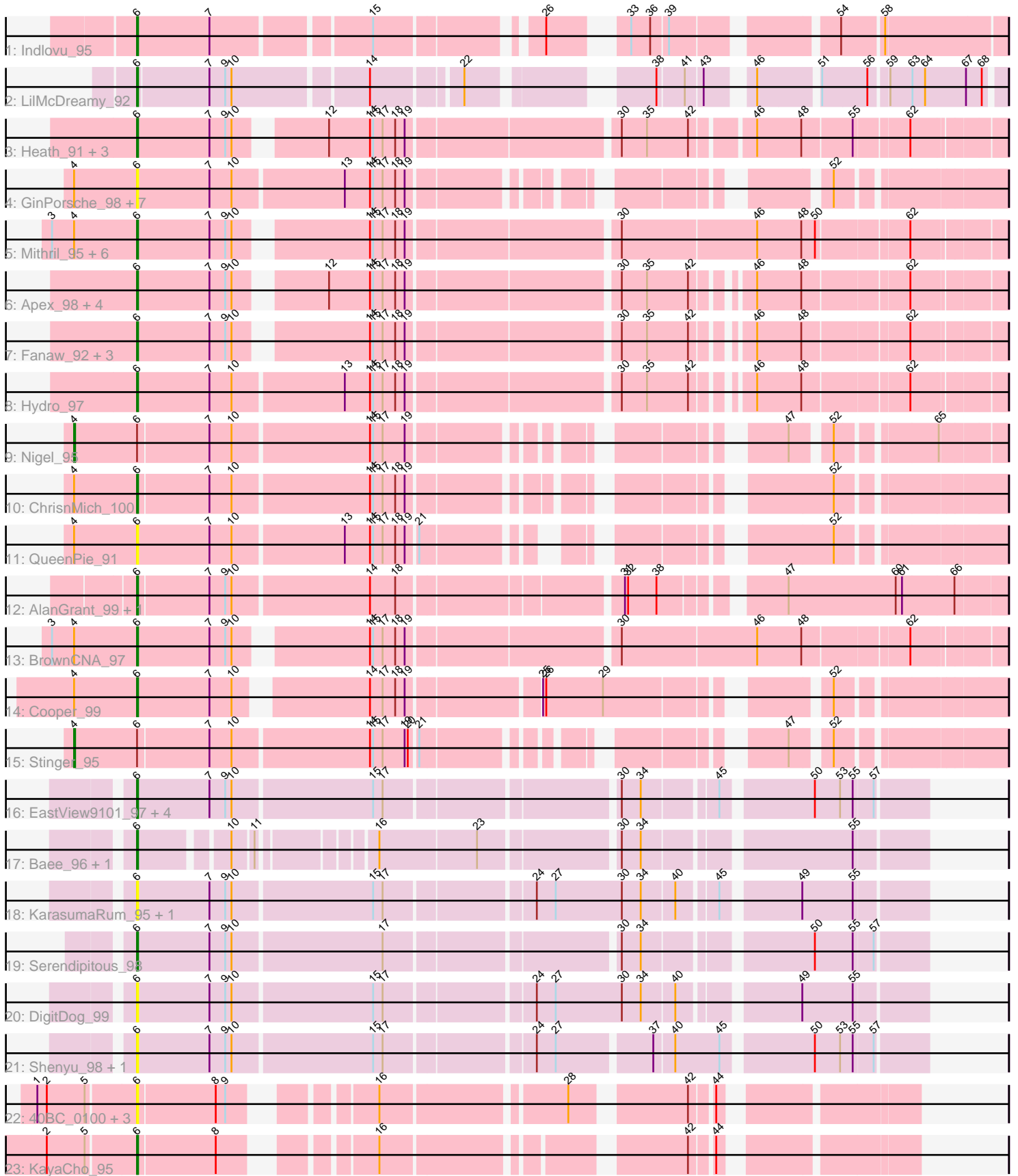


# Pham 194045



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 194045 Report

This analysis was run 11/02/24 on database version 579.

Pham number 194045 has 57 members, 22 are drafts.

