

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 192618 Report

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

Pham number 192618 has 52 members, 20 are drafts.

Phages represented in each track:

- Track 1 : Mesh1_61
- Track 2 : BobbyK_53, Hangman_52
- Track 3 : Fanaw_51
- Track 4 : ChrisnMich_52, Fortunato_53, Hally898_51, Epah_51, Antihero_51, Lolalove_53, Ahwei_51, Poster_51, Hydro_52, Nanao_51, Lambano_51, GinPorsche_51
- Track 5 : Prince_52, Apex_53, Austelle_53, Mudslide_52
- Track 6 : Stinger_52
- Track 7 : Xincheng_53, JaguarMi_54
- Track 8 : BrownCNA_54, Waleliano_52
- Track 9 : AlanGrant_55, Vincenzo_54
- Track 10 : JAMaL_52
- Track 11 : Zemanar_53
- Track 12 : Heath_51
- Track 13 : Mithril_52, VioletZ_54
- Track 14 : Magpie_51
- Track 15 : Cooper_53
- Track 16 : Frederick_53, RawrgerThat_53
- Track 17 : QueenPie_50
- Track 18 : Acadian_57
- Track 19 : EastView9101_56
- Track 20 : DigitDog_57
- Track 21 : KarasumaRum_57, StinkyVeggy_57
- Track 22 : Nangang_57
- Track 23 : Suigeneris_58
- Track 24 : Phelemich_55, Reprobate_56
- Track 25 : Serendipitous_55
- Track 26 : Mysterious_57, Nehemiah_56
- Track 27 : Shenyu_57
- Track 28 : Bae_58
- Track 29 : SirJeffery_56

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

The start number called the most often in the published annotations is 6, it was called in 20 of the 32 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Ahwei_51, Antihero_51, Apex_53, Austelle_53, BobbyK_53, BrownCNA_54, ChrisnMich_52, Epah_51, Fanaw_51, Fortunato_53, Frederick_53, GinPorsche_51, Hally898_51, Hangman_52, Heath_51, Hydro_52, JAMaL_52, JaguarMi_54, Lambano_51, Lolalove_53, Magpie_51, Mithril_52, Mudslide_52, Nanao_51, Poster_51, Prince_52, QueenPie_50, RawrgerThat_53, VioletZ_54, Waleliano_52, Xincheng_53, Zemanar_53,

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

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

- Acadian_57, AlanGrant_55, Bae_58, Cooper_53, DigitDog_57, EastView9101_56, KarasumaRum_57, Mesh1_61, Mysterious_57, Nangang_57, Nehemiah_56, Phelemich_55, Reprobate_56, Serendipitous_55, Shenyu_57, SirJeffery_56, Stinger_52, StinkyVeggy_57, Suigeneris_58, Vincenzo_54,

Summary by start number:

Start 3:

- Found in 2 of 52 (3.8%) of genes in pham
- Manual Annotations of this start: 1 of 32
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Stinger_52 (B4),

Start 4:

- Found in 2 of 52 (3.8%) of genes in pham
- Manual Annotations of this start: 2 of 32
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AlanGrant_55 (B4), Vincenzo_54 (B4),

Start 6:

- Found in 32 of 52 (61.5%) of genes in pham
- Manual Annotations of this start: 20 of 32
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ahwei_51 (B4), Antihero_51 (B4), Apex_53 (B4), Austelle_53 (B4), BobbyK_53 (B4), BrownCNA_54 (B4), ChrisnMich_52 (B4), Epah_51 (B4), Fanaw_51 (B4), Fortunato_53 (B4), Frederick_53 (B4), GinPorsche_51 (B4), Hally898_51 (B4), Hangman_52 (B4), Heath_51 (B4), Hydro_52 (B4), JAMaL_52 (B4), JaguarMi_54 (B4), Lambano_51 (B4), Lolalove_53 (B4), Magpie_51 (B4), Mithril_52 (B4), Mudslide_52 (B4), Nanao_51 (B4), Poster_51 (B4), Prince_52 (B4), QueenPie_50 (B4), RawrgerThat_53 (B4), VioletZ_54 (B4), Waleliano_52 (B4), Xincheng_53 (B4), Zemanar_53 (B4),

Start 7:

- Found in 1 of 52 (1.9%) of genes in pham
- Manual Annotations of this start: 1 of 32
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cooper_53 (B4),

Start 10:

- Found in 9 of 52 (17.3%) of genes in pham
- Manual Annotations of this start: 6 of 32
- Called 88.9% of time when present
- Phage (with cluster) where this start called: Bae_58 (B5), EastView9101_56 (B5), Mysterious_57 (B5), Nehemiah_56 (B5), Phelemich_55 (B5), Reprobate_56 (B5), Serendipitous_55 (B5), Suigeneris_58 (B5),

Start 13:

- Found in 1 of 52 (1.9%) of genes in pham
- Manual Annotations of this start: 1 of 32
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Mesh1_61 (B1),

Start 18:

- Found in 6 of 52 (11.5%) of genes in pham
- Manual Annotations of this start: 1 of 32
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Acadian_57 (B5), DigitDog_57 (B5), KarasumaRum_57 (B5), Nangang_57 (B5), Shenyu_57 (B5), StinkyVeggy_57 (B5),

Start 20:

- Found in 1 of 52 (1.9%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: SirJeffery_56 (B5),

Summary by clusters:

There are 3 clusters represented in this pham: B4, B5, B1,

Info for manual annotations of cluster B1:

- Start number 13 was manually annotated 1 time for cluster B1.

Info for manual annotations of cluster B4:

- Start number 3 was manually annotated 1 time for cluster B4.
- Start number 4 was manually annotated 2 times for cluster B4.
- Start number 6 was manually annotated 20 times for cluster B4.
- Start number 7 was manually annotated 1 time for cluster B4.

Info for manual annotations of cluster B5:

- Start number 10 was manually annotated 6 times for cluster B5.
- Start number 18 was manually annotated 1 time for cluster B5.

Gene Information:

Gene: Acadian_57 Start: 52639, Stop: 51956, Start Num: 18

Candidate Starts for Acadian_57:

(14, 52663), (Start: 18 @52639 has 1 MA's), (27, 52519), (31, 52498), (39, 52399), (49, 52351), (59, 52279), (70, 52132), (73, 52117), (76, 52075),

Gene: Ahwei_51 Start: 51165, Stop: 50473, Start Num: 6

Candidate Starts for Ahwei_51:

(Start: 6 @51165 has 20 MA's), (8, 51141), (17, 51006), (49, 50847), (51, 50823), (55, 50796), (58, 50778), (64, 50712), (65, 50691), (69, 50640), (70, 50637), (75, 50607), (77, 50595), (79, 50586), (80, 50580), (83, 50529),

Gene: AlanGrant_55 Start: 53102, Stop: 52275, Start Num: 4

Candidate Starts for AlanGrant_55:

(Start: 4 @53102 has 2 MA's), (5, 53096), (12, 52961), (15, 52928), (24, 52820), (32, 52778), (35, 52742), (37, 52727), (52, 52616), (53, 52604), (61, 52574), (62, 52538), (70, 52439), (75, 52409), (77, 52397), (78, 52394), (81, 52367), (82, 52334),

Gene: Antihero_51 Start: 51163, Stop: 50471, Start Num: 6

Candidate Starts for Antihero_51:

(Start: 6 @51163 has 20 MA's), (8, 51139), (17, 51004), (49, 50845), (51, 50821), (55, 50794), (58, 50776), (64, 50710), (65, 50689), (69, 50638), (70, 50635), (75, 50605), (77, 50593), (79, 50584), (80, 50578), (83, 50527),

Gene: Apex_53 Start: 52379, Stop: 51633, Start Num: 6

Candidate Starts for Apex_53:

(Start: 6 @52379 has 20 MA's), (8, 52355), (17, 52220), (38, 52058), (49, 52007), (51, 51983), (55, 51956), (58, 51938), (64, 51872), (65, 51851), (69, 51800), (70, 51797), (75, 51767), (77, 51755), (79, 51746), (80, 51740), (83, 51689),

Gene: Austelle_53 Start: 52832, Stop: 52086, Start Num: 6

Candidate Starts for Austelle_53:

(Start: 6 @52832 has 20 MA's), (8, 52808), (17, 52673), (38, 52511), (49, 52460), (51, 52436), (55, 52409), (58, 52391), (64, 52325), (65, 52304), (69, 52253), (70, 52250), (75, 52220), (77, 52208), (79, 52199), (80, 52193), (83, 52142),

Gene: Bae_58 Start: 53704, Stop: 53204, Start Num: 10

Candidate Starts for Bae_58:

(Start: 10 @53704 has 6 MA's), (22, 53590), (30, 53587), (60, 53518), (69, 53383), (77, 53338),

