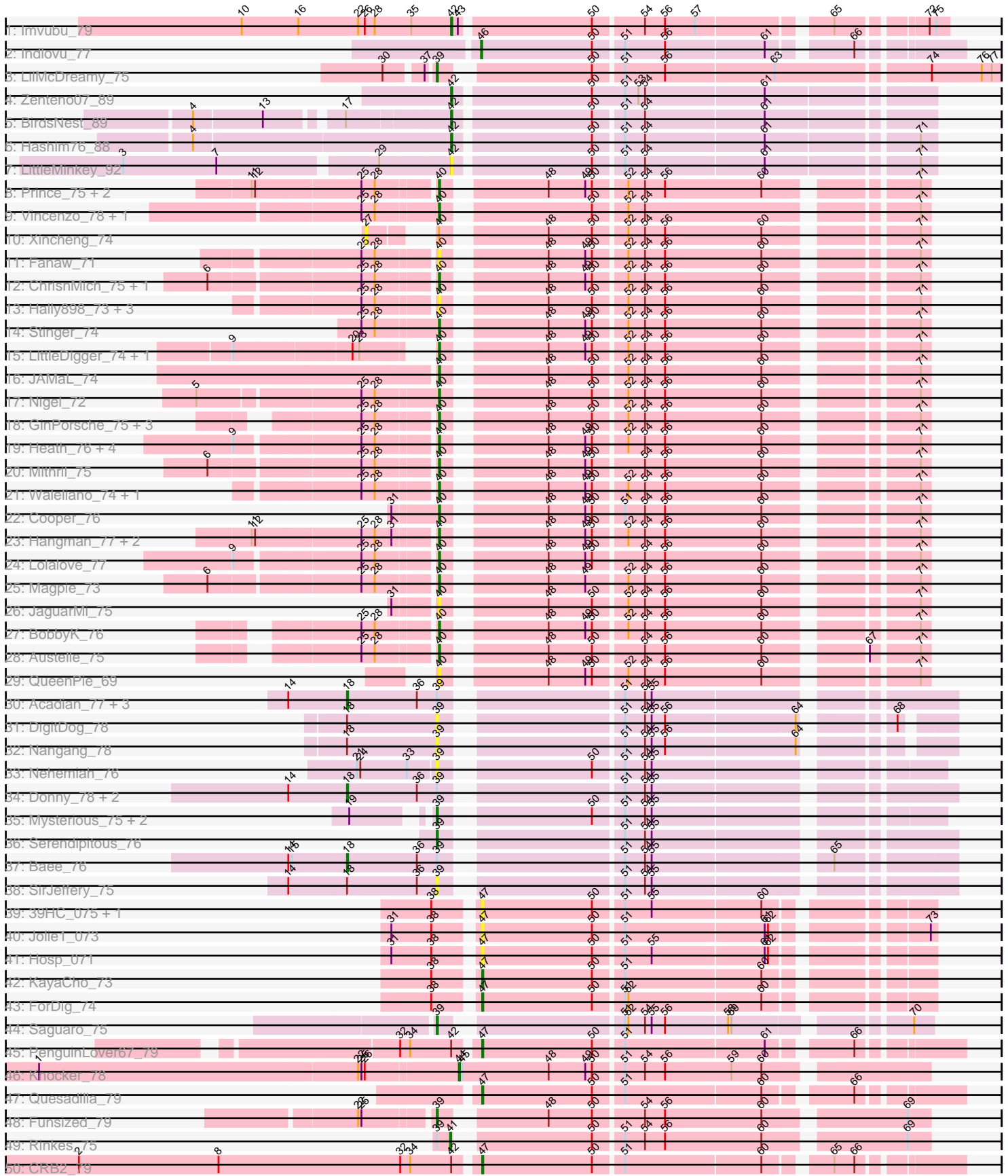


Pham 301324



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 301324 Report

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

Pham number 301324 has 76 members, 22 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 : LittleMinkey_92
- Track 8 : Prince_75, Apex_77, JoyceMaria_76
- Track 9 : Vincenzo_78, AlanGrant_79
- Track 10 : Xincheng_74
- Track 11 : Fanaw_71
- Track 12 : ChrisnMich_75, Fortunato_75
- Track 13 : Hally898_73, Poster_73, Lambano_73, Nanao_74
- Track 14 : Stinger_74
- Track 15 : LittleDigger_74, Renkei_74
- Track 16 : JAMaL_74
- Track 17 : Nigel_72
- Track 18 : GinPorsche_75, Ahwei_73, Epah_73, Antihero_73
- Track 19 : Heath_76, Zemanar_75, Frederick_77, RawrgerThat_75, Hydro_76
- Track 20 : Mithril_75
- Track 21 : Waleliano_74, BrownCNA_76
- Track 22 : Cooper_76
- Track 23 : Hangman_77, VioletZ_78, Mudslide_75
- Track 24 : Lolalove_77
- Track 25 : Magpie_73
- Track 26 : JaguarMi_75
- Track 27 : BobbyK_76
- Track 28 : Austelle_75
- Track 29 : QueenPie_69
- Track 30 : Acadian_77, EastView9101_76, Reccee_78, Rita130_76
- Track 31 : DigitDog_78
- Track 32 : Nangang_78
- Track 33 : Nehemiah_76
- Track 34 : Donny_78, Rich_75, Suigeneris_78
- Track 35 : Mysterious_75, Phelemich_74, Reprobate_76
- Track 36 : Serendipitous_76
- Track 37 : Bae_76

- Track 38 : SirJeffery_75
- Track 39 : 39HC_075, 40BC_075
- Track 40 : Jolie1_073
- Track 41 : Hosp_071
- Track 42 : KayaCho_73
- Track 43 : ForDig_74
- Track 44 : Saguaro_75
- Track 45 : PenguinLover67_79
- Track 46 : Knocker_78
- Track 47 : Quesadilla_79
- Track 48 : Funsized_79
- Track 49 : Rinkes_75
- Track 50 : CRB2_79

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

The start number called the most often in the published annotations is 40, it was called in 28 of the 54 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Ahwei_73, AlanGrant_79, Antihero_73, Apex_77, Austelle_75, BobbyK_76, BrownCNA_76, ChrisnMich_75, Cooper_76, Epah_73, Fanaw_71, Fortunato_75, Frederick_77, GinPorsche_75, Hally898_73, Hangman_77, Heath_76, Hydro_76, JAMaL_74, JaguarMi_75, JoyceMaria_76, Lambano_73, LittleDigger_74, Lolalove_77, Magpie_73, Mithril_75, Mudslide_75, Nanao_74, Nigel_72, Poster_73, Prince_75, QueenPie_69, RawrgerThat_75, Renkei_74, Stinger_74, Vincenzo_78, 