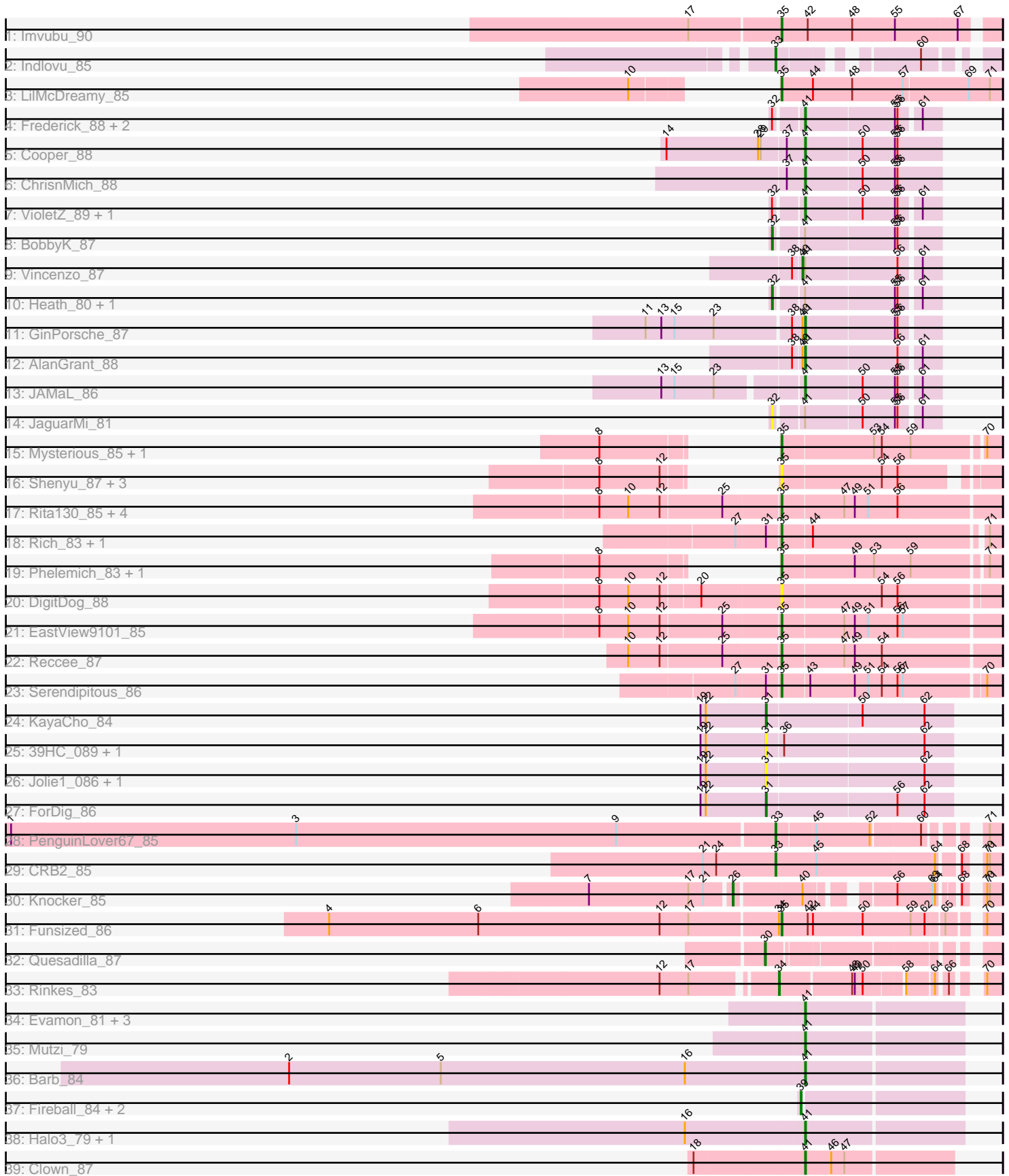


Pham 303383



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 303383 Report

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

Pham number 303383 has 61 members, 13 are drafts.

