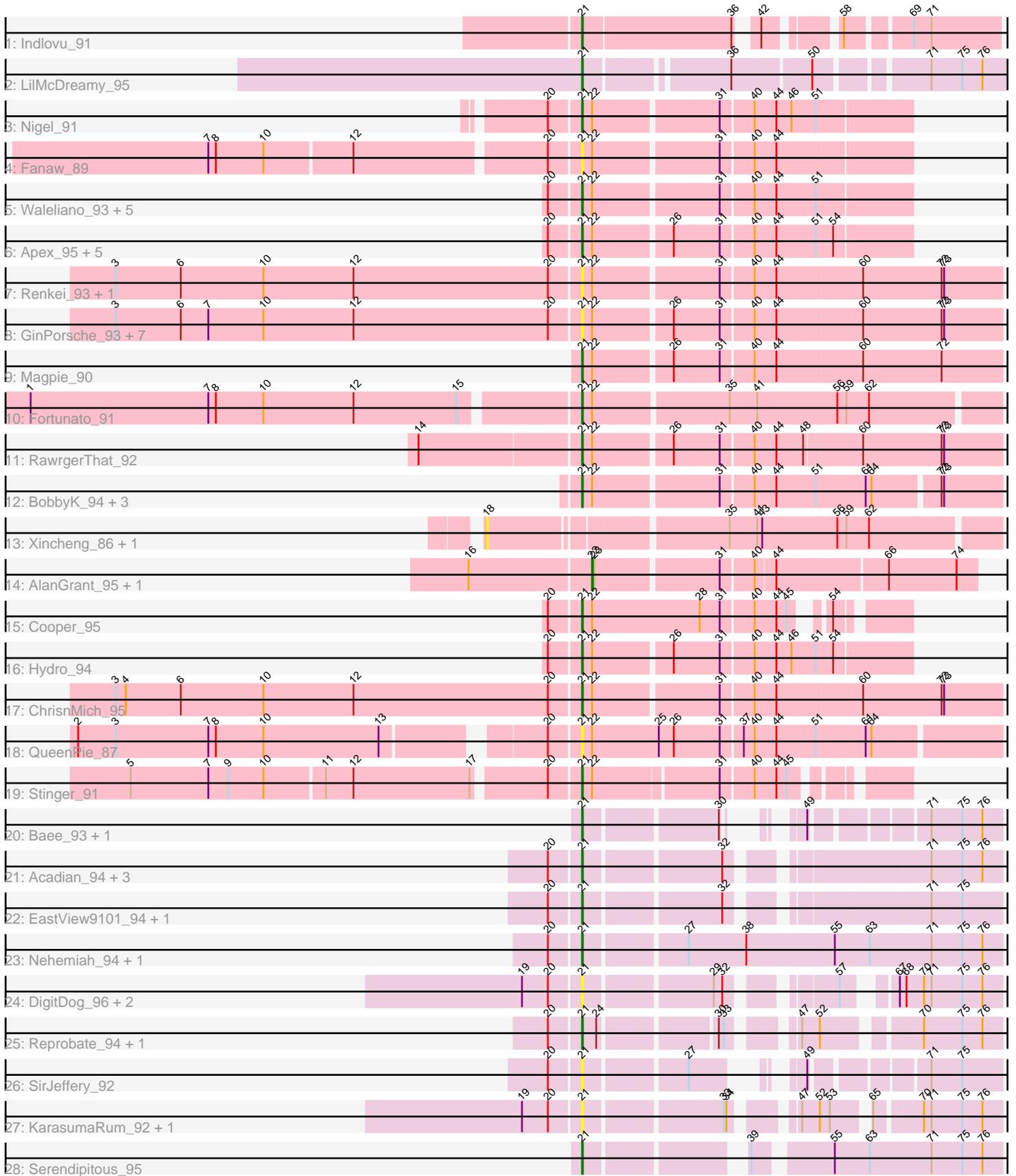


Pham 283817



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 283817 Report

This analysis was run 02/23/26 on database version 636.