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, Bae_76, BirdsNest_89, CRB2_79, DigitDog_78, Donny_78, EastView9101_76, ForDig_74, Funsized_79, Hashim76_88, Hosp_071, Imvubu_79, Indlovu_77, Jolie1_073, KayaCho_73, Knocker_78, LilMcDreamy_75, LittleMinkey_92, Mysterious_75, Nangang_78, Nehemiah_76, PenguinLover67_79, Phelemich_74, Quesadilla_79, Reccee_78, Reprobate_76, Rich_75, Rinkes_75, Rita130_76, Saguaro_75, Serendipitous_76, SirJeffery_75, Suigeneris_78, Zenteno07_89,

Summary by start number:

Start 18:

- Found in 11 of 76 (14.5%) of genes in pham
- Manual Annotations of this start: 7 of 54
- Called 72.7% of time when present
- Phage (with cluster) where this start called: Acadian_77 (B5), Bae_76 (B5), Donny_78 (B5), EastView9101_76 (B5), Reccee_78 (B5), Rich_75 (B5), Rita130_76 (B5), Suigeneris_78 (B5),

Start 27:

- Found in 1 of 76 (1.3%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Xincheng_74 (B4),

Start 39:

- Found in 20 of 76 (26.3%) of genes in pham
- Manual Annotations of this start: 7 of 54
- Called 55.0% of time when present
- Phage (with cluster) where this start called: DigitDog_78 (B5), Funsized_79 (B9), LilMcDreamy_75 (B12), Mysterious_75 (B5), Nangang_78 (B5), Nehemiah_76 (B5), Phelemich_74 (B5), Reprobate_76 (B5), Saguaro_75 (B7), Serendipitous_76 (B5), SirJeffery_75 (B5),

Start 40:

- Found in 40 of 76 (52.6%) of genes in pham
- Manual Annotations of this start: 28 of 54
- Called 97.5% of time when present
- Phage (with cluster) where this start called: Ahwei_73 (B4), AlanGrant_79 (B4), Antihero_73 (B4), Apex_77 (B4), Austelle_75 (B4), BobbyK_76 (B4), BrownCNA_76 (B4), ChrisnMich_75 (B4), Cooper_76 (B4), Epah_73 (B4), Fanaw_71 (B4), Fortunato_75 (B4), Frederick_77 (B4), GinPorsche_75 (B4), Hally898_73 (B4), Hangman_77 (B4), Heath_76 (B4), Hydro_76 (B4), JAMaL_74 (B4), JaguarMi_75 (B4), JoyceMaria_76 (B4), Lambano_73 (B4), LittleDigger_74 (B4), Lolalove_77 (B4), Magpie_73 (B4), Mithril_75 (B4), Mudslide_75 (B4), Nanao_74 (B4), Nigel_72 (B4), Poster_73 (B4), Prince_75 (B4), QueenPie_69 (B4), RawrgerThat_75 (B4), Renkei_74 (B4), Stinger_74 (B4), Vincenzo_78 (B4), VioletZ_78 (B4), Waleliano_74 (B4), Zemanar_75 (B4),

