



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 156558 Report

This analysis was run 04/12/24 on database version 558.

Pham number 156558 has 32 members, 6 are drafts.

Phages represented in each track:

- Track 1 : Madraxi\_39
- Track 2 : REQ1\_03
- Track 3 : Jflix2\_33
- Track 4 : Heinz\_55
- Track 5 : Reyja\_58, Santhid\_53
- Track 6 : Tarzan\_56, Hibiscus\_56, DonkeyMan\_54
- Track 7 : Jojo24\_55
- Track 8 : Eponine\_77
- Track 9 : Ruthiejr\_76
- Track 10 : Malthus\_76, Juliette\_77, JF1\_75
- Track 11 : Fionnbharth\_75, Wintermute\_75
- Track 12 : Slarp\_75, Mitti\_75, Cheetobro\_75
- Track 13 : Y10\_72, Y2\_72
- Track 14 : Patt\_71, MissDaisy\_72
- Track 15 : Taquito\_74, OmniCritical\_75
- Track 16 : SamScheppers\_74, Chancellor\_75
- Track 17 : Reptar3000\_72
- Track 18 : Aminay\_71
- Track 19 : TinyDot\_58
- Track 20 : GMA4\_59

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

The start number called the most often in the published annotations is 22, it was called in 11 of the 26 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Cheetobro\_75, Fionnbharth\_75, JF1\_75, Juliette\_77, Malthus\_76, MissDaisy\_72, Mitti\_75, Patt\_71, Ruthiejr\_76, Slarp\_75, Wintermute\_75,

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

- Chancellor\_75, Eponine\_77, OmniCritical\_75, Reptar3000\_72, SamScheppers\_74, Taquito\_74, Y10\_72, Y2\_72,

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

• Aminay\_71, DonkeyMan\_54, GMA4\_59, Heinz\_55, Hibiscus\_56, Jflix2\_33, Jojo24\_55, Madraxi\_39, REQ1\_03, Reyja\_58, Santhid\_53, Tarzan\_56, TinyDot\_58,

### Summary by start number:

Start 13:

- Found in 1 of 32 ( 3.1% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: GMA4\_59 (singleton),

Start 14:

- Found in 1 of 32 ( 3.1% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: TinyDot\_58 (singleton),

Start 16:

- Found in 10 of 32 ( 31.2% ) of genes in pham
- Manual Annotations of this start: 5 of 26
- Called 70.0% of time when present
- Phage (with cluster) where this start called: DonkeyMan\_54 (DY), Heinz\_55 (DY), Hibiscus\_56 (DY), Jojo24\_55 (DY), Reyja\_58 (DY), Santhid\_53 (DY), Tarzan\_56 (DY),

Start 17:

- Found in 4 of 32 ( 12.5% ) of genes in pham
- Manual Annotations of this start: 1 of 26
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Jflix2\_33 (CF), Madraxi\_39 (CF), REQ1\_03 (CF),

Start 18:

- Found in 5 of 32 ( 15.6% ) of genes in pham
- Manual Annotations of this start: 1 of 26
- Called 20.0% of time when present
- Phage (with cluster) where this start called: Reptar3000\_72 (K4),

Start 19:

- Found in 15 of 32 ( 46.9% ) of genes in pham
- Manual Annotations of this start: 2 of 26
- Called 13.3% of time when present
- Phage (with cluster) where this start called: Y10\_72 (K4), Y2\_72 (K4),

Start 20:

- Found in 15 of 32 ( 46.9% ) of genes in pham
- Manual Annotations of this start: 5 of 26
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Chancellor\_75 (K4), Eponine\_77 (K4), OmniCritical\_75 (K4), SamScheppers\_74 (K4), Taquito\_74 (K4),

Start 22:

- Found in 19 of 32 ( 59.4% ) of genes in pham
- Manual Annotations of this start: 11 of 26
- Called 57.9% of time when present
- Phage (with cluster) where this start called: Cheetobro\_75 (K4), Fionnbharth\_75 (K4), JF1\_75 (K4), Juliette\_77 (K4), Malthus\_76 (K4), MissDaisy\_72 (K4), Mitti\_75 (K4), Patt\_71 (K4), Ruthiejr\_76 (K4), Slarp\_75 (K4), Wintermute\_75 (K4),

Start 23:

- Found in 17 of 32 ( 53.1% ) of genes in pham
- Manual Annotations of this start: 1 of 26
- Called 5.9% of time when present
- Phage (with cluster) where this start called: Aminay\_71 (K7),

### **Summary by clusters:**

There are 5 clusters represented in this pham: singleton, DY, K7, CF, K4,

Info for manual annotations of cluster CF:

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

Info for manual annotations of cluster DY:

- Start number 16 was manually annotated 5 times for cluster DY.

