



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 300198 Report

This analysis was run 06/08/26 on database version 649.

Pham number 300198 has 40 members, 9 are drafts.

Phages represented in each track:

- Track 1 : Niktson\_65, ElephantMan\_65, Acai\_65
- Track 2 : Westerlin\_64
- Track 3 : AreFloNak\_68, Nivinsha\_68
- Track 4 : Brunswick\_66
- Track 5 : ScienceWizSam\_66
- Track 6 : Gordon\_62
- Track 7 : Tatanka\_60
- Track 8 : CapnMurica\_62
- Track 9 : Breylor17\_64, Nightmare\_66
- Track 10 : Tenno\_65, Issa\_63
- Track 11 : Hemma\_64
- Track 12 : DevitoJr\_64, Synepsis\_63
- Track 13 : Darby\_63
- Track 14 : Trustiboi\_64
- Track 15 : Teacup\_66
- Track 16 : CastorTray\_68
- Track 17 : Dinallo\_63
- Track 18 : MiniBagel\_64
- Track 19 : Tipton\_70, Bouchard\_69, Tokki\_74
- Track 20 : Phaby\_70
- Track 21 : Chlochlo\_69
- Track 22 : LilHuddy\_69
- Track 23 : Giantsbane\_68
- Track 24 : Shepard\_70
- Track 25 : Caterpillar\_64
- Track 26 : Anandi\_72
- Track 27 : MediumFry\_65
- Track 28 : Zippen\_70
- Track 29 : Inked\_70
- Track 30 : Onestar\_65
- Track 31 : Jazzy4900\_68, Sunny4976\_67

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

The start number called the most often in the published annotations is 1, it was called in 22 of the 31 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Acai\_65, Anandi\_72, AreFloNak\_68, Breylor17\_64, Brunswick\_66, CapnMurica\_62, CastorTray\_68, Darby\_63, DevitoJr\_64, Dinallo\_63, ElephantMan\_65, Giantsbane\_68, Gordon\_62, Issa\_63, MiniBagel\_64, Nightmare\_66, Niktson\_65, Nivinsha\_68, Phaby\_70, ScienceWizSam\_66, Shepard\_70, Synepsis\_63, Tatanka\_60, Teacup\_66, Tenno\_65, Trustiboi\_64, Westerlin\_64,

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

- Bouchard\_69, Chlochlo\_69, LilHuddy\_69, Tipton\_70, Tokki\_74,

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

- Caterpillar\_64, Hemma\_64, Inked\_70, Jazzy4900\_68, MediumFry\_65, Onestar\_65, Sunny4976\_67, Zippen\_70,

### Summary by start number:

Start 1:

- Found in 32 of 40 ( 80.0% ) of genes in pham
- Manual Annotations of this start: 22 of 31
- Called 84.4% of time when present
- Phage (with cluster) where this start called: Acai\_65 (AU1), Anandi\_72 (AU4), AreFloNak\_68 (AU1), Breylor17\_64 (AU1), Brunswick\_66 (AU1), CapnMurica\_62 (AU1), CastorTray\_68 (AU1), Darby\_63 (AU1), DevitoJr\_64 (AU1), Dinallo\_63 (AU1), ElephantMan\_65 (AU1), Giantsbane\_68 (AU2), Gordon\_62 (AU1), Issa\_63 (AU1), MiniBagel\_64 (AU1), Nightmare\_66 (AU1), Niktson\_65 (AU1), Nivinsha\_68 (AU1), Phaby\_70 (AU2), ScienceWizSam\_66 (AU1), Shepard\_70 (AU2), Synepsis\_63 (AU1), Tatanka\_60 (AU1), Teacup\_66 (AU1), Tenno\_65 (AU1), Trustiboi\_64 (AU1), Westerlin\_64 (AU1),

Start 2:

- Found in 13 of 40 ( 32.5% ) of genes in pham
- Manual Annotations of this start: 8 of 31
- Called 61.5% of time when present
- Phage (with cluster) where this start called: Bouchard\_69 (AU2), Caterpillar\_64 (AU4), Chlochlo\_69 (AU2), LilHuddy\_69 (AU2), MediumFry\_65 (AU4), Tipton\_70 (AU2), Tokki\_74 (AU2), Zippen\_70 (AU7),

Start 3:

- Found in 1 of 40 ( 2.5% ) of genes in pham
- Manual Annotations of this start: 1 of 31
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Inked\_70 (AU7),

Start 4:

- Found in 4 of 40 ( 10.0% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Hemma\_64 (AU1), Jazzy4900\_68 (FI), Onestar\_65 (AW), Sunny4976\_67 (FI),

## Summary by clusters:

There are 6 clusters represented in this pham: AW, AU1, AU2, AU4, AU7, FI,

Info for manual annotations of cluster AU1:

- Start number 1 was manually annotated 18 times for cluster AU1.

