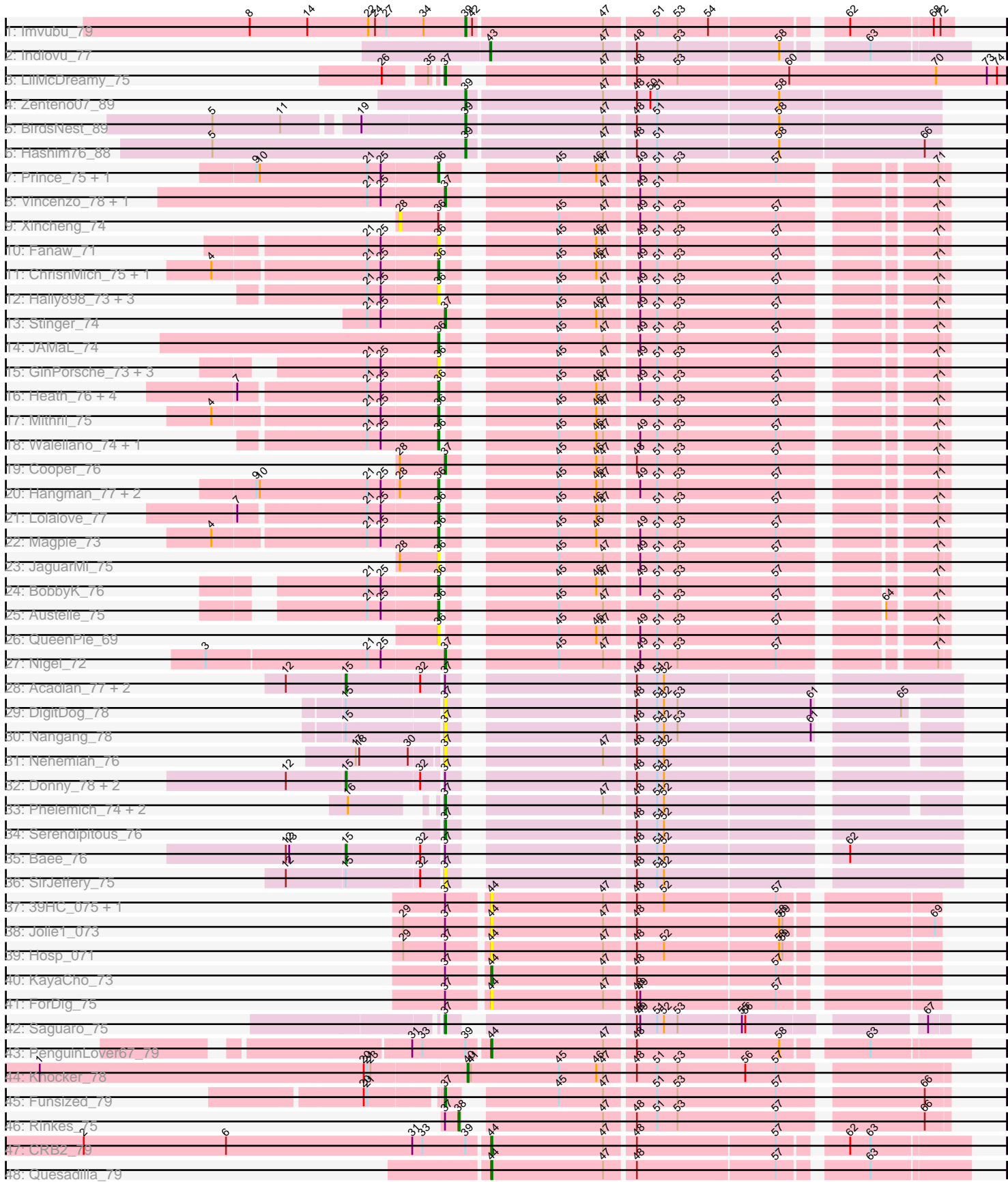


Pham 224548



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 224548 Report

This analysis was run 03/28/25 on database version 593.

Pham number 224548 has 71 members, 23 are drafts.

