



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 2034 Report

This analysis was run 04/28/24 on database version 559.

Pham number 2034 has 58 members, 10 are drafts.

Phages represented in each track:

- Track 1 : MindFlayer\_266, Bordeaux\_15, Amabiko\_280, MindFlayer\_14, Starbow\_15, IchabodCrane\_14, PumpkinSpice\_15, TomSawyer\_15, Spilled\_282, Birchlyn\_12, Spelly\_15, Battuta\_15, Wipeout\_268, KentuckyRacer\_290, PumpkinSpice\_279, Gibbi\_16, IchabodCrane\_267, Quarant19\_15, Quarant19\_276, KentuckyRacer\_16, Starbow\_272, Battuta\_272, Wipeout\_14, TomSawyer\_280, Spelly\_281, Karimac\_273, Jollison\_17, Karimac\_15, Gibbi\_287, Amabiko\_16, Jollison\_281, SaltySpittoon\_275, Bordeaux\_272, JimJam\_15, SaltySpittoon\_15
- Track 2 : Mugiwara\_13, Mugiwara\_285
- Track 3 : Stanimal\_271, Sollertia\_16, Stanimal\_16, BoomerJR\_271, Genie2\_16, Yaboi\_277, Sollertia\_272, Yaboi\_16, BoomerJR\_16, Genie2\_271
- Track 4 : StarPlatinum\_284, StarPlatinum\_14
- Track 5 : Enygma\_281, Enygma\_13
- Track 6 : LukeCage\_277, LukeCage\_14
- Track 7 : JimJam\_283, CeilingFan\_14, Birchlyn\_272, Spilled\_14, CeilingFan\_288

### ***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 45 of the 48 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Amabiko\_16, Amabiko\_280, Battuta\_15, Battuta\_272, Birchlyn\_12, BoomerJR\_16, BoomerJR\_271, Bordeaux\_15, Bordeaux\_272, Enygma\_13, Enygma\_281, Genie2\_16, Genie2\_271, Gibbi\_16, Gibbi\_287, IchabodCrane\_14, IchabodCrane\_267, JimJam\_15, Jollison\_17, Jollison\_281, Karimac\_15, Karimac\_273, KentuckyRacer\_16, KentuckyRacer\_290, LukeCage\_14, LukeCage\_277, MindFlayer\_14, MindFlayer\_266, Mugiwara\_13, Mugiwara\_285, PumpkinSpice\_15, PumpkinSpice\_279, Quarant19\_15, Quarant19\_276, SaltySpittoon\_15, SaltySpittoon\_275, Sollertia\_16, Sollertia\_272, Spelly\_15, Spelly\_281, Spilled\_282, Stanimal\_16, Stanimal\_271, StarPlatinum\_14, StarPlatinum\_284, Starbow\_15, Starbow\_272, TomSawyer\_15, TomSawyer\_280, Wipeout\_14, Wipeout\_268, Yaboi\_16, Yaboi\_277,

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

- Birchlyn\_272, CeilingFan\_14, CeilingFan\_288, JimJam\_283, Spilled\_14,

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

- 

### Summary by start number:

Start 1:

- Found in 40 of 58 ( 69.0% ) of genes in pham
- Manual Annotations of this start: 3 of 48
- Called 12.5% of time when present
- Phage (with cluster) where this start called: Birchlyn\_272 (BE2), CeilingFan\_14 (BE2), CeilingFan\_288 (BE2), JimJam\_283 (BE2), Spilled\_14 (BE2),

Start 3:

- Found in 58 of 58 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 45 of 48
- Called 91.4% of time when present
- Phage (with cluster) where this start called: Amabiko\_16 (BE2), Amabiko\_280 (BE2), Battuta\_15 (BE2), Battuta\_272 (BE2), Birchlyn\_12 (BE2), BoomerJR\_16 (BE2), BoomerJR\_271 (BE2), Bordeaux\_15 (BE2), Bordeaux\_272 (BE2), Enygma\_13 (BE2), Enygma\_281 (BE2), Genie2\_16 (BE2), Genie2\_271 (BE2), Gibbi\_16 (BE2), Gibbi\_287 (BE2), IchabodCrane\_14 (BE2), IchabodCrane\_267 (BE2), JimJam\_15 (BE2), Jollison\_17 (BE2), Jollison\_281 (BE2), Karimac\_15 (BE2), Karimac\_273 (BE2), KentuckyRacer\_16 (BE2), KentuckyRacer\_290 (BE2), LukeCage\_14 (BE2), LukeCage\_277 (BE2), MindFlayer\_14 (BE2), MindFlayer\_266 (BE2), Mugiwara\_13 (BE2), Mugiwara\_285 (BE2), PumpkinSpice\_15 (BE2), PumpkinSpice\_279 (BE2), Quarant19\_15 (BE2), Quarant19\_276 (BE2), SaltySpittoon\_15 (BE2), SaltySpittoon\_275 (BE2), Sollertia\_16 (BE2), Sollertia\_272 (BE2), Spelly\_15 (BE2), Spelly\_281 (BE2), Spilled\_282 (BE2), Stanimal\_16 (BE2), Stanimal\_271 (BE2), StarPlatinum\_14 (BE2), StarPlatinum\_284 (BE2), Starbow\_15 (BE2), Starbow\_272 (BE2), TomSawyer\_15 (BE2), TomSawyer\_280 (BE2), Wipeout\_14 (BE2), Wipeout\_268 (BE2), Yaboi\_16 (BE2), Yaboi\_277 (BE2),

### Summary by clusters:

There is one cluster represented in this pham: BE2

Info for manual annotations of cluster BE2:

- Start number 1 was manually annotated 3 times for cluster BE2.
- Start number 3 was manually annotated 45 times for cluster BE2.

### Gene Information:

Gene: Amabiko\_280 Start: 126516, Stop: 126355, Start Num: 3

Candidate Starts for Amabiko\_280:

(Start: 1 @126576 has 3 MA's), (2, 126573), (Start: 3 @126516 has 45 MA's), (8, 126432), (11, 126363),

Gene: Amabiko\_16 Start: 7690, Stop: 7529, Start Num: 3

Candidate Starts for Amabiko\_16:

(Start: 1 @7750 has 3 MA's), (2, 7747), (Start: 3 @7690 has 45 MA's), (8, 7606), (11, 7537),

Gene: Battuta\_15 Start: 7690, Stop: 7529, Start Num: 3

Candidate Starts for Battuta\_15:

(Start: 1 @7750 has 3 MA's), (2, 7747), (Start: 3 @7690 has 45 MA's), (8, 7606), (11, 7537),

Gene: Battuta\_272 Start: 125845, Stop: 125684, Start Num: 3

Candidate Starts for Battuta\_272:

(Start: 1 @125905 has 3 MA's), (2, 125902), (Start: 3 @125845 has 45 MA's), (8, 125761), (11, 125692),

Gene: Birchlyn\_12 Start: 5543, Stop: 5382, Start Num: 3

Candidate Starts for Birchlyn\_12:

(Start: 1 @5603 has 3 MA's), (2, 5600), (Start: 3 @5543 has 45 MA's), (8, 5459), (11, 5390),

Gene: Birchlyn\_272 Start: 121694, Stop: 121473, Start Num: 1

Candidate Starts for Birchlyn\_272:

(Start: 1 @121694 has 3 MA's), (2, 121691), (Start: 3 @121634 has 45 MA's), (8, 121550), (11, 121481),

Gene: BoomerJR\_271 Start: 126454, Stop: 126296, Start Num: 3

Candidate Starts for BoomerJR\_271:

(Start: 3 @126454 has 45 MA's), (7, 126388),

Gene: BoomerJR\_16 Start: 7666, Stop: 7508, Start Num: 3

Candidate Starts for BoomerJR\_16:

(Start: 3 @7666 has 45 MA's), (7, 7600),

Gene: Bordeaux\_15 Start: 7690, Stop: 7529, Start Num: 3

Candidate Starts for Bordeaux\_15:

(Start: 1 @7750 has 3 MA's), (2, 7747), (Start: 3 @7690 has 45 MA's), (8, 7606), (11, 7537),

Gene: Bordeaux\_272 Start: 126428, Stop: 126267, Start Num: 3

Candidate Starts for Bordeaux\_272:

(Start: 1 @126488 has 3 MA's), (2, 126485), (Start: 3 @126428 has 45 MA's), (8, 126344), (11, 126275),