Info for manual annotations of cluster AU2:

- Start number 1 was manually annotated 3 times for cluster AU2.
- Start number 2 was manually annotated 5 times for cluster AU2.

Info for manual annotations of cluster AU4:

- Start number 1 was manually annotated 1 time for cluster AU4.
- Start number 2 was manually annotated 2 times for cluster AU4.

Info for manual annotations of cluster AU7:

- Start number 2 was manually annotated 1 time for cluster AU7.
- Start number 3 was manually annotated 1 time for cluster AU7.

## Gene Information:

Gene: Acai\_65 Start: 45068, Stop: 45805, Start Num: 1

Candidate Starts for Acai\_65:

(Start: 1 @45068 has 22 MA's), (Start: 2 @45071 has 8 MA's), (8, 45113), (11, 45173), (14, 45197), (22, 45323), (31, 45482), (34, 45542), (35, 45545), (39, 45572), (41, 45623), (44, 45647), (52, 45773),

Gene: Anandi\_72 Start: 45579, Stop: 46286, Start Num: 1

Candidate Starts for Anandi\_72:

(Start: 1 @45579 has 22 MA's), (11, 45678), (22, 45828), (23, 45831), (44, 46146), (50, 46230),

Gene: AreFloNak\_68 Start: 45124, Stop: 45852, Start Num: 1

Candidate Starts for AreFloNak\_68:

(Start: 1 @45124 has 22 MA's), (5, 45136), (7, 45166), (11, 45235), (17, 45304), (22, 45385), (30, 45514), (31, 45535), (34, 45595), (44, 45697), (48, 45760),

Gene: Bouchard\_69 Start: 45738, Stop: 46451, Start Num: 2

Candidate Starts for Bouchard\_69:

(Start: 1 @45735 has 22 MA's), (Start: 2 @45738 has 8 MA's), (7, 45777), (11, 45846), (14, 45870), (29, 46125), (44, 46305),

Gene: Breylor17\_64 Start: 45466, Stop: 46245, Start Num: 1

Candidate Starts for Breylor17\_64:

(Start: 1 @45466 has 22 MA's), (5, 45478), (7, 45508), (11, 45577), (22, 45727), (31, 45919), (35, 45982), (52, 46213),

Gene: Brunswick\_66 Start: 44911, Stop: 45648, Start Num: 1

Candidate Starts for Brunswick\_66:

(Start: 1 @44911 has 22 MA's), (8, 44956), (11, 45016), (14, 45040), (31, 45325), (35, 45388), (36, 45397), (44, 45490),

Gene: CapnMurica\_62 Start: 45652, Stop: 46386, Start Num: 1

Candidate Starts for CapnMurica\_62:

(Start: 1 @45652 has 22 MA's), (7, 45688), (8, 45697), (11, 45757), (14, 45781), (16, 45817), (31, 46066), (34, 46126), (35, 46129), (41, 46207), (52, 46354),

Gene: CastorTray\_68 Start: 45655, Stop: 46434, Start Num: 1

Candidate Starts for CastorTray\_68:

(Start: 1 @45655 has 22 MA's), (5, 45667), (7, 45697), (11, 45766), (22, 45916), (31, 46108), (35, 46171),

Gene: Caterpillar\_64 Start: 44546, Stop: 45283, Start Num: 2

Candidate Starts for Caterpillar\_64:

(Start: 2 @44546 has 8 MA's), (7, 44582), (11, 44651), (17, 44720), (22, 44801), (40, 45083), (42, 45101), (44, 45122), (45, 45149),

Gene: Chlochlo\_69 Start: 45265, Stop: 45984, Start Num: 2

Candidate Starts for Chlochlo\_69:

(Start: 1 @45262 has 22 MA's), (Start: 2 @45265 has 8 MA's), (7, 45304), (11, 45373), (14, 45397), (29, 45652), (44, 45832), (52, 45952),

Gene: Darby\_63 Start: 44701, Stop: 45429, Start Num: 1

Candidate Starts for Darby\_63:

(Start: 1 @44701 has 22 MA's), (7, 44743), (11, 44812), (22, 44962), (31, 45112), (39, 45202), (48, 45337),

Gene: DevitoJr\_64 Start: 45087, Stop: 45815, Start Num: 1

Candidate Starts for DevitoJr\_64:

(Start: 1 @45087 has 22 MA's), (7, 45129), (11, 45198), (22, 45348), (30, 45477), (31, 45498), (34, 45558), (44, 45660), (48, 45723),

Gene: Dinallo\_63 Start: 45962, Stop: 46699, Start Num: 1

Candidate Starts for Dinallo\_63:

