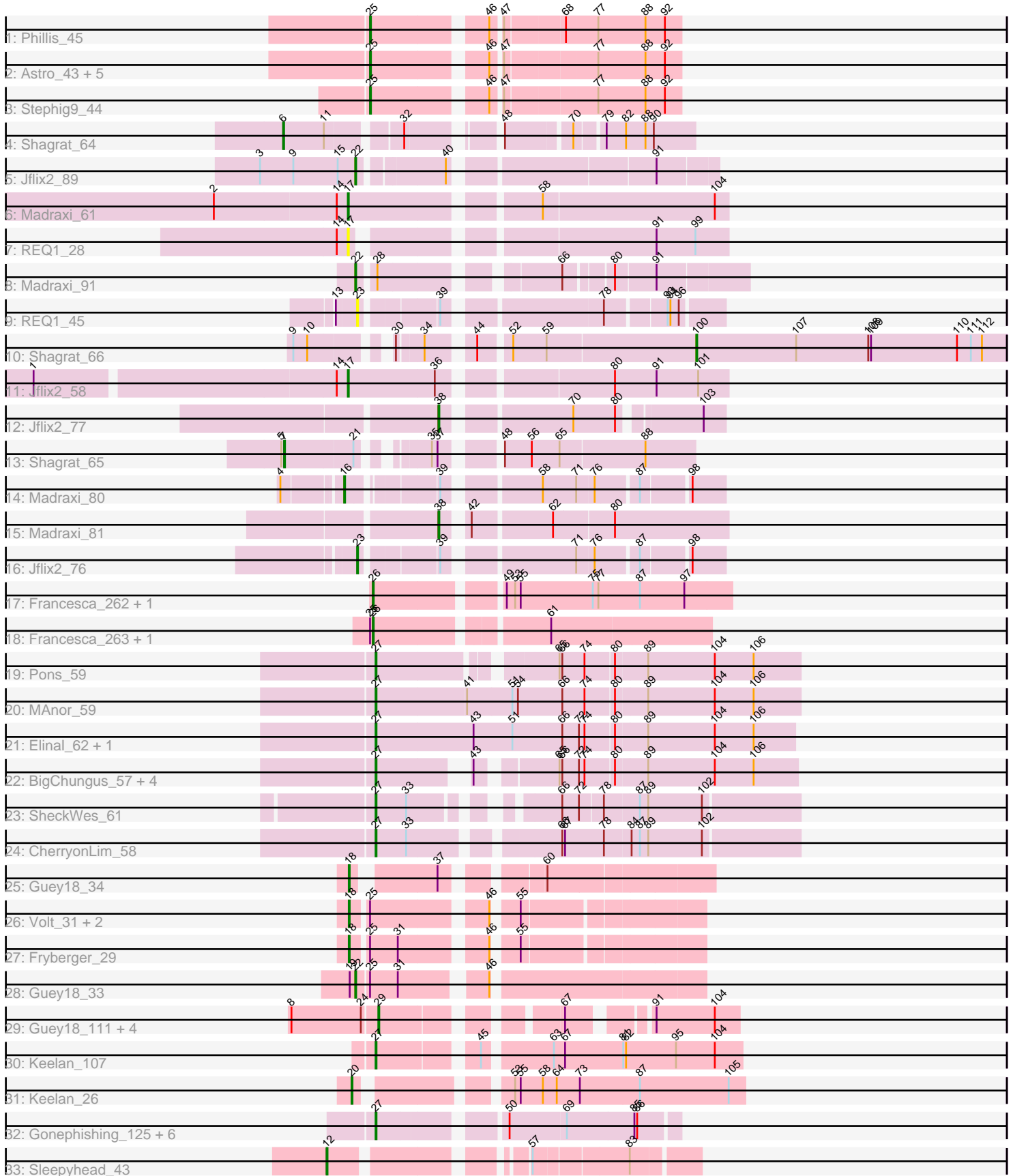


# Pham 196573



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 196573 Report

This analysis was run 12/09/24 on database version 580.

Pham number 196573 has 57 members, 4 are drafts.