Info for manual annotations of cluster K4:

- Start number 18 was manually annotated 1 time for cluster K4.
- Start number 19 was manually annotated 2 times for cluster K4.
- Start number 20 was manually annotated 5 times for cluster K4.
- Start number 22 was manually annotated 11 times for cluster K4.

Info for manual annotations of cluster K7:

- Start number 23 was manually annotated 1 time for cluster K7.

### **Gene Information:**

Gene: Aminay\_71 Start: 46904, Stop: 47275, Start Num: 23

Candidate Starts for Aminay\_71:

(15, 46844), (Start: 17 @46871 has 1 MA's), (Start: 18 @46874 has 1 MA's), (Start: 23 @46904 has 1 MA's), (25, 46937), (26, 46973), (29, 47009), (35, 47093), (36, 47117), (44, 47165),

Gene: Chancellor\_75 Start: 47966, Stop: 48364, Start Num: 20

Candidate Starts for Chancellor\_75:

(Start: 19 @47960 has 2 MA's), (Start: 20 @47966 has 5 MA's), (Start: 22 @47990 has 11 MA's), (Start: 23 @47993 has 1 MA's), (25, 48026), (26, 48062), (28, 48089), (30, 48113), (31, 48119), (38, 48218), (45, 48263), (46, 48281), (47, 48317),

Gene: Cheetobro\_75 Start: 47987, Stop: 48361, Start Num: 22

Candidate Starts for Cheetobro\_75:

(Start: 19 @47957 has 2 MA's), (Start: 20 @47963 has 5 MA's), (Start: 22 @47987 has 11 MA's), (Start: 23 @47990 has 1 MA's), (25, 48023), (26, 48059), (28, 48086), (30, 48110), (31, 48116), (38, 48215), (45, 48260), (46, 48278),

Gene: DonkeyMan\_54 Start: 37547, Stop: 37960, Start Num: 16  
Candidate Starts for DonkeyMan\_54:  
(6, 37490), (8, 37496), (Start: 16 @37547 has 5 MA's),

Gene: Eponine\_77 Start: 48810, Stop: 49208, Start Num: 20  
Candidate Starts for Eponine\_77:  
(4, 48717), (9, 48747), (Start: 16 @48777 has 5 MA's), (Start: 19 @48804 has 2 MA's), (Start: 20 @48810 has 5 MA's), (21, 48822), (Start: 22 @48834 has 11 MA's), (Start: 23 @48837 has 1 MA's), (25, 48870), (26, 48906), (28, 48933), (30, 48957), (31, 48963), (38, 49062), (45, 49107), (46, 49125), (47, 49161),

Gene: Fionnbharth\_75 Start: 48232, Stop: 48606, Start Num: 22  
Candidate Starts for Fionnbharth\_75:  
(4, 48115), (9, 48145), (Start: 16 @48175 has 5 MA's), (Start: 19 @48202 has 2 MA's), (Start: 20 @48208 has 5 MA's), (21, 48220), (Start: 22 @48232 has 11 MA's), (Start: 23 @48235 has 1 MA's), (25, 48268), (26, 48304), (28, 48331), (30, 48355), (31, 48361), (38, 48460), (45, 48505), (46, 48523), (47, 48559),

Gene: GMA4\_59 Start: 39801, Stop: 40205, Start Num: 13  
Candidate Starts for GMA4\_59:  
(13, 39801), (24, 39882), (32, 40002), (43, 40101),

Gene: Heinz\_55 Start: 36477, Stop: 36890, Start Num: 16  
Candidate Starts for Heinz\_55:  
(Start: 16 @36477 has 5 MA's),

Gene: Hibiscus\_56 Start: 36444, Stop: 36857, Start Num: 16  
Candidate Starts for Hibiscus\_56:  
(6, 36387), (8, 36393), (Start: 16 @36444 has 5 MA's),