(Start: 1 @45962 has 22 MA's), (8, 46007), (11, 46067), (14, 46091), (16, 46127), (31, 46376), (34, 46436), (35, 46439), (41, 46517),

Gene: ElephantMan\_65 Start: 45541, Stop: 46278, Start Num: 1

Candidate Starts for ElephantMan\_65:

(Start: 1 @45541 has 22 MA's), (Start: 2 @45544 has 8 MA's), (8, 45586), (11, 45646), (14, 45670), (22, 45796), (31, 45955), (34, 46015), (35, 46018), (39, 46045), (41, 46096), (44, 46120), (52, 46246),

Gene: Giantsbane\_68 Start: 44242, Stop: 44979, Start Num: 1

Candidate Starts for Giantsbane\_68:

(Start: 1 @44242 has 22 MA's), (7, 44281), (11, 44350), (14, 44374), (15, 44398), (43, 44806), (46, 44872), (52, 44953),

Gene: Gordon\_62 Start: 45579, Stop: 46307, Start Num: 1

Candidate Starts for Gordon\_62:

(Start: 1 @45579 has 22 MA's), (7, 45621), (11, 45690), (22, 45840), (31, 45990), (39, 46080), (44, 46152), (48, 46215),

Gene: Hemma\_64 Start: 42764, Stop: 43462, Start Num: 4

Candidate Starts for Hemma\_64:

(4, 42764), (10, 42839), (11, 42863), (18, 42935), (20, 42992), (28, 43085), (30, 43136), (32, 43202), (33, 43211), (36, 43229), (37, 43232), (45, 43346), (51, 43433),

Gene: Inked\_70 Start: 46130, Stop: 46858, Start Num: 3

Candidate Starts for Inked\_70:

(Start: 3 @46130 has 1 MA's), (7, 46163), (9, 46178), (12, 46238), (17, 46301), (22, 46382), (34, 46601), (35, 46604), (44, 46703), (49, 46790), (52, 46826),

Gene: Issa\_63 Start: 44747, Stop: 45481, Start Num: 1

Candidate Starts for Issa\_63:

(Start: 1 @44747 has 22 MA's), (8, 44792), (11, 44852), (14, 44876), (16, 44912), (31, 45161), (34, 45221), (35, 45224), (41, 45302), (52, 45449),

Gene: Jazzy4900\_68 Start: 45796, Stop: 46485, Start Num: 4

Candidate Starts for Jazzy4900\_68:

(4, 45796), (13, 45907), (32, 46219), (33, 46228), (36, 46246), (37, 46249), (38, 46258), (42, 46315), (47, 46396),

Gene: LilHuddy\_69 Start: 45361, Stop: 46110, Start Num: 2

Candidate Starts for LilHuddy\_69:

(Start: 1 @45358 has 22 MA's), (Start: 2 @45361 has 8 MA's), (7, 45400), (11, 45469), (25, 45634), (31, 45790), (33, 45844), (35, 45853), (43, 45931), (46, 45997),

Gene: MediumFry\_65 Start: 44842, Stop: 45561, Start Num: 2

Candidate Starts for MediumFry\_65:

(Start: 2 @44842 has 8 MA's), (6, 44866), (7, 44878), (11, 44947), (17, 45016), (19, 45052), (22, 45097), (31, 45256), (35, 45319), (37, 45331),

Gene: MiniBagel\_64 Start: 45643, Stop: 46377, Start Num: 1

Candidate Starts for MiniBagel\_64:

(Start: 1 @45643 has 22 MA's), (8, 45688), (11, 45748), (14, 45772), (16, 45808), (31, 46057), (35, 46120), (41, 46198), (52, 46345),

Gene: Nightmare\_66 Start: 45941, Stop: 46720, Start Num: 1

Candidate Starts for Nightmare\_66:

(Start: 1 @45941 has 22 MA's), (5, 45953), (7, 45983), (11, 46052), (22, 46202), (31, 46394), (35, 46457), (52, 46688),

Gene: Niktson\_65 Start: 45541, Stop: 46278, Start Num: 1

Candidate Starts for Niktson\_65:

(Start: 1 @45541 has 22 MA's), (Start: 2 @45544 has 8 MA's), (8, 45586), (11, 45646), (14, 45670), (22, 45796), (31, 45955), (34, 46015), (35, 46018), (39, 46045), (41, 46096), (44, 46120), (52, 46246),

Gene: Nivinsha\_68 Start: 45124, Stop: 45852, Start Num: 1

Candidate Starts for Nivinsha\_68:

(Start: 1 @45124 has 22 MA's), (5, 45136), (7, 45166), (11, 45235), (17, 45304), (22, 45385), (30, 45514), (31, 45535), (34, 45595), (44, 45697), (48, 45760),