Pham number 283817 has 61 members, 24 are drafts.

Phages represented in each track:

- Track 1 : Indlovu\_91
- Track 2 : LilMcDreamy\_95
- Track 3 : Nigel\_91
- Track 4 : Fanaw\_89
- Track 5 : Waleliano\_93, Mithril\_92, Lolalove\_96, JoyceMaria\_93, BrownCNA\_94, Hangman\_94
- Track 6 : Apex\_95, Prince\_94, JAMaL\_95, Austelle\_94, Mudslide\_95, VioletZ\_96
- Track 7 : Renkei\_93, LittleDigger\_93
- Track 8 : GinPorsche\_93, Antihero\_93, Hally898\_91, Ahwei\_91, Nanao\_93, Poster\_92, Epah\_93, Lambano\_91
- Track 9 : Magpie\_90
- Track 10 : Fortunato\_91
- Track 11 : RawrgerThat\_92
- Track 12 : BobbyK\_94, Heath\_88, Frederick\_95, Zemanar\_92
- Track 13 : Xincheng\_86, JaguarMi\_88
- Track 14 : AlanGrant\_95, Vincenzo\_94
- Track 15 : Cooper\_95
- Track 16 : Hydro\_94
- Track 17 : ChrisnMich\_95
- Track 18 : QueenPie\_87
- Track 19 : Stinger\_91
- Track 20 : Bae\_93, Rich\_92
- Track 21 : Acadian\_94, Suigeneris\_95, Reccee\_95, Rita130\_93
- Track 22 : EastView9101\_94, Donny\_94
- Track 23 : Nehemiah\_94, Mysterious\_94
- Track 24 : DigitDog\_96, Shenyu\_95, Nangang\_95
- Track 25 : Reprobate\_94, Phelemich\_92
- Track 26 : SirJeffery\_92
- Track 27 : KarasumaRum\_92, StinkyVeggy\_92
- Track 28 : Serendipitous\_95

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

The start number called the most often in the published annotations is 21, it was called in 35 of the 37 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Acadian\_94, Ahwei\_91, Antihero\_93, Apex\_95, Austelle\_94, Bae\_93, BobbyK\_94, BrownCNA\_94, ChrisnMich\_95, Cooper\_95, DigitDog\_96, Donny\_94, EastView9101\_94, Epah\_93, Fanaw\_89, Fortunato\_91, Frederick\_95, GinPorsche\_93, Hally898\_91, Hangman\_94, Heath\_88, Hydro\_94, Indlovu\_91, JAMaL\_95, JoyceMaria\_93, KarasumaRum\_92, Lambano\_91, LilMcDreamy\_95, LittleDigger\_93, Lolalove\_96, Magpie\_90, Mithril\_92, Mudslide\_95, Mysterious\_94, Nanao\_93, Nangang\_95, Nehemiah\_94, Nigel\_91, Phelemich\_92, Poster\_92, Prince\_94, QueenPie\_87, RawrgerThat\_92, Reccee\_95, Renkei\_93, Reprobate\_94, Rich\_92, Rita130\_93, Serendipitous\_95, Shenyu\_95, SirJeffery\_92, Stinger\_91, StinkyVeggy\_92, Suigeneris\_95, VioletZ\_96, Waleliano\_93, Zemanar\_92,

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

- 

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

- AlanGrant\_95, JaguarMi\_88, Vincenzo\_94, Xincheng\_86,

### Summary by start number:

Start 18:

- Found in 2 of 61 ( 3.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: JaguarMi\_88 (B4), Xincheng\_86 (B4),

Start 21:

- Found in 57 of 61 ( 93.4% ) of genes in pham
- Manual Annotations of this start: 35 of 37
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Acadian\_94 (B5), Ahwei\_91 (B4), Antihero\_93 (B4), Apex\_95 (B4), Austelle\_94 (B4), Bae\_93 (B5), BobbyK\_94 (B4), BrownCNA\_94 (B4), ChrisnMich\_95 (B4), Cooper\_95 (B4), DigitDog\_96 (B5), Donny\_94 (B5), EastView9101\_94 (B5), Epah\_93 (B4), Fanaw\_89 (B4), Fortunato\_91 (B4), Frederick\_95 (B4), GinPorsche\_93 (B4), Hally898\_91 (B4), Hangman\_94 (B4), Heath\_88 (B4), Hydro\_94 (B4), Indlovu\_91 (B11), JAMaL\_95 (B4), JoyceMaria\_93 (B4), KarasumaRum\_92 (B5), Lambano\_91 (B4), LilMcDreamy\_95 (B12), LittleDigger\_93 (B4), Lolalove\_96 (B4), Magpie\_90 (B4), Mithril\_92 (B4), Mudslide\_95 (B4), Mysterious\_94 (B5), Nanao\_93 (B4), Nangang\_95 (B5), Nehemiah\_94 (B5), Nigel\_91 (B4), Phelemich\_92 (B5), Poster\_92 (B4), Prince\_94 (B4), QueenPie\_87 (B4), RawrgerThat\_92 (B4), Reccee\_95 (B5), Renkei\_93 (B4), Reprobate\_94 (B5), Rich\_92 (B5), Rita130\_93 (B5), Serendipitous\_95 (B5), Shenyu\_95 (B5), SirJeffery\_92 (B5), Stinger\_91 (B4), StinkyVeggy\_92 (B5), Suigeneris\_95 (B5), VioletZ\_96 (B4), Waleliano\_93 (B4), Zemanar\_92 (B4),

Start 22:

- Found in 38 of 61 ( 62.3% ) of genes in pham
- Manual Annotations of this start: 2 of 37
- Called 5.3% of time when present

- Phage (with cluster) where this start called: AlanGrant\_95 (B4), Vincenzo\_94 (B4),

### **Summary by clusters:**

There are 4 clusters represented in this pham: B4, B5, B12, B11,

Info for manual annotations of cluster B11:

- Start number 21 was manually annotated 1 time for cluster B11.

Info for manual annotations of cluster B12:

- Start number 21 was manually annotated 1 time for cluster B12.

Info for manual annotations of cluster B4:

- Start number 21 was manually annotated 23 times for cluster B4.
- Start number 22 was manually annotated 2 times for cluster B4.

Info for manual annotations of cluster B5:

- Start number 21 was manually annotated 10 times for cluster B5.

### **Gene Information:**

Gene: Acadian\_94 Start: 68448, Stop: 68014, Start Num: 21

Candidate Starts for Acadian\_94:

(20, 68484), (Start: 21 @68448 has 35 MA's), (32, 68301), (71, 68097), (75, 68061), (76, 68037),

Gene: Ahwei\_91 Start: 68646, Stop: 68170, Start Num: 21

Candidate Starts for Ahwei\_91:

(3, 69198), (6, 69120), (7, 69087), (10, 69021), (12, 68913), (20, 68682), (Start: 21 @68646 has 35 MA's), (Start: 22 @68634 has 2 MA's), (26, 68547), (31, 68493), (40, 68457), (44, 68433), (60, 68334), (72, 68241), (73, 68238),

Gene: AlanGrant\_95 Start: 70543, Stop: 70112, Start Num: 22

Candidate Starts for AlanGrant\_95:

(16, 70684), (Start: 22 @70543 has 2 MA's), (23, 70540), (31, 70402), (40, 70366), (44, 70345), (66, 70216), (74, 70135),

Gene: Antihero\_93 Start: 68571, Stop: 68095, Start Num: 21

Candidate Starts for Antihero\_93:

(3, 69123), (6, 69045), (7, 69012), (10, 68946), (12, 68838), (20, 68607), (Start: 21 @68571 has 35 MA's), (Start: 22 @68559 has 2 MA's), (26, 68472), (31, 68418), (40, 68382), (44, 68358), (60, 68259), (72, 68166), (73, 68163),

Gene: Apex\_95 Start: 69574, Stop: 69209, Start Num: 21

Candidate Starts for Apex\_95:

(20, 69610), (Start: 21 @69574 has 35 MA's), (Start: 22 @69562 has 2 MA's), (26, 69475), (31, 69421), (40, 69385), (44, 69361), (51, 69316), (54, 69298),

Gene: Austelle\_94 Start: 70106, Stop: 69741, Start Num: 21

Candidate Starts for Austelle\_94:

(20, 70142), (Start: 21 @70106 has 35 MA's), (Start: 22 @70094 has 2 MA's), (26, 70007), (31, 69953), (40, 69917), (44, 69893), (51, 69848), (54, 69830),

Gene: Bae\_93 Start: 68886, Stop: 68524, Start Num: 21

Candidate Starts for Bae\_93:

(Start: 21 @68886 has 35 MA's), (30, 68742), (49, 68715), (71, 68607), (75, 68571), (76, 68547),

Gene: BobbyK\_94 Start: 69184, Stop: 68717, Start Num: 21

Candidate Starts for BobbyK\_94:

(Start: 21 @69184 has 35 MA's), (Start: 22 @69172 has 2 MA's), (31, 69031), (40, 68995), (44, 68971), (51, 68926), (61, 68869), (64, 68863), (72, 68788), (73, 68785),

Gene: BrownCNA\_94 Start: 69521, Stop: 69156, Start Num: 21

Candidate Starts for BrownCNA\_94:

(20, 69557), (Start: 21 @69521 has 35 MA's), (Start: 22 @69509 has 2 MA's), (31, 69368), (40, 69332), (44, 69308), (51, 69263),

Gene: ChrisnMich\_95 Start: 68262, Stop: 67786, Start Num: 21

Candidate Starts for ChrisnMich\_95:

(3, 68814), (4, 68802), (6, 68736), (10, 68637), (12, 68529), (20, 68298), (Start: 21 @68262 has 35 MA's), (Start: 22 @68250 has 2 MA's), (31, 68109), (40, 68073), (44, 68049), (60, 67950), (72, 67857), (73, 67854),

Gene: Cooper\_95 Start: 68661, Stop: 68329, Start Num: 21

Candidate Starts for Cooper\_95:

(20, 68697), (Start: 21 @68661 has 35 MA's), (Start: 22 @68649 has 2 MA's), (28, 68523), (31, 68499), (40, 68463), (44, 68439), (45, 68427), (54, 68403),

Gene: DigitDog\_96 Start: 68959, Stop: 68555, Start Num: 21

Candidate Starts for DigitDog\_96:

(19, 69025), (20, 68995), (Start: 21 @68959 has 35 MA's), (29, 68821), (32, 68812), (57, 68713), (67, 68674), (68, 68668), (70, 68647), (71, 68638), (75, 68602), (76, 68578),

Gene: Donny\_94 Start: 68275, Stop: 67841, Start Num: 21

Candidate Starts for Donny\_94:

(20, 68311), (Start: 21 @68275 has 35 MA's), (32, 68128), (71, 67924), (75, 67888),

Gene: EastView9101\_94 Start: 68467, Stop: 68033, Start Num: 21

Candidate Starts for EastView9101\_94:

(20, 68503), (Start: 21 @68467 has 35 MA's), (32, 68320), (71, 68116), (75, 68080),

Gene: Epah\_93 Start: 68571, Stop: 68095, Start Num: 21

Candidate Starts for Epah\_93:

(3, 69123), (6, 69045), (7, 69012), (10, 68946), (12, 68838), (20, 68607), (Start: 21 @68571 has 35 MA's), (Start: 22 @68559 has 2 MA's), (26, 68472), (31, 68418), (40, 68382), (44, 68358), (60, 68259), (72, 68166), (73, 68163),

Gene: Fanaw\_89 Start: 69126, Stop: 68761, Start Num: 21

Candidate Starts for Fanaw\_89:

(7, 69546), (8, 69537), (10, 69480), (12, 69378), (20, 69162), (Start: 21 @69126 has 35 MA's), (Start: 22 @69114 has 2 MA's), (31, 68973), (40, 68937), (44, 68913),

