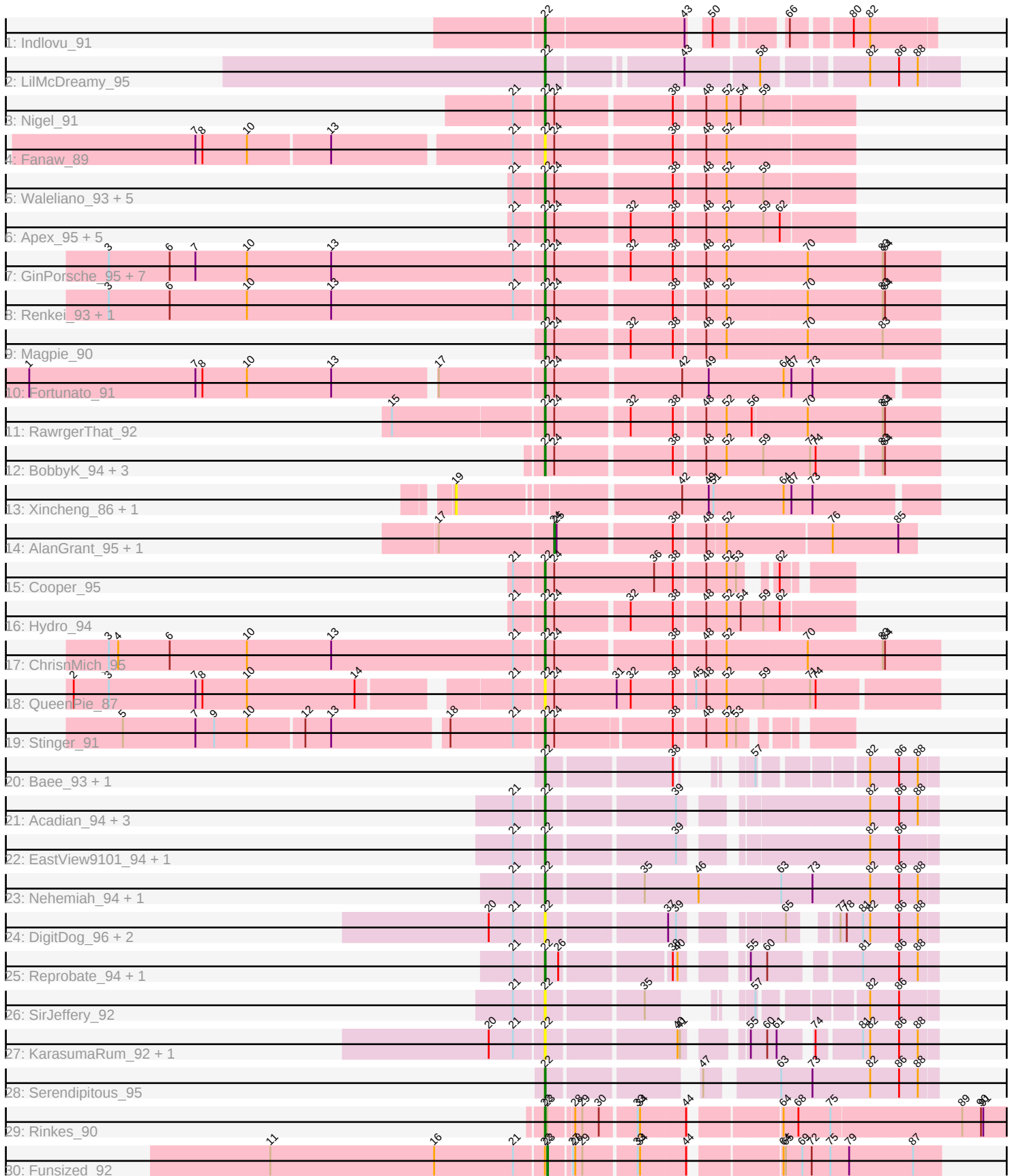


Pham 330863



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 330863 Report

This analysis was run 09/05/26 on database version 662.