Phages represented in each track:

- Track 1 : Phillis\_45
- Track 2 : Astro\_43, Roary\_44, Danforth\_43, Expelliarmus\_43, Smeadley\_44, Groundhog\_42
- Track 3 : Stephig9\_44
- Track 4 : Shagrath\_64
- Track 5 : Jflif2\_89
- Track 6 : Madraxi\_61
- Track 7 : REQ1\_28
- Track 8 : Madraxi\_91
- Track 9 : REQ1\_45
- Track 10 : Shagrath\_66
- Track 11 : Jflif2\_58
- Track 12 : Jflif2\_77
- Track 13 : Shagrath\_65
- Track 14 : Madraxi\_80
- Track 15 : Madraxi\_81
- Track 16 : Jflif2\_76
- Track 17 : Francesca\_262, Dorin\_262
- Track 18 : Francesca\_263, Dorin\_263
- Track 19 : Pons\_59
- Track 20 : MAnor\_59
- Track 21 : Elinal\_62, KayGee\_60
- Track 22 : BigChungus\_57, SummitAcademy\_57, PotPie\_57, Vine\_60, Feastonyet\_57
- Track 23 : SheckWes\_61
- Track 24 : CherryonLim\_58
- Track 25 : Guey18\_34
- Track 26 : Volt\_31, Ronaldo\_32, Ziko\_32
- Track 27 : Fryberger\_29
- Track 28 : Guey18\_33
- Track 29 : Guey18\_111, Fryberger\_106, Volt\_110, Ziko\_109, Ronaldo\_108
- Track 30 : Keelan\_107
- Track 31 : Keelan\_26
- Track 32 : Gonephishing\_125, Hannaconda\_124, Yeet\_125, Odette\_135, Superphikiman\_128, HokkenD\_123, Courthouse\_126
- Track 33 : Sleepyhead\_43

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

The start number called the most often in the published annotations is 27, it was called in 17 of the 53 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- BigChungus\_57, CherryonLim\_58, Courthouse\_126, Elinal\_62, Feastonyeet\_57, Gonephishing\_125, Hannaconda\_124, HokkenD\_123, KayGee\_60, Keelan\_107, MAnor\_59, Odette\_135, Pons\_59, PotPie\_57, SheckWes\_61, SummitAcademy\_57, Superphikiman\_128, Vine\_60, Yeet\_125,

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

- 

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

- Astro\_43, Danforth\_43, Dorin\_262, Dorin\_263, Expelliarmus\_43, Francesca\_262, Francesca\_263, Fryberger\_106, Fryberger\_29, Groundhog\_42, Guey18\_111, Guey18\_33, Guey18\_34, Jflix2\_58, Jflix2\_76, Jflix2\_77, Jflix2\_89, Keelan\_26, Madraxi\_61, Madraxi\_80, Madraxi\_81, Madraxi\_91, Phillis\_45, REQ1\_28, REQ1\_45, Roary\_44, Ronaldo\_108, Ronaldo\_32, Shagrat\_64, Shagrat\_65, Shagrat\_66, Sleepyhead\_43, Smeadley\_44, Stephig9\_44, Volt\_110, Volt\_31, Ziko\_109, Ziko\_32,

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

Start 6:

- Found in 1 of 57 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 1 of 53
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Shagrat\_64 (CF),

Start 7:

- Found in 1 of 57 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 1 of 53
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Shagrat\_65 (CF),

Start 12:

- Found in 1 of 57 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 1 of 53
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Sleepyhead\_43 (singleton),

Start 16:

- Found in 1 of 57 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 1 of 53
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Madraxi\_80 (CF),

Start 17:

- Found in 3 of 57 ( 5.3% ) of genes in pham

- Manual Annotations of this start: 2 of 53
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Jflix2\_58 (CF), Madraxi\_61 (CF), REQ1\_28 (CF),

#### Start 18:

- Found in 5 of 57 ( 8.8% ) of genes in pham
- Manual Annotations of this start: 5 of 53
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Fryberger\_29 (DP), Guey18\_34 (DP), Ronaldo\_32 (DP), Volt\_31 (DP), Ziko\_32 (DP),

