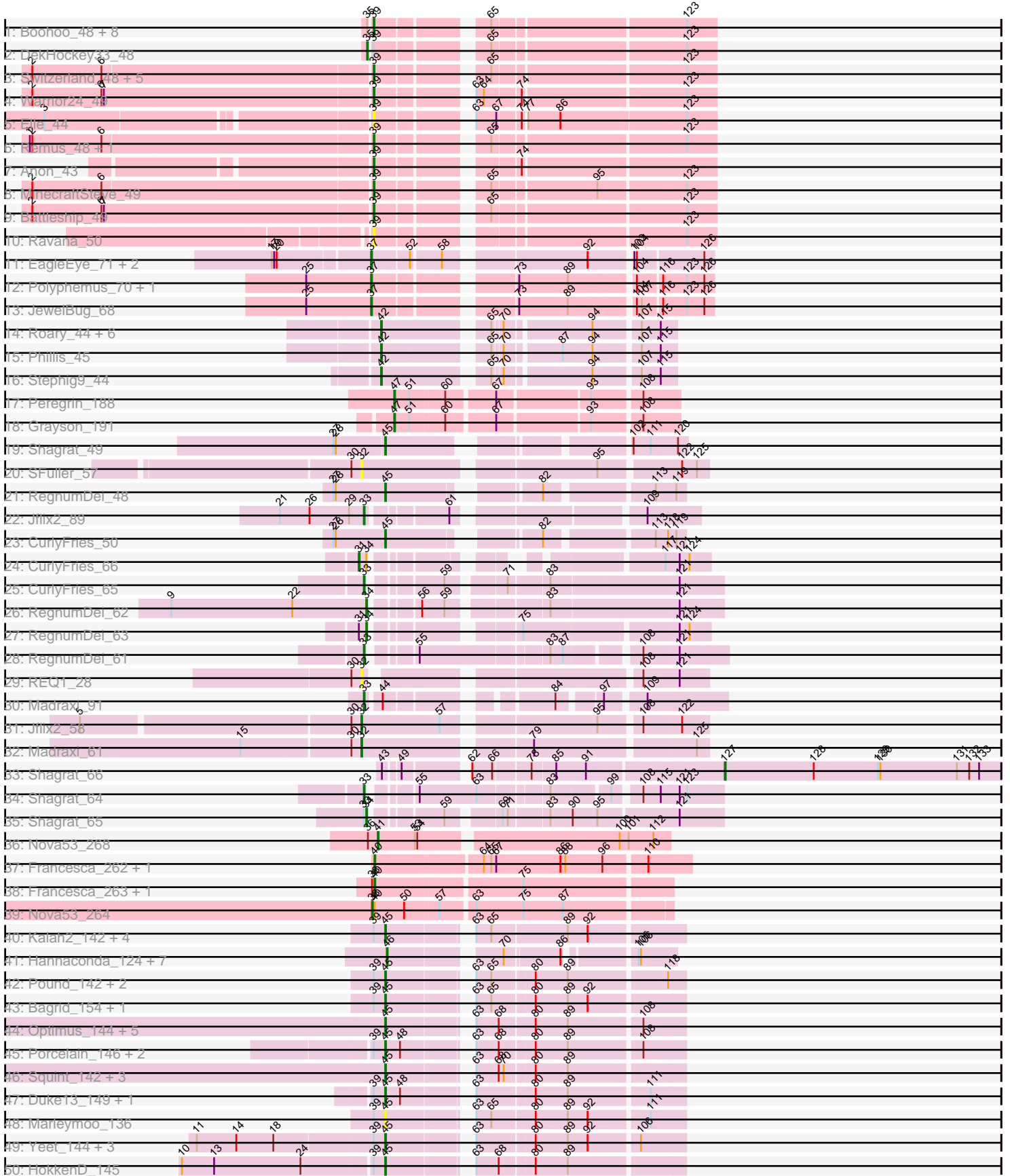
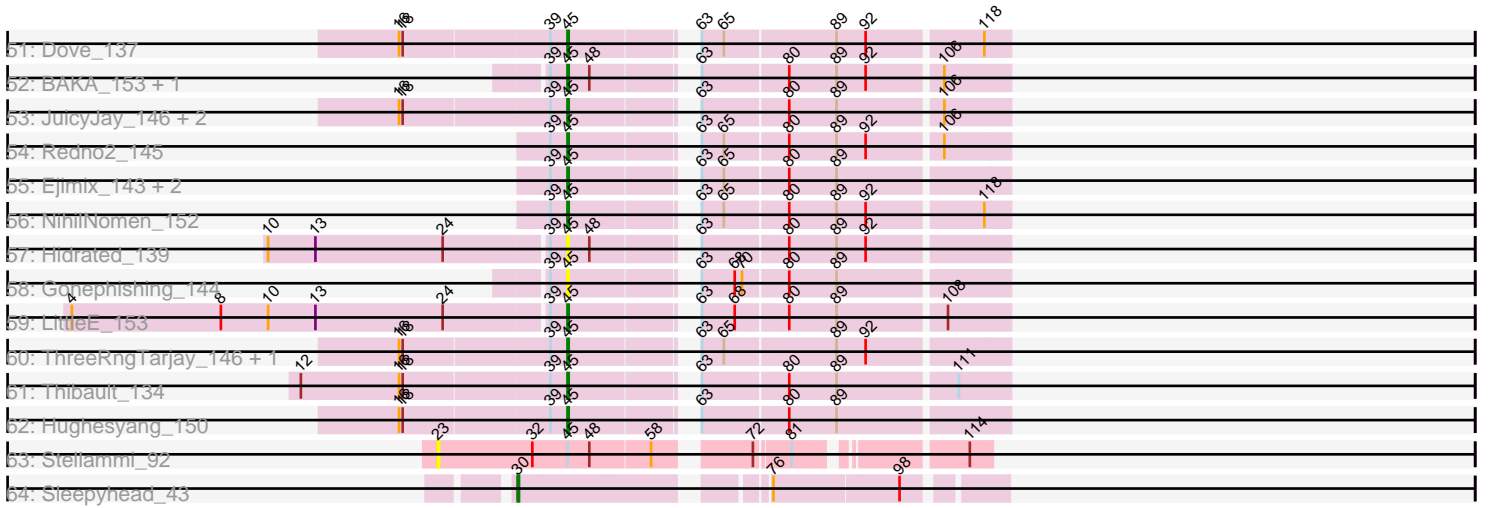


Pham 294546



Pham 294546



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 294546 Report

This analysis was run 04/18/26 on database version 643.

Pham number 294546 has 123 members, 18 are drafts.

