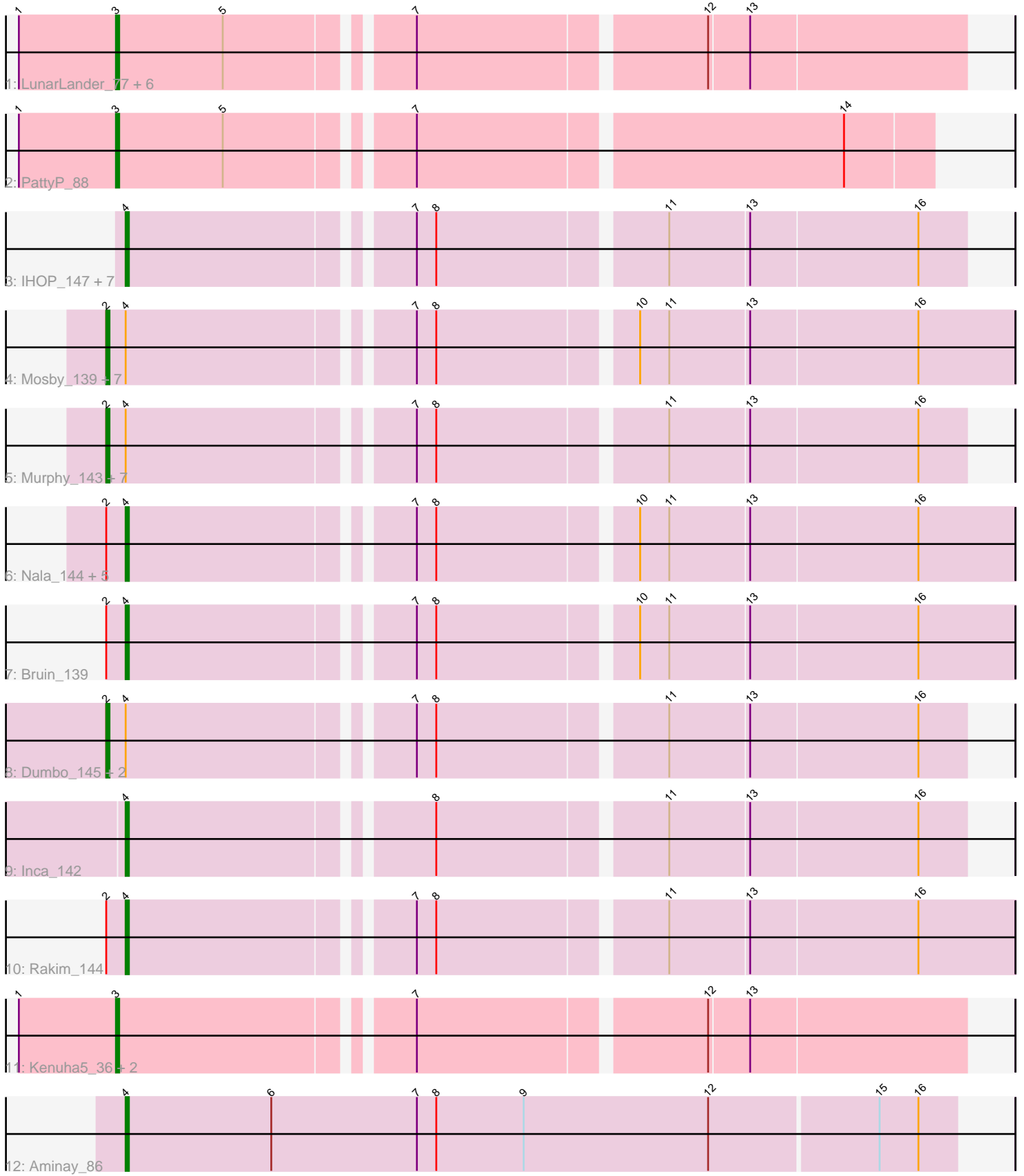


Pham 311715



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 311715 Report

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

Pham number 311715 has 48 members, 3 are drafts.

