



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 223332 Report

This analysis was run 03/28/25 on database version 593.

Pham number 223332 has 30 members, 11 are drafts.

Phages represented in each track:

- Track 1 : LilMcDreamy\_91
- Track 2 : Cooper\_87
- Track 3 : Xincheng\_79
- Track 4 : Hydro\_86
- Track 5 : RawrgerThat\_85, Mithril\_85
- Track 6 : Hangman\_86
- Track 7 : Apex\_87
- Track 8 : Mudslide\_86, Waleliano\_85, BrownCNA\_87
- Track 9 : Frederick\_87, Zemanar\_85
- Track 10 : Stinger\_84
- Track 11 : Fanaw\_81, Lolalove\_87
- Track 12 : Prince\_85
- Track 13 : Magpie\_82
- Track 14 : Fortunato\_84
- Track 15 : JaguarMi\_80
- Track 16 : VioletZ\_88
- Track 17 : Shenyu\_93, Nangang\_93, DigitDog\_94
- Track 18 : 39HC\_094
- Track 19 : KayaCho\_89
- Track 20 : Jolie1\_091
- Track 21 : 40BC\_094
- Track 22 : Hosp\_089
- Track 23 : ForDig\_91

### ***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 17 of the 19 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Apex\_87, BrownCNA\_87, Cooper\_87, DigitDog\_94, Fanaw\_81, Fortunato\_84, Frederick\_87, Hangman\_86, Hydro\_86, JaguarMi\_80, KayaCho\_89, Lolalove\_87, Magpie\_82, Mithril\_85, Mudslide\_86, Nangang\_93, Prince\_85, RawrgerThat\_85, Shenyu\_93, VioletZ\_88, Waleliano\_85, Xincheng\_79, Zemanar\_85,

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

- Stinger\_84,

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

- 39HC\_094, 40BC\_094, ForDig\_91, Hosp\_089, Jolie1\_091, LilMcDreamy\_91,

### **Summary by start number:**

Start 16:

- Found in 6 of 30 ( 20.0% ) of genes in pham
- No Manual Annotations of this start.
- Called 33.3% of time when present
- Phage (with cluster) where this start called: 39HC\_094 (B6), Hosp\_089 (B6),

Start 17:

- Found in 19 of 30 ( 63.3% ) of genes in pham
- Manual Annotations of this start: 1 of 19
- Called 5.3% of time when present
- Phage (with cluster) where this start called: Stinger\_84 (B4),

Start 20:

- Found in 6 of 30 ( 20.0% ) of genes in pham
- No Manual Annotations of this start.
- Called 33.3% of time when present
- Phage (with cluster) where this start called: 40BC\_094 (B6), Jolie1\_091 (B6),

Start 21:

- Found in 6 of 30 ( 20.0% ) of genes in pham
- Manual Annotations of this start: 1 of 19
- Called 33.3% of time when present
- Phage (with cluster) where this start called: ForDig\_91 (B6), LilMcDreamy\_91 (B12),

Start 22:

- Found in 24 of 30 ( 80.0% ) of genes in pham
- Manual Annotations of this start: 17 of 19
- Called 95.8% of time when present
- Phage (with cluster) where this start called: Apex\_87 (B4), BrownCNA\_87 (B4), Cooper\_87 (B4), DigitDog\_94 (B5), Fanaw\_81 (B4), Fortunato\_84 (B4), Frederick\_87 (B4), Hangman\_86 (B4), Hydro\_86 (B4), JaguarMi\_80 (B4), KayaCho\_89 (B6), Lolalove\_87 (B4), Maggie\_82 (B4), Mithril\_85 (B4), Mudslide\_86 (B4), Nangang\_93 (B5), Prince\_85 (B4), RawrgerThat\_85 (B4), Shenyu\_93 (B5), VioletZ\_88 (B4), Waleliano\_85 (B4), Xincheng\_79 (B4), Zemanar\_85 (B4),

### **Summary by clusters:**

There are 4 clusters represented in this pham: B4, B5, B6, B12,

Info for manual annotations of cluster B12:

- Start number 21 was manually annotated 1 time for cluster B12.

Info for manual annotations of cluster B4:

- Start number 17 was manually annotated 1 time for cluster B4.

- Start number 22 was manually annotated 16 times for cluster B4.

Info for manual annotations of cluster B6:

- Start number 22 was manually annotated 1 time for cluster B6.