Phages represented in each track:

- Track 1 : Boohoo\_48, ShayRa\_49, Anaysia\_48, LastResort\_47, ReMo\_47, Nebulosus\_47, KatherineG\_49, Looper\_48, Soups\_48
- Track 2 : DekHockey33\_48
- Track 3 : Switzerland\_48, Oofda\_48, Rosalind\_47, Epsocamisio\_47, Waits\_48, JSwag\_47
- Track 4 : Warrior24\_49
- Track 5 : Elle\_44
- Track 6 : Remus\_48, Strosahl\_48
- Track 7 : Anon\_43
- Track 8 : MinecraftSteve\_49
- Track 9 : Battleship\_49
- Track 10 : Ravana\_50
- Track 11 : EagleEye\_71, Lucyedi\_70, PainterBoy\_69
- Track 12 : Polyphemus\_70, SuperAwesome\_68
- Track 13 : JewelBug\_68
- Track 14 : Roary\_44, Smeadley\_44, Astro\_43, Danforth\_43, Groundhog\_42, Caitlin\_42, Expelliarmus\_43
- Track 15 : Phillis\_45
- Track 16 : Stephig9\_44
- Track 17 : Peregrin\_188
- Track 18 : Grayson\_191
- Track 19 : Shagrat\_49
- Track 20 : SFuller\_57
- Track 21 : RegnumDei\_48
- Track 22 : Jflix2\_89
- Track 23 : CurlyFries\_50
- Track 24 : CurlyFries\_66
- Track 25 : CurlyFries\_65
- Track 26 : RegnumDei\_62
- Track 27 : RegnumDei\_63
- Track 28 : RegnumDei\_61
- Track 29 : REQ1\_28
- Track 30 : Madraxi\_91
- Track 31 : Jflix2\_58
- Track 32 : Madraxi\_61
- Track 33 : Shagrat\_66
- Track 34 : Shagrat\_64

- Track 35 : Shagrat\_65
- Track 36 : Nova53\_268
- Track 37 : Francesca\_262, Dorin\_262
- Track 38 : Francesca\_263, Dorin\_263
- Track 39 : Nova53\_264
- Track 40 : Kalah2\_142, Bobby\_141, Wanda\_150, Zelink\_145, Minerva\_150
- Track 41 : Hannaconda\_124, Odette\_135, HokkenD\_123, Yeet\_125, Gonephishing\_125, Rearden\_129, Superphikiman\_128, Courthouse\_126
- Track 42 : Pound\_142, DmpstrDiver\_151, Schatzie\_146
- Track 43 : Bagrid\_154, Constella\_144
- Track 44 : Optimus\_144, Omega\_157, BronnyJames\_145, Shaboozey\_148, Odette\_156, Nibley\_144
- Track 45 : Porcelain\_146, MiaZeal\_149, Lucky2013\_142
- Track 46 : Squint\_142, Nekros\_148, KashFlow\_150, Hannaconda\_144
- Track 47 : Duke13\_149, EricMillard\_145
- Track 48 : Marleymoo\_136
- Track 49 : Yeet\_144, Superphikiman\_147, Ariel\_149, Courthouse\_145
- Track 50 : HokkenD\_145
- Track 51 : Dove\_137
- Track 52 : BAKA\_153, Klein\_150
- Track 53 : JuicyJay\_146, Beem\_153, Bombitas\_138
- Track 54 : Redno2\_145
- Track 55 : Ejimix\_143, Halley\_152, Dallas\_151
- Track 56 : NihilNomen\_152
- Track 57 : Hidrated\_139
- Track 58 : Gonephishing\_144
- Track 59 : LittleE\_153
- Track 60 : ThreeRngTarjay\_146, Phoebus\_151
- Track 61 : Thibault\_134
- Track 62 : Hughesyang\_150
- Track 63 : Stellammi\_92
- Track 64 : 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 45, it was called in 43 of the 105 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Ariel\_149, BAKA\_153, Bagrid\_154, Beem\_153, Bobby\_141, Bombitas\_138, BronnyJames\_145, Constella\_144, Courthouse\_145, CurlyFries\_50, Dallas\_151, DmpstrDiver\_151, Dove\_137, Duke13\_149, Ejimix\_143, EricMillard\_145, Gonephishing\_144, Halley\_152, Hannaconda\_144, Hidrated\_139, HokkenD\_145, Hughesyang\_150, JuicyJay\_146, Kalah2\_142, KashFlow\_150, Klein\_150, LittleE\_153, Lucky2013\_142, Marleymoo\_136, MiaZeal\_149, Minerva\_150, Nekros\_148, Nibley\_144, NihilNomen\_152, Odette\_156, Omega\_157, Optimus\_144, Phoebus\_151, Porcelain\_146, Pound\_142, Redno2\_145, RegnumDei\_48, Schatzie\_146, Shaboozey\_148, Shagrat\_49, Squint\_142, Superphikiman\_147, Thibault\_134, ThreeRngTarjay\_146, Wanda\_150, Yeet\_144, Zelink\_145,

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

- Stellammi\_92,

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

- Anaysia\_48, Anon\_43, Astro\_43, Battleship\_49, Boohoo\_48, Caitlin\_42, Courthouse\_126, CurlyFries\_65, CurlyFries\_66, Danforth\_43, DekHockey33\_48, Dorin\_262, Dorin\_263, EagleEye\_71, Elle\_44, Epsocamisio\_47, Expelliarmus\_43, Francesca\_262, Francesca\_263, Gonephishing\_125, Grayson\_191, Groundhog\_42, Hannaconda\_124, HokkenD\_123, JSwag\_47, JewelBug\_68, Jflix2\_58, Jflix2\_89, KatherineG\_49, LastResort\_47, Looper\_48, Lucyedi\_70, Madraxi\_61, Madraxi\_91, MinecraftSteve\_49, Nebulosus\_47, Nova53\_264, Nova53\_268, Odette\_135, Oofda\_48, PainterBoy\_69, Peregrin\_188, Phillis\_45, Polyphemus\_70, REQ1\_28, Ravana\_50, ReMo\_47, Rearden\_129, RegnumDei\_61, RegnumDei\_62, RegnumDei\_63, Remus\_48, Roary\_44, Rosalind\_47, SFuller\_57, Shagrat\_64, Shagrat\_65, Shagrat\_66, ShayRa\_49, Sleepyhead\_43, Smeadley\_44, Soups\_48, Stephig9\_44, Strosahl\_48, SuperAwesome\_68, Superphikiman\_128, Switzerland\_48, Waits\_48, Warrior24\_49, Yeet\_125,

### Summary by start number:

Start 23:

- Found in 1 of 123 ( 0.8% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Stellammi\_92 (UNK),

Start 30:

- Found in 5 of 123 ( 4.1% ) of genes in pham
- Manual Annotations of this start: 1 of 105
- Called 20.0% of time when present
- Phage (with cluster) where this start called: Sleepyhead\_43 (singleton),

Start 31:

- Found in 2 of 123 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 1 of 105
- Called 50.0% of time when present
- Phage (with cluster) where this start called: CurlyFries\_66 (CF),

Start 32:

- Found in 5 of 123 ( 4.1% ) of genes in pham
- Manual Annotations of this start: 2 of 105
- Called 80.0% of time when present
- Phage (with cluster) where this start called: Jflix2\_58 (CF), Madraxi\_61 (CF), REQ1\_28 (CF), SFuller\_57 (CF),

Start 33:

- Found in 6 of 123 ( 4.9% ) of genes in pham
- Manual Annotations of this start: 5 of 105
- Called 83.3% of time when present
- Phage (with cluster) where this start called: CurlyFries\_65 (CF), Jflix2\_89 (CF), Madraxi\_91 (CF), RegnumDei\_61 (CF), Shagrat\_64 (CF),

