

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 180606 Report

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

Pham number 180606 has 44 members, 14 are drafts.

Phages represented in each track:

- Track 1 : Indlovu_69
- Track 2 : Apex_69
- Track 3 : Prince_67
- Track 4 : Poster_66, ChrisnMich_68, Hally898_66, Ahwei_66, Nanao_67, Lambano_66
- Track 5 : JaguarMi_69, Xincheng_68
- Track 6 : Austelle_68
- Track 7 : AlanGrant_72
- Track 8 : JAMaL_68
- Track 9 : Nigel_66
- Track 10 : Lolalove_70
- Track 11 : BobbyK_69
- Track 12 : Hydro_69
- Track 13 : RawrgerThat_69, Fortunato_69
- Track 14 : Mudslide_68
- Track 15 : Epah_66, Antihero_66, GinPorsche_66
- Track 16 : Fanaw_65
- Track 17 : Cooper_70
- Track 18 : Vincenzo_71
- Track 19 : Frederick_70
- Track 20 : BrownCNA_70, Waleliano_68
- Track 21 : Stinger_68
- Track 22 : Zemanar_68, Heath_68
- Track 23 : QueenPie_63
- Track 24 : Mithril_68
- Track 25 : Magpie_66
- Track 26 : VioletZ_70
- Track 27 : Hangman_69
- Track 28 : 39HC_069, 40BC_069
- Track 29 : Saguaro_67
- Track 30 : PenguinLover67_69
- Track 31 : CRB2_71
- Track 32 : Quesadilla_70

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

The start number called the most often in the published annotations is 30, it was called in 9 of the 30 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Apex_69, BrownCNA_70, Fortunato_69, Hangman_69, Hydro_69, Mudslide_68, RawrgerThat_69, VioletZ_70, Waleliano_68,

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

- Ahwei_66, Antihero_66, Austelle_68, BobbyK_69, ChrisnMich_68, Epah_66, Fanaw_65, Frederick_70, GinPorsche_66, Hally898_66, Heath_68, JAMaL_68, JaguarMi_69, Lambano_66, Lolalove_70, Magpie_66, Mithril_68, Nanao_67, Nigel_66, Poster_66, Prince_67, QueenPie_63, Stinger_68, Xincheng_68, Zemanar_68,

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

- 39HC_069, 40BC_069, AlanGrant_72, CRB2_71, Cooper_70, Indlovu_69, PenguinLover67_69, Quesadilla_70, Saguario_67, Vincenzo_71,

Summary by start number:

Start 13:

- Found in 38 of 44 (86.4%) of genes in pham
- Manual Annotations of this start: 3 of 30
- Called 7.9% of time when present
- Phage (with cluster) where this start called: Frederick_70 (B4), Nigel_66 (B4), Stinger_68 (B4),

Start 30:

- Found in 34 of 44 (77.3%) of genes in pham
- Manual Annotations of this start: 9 of 30
- Called 26.5% of time when present
- Phage (with cluster) where this start called: Apex_69 (B4), BrownCNA_70 (B4), Fortunato_69 (B4), Hangman_69 (B4), Hydro_69 (B4), Mudslide_68 (B4), RawrgerThat_69 (B4), VioletZ_70 (B4), Waleliano_68 (B4),

Start 31:

- Found in 3 of 44 (6.8%) of genes in pham
- Manual Annotations of this start: 1 of 30
- Called 33.3% of time when present
- Phage (with cluster) where this start called: AlanGrant_72 (B4),

Start 33:

- Found in 20 of 44 (45.5%) of genes in pham
- Manual Annotations of this start: 7 of 30
- Called 95.0% of time when present
- Phage (with cluster) where this start called: Ahwei_66 (B4), Antihero_66 (B4), BobbyK_69 (B4), ChrisnMich_68 (B4), Epah_66 (B4), Fanaw_65 (B4), GinPorsche_66 (B4), Hally898_66 (B4), Heath_68 (B4), JAMaL_68 (B4), JaguarMi_69 (B4), Lambano_66 (B4), Lolalove_70 (B4), Magpie_66 (B4), Nanao_67 (B4), Poster_66 (B4), QueenPie_63 (B4), Xincheng_68 (B4), Zemanar_68 (B4),