Phages represented in each track:

- Track 1 : Indlovu\_95
- Track 2 : LilMcDreamy\_92
- Track 3 : Heath\_91, Zemanar\_95, Frederick\_98, BobbyK\_97
- Track 4 : GinPorsche\_98, Nanao\_98, Hally898\_96, Ahwei\_96, Epah\_98, Antihero\_98, Poster\_97, Lambano\_96
- Track 5 : Mithril\_95, Lolalove\_99, Austelle\_97, Mudslide\_98, Prince\_97, Waleliano\_96, Hangman\_97
- Track 6 : Apex\_98, Magpie\_93, Xincheng\_88, JAMaL\_98, JaguarMi\_90
- Track 7 : Fanaw\_92, RawrgerThat\_94, Fortunato\_94, VioletZ\_99
- Track 8 : Hydro\_97
- Track 9 : Nigel\_95
- Track 10 : ChrisnMich\_100
- Track 11 : QueenPie\_91
- Track 12 : AlanGrant\_99, Vincenzo\_98
- Track 13 : BrownCNA\_97
- Track 14 : Cooper\_99
- Track 15 : Stinger\_95
- Track 16 : EastView9101\_97, Acadian\_97, SirJeffery\_95, Donny\_97, Suigeneris\_98
- Track 17 : Bae\_96, Rich\_95
- Track 18 : KarasumaRum\_95, StinkyVeggy\_95
- Track 19 : Serendipitous\_98
- Track 20 : DigitDog\_99
- Track 21 : Shenyu\_98, Nangang\_98
- Track 22 : 40BC\_0100, Hosp\_095, 39HC\_0100, Jolie1\_098
- Track 23 : KayaCho\_95

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

The start number called the most often in the published annotations is 6, it was called in 33 of the 35 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 39HC\_0100, 40BC\_0100, Acadian\_97, Ahwei\_96, AlanGrant\_99, Antihero\_98, Apex\_98, Austelle\_97, Bae\_96, BobbyK\_97, BrownCNA\_97, ChrisnMich\_100,

Cooper\_99, DigitDog\_99, Donny\_97, EastView9101\_97, Epah\_98, Fanaw\_92, Fortunato\_94, Frederick\_98, GinPorsche\_98, Hally898\_96, Hangman\_97, Heath\_91, Hosp\_095, Hydro\_97, Indlovu\_95, JAMaL\_98, JaguarMi\_90, Jolie1\_098, KarasumaRum\_95, KayaCho\_95, Lambano\_96, LilMcDreamy\_92, Lolalove\_99, Magpie\_93, Mithril\_95, Mudslide\_98, Nanao\_98, Nangang\_98, Poster\_97, Prince\_97, QueenPie\_91, RawrgerThat\_94, Rich\_95, Serendipitous\_98, Shenyu\_98, SirJeffery\_95, StinkyVeggy\_95, Suigeneris\_98, Vincenzo\_98, VioletZ\_99, Waleliano\_96, Xincheng\_88, Zemanar\_95,

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

- Nigel\_95, Stinger\_95,

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

- 

### Summary by start number:

Start 4:

- Found in 21 of 57 ( 36.8% ) of genes in pham
- Manual Annotations of this start: 2 of 35
- Called 9.5% of time when present
- Phage (with cluster) where this start called: Nigel\_95 (B4), Stinger\_95 (B4),

Start 6:

- Found in 57 of 57 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 33 of 35
- Called 96.5% of time when present
- Phage (with cluster) where this start called: 39HC\_0100 (B6), 40BC\_0100 (B6), Acadian\_97 (B5), Ahwei\_96 (B4), AlanGrant\_99 (B4), Antihero\_98 (B4), Apex\_98 (B4), Austelle\_97 (B4), Bae\_96 (B5), BobbyK\_97 (B4), BrownCNA\_97 (B4), ChrisnMich\_100 (B4), Cooper\_99 (B4), DigitDog\_99 (B5), Donny\_97 (B5), EastView9101\_97 (B5), Epah\_98 (B4), Fanaw\_92 (B4), Fortunato\_94 (B4), Frederick\_98 (B4), GinPorsche\_98 (B4), Hally898\_96 (B4), Hangman\_97 (B4), Heath\_91 (B4), Hosp\_095 (B6), Hydro\_97 (B4), Indlovu\_95 (B11), JAMaL\_98 (B4), JaguarMi\_90 (B4), Jolie1\_098 (B6), KarasumaRum\_95 (B5), KayaCho\_95 (B6), Lambano\_96 (B4), LilMcDreamy\_92 (B12), Lolalove\_99 (B4), Magpie\_93 (B4), Mithril\_95 (B4), Mudslide\_98 (B4), Nanao\_98 (B4), Nangang\_98 (B5), Poster\_97 (B4), Prince\_97 (B4), QueenPie\_91 (B4), RawrgerThat\_94 (B4), Rich\_95 (B5), Serendipitous\_98 (B5), Shenyu\_98 (B5), SirJeffery\_95 (B5), StinkyVeggy\_95 (B5), Suigeneris\_98 (B5), Vincenzo\_98 (B4), VioletZ\_99 (B4), Waleliano\_96 (B4), Xincheng\_88 (B4), Zemanar\_95 (B4),