Gene: JF1\_75 Start: 48197, Stop: 48571, Start Num: 22  
Candidate Starts for JF1\_75:  
(Start: 19 @48167 has 2 MA's), (Start: 20 @48173 has 5 MA's), (Start: 22 @48197 has 11 MA's), (Start: 23 @48200 has 1 MA's), (25, 48233), (26, 48269), (28, 48296), (30, 48320), (31, 48326), (37, 48422), (38, 48425), (45, 48470), (46, 48488),

Gene: JfliX2\_33 Start: 29146, Stop: 28766, Start Num: 17  
Candidate Starts for JfliX2\_33:  
(Start: 17 @29146 has 1 MA's), (26, 29044), (39, 28903), (42, 28876),

Gene: Jojo24\_55 Start: 36792, Stop: 37205, Start Num: 16  
Candidate Starts for Jojo24\_55:  
(Start: 16 @36792 has 5 MA's),

Gene: Juliette\_77 Start: 48295, Stop: 48669, Start Num: 22  
Candidate Starts for Juliette\_77:  
(Start: 19 @48265 has 2 MA's), (Start: 20 @48271 has 5 MA's), (Start: 22 @48295 has 11 MA's), (Start: 23 @48298 has 1 MA's), (25, 48331), (26, 48367), (28, 48394), (30, 48418), (31, 48424), (37, 48520), (38, 48523), (45, 48568), (46, 48586),

Gene: Madraxi\_39 Start: 32109, Stop: 31729, Start Num: 17  
Candidate Starts for Madraxi\_39:  
(11, 32148), (Start: 17 @32109 has 1 MA's), (26, 32007), (39, 31866),

Gene: Malthus\_76 Start: 47983, Stop: 48357, Start Num: 22

Candidate Starts for Malthus\_76:

(Start: 19 @47953 has 2 MA's), (Start: 20 @47959 has 5 MA's), (Start: 22 @47983 has 11 MA's), (Start: 23 @47986 has 1 MA's), (25, 48019), (26, 48055), (28, 48082), (30, 48106), (31, 48112), (37, 48208), (38, 48211), (45, 48256), (46, 48274),

Gene: MissDaisy\_72 Start: 46894, Stop: 47268, Start Num: 22

Candidate Starts for MissDaisy\_72:

(5, 46780), (10, 46819), (12, 46828), (Start: 18 @46867 has 1 MA's), (Start: 22 @46894 has 11 MA's), (25, 46930), (26, 46966), (28, 46993), (33, 47044), (34, 47056), (38, 47122), (40, 47140), (44, 47158), (46, 47185),

Gene: Mitti\_75 Start: 48138, Stop: 48512, Start Num: 22

Candidate Starts for Mitti\_75:

(Start: 19 @48108 has 2 MA's), (Start: 20 @48114 has 5 MA's), (Start: 22 @48138 has 11 MA's), (Start: 23 @48141 has 1 MA's), (25, 48174), (26, 48210), (28, 48237), (30, 48261), (31, 48267), (38, 48366), (45, 48411), (46, 48429),

Gene: OmniCritical\_75 Start: 48047, Stop: 48445, Start Num: 20

Candidate Starts for OmniCritical\_75:

(Start: 19 @48041 has 2 MA's), (Start: 20 @48047 has 5 MA's), (Start: 22 @48071 has 11 MA's), (Start: 23 @48074 has 1 MA's), (25, 48107), (26, 48143), (28, 48170), (30, 48194), (31, 48200), (38, 48299), (45, 48344), (46, 48362),

Gene: Patt\_71 Start: 46615, Stop: 46989, Start Num: 22

Candidate Starts for Patt\_71:

(5, 46501), (10, 46540), (12, 46549), (Start: 18 @46588 has 1 MA's), (Start: 22 @46615 has 11 MA's), (25, 46651), (26, 46687), (28, 46714), (33, 46765), (34, 46777), (38, 46843), (40, 46861), (44, 46879), (46, 46906),

Gene: REQ1\_03 Start: 925, Stop: 551, Start Num: 17

Candidate Starts for REQ1\_03:

(Start: 17 @925 has 1 MA's), (26, 823), (39, 682), (41, 664),

Gene: Reptar3000\_72 Start: 46577, Stop: 46978, Start Num: 18

Candidate Starts for Reptar3000\_72:

(5, 46490), (10, 46529), (12, 46538), (Start: 18 @46577 has 1 MA's), (Start: 22 @46604 has 11 MA's), (25, 46640), (26, 46676), (28, 46703), (33, 46754), (34, 46766), (38, 46832), (40, 46850), (44, 46868), (46, 46895),