Phages represented in each track:

- Track 1 : Imvubu_79
- Track 2 : Indlovu_77
- Track 3 : LilMcDreamy_75
- Track 4 : Zenteno07_89
- Track 5 : BirdsNest_89
- Track 6 : Hashim76_88
- Track 7 : Prince_75, Apex_77
- Track 8 : Vincenzo_78, AlanGrant_79
- Track 9 : Xincheng_74
- Track 10 : Fanaw_71
- Track 11 : ChrisMich_75, Fortunato_75
- Track 12 : Hally898_73, Poster_73, Lambano_73, Nanao_74
- Track 13 : Stinger_74
- Track 14 : JAMaL_74
- Track 15 : GinPorsche_73, Ahwei_73, Epah_73, Antihero_73
- Track 16 : Heath_76, Zemanar_75, Frederick_77, RawrgerThat_75, Hydro_76
- Track 17 : Mithril_75
- Track 18 : Waleliano_74, BrownCNA_76
- Track 19 : Cooper_76
- Track 20 : Hangman_77, VioletZ_78, Mudslide_75
- Track 21 : Lolalove_77
- Track 22 : Magpie_73
- Track 23 : JaguarMi_75
- Track 24 : BobbyK_76
- Track 25 : Austelle_75
- Track 26 : QueenPie_69
- Track 27 : Nigel_72
- Track 28 : Acadian_77, EastView9101_76, Rita130_76
- Track 29 : DigitDog_78
- Track 30 : Nangang_78
- Track 31 : Nehemiah_76
- Track 32 : Donny_78, Rich_75, Suigeneris_78
- Track 33 : Phelemich_74, Mysterious_77, Reprobate_76
- Track 34 : Serendipitous_76
- Track 35 : Bae_76
- Track 36 : SirJeffery_75
- Track 37 : 39HC_075, 40BC_075

- Track 38 : Jolie1_073
- Track 39 : Hosp_071
- Track 40 : KayaCho_73
- Track 41 : ForDig_75
- Track 42 : Saguaro_75
- Track 43 : PenguinLover67_79
- Track 44 : Knocker_78
- Track 45 : Funsized_79
- Track 46 : Rinkes_75
- Track 47 : CRB2_79
- Track 48 : Quesadilla_79

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

The start number called the most often in the published annotations is 36, it was called in 20 of the 48 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Ahwei_73, Antihero_73, Apex_77, Austelle_75, BobbyK_76, BrownCNA_76, ChrisnMich_75, Epah_73, Fanaw_71, Fortunato_75, Frederick_77, GinPorsche_73, Hally898_73, Hangman_77, Heath_76, Hydro_76, JAMaL_74, JaguarMi_75, Lambano_73, Lolalove_77, Magpie_73, Mithril_75, Mudslide_75, Nanao_74, Poster_73, Prince_75, QueenPie_69, RawrgerThat_75, VioletZ_78, Waleliano_74, Zemanar_75,

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

- Xincheng_74,

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

- 39HC_075, 40BC_075, Acadian_77, AlanGrant_79, Bae_76, BirdsNest_89, CRB2_79, Cooper_76, DigitDog_78, Donny_78, EastView9101_76, ForDig_75, Funsized_79, Hashim76_88, Hosp_071, Imvubu_79, Indlovu_77, Jolie1_073, KayaCho_73, Knocker_78, LilMcDreamy_75, Mysterious_77, Nangang_78, Nehemiah_76, Nigel_72, PenguinLover67_79, Phelemich_74, Quesadilla_79, Reprobate_76, Rich_75, Rinkes_75, Rita130_76, Saguaro_75, Serendipitous_76, SirJeffery_75, Stinger_74, Suigeneris_78, Vincenzo_78, Zenteno07_89,

Summary by start number:

Start 15:

- Found in 10 of 71 (14.1%) of genes in pham
- Manual Annotations of this start: 6 of 48
- Called 70.0% of time when present
- Phage (with cluster) where this start called: Acadian_77 (B5), Bae_76 (B5), Donny_78 (B5), EastView9101_76 (B5), Rich_75 (B5), Rita130_76 (B5), Suigeneris_78 (B5),

Start 28:

- Found in 6 of 71 (8.5%) of genes in pham
- No Manual Annotations of this start.

- Called 16.7% of time when present
- Phage (with cluster) where this start called: Xincheng_74 (B4),

Start 36:

- Found in 32 of 71 (45.1%) of genes in pham
- Manual Annotations of this start: 20 of 48
- Called 96.9% of time when present
- Phage (with cluster) where this start called: Ahwei_73 (B4), Antihero_73 (B4), Apex_77 (B4), Austelle_75 (B4), BobbyK_76 (B4), BrownCNA_76 (B4), ChrisnMich_75 (B4), Epah_73 (B4), Fanaw_71 (B4), Fortunato_75 (B4), Frederick_77 (B4), GinPorsche_73 (B4), Hally898_73 (B4), Hangman_77 (B4), Heath_76 (B4), Hydro_76 (B4), JAMaL_74 (B4), JaguarMi_75 (B4), Lambano_73 (B4), Lolalove_77 (B4), Magpie_73 (B4), Mithril_75 (B4), Mudslide_75 (B4), Nanao_74 (B4), Poster_73 (B4), Prince_75 (B4), QueenPie_69 (B4), RawrgerThat_75 (B4), VioletZ_78 (B4), Waleliano_74 (B4), Zemanar_75 (B4),