Phages represented in each track:

- Track 1 : Imvubu\_90
- Track 2 : Indlovu\_85
- Track 3 : LilMcDreamy\_85
- Track 4 : Frederick\_88, Mudslide\_87, Apex\_88
- Track 5 : Cooper\_88
- Track 6 : ChrisnMich\_88
- Track 7 : VioletZ\_89, Prince\_86
- Track 8 : BobbyK\_87
- Track 9 : Vincenzo\_87
- Track 10 : Heath\_80, Lolalove\_88
- Track 11 : GinPorsche\_87
- Track 12 : AlanGrant\_88
- Track 13 : JAMaL\_86
- Track 14 : JaguarMi\_81
- Track 15 : Mysterious\_85, Nehemiah\_85
- Track 16 : Shenyu\_87, Nangang\_87, StinkyVeggy\_84, KarasumaRum\_84
- Track 17 : Rita130\_85, Donny\_86, Acadian\_86, SirJeffery\_84, Suigeneris\_87
- Track 18 : Rich\_83, Bae\_84
- Track 19 : Phelemich\_83, Reprobate\_85
- Track 20 : DigitDog\_88
- Track 21 : EastView9101\_85
- Track 22 : Reccee\_87
- Track 23 : Serendipitous\_86
- Track 24 : KayaCho\_84
- Track 25 : 39HC\_089, 40BC\_089
- Track 26 : Jolie1\_086, Hosp\_084
- Track 27 : ForDig\_86
- Track 28 : PenguinLover67\_85
- Track 29 : CRB2\_85
- Track 30 : Knocker\_85
- Track 31 : Funsized\_86
- Track 32 : Quesadilla\_87
- Track 33 : Rinkes\_83
- Track 34 : Evamon\_81, SmokingBunny\_82, Salvador\_81, Togo\_81
- Track 35 : Mutzi\_79
- Track 36 : Barb\_84
- Track 37 : Fireball\_84, TillyBobJoe\_79, Nubi\_83

- Track 38 : Halo3\_79, CoveyB\_82
- Track 39 : Clown\_87

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

The start number called the most often in the published annotations is 41, it was called in 19 of the 48 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AlanGrant\_88, Apex\_88, Barb\_84, ChrisnMich\_88, Clown\_87, Cooper\_88, CoveyB\_82, Evamon\_81, Frederick\_88, GinPorsche\_87, Halo3\_79, JAMaL\_86, Mudslide\_87, Mutzi\_79, Prince\_86, Salvador\_81, SmokingBunny\_82, Togo\_81, VioletZ\_89,

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

- BobbyK\_87, Heath\_80, JaguarMi\_81, Lolalove\_88, Vincenzo\_87,

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

- 39HC\_089, 40BC\_089, Acadian\_86, Bae\_84, CRB2\_85, DigitDog\_88, Donny\_86, EastView9101\_85, Fireball\_84, ForDig\_86, Funsized\_86, Hosp\_084, Imvubu\_90, Indlovu\_85, Jolie1\_086, KarasumaRum\_84, KayaCho\_84, Knocker\_85, LilMcDreamy\_85, Mysterious\_85, Nangang\_87, Nehemiah\_85, Nubi\_83, PenguinLover67\_85, Phelemich\_83, Quesadilla\_87, Reccee\_87, Reprobate\_85, Rich\_83, Rinkes\_83, Rita130\_85, Serendipitous\_86, Shenyu\_87, SirJeffery\_84, StinkyVeggy\_84, Suigeneris\_87, TillyBobJoe\_79,

**Summary by start number:**

Start 26:

- Found in 1 of 61 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 1 of 48
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Knocker\_85 (B9),

Start 30:

- Found in 1 of 61 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 1 of 48
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Quesadilla\_87 (B9),

Start 31:

- Found in 9 of 61 ( 14.8% ) of genes in pham
- Manual Annotations of this start: 2 of 48
- Called 66.7% of time when present
- Phage (with cluster) where this start called: 39HC\_089 (B6), 40BC\_089 (B6), ForDig\_86 (B6), Hosp\_084 (B6), Jolie1\_086 (B6), KayaCho\_84 (B6),

Start 32:

- Found in 9 of 61 ( 14.8% ) of genes in pham
- Manual Annotations of this start: 3 of 48