Gene: Fortunato\_91 Start: 68994, Stop: 68518, Start Num: 21

Candidate Starts for Fortunato\_91:

(1, 69633), (7, 69420), (8, 69411), (10, 69354), (12, 69246), (15, 69123), (Start: 21 @68994 has 35 MA's), (Start: 22 @68982 has 2 MA's), (35, 68829), (41, 68796), (56, 68703), (59, 68694), (62, 68667),

Gene: Frederick\_95 Start: 69490, Stop: 69023, Start Num: 21

Candidate Starts for Frederick\_95:

(Start: 21 @69490 has 35 MA's), (Start: 22 @69478 has 2 MA's), (31, 69337), (40, 69301), (44, 69277), (51, 69232), (61, 69175), (64, 69169), (72, 69094), (73, 69091),

Gene: GinPorsche\_93 Start: 68568, Stop: 68092, Start Num: 21

Candidate Starts for GinPorsche\_93:

(3, 69120), (6, 69042), (7, 69009), (10, 68943), (12, 68835), (20, 68604), (Start: 21 @68568 has 35 MA's), (Start: 22 @68556 has 2 MA's), (26, 68469), (31, 68415), (40, 68379), (44, 68355), (60, 68256), (72, 68163), (73, 68160),

Gene: Hally898\_91 Start: 68408, Stop: 67932, Start Num: 21

Candidate Starts for Hally898\_91:

(3, 68960), (6, 68882), (7, 68849), (10, 68783), (12, 68675), (20, 68444), (Start: 21 @68408 has 35 MA's), (Start: 22 @68396 has 2 MA's), (26, 68309), (31, 68255), (40, 68219), (44, 68195), (60, 68096), (72, 68003), (73, 68000),

Gene: Hangman\_94 Start: 69683, Stop: 69318, Start Num: 21

Candidate Starts for Hangman\_94:

(20, 69719), (Start: 21 @69683 has 35 MA's), (Start: 22 @69671 has 2 MA's), (31, 69530), (40, 69494), (44, 69470), (51, 69425),

Gene: Heath\_88 Start: 67555, Stop: 67088, Start Num: 21

Candidate Starts for Heath\_88:

(Start: 21 @67555 has 35 MA's), (Start: 22 @67543 has 2 MA's), (31, 67402), (40, 67366), (44, 67342), (51, 67297), (61, 67240), (64, 67234), (72, 67159), (73, 67156),

Gene: Hydro\_94 Start: 69470, Stop: 69105, Start Num: 21

Candidate Starts for Hydro\_94:

(20, 69506), (Start: 21 @69470 has 35 MA's), (Start: 22 @69458 has 2 MA's), (26, 69371), (31, 69317), (40, 69281), (44, 69257), (46, 69239), (51, 69212), (54, 69194),

Gene: Indlovu\_91 Start: 69140, Stop: 68721, Start Num: 21

Candidate Starts for Indlovu\_91:

(Start: 21 @69140 has 35 MA's), (36, 68969), (42, 68954), (58, 68888), (69, 68822), (71, 68801),

Gene: JAMaL\_95 Start: 69170, Stop: 68805, Start Num: 21

Candidate Starts for JAMaL\_95:

(20, 69206), (Start: 21 @69170 has 35 MA's), (Start: 22 @69158 has 2 MA's), (26, 69071), (31, 69017), (40, 68981), (44, 68957), (51, 68912), (54, 68894),

Gene: JaguarMi\_88 Start: 69648, Stop: 69079, Start Num: 18

Candidate Starts for JaguarMi\_88:

(18, 69648), (35, 69390), (41, 69357), (43, 69351), (56, 69264), (59, 69255), (62, 69228),

Gene: JoyceMaria\_93 Start: 69515, Stop: 69150, Start Num: 21

Candidate Starts for JoyceMaria\_93:

(20, 69551), (Start: 21 @69515 has 35 MA's), (Start: 22 @69503 has 2 MA's), (31, 69362), (40, 69326), (44, 69302), (51, 69257),