Start 35:

- Found in 3 of 44 (6.8%) of genes in pham
- Manual Annotations of this start: 1 of 30
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 39HC_069 (B6), 40BC_069 (B6), Cooper_70 (B4),

Start 36:

- Found in 8 of 44 (18.2%) of genes in pham
- Manual Annotations of this start: 3 of 30
- Called 37.5% of time when present
- Phage (with cluster) where this start called: CRB2_71 (B9), Indlovu_69 (B11), Vincenzo_71 (B4),

Start 39:

- Found in 4 of 44 (9.1%) of genes in pham
- Manual Annotations of this start: 3 of 30
- Called 75.0% of time when present
- Phage (with cluster) where this start called: PenguinLover67_69 (B9), Quesadilla_70 (B9), Saguaro_67 (B7),

Start 41:

- Found in 9 of 44 (20.5%) of genes in pham
- Manual Annotations of this start: 3 of 30
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Austelle_68 (B4), Mithril_68 (B4), Prince_67 (B4),

Summary by clusters:

There are 5 clusters represented in this pham: B4, B6, B7, B9, B11,

Info for manual annotations of cluster B11:

- Start number 36 was manually annotated 1 time for cluster B11.

Info for manual annotations of cluster B4:

- Start number 13 was manually annotated 3 times for cluster B4.
- Start number 30 was manually annotated 9 times for cluster B4.
- Start number 31 was manually annotated 1 time for cluster B4.
- Start number 33 was manually annotated 7 times for cluster B4.
- Start number 35 was manually annotated 1 time for cluster B4.
- Start number 36 was manually annotated 1 time for cluster B4.
- Start number 41 was manually annotated 3 times for cluster B4.

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 36 was manually annotated 1 time for cluster B9.
- Start number 39 was manually annotated 2 times for cluster B9.

Gene Information:

Gene: 39HC_069 Start: 58780, Stop: 59388, Start Num: 35

Candidate Starts for 39HC_069:

(5, 58525), (11, 58585), (16, 58630), (23, 58675), (Start: 35 @58780 has 1 MA's), (Start: 36 @58801 has 3 MA's), (42, 58849), (53, 58957), (55, 58969), (65, 59062), (66, 59074), (74, 59125), (81, 59188), (87, 59266), (88, 59275), (89, 59380),

Gene: 40BC_069 Start: 58780, Stop: 59388, Start Num: 35

Candidate Starts for 40BC_069:

(5, 58525), (11, 58585), (16, 58630), (23, 58675), (Start: 35 @58780 has 1 MA's), (Start: 36 @58801 has 3 MA's), (42, 58849), (53, 58957), (55, 58969), (65, 59062), (66, 59074), (74, 59125), (81, 59188), (87, 59266), (88, 59275), (89, 59380),

Gene: Ahwei_66 Start: 59056, Stop: 59619, Start Num: 33

Candidate Starts for Ahwei_66:

(12, 58912), (Start: 13 @58918 has 3 MA's), (20, 58984), (Start: 30 @59035 has 9 MA's), (Start: 33 @59056 has 7 MA's), (43, 59176), (44, 59185), (54, 59284), (55, 59290), (58, 59308), (61, 59353), (65, 59398), (66, 59410), (80, 59530), (82, 59545),

Gene: AlanGrant_72 Start: 61390, Stop: 61929, Start Num: 31

Candidate Starts for AlanGrant_72:

