



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 305091 Report

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

Pham number 305091 has 48 members, 3 are drafts.

Phages represented in each track:

- Track 1 : Richo\_65, Shaobing\_65, Niklas\_65, McMater\_65, Dartin\_65, Peanam\_65
- Track 2 : LaterM\_63
- Track 3 : Megsy\_65
- Track 4 : Stinson\_64
- Track 5 : Validus\_67
- Track 6 : LastHope\_67
- Track 7 : BoostSeason\_66, Marcoliusprime\_66, DismalStressor\_66, DismalFunk\_66, Findley\_66, Strobilo\_67
- Track 8 : Milly\_66, Mufasa\_66
- Track 9 : TM4\_64
- Track 10 : ZoeJ\_65
- Track 11 : Doughnut\_66
- Track 12 : Pixie\_62, ShedlockHolmes\_64, Lea83\_63
- Track 13 : TribbleTrouble\_63
- Track 14 : Keshu\_65
- Track 15 : MacnCheese\_65
- Track 16 : Hurricane\_63
- Track 17 : Pharb\_62
- Track 18 : Unicorn\_64, PhelpsODU\_64
- Track 19 : Hammy\_62, Amohnition\_62, DarthP\_62, November\_60
- Track 20 : Sunflower1121\_68, Shadow1\_67
- Track 21 : Yuna\_68
- Track 22 : Ximenita\_68
- Track 23 : Phrank\_66, Tierra\_66, Cain\_66, Bryler\_66
- Track 24 : Krueger\_67
- Track 25 : Tigress9\_67
- Track 26 : Syra333\_66
- Track 27 : TClif\_63

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

The start number called the most often in the published annotations is 25, it was called in 11 of the 45 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- BoostSeason\_66, DismalFunk\_66, DismalStressor\_66, Doughnut\_66, Findley\_66, Marcoliusprime\_66, Milly\_66, Mufasa\_66, Strobilo\_67, TM4\_64, ZoeJ\_65,

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

- 

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

- Amohnition\_62, Bryler\_66, Cain\_66, DarthP\_62, Dartin\_65, Hammy\_62, Hurricane\_63, Keshu\_65, Krueger\_67, LastHope\_67, LaterM\_63, Lea83\_63, MacnCheese\_65, McMater\_65, Megsy\_65, Niklas\_65, November\_60, Peanam\_65, Pharb\_62, PhelpsODU\_64, Phrank\_66, Pixie\_62, Richo\_65, Shadow1\_67, Shaobing\_65, ShedlockHolmes\_64, Stinson\_64, Sunflower1121\_68, Syra333\_66, TClif\_63, Tierra\_66, Tigress9\_67, TribbleTrouble\_63, Unicorn\_64, Validus\_67, Ximenita\_68, Yuna\_68,

### Summary by start number:

Start 11:

- Found in 4 of 48 ( 8.3% ) of genes in pham
- Manual Annotations of this start: 4 of 45
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Amohnition\_62 (K6), DarthP\_62 (K6), Hammy\_62 (K6), November\_60 (K6),

Start 12:

- Found in 11 of 48 ( 22.9% ) of genes in pham
- Manual Annotations of this start: 8 of 45
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Dartin\_65 (K1), LastHope\_67 (K1), LaterM\_63 (K1), McMater\_65 (K1), Megsy\_65 (K1), Niklas\_65 (K1), Peanam\_65 (K1), Richo\_65 (K1), Shaobing\_65 (K1), Stinson\_64 (K1), Validus\_67 (K1),

Start 13:

- Found in 10 of 48 ( 20.8% ) of genes in pham
- Manual Annotations of this start: 10 of 45
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Hurricane\_63 (K3), Keshu\_65 (K3), Lea83\_63 (K3), MacnCheese\_65 (K3), Pharb\_62 (K3), Pixie\_62 (K3), ShedlockHolmes\_64 (K3), TClif\_63 (K6), TribbleTrouble\_63 (K3), Yuna\_68 (K6),

