# Pham 311735


1: Trine_55
2: Lton_54
3: Pepperoni_52
4: Invectra_62 + 3
5: Moosehead_58
6: OneDirection_52 + 2
7: InLimbo_56 + 2
8: Birdsong_73 + 5
9: Budski_80
10: BearBQ_75
11: Malisha_79
12: ODay_82
13: Kamaru_71
14: Phabuloso_81
15: Periwinkle_85
16: Kenna_71 + 1
17: Whitney_75
18: CheeseTouch_80
19: LitninMcQueen_77
20: ShawBrad_81
21: Getalong_78
22: Spooky_78
23: Apricot_73
24: Crater_73 + 2
25: Kuwabara_76
26: Sixama_7
27: BuzzLyseyear_44
28: Spikelee_42
29: VanLee_59
30: PhaoMing_61
31: GAL1_58

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 311735 Report

This analysis was run 06/27/26 on database version 652.

Pham number 311735 has 46 members, 6 are drafts.

Phages represented in each track:
• Track 1 : Trine_55
• Track 2 : Lton_54
• Track 3 : Pepperoni_52
• Track 4 : Invectra_62, Clark_59, Rizz_60, Samman98_60
• Track 5 : Moosehead_58
• Track 6 : OneDirection_52, Holliday_79, Leroy_74
• Track 7 : InLimbo_56, Morkie_59, PhorbesPhlower_55
• Track 8 : Birdsong_73, Asapag_74, Frickyeah_80, BotCity_80, Ecliptus_80, BENtherdunthat_78
• Track 9 : Budski_80
• Track 10 : BearBQ_75
• Track 11 : Malisha_79
• Track 12 : ODay_82
• Track 13 : Kamaru_71
• Track 14 : Phabuloso_81
• Track 15 : Periwinkle_85
• Track 16 : Kenna_71, Lutum_77
• Track 17 : Whitney_75
• Track 18 : CheeseTouch_80
• Track 19 : LitninMcQueen_77
• Track 20 : ShawBrad_81
• Track 21 : Getalong_78
• Track 22 : Spooky_78
• Track 23 : Apricot_73
• Track 24 : Crater_73, Horus_75, Phistory_72
• Track 25 : Kuwabara_76
• Track 26 : Sixama_7
• Track 27 : BuzzLyseyear_44
• Track 28 : Spikelee_42
• Track 29 : VanLee_59
• Track 30 : PhaoMing_61
• Track 31 : GAL1_58

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

The start number called the most often in the published annotations is 33, it was called in 24 of the 40 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Asapag_74, BENtherdunthat_78, BearBQ_75, Birdsong_73, BotCity_80, Budski_80, Ecliptus_80, Frickyeah_80, Getalong_78, Holliday_79, Kamaru_71, Kenna_71, Kuwabara_76, Leroy_74, LitninMcQueen_77, Lton_54, Lutum_77, ODay_82, OneDirection_52, Pepperoni_52, Periwinkle_85, Phabuloso_81, ShawBrad_81, Trine_55, VanLee_59, Whitney_75,

Genes that have the "Most Annotated" start but do not call it:
• CheeseTouch_80, PhaoMing_61,

Genes that do not have the "Most Annotated" start:
• Apricot_73, BuzzLyseyear_44, Clark_59, Crater_73, GAL1_58, Horus_75, InLimbo_56, Invectra_62, Malisha_79, Moosehead_58, Morkie_59, Phistory_72, PhorbesPhlower_55, Rizz_60, Samman98_60, Sixama_7, Spikelee_42, Spooky_78,

**Summary by start number:**

Start 27:
• Found in 2 of 46 ( 4.3% ) of genes in pham
• Manual Annotations of this start: 1 of 40
• Called 50.0% of time when present
• Phage (with cluster) where this start called: Spikelee_42 (F1),

Start 29:
• Found in 6 of 46 ( 13.0% ) of genes in pham
• No Manual Annotations of this start.
• Called 16.7% of time when present
• Phage (with cluster) where this start called: PhaoMing_61 (UNK),

Start 30:
• Found in 34 of 46 ( 73.9% ) of genes in pham
• Manual Annotations of this start: 6 of 40
• Called 17.6% of time when present
• Phage (with cluster) where this start called: Apricot_73 (DN3), CheeseTouch_80 (DN1), Crater_73 (DN3), Horus_75 (DN1), Phistory_72 (DN1), Sixama_7 (DS),