#### Start 20:

- Found in 1 of 57 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 1 of 53
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Keelan\_26 (DP),

#### Start 22:

- Found in 3 of 57 ( 5.3% ) of genes in pham
- Manual Annotations of this start: 3 of 53
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Guey18\_33 (DP), Jflix2\_89 (CF), Madraxi\_91 (CF),

#### Start 23:

- Found in 2 of 57 ( 3.5% ) of genes in pham
- Manual Annotations of this start: 1 of 53
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Jflix2\_76 (CF), REQ1\_45 (CF),

#### Start 25:

- Found in 15 of 57 ( 26.3% ) of genes in pham
- Manual Annotations of this start: 8 of 53
- Called 53.3% of time when present
- Phage (with cluster) where this start called: Astro\_43 (A8), Danforth\_43 (A8), Expelliarmus\_43 (A8), Groundhog\_42 (A8), Phillis\_45 (A8), Roary\_44 (A8), Smeadley\_44 (A8), StepHig9\_44 (A8),

#### Start 26:

- Found in 4 of 57 ( 7.0% ) of genes in pham
- Manual Annotations of this start: 4 of 53
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Dorin\_262 (CG), Dorin\_263 (CG), Francesca\_262 (CG), Francesca\_263 (CG),

#### Start 27:

- Found in 19 of 57 ( 33.3% ) of genes in pham
- Manual Annotations of this start: 17 of 53
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BigChungus\_57 (CT), CherryonLim\_58 (CT), Courthouse\_126 (J), Elinal\_62 (CT), Feastonyeet\_57 (CT), Gonephishing\_125 (J), Hannaconda\_124 (J), HokkenD\_123 (J), KayGee\_60 (CT), Keelan\_107 (DP),

MAnor\_59 (CT), Odette\_135 (J), Pons\_59 (CT), PotPie\_57 (CT), SheckWes\_61 (CT), SummitAcademy\_57 (CT), Superphikiman\_128 (J), Vine\_60 (CT), Yeet\_125 (J),

Start 29:

- Found in 5 of 57 ( 8.8% ) of genes in pham
- Manual Annotations of this start: 5 of 53
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Fryberger\_106 (DP), Guey18\_111 (DP), Ronaldo\_108 (DP), Volt\_110 (DP), Ziko\_109 (DP),

Start 38:

- Found in 2 of 57 ( 3.5% ) of genes in pham
- Manual Annotations of this start: 2 of 53
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Jflix2\_77 (CF), Madraxi\_81 (CF),

Start 100:

- Found in 1 of 57 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 1 of 53
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Shagrat\_66 (CF),

### **Summary by clusters:**

There are 7 clusters represented in this pham: singleton, J, CG, CF, A8, DP, CT,

Info for manual annotations of cluster A8:

- Start number 25 was manually annotated 8 times for cluster A8.

Info for manual annotations of cluster CF:

- Start number 6 was manually annotated 1 time for cluster CF.
- Start number 7 was manually annotated 1 time for cluster CF.
- Start number 16 was manually annotated 1 time for cluster CF.
- Start number 17 was manually annotated 2 times for cluster CF.
- Start number 22 was manually annotated 2 times for cluster CF.
- Start number 23 was manually annotated 1 time for cluster CF.
- Start number 38 was manually annotated 2 times for cluster CF.
- Start number 100 was manually annotated 1 time for cluster CF.

Info for manual annotations of cluster CG:

- Start number 26 was manually annotated 4 times for cluster CG.

Info for manual annotations of cluster CT:

- Start number 27 was manually annotated 11 times for cluster CT.

Info for manual annotations of cluster DP:

- Start number 18 was manually annotated 5 times for cluster DP.
- Start number 20 was manually annotated 1 time for cluster DP.
- Start number 22 was manually annotated 1 time for cluster DP.
- Start number 27 was manually annotated 1 time for cluster DP.
- Start number 29 was manually annotated 5 times for cluster DP.

Info for manual annotations of cluster J:

- Start number 27 was manually annotated 5 times for cluster J.