Start 37:

- Found in 30 of 71 (42.3%) of genes in pham
- Manual Annotations of this start: 11 of 48
- Called 53.3% of time when present
- Phage (with cluster) where this start called: AlanGrant_79 (B4), Cooper_76 (B4), DigitDog_78 (B5), Funsized_79 (B9), LilMcDreamy_75 (B12), Mysterious_77 (B5), Nangang_78 (B5), Nehemiah_76 (B5), Nigel_72 (B4), Phelemich_74 (B5), Reprobate_76 (B5), Saguaro_75 (B7), Serendipitous_76 (B5), SirJeffery_75 (B5), Stinger_74 (B4), Vincenzo_78 (B4),

Start 38:

- Found in 1 of 71 (1.4%) 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: Rinkes_75 (B9),

Start 39:

- Found in 6 of 71 (8.5%) of genes in pham
- Manual Annotations of this start: 4 of 48
- Called 66.7% of time when present
- Phage (with cluster) where this start called: BirdsNest_89 (B13), Hashim76_88 (B13), Imvubu_79 (B10), Zenteno07_89 (B13),

Start 40:

- Found in 1 of 71 (1.4%) 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_78 (B9),

Start 43:

- Found in 1 of 71 (1.4%) 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: Indlovu_77 (B11),

Start 44:

- Found in 9 of 71 (12.7%) of genes in pham

- Manual Annotations of this start: 4 of 48
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 39HC_075 (B6), 40BC_075 (B6), CRB2_79 (B9), ForDig_75 (B6), Hosp_071 (B6), Jolie1_073 (B6), KayaCho_73 (B6), PenguinLover67_79 (B9), Quesadilla_79 (B9),

Summary by clusters:

There are 9 clusters represented in this pham: B4, B5, B6, B7, B12, B13, B10, B11, B9,

Info for manual annotations of cluster B10:

- Start number 39 was manually annotated 1 time for cluster B10.

Info for manual annotations of cluster B11:

- Start number 43 was manually annotated 1 time for cluster B11.

Info for manual annotations of cluster B12:

- Start number 37 was manually annotated 1 time for cluster B12.

Info for manual annotations of cluster B13:

- Start number 39 was manually annotated 3 times for cluster B13.

Info for manual annotations of cluster B4:

- Start number 36 was manually annotated 20 times for cluster B4.
- Start number 37 was manually annotated 5 times for cluster B4.

Info for manual annotations of cluster B5:

- Start number 15 was manually annotated 6 times for cluster B5.
- Start number 37 was manually annotated 3 times for cluster B5.

Info for manual annotations of cluster B6:

- Start number 44 was manually annotated 1 time for cluster B6.

Info for manual annotations of cluster B7:

- Start number 37 was manually annotated 1 time for cluster B7.

Info for manual annotations of cluster B9:

- Start number 37 was manually annotated 1 time for cluster B9.
- Start number 38 was manually annotated 1 time for cluster B9.
- Start number 40 was manually annotated 1 time for cluster B9.
- Start number 44 was manually annotated 3 times for cluster B9.

Gene Information:

Gene: 39HC_075 Start: 62227, Stop: 61859, Start Num: 44

Candidate Starts for 39HC_075:

(Start: 37 @62260 has 11 MA's), (Start: 44 @62227 has 4 MA's), (47, 62128), (48, 62104), (52, 62080), (57, 61984),

Gene: 40BC_075 Start: 62227, Stop: 61859, Start Num: 44

Candidate Starts for 40BC_075:

(Start: 37 @62260 has 11 MA's), (Start: 44 @62227 has 4 MA's), (47, 62128), (48, 62104), (52, 62080), (57, 61984),

Gene: Acadian_77 Start: 62254, Stop: 61766, Start Num: 15

Candidate Starts for Acadian_77:

(12, 62305), (Start: 15 @62254 has 6 MA's), (32, 62191), (Start: 37 @62173 has 11 MA's), (48, 62032), (51, 62014), (52, 62008),

Gene: Ahwei_73 Start: 62187, Stop: 61801, Start Num: 36

Candidate Starts for Ahwei_73:

(21, 62247), (25, 62235), (Start: 36 @62187 has 20 MA's), (45, 62109), (47, 62070), (49, 62043), (51, 62028), (53, 62010), (57, 61923), (71, 61809),

Gene: AlanGrant_79 Start: 64544, Stop: 64158, Start Num: 37

Candidate Starts for AlanGrant_79:

(21, 64610), (25, 64598), (Start: 37 @64544 has 11 MA's), (47, 64427), (49, 64400), (51, 64385), (71, 64166),

Gene: Antihero_73 Start: 62122, Stop: 61736, Start Num: 36

Candidate Starts for Antihero_73:

(21, 62182), (25, 62170), (Start: 36 @62122 has 20 MA's), (45, 62044), (47, 62005), (49, 61978), (51, 61963), (53, 61945), (57, 61858), (71, 61744),

Gene: Apex_77 Start: 63483, Stop: 63097, Start Num: 36

Candidate Starts for Apex_77:

(9, 63639), (10, 63636), (21, 63543), (25, 63531), (Start: 36 @63483 has 20 MA's), (45, 63405), (46, 63372), (47, 63366), (49, 63339), (51, 63324), (53, 63306), (57, 63219), (71, 63105),

Gene: Austelle_75 Start: 63800, Stop: 63414, Start Num: 36

Candidate Starts for Austelle_75:

(21, 63860), (25, 63848), (Start: 36 @63800 has 20 MA's), (45, 63722), (47, 63683), (51, 63641), (53, 63623), (57, 63536), (64, 63461), (71, 63422),

Gene: Bae_76 Start: 62953, Stop: 62465, Start Num: 15

Candidate Starts for Bae_76:

(12, 63004), (13, 63001), (Start: 15 @62953 has 6 MA's), (32, 62890), (Start: 37 @62872 has 11 MA's), (48, 62731), (51, 62713), (52, 62707), (62, 62563),

Gene: BirdsNest_89 Start: 65386, Stop: 64982, Start Num: 39

Candidate Starts for BirdsNest_89:

(5, 65590), (11, 65530), (19, 65473), (Start: 39 @65386 has 4 MA's), (47, 65269), (48, 65245), (51, 65227), (58, 65122),

Gene: BobbyK_76 Start: 62954, Stop: 62568, Start Num: 36

Candidate Starts for BobbyK_76:

(21, 63014), (25, 63002), (Start: 36 @62954 has 20 MA's), (45, 62876), (46, 62843), (47, 62837), (49, 62810), (51, 62795), (53, 62777), (57, 62690), (71, 62576),

Gene: BrownCNA_76 Start: 63158, Stop: 62772, Start Num: 36

Candidate Starts for BrownCNA_76:

(21, 63218), (25, 63206), (Start: 36 @63158 has 20 MA's), (45, 63080), (46, 63047), (47, 63041), (49, 63014), (51, 62999), (53, 62981), (57, 62894), (71, 62780),

Gene: CRB2_79 Start: 65196, Stop: 64804, Start Num: 44

Candidate Starts for CRB2_79:

(2, 65547), (6, 65421), (31, 65259), (33, 65250), (Start: 39 @65214 has 4 MA's), (Start: 44 @65196 has 4 MA's), (47, 65097), (48, 65073), (57, 64953), (62, 64905), (63, 64887),

Gene: ChrisnMich_75 Start: 62154, Stop: 61768, Start Num: 36

Candidate Starts for ChrisnMich_75:

(4, 62343), (21, 62214), (25, 62202), (Start: 36 @62154 has 20 MA's), (45, 62076), (46, 62043), (47, 62037), (49, 62010), (51, 61995), (53, 61977), (57, 61890), (71, 61776),

Gene: Cooper_76 Start: 62632, Stop: 62246, Start Num: 37

Candidate Starts for Cooper_76:

(28, 62671), (Start: 37 @62632 has 11 MA's), (45, 62554), (46, 62521), (47, 62515), (48, 62491), (51, 62473), (53, 62455), (57, 62368), (71, 62254),

Gene: DigitDog_78 Start: 62457, Stop: 62062, Start Num: 37

Candidate Starts for DigitDog_78:

(Start: 15 @62538 has 6 MA's), (Start: 37 @62457 has 11 MA's), (48, 62316), (51, 62298), (52, 62292), (53, 62280), (61, 62166), (65, 62103),

Gene: Donny_78 Start: 62294, Stop: 61806, Start Num: 15

Candidate Starts for Donny_78:

(12, 62345), (Start: 15 @62294 has 6 MA's), (32, 62231), (Start: 37 @62213 has 11 MA's), (48, 62072), (51, 62054), (52, 62048),

Gene: EastView9101_76 Start: 61998, Stop: 61510, Start Num: 15

Candidate Starts for EastView9101_76:

(12, 62049), (Start: 15 @61998 has 6 MA's), (32, 61935), (Start: 37 @61917 has 11 MA's), (48, 61776), (51, 61758), (52, 61752),

Gene: Epah_73 Start: 62122, Stop: 61736, Start Num: 36

Candidate Starts for Epah_73:

(21, 62182), (25, 62170), (Start: 36 @62122 has 20 MA's), (45, 62044), (47, 62005), (49, 61978), (51, 61963), (53, 61945), (57, 61858), (71, 61744),

Gene: Fanaw_71 Start: 62994, Stop: 62608, Start Num: 36

Candidate Starts for Fanaw_71:

(21, 63054), (25, 63042), (Start: 36 @62994 has 20 MA's), (45, 62916), (46, 62883), (47, 62877), (49, 62850), (51, 62835), (53, 62817), (57, 62730), (71, 62616),

Gene: ForDig_75 Start: 61622, Stop: 61254, Start Num: 44

Candidate Starts for ForDig_75:

(Start: 37 @61655 has 11 MA's), (Start: 44 @61622 has 4 MA's), (47, 61523), (48, 61499), (49, 61496), (57, 61379),

Gene: Fortunato_75 Start: 62924, Stop: 62538, Start Num: 36

Candidate Starts for Fortunato_75:

(4, 63113), (21, 62984), (25, 62972), (Start: 36 @62924 has 20 MA's), (45, 62846), (46, 62813), (47, 62807), (49, 62780), (51, 62765), (53, 62747), (57, 62660), (71, 62546),

Gene: Frederick_77 Start: 63228, Stop: 62842, Start Num: 36

Candidate Starts for Frederick_77:

(7, 63393), (21, 63288), (25, 63276), (Start: 36 @63228 has 20 MA's), (45, 63150), (46, 63117), (47, 63111), (49, 63084), (51, 63069), (53, 63051), (57, 62964), (71, 62850),

Gene: Funsized_79 Start: 65641, Stop: 65243, Start Num: 37

Candidate Starts for Funsized_79:

(20, 65701), (21, 65698), (Start: 37 @65641 has 11 MA's), (45, 65563), (47, 65524), (51, 65482), (53, 65464), (57, 65377), (66, 65263),

Gene: GinPorsche_73 Start: 62119, Stop: 61733, Start Num: 36

Candidate Starts for GinPorsche_73:

(21, 62179), (25, 62167), (Start: 36 @62119 has 20 MA's), (45, 62041), (47, 62002), (49, 61975), (51, 61960), (53, 61942), (57, 61855), (71, 61741),

Gene: Hally898_73 Start: 62200, Stop: 61814, Start Num: 36

Candidate Starts for Hally898_73:

(21, 62260), (25, 62248), (Start: 36 @62200 has 20 MA's), (45, 62122), (47, 62083), (49, 62056), (51, 62041), (53, 62023), (57, 61936), (71, 61822),

Gene: Hangman_77 Start: 63694, Stop: 63308, Start Num: 36

Candidate Starts for Hangman_77:

(9, 63850), (10, 63847), (21, 63754), (25, 63742), (28, 63727), (Start: 36 @63694 has 20 MA's), (45, 63616), (46, 63583), (47, 63577), (49, 63550), (51, 63535), (53, 63517), (57, 63430), (71, 63316),

Gene: Hashim76_88 Start: 65419, Stop: 65015, Start Num: 39

Candidate Starts for Hashim76_88:

(5, 65641), (Start: 39 @65419 has 4 MA's), (47, 65302), (48, 65278), (51, 65260), (58, 65155), (66, 65029),

Gene: Heath_76 Start: 63439, Stop: 63053, Start Num: 36

Candidate Starts for Heath_76:

(7, 63604), (21, 63499), (25, 63487), (Start: 36 @63439 has 20 MA's), (45, 63361), (46, 63328), (47, 63322), (49, 63295), (51, 63280), (53, 63262), (57, 63175), (71, 63061),

Gene: Hosp_071 Start: 59697, Stop: 59329, Start Num: 44

Candidate Starts for Hosp_071:

(29, 59766), (Start: 37 @59730 has 11 MA's), (Start: 44 @59697 has 4 MA's), (47, 59598), (48, 59574), (52, 59550), (58, 59451), (59, 59448),