Start 33:
• Found in 28 of 46 ( 60.9% ) of genes in pham
• Manual Annotations of this start: 24 of 40
• Called 92.9% of time when present
• Phage (with cluster) where this start called: Asapag_74 (DN1), BENtherdunthat_78 (DN1), BearBQ_75 (DN), Birdsong_73 (DN), BotCity_80 (DN), Budski_80 (DN), Ecliptus_80 (DN), Frickyeah_80 (DN1), Getalong_78 (DN1), Holliday_79 (DN1), Kamaru_71 (DN1), Kenna_71 (DN1), Kuwabara_76 (DN4), Leroy_74 (DN1), LitninMcQueen_77 (DN1), Lton_54 (CZ), Lutum_77 (DN1), ODay_82 (DN), OneDirection_52 (CZ6), Pepperoni_52 (CZ), Periwinkle_85 (DN1), Phabuloso_81 (DN1), ShawBrad_81 (DN1), Trine_55 (CD), VanLee_59 (KA), Whitney_75 (DN1),

Start 34:

• Found in 11 of 46 ( 23.9% ) of genes in pham
• Manual Annotations of this start: 8 of 40
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Clark_59 (CZ4), GAL1_58 (singleton), InLimbo_56 (DH), Invectra_62 (CZ4), Malisha_79 (DN), Moosehead_58 (CZ6), Morkie_59 (DH), PhorbesPhlower_55 (DH), Rizz_60 (CZ4), Samman98_60 (CZ4), Spooky_78 (DN2),

Start 35:
• Found in 2 of 46 ( 4.3% ) of genes in pham
• Manual Annotations of this start: 1 of 40
• Called 50.0% of time when present
• Phage (with cluster) where this start called: BuzzLyseyear_44 (F1),

**Summary by clusters:**

There are 15 clusters represented in this pham: DN, F1, singleton, DH, DN4, CZ6, KA, CZ4, CD, CZ, DN1, DN3, DN2, UNK, DS,

Info for manual annotations of cluster CD:
•Start number 33 was manually annotated 1 time for cluster CD.

Info for manual annotations of cluster CZ:
•Start number 33 was manually annotated 2 times for cluster CZ.

Info for manual annotations of cluster CZ4:
•Start number 34 was manually annotated 3 times for cluster CZ4.

Info for manual annotations of cluster CZ6:
•Start number 33 was manually annotated 1 time for cluster CZ6.
•Start number 34 was manually annotated 1 time for cluster CZ6.

Info for manual annotations of cluster DH:
•Start number 34 was manually annotated 2 times for cluster DH.

Info for manual annotations of cluster DN:
•Start number 33 was manually annotated 6 times for cluster DN.
•Start number 34 was manually annotated 1 time for cluster DN.

Info for manual annotations of cluster DN1:
•Start number 30 was manually annotated 3 times for cluster DN1.
•Start number 33 was manually annotated 12 times for cluster DN1.

Info for manual annotations of cluster DN2:
•Start number 34 was manually annotated 1 time for cluster DN2.

Info for manual annotations of cluster DN3:
•Start number 30 was manually annotated 2 times for cluster DN3.

Info for manual annotations of cluster DN4:
•Start number 33 was manually annotated 1 time for cluster DN4.

Info for manual annotations of cluster DS:

•Start number 30 was manually annotated 1 time for cluster DS.

Info for manual annotations of cluster F1:
•Start number 27 was manually annotated 1 time for cluster F1.
•Start number 35 was manually annotated 1 time for cluster F1.

Info for manual annotations of cluster KA:
•Start number 33 was manually annotated 1 time for cluster KA.

