Pham 196621


1: Mesh1_61
2: BobbyK_53 + 1
3: ChrisnMich_52 + 11
4: Prince_52 + 3
5: Stinger_52
6: Xincheng_53 + 1
7: BrownCNA_54 + 1
8: AlanGrant_55 + 1
9: JAMaL_52
10: Zemanar_53
11: Heath_51
12: Mithril_52 + 1
13: Magpie_51
14: Cooper_53
15: Frederick_53 + 1
16: QueenPie_50
17: Acadian_57
18: DigitDog_57
19: Rich_57
20: KayaCho_49
21: 39HC_049 + 1
22: Hosp_048
23: Jolie1_050
24: Rinkes_55
25: CRB2_56
26: Quesadilla_57

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 196621 Report

This analysis was run 12/09/24 on database version 580.

Pham number 196621 has 47 members, 16 are drafts.

Phages represented in each track:
• Track 1 : Mesh1_61
• Track 2 : BobbyK_53, Hangman_52
• Track 3 : ChrisnMich_52, Fortunato_53, Hally898_51, Epah_51, Antihero_51, Lolalove_53, Ahwei_51, Poster_51, Hydro_52, Lambano_51, Nanao_51, GinPorsche_51
• Track 4 : Prince_52, Apex_53, Austelle_53, Mudslide_52
• Track 5 : Stinger_52
• Track 6 : Xincheng_53, JaguarMi_54
• Track 7 : BrownCNA_54, Waleliano_52
• Track 8 : AlanGrant_55, Vincenzo_54
• Track 9 : JAMaL_52
• Track 10 : Zemanar_53
• Track 11 : Heath_51
• Track 12 : Mithril_52, VioletZ_54
• Track 13 : Magpie_51
• Track 14 : Cooper_53
• Track 15 : Frederick_53, RawrgerThat_53
• Track 16 : QueenPie_50
• Track 17 : Acadian_57
• Track 18 : DigitDog_57
• Track 19 : Rich_57
• Track 20 : KayaCho_49
• Track 21 : 39HC_049, 40BC_049
• Track 22 : Hosp_048
• Track 23 : Jolie1_050
• Track 24 : Rinkes_55
• Track 25 : CRB2_56
• Track 26 : Quesadilla_57

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

The start number called the most often in the published annotations is 9, it was called in 20 of the 31 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, 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:
•

Genes that do not have the "Most Annotated" start:
• 39HC_049, 40BC_049, Acadian_57, AlanGrant_55, CRB2_56, Cooper_53, DigitDog_57, Hosp_048, Jolie1_050, KayaCho_49, Mesh1_61, Quesadilla_57, Rich_57, Rinkes_55, Stinger_52, Vincenzo_54,

Summary by start number:

Start 1:
• Found in 1 of 47 (2.1%) of genes in pham
• Manual Annotations of this start: 1 of 31
• Called 100.0% of time when present
• Phage (with cluster) where this start called: KayaCho_49 (B6),

Start 3:
• Found in 3 of 47 (6.4%) of genes in pham
• No Manual Annotations of this start.
• Called 66.7% of time when present
• Phage (with cluster) where this start called: Hosp_048 (B6), Jolie1_050 (B6),

Start 4:
• Found in 2 of 47 (4.3%) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: 39HC_049 (B6), 40BC_049 (B6),

Start 9:
• Found in 31 of 47 (66.0%) of genes in pham
• Manual Annotations of this start: 20 of 31
• 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), 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 10:
• Found in 4 of 47 (8.5%) of genes in pham
• Manual Annotations of this start: 3 of 31
• Called 100.0% of time when present

• Phage (with cluster) where this start called: Acadian_57 (B5), Cooper_53 (B4), DigitDog_57 (B5), Mesh1_61 (B1),

Start 11:
• Found in 2 of 47 (4.3%) of genes in pham
• Manual Annotations of this start: 2 of 31
• Called 100.0% of time when present
• Phage (with cluster) where this start called: AlanGrant_55 (B4), Vincenzo_54 (B4),

Start 16:
• Found in 1 of 47 (2.1%) of genes in pham
• Manual Annotations of this start: 1 of 31
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Stinger_52 (B4),