- Called 44.4% of time when present
- Phage (with cluster) where this start called: BobbyK\_87 (B4), Heath\_80 (B4), JaguarMi\_81 (B4), Lolalove\_88 (B4),

#### Start 33:

- Found in 3 of 61 ( 4.9% ) of genes in pham
- Manual Annotations of this start: 3 of 48
- Called 100.0% of time when present
- Phage (with cluster) where this start called: CRB2\_85 (B9), Indlovu\_85 (B11), PenguinLover67\_85 (B9),

#### Start 34:

- Found in 2 of 61 ( 3.3% ) of genes in pham
- Manual Annotations of this start: 1 of 48
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Rinkes\_83 (B9),

#### Start 35:

- Found in 22 of 61 ( 36.1% ) of genes in pham
- Manual Annotations of this start: 14 of 48
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Acadian\_86 (B5), Bae\_84 (B5), DigitDog\_88 (B5), Donny\_86 (B5), EastView9101\_85 (B5), Funsized\_86 (B9), Imvubu\_90 (B10), KarasumaRum\_84 (B5), LilMcDreamy\_85 (B12), Mysterious\_85 (B5), Nangang\_87 (B5), Nehemiah\_85 (B5), Phelemich\_83 (B5), Reccee\_87 (B5), Reprobate\_85 (B5), Rich\_83 (B5), Rita130\_85 (B5), Serendipitous\_86 (B5), Shenyu\_87 (B5), SirJeffery\_84 (B5), StinkyVeggy\_84 (B5), Suigeneris\_87 (B5),

#### Start 39:

- Found in 3 of 61 ( 4.9% ) of genes in pham
- Manual Annotations of this start: 3 of 48
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Fireball\_84 (DC1), Nubi\_83 (DC1), TillyBobJoe\_79 (DC1),

#### Start 40:

- Found in 4 of 61 ( 6.6% ) of genes in pham
- Manual Annotations of this start: 1 of 48
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Vincenzo\_87 (B4),

#### Start 41:

- Found in 24 of 61 ( 39.3% ) of genes in pham
- Manual Annotations of this start: 19 of 48
- Called 79.2% of time when present
- Phage (with cluster) where this start called: AlanGrant\_88 (B4), Apex\_88 (B4), Barb\_84 (DC1), ChrisnMich\_88 (B4), Clown\_87 (DC2), Cooper\_88 (B4), CoveyB\_82 (DC1), Evamon\_81 (DC1), Frederick\_88 (B4), GinPorsche\_87 (B4), Halo3\_79 (DC1), JAMaL\_86 (B4), Mudslide\_87 (B4), Mutzi\_79 (DC1), Prince\_86 (B4), Salvador\_81 (DC1), SmokingBunny\_82 (DC1), Togo\_81 (DC1), VioletZ\_89 (B4),

### Summary by clusters:

There are 9 clusters represented in this pham: B4, B5, B6, B12, B10, B11, DC2, B9, DC1,

Info for manual annotations of cluster B10:

- Start number 35 was manually annotated 1 time for cluster B10.

Info for manual annotations of cluster B11:

- Start number 33 was manually annotated 1 time for cluster B11.

Info for manual annotations of cluster B12:

- Start number 35 was manually annotated 1 time for cluster B12.

Info for manual annotations of cluster B4:

- Start number 32 was manually annotated 3 times for cluster B4.
- Start number 40 was manually annotated 1 time for cluster B4.
- Start number 41 was manually annotated 10 times for cluster B4.

Info for manual annotations of cluster B5:

- Start number 35 was manually annotated 11 times for cluster B5.

Info for manual annotations of cluster B6:

- Start number 31 was manually annotated 2 times for cluster B6.

Info for manual annotations of cluster B9:

- Start number 26 was manually annotated 1 time for cluster B9.
- Start number 30 was manually annotated 1 time for cluster B9.
- Start number 33 was manually annotated 2 times for cluster B9.
- Start number 34 was manually annotated 1 time for cluster B9.
- Start number 35 was manually annotated 1 time for cluster B9.

Info for manual annotations of cluster DC1:

- Start number 39 was manually annotated 3 times for cluster DC1.
- Start number 41 was manually annotated 8 times for cluster DC1.