### *Gene Information:*

Gene: Apricot_73 Start: 42951, Stop: 43250, Start Num: 30
Candidate Starts for Apricot_73:
(7, 42846), (18, 42906), (Start: 30 @42951 has 6 MA's), (43, 43029), (55, 43095), (56, 43107),

Gene: Asapag_74 Start: 43606, Stop: 43938, Start Num: 33
Candidate Starts for Asapag_74:
(25, 43579), (Start: 30 @43597 has 6 MA's), (Start: 33 @43606 has 24 MA's), (70, 43819),

Gene: BENtherdunthat_78 Start: 44652, Stop: 44984, Start Num: 33
Candidate Starts for BENtherdunthat_78:
(25, 44625), (Start: 30 @44643 has 6 MA's), (Start: 33 @44652 has 24 MA's), (70, 44865),

Gene: BearBQ_75 Start: 45677, Stop: 45961, Start Num: 33
Candidate Starts for BearBQ_75:
(14, 45602), (29, 45665), (Start: 30 @45668 has 6 MA's), (Start: 33 @45677 has 24 MA's), (43, 45743), (55, 45809), (56, 45821),

Gene: Birdsong_73 Start: 43342, Stop: 43674, Start Num: 33
Candidate Starts for Birdsong_73:
(25, 43315), (Start: 30 @43333 has 6 MA's), (Start: 33 @43342 has 24 MA's), (70, 43555),

Gene: BotCity_80 Start: 46160, Stop: 46492, Start Num: 33
Candidate Starts for BotCity_80:
(25, 46133), (Start: 30 @46151 has 6 MA's), (Start: 33 @46160 has 24 MA's), (70, 46373),

Gene: Budski_80 Start: 45490, Stop: 45795, Start Num: 33
Candidate Starts for Budski_80:
(24, 45463), (Start: 30 @45481 has 6 MA's), (Start: 33 @45490 has 24 MA's), (41, 45553), (43, 45556), (51, 45589), (55, 45622), (69, 45685), (74, 45703),

Gene: BuzzLyseyear_44 Start: 32289, Stop: 32008, Start Num: 35
Candidate Starts for BuzzLyseyear_44:
(9, 32382), (11, 32379), (13, 32376), (23, 32331), (Start: 27 @32316 has 1 MA's), (31, 32304), (Start: 35 @32289 has 1 MA's), (45, 32229), (54, 32187), (58, 32163), (67, 32115),

Gene: CheeseTouch_80 Start: 40886, Stop: 41182, Start Num: 30
Candidate Starts for CheeseTouch_80:
(4, 40742), (8, 40799), (12, 40817), (Start: 30 @40886 has 6 MA's), (Start: 33 @40895 has 24 MA's), (43, 40961), (55, 41027), (56, 41039),

Gene: Clark_59 Start: 39693, Stop: 39938, Start Num: 34
Candidate Starts for Clark_59:
(Start: 34 @39693 has 8 MA's), (37, 39732), (75, 39882),

Gene: Crater_73 Start: 43346, Stop: 43687, Start Num: 30
Candidate Starts for Crater_73:
(7, 43241), (18, 43301), (Start: 30 @43346 has 6 MA's), (43, 43424), (55, 43490), (66, 43553),

Gene: Ecliptus_80 Start: 46255, Stop: 46587, Start Num: 33
Candidate Starts for Ecliptus_80:
(25, 46228), (Start: 30 @46246 has 6 MA's), (Start: 33 @46255 has 24 MA's), (70, 46468),

Gene: Frickyeah_80 Start: 44783, Stop: 45115, Start Num: 33
Candidate Starts for Frickyeah_80:
(25, 44756), (Start: 30 @44774 has 6 MA's), (Start: 33 @44783 has 24 MA's), (70, 44996),

Gene: GAL1_58 Start: 39448, Stop: 39708, Start Num: 34
Candidate Starts for GAL1_58:
(Start: 34 @39448 has 8 MA's), (60, 39592),

Gene: Getalong_78 Start: 45864, Stop: 46163, Start Num: 33
Candidate Starts for Getalong_78:
(Start: 33 @45864 has 24 MA's), (40, 45918), (49, 45957), (57, 46014), (72, 46071),

Gene: Holliday_79 Start: 47725, Stop: 48021, Start Num: 33
Candidate Starts for Holliday_79:
(25, 47698), (Start: 30 @47716 has 6 MA's), (Start: 33 @47725 has 24 MA's), (43, 47791), (58, 47878), (64, 47896), (72, 47923),

Gene: Horus_75 Start: 45413, Stop: 45754, Start Num: 30
Candidate Starts for Horus_75:
(7, 45308), (18, 45368), (Start: 30 @45413 has 6 MA's), (43, 45491), (55, 45557), (66, 45620),