**Gene Information:**

Gene: Astro\_43 Start: 30852, Stop: 30550, Start Num: 25

Candidate Starts for Astro\_43:

(Start: 25 @30852 has 8 MA's), (46, 30741), (47, 30732), (77, 30639), (88, 30588), (92, 30567),

Gene: BigChungus\_57 Start: 40681, Stop: 40280, Start Num: 27

Candidate Starts for BigChungus\_57:

(Start: 27 @40681 has 17 MA's), (43, 40603), (65, 40531), (66, 40528), (72, 40510), (74, 40504), (80, 40474), (89, 40441), (104, 40369), (106, 40327),

Gene: CherryonLim\_58 Start: 42157, Stop: 41738, Start Num: 27

Candidate Starts for CherryonLim\_58:

(Start: 27 @42157 has 17 MA's), (33, 42124), (66, 41986), (67, 41983), (78, 41941), (84, 41914), (87, 41905), (89, 41896), (102, 41839),

Gene: Courthouse\_126 Start: 68736, Stop: 69029, Start Num: 27

Candidate Starts for Courthouse\_126:

(Start: 27 @68736 has 17 MA's), (50, 68853), (69, 68913), (85, 68985), (86, 68988),

Gene: Danforth\_43 Start: 30881, Stop: 30579, Start Num: 25

Candidate Starts for Danforth\_43:

(Start: 25 @30881 has 8 MA's), (46, 30770), (47, 30761), (77, 30668), (88, 30617), (92, 30596),

Gene: Dorin\_263 Start: 128893, Stop: 129231, Start Num: 26

Candidate Starts for Dorin\_263:

(Start: 25 @128890 has 8 MA's), (Start: 26 @128893 has 4 MA's), (61, 129061),

Gene: Dorin\_262 Start: 128550, Stop: 128915, Start Num: 26

Candidate Starts for Dorin\_262:

(Start: 26 @128550 has 4 MA's), (49, 128673), (53, 128682), (55, 128688), (75, 128766), (77, 128772), (87, 128817), (97, 128865),

Gene: Elinal\_62 Start: 41462, Stop: 41016, Start Num: 27

Candidate Starts for Elinal\_62:

(Start: 27 @41462 has 17 MA's), (43, 41357), (51, 41315), (66, 41261), (72, 41243), (74, 41237), (80, 41207), (89, 41174), (104, 41102), (106, 41060),

Gene: Expelliarmus\_43 Start: 30910, Stop: 30608, Start Num: 25

Candidate Starts for Expelliarmus\_43:

(Start: 25 @30910 has 8 MA's), (46, 30799), (47, 30790), (77, 30697), (88, 30646), (92, 30625),

Gene: Feastonyeet\_57 Start: 40681, Stop: 40280, Start Num: 27

Candidate Starts for Feastonyeet\_57:

(Start: 27 @40681 has 17 MA's), (43, 40603), (65, 40531), (66, 40528), (72, 40510), (74, 40504), (80, 40474), (89, 40441), (104, 40369), (106, 40327),

Gene: Francesca\_262 Start: 129192, Stop: 129557, Start Num: 26

Candidate Starts for Francesca\_262:

(Start: 26 @129192 has 4 MA's), (49, 129315), (53, 129324), (55, 129330), (75, 129408), (77, 129414), (87, 129459), (97, 129507),

Gene: Francesca\_263 Start: 129535, Stop: 129873, Start Num: 26

Candidate Starts for Francesca\_263:

(Start: 25 @129532 has 8 MA's), (Start: 26 @129535 has 4 MA's), (61, 129703),

Gene: Fryberger\_29 Start: 8784, Stop: 8455, Start Num: 18

Candidate Starts for Fryberger\_29:

(Start: 18 @8784 has 5 MA's), (Start: 25 @8769 has 8 MA's), (31, 8739), (46, 8658), (55, 8637),

Gene: Fryberger\_106 Start: 52384, Stop: 52698, Start Num: 29

Candidate Starts for Fryberger\_106:

(8, 52294), (24, 52369), (Start: 29 @52384 has 5 MA's), (67, 52540), (91, 52609), (104, 52672),