Gene: Hydro_76 Start: 63357, Stop: 62971, Start Num: 36

Candidate Starts for Hydro_76:

(7, 63522), (21, 63417), (25, 63405), (Start: 36 @63357 has 20 MA's), (45, 63279), (46, 63246), (47, 63240), (49, 63213), (51, 63198), (53, 63180), (57, 63093), (71, 62979),

Gene: Imvubu_79 Start: 62691, Stop: 62296, Start Num: 39

Candidate Starts for Imvubu_79:

(8, 62880), (14, 62829), (22, 62775), (24, 62769), (27, 62760), (34, 62727), (Start: 39 @62691 has 4 MA's), (42, 62685), (47, 62574), (51, 62532), (53, 62514), (54, 62487), (62, 62382), (68, 62313), (72, 62307),

Gene: Indlovu_77 Start: 63524, Stop: 63132, Start Num: 43

Candidate Starts for Indlovu_77:

(Start: 43 @63524 has 1 MA's), (47, 63425), (48, 63401), (53, 63365), (58, 63278), (63, 63215),

Gene: JAMaL_74 Start: 62677, Stop: 62291, Start Num: 36

Candidate Starts for JAMaL_74:

(Start: 36 @62677 has 20 MA's), (45, 62599), (47, 62560), (49, 62533), (51, 62518), (53, 62500), (57, 62413), (71, 62299),

Gene: JaguarMi_75 Start: 64365, Stop: 63979, Start Num: 36

Candidate Starts for JaguarMi_75:

(28, 64398), (Start: 36 @64365 has 20 MA's), (45, 64287), (47, 64248), (49, 64221), (51, 64206), (53, 64188), (57, 64101), (71, 63987),

Gene: Jolie1_073 Start: 61731, Stop: 61363, Start Num: 44

Candidate Starts for Jolie1_073:

(29, 61800), (Start: 37 @61764 has 11 MA's), (Start: 44 @61731 has 4 MA's), (47, 61632), (48, 61608), (58, 61485), (59, 61482), (69, 61368),

Gene: KayaCho_73 Start: 61898, Stop: 61530, Start Num: 44

Candidate Starts for KayaCho_73:

(Start: 37 @61931 has 11 MA's), (Start: 44 @61898 has 4 MA's), (47, 61799), (48, 61775), (57, 61655),

Gene: Knocker_78 Start: 64121, Stop: 63720, Start Num: 40

Candidate Starts for Knocker_78:

(1, 64493), (20, 64208), (21, 64205), (23, 64202), (Start: 40 @64121 has 1 MA's), (41, 64118), (45, 64040), (46, 64007), (47, 64001), (48, 63977), (51, 63959), (53, 63941), (56, 63881), (57, 63854),

Gene: Lambano_73 Start: 62200, Stop: 61814, Start Num: 36

Candidate Starts for Lambano_73:

(21, 62260), (25, 62248), (Start: 36 @62200 has 20 MA's), (45, 62122), (47, 62083), (49, 62056), (51, 62041), (53, 62023), (57, 61936), (71, 61822),

Gene: LilMcDreamy_75 Start: 62248, Stop: 61784, Start Num: 37

Candidate Starts for LilMcDreamy_75:

(26, 62284), (35, 62254), (Start: 37 @62248 has 11 MA's), (47, 62131), (48, 62107), (53, 62071), (60, 61975), (70, 61846), (73, 61801), (74, 61792),

Gene: Lolalove_77 Start: 63280, Stop: 62894, Start Num: 36

Candidate Starts for Lolalove_77:

(7, 63445), (21, 63340), (25, 63328), (Start: 36 @63280 has 20 MA's), (45, 63202), (46, 63169), (47, 63163), (51, 63121), (53, 63103), (57, 63016), (71, 62902),

Gene: Magpie_73 Start: 62892, Stop: 62506, Start Num: 36

Candidate Starts for Magpie_73:

(4, 63081), (21, 62952), (25, 62940), (Start: 36 @62892 has 20 MA's), (45, 62814), (46, 62781), (49, 62748), (51, 62733), (53, 62715), (57, 62628), (71, 62514),

Gene: Mithril_75 Start: 63279, Stop: 62893, Start Num: 36

Candidate Starts for Mithril_75:

(4, 63468), (21, 63339), (25, 63327), (Start: 36 @63279 has 20 MA's), (45, 63201), (46, 63168), (47, 63162), (51, 63120), (53, 63102), (57, 63015), (71, 62901),