Gene: InLimbo_56 Start: 35600, Stop: 35902, Start Num: 34
Candidate Starts for InLimbo_56:
(16, 35528), (21, 35558), (26, 35576), (Start: 30 @35588 has 6 MA's), (32, 35591), (Start: 34 @35600 has 8 MA's), (38, 35648), (43, 35666), (49, 35687), (73, 35810),

Gene: Invectra_62 Start: 41266, Stop: 41511, Start Num: 34
Candidate Starts for Invectra_62:
(Start: 34 @41266 has 8 MA's), (37, 41305), (75, 41455),

Gene: Kamaru_71 Start: 43317, Stop: 43604, Start Num: 33
Candidate Starts for Kamaru_71:
(1, 42969), (2, 42972), (3, 43032), (5, 43176), (6, 43179), (29, 43305), (Start: 30 @43308 has 6 MA's), (Start: 33 @43317 has 24 MA's), (43, 43383), (55, 43449), (56, 43461),

Gene: Kenna_71 Start: 43390, Stop: 43677, Start Num: 33
Candidate Starts for Kenna_71:
(24, 43363), (Start: 30 @43381 has 6 MA's), (Start: 33 @43390 has 24 MA's), (43, 43456), (55, 43522), (56, 43534),

Gene: Kuwabara_76 Start: 45678, Stop: 45968, Start Num: 33
Candidate Starts for Kuwabara_76:
(Start: 30 @45669 has 6 MA's), (Start: 33 @45678 has 24 MA's), (43, 45744), (55, 45810), (56, 45822), (59, 45843), (63, 45849), (65, 45858),

Gene: Leroy_74 Start: 43665, Stop: 43955, Start Num: 33
Candidate Starts for Leroy_74:
(25, 43638), (Start: 30 @43656 has 6 MA's), (Start: 33 @43665 has 24 MA's), (43, 43731), (58, 43818), (64, 43836), (72, 43863),

Gene: LitninMcQueen_77 Start: 44377, Stop: 44670, Start Num: 33
Candidate Starts for LitninMcQueen_77:
(Start: 30 @44368 has 6 MA's), (Start: 33 @44377 has 24 MA's), (41, 44440), (43, 44443), (61, 44548),

Gene: Lton_54 Start: 33162, Stop: 33458, Start Num: 33
Candidate Starts for Lton_54:
(Start: 30 @33153 has 6 MA's), (Start: 33 @33162 has 24 MA's), (43, 33228), (55, 33294), (56, 33306), (64, 33333), (72, 33360),

Gene: Lutum_77 Start: 44553, Stop: 44840, Start Num: 33
Candidate Starts for Lutum_77:
(24, 44526), (Start: 30 @44544 has 6 MA's), (Start: 33 @44553 has 24 MA's), (43, 44619), (55, 44685), (56, 44697),

Gene: Malisha_79 Start: 48584, Stop: 48868, Start Num: 34
Candidate Starts for Malisha_79:
(Start: 34 @48584 has 8 MA's), (48, 48656), (58, 48716), (71, 48773), (76, 48809),

Gene: Moosehead_58 Start: 34673, Stop: 34924, Start Num: 34
Candidate Starts for Moosehead_58:
(19, 34622), (20, 34631), (21, 34637), (22, 34640), (29, 34661), (Start: 30 @34664 has 6 MA's), (Start: 34 @34673 has 8 MA's), (58, 34805), (62, 34823),

Gene: Morkie_59 Start: 36074, Stop: 36376, Start Num: 34
Candidate Starts for Morkie_59:
(16, 36002), (21, 36032), (26, 36050), (Start: 30 @36062 has 6 MA's), (32, 36065), (Start: 34 @36074 has 8 MA's), (38, 36122), (43, 36140), (49, 36161), (73, 36284),

Gene: ODay_82 Start: 46976, Stop: 47251, Start Num: 33
Candidate Starts for ODay_82:
(10, 46892), (15, 46904), (17, 46916), (28, 46958), (Start: 30 @46967 has 6 MA's), (Start: 33 @46976 has 24 MA's), (39, 47021), (42, 47036), (47, 47057), (58, 47099), (60, 47111),

Gene: OneDirection_52 Start: 33066, Stop: 33362, Start Num: 33
Candidate Starts for OneDirection_52:
(25, 33039), (Start: 30 @33057 has 6 MA's), (Start: 33 @33066 has 24 MA's), (43, 33132), (58, 33219), (64, 33237), (72, 33264),