### Summary by clusters:

There are 5 clusters represented in this pham: B4, B5, B6, B12, B11,

Info for manual annotations of cluster B11:

- Start number 6 was manually annotated 1 time for cluster B11.

Info for manual annotations of cluster B12:

- Start number 6 was manually annotated 1 time for cluster B12.

Info for manual annotations of cluster B4:

- Start number 4 was manually annotated 2 times for cluster B4.
- Start number 6 was manually annotated 23 times for cluster B4.

Info for manual annotations of cluster B5:

- Start number 6 was manually annotated 7 times for cluster B5.

Info for manual annotations of cluster B6:

- Start number 6 was manually annotated 1 time for cluster B6.

### **Gene Information:**

Gene: 39HC\_0100 Start: 71338, Stop: 70730, Start Num: 6

Candidate Starts for 39HC\_0100:

(1, 71428), (2, 71419), (5, 71383), (Start: 6 @71338 has 33 MA's), (8, 71266), (9, 71257), (16, 71158), (28, 70999), (42, 70906), (44, 70888),

Gene: 40BC\_0100 Start: 71338, Stop: 70730, Start Num: 6

Candidate Starts for 40BC\_0100:

(1, 71428), (2, 71419), (5, 71383), (Start: 6 @71338 has 33 MA's), (8, 71266), (9, 71257), (16, 71158), (28, 70999), (42, 70906), (44, 70888),

Gene: Acadian\_97 Start: 69755, Stop: 69066, Start Num: 6

Candidate Starts for Acadian\_97:

(Start: 6 @69755 has 33 MA's), (7, 69686), (9, 69671), (10, 69665), (15, 69536), (17, 69527), (30, 69326), (34, 69308), (45, 69245), (50, 69167), (53, 69143), (55, 69131), (57, 69113),

Gene: Ahwei\_96 Start: 70567, Stop: 69878, Start Num: 6

Candidate Starts for Ahwei\_96:

(Start: 4 @70627 has 2 MA's), (Start: 6 @70567 has 33 MA's), (7, 70498), (10, 70477), (13, 70375), (14, 70351), (15, 70348), (17, 70339), (18, 70327), (19, 70318), (52, 70018),

Gene: AlanGrant\_99 Start: 72005, Stop: 71247, Start Num: 6

Candidate Starts for AlanGrant\_99:

(Start: 6 @72005 has 33 MA's), (7, 71939), (9, 71924), (10, 71918), (14, 71792), (18, 71768), (31, 71576), (32, 71573), (38, 71546), (47, 71450), (60, 71348), (61, 71342), (66, 71294),

Gene: Antihero\_98 Start: 70492, Stop: 69803, Start Num: 6

Candidate Starts for Antihero\_98:

(Start: 4 @70552 has 2 MA's), (Start: 6 @70492 has 33 MA's), (7, 70423), (10, 70402), (13, 70300), (14, 70276), (15, 70273), (17, 70264), (18, 70252), (19, 70243), (52, 69943),

Gene: Apex\_98 Start: 71007, Stop: 70270, Start Num: 6

Candidate Starts for Apex\_98:

(Start: 6 @71007 has 33 MA's), (7, 70938), (9, 70923), (10, 70917), (12, 70848), (14, 70809), (15, 70806), (17, 70797), (18, 70785), (19, 70776), (30, 70590), (35, 70566), (42, 70527), (46, 70485), (48, 70443), (62, 70350),

Gene: Austelle\_97 Start: 71561, Stop: 70803, Start Num: 6

Candidate Starts for Austelle\_97:

(3, 71642), (Start: 4 @71621 has 2 MA's), (Start: 6 @71561 has 33 MA's), (7, 71492), (9, 71477), (10, 71471), (14, 71363), (15, 71360), (17, 71351), (18, 71339), (19, 71330), (30, 71144), (46, 71018), (48,

70976), (50, 70964), (62, 70883),

Gene: Bae\_96 Start: 70161, Stop: 69508, Start Num: 6

Candidate Starts for Bae\_96:

(Start: 6 @70161 has 33 MA's), (10, 70086), (11, 70068), (16, 69978), (23, 69888), (30, 69768), (34, 69750), (55, 69573),

Gene: BobbyK\_97 Start: 70650, Stop: 69904, Start Num: 6

Candidate Starts for BobbyK\_97:

(Start: 6 @70650 has 33 MA's), (7, 70581), (9, 70566), (10, 70560), (12, 70491), (14, 70452), (15, 70449), (17, 70440), (18, 70428), (19, 70419), (30, 70233), (35, 70209), (42, 70170), (46, 70119), (48, 70077), (55, 70032), (62, 69984),

Gene: BrownCNA\_97 Start: 70976, Stop: 70218, Start Num: 6

Candidate Starts for BrownCNA\_97:

(3, 71057), (Start: 4 @71036 has 2 MA's), (Start: 6 @70976 has 33 MA's), (7, 70907), (9, 70892), (10, 70886), (14, 70778), (15, 70775), (17, 70766), (18, 70754), (19, 70745), (30, 70559), (46, 70433), (48, 70391), (62, 70298),

Gene: ChrisnMich\_100 Start: 70192, Stop: 69494, Start Num: 6

Candidate Starts for ChrisnMich\_100:

(Start: 4 @70252 has 2 MA's), (Start: 6 @70192 has 33 MA's), (7, 70126), (10, 70105), (14, 69979), (15, 69976), (17, 69967), (18, 69955), (19, 69946), (52, 69634),

Gene: Cooper\_99 Start: 70418, Stop: 69705, Start Num: 6

Candidate Starts for Cooper\_99:

(Start: 4 @70478 has 2 MA's), (Start: 6 @70418 has 33 MA's), (7, 70349), (10, 70328), (14, 70220), (17, 70208), (18, 70196), (19, 70187), (25, 70073), (26, 70070), (29, 70016), (52, 69845),

Gene: DigitDog\_99 Start: 70278, Stop: 69580, Start Num: 6

Candidate Starts for DigitDog\_99:

(Start: 6 @70278 has 33 MA's), (7, 70209), (9, 70194), (10, 70188), (15, 70059), (17, 70050), (24, 69921), (27, 69903), (30, 69840), (34, 69822), (40, 69792), (49, 69693), (55, 69645),

Gene: Donny\_97 Start: 69582, Stop: 68893, Start Num: 6

Candidate Starts for Donny\_97:

(Start: 6 @69582 has 33 MA's), (7, 69513), (9, 69498), (10, 69492), (15, 69363), (17, 69354), (30, 69153), (34, 69135), (45, 69072), (50, 68994), (53, 68970), (55, 68958), (57, 68940),

Gene: EastView9101\_97 Start: 69774, Stop: 69085, Start Num: 6

Candidate Starts for EastView9101\_97:

(Start: 6 @69774 has 33 MA's), (7, 69705), (9, 69690), (10, 69684), (15, 69555), (17, 69546), (30, 69345), (34, 69327), (45, 69264), (50, 69186), (53, 69162), (55, 69150), (57, 69132),

Gene: Epah\_98 Start: 70492, Stop: 69803, Start Num: 6

Candidate Starts for Epah\_98:

(Start: 4 @70552 has 2 MA's), (Start: 6 @70492 has 33 MA's), (7, 70423), (10, 70402), (13, 70300), (14, 70276), (15, 70273), (17, 70264), (18, 70252), (19, 70243), (52, 69943),