Gene: Reyja\_58 Start: 38090, Stop: 38503, Start Num: 16

Candidate Starts for Reyja\_58:

(Start: 16 @38090 has 5 MA's),

Gene: Ruthiejr\_76 Start: 48082, Stop: 48456, Start Num: 22

Candidate Starts for Ruthiejr\_76:

(1, 47935), (5, 47965), (7, 47977), (10, 48004), (12, 48013), (Start: 18 @48052 has 1 MA's), (Start: 22 @48082 has 11 MA's), (Start: 23 @48085 has 1 MA's), (25, 48118), (26, 48154), (27, 48169), (28, 48181), (31, 48211), (33, 48232), (34, 48244), (37, 48307), (38, 48310), (40, 48328), (44, 48346), (46, 48373),

Gene: SamScheppers\_74 Start: 48438, Stop: 48836, Start Num: 20

Candidate Starts for SamScheppers\_74:

(Start: 19 @48432 has 2 MA's), (Start: 20 @48438 has 5 MA's), (Start: 22 @48462 has 11 MA's),  
(Start: 23 @48465 has 1 MA's), (25, 48498), (26, 48534), (28, 48561), (30, 48585), (31, 48591), (38,  
48690), (45, 48735), (46, 48753), (47, 48789),

Gene: Santhid\_53 Start: 35574, Stop: 35987, Start Num: 16

Candidate Starts for Santhid\_53:

(Start: 16 @35574 has 5 MA's),

Gene: Slarp\_75 Start: 47990, Stop: 48364, Start Num: 22

Candidate Starts for Slarp\_75:

(Start: 19 @47960 has 2 MA's), (Start: 20 @47966 has 5 MA's), (Start: 22 @47990 has 11 MA's),  
(Start: 23 @47993 has 1 MA's), (25, 48026), (26, 48062), (28, 48089), (30, 48113), (31, 48119), (38,  
48218), (45, 48263), (46, 48281),

Gene: Taquito\_74 Start: 48171, Stop: 48569, Start Num: 20

Candidate Starts for Taquito\_74:

(Start: 19 @48165 has 2 MA's), (Start: 20 @48171 has 5 MA's), (Start: 22 @48195 has 11 MA's),  
(Start: 23 @48198 has 1 MA's), (25, 48231), (26, 48267), (28, 48294), (30, 48318), (31, 48324), (38,  
48423), (45, 48468), (46, 48486),

Gene: Tarzan\_56 Start: 36802, Stop: 37215, Start Num: 16

Candidate Starts for Tarzan\_56:

(6, 36745), (8, 36751), (Start: 16 @36802 has 5 MA's),

Gene: TinyDot\_58 Start: 37583, Stop: 37999, Start Num: 14

Candidate Starts for TinyDot\_58:

(2, 37517), (3, 37520), (14, 37583), (47, 37955),

Gene: Wintermute\_75 Start: 48221, Stop: 48595, Start Num: 22

Candidate Starts for Wintermute\_75:

(4, 48104), (9, 48134), (Start: 16 @48164 has 5 MA's), (Start: 19 @48191 has 2 MA's), (Start: 20  
@48197 has 5 MA's), (21, 48209), (Start: 22 @48221 has 11 MA's), (Start: 23 @48224 has 1 MA's),  
(25, 48257), (26, 48293), (28, 48320), (30, 48344), (31, 48350), (38, 48449), (45, 48494), (46, 48512),  
(47, 48548),

Gene: Y10\_72 Start: 48167, Stop: 48571, Start Num: 19

Candidate Starts for Y10\_72:

(Start: 19 @48167 has 2 MA's), (Start: 20 @48173 has 5 MA's), (Start: 22 @48197 has 11 MA's),  
(Start: 23 @48200 has 1 MA's), (25, 48233), (26, 48269), (28, 48296), (30, 48320), (31, 48326), (37,  
48422), (38, 48425), (45, 48470), (46, 48488),

Gene: Y2\_72 Start: 48167, Stop: 48571, Start Num: 19

Candidate Starts for Y2\_72:

(Start: 19 @48167 has 2 MA's), (Start: 20 @48173 has 5 MA's), (Start: 22 @48197 has 11 MA's),  
(Start: 23 @48200 has 1 MA's), (25, 48233), (26, 48269), (28, 48296), (30, 48320), (31, 48326), (37,  
48422), (38, 48425), (45, 48470), (46, 48488),