Start 31:
• Found in 1 of 47 (2.1%) of genes in pham
• Manual Annotations of this start: 1 of 31
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Quesadilla_57 (B9),

Start 42:
• Found in 3 of 47 (6.4%) of genes in pham
• Manual Annotations of this start: 1 of 31
• Called 33.3% of time when present
• Phage (with cluster) where this start called: CRB2_56 (B9),

Start 49:
• Found in 3 of 47 (6.4%) of genes in pham
• Manual Annotations of this start: 1 of 31
• Called 33.3% of time when present
• Phage (with cluster) where this start called: Rinkes_55 (B9),

Start 58:
• Found in 1 of 47 (2.1%) of genes in pham
• Manual Annotations of this start: 1 of 31
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Rich_57 (B5),

Summary by clusters:

There are 5 clusters represented in this pham: B4, B5, B6, B9, B1,

Info for manual annotations of cluster B1:
•Start number 10 was manually annotated 1 time for cluster B1.

Info for manual annotations of cluster B4:
•Start number 9 was manually annotated 20 times for cluster B4.
•Start number 10 was manually annotated 1 time for cluster B4.
•Start number 11 was manually annotated 2 times for cluster B4.
•Start number 16 was manually annotated 1 time for cluster B4.

Info for manual annotations of cluster B5:

•Start number 10 was manually annotated 1 time for cluster B5.
•Start number 58 was manually annotated 1 time for cluster B5.

Info for manual annotations of cluster B6:
•Start number 1 was manually annotated 1 time for cluster B6.

Info for manual annotations of cluster B9:
•Start number 31 was manually annotated 1 time for cluster B9.
•Start number 42 was manually annotated 1 time for cluster B9.
•Start number 49 was manually annotated 1 time for cluster B9.

Gene Information:

Gene: 39HC_049 Start: 49995, Stop: 49036, Start Num: 4
Candidate Starts for 39HC_049:
(4, 49995), (6, 49968), (12, 49890), (28, 49668), (32, 49626), (35, 49602), (40, 49548), (Start: 42 @49542 has 1 MA's), (44, 49536), (53, 49485), (61, 49431), (64, 49413), (66, 49407), (76, 49335), (77, 49326), (89, 49191), (90, 49188), (91, 49173),

Gene: 40BC_049 Start: 49995, Stop: 49036, Start Num: 4
Candidate Starts for 40BC_049:
(4, 49995), (6, 49968), (12, 49890), (28, 49668), (32, 49626), (35, 49602), (40, 49548), (Start: 42 @49542 has 1 MA's), (44, 49536), (53, 49485), (61, 49431), (64, 49413), (66, 49407), (76, 49335), (77, 49326), (89, 49191), (90, 49188), (91, 49173),

Gene: Acadian_57 Start: 52639, Stop: 51956, Start Num: 10
Candidate Starts for Acadian_57:
(7, 52663), (Start: 10 @52639 has 3 MA's), (19, 52519), (20, 52498), (46, 52399), (55, 52351), (67, 52279), (86, 52132), (88, 52117), (93, 52075),

Gene: Ahwei_51 Start: 51165, Stop: 50473, Start Num: 9
Candidate Starts for Ahwei_51:
(Start: 9 @51165 has 20 MA's), (12, 51141), (23, 51006), (60, 50847), (65, 50823), (68, 50796), (73, 50778), (81, 50712), (82, 50691), (85, 50640), (87, 50637), (91, 50607), (94, 50595), (96, 50586), (97, 50580), (101, 50529),

Gene: AlanGrant_55 Start: 53102, Stop: 52275, Start Num: 11
Candidate Starts for AlanGrant_55:
(Start: 11 @53102 has 2 MA's), (12, 53096), (23, 52961), (25, 52928), (37, 52820), (40, 52778), (47, 52742), (51, 52727), (69, 52616), (72, 52604), (75, 52574), (80, 52538), (87, 52439), (91, 52409), (94, 52397), (95, 52394), (98, 52367), (100, 52334),

Gene: Antihero_51 Start: 51163, Stop: 50471, Start Num: 9
Candidate Starts for Antihero_51:
(Start: 9 @51163 has 20 MA's), (12, 51139), (23, 51004), (60, 50845), (65, 50821), (68, 50794), (73, 50776), (81, 50710), (82, 50689), (85, 50638), (87, 50635), (91, 50605), (94, 50593), (96, 50584), (97, 50578), (101, 50527),