Start 34:

- Found in 4 of 123 ( 3.3% ) of genes in pham
- Manual Annotations of this start: 3 of 105
- Called 75.0% of time when present
- Phage (with cluster) where this start called: RegnumDei\_62 (CF), RegnumDei\_63 (CF), Shagrat\_65 (CF),

#### Start 35:

- Found in 10 of 123 ( 8.1% ) of genes in pham
- Manual Annotations of this start: 1 of 105
- Called 10.0% of time when present
- Phage (with cluster) where this start called: DekHockey33\_48 (A15),

#### Start 37:

- Found in 6 of 123 ( 4.9% ) of genes in pham
- Manual Annotations of this start: 6 of 105
- Called 100.0% of time when present
- Phage (with cluster) where this start called: EagleEye\_71 (A16), JewelBug\_68 (A6), Lucyedi\_70 (A16), PainterBoy\_69 (A16), Polyphemus\_70 (A6), SuperAwesome\_68 (A6),

#### Start 38:

- Found in 3 of 123 ( 2.4% ) of genes in pham
- Manual Annotations of this start: 1 of 105
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Nova53\_264 (CG),

#### Start 39:

- Found in 63 of 123 ( 51.2% ) of genes in pham
- Manual Annotations of this start: 21 of 105
- Called 36.5% of time when present
- Phage (with cluster) where this start called: Anaysia\_48 (A15), Anon\_43 (A15), Battleship\_49 (A15), Boohoo\_48 (A15), Elle\_44 (A15), Epsocamisio\_47 (A15), JSwag\_47 (A15), KatherineG\_49 (A15), LastResort\_47 (A15), Looper\_48 (A15), MinecraftSteve\_49 (A15), Nebulosus\_47 (A15), Oofda\_48 (A15), Ravana\_50 (A15), ReMo\_47 (A15), Remus\_48 (A15), Rosalind\_47 (A15), ShayRa\_49 (A15), Soups\_48 (A15), Strosahl\_48 (A15), Switzerland\_48 (A15), Waits\_48 (A15), Warrior24\_49 (A15),

#### Start 40:

- Found in 5 of 123 ( 4.1% ) of genes in pham
- Manual Annotations of this start: 4 of 105
- Called 80.0% of time when present
- Phage (with cluster) where this start called: Dorin\_262 (CG), Dorin\_263 (CG), Francesca\_262 (CG), Francesca\_263 (CG),

#### Start 41:

- Found in 1 of 123 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 105
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Nova53\_268 (CG),

#### Start 42:

- Found in 9 of 123 ( 7.3% ) of genes in pham

- Manual Annotations of this start: 8 of 105
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Astro\_43 (A8), Caitlin\_42 (A8), Danforth\_43 (A8), Expelliarmus\_43 (A8), Groundhog\_42 (A8), Phillis\_45 (A8), Roary\_44 (A8), Smeadley\_44 (A8), Stephig9\_44 (A8),

#### Start 45:

- Found in 53 of 123 ( 43.1% ) of genes in pham
- Manual Annotations of this start: 43 of 105
- Called 98.1% of time when present
- Phage (with cluster) where this start called: Ariel\_149 (J), BAKA\_153 (J), Bagrid\_154 (J), Beem\_153 (J), Bobby\_141 (J), Bombitas\_138 (J), BronnyJames\_145 (J), Constella\_144 (J), Courthouse\_145 (J), CurlyFries\_50 (CF), Dallas\_151 (J), DmpstrDiver\_151 (J), Dove\_137 (J), Duke13\_149 (J), Ejimix\_143 (J), EricMillard\_145 (J), Gonephishing\_144 (J), Halley\_152 (J), Hannaconda\_144 (J), Hidrated\_139 (J), HokkenD\_145 (J), Hughesyang\_150 (J), JuicyJay\_146 (J), Kalah2\_142 (J), KashFlow\_150 (J), Klein\_150 (J), LittleE\_153 (J), Lucky2013\_142 (J), Marleymoo\_136 (J), MiaZeal\_149 (J), Minerva\_150 (J), Nekros\_148 (J), Nibley\_144 (J), NihilNomen\_152 (J), Odette\_156 (J), Omega\_157 (J), Optimus\_144 (J), Phoebus\_151 (J), Porcelain\_146 (J), Pound\_142 (J), Redno2\_145 (J), RegnumDei\_48 (CF), Schatzie\_146 (J), Shaboozey\_148 (J), Shagrat\_49 (CF), Squint\_142 (J), Superphikiman\_147 (J), Thibault\_134 (J), ThreeRngTarjay\_146 (J), Wanda\_150 (J), Yeet\_144 (J), Zelink\_145 (J),

#### Start 46:

- Found in 8 of 123 ( 6.5% ) of genes in pham
- Manual Annotations of this start: 5 of 105
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Courthouse\_126 (J), Gonephishing\_125 (J), Hannaconda\_124 (J), HokkenD\_123 (J), Odette\_135 (J), Rearden\_129 (J), Superphikiman\_128 (J), Yeet\_125 (J),

#### Start 47:

- Found in 2 of 123 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 2 of 105
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Grayson\_191 (CB), Peregrin\_188 (CB),

#### Start 127:

- Found in 1 of 123 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 105
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Shagrat\_66 (CF),

### Summary by clusters:

There are 10 clusters represented in this pham: A15, singleton, A16, CB, J, CG, CF, A6, A8, UNK,

#### Info for manual annotations of cluster A15:

- Start number 35 was manually annotated 1 time for cluster A15.
- Start number 39 was manually annotated 21 times for cluster A15.

Info for manual annotations of cluster A16:

- Start number 37 was manually annotated 3 times for cluster A16.

Info for manual annotations of cluster A6:

- Start number 37 was manually annotated 3 times for cluster A6.

Info for manual annotations of cluster A8:

- Start number 42 was manually annotated 8 times for cluster A8.

Info for manual annotations of cluster CB:

- Start number 47 was manually annotated 2 times for cluster CB.

Info for manual annotations of cluster CF:

- Start number 31 was manually annotated 1 time for cluster CF.
- Start number 32 was manually annotated 2 times for cluster CF.
- Start number 33 was manually annotated 5 times for cluster CF.
- Start number 34 was manually annotated 3 times for cluster CF.
- Start number 45 was manually annotated 3 times for cluster CF.
- Start number 127 was manually annotated 1 time for cluster CF.

Info for manual annotations of cluster CG:

- Start number 38 was manually annotated 1 time for cluster CG.
- Start number 40 was manually annotated 4 times for cluster CG.
- Start number 41 was manually annotated 1 time for cluster CG.

Info for manual annotations of cluster J:

- Start number 45 was manually annotated 40 times for cluster J.
- Start number 46 was manually annotated 5 times for cluster J.