Start 41:

- Found in 1 of 76 (1.3%) of genes in pham
- Manual Annotations of this start: 1 of 54
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Rinkes_75 (B9),

Start 42:

- Found in 7 of 76 (9.2%) of genes in pham
- Manual Annotations of this start: 4 of 54
- Called 71.4% of time when present
- Phage (with cluster) where this start called: BirdsNest_89 (B13), Hashim76_88 (B13), Imvubu_79 (B10), LittleMinkey_92 (B13), Zenteno07_89 (B13),

Start 44:

- Found in 1 of 76 (1.3%) of genes in pham
- Manual Annotations of this start: 1 of 54
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Knocker_78 (B9),

Start 46:

- Found in 1 of 76 (1.3%) of genes in pham
- Manual Annotations of this start: 1 of 54
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Indlovu_77 (B11),

Start 47:

- Found in 9 of 76 (11.8%) of genes in pham
- Manual Annotations of this start: 5 of 54
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 39HC_075 (B6), 40BC_075 (B6), CRB2_79 (B9), ForDig_74 (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 42 was manually annotated 1 time for cluster B10.

Info for manual annotations of cluster B11:

- Start number 46 was manually annotated 1 time for cluster B11.

Info for manual annotations of cluster B12:

- Start number 39 was manually annotated 1 time for cluster B12.

Info for manual annotations of cluster B13:

- Start number 42 was manually annotated 3 times for cluster B13.

Info for manual annotations of cluster B4:

- Start number 40 was manually annotated 28 times for cluster B4.

Info for manual annotations of cluster B5:

- Start number 18 was manually annotated 7 times for cluster B5.
- Start number 39 was manually annotated 4 times for cluster B5.

Info for manual annotations of cluster B6:

- Start number 47 was manually annotated 2 times for cluster B6.

Info for manual annotations of cluster B7:

- Start number 39 was manually annotated 1 time for cluster B7.

Info for manual annotations of cluster B9:

- Start number 39 was manually annotated 1 time for cluster B9.
- Start number 41 was manually annotated 1 time for cluster B9.
- Start number 44 was manually annotated 1 time for cluster B9.
- Start number 47 was manually annotated 3 times for cluster B9.

Gene Information:

Gene: 39HC_075 Start: 62227, Stop: 61859, Start Num: 47

Candidate Starts for 39HC_075:

(38, 62260), (Start: 47 @62227 has 5 MA's), (50, 62128), (51, 62104), (55, 62080), (60, 61984),

Gene: 40BC_075 Start: 62227, Stop: 61859, Start Num: 47

Candidate Starts for 40BC_075:

(38, 62260), (Start: 47 @62227 has 5 MA's), (50, 62128), (51, 62104), (55, 62080), (60, 61984),

Gene: Acadian_77 Start: 62254, Stop: 61766, Start Num: 18

Candidate Starts for Acadian_77:

(14, 62305), (Start: 18 @62254 has 7 MA's), (36, 62191), (Start: 39 @62173 has 7 MA's), (51, 62032), (54, 62014), (55, 62008),

Gene: Ahwei_73 Start: 62187, Stop: 61801, Start Num: 40

Candidate Starts for Ahwei_73:

(25, 62247), (28, 62235), (Start: 40 @62187 has 28 MA's), (48, 62109), (50, 62070), (52, 62043), (54, 62028), (56, 62010), (60, 61923), (71, 61809),

Gene: AlanGrant_79 Start: 64544, Stop: 64158, Start Num: 40

Candidate Starts for AlanGrant_79:

(25, 64610), (28, 64598), (Start: 40 @64544 has 28 MA's), (50, 64427), (52, 64400), (54, 64385), (71, 64166),

Gene: Antihero_73 Start: 62122, Stop: 61736, Start Num: 40

Candidate Starts for Antihero_73:

(25, 62182), (28, 62170), (Start: 40 @62122 has 28 MA's), (48, 62044), (50, 62005), (52, 61978), (54, 61963), (56, 61945), (60, 61858), (71, 61744),

Gene: Apex_77 Start: 63483, Stop: 63097, Start Num: 40

Candidate Starts for Apex_77:

(11, 63639), (12, 63636), (25, 63543), (28, 63531), (Start: 40 @63483 has 28 MA's), (48, 63405), (49, 63372), (50, 63366), (52, 63339), (54, 63324), (56, 63306), (60, 63219), (71, 63105),

Gene: Austelle_75 Start: 63800, Stop: 63414, Start Num: 40

Candidate Starts for Austelle_75:

(25, 63860), (28, 63848), (Start: 40 @63800 has 28 MA's), (48, 63722), (50, 63683), (54, 63641), (56, 63623), (60, 63536), (67, 63461), (71, 63422),

Gene: Bae_76 Start: 62953, Stop: 62465, Start Num: 18

Candidate Starts for Bae_76:

(14, 63004), (15, 63001), (Start: 18 @62953 has 7 MA's), (36, 62890), (Start: 39 @62872 has 7 MA's), (51, 62731), (54, 62713), (55, 62707), (65, 62563),

Gene: BirdsNest_89 Start: 65386, Stop: 64982, Start Num: 42

Candidate Starts for BirdsNest_89:

(4, 65590), (13, 65530), (17, 65473), (Start: 42 @65386 has 4 MA's), (50, 65269), (51, 65245), (54, 65227), (61, 65122),

Gene: BobbyK_76 Start: 62954, Stop: 62568, Start Num: 40

Candidate Starts for BobbyK_76:

(25, 63014), (28, 63002), (Start: 40 @62954 has 28 MA's), (48, 62876), (49, 62843), (50, 62837), (52, 62810), (54, 62795), (56, 62777), (60, 62690), (71, 62576),

Gene: BrownCNA_76 Start: 63158, Stop: 62772, Start Num: 40

Candidate Starts for BrownCNA_76:

(25, 63218), (28, 63206), (Start: 40 @63158 has 28 MA's), (48, 63080), (49, 63047), (50, 63041), (52, 63014), (54, 62999), (56, 62981), (60, 62894), (71, 62780),

Gene: CRB2_79 Start: 65196, Stop: 64804, Start Num: 47

Candidate Starts for CRB2_79:

(2, 65547), (8, 65421), (32, 65259), (34, 65250), (Start: 42 @65214 has 4 MA's), (Start: 47 @65196 has 5 MA's), (50, 65097), (51, 65073), (60, 64953), (65, 64905), (66, 64887),

Gene: ChrisnMich_75 Start: 62154, Stop: 61768, Start Num: 40

Candidate Starts for ChrisnMich_75:

(6, 62343), (25, 62214), (28, 62202), (Start: 40 @62154 has 28 MA's), (48, 62076), (49, 62043), (50, 62037), (52, 62010), (54, 61995), (56, 61977), (60, 61890), (71, 61776),

Gene: Cooper_76 Start: 62632, Stop: 62246, Start Num: 40

Candidate Starts for Cooper_76:

(31, 62671), (Start: 40 @62632 has 28 MA's), (48, 62554), (49, 62521), (50, 62515), (51, 62491), (54, 62473), (56, 62455), (60, 62368), (71, 62254),

Gene: DigitDog_78 Start: 62457, Stop: 62062, Start Num: 39

Candidate Starts for DigitDog_78:

(Start: 18 @62538 has 7 MA's), (Start: 39 @62457 has 7 MA's), (51, 62316), (54, 62298), (55, 62292), (56, 62280), (64, 62166), (68, 62103),

Gene: Donny_78 Start: 62294, Stop: 61806, Start Num: 18

Candidate Starts for Donny_78:

(14, 62345), (Start: 18 @62294 has 7 MA's), (36, 62231), (Start: 39 @62213 has 7 MA's), (51, 62072), (54, 62054), (55, 62048),

Gene: EastView9101_76 Start: 61998, Stop: 61510, Start Num: 18

Candidate Starts for EastView9101_76:

(14, 62049), (Start: 18 @61998 has 7 MA's), (36, 61935), (Start: 39 @61917 has 7 MA's), (51, 61776), (54, 61758), (55, 61752),

Gene: Epah_73 Start: 62122, Stop: 61736, Start Num: 40

Candidate Starts for Epah_73:

(25, 62182), (28, 62170), (Start: 40 @62122 has 28 MA's), (48, 62044), (50, 62005), (52, 61978), (54, 61963), (56, 61945), (60, 61858), (71, 61744),

Gene: Fanaw_71 Start: 62994, Stop: 62608, Start Num: 40

Candidate Starts for Fanaw_71:

(25, 63054), (28, 63042), (Start: 40 @62994 has 28 MA's), (48, 62916), (49, 62883), (50, 62877), (52, 62850), (54, 62835), (56, 62817), (60, 62730), (71, 62616),