Gene: Apex_53 Start: 52379, Stop: 51633, Start Num: 9
Candidate Starts for Apex_53:

(Start: 9 @52379 has 20 MA's), (12, 52355), (23, 52220), (50, 52058), (60, 52007), (65, 51983), (68, 51956), (73, 51938), (81, 51872), (82, 51851), (85, 51800), (87, 51797), (91, 51767), (94, 51755), (96, 51746), (97, 51740), (101, 51689),

Gene: Austelle_53 Start: 52832, Stop: 52086, Start Num: 9
Candidate Starts for Austelle_53:
(Start: 9 @52832 has 20 MA's), (12, 52808), (23, 52673), (50, 52511), (60, 52460), (65, 52436), (68, 52409), (73, 52391), (81, 52325), (82, 52304), (85, 52253), (87, 52250), (91, 52220), (94, 52208), (96, 52199), (97, 52193), (101, 52142),

Gene: BobbyK_53 Start: 52148, Stop: 51396, Start Num: 9
Candidate Starts for BobbyK_53:
(Start: 9 @52148 has 20 MA's), (12, 52124), (23, 51983), (65, 51746), (68, 51719), (73, 51701), (85, 51563), (87, 51560), (91, 51530), (94, 51518), (96, 51509), (97, 51503), (101, 51452),

Gene: BrownCNA_54 Start: 52490, Stop: 51693, Start Num: 9
Candidate Starts for BrownCNA_54:
(Start: 9 @52490 has 20 MA's), (12, 52466), (23, 52331), (26, 52280), (36, 52205), (65, 52043), (68, 52016), (73, 51998), (85, 51860), (87, 51857), (91, 51827), (94, 51815), (97, 51800), (101, 51749),

Gene: CRB2_56 Start: 53718, Stop: 53233, Start Num: 42
Candidate Starts for CRB2_56:
(30, 53814), (Start: 42 @53718 has 1 MA's), (46, 53694), (79, 53499), (84, 53412), (94, 53355),

Gene: ChrisnMich_52 Start: 51144, Stop: 50398, Start Num: 9
Candidate Starts for ChrisnMich_52:
(Start: 9 @51144 has 20 MA's), (12, 51120), (23, 50985), (60, 50772), (65, 50748), (68, 50721), (73, 50703), (81, 50637), (82, 50616), (85, 50565), (87, 50562), (91, 50532), (94, 50520), (96, 50511), (97, 50505), (101, 50454),

Gene: Cooper_53 Start: 51371, Stop: 50706, Start Num: 10
Candidate Starts for Cooper_53:
(Start: 10 @51371 has 3 MA's), (23, 51209), (50, 51119), (73, 50999), (84, 50885), (91, 50840), (94, 50828), (97, 50813), (101, 50762),

Gene: DigitDog_57 Start: 52573, Stop: 51959, Start Num: 10
Candidate Starts for DigitDog_57:
(Start: 10 @52573 has 3 MA's), (18, 52462), (22, 52456), (48, 52393), (51, 52384), (55, 52354), (67, 52282), (86, 52135), (88, 52120), (93, 52078),

Gene: Epah_51 Start: 51163, Stop: 50471, Start Num: 9
Candidate Starts for Epah_51:
(Start: 9 @51163 has 20 MA's), (12, 51139), (23, 51004), (60, 50845), (65, 50821), (68, 50794), (73, 50776), (81, 50710), (82, 50689), (85, 50638), (87, 50635), (91, 50605), (94, 50593), (96, 50584), (97, 50578), (101, 50527),

Gene: Fortunato_53 Start: 52173, Stop: 51481, Start Num: 9
Candidate Starts for Fortunato_53:
(Start: 9 @52173 has 20 MA's), (12, 52149), (23, 52014), (60, 51855), (65, 51831), (68, 51804), (73, 51786), (81, 51720), (82, 51699), (85, 51648), (87, 51645), (91, 51615), (94, 51603), (96, 51594), (97, 51588), (101, 51537),