Gene: Gonephishing\_125 Start: 68379, Stop: 68672, Start Num: 27

Candidate Starts for Gonephishing\_125:

(Start: 27 @68379 has 17 MA's), (50, 68496), (69, 68556), (85, 68628), (86, 68631),

Gene: Groundhog\_42 Start: 30817, Stop: 30515, Start Num: 25

Candidate Starts for Groundhog\_42:

(Start: 25 @30817 has 8 MA's), (46, 30706), (47, 30697), (77, 30604), (88, 30553), (92, 30532),

Gene: Guey18\_34 Start: 9973, Stop: 9644, Start Num: 18

Candidate Starts for Guey18\_34:

(Start: 18 @9973 has 5 MA's), (37, 9898), (60, 9814),

Gene: Guey18\_33 Start: 9651, Stop: 9316, Start Num: 22

Candidate Starts for Guey18\_33:

(19, 9657), (Start: 22 @9651 has 3 MA's), (Start: 25 @9639 has 8 MA's), (31, 9609), (46, 9531),

Gene: Guey18\_111 Start: 53707, Stop: 54021, Start Num: 29

Candidate Starts for Guey18\_111:

(8, 53617), (24, 53692), (Start: 29 @53707 has 5 MA's), (67, 53863), (91, 53932), (104, 53995),

Gene: Hannaconda\_124 Start: 69032, Stop: 69325, Start Num: 27

Candidate Starts for Hannaconda\_124:

(Start: 27 @69032 has 17 MA's), (50, 69149), (69, 69209), (85, 69281), (86, 69284),

Gene: HokkenD\_123 Start: 71913, Stop: 72206, Start Num: 27

Candidate Starts for HokkenD\_123:

(Start: 27 @71913 has 17 MA's), (50, 72030), (69, 72090), (85, 72162), (86, 72165),

Gene: Jflix2\_89 Start: 50660, Stop: 51001, Start Num: 22

Candidate Starts for Jflix2\_89:

(3, 50558), (9, 50594), (15, 50642), (Start: 22 @50660 has 3 MA's), (40, 50741), (91, 50939),

Gene: Jflix2\_58 Start: 39721, Stop: 40101, Start Num: 17

Candidate Starts for Jflix2\_58:

(1, 39397), (14, 39709), (Start: 17 @39721 has 2 MA's), (36, 39814), (80, 39979), (91, 40024), (101, 40069),

Gene: Jflix2\_77 Start: 46906, Stop: 47172, Start Num: 38

Candidate Starts for Jflix2\_77:

(Start: 38 @46906 has 2 MA's), (70, 47026), (80, 47071), (103, 47149),

Gene: Jflix2\_76 Start: 46571, Stop: 46909, Start Num: 23

Candidate Starts for Jflix2\_76:

(Start: 23 @46571 has 1 MA's), (39, 46643), (71, 46766), (76, 46784), (87, 46826), (98, 46874),

Gene: KayGee\_60 Start: 41462, Stop: 41016, Start Num: 27

Candidate Starts for KayGee\_60:

(Start: 27 @41462 has 17 MA's), (43, 41357), (51, 41315), (66, 41261), (72, 41243), (74, 41237), (80, 41207), (89, 41174), (104, 41102), (106, 41060),

Gene: Keelan\_107 Start: 53290, Stop: 53652, Start Num: 27

Candidate Starts for Keelan\_107:

(Start: 27 @53290 has 17 MA's), (45, 53383), (63, 53449), (67, 53461), (81, 53524), (82, 53527), (95, 53581), (104, 53623),

Gene: Keelan\_26 Start: 8252, Stop: 7875, Start Num: 20

Candidate Starts for Keelan\_26:

(Start: 20 @8252 has 1 MA's), (53, 8120), (55, 8114), (58, 8090), (64, 8075), (73, 8051), (87, 7988), (105, 7892),

Gene: MAnor\_59 Start: 41593, Stop: 41144, Start Num: 27

Candidate Starts for MAnor\_59:

(Start: 27 @41593 has 17 MA's), (41, 41497), (51, 41449), (54, 41443), (66, 41395), (74, 41371), (80, 41341), (89, 41308), (104, 41236), (106, 41194),

Gene: Madraxi\_61 Start: 42224, Stop: 42604, Start Num: 17

Candidate Starts for Madraxi\_61:

(2, 42083), (14, 42212), (Start: 17 @42224 has 2 MA's), (58, 42407), (104, 42590),

Gene: Madraxi\_91 Start: 52811, Stop: 53170, Start Num: 22

Candidate Starts for Madraxi\_91:

(Start: 22 @52811 has 3 MA's), (28, 52826), (66, 52988), (80, 53033), (91, 53075),

Gene: Madraxi\_80 Start: 49350, Stop: 49697, Start Num: 16

Candidate Starts for Madraxi\_80:

(4, 49296), (Start: 16 @49350 has 1 MA's), (39, 49431), (58, 49518), (71, 49554), (76, 49572), (87, 49614), (98, 49662),

Gene: Madraxi\_81 Start: 49694, Stop: 49978, Start Num: 38

Candidate Starts for Madraxi\_81:

(Start: 38 @49694 has 2 MA's), (42, 49712), (62, 49793), (80, 49856),

Gene: Odette\_135 Start: 73830, Stop: 74123, Start Num: 27

Candidate Starts for Odette\_135:

(Start: 27 @73830 has 17 MA's), (50, 73947), (69, 74007), (85, 74079), (86, 74082),

Gene: Phillis\_45 Start: 31235, Stop: 30933, Start Num: 25

Candidate Starts for Phillis\_45:

(Start: 25 @31235 has 8 MA's), (46, 31124), (47, 31115), (68, 31055), (77, 31022), (88, 30971), (92, 30950),



Gene: Pons\_59 Start: 41198, Stop: 40776, Start Num: 27  
Candidate Starts for Pons\_59:  
(Start: 27 @41198 has 17 MA's), (65, 41030), (66, 41027), (74, 41003), (80, 40973), (89, 40940), (104, 40868), (106, 40826),

Gene: PotPie\_57 Start: 41716, Stop: 41315, Start Num: 27  
Candidate Starts for PotPie\_57:  
(Start: 27 @41716 has 17 MA's), (43, 41638), (65, 41566), (66, 41563), (72, 41545), (74, 41539), (80, 41509), (89, 41476), (104, 41404), (106, 41362),

Gene: REQ1\_28 Start: 11269, Stop: 11631, Start Num: 17  
Candidate Starts for REQ1\_28:  
(14, 11257), (Start: 17 @11269 has 2 MA's), (91, 11554), (99, 11596),

Gene: REQ1\_45 Start: 18020, Stop: 18358, Start Num: 23  
Candidate Starts for REQ1\_45:  
(13, 17999), (Start: 23 @18020 has 1 MA's), (39, 18092), (78, 18242), (93, 18302), (94, 18305), (96, 18314),

Gene: Roary\_44 Start: 30866, Stop: 30564, Start Num: 25  
Candidate Starts for Roary\_44:  
(Start: 25 @30866 has 8 MA's), (46, 30755), (47, 30746), (77, 30653), (88, 30602), (92, 30581),

Gene: Ronaldo\_32 Start: 9713, Stop: 9384, Start Num: 18  
Candidate Starts for Ronaldo\_32:  
(Start: 18 @9713 has 5 MA's), (Start: 25 @9698 has 8 MA's), (46, 9587), (55, 9566),

Gene: Ronaldo\_108 Start: 53289, Stop: 53603, Start Num: 29  
Candidate Starts for Ronaldo\_108:  
(8, 53199), (24, 53274), (Start: 29 @53289 has 5 MA's), (67, 53445), (91, 53514), (104, 53577),

Gene: Shagrat\_64 Start: 40165, Stop: 40536, Start Num: 6  
Candidate Starts for Shagrat\_64:  
(Start: 6 @40165 has 1 MA's), (11, 40207), (32, 40276), (48, 40351), (70, 40414), (79, 40441), (82, 40462), (88, 40483), (90, 40492),

