Pham 158141


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 158141 Report

This analysis was run 04/13/24 on database version 558.
Pham number 158141 has 25 members, 4 are drafts.
Phages represented in each track:

- Track 1 : Norvs_97
- Track 2 : Miskis_93, Dusty_92, Aphelion_96
- Track 3 : Toniann_97
- Track 4 : Obliviate 79
- Track 5 : SmokingBunny_7
- Track 6 : Salvador_7, Evāmon_7
- Track 7 : Halo3_7
- Track 8 : Togo_7
- Track 9 : Lutum_83, BENtherdunthat_82, Kenna_77
- Track 10 : CheeseTouch_86
- Track 11 : Crater_78, Leroy_79, Pepperoni_56, Horus_80, Ecliptus_84, Phistory_77
- Track 12 : Apricot_77, Lton_57
- Track 13 : Kuwabara 80
- Track 14 : TinyDot_5̄̄


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

The start number called the most often in the published annotations is 20 , it was called in 14 of the 21 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Apricot_77, BENtherdunthat 82, CheeseTouch_86, Crater_78, Ecliptus_84,

Halo3_7, Horus_80, Kenna_77, Kuwabara_80, Leroy_79, Lton_57, Lutum_83,
Pepperoni_56, Phistory_77, SmokingBunny_7, TinyDōt_53,
Genes that have the "Most Annotated" start but do not call it:

- Evamon_7, Salvador_7, Togo_7,

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

- Aphelion_96, Dusty_92, Miskis_93, Norvs_97, Obliviate_79, Toniann_97,


## Summary by start number:

Start 15:

- Found in 6 of 25 (24.0\%) of genes in pham
- Manual Annotations of this start: 4 of 21
- Called $100.0 \%$ of time when present
- Phage (with cluster) where this start called: Aphelion_96 (CQ1), Dusty_92 (CQ), Miskis_93 (CQ), Norvs_97 (CQ), Obliviate_79 (CV), Toniann_97 (CQ1),

Start 20:

- Found in 19 of 25 (76.0\%) of genes in pham
- Manual Annotations of this start: 14 of 21
- Called $84.2 \%$ of time when present
- Phage (with cluster) where this start called: Apricot 77 (DN3), BENtherdunthat 82
(DN1), CheeseTouch_86 (DN1), Crater_78 (DN3), Ecliptus_84 (DN), Halo3_7 (DC1),
Horus 80 (DN1), Kenna_77 (DN1), Kuwabara_80 (DN4), Leroy_79 (DN1), Lton_57 (CZ), Lutum_83 (DN1), Pepperoni_56 (CZ), Phistory_77 (DN1), SmokingBunny_7 (DC1), TinyDot_53 (singleton),

Start 21:

- Found in 4 of 25 ( $16.0 \%$ ) of genes in pham
- Manual Annotations of this start: 1 of 21
- Called $25.0 \%$ of time when present
- Phage (with cluster) where this start called: Togo_7 (DC1),

Start 23:

- Found in 14 of 25 (56.0\% ) of genes in pham
- Manual Annotations of this start: 2 of 21
- Called $14.3 \%$ of time when present
- Phage (with cluster) where this start called: Evamon_7 (DC1), Salvador_7 (DC1),


## Summary by clusters:

There are 10 clusters represented in this pham: DN, singleton, DN4, CV, CZ, DN1, DN3, CQ1, CQ, DC1,

Info for manual annotations of cluster CQ:

- Start number 15 was manually annotated 1 time for cluster CQ.

Info for manual annotations of cluster CQ1:

- Start number 15 was manually annotated 2 times for cluster CQ1.

Info for manual annotations of cluster CV:

- Start number 15 was manually annotated 1 time for cluster CV.

Info for manual annotations of cluster CZ:
-Start number 20 was manually annotated 1 time for cluster CZ.
Info for manual annotations of cluster DC1:

- Start number 20 was manually annotated 2 times for cluster DC1.
- Start number 21 was manually annotated 1 time for cluster DC1.
-Start number 23 was manually annotated 2 times for cluster DC1.
Info for manual annotations of cluster DN:
- Start number 20 was manually annotated 1 time for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 20 was manually annotated 7 times for cluster DN1.