Gene: Fanaw\_92 Start: 70565, Stop: 69828, Start Num: 6

Candidate Starts for Fanaw\_92:

(Start: 6 @70565 has 33 MA's), (7, 70496), (9, 70481), (10, 70475), (14, 70367), (15, 70364), (17, 70355), (18, 70343), (19, 70334), (30, 70148), (35, 70124), (42, 70085), (46, 70043), (48, 70001), (62,

69908),

Gene: Fortunato\_94 Start: 70442, Stop: 69705, Start Num: 6

Candidate Starts for Fortunato\_94:

(Start: 6 @70442 has 33 MA's), (7, 70373), (9, 70358), (10, 70352), (14, 70244), (15, 70241), (17, 70232), (18, 70220), (19, 70211), (30, 70025), (35, 70001), (42, 69962), (46, 69920), (48, 69878), (62, 69785),

Gene: Frederick\_98 Start: 70947, Stop: 70210, Start Num: 6

Candidate Starts for Frederick\_98:

(Start: 6 @70947 has 33 MA's), (7, 70878), (9, 70863), (10, 70857), (12, 70788), (14, 70749), (15, 70746), (17, 70737), (18, 70725), (19, 70716), (30, 70530), (35, 70506), (42, 70467), (46, 70425), (48, 70383), (55, 70338), (62, 70290),

Gene: GinPorsche\_98 Start: 70489, Stop: 69800, Start Num: 6

Candidate Starts for GinPorsche\_98:

(Start: 4 @70549 has 2 MA's), (Start: 6 @70489 has 33 MA's), (7, 70420), (10, 70399), (13, 70297), (14, 70273), (15, 70270), (17, 70261), (18, 70249), (19, 70240), (52, 69940),

Gene: Hally898\_96 Start: 70329, Stop: 69640, Start Num: 6

Candidate Starts for Hally898\_96:

(Start: 4 @70389 has 2 MA's), (Start: 6 @70329 has 33 MA's), (7, 70260), (10, 70239), (13, 70137), (14, 70113), (15, 70110), (17, 70101), (18, 70089), (19, 70080), (52, 69780),

Gene: Hangman\_97 Start: 71138, Stop: 70380, Start Num: 6

Candidate Starts for Hangman\_97:

(3, 71219), (Start: 4 @71198 has 2 MA's), (Start: 6 @71138 has 33 MA's), (7, 71069), (9, 71054), (10, 71048), (14, 70940), (15, 70937), (17, 70928), (18, 70916), (19, 70907), (30, 70721), (46, 70595), (48, 70553), (50, 70541), (62, 70460),

Gene: Heath\_91 Start: 69021, Stop: 68275, Start Num: 6

Candidate Starts for Heath\_91:

(Start: 6 @69021 has 33 MA's), (7, 68952), (9, 68937), (10, 68931), (12, 68862), (14, 68823), (15, 68820), (17, 68811), (18, 68799), (19, 68790), (30, 68604), (35, 68580), (42, 68541), (46, 68490), (48, 68448), (55, 68403), (62, 68355),

Gene: Hosp\_095 Start: 68642, Stop: 68034, Start Num: 6

Candidate Starts for Hosp\_095:

(1, 68732), (2, 68723), (5, 68687), (Start: 6 @68642 has 33 MA's), (8, 68570), (9, 68561), (16, 68462), (28, 68303), (42, 68210), (44, 68192),

Gene: Hydro\_97 Start: 70922, Stop: 70167, Start Num: 6

Candidate Starts for Hydro\_97:

(Start: 6 @70922 has 33 MA's), (7, 70853), (10, 70832), (13, 70730), (14, 70706), (15, 70703), (17, 70694), (18, 70682), (19, 70673), (30, 70487), (35, 70463), (42, 70424), (46, 70382), (48, 70340), (62, 70247),

Gene: Indlovu\_95 Start: 70812, Stop: 70111, Start Num: 6

Candidate Starts for Indlovu\_95:

(Start: 6 @70812 has 33 MA's), (7, 70743), (15, 70605), (26, 70473), (33, 70422), (36, 70404), (39, 70389), (54, 70257), (58, 70221),