Pham number 330863 has 63 members, 19 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_94, BrownCNA_94, Hangman_94
- Track 6 : Apex_95, Prince_94, JAMaL_95, Austelle_94, Mudslide_95, VioletZ_96
- Track 7 : GinPorsche_95, Antihero_93, Hally898_91, Ahwei_91, Nanao_93, Poster_92, Epah_93, Lambano_91
- Track 8 : Renkei_93, LittleDigger_93
- 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 : Baee_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
- Track 29 : Rinkes_90
- Track 30 : Funsized_92

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

The start number called the most often in the published annotations is 22, it was called in 41 of the 44 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Acadian_94, Ahwei_91, Antihero_93, Apex_95, Austelle_94, Baee_93, BobbyK_94, BrownCNA_94, ChrisnMich_95, Cooper_95, DigitDog_96, Donny_94, EastView9101_94, Epah_93, Fanaw_89, Fortunato_91, Frederick_95, GinPorsche_95, Hally898_91, Hangman_94, Heath_88, Hydro_94, Indlovu_91, JAMaL_95, JoyceMaria_94, 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, Rinkes_90, 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:

- Funsized_92,

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

- AlanGrant_95, JaguarMi_88, Vincenzo_94, Xincheng_86,

Summary by start number:

Start 19:

- Found in 2 of 63 (3.2%) 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 22:

- Found in 59 of 63 (93.7%) of genes in pham
- Manual Annotations of this start: 41 of 44
- Called 98.3% 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), Baee_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_95 (B4), Hally898_91 (B4), Hangman_94 (B4), Heath_88 (B4), Hydro_94 (B4), Indlovu_91 (B11), JAMaL_95 (B4), JoyceMaria_94 (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), Rinkes_90 (B9), 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 23:

- Found in 2 of 63 (3.2%) of genes in pham
- Manual Annotations of this start: 1 of 44

- Called 50.0% of time when present
- Phage (with cluster) where this start called: Funsized_92 (B9),

Start 24:

- Found in 38 of 63 (60.3%) of genes in pham
- Manual Annotations of this start: 2 of 44
- 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 5 clusters represented in this pham: B4, B5, B12, B9, B11,

Info for manual annotations of cluster B11:

- Start number 22 was manually annotated 1 time for cluster B11.

Info for manual annotations of cluster B12:

- Start number 22 was manually annotated 1 time for cluster B12.

Info for manual annotations of cluster B4:

- Start number 22 was manually annotated 27 times for cluster B4.
- Start number 24 was manually annotated 2 times for cluster B4.

Info for manual annotations of cluster B5:

- Start number 22 was manually annotated 11 times for cluster B5.

Info for manual annotations of cluster B9:

- Start number 22 was manually annotated 1 time for cluster B9.
- Start number 23 was manually annotated 1 time for cluster B9.

Gene Information:

Gene: Acadian_94 Start: 68448, Stop: 68014, Start Num: 22

Candidate Starts for Acadian_94:

(21, 68484), (Start: 22 @68448 has 41 MA's), (39, 68301), (82, 68097), (86, 68061), (88, 68037),

Gene: Ahwei_91 Start: 68646, Stop: 68170, Start Num: 22

Candidate Starts for Ahwei_91:

(3, 69198), (6, 69120), (7, 69087), (10, 69021), (13, 68913), (21, 68682), (Start: 22 @68646 has 41 MA's), (Start: 24 @68634 has 2 MA's), (32, 68547), (38, 68493), (48, 68457), (52, 68433), (70, 68334), (83, 68241), (84, 68238),

Gene: AlanGrant_95 Start: 70543, Stop: 70112, Start Num: 24

Candidate Starts for AlanGrant_95:

(17, 70684), (Start: 24 @70543 has 2 MA's), (25, 70540), (38, 70402), (48, 70366), (52, 70345), (76, 70216), (85, 70135),

Gene: Antihero_93 Start: 68571, Stop: 68095, Start Num: 22

Candidate Starts for Antihero_93:

(3, 69123), (6, 69045), (7, 69012), (10, 68946), (13, 68838), (21, 68607), (Start: 22 @68571 has 41 MA's), (Start: 24 @68559 has 2 MA's), (32, 68472), (38, 68418), (48, 68382), (52, 68358), (70, 68259),