Gene: Frederick_53 Start: 52088, Stop: 51396, Start Num: 9

Candidate Starts for Frederick_53:
(Start: 9 @52088 has 20 MA's), (12, 52064), (23, 51929), (60, 51770), (68, 51719), (73, 51701), (81, 51635), (82, 51614), (85, 51563), (87, 51560), (91, 51530), (94, 51518), (96, 51509), (97, 51503), (101, 51452),

Gene: GinPorsche_51 Start: 51163, Stop: 50471, Start Num: 9
Candidate Starts for GinPorsche_51:
(Start: 9 @51163 has 20 MA's), (12, 51139), (23, 51004), (60, 50845), (65, 50821), (68, 50794), (73, 50776), (81, 50710), (82, 50689), (85, 50638), (87, 50635), (91, 50605), (94, 50593), (96, 50584), (97, 50578), (101, 50527),

Gene: Hally898_51 Start: 51178, Stop: 50486, Start Num: 9
Candidate Starts for Hally898_51:
(Start: 9 @51178 has 20 MA's), (12, 51154), (23, 51019), (60, 50860), (65, 50836), (68, 50809), (73, 50791), (81, 50725), (82, 50704), (85, 50653), (87, 50650), (91, 50620), (94, 50608), (96, 50599), (97, 50593), (101, 50542),

Gene: Hangman_52 Start: 52233, Stop: 51475, Start Num: 9
Candidate Starts for Hangman_52:
(Start: 9 @52233 has 20 MA's), (12, 52209), (23, 52062), (65, 51825), (68, 51798), (73, 51780), (85, 51642), (87, 51639), (91, 51609), (94, 51597), (96, 51588), (97, 51582), (101, 51531),

Gene: Heath_51 Start: 51844, Stop: 51098, Start Num: 9
Candidate Starts for Heath_51:
(Start: 9 @51844 has 20 MA's), (12, 51820), (23, 51685), (41, 51568), (60, 51472), (65, 51448), (68, 51421), (73, 51403), (81, 51337), (82, 51316), (85, 51265), (87, 51262), (91, 51232), (94, 51220), (96, 51211), (97, 51205), (101, 51154),

Gene: Hosp_048 Start: 48278, Stop: 47463, Start Num: 3
Candidate Starts for Hosp_048:
(3, 48278), (27, 48032), (28, 48026), (Start: 49 @47912 has 1 MA's), (61, 47858), (64, 47840), (66, 47834), (76, 47762), (77, 47753), (89, 47618), (90, 47615), (91, 47600),

Gene: Hydro_52 Start: 52225, Stop: 51479, Start Num: 9
Candidate Starts for Hydro_52:
(Start: 9 @52225 has 20 MA's), (12, 52201), (23, 52066), (60, 51853), (65, 51829), (68, 51802), (73, 51784), (81, 51718), (82, 51697), (85, 51646), (87, 51643), (91, 51613), (94, 51601), (96, 51592), (97, 51586), (101, 51535),

Gene: JAMaL_52 Start: 52342, Stop: 51650, Start Num: 9
Candidate Starts for JAMaL_52:
(Start: 9 @52342 has 20 MA's), (12, 52318), (23, 52183), (59, 52030), (65, 52000), (68, 51973), (73, 51955), (81, 51889), (82, 51868), (85, 51817), (87, 51814), (91, 51784), (94, 51772), (96, 51763), (97, 51757), (101, 51706),

Gene: JaguarMi_54 Start: 53280, Stop: 52573, Start Num: 9
Candidate Starts for JaguarMi_54:
(Start: 9 @53280 has 20 MA's), (12, 53256), (23, 53121), (63, 52950), (65, 52938), (71, 52902), (73, 52893), (81, 52812), (85, 52740), (87, 52737), (91, 52707), (94, 52695), (96, 52686), (97, 52680), (101, 52629),

Gene: Jolie1_050 Start: 50185, Stop: 49319, Start Num: 3
Candidate Starts for Jolie1_050:

(3, 50185), (27, 49930), (28, 49924), (29, 49912), (61, 49714), (91, 49468),

Gene: KayaCho_49 Start: 50035, Stop: 49061, Start Num: 1
Candidate Starts for KayaCho_49:
(Start: 1 @50035 has 1 MA's), (3, 49996), (27, 49657), (28, 49651), (29, 49639), (33, 49609), (39, 49558), (45, 49531), (Start: 49 @49510 has 1 MA's), (56, 49486), (61, 49456), (66, 49432), (74, 49369), (76, 49360), (89, 49216), (90, 49213), (91, 49198),