Phages represented in each track:

- Track 1 : LunarLander\_77, BillKnuckles\_82, Inyanga\_80, Iqorha\_80, Graduation\_91, Bobi\_43, Cueyllyss\_73
- Track 2 : PattyP\_88
- Track 3 : IHOP\_147, Ukulele\_139, BigBubba\_145, Marshmallow\_145, Phaja\_147, Simpliphy\_143, Dove\_227, OrionPax\_140
- Track 4 : Mosby\_139, FireRed\_146, Filch\_146, Tomaszewski\_136, Brewer\_138, xkcd\_147, Youngblood\_146, PhatBacter\_146
- Track 5 : Murphy\_143, Halley\_245, MPhalcon\_143, Dallas\_241, MadamMonkfish\_144, Odette\_242, Zelink\_236, Ejimix\_234
- Track 6 : Nala\_144, Misfit\_142, Terminus\_145, Sassay\_137, Willez\_140, Contagion\_138
- Track 7 : Bruin\_139
- Track 8 : Dumbo\_145, Cookies\_144, Bask21\_146
- Track 9 : Inca\_142
- Track 10 : Rakim\_144
- Track 11 : Kenuha5\_36, Emma\_42, Rialto\_44
- Track 12 : Aminay\_86

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

The start number called the most often in the published annotations is 4, it was called in 18 of the 45 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Aminay\_86, BigBubba\_145, Bruin\_139, Contagion\_138, Dove\_227, IHOP\_147, Inca\_142, Marshmallow\_145, Misfit\_142, Nala\_144, OrionPax\_140, Phaja\_147, Rakim\_144, Sassay\_137, Simpliphy\_143, Terminus\_145, Ukulele\_139, Willez\_140,

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

- Bask21\_146, Brewer\_138, Cookies\_144, Dallas\_241, Dumbo\_145, Ejimix\_234, Filch\_146, FireRed\_146, Halley\_245, MPhalcon\_143, MadamMonkfish\_144, Mosby\_139, Murphy\_143, Odette\_242, PhatBacter\_146, Tomaszewski\_136, Youngblood\_146, Zelink\_236, xkcd\_147,

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

- BillKnuckles\_82, Bobi\_43, Cueylyss\_73, Emma\_42, Graduation\_91, Inyanga\_80, Iqorha\_80, Kenuha5\_36, LunarLander\_77, PattyP\_88, Rialto\_44,

### Summary by start number:

Start 2:

- Found in 27 of 48 ( 56.2% ) of genes in pham
- Manual Annotations of this start: 18 of 45
- Called 70.4% of time when present
- Phage (with cluster) where this start called: Bask21\_146 (E), Brewer\_138 (E), Cookies\_144 (E), Dallas\_241 (J), Dumbo\_145 (E), Ejimix\_234 (J), Filch\_146 (E), FireRed\_146 (E), Halley\_245 (J), MPhalcon\_143 (E), MadamMonkfish\_144 (E), Mosby\_139 (E), Murphy\_143 (E), Odette\_242 (J), PhatBacter\_146 (E), Tomaszewski\_136 (E), Youngblood\_146 (E), Zelink\_236 (J), xkcd\_147 (E),

Start 3:

- Found in 11 of 48 ( 22.9% ) of genes in pham
- Manual Annotations of this start: 9 of 45
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BillKnuckles\_82 (A1), Bobi\_43 (F1), Cueylyss\_73 (A1), Emma\_42 (F1), Graduation\_91 (A1), Inyanga\_80 (A1), Iqorha\_80 (A1), Kenuha5\_36 (F1), LunarLander\_77 (A1), PattyP\_88 (A1), Rialto\_44 (F1),

Start 4:

- Found in 37 of 48 ( 77.1% ) of genes in pham
- Manual Annotations of this start: 18 of 45
- Called 48.6% of time when present
- Phage (with cluster) where this start called: Aminay\_86 (K7), BigBubba\_145 (E), Bruin\_139 (E), Contagion\_138 (E), Dove\_227 (J), IHOP\_147 (E), Inca\_142 (E), Marshmallow\_145 (E), Misfit\_142 (E), Nala\_144 (E), OrionPax\_140 (E), Phaja\_147 (E), Rakim\_144 (E), Sassay\_137 (E), Simpliphy\_143 (E), Terminus\_145 (E), Ukulele\_139 (E), Willez\_140 (E),

### Summary by clusters:

There are 5 clusters represented in this pham: A1, F1, J, E, K7,

Info for manual annotations of cluster A1:

- Start number 3 was manually annotated 5 times for cluster A1.

Info for manual annotations of cluster E:

- Start number 2 was manually annotated 14 times for cluster E.
- Start number 4 was manually annotated 16 times for cluster E.

Info for manual annotations of cluster F1:

- Start number 3 was manually annotated 4 times for cluster F1.

Info for manual annotations of cluster J:

- Start number 2 was manually annotated 4 times for cluster J.
- Start number 4 was manually annotated 1 time for cluster J.

Info for manual annotations of cluster K7:

- Start number 4 was manually annotated 1 time for cluster K7.

**Gene Information:**

Gene: Aminay\_86 Start: 53718, Stop: 53972, Start Num: 4

Candidate Starts for Aminay\_86:

(Start: 4 @53718 has 18 MA's), (6, 53763), (7, 53808), (8, 53814), (9, 53841), (12, 53898), (15, 53949), (16, 53961),

Gene: Bask21\_146 Start: 73530, Stop: 73267, Start Num: 2

Candidate Starts for Bask21\_146:

(Start: 2 @73530 has 18 MA's), (Start: 4 @73524 has 18 MA's), (7, 73443), (8, 73437), (11, 73371), (13, 73347), (16, 73296),

Gene: BigBubba\_145 Start: 73532, Stop: 73290, Start Num: 4

Candidate Starts for BigBubba\_145:

(Start: 4 @73532 has 18 MA's), (7, 73451), (8, 73445), (11, 73379), (13, 73355), (16, 73304),

Gene: BillKnuckles\_82 Start: 50387, Stop: 50142, Start Num: 3

Candidate Starts for BillKnuckles\_82:

(1, 50417), (Start: 3 @50387 has 9 MA's), (5, 50354), (7, 50303), (12, 50219), (13, 50207),

Gene: Bobi\_43 Start: 32563, Stop: 32318, Start Num: 3

Candidate Starts for Bobi\_43:

(1, 32593), (Start: 3 @32563 has 9 MA's), (5, 32530), (7, 32479), (12, 32395), (13, 32383),

Gene: Brewer\_138 Start: 72478, Stop: 72215, Start Num: 2

Candidate Starts for Brewer\_138:

(Start: 2 @72478 has 18 MA's), (Start: 4 @72472 has 18 MA's), (7, 72391), (8, 72385), (10, 72328), (11, 72319), (13, 72295), (16, 72244),

Gene: Bruin\_139 Start: 72737, Stop: 72480, Start Num: 4

Candidate Starts for Bruin\_139:

(Start: 2 @72743 has 18 MA's), (Start: 4 @72737 has 18 MA's), (7, 72656), (8, 72650), (10, 72593), (11, 72584), (13, 72560), (16, 72509),

Gene: Contagion\_138 Start: 73060, Stop: 72803, Start Num: 4

Candidate Starts for Contagion\_138:

(Start: 2 @73066 has 18 MA's), (Start: 4 @73060 has 18 MA's), (7, 72979), (8, 72973), (10, 72916), (11, 72907), (13, 72883), (16, 72832),

Gene: Cookies\_144 Start: 74873, Stop: 74610, Start Num: 2

Candidate Starts for Cookies\_144:

(Start: 2 @74873 has 18 MA's), (Start: 4 @74867 has 18 MA's), (7, 74786), (8, 74780), (11, 74714), (13, 74690), (16, 74639),