Gene: KarasumaRum\_92 Start: 68235, Stop: 67822, Start Num: 21

Candidate Starts for KarasumaRum\_92:

(19, 68301), (20, 68271), (Start: 21 @68235 has 35 MA's), (33, 68085), (34, 68082), (47, 68028), (52, 68007), (53, 67995), (65, 67965), (70, 67914), (71, 67905), (75, 67869), (76, 67845),

Gene: Lambano\_91 Start: 68408, Stop: 67932, Start Num: 21

Candidate Starts for Lambano\_91:

(3, 68960), (6, 68882), (7, 68849), (10, 68783), (12, 68675), (20, 68444), (Start: 21 @68408 has 35 MA's), (Start: 22 @68396 has 2 MA's), (26, 68309), (31, 68255), (40, 68219), (44, 68195), (60, 68096), (72, 68003), (73, 68000),

Gene: LilMcDreamy\_95 Start: 70337, Stop: 69876, Start Num: 21

Candidate Starts for LilMcDreamy\_95:

(Start: 21 @70337 has 35 MA's), (36, 70187), (50, 70100), (71, 69986), (75, 69950), (76, 69926),

Gene: LittleDigger\_93 Start: 68510, Stop: 68034, Start Num: 21

Candidate Starts for LittleDigger\_93:

(3, 69062), (6, 68984), (10, 68885), (12, 68777), (20, 68546), (Start: 21 @68510 has 35 MA's), (Start: 22 @68498 has 2 MA's), (31, 68357), (40, 68321), (44, 68297), (60, 68198), (72, 68105), (73, 68102),

Gene: Lolalove\_96 Start: 69418, Stop: 69053, Start Num: 21

Candidate Starts for Lolalove\_96:

(20, 69454), (Start: 21 @69418 has 35 MA's), (Start: 22 @69406 has 2 MA's), (31, 69265), (40, 69229), (44, 69205), (51, 69160),

Gene: Magpie\_90 Start: 69343, Stop: 68867, Start Num: 21

Candidate Starts for Magpie\_90:

(Start: 21 @69343 has 35 MA's), (Start: 22 @69331 has 2 MA's), (26, 69244), (31, 69190), (40, 69154), (44, 69130), (60, 69031), (72, 68938),

Gene: Mithril\_92 Start: 69244, Stop: 68879, Start Num: 21

Candidate Starts for Mithril\_92:

(20, 69280), (Start: 21 @69244 has 35 MA's), (Start: 22 @69232 has 2 MA's), (31, 69091), (40, 69055), (44, 69031), (51, 68986),

Gene: Mudslide\_95 Start: 69649, Stop: 69284, Start Num: 21

Candidate Starts for Mudslide\_95:

(20, 69685), (Start: 21 @69649 has 35 MA's), (Start: 22 @69637 has 2 MA's), (26, 69550), (31, 69496), (40, 69460), (44, 69436), (51, 69391), (54, 69373),

Gene: Mysterious\_94 Start: 69365, Stop: 68889, Start Num: 21

Candidate Starts for Mysterious\_94:

(20, 69401), (Start: 21 @69365 has 35 MA's), (27, 69257), (38, 69188), (55, 69083), (63, 69044), (71, 68972), (75, 68936), (76, 68912),

Gene: Nanao\_93 Start: 68421, Stop: 67945, Start Num: 21

Candidate Starts for Nanao\_93:

(3, 68973), (6, 68895), (7, 68862), (10, 68796), (12, 68688), (20, 68457), (Start: 21 @68421 has 35 MA's), (Start: 22 @68409 has 2 MA's), (26, 68322), (31, 68268), (40, 68232), (44, 68208), (60, 68109), (72, 68016), (73, 68013),

Gene: Nangang\_95 Start: 68855, Stop: 68451, Start Num: 21

Candidate Starts for Nangang\_95:

(19, 68921), (20, 68891), (Start: 21 @68855 has 35 MA's), (29, 68717), (32, 68708), (57, 68609), (67, 68570), (68, 68564), (70, 68543), (71, 68534), (75, 68498), (76, 68474),