Gene: Lambano_51 Start: 51178, Stop: 50486, Start Num: 9
Candidate Starts for Lambano_51:
(Start: 9 @51178 has 20 MA's), (12, 51154), (23, 51019), (60, 50860), (65, 50836), (68, 50809), (73, 50791), (81, 50725), (82, 50704), (85, 50653), (87, 50650), (91, 50620), (94, 50608), (96, 50599), (97, 50593), (101, 50542),

Gene: Lolalove_53 Start: 52193, Stop: 51447, Start Num: 9
Candidate Starts for Lolalove_53:
(Start: 9 @52193 has 20 MA's), (12, 52169), (23, 52034), (60, 51821), (65, 51797), (68, 51770), (73, 51752), (81, 51686), (82, 51665), (85, 51614), (87, 51611), (91, 51581), (94, 51569), (96, 51560), (97, 51554), (101, 51503),

Gene: Magpie_51 Start: 52088, Stop: 51300, Start Num: 9
Candidate Starts for Magpie_51:
(Start: 9 @52088 has 20 MA's), (12, 52064), (23, 51929), (26, 51890), (36, 51812), (60, 51674), (65, 51650), (68, 51623), (73, 51605), (81, 51539), (82, 51518), (85, 51467), (87, 51464), (91, 51434), (94, 51422), (96, 51413), (101, 51356),

Gene: Mesh1_61 Start: 52743, Stop: 52129, Start Num: 10
Candidate Starts for Mesh1_61:
(5, 52809), (8, 52755), (Start: 10 @52743 has 3 MA's), (13, 52716), (14, 52698), (17, 52644), (24, 52611), (43, 52578), (62, 52485), (83, 52323), (84, 52311), (90, 52284), (102, 52161),

Gene: Mithril_52 Start: 52185, Stop: 51439, Start Num: 9
Candidate Starts for Mithril_52:
(Start: 9 @52185 has 20 MA's), (12, 52161), (23, 52026), (52, 51858), (65, 51789), (68, 51762), (73, 51744), (85, 51606), (87, 51603), (91, 51573), (94, 51561), (96, 51552), (97, 51546), (101, 51495),

Gene: Mudslide_52 Start: 52443, Stop: 51697, Start Num: 9
Candidate Starts for Mudslide_52:
(Start: 9 @52443 has 20 MA's), (12, 52419), (23, 52284), (50, 52122), (60, 52071), (65, 52047), (68, 52020), (73, 52002), (81, 51936), (82, 51915), (85, 51864), (87, 51861), (91, 51831), (94, 51819), (96, 51810), (97, 51804), (101, 51753),

Gene: Nanao_51 Start: 51168, Stop: 50476, Start Num: 9
Candidate Starts for Nanao_51:
(Start: 9 @51168 has 20 MA's), (12, 51144), (23, 51009), (60, 50850), (65, 50826), (68, 50799), (73, 50781), (81, 50715), (82, 50694), (85, 50643), (87, 50640), (91, 50610), (94, 50598), (96, 50589), (97, 50583), (101, 50532),

Gene: Poster_51 Start: 51169, Stop: 50477, Start Num: 9
Candidate Starts for Poster_51:
(Start: 9 @51169 has 20 MA's), (12, 51145), (23, 51010), (60, 50851), (65, 50827), (68, 50800), (73, 50782), (81, 50716), (82, 50695), (85, 50644), (87, 50641), (91, 50611), (94, 50599), (96, 50590), (97, 50584), (101, 50533),

Gene: Prince_52 Start: 52350, Stop: 51604, Start Num: 9
Candidate Starts for Prince_52:
(Start: 9 @52350 has 20 MA's), (12, 52326), (23, 52191), (50, 52029), (60, 51978), (65, 51954), (68, 51927), (73, 51909), (81, 51843), (82, 51822), (85, 51771), (87, 51768), (91, 51738), (94, 51726), (96, 51717), (97, 51711), (101, 51660),