Info for manual annotations of cluster DN3:

- Start number 20 was manually annotated 2 times for cluster DN3.

Info for manual annotations of cluster DN4:

- Start number 20 was manually annotated 1 time for cluster DN4.


## Gene Information:

Gene: Aphelion_96 Start: 59234, Stop: 59845, Start Num: 15
Candidate Starts for Aphelion_96:
(8, 59090), (14, 59216), (Start: 15 @59234 has 4 MA's), (17, 59315), (18, 59324), (19, 59336), (Start:
23 @59450 has 2 MA's), (24, 59504), (34, 59645), (39, 59714), (44, 59789), (45, 59807),
Gene: Apricot_77 Start: 44433, Stop: 44912, Start Num: 20
Candidate Starts for Apricot_77:
(Start: 20 @44433 has 14 MA's), (25, 44619), (28, 44682), (31, 44721), (39, 44811),
Gene: BENtherdunthat_82 Start: 46359, Stop: 46736, Start Num: 20
Candidate Starts for BENtherdunthat_82:
(Start: 20 @46359 has 14 MA's), (22, 46440), (Start: 23 @46452 has 2 MA's), (39, 46659),
Gene: CheeseTouch_86 Start: 42950, Stop: 43342, Start Num: 20
Candidate Starts for CheeseTouch_86:
(Start: 20 @42950 has 14 MA's), (22, 43031), (Start: 23 @43043 has 2 MA's), (39, 43250), (41, 43271), (42, 43274),

Gene: Crater_78 Start: 45182, Stop: 45649, Start Num: 20
Candidate Starts for Crater_78:
(Start: 20 @45182 has 14 MA's), (32, 45437), (33, 45449),
Gene: Dusty_92 Start: 57740, Stop: 58351, Start Num: 15
Candidate Starts for Dusty_92:
(8, 57596), (14, 57722), (Start: 15 @57740 has 4 MA's), (17, 57821), (18, 57830), (19, 57842), (Start:
23 @57956 has 2 MA's), (24, 58010), (34, 58151), (39, 58220), (44, 58295), (45, 58313),

Gene: Ecliptus_84 Start: 48151, Stop: 48618, Start Num: 20
Candidate Starts for Ecliptus_84:
(Start: 20 @48151 has 14 MA's), (32, 48406), (33, 48418),
Gene: Evamon_7 Start: 3543, Stop: 3884, Start Num: 23
Candidate Starts for Evamon_7:
$(2,3000),(6,3120),(7,3177)$, $(9,3210),(10,3213),(11,3216),(12,3231)$, (Start: $20 @ 3438$ has 14 MA's), (Start: 21 @3465 has 1 MA's), (Start: 23 @3543 has 2 MA's), (26, 3627), (30, 3678), (39, 3792),

Gene: Halo3_7 Start: 3546, Stop: 4028, Start Num: 20
Candidate Starts for Halo3_7:
(13, 3414), (16, 3498), (Start: 20 @3546 has 14 MA's), (26, 3744), (29, 3795), (36, 3879), (37, 3888),
(38, 3891), (39, 3930), (40, 3939), (43, 3987),