Gene: Nehemiah\_94 Start: 69233, Stop: 68757, Start Num: 21

Candidate Starts for Nehemiah\_94:

(20, 69269), (Start: 21 @69233 has 35 MA's), (27, 69125), (38, 69056), (55, 68951), (63, 68912), (71, 68840), (75, 68804), (76, 68780),

Gene: Nigel\_91 Start: 67940, Stop: 67575, Start Num: 21

Candidate Starts for Nigel\_91:

(20, 67976), (Start: 21 @67940 has 35 MA's), (Start: 22 @67928 has 2 MA's), (31, 67787), (40, 67751), (44, 67727), (46, 67709), (51, 67682),

Gene: Phelemich\_92 Start: 69193, Stop: 68786, Start Num: 21

Candidate Starts for Phelemich\_92:

(20, 69229), (Start: 21 @69193 has 35 MA's), (24, 69178), (30, 69055), (33, 69049), (47, 68992), (52, 68971), (70, 68878), (75, 68833), (76, 68809),

Gene: Poster\_92 Start: 68422, Stop: 67946, Start Num: 21

Candidate Starts for Poster\_92:

(3, 68974), (6, 68896), (7, 68863), (10, 68797), (12, 68689), (20, 68458), (Start: 21 @68422 has 35 MA's), (Start: 22 @68410 has 2 MA's), (26, 68323), (31, 68269), (40, 68233), (44, 68209), (60, 68110), (72, 68017), (73, 68014),

Gene: Prince\_94 Start: 69516, Stop: 69151, Start Num: 21

Candidate Starts for Prince\_94:

(20, 69552), (Start: 21 @69516 has 35 MA's), (Start: 22 @69504 has 2 MA's), (26, 69417), (31, 69363), (40, 69327), (44, 69303), (51, 69258), (54, 69240),

Gene: QueenPie\_87 Start: 68292, Stop: 67816, Start Num: 21

Candidate Starts for QueenPie\_87:

(2, 68853), (3, 68808), (7, 68697), (8, 68688), (10, 68631), (13, 68493), (20, 68328), (Start: 21 @68292 has 35 MA's), (Start: 22 @68280 has 2 MA's), (25, 68202), (26, 68184), (31, 68130), (37, 68106), (40, 68094), (44, 68070), (51, 68025), (61, 67968), (64, 67962),

Gene: RawrgerThat\_92 Start: 69122, Stop: 68649, Start Num: 21

Candidate Starts for RawrgerThat\_92:

(14, 69308), (Start: 21 @69122 has 35 MA's), (Start: 22 @69110 has 2 MA's), (26, 69023), (31, 68969), (40, 68933), (44, 68909), (48, 68879), (60, 68813), (72, 68720), (73, 68717),

Gene: Reccee\_95 Start: 68718, Stop: 68284, Start Num: 21

Candidate Starts for Reccee\_95:

(20, 68754), (Start: 21 @68718 has 35 MA's), (32, 68571), (71, 68367), (75, 68331), (76, 68307),

Gene: Renkei\_93 Start: 68504, Stop: 68028, Start Num: 21

Candidate Starts for Renkei\_93:

(3, 69056), (6, 68978), (10, 68879), (12, 68771), (20, 68540), (Start: 21 @68504 has 35 MA's), (Start: 22 @68492 has 2 MA's), (31, 68351), (40, 68315), (44, 68291), (60, 68192), (72, 68099), (73, 68096),

Gene: Reprobate\_94 Start: 69198, Stop: 68791, Start Num: 21

Candidate Starts for Reprobate\_94:

(20, 69234), (Start: 21 @69198 has 35 MA's), (24, 69183), (30, 69060), (33, 69054), (47, 68997), (52, 68976), (70, 68883), (75, 68838), (76, 68814),

Gene: Rich\_92 Start: 68438, Stop: 68076, Start Num: 21

Candidate Starts for Rich\_92:

(Start: 21 @68438 has 35 MA's), (30, 68294), (49, 68267), (71, 68159), (75, 68123), (76, 68099),