### **Gene Information:**

Gene: 39HC\_094 Start: 68290, Stop: 67925, Start Num: 16

Candidate Starts for 39HC\_094:

(15, 68293), (16, 68290), (20, 68254), (Start: 21 @68218 has 1 MA's), (23, 68197), (27, 68149), (28, 68137), (34, 68080), (36, 68053), (41, 67996), (43, 67990), (45, 67966), (46, 67954),

Gene: 40BC\_094 Start: 68254, Stop: 67925, Start Num: 20

Candidate Starts for 40BC\_094:

(15, 68293), (16, 68290), (20, 68254), (Start: 21 @68218 has 1 MA's), (23, 68197), (27, 68149), (28, 68137), (34, 68080), (36, 68053), (41, 67996), (43, 67990), (45, 67966), (46, 67954),

Gene: Apex\_87 Start: 66047, Stop: 65745, Start Num: 22

Candidate Starts for Apex\_87:

(4, 66434), (6, 66308), (Start: 17 @66104 has 1 MA's), (Start: 22 @66047 has 17 MA's), (25, 66005), (27, 65972), (28, 65960), (31, 65930), (34, 65903), (35, 65879), (37, 65846), (39, 65840), (40, 65825), (41, 65813), (43, 65807), (44, 65798),

Gene: BrownCNA\_87 Start: 65995, Stop: 65693, Start Num: 22

Candidate Starts for BrownCNA\_87:

(2, 66586), (4, 66382), (6, 66256), (11, 66169), (12, 66139), (13, 66124), (Start: 17 @66052 has 1 MA's), (Start: 22 @65995 has 17 MA's), (25, 65953), (27, 65920), (28, 65908), (31, 65878), (34, 65851), (35, 65827), (37, 65794), (39, 65788), (40, 65773), (41, 65761), (43, 65755), (44, 65746),

Gene: Cooper\_87 Start: 65343, Stop: 65047, Start Num: 22

Candidate Starts for Cooper\_87:

(18, 65397), (Start: 22 @65343 has 17 MA's), (27, 65268), (28, 65256), (31, 65226), (34, 65199), (37, 65145), (41, 65112),

Gene: DigitDog\_94 Start: 68274, Stop: 67966, Start Num: 22

Candidate Starts for DigitDog\_94:

(Start: 22 @68274 has 17 MA's), (24, 68241), (28, 68193), (32, 68151), (39, 68076), (41, 68049),

Gene: Fanaw\_81 Start: 65582, Stop: 65280, Start Num: 22

Candidate Starts for Fanaw\_81:

(2, 66173), (4, 65969), (6, 65843), (11, 65756), (Start: 17 @65639 has 1 MA's), (Start: 22 @65582 has 17 MA's), (25, 65540), (27, 65507), (28, 65495), (31, 65465), (34, 65438), (35, 65414), (37, 65381), (39, 65375), (40, 65360), (41, 65348), (43, 65342), (44, 65333),

Gene: ForDig\_91 Start: 67502, Stop: 67209, Start Num: 21

Candidate Starts for ForDig\_91:

(16, 67574), (19, 67544), (20, 67538), (Start: 21 @67502 has 1 MA's), (23, 67481), (27, 67433), (28, 67421), (34, 67364), (36, 67337), (38, 67304), (41, 67280), (43, 67274), (45, 67250), (46, 67238),

Gene: Fortunato\_84 Start: 65374, Stop: 65072, Start Num: 22

Candidate Starts for Fortunato\_84:

(3, 65821), (4, 65761), (6, 65635), (11, 65548), (Start: 17 @65431 has 1 MA's), (Start: 22 @65374 has 17 MA's), (25, 65332), (27, 65299), (28, 65287), (31, 65257), (34, 65230), (35, 65206), (37, 65173), (39, 65167), (40, 65152), (41, 65140), (43, 65134), (44, 65125),

Gene: Frederick\_87 Start: 65861, Stop: 65559, Start Num: 22

Candidate Starts for Frederick\_87:

(4, 66248), (6, 66122), (Start: 17 @65918 has 1 MA's), (Start: 22 @65861 has 17 MA's), (25, 65819), (27, 65786), (28, 65774), (31, 65744), (35, 65693), (37, 65660), (39, 65654), (40, 65639), (41, 65627), (43, 65621), (44, 65612),

Gene: Hangman\_86 Start: 66073, Stop: 65771, Start Num: 22

Candidate Starts for Hangman\_86:

(4, 66460), (6, 66334), (Start: 17 @66130 has 1 MA's), (Start: 22 @66073 has 17 MA's), (25, 66031), (27, 65998), (28, 65986), (31, 65956), (34, 65929), (35, 65905), (37, 65872), (39, 65866), (40, 65851), (41, 65839), (43, 65833), (44, 65824),

Gene: Hosp\_089 Start: 65595, Stop: 65230, Start Num: 16

Candidate Starts for Hosp\_089:

(15, 65598), (16, 65595), (20, 65559), (Start: 21 @65523 has 1 MA's), (23, 65502), (27, 65454), (28, 65442), (34, 65385), (36, 65358), (41, 65301), (43, 65295), (45, 65271), (46, 65259),

Gene: Hydro\_86 Start: 65948, Stop: 65646, Start Num: 22

Candidate Starts for Hydro\_86:

(5, 66236), (Start: 17 @66005 has 1 MA's), (Start: 22 @65948 has 17 MA's), (25, 65906), (27, 65873), (28, 65861), (31, 65831), (34, 65804), (35, 65780), (37, 65747), (39, 65741), (40, 65726), (41, 65714), (43, 65708), (44, 65699),

Gene: JaguarMi\_80 Start: 65926, Stop: 65639, Start Num: 22

Candidate Starts for JaguarMi\_80:

(6, 66187), (7, 66178), (Start: 17 @65983 has 1 MA's), (Start: 22 @65926 has 17 MA's), (25, 65884), (27, 65851), (28, 65839), (30, 65824), (34, 65797), (37, 65740), (39, 65734), (40, 65719), (41, 65707), (43, 65701), (44, 65692),

Gene: Jolie1\_091 Start: 67627, Stop: 67298, Start Num: 20

Candidate Starts for Jolie1\_091:

(9, 67786), (10, 67780), (15, 67666), (16, 67663), (20, 67627), (Start: 21 @67591 has 1 MA's), (23, 67570), (27, 67522), (28, 67510), (34, 67453), (36, 67426), (38, 67393), (41, 67369), (43, 67363), (45, 67339), (46, 67327),

Gene: KayaCho\_89 Start: 67455, Stop: 67165, Start Num: 22

Candidate Starts for KayaCho\_89:

(14, 67539), (15, 67536), (16, 67533), (19, 67503), (20, 67497), (Start: 22 @67455 has 17 MA's), (26, 67392), (27, 67383), (28, 67371), (29, 67368), (33, 67323), (37, 67263), (39, 67257), (41, 67230), (44, 67215),

Gene: LilMcDreamy\_91 Start: 68544, Stop: 68251, Start Num: 21

Candidate Starts for LilMcDreamy\_91:

(Start: 21 @68544 has 1 MA's), (23, 68523), (27, 68475), (28, 68463), (42, 68319),

Gene: Lolalove\_87 Start: 65892, Stop: 65590, Start Num: 22

Candidate Starts for Lolalove\_87:

(2, 66483), (4, 66279), (6, 66153), (11, 66066), (Start: 17 @65949 has 1 MA's), (Start: 22 @65892 has 17 MA's), (25, 65850), (27, 65817), (28, 65805), (31, 65775), (34, 65748), (35, 65724), (37, 65691), (39, 65685), (40, 65670), (41, 65658), (43, 65652), (44, 65643),

Gene: Magpie\_82 Start: 65575, Stop: 65273, Start Num: 22

Candidate Starts for Magpie\_82:

(1, 66226), (4, 65962), (6, 65836), (11, 65749), (Start: 17 @65632 has 1 MA's), (Start: 22 @65575 has 17 MA's), (25, 65533), (27, 65500), (28, 65488), (31, 65458), (34, 65431), (35, 65407), (37, 65374), (39, 65368), (40, 65353), (41, 65341), (43, 65335), (44, 65326),

Gene: Mithril\_85 Start: 65732, Stop: 65430, Start Num: 22

Candidate Starts for Mithril\_85:

(3, 66179), (4, 66119), (6, 65993), (Start: 17 @65789 has 1 MA's), (Start: 22 @65732 has 17 MA's), (25, 65690), (27, 65657), (28, 65645), (31, 65615), (34, 65588), (35, 65564), (37, 65531), (39, 65525), (40, 65510), (41, 65498), (43, 65492), (44, 65483),