Gene: ForDig_74 Start: 61622, Stop: 61254, Start Num: 47

Candidate Starts for ForDig_74:

(38, 61655), (Start: 47 @61622 has 5 MA's), (50, 61523), (51, 61499), (52, 61496), (60, 61379),

Gene: Fortunato_75 Start: 62924, Stop: 62538, Start Num: 40

Candidate Starts for Fortunato_75:

(6, 63113), (25, 62984), (28, 62972), (Start: 40 @62924 has 28 MA's), (48, 62846), (49, 62813), (50, 62807), (52, 62780), (54, 62765), (56, 62747), (60, 62660), (71, 62546),

Gene: Frederick_77 Start: 63228, Stop: 62842, Start Num: 40

Candidate Starts for Frederick_77:

(9, 63393), (25, 63288), (28, 63276), (Start: 40 @63228 has 28 MA's), (48, 63150), (49, 63117), (50, 63111), (52, 63084), (54, 63069), (56, 63051), (60, 62964), (71, 62850),

Gene: Funsized_79 Start: 65641, Stop: 65243, Start Num: 39

Candidate Starts for Funsized_79:

(22, 65701), (25, 65698), (Start: 39 @65641 has 7 MA's), (48, 65563), (50, 65524), (54, 65482), (56, 65464), (60, 65377), (69, 65263),

Gene: GinPorsche_75 Start: 62119, Stop: 61733, Start Num: 40

Candidate Starts for GinPorsche_75:

(25, 62179), (28, 62167), (Start: 40 @62119 has 28 MA's), (48, 62041), (50, 62002), (52, 61975), (54, 61960), (56, 61942), (60, 61855), (71, 61741),

Gene: Hally898_73 Start: 62200, Stop: 61814, Start Num: 40

Candidate Starts for Hally898_73:

(25, 62260), (28, 62248), (Start: 40 @62200 has 28 MA's), (48, 62122), (50, 62083), (52, 62056), (54, 62041), (56, 62023), (60, 61936), (71, 61822),

Gene: Hangman_77 Start: 63694, Stop: 63308, Start Num: 40

Candidate Starts for Hangman_77:

(11, 63850), (12, 63847), (25, 63754), (28, 63742), (31, 63727), (Start: 40 @63694 has 28 MA's), (48, 63616), (49, 63583), (50, 63577), (52, 63550), (54, 63535), (56, 63517), (60, 63430), (71, 63316),

Gene: Hashim76_88 Start: 65419, Stop: 65015, Start Num: 42

Candidate Starts for Hashim76_88:

(4, 65641), (Start: 42 @65419 has 4 MA's), (50, 65302), (51, 65278), (54, 65260), (61, 65155), (71, 65029),

Gene: Heath_76 Start: 63439, Stop: 63053, Start Num: 40

Candidate Starts for Heath_76:

(9, 63604), (25, 63499), (28, 63487), (Start: 40 @63439 has 28 MA's), (48, 63361), (49, 63328), (50, 63322), (52, 63295), (54, 63280), (56, 63262), (60, 63175), (71, 63061),

Gene: Hosp_071 Start: 59697, Stop: 59329, Start Num: 47

Candidate Starts for Hosp_071:

(31, 59766), (38, 59730), (Start: 47 @59697 has 5 MA's), (50, 59598), (51, 59574), (55, 59550), (61, 59451), (62, 59448),

Gene: Hydro_76 Start: 63357, Stop: 62971, Start Num: 40

Candidate Starts for Hydro_76:

(9, 63522), (25, 63417), (28, 63405), (Start: 40 @63357 has 28 MA's), (48, 63279), (49, 63246), (50, 63240), (52, 63213), (54, 63198), (56, 63180), (60, 63093), (71, 62979),

Gene: Imvubu_79 Start: 62691, Stop: 62296, Start Num: 42

Candidate Starts for Imvubu_79:

(10, 62880), (16, 62829), (22, 62775), (26, 62769), (28, 62760), (35, 62727), (Start: 42 @62691 has 4 MA's), (43, 62685), (50, 62574), (54, 62532), (56, 62514), (57, 62487), (65, 62382), (72, 62313), (75, 62307),

Gene: Indlovu_77 Start: 63524, Stop: 63132, Start Num: 46

Candidate Starts for Indlovu_77:

(Start: 46 @63524 has 1 MA's), (50, 63425), (51, 63401), (56, 63365), (61, 63278), (66, 63215),

Gene: JAMaL_74 Start: 62677, Stop: 62291, Start Num: 40

Candidate Starts for JAMaL_74:

(Start: 40 @62677 has 28 MA's), (48, 62599), (50, 62560), (52, 62533), (54, 62518), (56, 62500), (60, 62413), (71, 62299),

Gene: JaguarMi_75 Start: 64365, Stop: 63979, Start Num: 40

Candidate Starts for JaguarMi_75:

(31, 64398), (Start: 40 @64365 has 28 MA's), (48, 64287), (50, 64248), (52, 64221), (54, 64206), (56, 64188), (60, 64101), (71, 63987),

Gene: Jolie1_073 Start: 61731, Stop: 61363, Start Num: 47

Candidate Starts for Jolie1_073:

(31, 61800), (38, 61764), (Start: 47 @61731 has 5 MA's), (50, 61632), (51, 61608), (61, 61485), (62, 61482), (73, 61368),

Gene: JoyceMaria_76 Start: 63520, Stop: 63134, Start Num: 40

Candidate Starts for JoyceMaria_76:

(11, 63676), (12, 63673), (25, 63580), (28, 63568), (Start: 40 @63520 has 28 MA's), (48, 63442), (49, 63409), (50, 63403), (52, 63376), (54, 63361), (56, 63343), (60, 63256), (71, 63142),

Gene: KayaCho_73 Start: 61898, Stop: 61530, Start Num: 47

Candidate Starts for KayaCho_73:

(38, 61931), (Start: 47 @61898 has 5 MA's), (50, 61799), (51, 61775), (60, 61655),

Gene: Knocker_78 Start: 64121, Stop: 63720, Start Num: 44

Candidate Starts for Knocker_78:

(1, 64493), (22, 64208), (25, 64205), (26, 64202), (Start: 44 @64121 has 1 MA's), (45, 64118), (48, 64040), (49, 64007), (50, 64001), (51, 63977), (54, 63959), (56, 63941), (59, 63881), (60, 63854),

Gene: Lambano_73 Start: 62200, Stop: 61814, Start Num: 40

Candidate Starts for Lambano_73:

(25, 62260), (28, 62248), (Start: 40 @62200 has 28 MA's), (48, 62122), (50, 62083), (52, 62056), (54, 62041), (56, 62023), (60, 61936), (71, 61822),

Gene: LilMcDreamy_75 Start: 62248, Stop: 61784, Start Num: 39

Candidate Starts for LilMcDreamy_75:

(30, 62284), (37, 62254), (Start: 39 @62248 has 7 MA's), (50, 62131), (51, 62107), (56, 62071), (63, 61975), (74, 61846), (76, 61801), (77, 61792),

Gene: LittleDigger_74 Start: 62053, Stop: 61667, Start Num: 40

Candidate Starts for LittleDigger_74:

(9, 62200), (20, 62098), (23, 62092), (Start: 40 @62053 has 28 MA's), (48, 61975), (49, 61942), (50, 61936), (52, 61909), (54, 61894), (56, 61876), (60, 61789), (71, 61675),

Gene: LittleMinkey_92 Start: 65026, Stop: 64622, Start Num: 42

Candidate Starts for LittleMinkey_92:

(3, 65308), (7, 65224), (29, 65089), (Start: 42 @65026 has 4 MA's), (50, 64909), (51, 64885), (54, 64867), (61, 64762), (71, 64636),

Gene: Lolalove_77 Start: 63280, Stop: 62894, Start Num: 40

Candidate Starts for Lolalove_77:

(9, 63445), (25, 63340), (28, 63328), (Start: 40 @63280 has 28 MA's), (48, 63202), (49, 63169), (50, 63163), (54, 63121), (56, 63103), (60, 63016), (71, 62902),

Gene: Magpie_73 Start: 62892, Stop: 62506, Start Num: 40

Candidate Starts for Magpie_73:

(6, 63081), (25, 62952), (28, 62940), (Start: 40 @62892 has 28 MA's), (48, 62814), (49, 62781), (52, 62748), (54, 62733), (56, 62715), (60, 62628), (71, 62514),

Gene: Mithril_75 Start: 63279, Stop: 62893, Start Num: 40

Candidate Starts for Mithril_75:

(6, 63468), (25, 63339), (28, 63327), (Start: 40 @63279 has 28 MA's), (48, 63201), (49, 63168), (50, 63162), (54, 63120), (56, 63102), (60, 63015), (71, 62901),

Gene: Mudslide_75 Start: 63316, Stop: 62930, Start Num: 40

Candidate Starts for Mudslide_75:

(11, 63472), (12, 63469), (25, 63376), (28, 63364), (31, 63349), (Start: 40 @63316 has 28 MA's), (48, 63238), (49, 63205), (50, 63199), (52, 63172), (54, 63157), (56, 63139), (60, 63052), (71, 62938),