Gene: Mudslide_75 Start: 63316, Stop: 62930, Start Num: 36

Candidate Starts for Mudslide_75:

(9, 63472), (10, 63469), (21, 63376), (25, 63364), (28, 63349), (Start: 36 @63316 has 20 MA's), (45, 63238), (46, 63205), (47, 63199), (49, 63172), (51, 63157), (53, 63139), (57, 63052), (71, 62938),

Gene: Mysterious_77 Start: 62158, Stop: 61763, Start Num: 37

Candidate Starts for Mysterious_77:

(16, 62212), (Start: 37 @62158 has 11 MA's), (47, 62041), (48, 62017), (51, 61999), (52, 61993),

Gene: Nanao_74 Start: 62190, Stop: 61804, Start Num: 36

Candidate Starts for Nanao_74:

(21, 62250), (25, 62238), (Start: 36 @62190 has 20 MA's), (45, 62112), (47, 62073), (49, 62046), (51, 62031), (53, 62013), (57, 61926), (71, 61812),

Gene: Nangang_78 Start: 62728, Stop: 62333, Start Num: 37

Candidate Starts for Nangang_78:

(Start: 15 @62809 has 6 MA's), (Start: 37 @62728 has 11 MA's), (48, 62587), (51, 62569), (52, 62563), (53, 62551), (61, 62437),

Gene: Nehemiah_76 Start: 62221, Stop: 61826, Start Num: 37

Candidate Starts for Nehemiah_76:

(17, 62290), (18, 62287), (30, 62245), (Start: 37 @62221 has 11 MA's), (47, 62104), (48, 62080), (51, 62062), (52, 62056),

Gene: Nigel_72 Start: 61700, Stop: 61314, Start Num: 37

Candidate Starts for Nigel_72:

(3, 61904), (21, 61766), (25, 61754), (Start: 37 @61700 has 11 MA's), (45, 61622), (47, 61583), (49, 61556), (51, 61541), (53, 61523), (57, 61436), (71, 61322),

Gene: PenguinLover67_79 Start: 62948, Stop: 62556, Start Num: 44

Candidate Starts for PenguinLover67_79:

(31, 63011), (33, 63002), (Start: 39 @62966 has 4 MA's), (Start: 44 @62948 has 4 MA's), (47, 62849), (48, 62825), (58, 62702), (63, 62639),

Gene: Phelemich_74 Start: 62284, Stop: 61889, Start Num: 37

Candidate Starts for Phelemich_74:

(16, 62338), (Start: 37 @62284 has 11 MA's), (47, 62167), (48, 62143), (51, 62125), (52, 62119),

Gene: Poster_73 Start: 62191, Stop: 61805, Start Num: 36

Candidate Starts for Poster_73:

(21, 62251), (25, 62239), (Start: 36 @62191 has 20 MA's), (45, 62113), (47, 62074), (49, 62047), (51, 62032), (53, 62014), (57, 61927), (71, 61813),

Gene: Prince_75 Start: 63386, Stop: 63000, Start Num: 36

Candidate Starts for Prince_75:

(9, 63542), (10, 63539), (21, 63446), (25, 63434), (Start: 36 @63386 has 20 MA's), (45, 63308), (46, 63275), (47, 63269), (49, 63242), (51, 63227), (53, 63209), (57, 63122), (71, 63008),

Gene: QueenPie_69 Start: 61924, Stop: 61538, Start Num: 36

Candidate Starts for QueenPie_69:

(Start: 36 @61924 has 20 MA's), (45, 61846), (46, 61813), (47, 61807), (49, 61780), (51, 61765), (53, 61747), (57, 61660), (71, 61546),

Gene: Quesadilla_79 Start: 63413, Stop: 63021, Start Num: 44

Candidate Starts for Quesadilla_79:

(Start: 44 @63413 has 4 MA's), (47, 63314), (48, 63290), (57, 63170), (63, 63104),

Gene: RawrgerThat_75 Start: 62971, Stop: 62585, Start Num: 36

Candidate Starts for RawrgerThat_75:

(7, 63136), (21, 63031), (25, 63019), (Start: 36 @62971 has 20 MA's), (45, 62893), (46, 62860), (47, 62854), (49, 62827), (51, 62812), (53, 62794), (57, 62707), (71, 62593),

Gene: Reprobate_76 Start: 62289, Stop: 61894, Start Num: 37

Candidate Starts for Reprobate_76:

(16, 62343), (Start: 37 @62289 has 11 MA's), (47, 62172), (48, 62148), (51, 62130), (52, 62124),