Gene: JAMaL\_98 Start: 70604, Stop: 69867, Start Num: 6

Candidate Starts for JAMaL\_98:

(Start: 6 @70604 has 33 MA's), (7, 70535), (9, 70520), (10, 70514), (12, 70445), (14, 70406), (15, 70403), (17, 70394), (18, 70382), (19, 70373), (30, 70187), (35, 70163), (42, 70124), (46, 70082), (48, 70040), (62, 69947),

Gene: JaguarMi\_90 Start: 70729, Stop: 69992, Start Num: 6

Candidate Starts for JaguarMi\_90:

(Start: 6 @70729 has 33 MA's), (7, 70660), (9, 70645), (10, 70639), (12, 70570), (14, 70531), (15, 70528), (17, 70519), (18, 70507), (19, 70498), (30, 70312), (35, 70288), (42, 70249), (46, 70207), (48, 70165), (62, 70072),

Gene: Jolie1\_098 Start: 70831, Stop: 70223, Start Num: 6

Candidate Starts for Jolie1\_098:

(1, 70921), (2, 70912), (5, 70876), (Start: 6 @70831 has 33 MA's), (8, 70759), (9, 70750), (16, 70651), (28, 70492), (42, 70399), (44, 70381),

Gene: KarasumaRum\_95 Start: 69551, Stop: 68853, Start Num: 6

Candidate Starts for KarasumaRum\_95:

(Start: 6 @69551 has 33 MA's), (7, 69482), (9, 69467), (10, 69461), (15, 69332), (17, 69323), (24, 69194), (27, 69176), (30, 69113), (34, 69095), (40, 69065), (45, 69032), (49, 68966), (55, 68918),

Gene: KayaCho\_95 Start: 70610, Stop: 70008, Start Num: 6

Candidate Starts for KayaCho\_95:

(2, 70691), (5, 70655), (Start: 6 @70610 has 33 MA's), (8, 70538), (16, 70430), (42, 70184), (44, 70166),

Gene: Lambano\_96 Start: 70329, Stop: 69640, Start Num: 6

Candidate Starts for Lambano\_96:

(Start: 4 @70389 has 2 MA's), (Start: 6 @70329 has 33 MA's), (7, 70260), (10, 70239), (13, 70137), (14, 70113), (15, 70110), (17, 70101), (18, 70089), (19, 70080), (52, 69780),

Gene: LilMcDreamy\_92 Start: 69414, Stop: 68710, Start Num: 6

Candidate Starts for LilMcDreamy\_92:

(Start: 6 @69414 has 33 MA's), (7, 69348), (9, 69333), (10, 69327), (14, 69207), (22, 69132), (38, 68994), (41, 68970), (43, 68955), (46, 68922), (51, 68871), (56, 68829), (59, 68814), (63, 68793), (64, 68781), (67, 68742), (68, 68727),

Gene: Lolalove\_99 Start: 70873, Stop: 70115, Start Num: 6

Candidate Starts for Lolalove\_99:

(3, 70954), (Start: 4 @70933 has 2 MA's), (Start: 6 @70873 has 33 MA's), (7, 70804), (9, 70789), (10, 70783), (14, 70675), (15, 70672), (17, 70663), (18, 70651), (19, 70642), (30, 70456), (46, 70330), (48, 70288), (50, 70276), (62, 70195),

Gene: Magpie\_93 Start: 70777, Stop: 70040, Start Num: 6

Candidate Starts for Magpie\_93:

(Start: 6 @70777 has 33 MA's), (7, 70708), (9, 70693), (10, 70687), (12, 70618), (14, 70579), (15, 70576), (17, 70567), (18, 70555), (19, 70546), (30, 70360), (35, 70336), (42, 70297), (46, 70255), (48, 70213), (62, 70120),

Gene: Mithril\_95 Start: 70699, Stop: 69941, Start Num: 6

Candidate Starts for Mithril\_95:

(3, 70780), (Start: 4 @70759 has 2 MA's), (Start: 6 @70699 has 33 MA's), (7, 70630), (9, 70615), (10, 70609), (14, 70501), (15, 70498), (17, 70489), (18, 70477), (19, 70468), (30, 70282), (46, 70156), (48,