Gene: BobbyK_53 Start: 52148, Stop: 51396, Start Num: 6

Candidate Starts for BobbyK_53:

(Start: 6 @52148 has 20 MA's), (8, 52124), (17, 51983), (51, 51746), (55, 51719), (58, 51701), (69, 51563), (70, 51560), (75, 51530), (77, 51518), (79, 51509), (80, 51503), (83, 51452),

Gene: BrownCNA_54 Start: 52490, Stop: 51693, Start Num: 6

Candidate Starts for BrownCNA_54:

(Start: 6 @52490 has 20 MA's), (8, 52466), (17, 52331), (21, 52280), (28, 52205), (51, 52043), (55, 52016), (58, 51998), (69, 51860), (70, 51857), (75, 51827), (77, 51815), (80, 51800), (83, 51749),

Gene: ChrisnMich_52 Start: 51144, Stop: 50398, Start Num: 6

Candidate Starts for ChrisnMich_52:

(Start: 6 @51144 has 20 MA's), (8, 51120), (17, 50985), (49, 50772), (51, 50748), (55, 50721), (58, 50703), (64, 50637), (65, 50616), (69, 50565), (70, 50562), (75, 50532), (77, 50520), (79, 50511), (80, 50505), (83, 50454),

Gene: Cooper_53 Start: 51371, Stop: 50706, Start Num: 7

Candidate Starts for Cooper_53:

(Start: 7 @51371 has 1 MA's), (17, 51209), (38, 51119), (58, 50999), (68, 50885), (75, 50840), (77, 50828), (80, 50813), (83, 50762),

Gene: DigitDog_57 Start: 52573, Stop: 51959, Start Num: 18

Candidate Starts for DigitDog_57:

(Start: 18 @52573 has 1 MA's), (26, 52462), (29, 52456), (41, 52393), (42, 52384), (49, 52354), (59, 52282), (70, 52135), (73, 52120), (76, 52078),

Gene: EastView9101_56 Start: 52507, Stop: 51881, Start Num: 10

Candidate Starts for EastView9101_56:

(Start: 10 @52507 has 6 MA's), (30, 52390), (45, 52288), (60, 52198), (70, 52060), (77, 52018),

Gene: Epah_51 Start: 51163, Stop: 50471, Start Num: 6

Candidate Starts for Epah_51:

(Start: 6 @51163 has 20 MA's), (8, 51139), (17, 51004), (49, 50845), (51, 50821), (55, 50794), (58, 50776), (64, 50710), (65, 50689), (69, 50638), (70, 50635), (75, 50605), (77, 50593), (79, 50584), (80, 50578), (83, 50527),

Gene: Fanaw_51 Start: 51919, Stop: 51119, Start Num: 6

Candidate Starts for Fanaw_51:

(Start: 6 @51919 has 20 MA's), (8, 51895), (17, 51760), (21, 51709), (28, 51631), (40, 51538), (51, 51469), (57, 51433), (58, 51424), (63, 51361), (64, 51358), (69, 51286), (70, 51283), (77, 51241), (80, 51226), (83, 51175),

Gene: Fortunato_53 Start: 52173, Stop: 51481, Start Num: 6

Candidate Starts for Fortunato_53:

(Start: 6 @52173 has 20 MA's), (8, 52149), (17, 52014), (49, 51855), (51, 51831), (55, 51804), (58, 51786), (64, 51720), (65, 51699), (69, 51648), (70, 51645), (75, 51615), (77, 51603), (79, 51594), (80, 51588), (83, 51537),

Gene: Frederick_53 Start: 52088, Stop: 51396, Start Num: 6

Candidate Starts for Frederick_53:

(Start: 6 @52088 has 20 MA's), (8, 52064), (17, 51929), (49, 51770), (55, 51719), (58, 51701), (64, 51635), (65, 51614), (69, 51563), (70, 51560), (75, 51530), (77, 51518), (79, 51509), (80, 51503), (83, 51452),

Gene: GinPorsche_51 Start: 51163, Stop: 50471, Start Num: 6

Candidate Starts for GinPorsche_51:

(Start: 6 @51163 has 20 MA's), (8, 51139), (17, 51004), (49, 50845), (51, 50821), (55, 50794), (58, 50776), (64, 50710), (65, 50689), (69, 50638), (70, 50635), (75, 50605), (77, 50593), (79, 50584), (80, 50578), (83, 50527),