(83, 68166), (84, 68163),

Gene: Apex_95 Start: 69574, Stop: 69209, Start Num: 22

Candidate Starts for Apex_95:

(21, 69610), (Start: 22 @69574 has 41 MA's), (Start: 24 @69562 has 2 MA's), (32, 69475), (38, 69421), (48, 69385), (52, 69361), (59, 69316), (62, 69298),

Gene: Austelle_94 Start: 70106, Stop: 69741, Start Num: 22

Candidate Starts for Austelle_94:

(21, 70142), (Start: 22 @70106 has 41 MA's), (Start: 24 @70094 has 2 MA's), (32, 70007), (38, 69953), (48, 69917), (52, 69893), (59, 69848), (62, 69830),

Gene: Baee_93 Start: 68886, Stop: 68524, Start Num: 22

Candidate Starts for Baee_93:

(Start: 22 @68886 has 41 MA's), (38, 68742), (57, 68715), (82, 68607), (86, 68571), (88, 68547),

Gene: BobbyK_94 Start: 69184, Stop: 68717, Start Num: 22

Candidate Starts for BobbyK_94:

(Start: 22 @69184 has 41 MA's), (Start: 24 @69172 has 2 MA's), (38, 69031), (48, 68995), (52, 68971), (59, 68926), (71, 68869), (74, 68863), (83, 68788), (84, 68785),

Gene: BrownCNA_94 Start: 69521, Stop: 69156, Start Num: 22

Candidate Starts for BrownCNA_94:

(21, 69557), (Start: 22 @69521 has 41 MA's), (Start: 24 @69509 has 2 MA's), (38, 69368), (48, 69332), (52, 69308), (59, 69263),

Gene: ChrisnMich_95 Start: 68262, Stop: 67786, Start Num: 22

Candidate Starts for ChrisnMich_95:

(3, 68814), (4, 68802), (6, 68736), (10, 68637), (13, 68529), (21, 68298), (Start: 22 @68262 has 41 MA's), (Start: 24 @68250 has 2 MA's), (38, 68109), (48, 68073), (52, 68049), (70, 67950), (83, 67857), (84, 67854),

Gene: Cooper_95 Start: 68661, Stop: 68329, Start Num: 22

Candidate Starts for Cooper_95:

(21, 68697), (Start: 22 @68661 has 41 MA's), (Start: 24 @68649 has 2 MA's), (36, 68523), (38, 68499), (48, 68463), (52, 68439), (53, 68427), (62, 68403),

Gene: DigitDog_96 Start: 68959, Stop: 68555, Start Num: 22

Candidate Starts for DigitDog_96:

(20, 69025), (21, 68995), (Start: 22 @68959 has 41 MA's), (37, 68821), (39, 68812), (65, 68713), (77, 68674), (78, 68668), (81, 68647), (82, 68638), (86, 68602), (88, 68578),

Gene: Donny_94 Start: 68275, Stop: 67841, Start Num: 22

Candidate Starts for Donny_94:

(21, 68311), (Start: 22 @68275 has 41 MA's), (39, 68128), (82, 67924), (86, 67888),

Gene: EastView9101_94 Start: 68467, Stop: 68033, Start Num: 22

Candidate Starts for EastView9101_94:

(21, 68503), (Start: 22 @68467 has 41 MA's), (39, 68320), (82, 68116), (86, 68080),

Gene: Epah_93 Start: 68571, Stop: 68095, Start Num: 22

Candidate Starts for Epah_93:

(3, 69123), (6, 69045), (7, 69012), (10, 68946), (13, 68838), (21, 68607), (Start: 22 @68571 has 41 MA's), (Start: 24 @68559 has 2 MA's), (32, 68472), (38, 68418), (48, 68382), (52, 68358), (70, 68259), (83, 68166), (84, 68163),

Gene: Fanaw_89 Start: 69126, Stop: 68761, Start Num: 22

Candidate Starts for Fanaw_89:

(7, 69546), (8, 69537), (10, 69480), (13, 69378), (21, 69162), (Start: 22 @69126 has 41 MA's), (Start: 24 @69114 has 2 MA's), (38, 68973), (48, 68937), (52, 68913),

Gene: Fortunato_91 Start: 68994, Stop: 68518, Start Num: 22

Candidate Starts for Fortunato_91:

(1, 69633), (7, 69420), (8, 69411), (10, 69354), (13, 69246), (17, 69123), (Start: 22 @68994 has 41 MA's), (Start: 24 @68982 has 2 MA's), (42, 68829), (49, 68796), (64, 68703), (67, 68694), (73, 68667),

Gene: Frederick_95 Start: 69490, Stop: 69023, Start Num: 22

Candidate Starts for Frederick_95:

(Start: 22 @69490 has 41 MA's), (Start: 24 @69478 has 2 MA's), (38, 69337), (48, 69301), (52, 69277), (59, 69232), (71, 69175), (74, 69169), (83, 69094), (84, 69091),

Gene: Funsized_92 Start: 70655, Stop: 70206, Start Num: 23

Candidate Starts for Funsized_92:

(11, 71003), (16, 70793), (21, 70694), (Start: 22 @70658 has 41 MA's), (Start: 23 @70655 has 1 MA's), (27, 70634), (28, 70631), (29, 70622), (33, 70559), (34, 70556), (44, 70499), (64, 70400), (65, 70397), (69, 70376), (72, 70364), (75, 70343), (79, 70319), (87, 70241),

Gene: GinPorsche_95 Start: 68568, Stop: 68092, Start Num: 22

Candidate Starts for GinPorsche_95:

(3, 69120), (6, 69042), (7, 69009), (10, 68943), (13, 68835), (21, 68604), (Start: 22 @68568 has 41 MA's), (Start: 24 @68556 has 2 MA's), (32, 68469), (38, 68415), (48, 68379), (52, 68355), (70, 68256), (83, 68163), (84, 68160),

Gene: Hally898_91 Start: 68408, Stop: 67932, Start Num: 22

Candidate Starts for Hally898_91:

(3, 68960), (6, 68882), (7, 68849), (10, 68783), (13, 68675), (21, 68444), (Start: 22 @68408 has 41 MA's), (Start: 24 @68396 has 2 MA's), (32, 68309), (38, 68255), (48, 68219), (52, 68195), (70, 68096), (83, 68003), (84, 68000),

Gene: Hangman_94 Start: 69683, Stop: 69318, Start Num: 22

Candidate Starts for Hangman_94:

(21, 69719), (Start: 22 @69683 has 41 MA's), (Start: 24 @69671 has 2 MA's), (38, 69530), (48, 69494), (52, 69470), (59, 69425),

Gene: Heath_88 Start: 67555, Stop: 67088, Start Num: 22

Candidate Starts for Heath_88:

(Start: 22 @67555 has 41 MA's), (Start: 24 @67543 has 2 MA's), (38, 67402), (48, 67366), (52, 67342), (59, 67297), (71, 67240), (74, 67234), (83, 67159), (84, 67156),

Gene: Hydro_94 Start: 69470, Stop: 69105, Start Num: 22

Candidate Starts for Hydro_94:

(21, 69506), (Start: 22 @69470 has 41 MA's), (Start: 24 @69458 has 2 MA's), (32, 69371), (38, 69317), (48, 69281), (52, 69257), (54, 69239), (59, 69212), (62, 69194),

Gene: Indlovu_91 Start: 69140, Stop: 68721, Start Num: 22

Candidate Starts for Indlovu_91:

(Start: 22 @69140 has 41 MA's), (43, 68969), (50, 68954), (66, 68888), (80, 68822), (82, 68801),

Gene: JAMaL_95 Start: 69170, Stop: 68805, Start Num: 22

Candidate Starts for JAMaL_95:

(21, 69206), (Start: 22 @69170 has 41 MA's), (Start: 24 @69158 has 2 MA's), (32, 69071), (38, 69017), (48, 68981), (52, 68957), (59, 68912), (62, 68894),

Gene: JaguarMi_88 Start: 69648, Stop: 69079, Start Num: 19

Candidate Starts for JaguarMi_88:

(19, 69648), (42, 69390), (49, 69357), (51, 69351), (64, 69264), (67, 69255), (73, 69228),

Gene: JoyceMaria_94 Start: 69515, Stop: 69150, Start Num: 22

Candidate Starts for JoyceMaria_94:

(21, 69551), (Start: 22 @69515 has 41 MA's), (Start: 24 @69503 has 2 MA's), (38, 69362), (48, 69326), (52, 69302), (59, 69257),

Gene: KarasumaRum_92 Start: 68235, Stop: 67822, Start Num: 22

Candidate Starts for KarasumaRum_92:

(20, 68301), (21, 68271), (Start: 22 @68235 has 41 MA's), (40, 68085), (41, 68082), (55, 68028), (60, 68007), (61, 67995), (74, 67965), (81, 67914), (82, 67905), (86, 67869), (88, 67845),

Gene: Lambano_91 Start: 68408, Stop: 67932, Start Num: 22

Candidate Starts for Lambano_91:

(3, 68960), (6, 68882), (7, 68849), (10, 68783), (13, 68675), (21, 68444), (Start: 22 @68408 has 41 MA's), (Start: 24 @68396 has 2 MA's), (32, 68309), (38, 68255), (48, 68219), (52, 68195), (70, 68096), (83, 68003), (84, 68000),

Gene: LilMcDreamy_95 Start: 70337, Stop: 69876, Start Num: 22

Candidate Starts for LilMcDreamy_95:

(Start: 22 @70337 has 41 MA's), (43, 70187), (58, 70100), (82, 69986), (86, 69950), (88, 69926),

Gene: LittleDigger_93 Start: 68510, Stop: 68034, Start Num: 22

Candidate Starts for LittleDigger_93:

(3, 69062), (6, 68984), (10, 68885), (13, 68777), (21, 68546), (Start: 22 @68510 has 41 MA's), (Start: 24 @68498 has 2 MA's), (38, 68357), (48, 68321), (52, 68297), (70, 68198), (83, 68105), (84, 68102),

Gene: Lolalove_96 Start: 69418, Stop: 69053, Start Num: 22

Candidate Starts for Lolalove_96:

(21, 69454), (Start: 22 @69418 has 41 MA's), (Start: 24 @69406 has 2 MA's), (38, 69265), (48, 69229), (52, 69205), (59, 69160),

Gene: Magpie_90 Start: 69343, Stop: 68867, Start Num: 22

Candidate Starts for Magpie_90:

(Start: 22 @69343 has 41 MA's), (Start: 24 @69331 has 2 MA's), (32, 69244), (38, 69190), (48, 69154), (52, 69130), (70, 69031), (83, 68938),

Gene: Mithril_92 Start: 69244, Stop: 68879, Start Num: 22

Candidate Starts for Mithril_92:

(21, 69280), (Start: 22 @69244 has 41 MA's), (Start: 24 @69232 has 2 MA's), (38, 69091), (48, 69055), (52, 69031), (59, 68986),

Gene: Mudslide_95 Start: 69649, Stop: 69284, Start Num: 22

Candidate Starts for Mudslide_95:

(21, 69685), (Start: 22 @69649 has 41 MA's), (Start: 24 @69637 has 2 MA's), (32, 69550), (38, 69496), (48, 69460), (52, 69436), (59, 69391), (62, 69373),

Gene: Mysterious_94 Start: 69365, Stop: 68889, Start Num: 22

Candidate Starts for Mysterious_94:

(21, 69401), (Start: 22 @69365 has 41 MA's), (35, 69257), (46, 69188), (63, 69083), (73, 69044), (82, 68972), (86, 68936), (88, 68912),

Gene: Nanao_93 Start: 68421, Stop: 67945, Start Num: 22

Candidate Starts for Nanao_93:

(3, 68973), (6, 68895), (7, 68862), (10, 68796), (13, 68688), (21, 68457), (Start: 22 @68421 has 41 MA's), (Start: 24 @68409 has 2 MA's), (32, 68322), (38, 68268), (48, 68232), (52, 68208), (70, 68109), (83, 68016), (84, 68013),

Gene: Nangang_95 Start: 68855, Stop: 68451, Start Num: 22

Candidate Starts for Nangang_95:

(20, 68921), (21, 68891), (Start: 22 @68855 has 41 MA's), (37, 68717), (39, 68708), (65, 68609), (77, 68570), (78, 68564), (81, 68543), (82, 68534), (86, 68498), (88, 68474),