Gene: Cueylyss\_73 Start: 47182, Stop: 46937, Start Num: 3

Candidate Starts for Cueylyss\_73:

(1, 47212), (Start: 3 @47182 has 9 MA's), (5, 47149), (7, 47098), (12, 47014), (13, 47002),

Gene: Dallas\_241 Start: 111238, Stop: 110990, Start Num: 2

Candidate Starts for Dallas\_241:

(Start: 2 @111238 has 18 MA's), (Start: 4 @111232 has 18 MA's), (7, 111151), (8, 111145), (11, 111079), (13, 111055), (16, 111004),

Gene: Dove\_227 Start: 108364, Stop: 108122, Start Num: 4

Candidate Starts for Dove\_227:

(Start: 4 @108364 has 18 MA's), (7, 108283), (8, 108277), (11, 108211), (13, 108187), (16, 108136),

Gene: Dumbo\_145 Start: 74269, Stop: 74021, Start Num: 2

Candidate Starts for Dumbo\_145:

(Start: 2 @74269 has 18 MA's), (Start: 4 @74263 has 18 MA's), (7, 74182), (8, 74176), (11, 74110), (13, 74086), (16, 74035),

Gene: Ejimix\_234 Start: 111316, Stop: 111068, Start Num: 2

Candidate Starts for Ejimix\_234:

(Start: 2 @111316 has 18 MA's), (Start: 4 @111310 has 18 MA's), (7, 111229), (8, 111223), (11, 111157), (13, 111133), (16, 111082),

Gene: Emma\_42 Start: 32052, Stop: 31807, Start Num: 3

Candidate Starts for Emma\_42:

(1, 32082), (Start: 3 @32052 has 9 MA's), (7, 31968), (12, 31884), (13, 31872),

Gene: Filch\_146 Start: 74224, Stop: 73961, Start Num: 2

Candidate Starts for Filch\_146:

(Start: 2 @74224 has 18 MA's), (Start: 4 @74218 has 18 MA's), (7, 74137), (8, 74131), (10, 74074), (11, 74065), (13, 74041), (16, 73990),

Gene: FireRed\_146 Start: 74750, Stop: 74487, Start Num: 2

Candidate Starts for FireRed\_146:

(Start: 2 @74750 has 18 MA's), (Start: 4 @74744 has 18 MA's), (7, 74663), (8, 74657), (10, 74600), (11, 74591), (13, 74567), (16, 74516),

Gene: Graduation\_91 Start: 50590, Stop: 50345, Start Num: 3

Candidate Starts for Graduation\_91:

(1, 50620), (Start: 3 @50590 has 9 MA's), (5, 50557), (7, 50506), (12, 50422), (13, 50410),

Gene: Halley\_245 Start: 111724, Stop: 111476, Start Num: 2

Candidate Starts for Halley\_245:

(Start: 2 @111724 has 18 MA's), (Start: 4 @111718 has 18 MA's), (7, 111637), (8, 111631), (11, 111565), (13, 111541), (16, 111490),

Gene: IHOP\_147 Start: 74194, Stop: 73952, Start Num: 4

Candidate Starts for IHOP\_147:

(Start: 4 @74194 has 18 MA's), (7, 74113), (8, 74107), (11, 74041), (13, 74017), (16, 73966),

Gene: Inca\_142 Start: 72391, Stop: 72149, Start Num: 4

Candidate Starts for Inca\_142:

(Start: 4 @72391 has 18 MA's), (8, 72304), (11, 72238), (13, 72214), (16, 72163),

Gene: Inyanga\_80 Start: 48877, Stop: 48632, Start Num: 3

Candidate Starts for Inyanga\_80:

(1, 48907), (Start: 3 @48877 has 9 MA's), (5, 48844), (7, 48793), (12, 48709), (13, 48697),

Gene: Iqorha\_80 Start: 48876, Stop: 48631, Start Num: 3

Candidate Starts for Iqorha\_80:

(1, 48906), (Start: 3 @48876 has 9 MA's), (5, 48843), (7, 48792), (12, 48708), (13, 48696),

Gene: Kenuha5\_36 Start: 30563, Stop: 30318, Start Num: 3

Candidate Starts for Kenuha5\_36:

(1, 30593), (Start: 3 @30563 has 9 MA's), (7, 30479), (12, 30395), (13, 30383),

Gene: LunarLander\_77 Start: 47883, Stop: 47638, Start Num: 3

Candidate Starts for LunarLander\_77:

(1, 47913), (Start: 3 @47883 has 9 MA's), (5, 47850), (7, 47799), (12, 47715), (13, 47703),

Gene: MPhalcon\_143 Start: 73828, Stop: 73565, Start Num: 2

Candidate Starts for MPhalcon\_143:

(Start: 2 @73828 has 18 MA's), (Start: 4 @73822 has 18 MA's), (7, 73741), (8, 73735), (11, 73669), (13, 73645), (16, 73594),

Gene: MadamMonkfish\_144 Start: 74087, Stop: 73839, Start Num: 2

Candidate Starts for MadamMonkfish\_144:

(Start: 2 @74087 has 18 MA's), (Start: 4 @74081 has 18 MA's), (7, 74000), (8, 73994), (11, 73928), (13, 73904), (16, 73853),

Gene: Marshmallow\_145 Start: 75266, Stop: 75024, Start Num: 4

Candidate Starts for Marshmallow\_145:

(Start: 4 @75266 has 18 MA's), (7, 75185), (8, 75179), (11, 75113), (13, 75089), (16, 75038),

Gene: Misfit\_142 Start: 74696, Stop: 74439, Start Num: 4

Candidate Starts for Misfit\_142:

(Start: 2 @74702 has 18 MA's), (Start: 4 @74696 has 18 MA's), (7, 74615), (8, 74609), (10, 74552), (11, 74543), (13, 74519), (16, 74468),

Gene: Mosby\_139 Start: 73066, Stop: 72803, Start Num: 2

Candidate Starts for Mosby\_139:

(Start: 2 @73066 has 18 MA's), (Start: 4 @73060 has 18 MA's), (7, 72979), (8, 72973), (10, 72916), (11, 72907), (13, 72883), (16, 72832),

Gene: Murphy\_143 Start: 74414, Stop: 74166, Start Num: 2

Candidate Starts for Murphy\_143:

(Start: 2 @74414 has 18 MA's), (Start: 4 @74408 has 18 MA's), (7, 74327), (8, 74321), (11, 74255), (13, 74231), (16, 74180),

Gene: Nala\_144 Start: 74111, Stop: 73854, Start Num: 4

Candidate Starts for Nala\_144:

(Start: 2 @74117 has 18 MA's), (Start: 4 @74111 has 18 MA's), (7, 74030), (8, 74024), (10, 73967), (11, 73958), (13, 73934), (16, 73883),

Gene: Odette\_242 Start: 112166, Stop: 111918, Start Num: 2

Candidate Starts for Odette\_242:

(Start: 2 @112166 has 18 MA's), (Start: 4 @112160 has 18 MA's), (7, 112079), (8, 112073), (11, 112007), (13, 111983), (16, 111932),

Gene: OrionPax\_140 Start: 73639, Stop: 73397, Start Num: 4

Candidate Starts for OrionPax\_140:

(Start: 4 @73639 has 18 MA's), (7, 73558), (8, 73552), (11, 73486), (13, 73462), (16, 73411),

Gene: PattyP\_88 Start: 50536, Stop: 50300, Start Num: 3

Candidate Starts for PattyP\_88:

(1, 50566), (Start: 3 @50536 has 9 MA's), (5, 50503), (7, 50452), (14, 50326),

Gene: Phaja\_147 Start: 74199, Stop: 73957, Start Num: 4

Candidate Starts for Phaja\_147:

(Start: 4 @74199 has 18 MA's), (7, 74118), (8, 74112), (11, 74046), (13, 74022), (16, 73971),

Gene: PhatBacter\_146 Start: 74750, Stop: 74487, Start Num: 2

Candidate Starts for PhatBacter\_146:

(Start: 2 @74750 has 18 MA's), (Start: 4 @74744 has 18 MA's), (7, 74663), (8, 74657), (10, 74600), (11, 74591), (13, 74567), (16, 74516),

Gene: Rakim\_144 Start: 74233, Stop: 73976, Start Num: 4

Candidate Starts for Rakim\_144:

(Start: 2 @74239 has 18 MA's), (Start: 4 @74233 has 18 MA's), (7, 74152), (8, 74146), (11, 74080), (13, 74056), (16, 74005),

Gene: Rialto\_44 Start: 33781, Stop: 33536, Start Num: 3

Candidate Starts for Rialto\_44:

(1, 33811), (Start: 3 @33781 has 9 MA's), (7, 33697), (12, 33613), (13, 33601),

Gene: Sassay\_137 Start: 72022, Stop: 71765, Start Num: 4

Candidate Starts for Sassay\_137:

(Start: 2 @72028 has 18 MA's), (Start: 4 @72022 has 18 MA's), (7, 71941), (8, 71935), (10, 71878), (11, 71869), (13, 71845), (16, 71794),

Gene: Simpliphy\_143 Start: 73892, Stop: 73650, Start Num: 4

Candidate Starts for Simpliphy\_143:

(Start: 4 @73892 has 18 MA's), (7, 73811), (8, 73805), (11, 73739), (13, 73715), (16, 73664),

Gene: Terminus\_145 Start: 74696, Stop: 74439, Start Num: 4

Candidate Starts for Terminus\_145:

(Start: 2 @74702 has 18 MA's), (Start: 4 @74696 has 18 MA's), (7, 74615), (8, 74609), (10, 74552), (11, 74543), (13, 74519), (16, 74468),

Gene: Tomaszewski\_136 Start: 73240, Stop: 72977, Start Num: 2

Candidate Starts for Tomaszewski\_136:

(Start: 2 @73240 has 18 MA's), (Start: 4 @73234 has 18 MA's), (7, 73153), (8, 73147), (10, 73090), (11, 73081), (13, 73057), (16, 73006),

Gene: Ukulele\_139 Start: 73640, Stop: 73398, Start Num: 4

Candidate Starts for Ukulele\_139:

(Start: 4 @73640 has 18 MA's), (7, 73559), (8, 73553), (11, 73487), (13, 73463), (16, 73412),

Gene: Willez\_140 Start: 73103, Stop: 72846, Start Num: 4

Candidate Starts for Willez\_140:

(Start: 2 @73109 has 18 MA's), (Start: 4 @73103 has 18 MA's), (7, 73022), (8, 73016), (10, 72959), (11, 72950), (13, 72926), (16, 72875),

Gene: Youngblood\_146 Start: 74429, Stop: 74166, Start Num: 2

Candidate Starts for Youngblood\_146:

(Start: 2 @74429 has 18 MA's), (Start: 4 @74423 has 18 MA's), (7, 74342), (8, 74336), (10, 74279), (11, 74270), (13, 74246), (16, 74195),

Gene: Zelink\_236 Start: 111113, Stop: 110865, Start Num: 2

Candidate Starts for Zelink\_236:

(Start: 2 @111113 has 18 MA's), (Start: 4 @111107 has 18 MA's), (7, 111026), (8, 111020), (11, 110954), (13, 110930), (16, 110879),

Gene: xkcd\_147 Start: 75448, Stop: 75185, Start Num: 2

Candidate Starts for xkcd\_147:

(Start: 2 @75448 has 18 MA's), (Start: 4 @75442 has 18 MA's), (7, 75361), (8, 75355), (10, 75298), (11, 75289), (13, 75265), (16, 75214),