450), (Start: 17 @44381 has 3 MA's), (21, 44324), (26, 44291), (31, 44243), (33, 44210), (41, 44153), (42, 44141), (45, 44114), (53, 44015),

Gene: RazzB\_63 Start: 41402, Stop: 41022, Start Num: 19

Candidate Starts for RazzB\_63:

(7, 41474), (8, 41471), (Start: 19 @41402 has 14 MA's), (21, 41345), (25, 41315), (26, 41312), (36, 41204), (37, 41201), (38, 41195), (45, 41135), (53, 41036),

Gene: Soos\_86 Start: 56663, Stop: 57037, Start Num: 19

Candidate Starts for Soos\_86:

(Start: 19 @56663 has 14 MA's), (28, 56783), (37, 56855), (42, 56894), (45, 56921), (52, 57017), (54, 57026),

Gene: Stillion\_91 Start: 57321, Stop: 57695, Start Num: 19

Candidate Starts for Stillion\_91:

(1, 57045), (2, 57072), (3, 57186), (Start: 19 @57321 has 14 MA's), (28, 57441), (37, 57513), (42, 57552), (45, 57579), (52, 57675), (54, 57684),

Gene: Sting\_89 Start: 57102, Stop: 57476, Start Num: 19

Candidate Starts for Sting\_89:

(Start: 19 @57102 has 14 MA's), (28, 57222), (37, 57294), (42, 57333), (45, 57360), (52, 57456), (54, 57465),

Gene: Terij\_49 Start: 34532, Stop: 34906, Start Num: 18

Candidate Starts for Terij\_49:

(Start: 18 @34532 has 9 MA's), (26, 34625), (39, 34745), (40, 34748), (42, 34763), (45, 34793), (46, 34817),