Gene: Onestar\_65 Start: 42874, Stop: 43788, Start Num: 4

Candidate Starts for Onestar\_65:

(4, 42874), (7, 42904), (11, 42973), (22, 43123), (24, 43153), (27, 43279), (28, 43345), (35, 43480), (42, 43558), (53, 43720),

Gene: Phaby\_70 Start: 45919, Stop: 46635, Start Num: 1

Candidate Starts for Phaby\_70:

(Start: 1 @45919 has 22 MA's), (7, 45958), (11, 46027), (25, 46192), (28, 46276), (29, 46309), (31, 46348), (39, 46438), (44, 46489),

Gene: ScienceWizSam\_66 Start: 45286, Stop: 46014, Start Num: 1

Candidate Starts for ScienceWizSam\_66:

(Start: 1 @45286 has 22 MA's), (5, 45298), (7, 45328), (11, 45397), (22, 45547), (30, 45676), (31, 45697), (34, 45757), (44, 45859),

Gene: Shepard\_70 Start: 45217, Stop: 45960, Start Num: 1

Candidate Starts for Shepard\_70:

(Start: 1 @45217 has 22 MA's), (Start: 2 @45220 has 8 MA's), (7, 45259), (11, 45328), (21, 45469), (26, 45523), (33, 45700), (35, 45709), (40, 45769), (46, 45853),

Gene: Sunny4976\_67 Start: 45796, Stop: 46485, Start Num: 4

Candidate Starts for Sunny4976\_67:

(4, 45796), (13, 45907), (32, 46219), (33, 46228), (36, 46246), (37, 46249), (38, 46258), (42, 46315), (47, 46396),

Gene: Synopsis\_63 Start: 45054, Stop: 45782, Start Num: 1

Candidate Starts for Synopsis\_63:

(Start: 1 @45054 has 22 MA's), (7, 45096), (11, 45165), (22, 45315), (30, 45444), (31, 45465), (34, 45525), (44, 45627), (48, 45690),

Gene: Tatanka\_60 Start: 45190, Stop: 45918, Start Num: 1

Candidate Starts for Tatanka\_60:

(Start: 1 @45190 has 22 MA's), (5, 45202), (7, 45232), (11, 45301), (22, 45451), (31, 45601), (44, 45763), (48, 45826),

Gene: Teacup\_66 Start: 45620, Stop: 46357, Start Num: 1

Candidate Starts for Teacup\_66:

(Start: 1 @45620 has 22 MA's), (Start: 2 @45623 has 8 MA's), (8, 45665), (11, 45725), (14, 45749), (17, 45794), (31, 46034), (34, 46094), (35, 46097), (39, 46124), (41, 46175), (44, 46199),

Gene: Tenno\_65 Start: 45707, Stop: 46441, Start Num: 1

Candidate Starts for Tenno\_65:

(Start: 1 @45707 has 22 MA's), (8, 45752), (11, 45812), (14, 45836), (16, 45872), (31, 46121), (34, 46181), (35, 46184), (41, 46262), (52, 46409),

Gene: Tipton\_70 Start: 45759, Stop: 46472, Start Num: 2

Candidate Starts for Tipton\_70:

(Start: 1 @45756 has 22 MA's), (Start: 2 @45759 has 8 MA's), (7, 45798), (11, 45867), (14, 45891), (29, 46146), (44, 46326),

Gene: Tokki\_74 Start: 45790, Stop: 46503, Start Num: 2

Candidate Starts for Tokki\_74:

(Start: 1 @45787 has 22 MA's), (Start: 2 @45790 has 8 MA's), (7, 45829), (11, 45898), (14, 45922), (29, 46177), (44, 46357),

Gene: Trustiboi\_64 Start: 45309, Stop: 46037, Start Num: 1

Candidate Starts for Trustiboi\_64:

(Start: 1 @45309 has 22 MA's), (5, 45321), (7, 45351), (11, 45420), (22, 45570), (30, 45699), (31, 45720), (34, 45780), (44, 45882), (48, 45945),

Gene: Westerlin\_64 Start: 46398, Stop: 47126, Start Num: 1

Candidate Starts for Westerlin\_64:

(Start: 1 @46398 has 22 MA's), (7, 46440), (11, 46509), (22, 46659), (30, 46788), (34, 46869), (39, 46899), (48, 47034),

Gene: Zippen\_70 Start: 46004, Stop: 46729, Start Num: 2

Candidate Starts for Zippen\_70:

(Start: 2 @46004 has 8 MA's), (7, 46037), (11, 46106), (17, 46175), (34, 46466), (35, 46469), (42, 46547), (44, 46568), (45, 46595), (52, 46697),