Gene: Shagrat\_66 Start: 40915, Stop: 41250, Start Num: 100  
Candidate Starts for Shagrat\_66:  
(9, 40549), (10, 40564), (30, 40630), (34, 40654), (44, 40693), (52, 40720), (59, 40756), (Start: 100 @40915 has 1 MA's), (107, 41023), (108, 41101), (109, 41104), (110, 41197), (111, 41212), (112, 41224),

Gene: Shagrat\_65 Start: 40539, Stop: 40913, Start Num: 7  
Candidate Starts for Shagrat\_65:  
(5, 40536), (Start: 7 @40539 has 1 MA's), (21, 40611), (35, 40662), (37, 40668), (48, 40713), (56, 40740), (65, 40770), (88, 40860),

Gene: SheckWes\_61 Start: 40759, Stop: 40364, Start Num: 27  
Candidate Starts for SheckWes\_61:  
(Start: 27 @40759 has 17 MA's), (33, 40726), (66, 40609), (72, 40591), (78, 40567), (87, 40531), (89, 40522), (102, 40465),

Gene: Sleepyhead\_43 Start: 31028, Stop: 31363, Start Num: 12

Candidate Starts for Sleepyhead\_43:

(Start: 12 @31028 has 1 MA's), (57, 31199), (83, 31295),

Gene: Smeadley\_44 Start: 31032, Stop: 30730, Start Num: 25

Candidate Starts for Smeadley\_44:

(Start: 25 @31032 has 8 MA's), (46, 30921), (47, 30912), (77, 30819), (88, 30768), (92, 30747),

Gene: Stephig9\_44 Start: 30891, Stop: 30589, Start Num: 25

Candidate Starts for Stephig9\_44:

(Start: 25 @30891 has 8 MA's), (46, 30780), (47, 30771), (77, 30678), (88, 30627), (92, 30606),

Gene: SummitAcademy\_57 Start: 40859, Stop: 40458, Start Num: 27

Candidate Starts for SummitAcademy\_57:

(Start: 27 @40859 has 17 MA's), (43, 40781), (65, 40709), (66, 40706), (72, 40688), (74, 40682), (80, 40652), (89, 40619), (104, 40547), (106, 40505),

Gene: Superphikiman\_128 Start: 69018, Stop: 69311, Start Num: 27

Candidate Starts for Superphikiman\_128:

(Start: 27 @69018 has 17 MA's), (50, 69135), (69, 69195), (85, 69267), (86, 69270),

Gene: Vine\_60 Start: 41482, Stop: 41081, Start Num: 27

Candidate Starts for Vine\_60:

(Start: 27 @41482 has 17 MA's), (43, 41404), (65, 41332), (66, 41329), (72, 41311), (74, 41305), (80, 41275), (89, 41242), (104, 41170), (106, 41128),

Gene: Volt\_31 Start: 9713, Stop: 9384, Start Num: 18

Candidate Starts for Volt\_31:

(Start: 18 @9713 has 5 MA's), (Start: 25 @9698 has 8 MA's), (46, 9587), (55, 9566),

Gene: Volt\_110 Start: 53453, Stop: 53767, Start Num: 29

Candidate Starts for Volt\_110:

(8, 53363), (24, 53438), (Start: 29 @53453 has 5 MA's), (67, 53609), (91, 53678), (104, 53741),

Gene: Yeet\_125 Start: 71942, Stop: 72235, Start Num: 27

Candidate Starts for Yeet\_125:

(Start: 27 @71942 has 17 MA's), (50, 72059), (69, 72119), (85, 72191), (86, 72194),

Gene: Ziko\_32 Start: 9653, Stop: 9324, Start Num: 18

Candidate Starts for Ziko\_32:

(Start: 18 @9653 has 5 MA's), (Start: 25 @9638 has 8 MA's), (46, 9527), (55, 9506),

Gene: Ziko\_109 Start: 53295, Stop: 53609, Start Num: 29

Candidate Starts for Ziko\_109:

(8, 53205), (24, 53280), (Start: 29 @53295 has 5 MA's), (67, 53451), (91, 53520), (104, 53583),