Gene: Mysterious_75 Start: 62158, Stop: 61763, Start Num: 39

Candidate Starts for Mysterious_75:

(19, 62212), (Start: 39 @62158 has 7 MA's), (50, 62041), (51, 62017), (54, 61999), (55, 61993),

Gene: Nanao_74 Start: 62190, Stop: 61804, Start Num: 40

Candidate Starts for Nanao_74:

(25, 62250), (28, 62238), (Start: 40 @62190 has 28 MA's), (48, 62112), (50, 62073), (52, 62046), (54, 62031), (56, 62013), (60, 61926), (71, 61812),

Gene: Nangang_78 Start: 62728, Stop: 62333, Start Num: 39

Candidate Starts for Nangang_78:

(Start: 18 @62809 has 7 MA's), (Start: 39 @62728 has 7 MA's), (51, 62587), (54, 62569), (55, 62563), (56, 62551), (64, 62437),

Gene: Nehemiah_76 Start: 62221, Stop: 61826, Start Num: 39

Candidate Starts for Nehemiah_76:

(21, 62290), (24, 62287), (33, 62245), (Start: 39 @62221 has 7 MA's), (50, 62104), (51, 62080), (54, 62062), (55, 62056),

Gene: Nigel_72 Start: 61700, Stop: 61314, Start Num: 40

Candidate Starts for Nigel_72:

(5, 61904), (25, 61766), (28, 61754), (Start: 40 @61700 has 28 MA's), (48, 61622), (50, 61583), (52, 61556), (54, 61541), (56, 61523), (60, 61436), (71, 61322),

Gene: PenguinLover67_79 Start: 62948, Stop: 62556, Start Num: 47

Candidate Starts for PenguinLover67_79:

(32, 63011), (34, 63002), (Start: 42 @62966 has 4 MA's), (Start: 47 @62948 has 5 MA's), (50, 62849), (51, 62825), (61, 62702), (66, 62639),

Gene: Phelemich_74 Start: 62284, Stop: 61889, Start Num: 39

Candidate Starts for Phelemich_74:

(19, 62338), (Start: 39 @62284 has 7 MA's), (50, 62167), (51, 62143), (54, 62125), (55, 62119),

Gene: Poster_73 Start: 62191, Stop: 61805, Start Num: 40

Candidate Starts for Poster_73:

(25, 62251), (28, 62239), (Start: 40 @62191 has 28 MA's), (48, 62113), (50, 62074), (52, 62047), (54, 62032), (56, 62014), (60, 61927), (71, 61813),

Gene: Prince_75 Start: 63386, Stop: 63000, Start Num: 40

Candidate Starts for Prince_75:

(11, 63542), (12, 63539), (25, 63446), (28, 63434), (Start: 40 @63386 has 28 MA's), (48, 63308), (49, 63275), (50, 63269), (52, 63242), (54, 63227), (56, 63209), (60, 63122), (71, 63008),

Gene: QueenPie_69 Start: 61924, Stop: 61538, Start Num: 40

Candidate Starts for QueenPie_69:

(Start: 40 @61924 has 28 MA's), (48, 61846), (49, 61813), (50, 61807), (52, 61780), (54, 61765), (56, 61747), (60, 61660), (71, 61546),

Gene: Quesadilla_79 Start: 63413, Stop: 63021, Start Num: 47

Candidate Starts for Quesadilla_79:

(Start: 47 @63413 has 5 MA's), (50, 63314), (51, 63290), (60, 63170), (66, 63104),

Gene: RawrgerThat_75 Start: 62971, Stop: 62585, Start Num: 40

Candidate Starts for RawrgerThat_75:

(9, 63136), (25, 63031), (28, 63019), (Start: 40 @62971 has 28 MA's), (48, 62893), (49, 62860), (50, 62854), (52, 62827), (54, 62812), (56, 62794), (60, 62707), (71, 62593),

Gene: Reccee_78 Start: 62558, Stop: 62070, Start Num: 18

Candidate Starts for Reccee_78:

(14, 62609), (Start: 18 @62558 has 7 MA's), (36, 62495), (Start: 39 @62477 has 7 MA's), (51, 62336), (54, 62318), (55, 62312),

Gene: Renkei_74 Start: 62047, Stop: 61661, Start Num: 40

Candidate Starts for Renkei_74:

(9, 62194), (20, 62092), (23, 62086), (Start: 40 @62047 has 28 MA's), (48, 61969), (49, 61936), (50, 61930), (52, 61903), (54, 61888), (56, 61870), (60, 61783), (71, 61669),

Gene: Reprobate_76 Start: 62289, Stop: 61894, Start Num: 39

Candidate Starts for Reprobate_76:

(19, 62343), (Start: 39 @62289 has 7 MA's), (50, 62172), (51, 62148), (54, 62130), (55, 62124),

Gene: Rich_75 Start: 62998, Stop: 62510, Start Num: 18

Candidate Starts for Rich_75:

(14, 63049), (Start: 18 @62998 has 7 MA's), (36, 62935), (Start: 39 @62917 has 7 MA's), (51, 62776), (54, 62758), (55, 62752),

Gene: Rinkes_75 Start: 63331, Stop: 62945, Start Num: 41

Candidate Starts for Rinkes_75:

(Start: 39 @63343 has 7 MA's), (Start: 41 @63331 has 1 MA's), (50, 63226), (51, 63202), (54, 63184), (56, 63166), (60, 63079), (69, 62965),

Gene: Rita130_76 Start: 62228, Stop: 61740, Start Num: 18

Candidate Starts for Rita130_76:

(14, 62279), (Start: 18 @62228 has 7 MA's), (36, 62165), (Start: 39 @62147 has 7 MA's), (51, 62006), (54, 61988), (55, 61982),

Gene: Saguaro_75 Start: 62202, Stop: 61816, Start Num: 39

Candidate Starts for Saguaro_75:

(Start: 39 @62202 has 7 MA's), (51, 62061), (52, 62058), (54, 62043), (55, 62037), (56, 62025), (58, 61971), (59, 61968), (70, 61833),

Gene: Serendipitous_76 Start: 61875, Stop: 61468, Start Num: 39

Candidate Starts for Serendipitous_76:

(Start: 39 @61875 has 7 MA's), (51, 61734), (54, 61716), (55, 61710),

Gene: SirJeffery_75 Start: 61957, Stop: 61550, Start Num: 39

Candidate Starts for SirJeffery_75:

(14, 62089), (Start: 18 @62038 has 7 MA's), (36, 61975), (Start: 39 @61957 has 7 MA's), (51, 61816), (54, 61798), (55, 61792),

Gene: Stinger_74 Start: 61821, Stop: 61435, Start Num: 40

Candidate Starts for Stinger_74:

(25, 61887), (28, 61875), (Start: 40 @61821 has 28 MA's), (48, 61743), (49, 61710), (50, 61704), (52, 61677), (54, 61662), (56, 61644), (60, 61557), (71, 61443),

Gene: Suigeneris_78 Start: 62476, Stop: 61988, Start Num: 18

Candidate Starts for Suigeneris_78:

(14, 62527), (Start: 18 @62476 has 7 MA's), (36, 62413), (Start: 39 @62395 has 7 MA's), (51, 62254), (54, 62236), (55, 62230),

Gene: Vincenzo_78 Start: 64574, Stop: 64188, Start Num: 40

Candidate Starts for Vincenzo_78:

(25, 64640), (28, 64628), (Start: 40 @64574 has 28 MA's), (50, 64457), (52, 64430), (54, 64415), (71, 64196),

Gene: VioletZ_78 Start: 63482, Stop: 63096, Start Num: 40

Candidate Starts for VioletZ_78:

(11, 63638), (12, 63635), (25, 63542), (28, 63530), (31, 63515), (Start: 40 @63482 has 28 MA's), (48, 63404), (49, 63371), (50, 63365), (52, 63338), (54, 63323), (56, 63305), (60, 63218), (71, 63104),

Gene: Waleliano_74 Start: 62911, Stop: 62525, Start Num: 40

Candidate Starts for Waleliano_74:

(25, 62971), (28, 62959), (Start: 40 @62911 has 28 MA's), (48, 62833), (49, 62800), (50, 62794), (52, 62767), (54, 62752), (56, 62734), (60, 62647), (71, 62533),

Gene: Xincheng_74 Start: 64349, Stop: 63930, Start Num: 27

Candidate Starts for Xincheng_74:

(27, 64349), (Start: 40 @64316 has 28 MA's), (48, 64238), (50, 64199), (52, 64172), (54, 64157), (56, 64139), (60, 64052), (71, 63938),

Gene: Zemanar_75 Start: 63148, Stop: 62762, Start Num: 40

Candidate Starts for Zemanar_75:

(9, 63313), (25, 63208), (28, 63196), (Start: 40 @63148 has 28 MA's), (48, 63070), (49, 63037), (50, 63031), (52, 63004), (54, 62989), (56, 62971), (60, 62884), (71, 62770),

Gene: Zenteno07_89 Start: 65034, Stop: 64624, Start Num: 42

Candidate Starts for Zenteno07_89:

(Start: 42 @65034 has 4 MA's), (50, 64917), (51, 64887), (53, 64875), (54, 64869), (61, 64764),