70114), (50, 70102), (62, 70021),

Gene: Mudslide\_98 Start: 71104, Stop: 70346, Start Num: 6

Candidate Starts for Mudslide\_98:

(3, 71185), (Start: 4 @71164 has 2 MA's), (Start: 6 @71104 has 33 MA's), (7, 71035), (9, 71020), (10, 71014), (14, 70906), (15, 70903), (17, 70894), (18, 70882), (19, 70873), (30, 70687), (46, 70561), (48, 70519), (50, 70507), (62, 70426),

Gene: Nanao\_98 Start: 70342, Stop: 69653, Start Num: 6

Candidate Starts for Nanao\_98:

(Start: 4 @70402 has 2 MA's), (Start: 6 @70342 has 33 MA's), (7, 70273), (10, 70252), (13, 70150), (14, 70126), (15, 70123), (17, 70114), (18, 70102), (19, 70093), (52, 69793),

Gene: Nangang\_98 Start: 70177, Stop: 69479, Start Num: 6

Candidate Starts for Nangang\_98:

(Start: 6 @70177 has 33 MA's), (7, 70108), (9, 70093), (10, 70087), (15, 69958), (17, 69949), (24, 69820), (27, 69802), (37, 69718), (40, 69700), (45, 69658), (50, 69580), (53, 69556), (55, 69544), (57, 69526),

Gene: Nigel\_95 Start: 69728, Stop: 68988, Start Num: 4

Candidate Starts for Nigel\_95:

(Start: 4 @69728 has 2 MA's), (Start: 6 @69668 has 33 MA's), (7, 69602), (10, 69581), (14, 69455), (15, 69452), (17, 69443), (19, 69422), (47, 69155), (52, 69125), (65, 69044),

Gene: Poster\_97 Start: 70343, Stop: 69654, Start Num: 6

Candidate Starts for Poster\_97:

(Start: 4 @70403 has 2 MA's), (Start: 6 @70343 has 33 MA's), (7, 70274), (10, 70253), (13, 70151), (14, 70127), (15, 70124), (17, 70115), (18, 70103), (19, 70094), (52, 69794),

Gene: Prince\_97 Start: 70971, Stop: 70213, Start Num: 6

Candidate Starts for Prince\_97:

(3, 71052), (Start: 4 @71031 has 2 MA's), (Start: 6 @70971 has 33 MA's), (7, 70902), (9, 70887), (10, 70881), (14, 70773), (15, 70770), (17, 70761), (18, 70749), (19, 70740), (30, 70554), (46, 70428), (48, 70386), (50, 70374), (62, 70293),

Gene: QueenPie\_91 Start: 70092, Stop: 69403, Start Num: 6

Candidate Starts for QueenPie\_91:

(Start: 4 @70152 has 2 MA's), (Start: 6 @70092 has 33 MA's), (7, 70023), (10, 70002), (13, 69900), (14, 69876), (15, 69873), (17, 69864), (18, 69852), (19, 69843), (21, 69834), (52, 69543),

Gene: RawrgerThat\_94 Start: 70604, Stop: 69867, Start Num: 6

Candidate Starts for RawrgerThat\_94:

(Start: 6 @70604 has 33 MA's), (7, 70535), (9, 70520), (10, 70514), (14, 70406), (15, 70403), (17, 70394), (18, 70382), (19, 70373), (30, 70187), (35, 70163), (42, 70124), (46, 70082), (48, 70040), (62, 69947),

Gene: Rich\_95 Start: 69710, Stop: 69057, Start Num: 6

Candidate Starts for Rich\_95:

(Start: 6 @69710 has 33 MA's), (10, 69635), (11, 69617), (16, 69527), (23, 69437), (30, 69317), (34, 69299), (55, 69122),

Gene: Serendipitous\_98 Start: 69758, Stop: 69069, Start Num: 6

Candidate Starts for Serendipitous\_98:



(Start: 6 @69758 has 33 MA's), (7, 69689), (9, 69674), (10, 69668), (17, 69530), (30, 69329), (34, 69311), (50, 69170), (55, 69134), (57, 69116),

Gene: Shenyu\_98 Start: 70172, Stop: 69474, Start Num: 6

Candidate Starts for Shenyu\_98:

(Start: 6 @70172 has 33 MA's), (7, 70103), (9, 70088), (10, 70082), (15, 69953), (17, 69944), (24, 69815), (27, 69797), (37, 69713), (40, 69695), (45, 69653), (50, 69575), (53, 69551), (55, 69539), (57, 69521),

Gene: SirJeffery\_95 Start: 69743, Stop: 69054, Start Num: 6

Candidate Starts for SirJeffery\_95:

(Start: 6 @69743 has 33 MA's), (7, 69674), (9, 69659), (10, 69653), (15, 69524), (17, 69515), (30, 69314), (34, 69296), (45, 69233), (50, 69155), (53, 69131), (55, 69119), (57, 69101),

Gene: Stinger\_95 Start: 69465, Stop: 68722, Start Num: 4

Candidate Starts for Stinger\_95:

(Start: 4 @69465 has 2 MA's), (Start: 6 @69405 has 33 MA's), (7, 69339), (10, 69318), (14, 69192), (15, 69189), (17, 69180), (19, 69159), (20, 69156), (21, 69150), (47, 68892), (52, 68862),

Gene: StinkyVeggy\_95 Start: 69551, Stop: 68853, Start Num: 6

Candidate Starts for StinkyVeggy\_95:

(Start: 6 @69551 has 33 MA's), (7, 69482), (9, 69467), (10, 69461), (15, 69332), (17, 69323), (24, 69194), (27, 69176), (30, 69113), (34, 69095), (40, 69065), (45, 69032), (49, 68966), (55, 68918),

Gene: Suigeneris\_98 Start: 69970, Stop: 69281, Start Num: 6

Candidate Starts for Suigeneris\_98:

(Start: 6 @69970 has 33 MA's), (7, 69901), (9, 69886), (10, 69880), (15, 69751), (17, 69742), (30, 69541), (34, 69523), (45, 69460), (50, 69382), (53, 69358), (55, 69346), (57, 69328),

Gene: Vincenzo\_98 Start: 72035, Stop: 71277, Start Num: 6

Candidate Starts for Vincenzo\_98:

(Start: 6 @72035 has 33 MA's), (7, 71969), (9, 71954), (10, 71948), (14, 71822), (18, 71798), (31, 71606), (32, 71603), (38, 71576), (47, 71480), (60, 71378), (61, 71372), (66, 71324),

Gene: VioletZ\_99 Start: 71057, Stop: 70320, Start Num: 6

Candidate Starts for VioletZ\_99:

(Start: 6 @71057 has 33 MA's), (7, 70988), (9, 70973), (10, 70967), (14, 70859), (15, 70856), (17, 70847), (18, 70835), (19, 70826), (30, 70640), (35, 70616), (42, 70577), (46, 70535), (48, 70493), (62, 70400),

Gene: Waleliano\_96 Start: 70725, Stop: 69967, Start Num: 6

Candidate Starts for Waleliano\_96:

(3, 70806), (Start: 4 @70785 has 2 MA's), (Start: 6 @70725 has 33 MA's), (7, 70656), (9, 70641), (10, 70635), (14, 70527), (15, 70524), (17, 70515), (18, 70503), (19, 70494), (30, 70308), (46, 70182), (48, 70140), (50, 70128), (62, 70047),

Gene: Xincheng\_88 Start: 70671, Stop: 69934, Start Num: 6

Candidate Starts for Xincheng\_88:

(Start: 6 @70671 has 33 MA's), (7, 70602), (9, 70587), (10, 70581), (12, 70512), (14, 70473), (15, 70470), (17, 70461), (18, 70449), (19, 70440), (30, 70254), (35, 70230), (42, 70191), (46, 70149), (48, 70107), (62, 70014),

Gene: Zemanar\_95 Start: 70855, Stop: 70109, Start Num: 6

Candidate Starts for Zemanar\_95:

(Start: 6 @70855 has 33 MA's), (7, 70786), (9, 70771), (10, 70765), (12, 70696), (14, 70657), (15, 70654), (17, 70645), (18, 70633), (19, 70624), (30, 70438), (35, 70414), (42, 70375), (46, 70324), (48, 70282), (55, 70237), (62, 70189),