### ***Gene Information:***

Gene: Anaysia\_48 Start: 30327, Stop: 29968, Start Num: 39

Candidate Starts for Anaysia\_48:

(Start: 35 @30330 has 1 MA's), (Start: 39 @30327 has 21 MA's), (65, 30219), (123, 30003),

Gene: Anon\_43 Start: 29368, Stop: 29009, Start Num: 39

Candidate Starts for Anon\_43:

(Start: 39 @29368 has 21 MA's), (74, 29230),

Gene: Ariel\_149 Start: 76661, Stop: 76984, Start Num: 45

Candidate Starts for Ariel\_149:

(11, 76439), (14, 76487), (18, 76532), (Start: 39 @76649 has 21 MA's), (Start: 45 @76661 has 43 MA's), (63, 76745), (80, 76811), (89, 76850), (92, 76874), (106, 76931),

Gene: Astro\_43 Start: 30852, Stop: 30550, Start Num: 42

Candidate Starts for Astro\_43:

(Start: 42 @30852 has 8 MA's), (65, 30741), (70, 30732), (94, 30639), (107, 30588), (115, 30567),

Gene: BAKA\_153 Start: 81330, Stop: 81653, Start Num: 45

Candidate Starts for BAKA\_153:

(Start: 39 @81318 has 21 MA's), (Start: 45 @81330 has 43 MA's), (48, 81348), (63, 81414), (80, 81480), (89, 81519), (92, 81543), (106, 81600),

Gene: Bagrid\_154 Start: 82037, Stop: 82360, Start Num: 45

Candidate Starts for Bagrid\_154:

(Start: 39 @82025 has 21 MA's), (Start: 45 @82037 has 43 MA's), (63, 82121), (65, 82139), (80, 82187), (89, 82226), (92, 82250),

Gene: Battleship\_49 Start: 30296, Stop: 29937, Start Num: 39

Candidate Starts for Battleship\_49:

(2, 30701), (6, 30617), (7, 30614), (Start: 39 @30296 has 21 MA's), (65, 30188), (123, 29972),

Gene: Beem\_153 Start: 81458, Stop: 81781, Start Num: 45

Candidate Starts for Beem\_153:

(16, 81326), (18, 81329), (Start: 39 @81446 has 21 MA's), (Start: 45 @81458 has 43 MA's), (63, 81542), (80, 81608), (89, 81647), (106, 81728),

Gene: Bobby\_141 Start: 81455, Stop: 81778, Start Num: 45

Candidate Starts for Bobby\_141:

(Start: 39 @81443 has 21 MA's), (Start: 45 @81455 has 43 MA's), (63, 81539), (65, 81557), (89, 81644), (92, 81668),

Gene: Bombitas\_138 Start: 78311, Stop: 78634, Start Num: 45

Candidate Starts for Bombitas\_138:

(16, 78179), (18, 78182), (Start: 39 @78299 has 21 MA's), (Start: 45 @78311 has 43 MA's), (63, 78395), (80, 78461), (89, 78500), (106, 78581),

Gene: Boohoo\_48 Start: 30327, Stop: 29968, Start Num: 39

Candidate Starts for Boohoo\_48:

(Start: 35 @30330 has 1 MA's), (Start: 39 @30327 has 21 MA's), (65, 30219), (123, 30003),

Gene: BronnyJames\_145 Start: 77611, Stop: 77934, Start Num: 45

Candidate Starts for BronnyJames\_145:

(Start: 45 @77611 has 43 MA's), (63, 77695), (68, 77722), (80, 77761), (89, 77800), (108, 77884),

Gene: Caitlin\_42 Start: 30845, Stop: 30543, Start Num: 42

Candidate Starts for Caitlin\_42:

(Start: 42 @30845 has 8 MA's), (65, 30734), (70, 30725), (94, 30632), (107, 30581), (115, 30560),

Gene: Constella\_144 Start: 79520, Stop: 79843, Start Num: 45

Candidate Starts for Constella\_144:

(Start: 39 @79508 has 21 MA's), (Start: 45 @79520 has 43 MA's), (63, 79604), (65, 79622), (80, 79670), (89, 79709), (92, 79733),

Gene: Courthouse\_145 Start: 76519, Stop: 76842, Start Num: 45

Candidate Starts for Courthouse\_145:

(11, 76297), (14, 76345), (18, 76390), (Start: 39 @76507 has 21 MA's), (Start: 45 @76519 has 43 MA's), (63, 76603), (80, 76669), (89, 76708), (92, 76732), (106, 76789),

Gene: Courthouse\_126 Start: 68736, Stop: 69029, Start Num: 46

Candidate Starts for Courthouse\_126:

(Start: 46 @68736 has 5 MA's), (70, 68853), (86, 68913), (105, 68985), (106, 68988),

Gene: CurlyFries\_50 Start: 35699, Stop: 35998, Start Num: 45  
Candidate Starts for CurlyFries\_50:  
(27, 35636), (28, 35639), (Start: 45 @35699 has 43 MA's), (82, 35846), (113, 35963), (118, 35978),  
(119, 35987),

Gene: CurlyFries\_66 Start: 39792, Stop: 40115, Start Num: 31  
Candidate Starts for CurlyFries\_66:  
(Start: 31 @39792 has 1 MA's), (Start: 34 @39801 has 3 MA's), (117, 40065), (121, 40080), (124,  
40092),

Gene: CurlyFries\_65 Start: 39422, Stop: 39799, Start Num: 33  
Candidate Starts for CurlyFries\_65:  
(Start: 33 @39422 has 5 MA's), (59, 39494), (71, 39551), (83, 39596), (121, 39746),

Gene: Dallas\_151 Start: 80367, Stop: 80690, Start Num: 45  
Candidate Starts for Dallas\_151:  
(Start: 39 @80355 has 21 MA's), (Start: 45 @80367 has 43 MA's), (63, 80451), (65, 80469), (80,  
80517), (89, 80556),

Gene: Danforth\_43 Start: 30881, Stop: 30579, Start Num: 42  
Candidate Starts for Danforth\_43:  
(Start: 42 @30881 has 8 MA's), (65, 30770), (70, 30761), (94, 30668), (107, 30617), (115, 30596),

Gene: DekHockey33\_48 Start: 30545, Stop: 30183, Start Num: 35  
Candidate Starts for DekHockey33\_48:  
(Start: 35 @30545 has 1 MA's), (Start: 39 @30542 has 21 MA's), (65, 30434), (123, 30218),

Gene: DmpstrDiver\_151 Start: 80286, Stop: 80609, Start Num: 45  
Candidate Starts for DmpstrDiver\_151:  
(Start: 39 @80274 has 21 MA's), (Start: 45 @80286 has 43 MA's), (63, 80370), (65, 80388), (80,  
80436), (89, 80475), (118, 80589),

Gene: Dorin\_262 Start: 128550, Stop: 128915, Start Num: 40  
Candidate Starts for Dorin\_262:  
(Start: 40 @128550 has 4 MA's), (64, 128673), (65, 128682), (67, 128688), (86, 128766), (88, 128772),  
(96, 128817), (110, 128865),

Gene: Dorin\_263 Start: 128893, Stop: 129231, Start Num: 40  
Candidate Starts for Dorin\_263:  
(Start: 38 @128890 has 1 MA's), (Start: 40 @128893 has 4 MA's), (75, 129061),

Gene: Dove\_137 Start: 76474, Stop: 76797, Start Num: 45  
Candidate Starts for Dove\_137:  
(16, 76342), (18, 76345), (Start: 39 @76462 has 21 MA's), (Start: 45 @76474 has 43 MA's), (63,  
76558), (65, 76576), (89, 76663), (92, 76687), (118, 76777),