Gene: Horus_80 Start: 47249, Stop: 47716, Start Num: 20
Candidate Starts for Horus_80:
(Start: 20 @47249 has 14 MA's), (32, 47504), (33, 47516),
Gene: Kenna_77 Start: 45632, Stop: 46009, Start Num: 20 Candidate Starts for Kenna_77:
(Start: 20 @ 45632 has 14 MA's), (22, 45713), (Start: 23 @45725 has 2 MA's), (39, 45932),
Gene: Kuwabara_80 Start: 47595, Stop: 48080, Start Num: 20
Candidate Starts for Kuwabara_80:
(Start: 20 @47595 has 14 MA's), (27, 47805), (39, 47946),
Gene: Leroy_79 Start: 45444, Stop: 45911, Start Num: 20
Candidate Starts for Leroy_79:
(Start: 20 @45444 has 14 MA's), (32, 45699), (33, 45711),
Gene: Lton_57 Start: 34468, Stop: 34947, Start Num: 20
Candidate Starts for Lton_57:
(Start: 20 @ 34468 has 14 MA 's), ( 25,34654 ), ( 28,34717 ), ( 31,34756 ), ( 39,34846 ),
Gene: Lutum_83 Start: 46794, Stop: 47171, Start Num: 20
Candidate Starts for Lutum_83:
(Start: 20 @46794 has 14 MA's), (22, 46875), (Start: 23 @46887 has 2 MA's), (39, 47094),
Gene: Miskis_93 Start: 57403, Stop: 58014, Start Num: 15
Candidate Starts for Miskis_93:
(8, 57259), (14, 57385), (Start: 15 @57403 has 4 MA's), (17, 57484), (18, 57493), (19, 57505), (Start: 23 @57619 has 2 MA's), ( 24,57673 ), ( 34,57814 ), ( 39,57883 ), ( 44,57958 ), ( 45,57976 ),

Gene: Norvs_97 Start: 58732, Stop: 59343, Start Num: 15
Candidate Starts for Norvs_97:
(14, 58714), (Start: 15 @58732 has 4 MA's), (17, 58813), (18, 58822), (19, 58834), (Start: 23 @58948 has 2 MA's), $(24,59002),(34,59143),(39,59212),(44,59287),(45,59305)$,

Gene: Obliviate_79 Start: 48067, Stop: 48606, Start Num: 15
Candidate Starts for Obliviate_79:
(Start: 15 @48067 has 4 MA's), (19, 48169), (35, 48421), (39, 48478),
Gene: Pepperoni_56 Start: 35924, Stop: 36391, Start Num: 20
Candidate Starts for Pepperoni_56:
(Start: 20 @35924 has 14 MA's), (32, 36179), (33, 36191),
Gene: Phistory_77 Start: 44347, Stop: 44814, Start Num: 20
Candidate Starts for Phistory_77:
(Start: 20 @44347 has 14 MA's), (32, 44602), (33, 44614),
Gene: Salvador_7 Start: 3541, Stop: 3882, Start Num: 23
Candidate Starts for Salvador_7:
(2, 2998), ( 6,3118 ), ( 7,3175 ), ( 9,3208 ), ( 10,3211 ), ( 11,3214 ), ( 12,3229 ), (Start: $20 @ 3436$ has 14
MA's), (Start: 21 @3463 has 1 MA's), (Start: 23 @3541 has 2 MA's), (26, 3625), (30, 3676), (39, 3790),
Gene: SmokingBunny_7 Start: 3436, Stop: 3882, Start Num: 20

Candidate Starts for SmokingBunny_7:
(2, 2998), (6, 3118), (7, 3175), (9, 3208), (10, 3211), (11, 3214), (12, 3229), (Start: 20 @3436 has 14 MA's), (Start: 21 @3463 has 1 MA's), (Start: 23 @3541 has 2 MA's), (26, 3625), (30, 3676), (39, 3790),

Gene: TinyDot_53 Start: 33756, Stop: 34190, Start Num: 20
Candidate Starts for TinyDot_53:
(Start: 20 @33756 has 14 MA's), (22, 33837), (Start: 23 @33849 has 2 MA's),
Gene: Togo_7 Start: 3463, Stop: 3882, Start Num: 21
Candidate Starts for Togo_7:
(2, 2998), (6, 3118), (7, 3175), (9, 3208), (10, 3211), (11, 3214), (12, 3229), (Start: 20 @3436 has 14
MA's), (Start: 21 @3463 has 1 MA's), (Start: 23 @3541 has 2 MA's), (26, 3625), (30, 3676), (39, 3790),
Gene: Toniann_97 Start: 58672, Stop: 59283, Start Num: 15
Candidate Starts for Toniann_97:
$(1,57979),(3,58339),(4,58348),(5,58453),(14,58654)$, (Start: $15 @ 58672$ has 4 MA's), (17, 58753), (18, 58762), (19, 58774), (Start: 23 @58888 has 2 MA's), ( 24,58942 ), ( 34,59083 ), ( 44 , 59227), (45, 59245),