Gene: CeilingFan\_14 Start: 7361, Stop: 7140, Start Num: 1

Candidate Starts for CeilingFan\_14:

(Start: 1 @7361 has 3 MA's), (2, 7358), (Start: 3 @7301 has 45 MA's), (8, 7217), (11, 7148),

Gene: CeilingFan\_288 Start: 127968, Stop: 127747, Start Num: 1

Candidate Starts for CeilingFan\_288:

(Start: 1 @127968 has 3 MA's), (2, 127965), (Start: 3 @127908 has 45 MA's), (8, 127824), (11, 127755),

Gene: Enygma\_281 Start: 129375, Stop: 129214, Start Num: 3

Candidate Starts for Enygma\_281:

(Start: 3 @129375 has 45 MA's), (8, 129291), (10, 129231), (11, 129222),

Gene: Enygma\_13 Start: 6951, Stop: 6790, Start Num: 3

Candidate Starts for Enygma\_13:

(Start: 3 @6951 has 45 MA's), (8, 6867), (10, 6807), (11, 6798),

Gene: Genie2\_16 Start: 7666, Stop: 7508, Start Num: 3

Candidate Starts for Genie2\_16:

(Start: 3 @7666 has 45 MA's), (7, 7600),

Gene: Genie2\_271 Start: 126567, Stop: 126409, Start Num: 3

Candidate Starts for Genie2\_271:

(Start: 3 @126567 has 45 MA's), (7, 126501),

Gene: Gibbi\_16 Start: 7301, Stop: 7140, Start Num: 3

Candidate Starts for Gibbi\_16:

(Start: 1 @7361 has 3 MA's), (2, 7358), (Start: 3 @7301 has 45 MA's), (8, 7217), (11, 7148),

Gene: Gibbi\_287 Start: 127401, Stop: 127240, Start Num: 3

Candidate Starts for Gibbi\_287:

(Start: 1 @127461 has 3 MA's), (2, 127458), (Start: 3 @127401 has 45 MA's), (8, 127317), (11, 127248),

Gene: IchabodCrane\_14 Start: 7298, Stop: 7137, Start Num: 3

Candidate Starts for IchabodCrane\_14:

(Start: 1 @7358 has 3 MA's), (2, 7355), (Start: 3 @7298 has 45 MA's), (8, 7214), (11, 7145),

Gene: IchabodCrane\_267 Start: 125841, Stop: 125680, Start Num: 3

Candidate Starts for IchabodCrane\_267:

(Start: 1 @125901 has 3 MA's), (2, 125898), (Start: 3 @125841 has 45 MA's), (8, 125757), (11, 125688),

Gene: JimJam\_283 Start: 129285, Stop: 129064, Start Num: 1

Candidate Starts for JimJam\_283:

(Start: 1 @129285 has 3 MA's), (2, 129282), (Start: 3 @129225 has 45 MA's), (8, 129141), (11, 129072),

Gene: JimJam\_15 Start: 7689, Stop: 7528, Start Num: 3

Candidate Starts for JimJam\_15:

(Start: 1 @7749 has 3 MA's), (2, 7746), (Start: 3 @7689 has 45 MA's), (8, 7605), (11, 7536),

Gene: Jollison\_17 Start: 7690, Stop: 7529, Start Num: 3

Candidate Starts for Jollison\_17:

(Start: 1 @7750 has 3 MA's), (2, 7747), (Start: 3 @7690 has 45 MA's), (8, 7606), (11, 7537),

Gene: Jollison\_281 Start: 126365, Stop: 126204, Start Num: 3

Candidate Starts for Jollison\_281:

(Start: 1 @126425 has 3 MA's), (2, 126422), (Start: 3 @126365 has 45 MA's), (8, 126281), (11, 126212),

Gene: Karimac\_273 Start: 127011, Stop: 126850, Start Num: 3

Candidate Starts for Karimac\_273:

(Start: 1 @127071 has 3 MA's), (2, 127068), (Start: 3 @127011 has 45 MA's), (8, 126927), (11, 126858),

Gene: Karimac\_15 Start: 7692, Stop: 7531, Start Num: 3

Candidate Starts for Karimac\_15:

(Start: 1 @7752 has 3 MA's), (2, 7749), (Start: 3 @7692 has 45 MA's), (8, 7608), (11, 7539),

Gene: KentuckyRacer\_290 Start: 128753, Stop: 128592, Start Num: 3

Candidate Starts for KentuckyRacer\_290:

(Start: 1 @128813 has 3 MA's), (2, 128810), (Start: 3 @128753 has 45 MA's), (8, 128669), (11, 128600),

Gene: KentuckyRacer\_16 Start: 7302, Stop: 7141, Start Num: 3

Candidate Starts for KentuckyRacer\_16:

(Start: 1 @7362 has 3 MA's), (2, 7359), (Start: 3 @7302 has 45 MA's), (8, 7218), (11, 7149),

Gene: LukeCage\_277 Start: 128130, Stop: 127972, Start Num: 3

Candidate Starts for LukeCage\_277:

(Start: 3 @128130 has 45 MA's),

Gene: LukeCage\_14 Start: 7226, Stop: 7068, Start Num: 3

Candidate Starts for LukeCage\_14:

(Start: 3 @7226 has 45 MA's),

Gene: MindFlayer\_266 Start: 125360, Stop: 125199, Start Num: 3

Candidate Starts for MindFlayer\_266:

(Start: 1 @125420 has 3 MA's), (2, 125417), (Start: 3 @125360 has 45 MA's), (8, 125276), (11, 125207),

Gene: MindFlayer\_14 Start: 7300, Stop: 7139, Start Num: 3

Candidate Starts for MindFlayer\_14:

(Start: 1 @7360 has 3 MA's), (2, 7357), (Start: 3 @7300 has 45 MA's), (8, 7216), (11, 7147),

Gene: Mugiware\_13 Start: 6956, Stop: 6789, Start Num: 3

Candidate Starts for Mugiware\_13:

(Start: 3 @6956 has 45 MA's), (5, 6899), (6, 6893), (9, 6821),

Gene: Mugiware\_285 Start: 128341, Stop: 128174, Start Num: 3

Candidate Starts for Mugiware\_285:

(Start: 3 @128341 has 45 MA's), (5, 128284), (6, 128278), (9, 128206),

Gene: PumpkinSpice\_15 Start: 7690, Stop: 7529, Start Num: 3

Candidate Starts for PumpkinSpice\_15:

(Start: 1 @7750 has 3 MA's), (2, 7747), (Start: 3 @7690 has 45 MA's), (8, 7606), (11, 7537),

Gene: PumpkinSpice\_279 Start: 127582, Stop: 127421, Start Num: 3

Candidate Starts for PumpkinSpice\_279:

(Start: 1 @127642 has 3 MA's), (2, 127639), (Start: 3 @127582 has 45 MA's), (8, 127498), (11, 127429),

Gene: Quaran19\_15 Start: 7690, Stop: 7529, Start Num: 3

Candidate Starts for Quaran19\_15:

(Start: 1 @7750 has 3 MA's), (2, 7747), (Start: 3 @7690 has 45 MA's), (8, 7606), (11, 7537),

Gene: Quaran19\_276 Start: 126872, Stop: 126711, Start Num: 3

Candidate Starts for Quaran19\_276:

(Start: 1 @126932 has 3 MA's), (2, 126929), (Start: 3 @126872 has 45 MA's), (8, 126788), (11, 126719),

Gene: SaltySpittoon\_275 Start: 125954, Stop: 125793, Start Num: 3  
Candidate Starts for SaltySpittoon\_275:  
(Start: 1 @126014 has 3 MA's), (2, 126011), (Start: 3 @125954 has 45 MA's), (8, 125870), (11, 125801),

Gene: SaltySpittoon\_15 Start: 7690, Stop: 7529, Start Num: 3  
Candidate Starts for SaltySpittoon\_15:  
(Start: 1 @7750 has 3 MA's), (2, 7747), (Start: 3 @7690 has 45 MA's), (8, 7606), (11, 7537),

Gene: Sollertia\_16 Start: 7666, Stop: 7508, Start Num: 3  
Candidate Starts for Sollertia\_16:  
(Start: 3 @7666 has 45 MA's), (7, 7600),