Gene: Duke13\_149 Start: 79615, Stop: 79938, Start Num: 45  
Candidate Starts for Duke13\_149:  
(Start: 39 @79603 has 21 MA's), (Start: 45 @79615 has 43 MA's), (48, 79633), (63, 79699), (80,  
79765), (89, 79804), (111, 79897),

Gene: EagleEye\_71 Start: 41731, Stop: 41372, Start Num: 37  
Candidate Starts for EagleEye\_71:

(17, 41836), (19, 41833), (20, 41830), (Start: 37 @41731 has 6 MA's), (52, 41689), (58, 41656), (92, 41506), (103, 41461), (104, 41458), (126, 41383),

Gene: Ejimix\_143 Start: 80435, Stop: 80758, Start Num: 45

Candidate Starts for Ejimix\_143:

(Start: 39 @80423 has 21 MA's), (Start: 45 @80435 has 43 MA's), (63, 80519), (65, 80537), (80, 80585), (89, 80624),

Gene: Elle\_44 Start: 28787, Stop: 28425, Start Num: 39

Candidate Starts for Elle\_44:

(3, 29156), (Start: 39 @28787 has 21 MA's), (63, 28697), (67, 28673), (74, 28649), (77, 28646), (86, 28607), (123, 28460),

Gene: Epsocamisio\_47 Start: 30101, Stop: 29742, Start Num: 39

Candidate Starts for Epsocamisio\_47:

(2, 30503), (6, 30419), (Start: 39 @30101 has 21 MA's), (65, 29993), (123, 29777),

Gene: EricMillard\_145 Start: 80967, Stop: 81290, Start Num: 45

Candidate Starts for EricMillard\_145:

(Start: 39 @80955 has 21 MA's), (Start: 45 @80967 has 43 MA's), (48, 80985), (63, 81051), (80, 81117), (89, 81156), (111, 81249),

Gene: Expelliarmus\_43 Start: 30910, Stop: 30608, Start Num: 42

Candidate Starts for Expelliarmus\_43:

(Start: 42 @30910 has 8 MA's), (65, 30799), (70, 30790), (94, 30697), (107, 30646), (115, 30625),

Gene: Francesca\_262 Start: 129192, Stop: 129557, Start Num: 40

Candidate Starts for Francesca\_262:

(Start: 40 @129192 has 4 MA's), (64, 129315), (65, 129324), (67, 129330), (86, 129408), (88, 129414), (96, 129459), (110, 129507),

Gene: Francesca\_263 Start: 129535, Stop: 129873, Start Num: 40

Candidate Starts for Francesca\_263:

(Start: 38 @129532 has 1 MA's), (Start: 40 @129535 has 4 MA's), (75, 129703),

Gene: Gonephishing\_125 Start: 68379, Stop: 68672, Start Num: 46

Candidate Starts for Gonephishing\_125:

(Start: 46 @68379 has 5 MA's), (70, 68496), (86, 68556), (105, 68628), (106, 68631),

Gene: Gonephishing\_144 Start: 78607, Stop: 78930, Start Num: 45

Candidate Starts for Gonephishing\_144:

(Start: 39 @78595 has 21 MA's), (Start: 45 @78607 has 43 MA's), (63, 78691), (68, 78718), (70, 78724), (80, 78757), (89, 78796),

Gene: Grayson\_191 Start: 99709, Stop: 100023, Start Num: 47

Candidate Starts for Grayson\_191:

(Start: 47 @99709 has 2 MA's), (51, 99727), (60, 99769), (67, 99823), (93, 99925), (108, 99979),

Gene: Groundhog\_42 Start: 30817, Stop: 30515, Start Num: 42

Candidate Starts for Groundhog\_42:

(Start: 42 @30817 has 8 MA's), (65, 30706), (70, 30697), (94, 30604), (107, 30553), (115, 30532),

Gene: Halley\_152 Start: 80751, Stop: 81074, Start Num: 45

Candidate Starts for Halley\_152:

(Start: 39 @80739 has 21 MA's), (Start: 45 @80751 has 43 MA's), (63, 80835), (65, 80853), (80, 80901), (89, 80940),

Gene: Hannaconda\_124 Start: 69032, Stop: 69325, Start Num: 46

Candidate Starts for Hannaconda\_124:

(Start: 46 @69032 has 5 MA's), (70, 69149), (86, 69209), (105, 69281), (106, 69284),

Gene: Hannaconda\_144 Start: 79540, Stop: 79863, Start Num: 45

Candidate Starts for Hannaconda\_144:

(Start: 45 @79540 has 43 MA's), (63, 79624), (68, 79651), (70, 79657), (80, 79690), (89, 79729),

Gene: Hidrated\_139 Start: 79925, Stop: 80248, Start Num: 45

Candidate Starts for Hidrated\_139:

(10, 79688), (13, 79727), (24, 79832), (Start: 39 @79913 has 21 MA's), (Start: 45 @79925 has 43 MA's), (48, 79943), (63, 80009), (80, 80075), (89, 80114), (92, 80138),

Gene: HokkenD\_123 Start: 71913, Stop: 72206, Start Num: 46

Candidate Starts for HokkenD\_123:

(Start: 46 @71913 has 5 MA's), (70, 72030), (86, 72090), (105, 72162), (106, 72165),

Gene: HokkenD\_145 Start: 81876, Stop: 82199, Start Num: 45

Candidate Starts for HokkenD\_145:

(10, 81639), (13, 81678), (24, 81783), (Start: 39 @81864 has 21 MA's), (Start: 45 @81876 has 43 MA's), (63, 81960), (68, 81987), (80, 82026), (89, 82065),

Gene: Hughesyang\_150 Start: 81110, Stop: 81433, Start Num: 45

Candidate Starts for Hughesyang\_150:

(16, 80978), (18, 80981), (Start: 39 @81098 has 21 MA's), (Start: 45 @81110 has 43 MA's), (63, 81194), (80, 81260), (89, 81299),

Gene: JSwag\_47 Start: 30039, Stop: 29680, Start Num: 39

Candidate Starts for JSwag\_47:

(2, 30441), (6, 30357), (Start: 39 @30039 has 21 MA's), (65, 29931), (123, 29715),

Gene: JewelBug\_68 Start: 40312, Stop: 39956, Start Num: 37

Candidate Starts for JewelBug\_68:

(25, 40390), (Start: 37 @40312 has 6 MA's), (73, 40168), (89, 40111), (104, 40042), (107, 40036), (116, 40015), (123, 39988), (126, 39967),

Gene: Jflix2\_89 Start: 50660, Stop: 51001, Start Num: 33

Candidate Starts for Jflix2\_89:

(21, 50558), (26, 50594), (29, 50642), (Start: 33 @50660 has 5 MA's), (61, 50741), (109, 50939),

Gene: Jflix2\_58 Start: 39721, Stop: 40101, Start Num: 32

Candidate Starts for Jflix2\_58:

(5, 39397), (Start: 30 @39709 has 1 MA's), (Start: 32 @39721 has 2 MA's), (57, 39814), (95, 39979), (108, 40024), (122, 40069),