Gene: Nehemiah_94 Start: 69233, Stop: 68757, Start Num: 22

Candidate Starts for Nehemiah_94:

(21, 69269), (Start: 22 @69233 has 41 MA's), (35, 69125), (46, 69056), (63, 68951), (73, 68912), (82, 68840), (86, 68804), (88, 68780),

Gene: Nigel_91 Start: 67940, Stop: 67575, Start Num: 22

Candidate Starts for Nigel_91:

(21, 67976), (Start: 22 @67940 has 41 MA's), (Start: 24 @67928 has 2 MA's), (38, 67787), (48, 67751), (52, 67727), (54, 67709), (59, 67682),

Gene: Phelemich_92 Start: 69193, Stop: 68786, Start Num: 22

Candidate Starts for Phelemich_92:

(21, 69229), (Start: 22 @69193 has 41 MA's), (26, 69178), (38, 69055), (40, 69049), (55, 68992), (60, 68971), (81, 68878), (86, 68833), (88, 68809),

Gene: Poster_92 Start: 68422, Stop: 67946, Start Num: 22

Candidate Starts for Poster_92:

(3, 68974), (6, 68896), (7, 68863), (10, 68797), (13, 68689), (21, 68458), (Start: 22 @68422 has 41 MA's), (Start: 24 @68410 has 2 MA's), (32, 68323), (38, 68269), (48, 68233), (52, 68209), (70, 68110), (83, 68017), (84, 68014),

Gene: Prince_94 Start: 69516, Stop: 69151, Start Num: 22

Candidate Starts for Prince_94:

(21, 69552), (Start: 22 @69516 has 41 MA's), (Start: 24 @69504 has 2 MA's), (32, 69417), (38, 69363), (48, 69327), (52, 69303), (59, 69258), (62, 69240),

Gene: QueenPie_87 Start: 68292, Stop: 67816, Start Num: 22

Candidate Starts for QueenPie_87:

(2, 68853), (3, 68808), (7, 68697), (8, 68688), (10, 68631), (14, 68493), (21, 68328), (Start: 22 @68292 has 41 MA's), (Start: 24 @68280 has 2 MA's), (31, 68202), (32, 68184), (38, 68130), (45, 68106), (48, 68094), (52, 68070), (59, 68025), (71, 67968), (74, 67962),

Gene: RawrgerThat_92 Start: 69122, Stop: 68649, Start Num: 22

Candidate Starts for RawrgerThat_92:

(15, 69308), (Start: 22 @69122 has 41 MA's), (Start: 24 @69110 has 2 MA's), (32, 69023), (38, 68969), (48, 68933), (52, 68909), (56, 68879), (70, 68813), (83, 68720), (84, 68717),

Gene: Reccee_95 Start: 68718, Stop: 68284, Start Num: 22

Candidate Starts for Reccee_95:

(21, 68754), (Start: 22 @68718 has 41 MA's), (39, 68571), (82, 68367), (86, 68331), (88, 68307),

Gene: Renkei_93 Start: 68504, Stop: 68028, Start Num: 22

Candidate Starts for Renkei_93:

(3, 69056), (6, 68978), (10, 68879), (13, 68771), (21, 68540), (Start: 22 @68504 has 41 MA's), (Start: 24 @68492 has 2 MA's), (38, 68351), (48, 68315), (52, 68291), (70, 68192), (83, 68099), (84, 68096),

Gene: Reprobate_94 Start: 69198, Stop: 68791, Start Num: 22

Candidate Starts for Reprobate_94:

(21, 69234), (Start: 22 @69198 has 41 MA's), (26, 69183), (38, 69060), (40, 69054), (55, 68997), (60, 68976), (81, 68883), (86, 68838), (88, 68814),

Gene: Rich_92 Start: 68438, Stop: 68076, Start Num: 22

Candidate Starts for Rich_92:

(Start: 22 @68438 has 41 MA's), (38, 68294), (57, 68267), (82, 68159), (86, 68123), (88, 68099),

Gene: Rinkes_90 Start: 69593, Stop: 69048, Start Num: 22

Candidate Starts for Rinkes_90:

(Start: 22 @69593 has 41 MA's), (Start: 23 @69590 has 1 MA's), (28, 69566), (29, 69557), (30, 69536), (33, 69494), (34, 69491), (44, 69434), (64, 69335), (68, 69317), (75, 69278), (89, 69116), (90, 69092), (91, 69089),

Gene: Rita130_93 Start: 68421, Stop: 67987, Start Num: 22

Candidate Starts for Rita130_93:

(21, 68457), (Start: 22 @68421 has 41 MA's), (39, 68274), (82, 68070), (86, 68034), (88, 68010),

Gene: Serendipitous_95 Start: 68448, Stop: 68020, Start Num: 22

Candidate Starts for Serendipitous_95:

(Start: 22 @68448 has 41 MA's), (47, 68292), (63, 68214), (73, 68175), (82, 68103), (86, 68067), (88, 68043),

Gene: Shenyu_95 Start: 68853, Stop: 68449, Start Num: 22

Candidate Starts for Shenyu_95:

(20, 68919), (21, 68889), (Start: 22 @68853 has 41 MA's), (37, 68715), (39, 68706), (65, 68607), (77, 68568), (78, 68562), (81, 68541), (82, 68532), (86, 68496), (88, 68472),

Gene: SirJeffery_92 Start: 68436, Stop: 68068, Start Num: 22

Candidate Starts for SirJeffery_92:

(21, 68472), (Start: 22 @68436 has 41 MA's), (35, 68328), (57, 68259), (82, 68151), (86, 68115),

Gene: Stinger_91 Start: 67668, Stop: 67336, Start Num: 22

Candidate Starts for Stinger_91:

(5, 68181), (7, 68088), (9, 68064), (10, 68022), (12, 67953), (13, 67920), (18, 67782), (21, 67704), (Start: 22 @67668 has 41 MA's), (Start: 24 @67656 has 2 MA's), (38, 67515), (48, 67479), (52, 67455), (53, 67443),

Gene: StinkyVeggy_92 Start: 68235, Stop: 67822, Start Num: 22

Candidate Starts for StinkyVeggy_92:

(20, 68301), (21, 68271), (Start: 22 @68235 has 41 MA's), (40, 68085), (41, 68082), (55, 68028), (60, 68007), (61, 67995), (74, 67965), (81, 67914), (82, 67905), (86, 67869), (88, 67845),

Gene: Suigeneris_95 Start: 68663, Stop: 68229, Start Num: 22

Candidate Starts for Suigeneris_95:

(21, 68699), (Start: 22 @68663 has 41 MA's), (39, 68516), (82, 68312), (86, 68276), (88, 68252),

Gene: Vincenzo_94 Start: 70573, Stop: 70142, Start Num: 24

Candidate Starts for Vincenzo_94:

(17, 70714), (Start: 24 @70573 has 2 MA's), (25, 70570), (38, 70432), (48, 70396), (52, 70375), (76, 70246), (85, 70165),

Gene: VioletZ_96 Start: 69623, Stop: 69258, Start Num: 22

Candidate Starts for VioletZ_96:

(21, 69659), (Start: 22 @69623 has 41 MA's), (Start: 24 @69611 has 2 MA's), (32, 69524), (38, 69470), (48, 69434), (52, 69410), (59, 69365), (62, 69347),

Gene: Waleliano_93 Start: 69270, Stop: 68905, Start Num: 22

Candidate Starts for Waleliano_93:

(21, 69306), (Start: 22 @69270 has 41 MA's), (Start: 24 @69258 has 2 MA's), (38, 69117), (48, 69081), (52, 69057), (59, 69012),

Gene: Xincheng_86 Start: 69590, Stop: 69021, Start Num: 19

Candidate Starts for Xincheng_86:

(19, 69590), (42, 69332), (49, 69299), (51, 69293), (64, 69206), (67, 69197), (73, 69170),

Gene: Zemanar_92 Start: 69389, Stop: 68922, Start Num: 22

Candidate Starts for Zemanar_92:

(Start: 22 @69389 has 41 MA's), (Start: 24 @69377 has 2 MA's), (38, 69236), (48, 69200), (52, 69176), (59, 69131), (71, 69074), (74, 69068), (83, 68993), (84, 68990),