Gene: Sollertia\_272 Start: 126556, Stop: 126398, Start Num: 3  
Candidate Starts for Sollertia\_272:  
(Start: 3 @126556 has 45 MA's), (7, 126490),

Gene: Spelly\_15 Start: 7690, Stop: 7529, Start Num: 3  
Candidate Starts for Spelly\_15:  
(Start: 1 @7750 has 3 MA's), (2, 7747), (Start: 3 @7690 has 45 MA's), (8, 7606), (11, 7537),

Gene: Spelly\_281 Start: 126494, Stop: 126333, Start Num: 3  
Candidate Starts for Spelly\_281:  
(Start: 1 @126554 has 3 MA's), (2, 126551), (Start: 3 @126494 has 45 MA's), (8, 126410), (11, 126341),

Gene: Spilled\_282 Start: 127769, Stop: 127608, Start Num: 3  
Candidate Starts for Spilled\_282:  
(Start: 1 @127829 has 3 MA's), (2, 127826), (Start: 3 @127769 has 45 MA's), (8, 127685), (11, 127616),

Gene: Spilled\_14 Start: 7360, Stop: 7139, Start Num: 1  
Candidate Starts for Spilled\_14:  
(Start: 1 @7360 has 3 MA's), (2, 7357), (Start: 3 @7300 has 45 MA's), (8, 7216), (11, 7147),

Gene: Stanimal\_271 Start: 126940, Stop: 126782, Start Num: 3  
Candidate Starts for Stanimal\_271:  
(Start: 3 @126940 has 45 MA's), (7, 126874),

Gene: Stanimal\_16 Start: 7666, Stop: 7508, Start Num: 3  
Candidate Starts for Stanimal\_16:  
(Start: 3 @7666 has 45 MA's), (7, 7600),

Gene: StarPlatinum\_284 Start: 129073, Stop: 128915, Start Num: 3  
Candidate Starts for StarPlatinum\_284:  
(Start: 3 @129073 has 45 MA's), (4, 129034),

Gene: StarPlatinum\_14 Start: 7386, Stop: 7228, Start Num: 3  
Candidate Starts for StarPlatinum\_14:  
(Start: 3 @7386 has 45 MA's), (4, 7347),

Gene: Starbow\_15 Start: 7690, Stop: 7529, Start Num: 3  
Candidate Starts for Starbow\_15:

(Start: 1 @7750 has 3 MA's), (2, 7747), (Start: 3 @7690 has 45 MA's), (8, 7606), (11, 7537),

Gene: Starbow\_272 Start: 126538, Stop: 126377, Start Num: 3

Candidate Starts for Starbow\_272:

(Start: 1 @126598 has 3 MA's), (2, 126595), (Start: 3 @126538 has 45 MA's), (8, 126454), (11, 126385),

Gene: TomSawyer\_15 Start: 7283, Stop: 7122, Start Num: 3

Candidate Starts for TomSawyer\_15:

(Start: 1 @7343 has 3 MA's), (2, 7340), (Start: 3 @7283 has 45 MA's), (8, 7199), (11, 7130),

Gene: TomSawyer\_280 Start: 129062, Stop: 128901, Start Num: 3

Candidate Starts for TomSawyer\_280:

(Start: 1 @129122 has 3 MA's), (2, 129119), (Start: 3 @129062 has 45 MA's), (8, 128978), (11, 128909),

Gene: Wipeout\_268 Start: 128036, Stop: 127875, Start Num: 3

Candidate Starts for Wipeout\_268:

(Start: 1 @128096 has 3 MA's), (2, 128093), (Start: 3 @128036 has 45 MA's), (8, 127952), (11, 127883),

Gene: Wipeout\_14 Start: 7305, Stop: 7144, Start Num: 3

Candidate Starts for Wipeout\_14:

(Start: 1 @7365 has 3 MA's), (2, 7362), (Start: 3 @7305 has 45 MA's), (8, 7221), (11, 7152),

Gene: Yaboi\_277 Start: 126484, Stop: 126326, Start Num: 3

Candidate Starts for Yaboi\_277:

(Start: 3 @126484 has 45 MA's), (7, 126418),

Gene: Yaboi\_16 Start: 7666, Stop: 7508, Start Num: 3

Candidate Starts for Yaboi\_16:

(Start: 3 @7666 has 45 MA's), (7, 7600),