Gene: Mudslide\_86 Start: 66122, Stop: 65820, Start Num: 22

Candidate Starts for Mudslide\_86:

(2, 66713), (4, 66509), (6, 66383), (11, 66296), (12, 66266), (13, 66251), (Start: 17 @66179 has 1 MA's), (Start: 22 @66122 has 17 MA's), (25, 66080), (27, 66047), (28, 66035), (31, 66005), (34, 65978), (35, 65954), (37, 65921), (39, 65915), (40, 65900), (41, 65888), (43, 65882), (44, 65873),

Gene: Nangang\_93 Start: 68170, Stop: 67862, Start Num: 22

Candidate Starts for Nangang\_93:

(Start: 22 @68170 has 17 MA's), (24, 68137), (28, 68089), (32, 68047), (39, 67972), (41, 67945),

Gene: Prince\_85 Start: 65989, Stop: 65687, Start Num: 22

Candidate Starts for Prince\_85:

(4, 66376), (6, 66250), (Start: 17 @66046 has 1 MA's), (Start: 22 @65989 has 17 MA's), (25, 65947), (27, 65914), (28, 65902), (31, 65872), (34, 65845), (35, 65821), (37, 65788), (39, 65782), (40, 65767), (41, 65755), (43, 65749), (44, 65740),

Gene: RawrgerThat\_85 Start: 65580, Stop: 65278, Start Num: 22

Candidate Starts for RawrgerThat\_85:

(3, 66027), (4, 65967), (6, 65841), (Start: 17 @65637 has 1 MA's), (Start: 22 @65580 has 17 MA's), (25, 65538), (27, 65505), (28, 65493), (31, 65463), (34, 65436), (35, 65412), (37, 65379), (39, 65373), (40, 65358), (41, 65346), (43, 65340), (44, 65331),

Gene: Shenyu\_93 Start: 68168, Stop: 67860, Start Num: 22

Candidate Starts for Shenyu\_93:

(Start: 22 @68168 has 17 MA's), (24, 68135), (28, 68087), (32, 68045), (39, 67970), (41, 67943),

Gene: Stinger\_84 Start: 64428, Stop: 64096, Start Num: 17

Candidate Starts for Stinger\_84:

(8, 64629), (Start: 17 @64428 has 1 MA's), (Start: 22 @64374 has 17 MA's), (27, 64299), (28, 64287), (31, 64257), (34, 64230), (37, 64194), (39, 64188), (41, 64161), (44, 64146),

Gene: VioletZ\_88 Start: 66079, Stop: 65777, Start Num: 22

Candidate Starts for VioletZ\_88:

(4, 66466), (6, 66340), (Start: 17 @66136 has 1 MA's), (Start: 22 @66079 has 17 MA's), (25, 66037), (27, 66004), (28, 65992), (31, 65962), (34, 65935), (35, 65911), (37, 65878), (39, 65872), (40, 65857), (41, 65845), (43, 65839), (44, 65830),

Gene: Waleliano\_85 Start: 65747, Stop: 65445, Start Num: 22

Candidate Starts for Waleliano\_85:

(2, 66338), (4, 66134), (6, 66008), (11, 65921), (12, 65891), (13, 65876), (Start: 17 @65804 has 1 MA's), (Start: 22 @65747 has 17 MA's), (25, 65705), (27, 65672), (28, 65660), (31, 65630), (34, 65603), (35, 65579), (37, 65546), (39, 65540), (40, 65525), (41, 65513), (43, 65507), (44, 65498),

Gene: Xincheng\_79 Start: 65877, Stop: 65590, Start Num: 22

Candidate Starts for Xincheng\_79:

(6, 66138), (Start: 17 @65934 has 1 MA's), (Start: 22 @65877 has 17 MA's), (25, 65835), (27, 65802), (28, 65790), (30, 65775), (34, 65748), (37, 65691), (39, 65685), (40, 65670), (41, 65658), (43, 65652), (44, 65643),

Gene: Zemanar\_85 Start: 65760, Stop: 65458, Start Num: 22

Candidate Starts for Zemanar\_85:

(4, 66147), (6, 66021), (Start: 17 @65817 has 1 MA's), (Start: 22 @65760 has 17 MA's), (25, 65718), (27, 65685), (28, 65673), (31, 65643), (35, 65592), (37, 65559), (39, 65553), (40, 65538), (41, 65526), (43, 65520), (44, 65511),