Gene: QueenPie_50 Start: 51863, Stop: 51195, Start Num: 9
Candidate Starts for QueenPie_50:
(8, 51875), (Start: 9 @51863 has 20 MA's), (23, 51719), (50, 51620), (60, 51569), (68, 51518), (73, 51500), (81, 51434), (82, 51413), (85, 51362), (87, 51359), (91, 51329), (94, 51317), (96, 51308), (97, 51302), (101, 51251),

Gene: Quesadilla_57 Start: 53051, Stop: 52476, Start Num: 31
Candidate Starts for Quesadilla_57:
(Start: 31 @53051 has 1 MA's), (38, 52973), (77, 52760), (84, 52652), (89, 52625), (92, 52604), (94, 52598), (96, 52589), (99, 52541),

Gene: RawrgerThat_53 Start: 52205, Stop: 51513, Start Num: 9
Candidate Starts for RawrgerThat_53:
(Start: 9 @52205 has 20 MA's), (12, 52181), (23, 52046), (60, 51887), (68, 51836), (73, 51818), (81, 51752), (82, 51731), (85, 51680), (87, 51677), (91, 51647), (94, 51635), (96, 51626), (97, 51620), (101, 51569),

Gene: Rich_57 Start: 53862, Stop: 53494, Start Num: 58
Candidate Starts for Rich_57:
(37, 53979), (57, 53865), (Start: 58 @53862 has 1 MA's), (70, 53793), (85, 53658), (94, 53613),

Gene: Rinkes_55 Start: 52581, Stop: 52141, Start Num: 49
Candidate Starts for Rinkes_55:
(Start: 49 @52581 has 1 MA's), (78, 52422), (90, 52290), (92, 52269), (95, 52260), (99, 52206), (100, 52200),

Gene: Stinger_52 Start: 50893, Stop: 50213, Start Num: 16
Candidate Starts for Stinger_52:
(2, 51100), (15, 50905), (Start: 16 @50893 has 1 MA's), (21, 50854), (34, 50725), (50, 50638), (54, 50614), (65, 50563), (73, 50518), (85, 50380), (87, 50377), (91, 50347), (94, 50335), (96, 50326), (97, 50320), (101, 50269),

Gene: Vincenzo_54 Start: 53132, Stop: 52305, Start Num: 11
Candidate Starts for Vincenzo_54:
(Start: 11 @53132 has 2 MA's), (12, 53126), (23, 52991), (25, 52958), (37, 52850), (40, 52808), (47, 52772), (51, 52757), (69, 52646), (72, 52634), (75, 52604), (80, 52568), (87, 52469), (91, 52439), (94, 52427), (95, 52424), (98, 52397), (100, 52364),

Gene: VioletZ_54 Start: 52269, Stop: 51523, Start Num: 9
Candidate Starts for VioletZ_54:
(Start: 9 @52269 has 20 MA's), (12, 52245), (23, 52110), (52, 51942), (65, 51873), (68, 51846), (73, 51828), (85, 51690), (87, 51687), (91, 51657), (94, 51645), (96, 51636), (97, 51630), (101, 51579),

Gene: Waleliano_52 Start: 52222, Stop: 51425, Start Num: 9
Candidate Starts for Waleliano_52:

(Start: 9 @52222 has 20 MA's), (12, 52198), (23, 52063), (26, 52012), (36, 51937), (65, 51775), (68, 51748), (73, 51730), (85, 51592), (87, 51589), (91, 51559), (94, 51547), (97, 51532), (101, 51481),

Gene: Xincheng_53 Start: 53256, Stop: 52549, Start Num: 9
Candidate Starts for Xincheng_53:
(Start: 9 @53256 has 20 MA's), (12, 53232), (23, 53097), (63, 52926), (65, 52914), (71, 52878), (73, 52869), (81, 52788), (85, 52716), (87, 52713), (91, 52683), (94, 52671), (96, 52662), (97, 52656), (101, 52605),

Gene: Zemanar_53 Start: 52057, Stop: 51395, Start Num: 9
Candidate Starts for Zemanar_53:
(Start: 9 @52057 has 20 MA's), (23, 51910), (50, 51820), (52, 51814), (81, 51634), (82, 51613), (85, 51562), (87, 51559), (88, 51556), (91, 51529), (94, 51517), (101, 51451),