Gene: Hally898_51 Start: 51178, Stop: 50486, Start Num: 6

Candidate Starts for Hally898_51:

(Start: 6 @51178 has 20 MA's), (8, 51154), (17, 51019), (49, 50860), (51, 50836), (55, 50809), (58, 50791), (64, 50725), (65, 50704), (69, 50653), (70, 50650), (75, 50620), (77, 50608), (79, 50599), (80, 50593), (83, 50542),

Gene: Hangman_52 Start: 52233, Stop: 51475, Start Num: 6

Candidate Starts for Hangman_52:

(Start: 6 @52233 has 20 MA's), (8, 52209), (17, 52062), (51, 51825), (55, 51798), (58, 51780), (69, 51642), (70, 51639), (75, 51609), (77, 51597), (79, 51588), (80, 51582), (83, 51531),

Gene: Heath_51 Start: 51844, Stop: 51098, Start Num: 6

Candidate Starts for Heath_51:

(Start: 6 @51844 has 20 MA's), (8, 51820), (17, 51685), (33, 51568), (49, 51472), (51, 51448), (55, 51421), (58, 51403), (64, 51337), (65, 51316), (69, 51265), (70, 51262), (75, 51232), (77, 51220), (79, 51211), (80, 51205), (83, 51154),

Gene: Hydro_52 Start: 52225, Stop: 51479, Start Num: 6

Candidate Starts for Hydro_52:

(Start: 6 @52225 has 20 MA's), (8, 52201), (17, 52066), (49, 51853), (51, 51829), (55, 51802), (58, 51784), (64, 51718), (65, 51697), (69, 51646), (70, 51643), (75, 51613), (77, 51601), (79, 51592), (80, 51586), (83, 51535),

Gene: JAMaL_52 Start: 52342, Stop: 51650, Start Num: 6

Candidate Starts for JAMaL_52:

(Start: 6 @52342 has 20 MA's), (8, 52318), (17, 52183), (48, 52030), (51, 52000), (55, 51973), (58, 51955), (64, 51889), (65, 51868), (69, 51817), (70, 51814), (75, 51784), (77, 51772), (79, 51763), (80, 51757), (83, 51706),

Gene: JaguarMi_54 Start: 53280, Stop: 52573, Start Num: 6

Candidate Starts for JaguarMi_54:

(Start: 6 @53280 has 20 MA's), (8, 53256), (17, 53121), (50, 52950), (51, 52938), (57, 52902), (58, 52893), (64, 52812), (69, 52740), (70, 52737), (75, 52707), (77, 52695), (79, 52686), (80, 52680), (83, 52629),

Gene: KarasumaRum_57 Start: 52746, Stop: 52102, Start Num: 18

Candidate Starts for KarasumaRum_57:

(Start: 18 @52746 has 1 MA's), (27, 52632), (42, 52551), (43, 52548), (47, 52530), (49, 52521), (59, 52425), (70, 52278), (76, 52221),

Gene: Lambano_51 Start: 51178, Stop: 50486, Start Num: 6

Candidate Starts for Lambano_51:

(Start: 6 @51178 has 20 MA's), (8, 51154), (17, 51019), (49, 50860), (51, 50836), (55, 50809), (58, 50791), (64, 50725), (65, 50704), (69, 50653), (70, 50650), (75, 50620), (77, 50608), (79, 50599), (80, 50593), (83, 50542),

Gene: Lolalove_53 Start: 52193, Stop: 51447, Start Num: 6

Candidate Starts for Lolalove_53:

(Start: 6 @52193 has 20 MA's), (8, 52169), (17, 52034), (49, 51821), (51, 51797), (55, 51770), (58, 51752), (64, 51686), (65, 51665), (69, 51614), (70, 51611), (75, 51581), (77, 51569), (79, 51560), (80, 51554), (83, 51503),

Gene: Magpie_51 Start: 52088, Stop: 51300, Start Num: 6

Candidate Starts for Magpie_51:

(Start: 6 @52088 has 20 MA's), (8, 52064), (17, 51929), (21, 51890), (28, 51812), (49, 51674), (51, 51650), (55, 51623), (58, 51605), (64, 51539), (65, 51518), (69, 51467), (70, 51464), (75, 51434), (77, 51422), (79, 51413), (83, 51356),

Gene: Mesh1_61 Start: 52743, Stop: 52129, Start Num: 13

Candidate Starts for Mesh1_61:

(9, 52809), (12, 52755), (Start: 13 @52743 has 1 MA's), (16, 52716), (19, 52698), (23, 52644), (25, 52611), (32, 52578), (46, 52485), (67, 52323), (68, 52311), (74, 52284), (84, 52161),

Gene: Mithril_52 Start: 52185, Stop: 51439, Start Num: 6

Candidate Starts for Mithril_52:

(Start: 6 @52185 has 20 MA's), (8, 52161), (17, 52026), (40, 51858), (51, 51789), (55, 51762), (58, 51744), (69, 51606), (70, 51603), (75, 51573), (77, 51561), (79, 51552), (80, 51546), (83, 51495),

Gene: Mudslide_52 Start: 52443, Stop: 51697, Start Num: 6

Candidate Starts for Mudslide_52:

(Start: 6 @52443 has 20 MA's), (8, 52419), (17, 52284), (38, 52122), (49, 52071), (51, 52047), (55, 52020), (58, 52002), (64, 51936), (65, 51915), (69, 51864), (70, 51861), (75, 51831), (77, 51819), (79, 51810), (80, 51804), (83, 51753),

Gene: Mysterious_57 Start: 52741, Stop: 52097, Start Num: 10

Candidate Starts for Mysterious_57:

(Start: 10 @52741 has 6 MA's), (27, 52615), (54, 52447), (59, 52423), (70, 52273), (73, 52258), (76, 52216),

Gene: Nanao_51 Start: 51168, Stop: 50476, Start Num: 6

Candidate Starts for Nanao_51:

(Start: 6 @51168 has 20 MA's), (8, 51144), (17, 51009), (49, 50850), (51, 50826), (55, 50799), (58, 50781), (64, 50715), (65, 50694), (69, 50643), (70, 50640), (75, 50610), (77, 50598), (79, 50589), (80, 50583), (83, 50532),

Gene: Nangang_57 Start: 52928, Stop: 52311, Start Num: 18

Candidate Starts for Nangang_57:

(Start: 18 @52928 has 1 MA's), (26, 52817), (29, 52811), (41, 52748), (42, 52739), (59, 52637), (70, 52487), (76, 52430),

Gene: Nehemiah_56 Start: 52741, Stop: 52097, Start Num: 10

Candidate Starts for Nehemiah_56:

(Start: 10 @52741 has 6 MA's), (27, 52615), (54, 52447), (59, 52423), (70, 52273), (73, 52258), (76, 52216),

Gene: Phelemich_55 Start: 52737, Stop: 52096, Start Num: 10

Candidate Starts for Phelemich_55:

(Start: 10 @52737 has 6 MA's), (27, 52611), (36, 52566), (54, 52443), (56, 52440), (59, 52419), (70, 52272), (72, 52260), (76, 52215),

Gene: Poster_51 Start: 51169, Stop: 50477, Start Num: 6

Candidate Starts for Poster_51:

(Start: 6 @51169 has 20 MA's), (8, 51145), (17, 51010), (49, 50851), (51, 50827), (55, 50800), (58, 50782), (64, 50716), (65, 50695), (69, 50644), (70, 50641), (75, 50611), (77, 50599), (79, 50590), (80, 50584), (83, 50533),

Gene: Prince_52 Start: 52350, Stop: 51604, Start Num: 6

Candidate Starts for Prince_52:

(Start: 6 @52350 has 20 MA's), (8, 52326), (17, 52191), (38, 52029), (49, 51978), (51, 51954), (55, 51927), (58, 51909), (64, 51843), (65, 51822), (69, 51771), (70, 51768), (75, 51738), (77, 51726), (79, 51717), (80, 51711), (83, 51660),

Gene: QueenPie_50 Start: 51863, Stop: 51195, Start Num: 6

Candidate Starts for QueenPie_50:

(Start: 3 @51875 has 1 MA's), (Start: 6 @51863 has 20 MA's), (17, 51719), (38, 51620), (49, 51569), (55, 51518), (58, 51500), (64, 51434), (65, 51413), (69, 51362), (70, 51359), (75, 51329), (77, 51317), (79, 51308), (80, 51302), (83, 51251),

Gene: RawrgerThat_53 Start: 52205, Stop: 51513, Start Num: 6

Candidate Starts for RawrgerThat_53:

(Start: 6 @52205 has 20 MA's), (8, 52181), (17, 52046), (49, 51887), (55, 51836), (58, 51818), (64, 51752), (65, 51731), (69, 51680), (70, 51677), (75, 51647), (77, 51635), (79, 51626), (80, 51620), (83, 51569),