Gene: JuicyJay\_146 Start: 82036, Stop: 82359, Start Num: 45

Candidate Starts for JuicyJay\_146:

(16, 81904), (18, 81907), (Start: 39 @82024 has 21 MA's), (Start: 45 @82036 has 43 MA's), (63, 82120), (80, 82186), (89, 82225), (106, 82306),

Gene: Kalah2\_142 Start: 80240, Stop: 80563, Start Num: 45

Candidate Starts for Kalah2\_142:

(Start: 39 @80228 has 21 MA's), (Start: 45 @80240 has 43 MA's), (63, 80324), (65, 80342), (89, 80429), (92, 80453),

Gene: KashFlow\_150 Start: 79539, Stop: 79862, Start Num: 45

Candidate Starts for KashFlow\_150:

(Start: 45 @79539 has 43 MA's), (63, 79623), (68, 79650), (70, 79656), (80, 79689), (89, 79728),

Gene: KatherineG\_49 Start: 30542, Stop: 30183, Start Num: 39

Candidate Starts for KatherineG\_49:

(Start: 35 @30545 has 1 MA's), (Start: 39 @30542 has 21 MA's), (65, 30434), (123, 30218),

Gene: Klein\_150 Start: 80105, Stop: 80428, Start Num: 45

Candidate Starts for Klein\_150:

(Start: 39 @80093 has 21 MA's), (Start: 45 @80105 has 43 MA's), (48, 80123), (63, 80189), (80, 80255), (89, 80294), (92, 80318), (106, 80375),

Gene: LastResort\_47 Start: 30103, Stop: 29744, Start Num: 39

Candidate Starts for LastResort\_47:

(Start: 35 @30106 has 1 MA's), (Start: 39 @30103 has 21 MA's), (65, 29995), (123, 29779),

Gene: LittleE\_153 Start: 80985, Stop: 81308, Start Num: 45

Candidate Starts for LittleE\_153:

(4, 80586), (8, 80709), (10, 80748), (13, 80787), (24, 80892), (Start: 39 @80973 has 21 MA's), (Start: 45 @80985 has 43 MA's), (63, 81069), (68, 81096), (80, 81135), (89, 81174), (108, 81258),

Gene: Looper\_48 Start: 30080, Stop: 29721, Start Num: 39

Candidate Starts for Looper\_48:

(Start: 35 @30083 has 1 MA's), (Start: 39 @30080 has 21 MA's), (65, 29972), (123, 29756),

Gene: Lucky2013\_142 Start: 75897, Stop: 76220, Start Num: 45

Candidate Starts for Lucky2013\_142:

(Start: 39 @75885 has 21 MA's), (Start: 45 @75897 has 43 MA's), (48, 75915), (63, 75981), (68, 76008), (80, 76047), (89, 76086), (108, 76170),

Gene: Lucyedi\_70 Start: 41927, Stop: 41568, Start Num: 37

Candidate Starts for Lucyedi\_70:

(17, 42032), (19, 42029), (20, 42026), (Start: 37 @41927 has 6 MA's), (52, 41885), (58, 41852), (92, 41702), (103, 41657), (104, 41654), (126, 41579),

Gene: Madraxi\_91 Start: 52811, Stop: 53170, Start Num: 33

Candidate Starts for Madraxi\_91:

(Start: 33 @52811 has 5 MA's), (44, 52826), (84, 52988), (97, 53033), (109, 53075),

Gene: Madraxi\_61 Start: 42224, Stop: 42604, Start Num: 32

Candidate Starts for Madraxi\_61:

(15, 42083), (Start: 30 @42212 has 1 MA's), (Start: 32 @42224 has 2 MA's), (79, 42407), (125, 42590),

Gene: Marleymoo\_136 Start: 77201, Stop: 77524, Start Num: 45

Candidate Starts for Marleymoo\_136:

(Start: 39 @77189 has 21 MA's), (Start: 45 @77201 has 43 MA's), (63, 77285), (65, 77303), (80, 77351), (89, 77390), (92, 77414), (111, 77483),

Gene: MiaZeal\_149 Start: 77044, Stop: 77367, Start Num: 45

Candidate Starts for MiaZeal\_149:

(Start: 39 @77032 has 21 MA's), (Start: 45 @77044 has 43 MA's), (48, 77062), (63, 77128), (68, 77155), (80, 77194), (89, 77233), (108, 77317),

Gene: MinecraftSteve\_49 Start: 30303, Stop: 29944, Start Num: 39

Candidate Starts for MinecraftSteve\_49:

(2, 30705), (6, 30621), (Start: 39 @30303 has 21 MA's), (65, 30195), (95, 30078), (123, 29979),

Gene: Minerva\_150 Start: 80059, Stop: 80382, Start Num: 45

Candidate Starts for Minerva\_150:

(Start: 39 @80047 has 21 MA's), (Start: 45 @80059 has 43 MA's), (63, 80143), (65, 80161), (89, 80248), (92, 80272),

Gene: Nebulosus\_47 Start: 30099, Stop: 29740, Start Num: 39

Candidate Starts for Nebulosus\_47:

(Start: 35 @30102 has 1 MA's), (Start: 39 @30099 has 21 MA's), (65, 29991), (123, 29775),

Gene: Nekros\_148 Start: 79933, Stop: 80256, Start Num: 45

Candidate Starts for Nekros\_148:

(Start: 45 @79933 has 43 MA's), (63, 80017), (68, 80044), (70, 80050), (80, 80083), (89, 80122),

Gene: Nibley\_144 Start: 77188, Stop: 77511, Start Num: 45

Candidate Starts for Nibley\_144:

(Start: 45 @77188 has 43 MA's), (63, 77272), (68, 77299), (80, 77338), (89, 77377), (108, 77461),

Gene: NihilNomen\_152 Start: 79960, Stop: 80283, Start Num: 45

Candidate Starts for NihilNomen\_152:

(Start: 39 @79948 has 21 MA's), (Start: 45 @79960 has 43 MA's), (63, 80044), (65, 80062), (80, 80110), (89, 80149), (92, 80173), (118, 80263),

Gene: Nova53\_268 Start: 131044, Stop: 131379, Start Num: 41

Candidate Starts for Nova53\_268:

(36, 131032), (Start: 41 @131044 has 1 MA's), (53, 131089), (54, 131092), (100, 131320), (101, 131329), (112, 131359),

Gene: Nova53\_264 Start: 130197, Stop: 130535, Start Num: 38

Candidate Starts for Nova53\_264:

(Start: 38 @130197 has 1 MA's), (Start: 40 @130200 has 4 MA's), (50, 130236), (57, 130275), (63, 130311), (75, 130368), (87, 130416),

Gene: Odette\_135 Start: 73830, Stop: 74123, Start Num: 46

Candidate Starts for Odette\_135:

(Start: 46 @73830 has 5 MA's), (70, 73947), (86, 74007), (105, 74079), (106, 74082),

Gene: Odette\_156 Start: 82653, Stop: 82976, Start Num: 45

Candidate Starts for Odette\_156:

(Start: 45 @82653 has 43 MA's), (63, 82737), (68, 82764), (80, 82803), (89, 82842), (108, 82926),