Gene: Rich_75 Start: 62998, Stop: 62510, Start Num: 15

Candidate Starts for Rich_75:

(12, 63049), (Start: 15 @62998 has 6 MA's), (32, 62935), (Start: 37 @62917 has 11 MA's), (48, 62776), (51, 62758), (52, 62752),

Gene: Rinkes_75 Start: 63331, Stop: 62945, Start Num: 38

Candidate Starts for Rinkes_75:

(Start: 37 @63343 has 11 MA's), (Start: 38 @63331 has 1 MA's), (47, 63226), (48, 63202), (51, 63184), (53, 63166), (57, 63079), (66, 62965),

Gene: Rita130_76 Start: 62228, Stop: 61740, Start Num: 15

Candidate Starts for Rita130_76:

(12, 62279), (Start: 15 @62228 has 6 MA's), (32, 62165), (Start: 37 @62147 has 11 MA's), (48, 62006), (51, 61988), (52, 61982),

Gene: Saguaro_75 Start: 62202, Stop: 61816, Start Num: 37

Candidate Starts for Saguaro_75:

(Start: 37 @62202 has 11 MA's), (48, 62061), (49, 62058), (51, 62043), (52, 62037), (53, 62025), (55, 61971), (56, 61968), (67, 61833),

Gene: Serendipitous_76 Start: 61875, Stop: 61468, Start Num: 37

Candidate Starts for Serendipitous_76:

(Start: 37 @61875 has 11 MA's), (48, 61734), (51, 61716), (52, 61710),

Gene: SirJeffery_75 Start: 61957, Stop: 61550, Start Num: 37

Candidate Starts for SirJeffery_75:

(12, 62089), (Start: 15 @62038 has 6 MA's), (32, 61975), (Start: 37 @61957 has 11 MA's), (48, 61816), (51, 61798), (52, 61792),

Gene: Stinger_74 Start: 61821, Stop: 61435, Start Num: 37

Candidate Starts for Stinger_74:

(21, 61887), (25, 61875), (Start: 37 @61821 has 11 MA's), (45, 61743), (46, 61710), (47, 61704), (49, 61677), (51, 61662), (53, 61644), (57, 61557), (71, 61443),

Gene: Suigeneris_78 Start: 62476, Stop: 61988, Start Num: 15

Candidate Starts for Suigeneris_78:

(12, 62527), (Start: 15 @62476 has 6 MA's), (32, 62413), (Start: 37 @62395 has 11 MA's), (48, 62254), (51, 62236), (52, 62230),

Gene: Vincenzo_78 Start: 64574, Stop: 64188, Start Num: 37

Candidate Starts for Vincenzo_78:

(21, 64640), (25, 64628), (Start: 37 @64574 has 11 MA's), (47, 64457), (49, 64430), (51, 64415), (71, 64196),

Gene: VioletZ_78 Start: 63482, Stop: 63096, Start Num: 36

Candidate Starts for VioletZ_78:

(9, 63638), (10, 63635), (21, 63542), (25, 63530), (28, 63515), (Start: 36 @63482 has 20 MA's), (45, 63404), (46, 63371), (47, 63365), (49, 63338), (51, 63323), (53, 63305), (57, 63218), (71, 63104),

Gene: Waleliano_74 Start: 62911, Stop: 62525, Start Num: 36

Candidate Starts for Waleliano_74:

(21, 62971), (25, 62959), (Start: 36 @62911 has 20 MA's), (45, 62833), (46, 62800), (47, 62794), (49, 62767), (51, 62752), (53, 62734), (57, 62647), (71, 62533),

Gene: Xincheng_74 Start: 64349, Stop: 63930, Start Num: 28

Candidate Starts for Xincheng_74:

(28, 64349), (Start: 36 @64316 has 20 MA's), (45, 64238), (47, 64199), (49, 64172), (51, 64157), (53, 64139), (57, 64052), (71, 63938),

Gene: Zemanar_75 Start: 63148, Stop: 62762, Start Num: 36

Candidate Starts for Zemanar_75:

(7, 63313), (21, 63208), (25, 63196), (Start: 36 @63148 has 20 MA's), (45, 63070), (46, 63037), (47, 63031), (49, 63004), (51, 62989), (53, 62971), (57, 62884), (71, 62770),

Gene: Zenteno07_89 Start: 65034, Stop: 64624, Start Num: 39

Candidate Starts for Zenteno07_89:

(Start: 39 @65034 has 4 MA's), (47, 64917), (48, 64887), (50, 64875), (51, 64869), (58, 64764),