Start 22:

- Found in 7 of 48 ( 14.6% ) of genes in pham
- Manual Annotations of this start: 6 of 45
- Called 85.7% of time when present
- Phage (with cluster) where this start called: Bryler\_66 (K6), Cain\_66 (K6), PhelpsODU\_64 (K6), Phrank\_66 (K6), Tierra\_66 (K6), Unicorn\_64 (K6),

Start 23:

- Found in 6 of 48 ( 12.5% ) of genes in pham
- Manual Annotations of this start: 6 of 45
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Krueger\_67 (K6), Shadow1\_67 (K6), Sunflower1121\_68 (K6), Syra333\_66 (K6), Tigress9\_67 (K6), Ximenita\_68 (K6),

Start 25:

- Found in 11 of 48 ( 22.9% ) of genes in pham
- Manual Annotations of this start: 11 of 45
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BoostSeason\_66 (K2), DismalFunk\_66 (K2), DismalStressor\_66 (K2), Doughnut\_66 (K2), Findley\_66 (K2), Marcoliusprime\_66 (K2), Milly\_66 (K2), Mufasa\_66 (K2), Strobilo\_67 (K2), TM4\_64 (K2), ZoeJ\_65 (K2),

### **Summary by clusters:**

There are 4 clusters represented in this pham: K3, K2, K1, K6,

Info for manual annotations of cluster K1:

- Start number 12 was manually annotated 8 times for cluster K1.

Info for manual annotations of cluster K2:

- Start number 25 was manually annotated 11 times for cluster K2.

Info for manual annotations of cluster K3:

- Start number 13 was manually annotated 8 times for cluster K3.

Info for manual annotations of cluster K6:

- Start number 11 was manually annotated 4 times for cluster K6.
- Start number 13 was manually annotated 2 times for cluster K6.
- Start number 22 was manually annotated 6 times for cluster K6.
- Start number 23 was manually annotated 6 times for cluster K6.

### **Gene Information:**

Gene: Amohnition\_62 Start: 42807, Stop: 43085, Start Num: 11

Candidate Starts for Amohnition\_62:

(Start: 11 @42807 has 4 MA's), (15, 42834), (19, 42855), (28, 42891), (30, 42903), (35, 42987), (39, 43044), (40, 43047),

Gene: BoostSeason\_66 Start: 44610, Stop: 44819, Start Num: 25

Candidate Starts for BoostSeason\_66:

(9, 44502), (Start: 25 @44610 has 11 MA's), (30, 44640), (31, 44682), (37, 44751), (41, 44793), (42, 44799), (43, 44802),

Gene: Bryler\_66 Start: 42196, Stop: 42426, Start Num: 22

Candidate Starts for Bryler\_66:

(8, 42049), (Start: 22 @42196 has 6 MA's), (26, 42211), (28, 42226), (31, 42280), (35, 42322), (44, 42409),

Gene: Cain\_66 Start: 42184, Stop: 42414, Start Num: 22

Candidate Starts for Cain\_66:

(8, 42037), (Start: 22 @42184 has 6 MA's), (26, 42199), (28, 42214), (31, 42268), (35, 42310), (44, 42397),

Gene: DarthP\_62 Start: 42661, Stop: 42939, Start Num: 11

Candidate Starts for DarthP\_62:

(Start: 11 @42661 has 4 MA's), (15, 42688), (19, 42709), (28, 42745), (30, 42757), (35, 42841), (39, 42898), (40, 42901),

Gene: Dartin\_65 Start: 42809, Stop: 43087, Start Num: 12

Candidate Starts for Dartin\_65:

(Start: 12 @42809 has 8 MA's), (31, 42944), (35, 42986),

Gene: DismalFunk\_66 Start: 45035, Stop: 45244, Start Num: 25

Candidate Starts for DismalFunk\_66:

(9, 44927), (Start: 25 @45035 has 11 MA's), (30, 45065), (31, 45107), (37, 45176), (41, 45218), (42, 45224), (43, 45227),

Gene: DismalStressor\_66 Start: 45035, Stop: 45244, Start Num: 25

Candidate Starts for DismalStressor\_66:

(9, 44927), (Start: 25 @45035 has 11 MA's), (30, 45065), (31, 45107), (37, 45176), (41, 45218), (42, 45224), (43, 45227),

Gene: Doughnut\_66 Start: 44652, Stop: 44861, Start Num: 25

Candidate Starts for Doughnut\_66:

(9, 44544), (Start: 25 @44652 has 11 MA's), (30, 44682), (31, 44724), (37, 44793), (42, 44841), (43, 44844),

Gene: Findley\_66 Start: 45028, Stop: 45237, Start Num: 25

Candidate Starts for Findley\_66:

(9, 44920), (Start: 25 @45028 has 11 MA's), (30, 45058), (31, 45100), (37, 45169), (41, 45211), (42, 45217), (43, 45220),

Gene: Hammy\_62 Start: 42649, Stop: 42927, Start Num: 11

Candidate Starts for Hammy\_62:

(Start: 11 @42649 has 4 MA's), (15, 42676), (19, 42697), (28, 42733), (30, 42745), (35, 42829), (39, 42886), (40, 42889),

Gene: Hurricane\_63 Start: 42638, Stop: 42913, Start Num: 13

Candidate Starts for Hurricane\_63:

(Start: 13 @42638 has 10 MA's), (32, 42782), (34, 42797), (42, 42884), (43, 42887),

Gene: Keshu\_65 Start: 42736, Stop: 43011, Start Num: 13

Candidate Starts for Keshu\_65:

(7, 42610), (Start: 13 @42736 has 10 MA's), (32, 42880), (34, 42895), (42, 42982),

Gene: Krueger\_67 Start: 42484, Stop: 42702, Start Num: 23

Candidate Starts for Krueger\_67:

(6, 42295), (Start: 23 @42484 has 6 MA's), (31, 42556), (35, 42598), (44, 42685),

Gene: LastHope\_67 Start: 41744, Stop: 42028, Start Num: 12

Candidate Starts for LastHope\_67:

(Start: 12 @41744 has 8 MA's), (17, 41783), (21, 41795), (30, 41837), (31, 41879), (32, 41894), (35, 41921), (39, 41978), (45, 42017),

Gene: LaterM\_63 Start: 43006, Stop: 43290, Start Num: 12

Candidate Starts for LaterM\_63:

(Start: 12 @43006 has 8 MA's), (17, 43045), (24, 43072), (30, 43099), (31, 43141), (32, 43156), (35, 43183), (36, 43207), (39, 43240),

Gene: Lea83\_63 Start: 42673, Stop: 42948, Start Num: 13

Candidate Starts for Lea83\_63:

(7, 42547), (Start: 13 @42673 has 10 MA's), (32, 42817), (34, 42832), (42, 42919), (43, 42922),

Gene: MacnCheese\_65 Start: 43252, Stop: 43530, Start Num: 13

Candidate Starts for MacnCheese\_65:

(Start: 13 @43252 has 10 MA's), (15, 43270), (32, 43399), (34, 43414), (42, 43501),

Gene: Marcoliusprime\_66 Start: 45035, Stop: 45244, Start Num: 25

Candidate Starts for Marcoliusprime\_66:

(9, 44927), (Start: 25 @45035 has 11 MA's), (30, 45065), (31, 45107), (37, 45176), (41, 45218), (42, 45224), (43, 45227),

Gene: McMater\_65 Start: 42809, Stop: 43087, Start Num: 12

Candidate Starts for McMater\_65:

(Start: 12 @42809 has 8 MA's), (31, 42944), (35, 42986),

Gene: Megsy\_65 Start: 42722, Stop: 43006, Start Num: 12

Candidate Starts for Megsy\_65:

(Start: 12 @42722 has 8 MA's), (17, 42761), (30, 42815), (31, 42857), (32, 42872), (35, 42899), (36, 42923), (39, 42956),

Gene: Milly\_66 Start: 45008, Stop: 45217, Start Num: 25

Candidate Starts for Milly\_66:

(9, 44900), (Start: 25 @45008 has 11 MA's), (30, 45038), (31, 45080), (37, 45149), (40, 45182), (42, 45197), (43, 45200),

Gene: Mufasa\_66 Start: 44595, Stop: 44804, Start Num: 25

Candidate Starts for Mufasa\_66:

(9, 44487), (Start: 25 @44595 has 11 MA's), (30, 44625), (31, 44667), (37, 44736), (40, 44769), (42, 44784), (43, 44787),

Gene: Niklas\_65 Start: 42870, Stop: 43148, Start Num: 12

Candidate Starts for Niklas\_65:

(Start: 12 @42870 has 8 MA's), (31, 43005), (35, 43047),

Gene: November\_60 Start: 42559, Stop: 42837, Start Num: 11

Candidate Starts for November\_60:

(Start: 11 @42559 has 4 MA's), (15, 42586), (19, 42607), (28, 42643), (30, 42655), (35, 42739), (39, 42796), (40, 42799),

Gene: Peanam\_65 Start: 42828, Stop: 43106, Start Num: 12

Candidate Starts for Peanam\_65:

(Start: 12 @42828 has 8 MA's), (31, 42963), (35, 43005),

Gene: Pharb\_62 Start: 41985, Stop: 42260, Start Num: 13

Candidate Starts for Pharb\_62:

(Start: 13 @41985 has 10 MA's), (Start: 22 @42033 has 6 MA's), (32, 42129), (34, 42144), (42, 42231),

Gene: PhelpsODU\_64 Start: 42110, Stop: 42340, Start Num: 22

Candidate Starts for PhelpsODU\_64:

(Start: 22 @42110 has 6 MA's), (26, 42125), (28, 42140), (31, 42194), (35, 42236), (44, 42323),

Gene: Phrank\_66 Start: 42174, Stop: 42404, Start Num: 22

Candidate Starts for Phrank\_66:

(8, 42027), (Start: 22 @42174 has 6 MA's), (26, 42189), (28, 42204), (31, 42258), (35, 42300), (44, 42387),

Gene: Pixie\_62 Start: 42158, Stop: 42433, Start Num: 13

Candidate Starts for Pixie\_62:

(7, 42032), (Start: 13 @42158 has 10 MA's), (32, 42302), (34, 42317), (42, 42404), (43, 42407),

Gene: Richo\_65 Start: 42809, Stop: 43087, Start Num: 12

Candidate Starts for Richo\_65:

(Start: 12 @42809 has 8 MA's), (31, 42944), (35, 42986),

Gene: Shadow1\_67 Start: 42637, Stop: 42855, Start Num: 23

Candidate Starts for Shadow1\_67:

(1, 42115), (2, 42121), (3, 42196), (5, 42295), (6, 42448), (Start: 23 @42637 has 6 MA's), (31, 42709), (35, 42751), (44, 42838),

Gene: Shaobing\_65 Start: 42846, Stop: 43124, Start Num: 12

Candidate Starts for Shaobing\_65:

(Start: 12 @42846 has 8 MA's), (31, 42981), (35, 43023),

Gene: ShedlockHolmes\_64 Start: 42677, Stop: 42952, Start Num: 13

Candidate Starts for ShedlockHolmes\_64:

(7, 42551), (Start: 13 @42677 has 10 MA's), (32, 42821), (34, 42836), (42, 42923), (43, 42926),

Gene: Stinson\_64 Start: 42939, Stop: 43223, Start Num: 12

Candidate Starts for Stinson\_64:

(Start: 12 @42939 has 8 MA's), (16, 42972), (17, 42978), (35, 43116), (39, 43173),

Gene: Strobilo\_67 Start: 45010, Stop: 45219, Start Num: 25

Candidate Starts for Strobilo\_67:

(9, 44902), (Start: 25 @45010 has 11 MA's), (30, 45040), (31, 45082), (37, 45151), (41, 45193), (42, 45199), (43, 45202),

Gene: Sunflower1121\_68 Start: 42783, Stop: 43001, Start Num: 23

Candidate Starts for Sunflower1121\_68:

(1, 42261), (2, 42267), (3, 42342), (5, 42441), (6, 42594), (Start: 23 @42783 has 6 MA's), (31, 42855), (35, 42897), (44, 42984),

Gene: Syra333\_66 Start: 42496, Stop: 42714, Start Num: 23

Candidate Starts for Syra333\_66:

(3, 42034), (4, 42058), (5, 42133), (6, 42307), (10, 42424), (Start: 23 @42496 has 6 MA's), (31, 42568), (35, 42610), (44, 42697),

Gene: TClif\_63 Start: 42277, Stop: 42549, Start Num: 13

Candidate Starts for TClif\_63:

(Start: 13 @42277 has 10 MA's), (14, 42292), (19, 42319), (30, 42367), (31, 42409), (33, 42433), (35, 42451), (39, 42508), (40, 42511),

Gene: TM4\_64 Start: 39676, Stop: 39882, Start Num: 25

Candidate Starts for TM4\_64:

(20, 39655), (Start: 25 @39676 has 11 MA's), (27, 39691), (29, 39700), (31, 39745), (37, 39814), (41, 39856), (42, 39862), (43, 39865),

Gene: Tierra\_66 Start: 42985, Stop: 43215, Start Num: 22

Candidate Starts for Tierra\_66:

(8, 42838), (Start: 22 @42985 has 6 MA's), (26, 43000), (28, 43015), (31, 43069), (35, 43111), (44, 43198),

Gene: Tigress9\_67 Start: 42813, Stop: 43031, Start Num: 23

Candidate Starts for Tigress9\_67:

(6, 42624), (10, 42741), (Start: 23 @42813 has 6 MA's), (31, 42885), (35, 42927), (44, 43014),

Gene: TribelTrouble\_63 Start: 43151, Stop: 43432, Start Num: 13

Candidate Starts for TribelTrouble\_63:

(Start: 13 @43151 has 10 MA's), (15, 43169), (31, 43286), (39, 43385), (42, 43403),

Gene: Unicorn\_64 Start: 42110, Stop: 42340, Start Num: 22

Candidate Starts for Unicorn\_64:

(Start: 22 @42110 has 6 MA's), (26, 42125), (28, 42140), (31, 42194), (35, 42236), (44, 42323),

Gene: Validus\_67 Start: 43191, Stop: 43469, Start Num: 12

Candidate Starts for Validus\_67:

(Start: 12 @43191 has 8 MA's), (17, 43230), (18, 43233), (30, 43284), (35, 43368), (39, 43425),

Gene: Ximenita\_68 Start: 42822, Stop: 43040, Start Num: 23

Candidate Starts for Ximenita\_68:

(Start: 23 @42822 has 6 MA's), (31, 42894), (33, 42918), (44, 43023),

Gene: Yuna\_68 Start: 43889, Stop: 44164, Start Num: 13

Candidate Starts for Yuna\_68:

(Start: 13 @43889 has 10 MA's), (32, 44033), (34, 44048), (42, 44135),

Gene: ZoeJ\_65 Start: 44414, Stop: 44623, Start Num: 25

Candidate Starts for ZoeJ\_65:

(9, 44306), (Start: 25 @44414 has 11 MA's), (30, 44444), (31, 44486), (37, 44555), (38, 44582), (42, 44603), (43, 44606),