Gene: Omega\_157 Start: 82149, Stop: 82472, Start Num: 45

Candidate Starts for Omega\_157:

(Start: 45 @82149 has 43 MA's), (63, 82233), (68, 82260), (80, 82299), (89, 82338), (108, 82422),

Gene: Oofda\_48 Start: 30194, Stop: 29835, Start Num: 39

Candidate Starts for Oofda\_48:

(2, 30596), (6, 30512), (Start: 39 @30194 has 21 MA's), (65, 30086), (123, 29870),

Gene: Optimus\_144 Start: 79658, Stop: 79981, Start Num: 45

Candidate Starts for Optimus\_144:

(Start: 45 @79658 has 43 MA's), (63, 79742), (68, 79769), (80, 79808), (89, 79847), (108, 79931),

Gene: PainterBoy\_69 Start: 41636, Stop: 41277, Start Num: 37

Candidate Starts for PainterBoy\_69:

(17, 41741), (19, 41738), (20, 41735), (Start: 37 @41636 has 6 MA's), (52, 41594), (58, 41561), (92, 41411), (103, 41366), (104, 41363), (126, 41288),

Gene: Peregrin\_188 Start: 100106, Stop: 100420, Start Num: 47

Candidate Starts for Peregrin\_188:

(Start: 47 @100106 has 2 MA's), (51, 100124), (60, 100166), (67, 100220), (93, 100322), (108, 100376),

Gene: Phillis\_45 Start: 31235, Stop: 30933, Start Num: 42

Candidate Starts for Phillis\_45:

(Start: 42 @31235 has 8 MA's), (65, 31124), (70, 31115), (87, 31055), (94, 31022), (107, 30971), (115, 30950),

Gene: Phoebus\_151 Start: 82464, Stop: 82787, Start Num: 45

Candidate Starts for Phoebus\_151:

(16, 82332), (18, 82335), (Start: 39 @82452 has 21 MA's), (Start: 45 @82464 has 43 MA's), (63, 82548), (65, 82566), (89, 82653), (92, 82677),

Gene: Polyphemus\_70 Start: 40393, Stop: 40037, Start Num: 37

Candidate Starts for Polyphemus\_70:

(25, 40471), (Start: 37 @40393 has 6 MA's), (73, 40249), (89, 40192), (104, 40123), (116, 40096), (123, 40069), (126, 40048),

Gene: Porcelain\_146 Start: 76843, Stop: 77166, Start Num: 45

Candidate Starts for Porcelain\_146:

(Start: 39 @76831 has 21 MA's), (Start: 45 @76843 has 43 MA's), (48, 76861), (63, 76927), (68, 76954), (80, 76993), (89, 77032), (108, 77116),

Gene: Pound\_142 Start: 79694, Stop: 80017, Start Num: 45

Candidate Starts for Pound\_142:

(Start: 39 @79682 has 21 MA's), (Start: 45 @79694 has 43 MA's), (63, 79778), (65, 79796), (80, 79844), (89, 79883), (118, 79997),

Gene: REQ1\_28 Start: 11269, Stop: 11631, Start Num: 32

Candidate Starts for REQ1\_28:

(Start: 30 @11257 has 1 MA's), (Start: 32 @11269 has 2 MA's), (108, 11554), (121, 11596),

Gene: Ravana\_50 Start: 30731, Stop: 30372, Start Num: 39

Candidate Starts for Ravana\_50:

(Start: 39 @30731 has 21 MA's), (123, 30407),

Gene: ReMo\_47 Start: 30100, Stop: 29741, Start Num: 39

Candidate Starts for ReMo\_47:

(Start: 35 @30103 has 1 MA's), (Start: 39 @30100 has 21 MA's), (65, 29992), (123, 29776),

Gene: Rearden\_129 Start: 69937, Stop: 70230, Start Num: 46

Candidate Starts for Rearden\_129:

(Start: 46 @69937 has 5 MA's), (70, 70054), (86, 70114), (105, 70186), (106, 70189),

Gene: Redno2\_145 Start: 77962, Stop: 78285, Start Num: 45

Candidate Starts for Redno2\_145:

(Start: 39 @77950 has 21 MA's), (Start: 45 @77962 has 43 MA's), (63, 78046), (65, 78064), (80, 78112), (89, 78151), (92, 78175), (106, 78232),

Gene: RegnumDei\_48 Start: 35958, Stop: 36257, Start Num: 45

Candidate Starts for RegnumDei\_48:

(27, 35895), (28, 35898), (Start: 45 @35958 has 43 MA's), (82, 36105), (113, 36222), (119, 36246),

Gene: RegnumDei\_62 Start: 40266, Stop: 40643, Start Num: 34

Candidate Starts for RegnumDei\_62:

(9, 40029), (22, 40176), (Start: 34 @40266 has 3 MA's), (56, 40311), (59, 40338), (83, 40440), (121, 40590),

Gene: RegnumDei\_63 Start: 40645, Stop: 40995, Start Num: 34

Candidate Starts for RegnumDei\_63:

(Start: 31 @40636 has 1 MA's), (Start: 34 @40645 has 3 MA's), (75, 40783), (121, 40960), (124, 40972),

Gene: RegnumDei\_61 Start: 39892, Stop: 40269, Start Num: 33

Candidate Starts for RegnumDei\_61:

(Start: 33 @39892 has 5 MA's), (55, 39934), (83, 40078), (87, 40093), (108, 40168), (121, 40210),

Gene: Remus\_48 Start: 30019, Stop: 29660, Start Num: 39

Candidate Starts for Remus\_48:

(1, 30424), (2, 30421), (6, 30337), (Start: 39 @30019 has 21 MA's), (65, 29911), (123, 29695),

Gene: Roary\_44 Start: 30866, Stop: 30564, Start Num: 42

Candidate Starts for Roary\_44:

(Start: 42 @30866 has 8 MA's), (65, 30755), (70, 30746), (94, 30653), (107, 30602), (115, 30581),

Gene: Rosalind\_47 Start: 30222, Stop: 29863, Start Num: 39

Candidate Starts for Rosalind\_47:

(2, 30624), (6, 30540), (Start: 39 @30222 has 21 MA's), (65, 30114), (123, 29898),

Gene: SFuller\_57 Start: 39913, Stop: 40293, Start Num: 32

Candidate Starts for SFuller\_57:

(Start: 30 @39901 has 1 MA's), (Start: 32 @39913 has 2 MA's), (95, 40171), (122, 40261), (125, 40279),

Gene: Schatzie\_146 Start: 80543, Stop: 80866, Start Num: 45

Candidate Starts for Schatzie\_146:

(Start: 39 @80531 has 21 MA's), (Start: 45 @80543 has 43 MA's), (63, 80627), (65, 80645), (80, 80693), (89, 80732), (118, 80846),

Gene: Shaboozey\_148 Start: 77632, Stop: 77955, Start Num: 45  
Candidate Starts for Shaboozey\_148:  
(Start: 45 @77632 has 43 MA's), (63, 77716), (68, 77743), (80, 77782), (89, 77821), (108, 77905),