Info for manual annotations of cluster DC2:

- Start number 41 was manually annotated 1 time for cluster DC2.

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

Gene: 39HC\_089 Start: 65823, Stop: 65617, Start Num: 31

Candidate Starts for 39HC\_089:

(19, 65898), (22, 65892), (Start: 31 @65823 has 2 MA's), (36, 65805), (62, 65649),

Gene: 40BC\_089 Start: 65823, Stop: 65617, Start Num: 31

Candidate Starts for 40BC\_089:

(19, 65898), (22, 65892), (Start: 31 @65823 has 2 MA's), (36, 65805), (62, 65649),

Gene: Acadian\_86 Start: 64696, Stop: 64454, Start Num: 35

Candidate Starts for Acadian\_86:

(8, 64897), (10, 64864), (12, 64828), (25, 64759), (Start: 35 @64696 has 14 MA's), (47, 64627), (49, 64615), (51, 64600), (56, 64567),

Gene: AlanGrant\_88 Start: 66948, Stop: 66805, Start Num: 41

Candidate Starts for AlanGrant\_88:

(38, 66960), (Start: 40 @66951 has 1 MA's), (Start: 41 @66948 has 19 MA's), (56, 66846), (61, 66825),

Gene: Apex\_88 Start: 66270, Stop: 66127, Start Num: 41

Candidate Starts for Apex\_88:

(Start: 32 @66297 has 3 MA's), (Start: 41 @66270 has 19 MA's), (55, 66171), (56, 66168), (61, 66147),

Gene: Bae\_84 Start: 65056, Stop: 64823, Start Num: 35

Candidate Starts for Bae\_84:

(27, 65104), (Start: 31 @65071 has 2 MA's), (Start: 35 @65056 has 14 MA's), (44, 65023), (71, 64837),

Gene: Barb\_84 Start: 53980, Stop: 54156, Start Num: 41

Candidate Starts for Barb\_84:

(2, 53392), (5, 53566), (16, 53845), (Start: 41 @53980 has 19 MA's),

Gene: BobbyK\_87 Start: 65805, Stop: 65635, Start Num: 32

Candidate Starts for BobbyK\_87:

(Start: 32 @65805 has 3 MA's), (Start: 41 @65778 has 19 MA's), (55, 65679), (56, 65676),

Gene: CRB2\_85 Start: 66826, Stop: 66605, Start Num: 33

Candidate Starts for CRB2\_85:

(21, 66907), (24, 66892), (Start: 33 @66826 has 3 MA's), (45, 66781), (64, 66652), (68, 66634), (70, 66622), (71, 66619),

Gene: ChrisnMich\_88 Start: 65061, Stop: 64909, Start Num: 41

Candidate Starts for ChrisnMich\_88:

(37, 65082), (Start: 41 @65061 has 19 MA's), (50, 64998), (55, 64962), (56, 64959),

Gene: Clown\_87 Start: 55358, Stop: 55522, Start Num: 41

Candidate Starts for Clown\_87:

(18, 55235), (Start: 41 @55358 has 19 MA's), (46, 55388), (47, 55403),

Gene: Cooper\_88 Start: 65574, Stop: 65422, Start Num: 41

Candidate Starts for Cooper\_88:

(14, 65730), (28, 65625), (29, 65622), (37, 65595), (Start: 41 @65574 has 19 MA's), (50, 65511), (55, 65475), (56, 65472),

Gene: CoveyB\_82 Start: 53467, Stop: 53643, Start Num: 41

Candidate Starts for CoveyB\_82:

(16, 53332), (Start: 41 @53467 has 19 MA's),

Gene: DigitDog\_88 Start: 65196, Stop: 64957, Start Num: 35

Candidate Starts for DigitDog\_88:

(8, 65397), (10, 65364), (12, 65328), (20, 65286), (Start: 35 @65196 has 14 MA's), (54, 65085), (56, 65067),

Gene: Donny\_86 Start: 64530, Stop: 64288, Start Num: 35

Candidate Starts for Donny\_86:

(8, 64731), (10, 64698), (12, 64662), (25, 64593), (Start: 35 @64530 has 14 MA's), (47, 64461), (49, 64449), (51, 64434), (56, 64401),