Gene: Reprobate_56 Start: 52742, Stop: 52101, Start Num: 10

Candidate Starts for Reprobate_56:

(Start: 10 @52742 has 6 MA's), (27, 52616), (36, 52571), (54, 52448), (56, 52445), (59, 52424), (70, 52277), (72, 52265), (76, 52220),

Gene: Serendipitous_55 Start: 51901, Stop: 51308, Start Num: 10

Candidate Starts for Serendipitous_55:

(Start: 10 @51901 has 6 MA's), (11, 51865), (30, 51808), (36, 51763), (56, 51637), (65, 51532), (66, 51514), (70, 51478), (75, 51448), (83, 51370),

Gene: Shenyu_57 Start: 52961, Stop: 52323, Start Num: 18

Candidate Starts for Shenyu_57:

(14, 52985), (Start: 18 @52961 has 1 MA's), (27, 52844), (34, 52802), (41, 52757), (45, 52736), (59, 52646), (70, 52499), (76, 52442),

Gene: SirJeffery_56 Start: 52558, Stop: 51962, Start Num: 20

Candidate Starts for SirJeffery_56:

(Start: 10 @52672 has 6 MA's), (20, 52558), (59, 52279), (70, 52138), (76, 52081),

Gene: Stinger_52 Start: 50893, Stop: 50213, Start Num: 3

Candidate Starts for Stinger_52:

(1, 51100), (2, 50905), (Start: 3 @50893 has 1 MA's), (8, 50854), (17, 50725), (38, 50638), (44, 50614), (51, 50563), (58, 50518), (69, 50380), (70, 50377), (75, 50347), (77, 50335), (79, 50326), (80, 50320), (83, 50269),

Gene: StinkyVeggy_57 Start: 52746, Stop: 52102, Start Num: 18

Candidate Starts for StinkyVeggy_57:

(Start: 18 @52746 has 1 MA's), (27, 52632), (42, 52551), (43, 52548), (47, 52530), (49, 52521), (59, 52425), (70, 52278), (76, 52221),

Gene: Suigeneris_58 Start: 52838, Stop: 52212, Start Num: 10

Candidate Starts for Suigeneris_58:

(Start: 10 @52838 has 6 MA's), (27, 52721), (45, 52619), (59, 52529), (70, 52388), (76, 52331),

Gene: Vincenzo_54 Start: 53132, Stop: 52305, Start Num: 4

Candidate Starts for Vincenzo_54:

(Start: 4 @53132 has 2 MA's), (5, 53126), (12, 52991), (15, 52958), (24, 52850), (32, 52808), (35, 52772), (37, 52757), (52, 52646), (53, 52634), (61, 52604), (62, 52568), (70, 52469), (75, 52439), (77, 52427), (78, 52424), (81, 52397), (82, 52364),

Gene: VioletZ_54 Start: 52269, Stop: 51523, Start Num: 6

Candidate Starts for VioletZ_54:

(Start: 6 @52269 has 20 MA's), (8, 52245), (17, 52110), (40, 51942), (51, 51873), (55, 51846), (58, 51828), (69, 51690), (70, 51687), (75, 51657), (77, 51645), (79, 51636), (80, 51630), (83, 51579),

Gene: Waleliano_52 Start: 52222, Stop: 51425, Start Num: 6

Candidate Starts for Waleliano_52:

(Start: 6 @52222 has 20 MA's), (8, 52198), (17, 52063), (21, 52012), (28, 51937), (51, 51775), (55, 51748), (58, 51730), (69, 51592), (70, 51589), (75, 51559), (77, 51547), (80, 51532), (83, 51481),

Gene: Xincheng_53 Start: 53256, Stop: 52549, Start Num: 6

Candidate Starts for Xincheng_53:

(Start: 6 @53256 has 20 MA's), (8, 53232), (17, 53097), (50, 52926), (51, 52914), (57, 52878), (58, 52869), (64, 52788), (69, 52716), (70, 52713), (75, 52683), (77, 52671), (79, 52662), (80, 52656), (83, 52605),

Gene: Zemanar_53 Start: 52057, Stop: 51395, Start Num: 6

Candidate Starts for Zemanar_53:

(Start: 6 @52057 has 20 MA's), (17, 51910), (38, 51820), (40, 51814), (64, 51634), (65, 51613), (69, 51562), (70, 51559), (71, 51556), (75, 51529), (77, 51517), (83, 51451),