Gene: Rita130\_93 Start: 68421, Stop: 67987, Start Num: 21

Candidate Starts for Rita130\_93:

(20, 68457), (Start: 21 @68421 has 35 MA's), (32, 68274), (71, 68070), (75, 68034), (76, 68010),

Gene: Serendipitous\_95 Start: 68448, Stop: 68020, Start Num: 21

Candidate Starts for Serendipitous\_95:

(Start: 21 @68448 has 35 MA's), (39, 68292), (55, 68214), (63, 68175), (71, 68103), (75, 68067), (76, 68043),

Gene: Shenyu\_95 Start: 68853, Stop: 68449, Start Num: 21

Candidate Starts for Shenyu\_95:

(19, 68919), (20, 68889), (Start: 21 @68853 has 35 MA's), (29, 68715), (32, 68706), (57, 68607), (67, 68568), (68, 68562), (70, 68541), (71, 68532), (75, 68496), (76, 68472),

Gene: SirJeffery\_92 Start: 68436, Stop: 68068, Start Num: 21

Candidate Starts for SirJeffery\_92:

(20, 68472), (Start: 21 @68436 has 35 MA's), (27, 68328), (49, 68259), (71, 68151), (75, 68115),

Gene: Stinger\_91 Start: 67668, Stop: 67336, Start Num: 21

Candidate Starts for Stinger\_91:

(5, 68181), (7, 68088), (9, 68064), (10, 68022), (11, 67953), (12, 67920), (17, 67782), (20, 67704), (Start: 21 @67668 has 35 MA's), (Start: 22 @67656 has 2 MA's), (31, 67515), (40, 67479), (44, 67455), (45, 67443),

Gene: StinkyVeggy\_92 Start: 68235, Stop: 67822, Start Num: 21

Candidate Starts for StinkyVeggy\_92:

(19, 68301), (20, 68271), (Start: 21 @68235 has 35 MA's), (33, 68085), (34, 68082), (47, 68028), (52, 68007), (53, 67995), (65, 67965), (70, 67914), (71, 67905), (75, 67869), (76, 67845),

Gene: Suigeneris\_95 Start: 68663, Stop: 68229, Start Num: 21

Candidate Starts for Suigeneris\_95:

(20, 68699), (Start: 21 @68663 has 35 MA's), (32, 68516), (71, 68312), (75, 68276), (76, 68252),

Gene: Vincenzo\_94 Start: 70573, Stop: 70142, Start Num: 22

Candidate Starts for Vincenzo\_94:

(16, 70714), (Start: 22 @70573 has 2 MA's), (23, 70570), (31, 70432), (40, 70396), (44, 70375), (66, 70246), (74, 70165),

Gene: VioletZ\_96 Start: 69623, Stop: 69258, Start Num: 21

Candidate Starts for VioletZ\_96:

(20, 69659), (Start: 21 @69623 has 35 MA's), (Start: 22 @69611 has 2 MA's), (26, 69524), (31, 69470), (40, 69434), (44, 69410), (51, 69365), (54, 69347),

Gene: Waleliano\_93 Start: 69270, Stop: 68905, Start Num: 21

Candidate Starts for Waleliano\_93:

(20, 69306), (Start: 21 @69270 has 35 MA's), (Start: 22 @69258 has 2 MA's), (31, 69117), (40, 69081), (44, 69057), (51, 69012),

Gene: Xincheng\_86 Start: 69590, Stop: 69021, Start Num: 18

Candidate Starts for Xincheng\_86:

(18, 69590), (35, 69332), (41, 69299), (43, 69293), (56, 69206), (59, 69197), (62, 69170),

Gene: Zemanar\_92 Start: 69389, Stop: 68922, Start Num: 21

Candidate Starts for Zemanar\_92:

(Start: 21 @69389 has 35 MA's), (Start: 22 @69377 has 2 MA's), (31, 69236), (40, 69200), (44, 69176),  
(51, 69131), (61, 69074), (64, 69068), (72, 68993), (73, 68990),