Gene: EastView9101\_85 Start: 64441, Stop: 64199, Start Num: 35  
Candidate Starts for EastView9101\_85:  
(8, 64642), (10, 64609), (12, 64573), (25, 64504), (Start: 35 @64441 has 14 MA's), (47, 64372), (49, 64360), (51, 64345), (56, 64312), (57, 64306),

Gene: Evamon\_81 Start: 53374, Stop: 53550, Start Num: 41  
Candidate Starts for Evamon\_81:  
(Start: 41 @53374 has 19 MA's),

Gene: Fireball\_84 Start: 53836, Stop: 54012, Start Num: 39  
Candidate Starts for Fireball\_84:  
(Start: 39 @53836 has 3 MA's),

Gene: ForDig\_86 Start: 65091, Stop: 64885, Start Num: 31  
Candidate Starts for ForDig\_86:  
(19, 65166), (22, 65160), (Start: 31 @65091 has 2 MA's), (56, 64947), (62, 64917),

Gene: Frederick\_88 Start: 66084, Stop: 65941, Start Num: 41  
Candidate Starts for Frederick\_88:  
(Start: 32 @66111 has 3 MA's), (Start: 41 @66084 has 19 MA's), (55, 65985), (56, 65982), (61, 65961),

Gene: Funsized\_86 Start: 67570, Stop: 67346, Start Num: 35  
Candidate Starts for Funsized\_86:  
(4, 68083), (6, 67912), (12, 67705), (17, 67672), (Start: 34 @67573 has 1 MA's), (Start: 35 @67570 has 14 MA's), (42, 67540), (44, 67534), (50, 67477), (59, 67423), (62, 67408), (65, 67390), (70, 67363),

Gene: GinPorsche\_87 Start: 65104, Stop: 64961, Start Num: 41  
Candidate Starts for GinPorsche\_87:  
(11, 65281), (13, 65263), (15, 65248), (23, 65203), (38, 65119), (Start: 40 @65107 has 1 MA's), (Start: 41 @65104 has 19 MA's), (55, 65005), (56, 65002),

Gene: Halo3\_79 Start: 53805, Stop: 53981, Start Num: 41  
Candidate Starts for Halo3\_79:  
(16, 53670), (Start: 41 @53805 has 19 MA's),

Gene: Heath\_80 Start: 64111, Stop: 63941, Start Num: 32  
Candidate Starts for Heath\_80:  
(Start: 32 @64111 has 3 MA's), (Start: 41 @64084 has 19 MA's), (55, 63985), (56, 63982), (61, 63961),

Gene: Hosp\_084 Start: 63115, Stop: 62909, Start Num: 31  
Candidate Starts for Hosp\_084:  
(19, 63190), (22, 63184), (Start: 31 @63115 has 2 MA's), (62, 62941),

Gene: Imvubu\_90 Start: 65577, Stop: 65344, Start Num: 35  
Candidate Starts for Imvubu\_90:  
(17, 65679), (Start: 35 @65577 has 14 MA's), (42, 65547), (48, 65496), (55, 65448), (67, 65379),

Gene: Indlovu\_85 Start: 66174, Stop: 65995, Start Num: 33  
Candidate Starts for Indlovu\_85:  
(Start: 33 @66174 has 3 MA's), (60, 66054),

Gene: JAMaL\_86 Start: 65643, Stop: 65500, Start Num: 41  
Candidate Starts for JAMaL\_86:

(13, 65790), (15, 65775), (23, 65730), (Start: 41 @65643 has 19 MA's), (50, 65580), (55, 65544), (56, 65541), (61, 65520),

Gene: JaguarMi\_81 Start: 66176, Stop: 66006, Start Num: 32

Candidate Starts for JaguarMi\_81:

(Start: 32 @66176 has 3 MA's), (Start: 41 @66149 has 19 MA's), (50, 66086), (55, 66050), (56, 66047), (61, 66026),

Gene: Jolie1\_086 Start: 65142, Stop: 64936, Start Num: 31

Candidate Starts for Jolie1\_086:

(19, 65217), (22, 65211), (Start: 31 @65142 has 2 MA's), (62, 64968),

Gene: KarasumaRum\_84 Start: 64594, Stop: 64355, Start Num: 35

Candidate Starts for KarasumaRum\_84:

(8, 64690), (12, 64621), (Start: 35 @64594 has 14 MA's), (54, 64483), (56, 64465),

Gene: KayaCho\_84 Start: 65033, Stop: 64827, Start Num: 31

Candidate Starts for KayaCho\_84:

(19, 65108), (22, 65102), (Start: 31 @65033 has 2 MA's), (50, 64928), (62, 64859),

Gene: Knocker\_85 Start: 66543, Stop: 66316, Start Num: 26

Candidate Starts for Knocker\_85:

(7, 66699), (17, 66585), (21, 66570), (Start: 26 @66543 has 1 MA's), (Start: 40 @66474 has 1 MA's), (56, 66402), (63, 66363), (64, 66360), (68, 66345), (70, 66333), (71, 66330),

Gene: LilMcDreamy\_85 Start: 64982, Stop: 64734, Start Num: 35

Candidate Starts for LilMcDreamy\_85:

(10, 65042), (Start: 35 @64982 has 14 MA's), (44, 64946), (48, 64901), (57, 64844), (69, 64772), (71, 64748),

Gene: Lolalove\_88 Start: 66142, Stop: 65972, Start Num: 32

Candidate Starts for Lolalove\_88:

(Start: 32 @66142 has 3 MA's), (Start: 41 @66115 has 19 MA's), (55, 66016), (56, 66013), (61, 65992),

Gene: Mudslide\_87 Start: 66345, Stop: 66202, Start Num: 41

Candidate Starts for Mudslide\_87:

(Start: 32 @66372 has 3 MA's), (Start: 41 @66345 has 19 MA's), (55, 66246), (56, 66243), (61, 66222),

Gene: Mutzi\_79 Start: 53940, Stop: 54116, Start Num: 41

Candidate Starts for Mutzi\_79:

(Start: 41 @53940 has 19 MA's),

Gene: Mysterious\_85 Start: 64739, Stop: 64503, Start Num: 35

Candidate Starts for Mysterious\_85:

(8, 64835), (Start: 35 @64739 has 14 MA's), (53, 64637), (54, 64628), (59, 64595), (70, 64520),

Gene: Nangang\_87 Start: 65197, Stop: 64958, Start Num: 35

Candidate Starts for Nangang\_87:

(8, 65293), (12, 65224), (Start: 35 @65197 has 14 MA's), (54, 65086), (56, 65068),

Gene: Nehemiah\_85 Start: 64619, Stop: 64383, Start Num: 35

Candidate Starts for Nehemiah\_85:

(8, 64715), (Start: 35 @64619 has 14 MA's), (53, 64517), (54, 64508), (59, 64475), (70, 64400),

Gene: Nubi\_83 Start: 53251, Stop: 53427, Start Num: 39

Candidate Starts for Nubi\_83:

(Start: 39 @53251 has 3 MA's),

Gene: PenguinLover67\_85 Start: 64569, Stop: 64360, Start Num: 33

Candidate Starts for PenguinLover67\_85:

(1, 65436), (3, 65109), (9, 64743), (Start: 33 @64569 has 3 MA's), (45, 64527), (52, 64467), (60, 64416), (71, 64374),

Gene: Phelemich\_83 Start: 64664, Stop: 64428, Start Num: 35

Candidate Starts for Phelemich\_83:

(8, 64760), (Start: 35 @64664 has 14 MA's), (49, 64583), (53, 64562), (59, 64520), (71, 64442),

Gene: Prince\_86 Start: 66212, Stop: 66069, Start Num: 41

Candidate Starts for Prince\_86:

(Start: 32 @66239 has 3 MA's), (Start: 41 @66212 has 19 MA's), (50, 66149), (55, 66113), (56, 66110), (61, 66089),

Gene: Quesadilla\_87 Start: 65727, Stop: 65512, Start Num: 30

Candidate Starts for Quesadilla\_87:

(Start: 30 @65727 has 1 MA's),

Gene: Reccee\_87 Start: 65000, Stop: 64758, Start Num: 35

Candidate Starts for Reccee\_87:

(10, 65168), (12, 65132), (25, 65063), (Start: 35 @65000 has 14 MA's), (47, 64931), (49, 64919), (54, 64889),