Gene: Pepperoni_52 Start: 34463, Stop: 34750, Start Num: 33
Candidate Starts for Pepperoni_52:
(29, 34451), (Start: 30 @34454 has 6 MA's), (Start: 33 @34463 has 24 MA's), (43, 34529), (55, 34595), (56, 34607),

Gene: Periwinkle_85 Start: 46796, Stop: 47035, Start Num: 33
Candidate Starts for Periwinkle_85:
(4, 46643), (8, 46700), (12, 46718), (Start: 30 @46787 has 6 MA's), (Start: 33 @46796 has 24 MA's), (44, 46853), (55, 46880), (56, 46892),

Gene: Phabuloso_81 Start: 45523, Stop: 45816, Start Num: 33
Candidate Starts for Phabuloso_81:
(25, 45496), (Start: 30 @45514 has 6 MA's), (Start: 33 @45523 has 24 MA's), (43, 45589), (57, 45676), (77, 45799),

Gene: PhaoMing_61 Start: 40801, Stop: 41079, Start Num: 29
Candidate Starts for PhaoMing_61:
(29, 40801), (Start: 30 @40804 has 6 MA's), (Start: 33 @40813 has 24 MA's), (52, 40885),

Gene: Phistory_72 Start: 42511, Stop: 42852, Start Num: 30
Candidate Starts for Phistory_72:
(7, 42406), (18, 42466), (Start: 30 @42511 has 6 MA's), (43, 42589), (55, 42655), (66, 42718),

Gene: PhorbesPhlower_55 Start: 35141, Stop: 35443, Start Num: 34
Candidate Starts for PhorbesPhlower_55:
(16, 35069), (21, 35099), (26, 35117), (Start: 30 @35129 has 6 MA's), (32, 35132), (Start: 34 @35141 has 8 MA's), (38, 35189), (43, 35207), (49, 35228), (73, 35351),

Gene: Rizz_60 Start: 40479, Stop: 40724, Start Num: 34
Candidate Starts for Rizz_60:
(Start: 34 @40479 has 8 MA's), (37, 40518), (75, 40668),

Gene: Samman98_60 Start: 39796, Stop: 40041, Start Num: 34
Candidate Starts for Samman98_60:
(Start: 34 @39796 has 8 MA's), (37, 39835), (75, 39985),

Gene: ShawBrad_81 Start: 44287, Stop: 44574, Start Num: 33
Candidate Starts for ShawBrad_81:
(4, 44134), (8, 44191), (12, 44209), (Start: 30 @44278 has 6 MA's), (Start: 33 @44287 has 24 MA's), (43, 44353), (55, 44419), (56, 44431),

Gene: Sixama_7 Start: 2706, Stop: 2383, Start Num: 30
Candidate Starts for Sixama_7:
(Start: 30 @2706 has 6 MA's), (38, 2649), (46, 2619), (53, 2592), (68, 2502),

Gene: Spikelee_42 Start: 31774, Stop: 31466, Start Num: 27
Candidate Starts for Spikelee_42:
(9, 31840), (11, 31837), (13, 31834), (23, 31789), (Start: 27 @31774 has 1 MA's), (31, 31762), (Start: 35 @31747 has 1 MA's), (45, 31687), (54, 31645), (58, 31621), (67, 31573),

Gene: Spooky_78 Start: 45719, Stop: 45976, Start Num: 34
Candidate Starts for Spooky_78:
(Start: 34 @45719 has 8 MA's), (36, 45749), (37, 45758), (50, 45782),

Gene: Trine_55 Start: 39935, Stop: 39684, Start Num: 33
Candidate Starts for Trine_55:
(Start: 33 @39935 has 24 MA's), (53, 39860), (67, 39788),

Gene: VanLee_59 Start: 39559, Stop: 39819, Start Num: 33
Candidate Starts for VanLee_59:
(Start: 33 @39559 has 24 MA's),

Gene: Whitney_75 Start: 45513, Stop: 45800, Start Num: 33
Candidate Starts for Whitney_75:
(29, 45501), (Start: 30 @45504 has 6 MA's), (Start: 33 @45513 has 24 MA's), (43, 45579), (55, 45645), (56, 45657),