Gene: Shagrat\_49 Start: 36435, Stop: 36740, Start Num: 45  
Candidate Starts for Shagrat\_49:  
(27, 36375), (28, 36378), (Start: 45 @36435 has 43 MA's), (102, 36675), (111, 36696), (120, 36729),

Gene: Shagrat\_66 Start: 40915, Stop: 41250, Start Num: 127  
Candidate Starts for Shagrat\_66:  
(43, 40549), (49, 40564), (62, 40630), (66, 40654), (78, 40693), (85, 40720), (91, 40756), (Start: 127 @40915 has 1 MA's), (128, 41023), (129, 41101), (130, 41104), (131, 41197), (132, 41212), (133, 41224),

Gene: Shagrat\_64 Start: 40165, Stop: 40536, Start Num: 33  
Candidate Starts for Shagrat\_64:  
(Start: 33 @40165 has 5 MA's), (55, 40207), (63, 40276), (83, 40351), (99, 40414), (108, 40441), (115, 40462), (121, 40483), (123, 40492),

Gene: Shagrat\_65 Start: 40539, Stop: 40913, Start Num: 34  
Candidate Starts for Shagrat\_65:  
(Start: 33 @40536 has 5 MA's), (Start: 34 @40539 has 3 MA's), (59, 40611), (69, 40662), (71, 40668), (83, 40713), (90, 40740), (95, 40770), (121, 40860),

Gene: ShayRa\_49 Start: 30304, Stop: 29945, Start Num: 39  
Candidate Starts for ShayRa\_49:  
(Start: 35 @30307 has 1 MA's), (Start: 39 @30304 has 21 MA's), (65, 30196), (123, 29980),

Gene: Sleepyhead\_43 Start: 31028, Stop: 31363, Start Num: 30  
Candidate Starts for Sleepyhead\_43:  
(Start: 30 @31028 has 1 MA's), (76, 31199), (98, 31295),

Gene: Smeadley\_44 Start: 31032, Stop: 30730, Start Num: 42  
Candidate Starts for Smeadley\_44:  
(Start: 42 @31032 has 8 MA's), (65, 30921), (70, 30912), (94, 30819), (107, 30768), (115, 30747),

Gene: Soups\_48 Start: 30303, Stop: 29944, Start Num: 39  
Candidate Starts for Soups\_48:  
(Start: 35 @30306 has 1 MA's), (Start: 39 @30303 has 21 MA's), (65, 30195), (123, 29979),

Gene: Squint\_142 Start: 76328, Stop: 76651, Start Num: 45  
Candidate Starts for Squint\_142:  
(Start: 45 @76328 has 43 MA's), (63, 76412), (68, 76439), (70, 76445), (80, 76478), (89, 76517),

Gene: Stellammi\_92 Start: 44459, Stop: 44845, Start Num: 23  
Candidate Starts for Stellammi\_92:  
(23, 44459), (Start: 32 @44537 has 2 MA's), (Start: 45 @44564 has 43 MA's), (48, 44582), (58, 44630), (72, 44690), (81, 44711), (114, 44828),

Gene: Stephig9\_44 Start: 30891, Stop: 30589, Start Num: 42  
Candidate Starts for Stephig9\_44:  
(Start: 42 @30891 has 8 MA's), (65, 30780), (70, 30771), (94, 30678), (107, 30627), (115, 30606),

Gene: Strosahl\_48 Start: 30019, Stop: 29660, Start Num: 39

Candidate Starts for Strosahl\_48:

(1, 30424), (2, 30421), (6, 30337), (Start: 39 @30019 has 21 MA's), (65, 29911), (123, 29695),

Gene: SuperAwesome\_68 Start: 40045, Stop: 39689, Start Num: 37

Candidate Starts for SuperAwesome\_68:

(25, 40123), (Start: 37 @40045 has 6 MA's), (73, 39901), (89, 39844), (104, 39775), (116, 39748), (123, 39721), (126, 39700),

Gene: Superphikiman\_147 Start: 76801, Stop: 77124, Start Num: 45

Candidate Starts for Superphikiman\_147:

(11, 76579), (14, 76627), (18, 76672), (Start: 39 @76789 has 21 MA's), (Start: 45 @76801 has 43 MA's), (63, 76885), (80, 76951), (89, 76990), (92, 77014), (106, 77071),

Gene: Superphikiman\_128 Start: 69018, Stop: 69311, Start Num: 46

Candidate Starts for Superphikiman\_128:

(Start: 46 @69018 has 5 MA's), (70, 69135), (86, 69195), (105, 69267), (106, 69270),

Gene: Switzerland\_48 Start: 30402, Stop: 30043, Start Num: 39

Candidate Starts for Switzerland\_48:

(2, 30804), (6, 30720), (Start: 39 @30402 has 21 MA's), (65, 30294), (123, 30078),

Gene: Thibault\_134 Start: 77417, Stop: 77740, Start Num: 45

Candidate Starts for Thibault\_134:

(12, 77204), (16, 77285), (18, 77288), (Start: 39 @77405 has 21 MA's), (Start: 45 @77417 has 43 MA's), (63, 77501), (80, 77567), (89, 77606), (111, 77699),

Gene: ThreeRngTarjay\_146 Start: 81055, Stop: 81378, Start Num: 45

Candidate Starts for ThreeRngTarjay\_146:

(16, 80923), (18, 80926), (Start: 39 @81043 has 21 MA's), (Start: 45 @81055 has 43 MA's), (63, 81139), (65, 81157), (89, 81244), (92, 81268),

Gene: Waits\_48 Start: 30191, Stop: 29832, Start Num: 39

Candidate Starts for Waits\_48:

(2, 30593), (6, 30509), (Start: 39 @30191 has 21 MA's), (65, 30083), (123, 29867),

Gene: Wanda\_150 Start: 78530, Stop: 78853, Start Num: 45

Candidate Starts for Wanda\_150:

(Start: 39 @78518 has 21 MA's), (Start: 45 @78530 has 43 MA's), (63, 78614), (65, 78632), (89, 78719), (92, 78743),

Gene: Warrior24\_49 Start: 30398, Stop: 30039, Start Num: 39

Candidate Starts for Warrior24\_49:

(2, 30803), (6, 30719), (7, 30716), (Start: 39 @30398 has 21 MA's), (63, 30308), (64, 30299), (74, 30260), (123, 30074),

Gene: Yeet\_125 Start: 71942, Stop: 72235, Start Num: 46

Candidate Starts for Yeet\_125:

(Start: 46 @71942 has 5 MA's), (70, 72059), (86, 72119), (105, 72191), (106, 72194),

Gene: Yeet\_144 Start: 79906, Stop: 80229, Start Num: 45

Candidate Starts for Yeet\_144:

(11, 79684), (14, 79732), (18, 79777), (Start: 39 @79894 has 21 MA's), (Start: 45 @79906 has 43 MA's), (63, 79990), (80, 80056), (89, 80095), (92, 80119), (106, 80176),

Gene: Zelink\_145 Start: 81372, Stop: 81695, Start Num: 45

Candidate Starts for Zelink\_145:

(Start: 39 @81360 has 21 MA's), (Start: 45 @81372 has 43 MA's), (63, 81456), (65, 81474), (89, 81561), (92, 81585),