Gene: Reprobate\_85 Start: 64669, Stop: 64433, Start Num: 35

Candidate Starts for Reprobate\_85:

(8, 64765), (Start: 35 @64669 has 14 MA's), (49, 64588), (53, 64567), (59, 64525), (71, 64447),

Gene: Rich\_83 Start: 65123, Stop: 64890, Start Num: 35

Candidate Starts for Rich\_83:

(27, 65171), (Start: 31 @65138 has 2 MA's), (Start: 35 @65123 has 14 MA's), (44, 65090), (71, 64904),

Gene: Rinkes\_83 Start: 65423, Stop: 65226, Start Num: 34

Candidate Starts for Rinkes\_83:

(12, 65543), (17, 65510), (Start: 34 @65423 has 1 MA's), (48, 65348), (49, 65345), (50, 65336), (58, 65297), (64, 65270), (66, 65261), (70, 65243),

Gene: Rita130\_85 Start: 64670, Stop: 64428, Start Num: 35

Candidate Starts for Rita130\_85:

(8, 64871), (10, 64838), (12, 64802), (25, 64733), (Start: 35 @64670 has 14 MA's), (47, 64601), (49, 64589), (51, 64574), (56, 64541),

Gene: Salvador\_81 Start: 53372, Stop: 53548, Start Num: 41

Candidate Starts for Salvador\_81:

(Start: 41 @53372 has 19 MA's),

Gene: Serendipitous\_86 Start: 64542, Stop: 64303, Start Num: 35

Candidate Starts for Serendipitous\_86:

(27, 64590), (Start: 31 @64557 has 2 MA's), (Start: 35 @64542 has 14 MA's), (43, 64512), (49, 64461), (51, 64446), (54, 64431), (56, 64413), (57, 64407), (70, 64320),

Gene: Shenyu\_87 Start: 65195, Stop: 64974, Start Num: 35

Candidate Starts for Shenyu\_87:

(8, 65291), (12, 65222), (Start: 35 @65195 has 14 MA's), (54, 65084), (56, 65066),

Gene: SirJeffery\_84 Start: 64480, Stop: 64238, Start Num: 35

Candidate Starts for SirJeffery\_84:

(8, 64681), (10, 64648), (12, 64612), (25, 64543), (Start: 35 @64480 has 14 MA's), (47, 64411), (49, 64399), (51, 64384), (56, 64351),

Gene: SmokingBunny\_82 Start: 54368, Stop: 54544, Start Num: 41

Candidate Starts for SmokingBunny\_82:

(Start: 41 @54368 has 19 MA's),

Gene: StinkyVeggy\_84 Start: 64594, Stop: 64355, Start Num: 35

Candidate Starts for StinkyVeggy\_84:

(8, 64690), (12, 64621), (Start: 35 @64594 has 14 MA's), (54, 64483), (56, 64465),

Gene: Suigeneris\_87 Start: 64918, Stop: 64676, Start Num: 35

Candidate Starts for Suigeneris\_87:

(8, 65119), (10, 65086), (12, 65050), (25, 64981), (Start: 35 @64918 has 14 MA's), (47, 64849), (49, 64837), (51, 64822), (56, 64789),

Gene: TillyBobJoe\_79 Start: 53254, Stop: 53430, Start Num: 39

Candidate Starts for TillyBobJoe\_79:

(Start: 39 @53254 has 3 MA's),

Gene: Togo\_81 Start: 54368, Stop: 54544, Start Num: 41

Candidate Starts for Togo\_81:

(Start: 41 @54368 has 19 MA's),

Gene: Vincenzo\_87 Start: 66981, Stop: 66835, Start Num: 40

Candidate Starts for Vincenzo\_87:

(38, 66990), (Start: 40 @66981 has 1 MA's), (Start: 41 @66978 has 19 MA's), (56, 66876), (61, 66855),

Gene: VioletZ\_89 Start: 66302, Stop: 66159, Start Num: 41

Candidate Starts for VioletZ\_89:

(Start: 32 @66329 has 3 MA's), (Start: 41 @66302 has 19 MA's), (50, 66239), (55, 66203), (56, 66200), (61, 66179),