(Start: 13 @61264 has 3 MA's), (20, 61330), (26, 61366), (27, 61372), (29, 61381), (Start: 31 @61390 has 1 MA's), (Start: 36 @61456 has 3 MA's), (42, 61504), (43, 61525), (44, 61534), (47, 61582), (61, 61702), (65, 61747), (74, 61816), (77, 61858), (78, 61861), (84, 61894),

Gene: Antihero_66 Start: 59054, Stop: 59617, Start Num: 33

Candidate Starts for Antihero_66:

(12, 58910), (Start: 13 @58916 has 3 MA's), (20, 58982), (Start: 30 @59033 has 9 MA's), (Start: 33 @59054 has 7 MA's), (43, 59174), (44, 59183), (54, 59282), (55, 59288), (58, 59306), (61, 59351), (65, 59396), (66, 59408), (75, 59471), (80, 59528), (82, 59543),

Gene: Apex_69 Start: 60138, Stop: 60722, Start Num: 30

Candidate Starts for Apex_69:

(12, 60015), (Start: 13 @60021 has 3 MA's), (Start: 30 @60138 has 9 MA's), (43, 60279), (44, 60288), (54, 60387), (55, 60393), (58, 60411), (60, 60453), (61, 60456), (65, 60501), (66, 60513), (78, 60612), (80, 60633), (82, 60648), (86, 60699),

Gene: Austelle_68 Start: 60772, Stop: 61239, Start Num: 41

Candidate Starts for Austelle_68:

(12, 60532), (Start: 13 @60538 has 3 MA's), (Start: 30 @60655 has 9 MA's), (Start: 41 @60772 has 3 MA's), (43, 60796), (44, 60805), (54, 60904), (55, 60910), (58, 60928), (60, 60970), (61, 60973), (65, 61018), (66, 61030), (78, 61129), (80, 61150), (82, 61165), (86, 61216),

Gene: BobbyK_69 Start: 59936, Stop: 60499, Start Num: 33

Candidate Starts for BobbyK_69:

(12, 59792), (Start: 13 @59798 has 3 MA's), (Start: 30 @59915 has 9 MA's), (Start: 33 @59936 has 7 MA's), (43, 60056), (44, 60065), (54, 60164), (55, 60170), (58, 60188), (60, 60230), (61, 60233), (65, 60278), (66, 60290), (80, 60410), (82, 60425),

Gene: BrownCNA_70 Start: 60292, Stop: 60873, Start Num: 30

Candidate Starts for BrownCNA_70:

(12, 60169), (Start: 13 @60175 has 3 MA's), (Start: 30 @60292 has 9 MA's), (Start: 41 @60409 has 3 MA's), (43, 60433), (44, 60442), (54, 60541), (55, 60547), (61, 60610), (65, 60655), (66, 60667), (77, 60760), (80, 60784), (81, 60796),

Gene: CRB2_71 Start: 61691, Stop: 62164, Start Num: 36

Candidate Starts for CRB2_71:

(4, 61424), (8, 61463), (16, 61526), (21, 61559), (34, 61649), (Start: 36 @61691 has 3 MA's), (37, 61706), (Start: 39 @61718 has 3 MA's), (42, 61739), (45, 61787), (46, 61814), (55, 61868), (58, 61886), (63, 61949), (80, 62075), (85, 62126),

Gene: ChrisnMich_68 Start: 59038, Stop: 59601, Start Num: 33

Candidate Starts for ChrisnMich_68:

(12, 58894), (Start: 13 @58900 has 3 MA's), (20, 58966), (Start: 30 @59017 has 9 MA's), (Start: 33 @59038 has 7 MA's), (43, 59158), (44, 59167), (54, 59266), (55, 59272), (58, 59290), (61, 59335), (65, 59380), (66, 59392), (80, 59512), (82, 59527),

Gene: Cooper_70 Start: 59759, Stop: 60271, Start Num: 35

Candidate Starts for Cooper_70:

(Start: 13 @59591 has 3 MA's), (24, 59669), (28, 59699), (29, 59705), (Start: 31 @59714 has 1 MA's), (Start: 35 @59759 has 1 MA's), (Start: 36 @59780 has 3 MA's), (38, 59804), (50, 59921), (55, 59963), (56, 59975), (61, 60026), (65, 60071), (66, 60083), (81, 60194), (82, 60197), (86, 60248),

Gene: Epah_66 Start: 59054, Stop: 59617, Start Num: 33

Candidate Starts for Epah_66:

(12, 58910), (Start: 13 @58916 has 3 MA's), (20, 58982), (Start: 30 @59033 has 9 MA's), (Start: 33 @59054 has 7 MA's), (43, 59174), (44, 59183), (54, 59282), (55, 59288), (58, 59306), (61, 59351), (65, 59396), (66, 59408), (75, 59471), (80, 59528), (82, 59543),

Gene: Fanaw_65 Start: 60090, Stop: 60653, Start Num: 33

Candidate Starts for Fanaw_65:

(12, 59946), (Start: 13 @59952 has 3 MA's), (20, 60018), (Start: 30 @60069 has 9 MA's), (Start: 33 @60090 has 7 MA's), (43, 60210), (44, 60219), (54, 60318), (55, 60324), (60, 60384), (61, 60387), (65, 60432), (66, 60444), (68, 60465), (80, 60564), (82, 60579), (86, 60630),

Gene: Fortunato_69 Start: 60068, Stop: 60652, Start Num: 30

Candidate Starts for Fortunato_69:

(12, 59945), (Start: 13 @59951 has 3 MA's), (Start: 30 @60068 has 9 MA's), (Start: 41 @60185 has 3 MA's), (43, 60209), (44, 60218), (54, 60317), (55, 60323), (58, 60341), (60, 60383), (61, 60386), (65, 60431), (66, 60443), (68, 60464), (80, 60563), (82, 60578), (86, 60629),

Gene: Frederick_70 Start: 59898, Stop: 60596, Start Num: 13

Candidate Starts for Frederick_70:

(12, 59892), (Start: 13 @59898 has 3 MA's), (Start: 30 @60015 has 9 MA's), (Start: 41 @60132 has 3 MA's), (43, 60156), (44, 60165), (54, 60264), (55, 60270), (58, 60288), (60, 60330), (61, 60333), (65, 60378), (66, 60390), (80, 60507), (86, 60573),

Gene: GinPorsche_66 Start: 59054, Stop: 59617, Start Num: 33

Candidate Starts for GinPorsche_66:

(12, 58910), (Start: 13 @58916 has 3 MA's), (20, 58982), (Start: 30 @59033 has 9 MA's), (Start: 33 @59054 has 7 MA's), (43, 59174), (44, 59183), (54, 59282), (55, 59288), (58, 59306), (61, 59351), (65, 59396), (66, 59408), (75, 59471), (80, 59528), (82, 59543),

Gene: Hally898_66 Start: 59069, Stop: 59632, Start Num: 33

Candidate Starts for Hally898_66:

(12, 58925), (Start: 13 @58931 has 3 MA's), (20, 58997), (Start: 30 @59048 has 9 MA's), (Start: 33 @59069 has 7 MA's), (43, 59189), (44, 59198), (54, 59297), (55, 59303), (58, 59321), (61, 59366), (65, 59411), (66, 59423), (80, 59543), (82, 59558),

Gene: Hangman_69 Start: 60214, Stop: 60795, Start Num: 30

Candidate Starts for Hangman_69:

(12, 60091), (Start: 13 @60097 has 3 MA's), (Start: 30 @60214 has 9 MA's), (43, 60355), (44, 60364), (54, 60463), (55, 60469), (61, 60532), (65, 60577), (66, 60589), (80, 60706), (86, 60772),

Gene: Heath_68 Start: 59862, Stop: 60422, Start Num: 33

Candidate Starts for Heath_68:

(12, 59718), (Start: 13 @59724 has 3 MA's), (Start: 30 @59841 has 9 MA's), (Start: 33 @59862 has 7 MA's), (43, 59982), (44, 59991), (54, 60090), (55, 60096), (61, 60159), (65, 60204), (66, 60216), (80, 60333), (86, 60399),

Gene: Hydro_69 Start: 60152, Stop: 60733, Start Num: 30

Candidate Starts for Hydro_69:

(12, 60029), (Start: 13 @60035 has 3 MA's), (Start: 30 @60152 has 9 MA's), (Start: 41 @60269 has 3 MA's), (43, 60293), (44, 60302), (54, 60401), (55, 60407), (61, 60470), (65, 60515), (66, 60527), (80, 60644), (86, 60710),

Gene: Indlovu_69 Start: 59915, Stop: 60454, Start Num: 36

Candidate Starts for Indlovu_69:

(2, 59609), (3, 59615), (7, 59675), (Start: 13 @59714 has 3 MA's), (Start: 36 @59915 has 3 MA's), (42, 59963), (43, 59981), (48, 60038), (55, 60092), (57, 60107), (59, 60143), (60, 60152), (63, 60182), (65, 60200), (72, 60254), (73, 60266), (78, 60344),

Gene: JAMaL_68 Start: 60063, Stop: 60626, Start Num: 33

Candidate Starts for JAMaL_68:

(12, 59919), (Start: 13 @59925 has 3 MA's), (18, 59979), (20, 59991), (Start: 30 @60042 has 9 MA's), (Start: 33 @60063 has 7 MA's), (43, 60183), (44, 60192), (54, 60291), (55, 60297), (58, 60315), (61, 60360), (65, 60405), (66, 60417), (75, 60480), (80, 60537), (82, 60552),

Gene: JaguarMi_69 Start: 61329, Stop: 61889, Start Num: 33

Candidate Starts for JaguarMi_69:

(12, 61182), (Start: 13 @61188 has 3 MA's), (20, 61254), (Start: 30 @61305 has 9 MA's), (Start: 33 @61329 has 7 MA's), (43, 61449), (44, 61458), (54, 61557), (55, 61563), (58, 61581), (60, 61623), (61, 61626), (65, 61671), (66, 61683), (68, 61704), (76, 61767), (77, 61776),

Gene: Lambano_66 Start: 59069, Stop: 59632, Start Num: 33

Candidate Starts for Lambano_66:

(12, 58925), (Start: 13 @58931 has 3 MA's), (20, 58997), (Start: 30 @59048 has 9 MA's), (Start: 33 @59069 has 7 MA's), (43, 59189), (44, 59198), (54, 59297), (55, 59303), (58, 59321), (61, 59366), (65, 59411), (66, 59423), (80, 59543), (82, 59558),

Gene: Lolalove_70 Start: 60244, Stop: 60804, Start Num: 33

Candidate Starts for Lolalove_70:

(12, 60100), (Start: 13 @60106 has 3 MA's), (Start: 30 @60223 has 9 MA's), (Start: 33 @60244 has 7 MA's), (43, 60364), (44, 60373), (54, 60472), (55, 60478), (61, 60541), (65, 60586), (66, 60598), (80, 60715), (81, 60727),

Gene: Magpie_66 Start: 59929, Stop: 60492, Start Num: 33

Candidate Starts for Magpie_66:

(12, 59785), (Start: 13 @59791 has 3 MA's), (Start: 30 @59908 has 9 MA's), (Start: 33 @59929 has 7 MA's), (43, 60049), (44, 60058), (54, 60157), (55, 60163), (58, 60181), (60, 60223), (61, 60226), (65, 60271), (66, 60283), (68, 60304), (78, 60382), (80, 60403), (82, 60418),

Gene: Mithril_68 Start: 60339, Stop: 60803, Start Num: 41

Candidate Starts for Mithril_68:

(12, 60099), (Start: 13 @60105 has 3 MA's), (Start: 30 @60222 has 9 MA's), (Start: 41 @60339 has 3 MA's), (43, 60363), (44, 60372), (54, 60471), (55, 60477), (58, 60495), (61, 60540), (65, 60585), (66, 60597), (68, 60618), (76, 60681), (77, 60690), (80, 60714), (81, 60726),

Gene: Mudslide_68 Start: 60243, Stop: 60824, Start Num: 30

Candidate Starts for Mudslide_68:

(12, 60120), (Start: 13 @60126 has 3 MA's), (Start: 30 @60243 has 9 MA's), (43, 60384), (44, 60393), (54, 60492), (55, 60498), (61, 60561), (65, 60606), (66, 60618), (77, 60711), (80, 60735), (81, 60747),

Gene: Nanao_67 Start: 59059, Stop: 59622, Start Num: 33

Candidate Starts for Nanao_67:

(12, 58915), (Start: 13 @58921 has 3 MA's), (20, 58987), (Start: 30 @59038 has 9 MA's), (Start: 33 @59059 has 7 MA's), (43, 59179), (44, 59188), (54, 59287), (55, 59293), (58, 59311), (61, 59356), (65, 59401), (66, 59413), (80, 59533), (82, 59548),

Gene: Nigel_66 Start: 58741, Stop: 59442, Start Num: 13

Candidate Starts for Nigel_66:

(12, 58735), (Start: 13 @58741 has 3 MA's), (14, 58753), (17, 58786), (20, 58807), (Start: 30 @58858 has 9 MA's), (43, 58996), (44, 59005), (54, 59104), (58, 59128), (61, 59173), (65, 59218), (66, 59230), (69, 59254), (74, 59284), (75, 59293), (80, 59353), (82, 59368),

Gene: PenguinLover67_69 Start: 59425, Stop: 59871, Start Num: 39

Candidate Starts for PenguinLover67_69:

(4, 59146), (10, 59191), (20, 59266), (22, 59278), (32, 59347), (Start: 36 @59398 has 3 MA's), (Start: 39 @59425 has 3 MA's), (42, 59446), (45, 59494), (46, 59521), (55, 59575), (56, 59587), (58, 59593), (63, 59656), (74, 59737), (83, 59809),

Gene: Poster_66 Start: 59060, Stop: 59623, Start Num: 33

Candidate Starts for Poster_66:

(12, 58916), (Start: 13 @58922 has 3 MA's), (20, 58988), (Start: 30 @59039 has 9 MA's), (Start: 33 @59060 has 7 MA's), (43, 59180), (44, 59189), (54, 59288), (55, 59294), (58, 59312), (61, 59357), (65, 59402), (66, 59414), (80, 59534), (82, 59549),

Gene: Prince_67 Start: 60270, Stop: 60725, Start Num: 41

Candidate Starts for Prince_67:

(12, 60030), (Start: 13 @60036 has 3 MA's), (Start: 30 @60153 has 9 MA's), (Start: 33 @60174 has 7 MA's), (Start: 41 @60270 has 3 MA's), (43, 60294), (44, 60303), (54, 60402), (55, 60408), (58, 60426), (60, 60468), (61, 60471), (65, 60516), (66, 60528), (80, 60636),

Gene: QueenPie_63 Start: 59162, Stop: 59725, Start Num: 33

Candidate Starts for QueenPie_63:

(12, 59018), (Start: 13 @59024 has 3 MA's), (18, 59078), (20, 59090), (Start: 30 @59141 has 9 MA's), (Start: 33 @59162 has 7 MA's), (43, 59282), (44, 59291), (54, 59390), (55, 59396), (60, 59456), (61, 59459), (65, 59504), (66, 59516), (75, 59579), (80, 59636), (82, 59651),

Gene: Quesadilla_70 Start: 59603, Stop: 60055, Start Num: 39

Candidate Starts for Quesadilla_70:

(1, 59162), (4, 59300), (19, 59429), (21, 59444), (23, 59453), (Start: 39 @59603 has 3 MA's), (40, 59621), (51, 59720), (58, 59777), (62, 59825), (63, 59843), (64, 59861), (85, 60017),

Gene: RawrgerThat_69 Start: 60046, Stop: 60630, Start Num: 30

Candidate Starts for RawrgerThat_69:

(12, 59923), (Start: 13 @59929 has 3 MA's), (Start: 30 @60046 has 9 MA's), (Start: 41 @60163 has 3 MA's), (43, 60187), (44, 60196), (54, 60295), (55, 60301), (58, 60319), (60, 60361), (61, 60364), (65, 60409), (66, 60421), (68, 60442), (80, 60541), (82, 60556), (86, 60607),

Gene: Saguaro_67 Start: 58827, Stop: 59270, Start Num: 39

Candidate Starts for Saguaro_67:

(2, 58491), (6, 58551), (9, 58569), (15, 58626), (25, 58695), (28, 58716), (Start: 39 @58827 has 3 MA's), (49, 58938), (52, 58944), (55, 58965), (56, 58977), (57, 58980), (59, 59016), (67, 59088), (71, 59112),

Gene: Stinger_68 Start: 58864, Stop: 59568, Start Num: 13

Candidate Starts for Stinger_68:

(Start: 13 @58864 has 3 MA's), (Start: 30 @58981 has 9 MA's), (43, 59122), (44, 59131), (54, 59230), (55, 59236), (58, 59254), (61, 59299), (65, 59344), (66, 59356), (79, 59473), (80, 59479), (82, 59494),

Gene: Vincenzo_71 Start: 61486, Stop: 61959, Start Num: 36

Candidate Starts for Vincenzo_71:

(Start: 13 @61294 has 3 MA's), (20, 61360), (26, 61396), (29, 61411), (Start: 31 @61420 has 1 MA's), (Start: 36 @61486 has 3 MA's), (42, 61534), (43, 61555), (44, 61564), (47, 61612), (61, 61732), (69, 61813), (74, 61846), (77, 61888), (78, 61891), (84, 61924),

Gene: VioletZ_70 Start: 60156, Stop: 60719, Start Num: 30

Candidate Starts for VioletZ_70:

(12, 60033), (Start: 13 @60039 has 3 MA's), (Start: 30 @60156 has 9 MA's), (43, 60297), (44, 60306), (58, 60429), (61, 60474), (65, 60519), (66, 60531), (70, 60561),

Gene: Waleliano_68 Start: 60045, Stop: 60626, Start Num: 30

Candidate Starts for Waleliano_68:

(12, 59922), (Start: 13 @59928 has 3 MA's), (Start: 30 @60045 has 9 MA's), (Start: 41 @60162 has 3 MA's), (43, 60186), (44, 60195), (54, 60294), (55, 60300), (61, 60363), (65, 60408), (66, 60420), (77, 60513), (80, 60537), (81, 60549),

Gene: Xincheng_68 Start: 61280, Stop: 61840, Start Num: 33

Candidate Starts for Xincheng_68:

(12, 61133), (Start: 13 @61139 has 3 MA's), (20, 61205), (Start: 30 @61256 has 9 MA's), (Start: 33 @61280 has 7 MA's), (43, 61400), (44, 61409), (54, 61508), (55, 61514), (58, 61532), (60, 61574), (61, 61577), (65, 61622), (66, 61634), (68, 61655), (76, 61718), (77, 61727),

Gene: Zemanar_68 Start: 59964, Stop: 60524, Start Num: 33

Candidate Starts for Zemanar_68:

(12, 59820), (Start: 13 @59826 has 3 MA's), (Start: 30 @59943 has 9 MA's), (Start: 33 @59964 has 7 MA's), (43, 60084), (44, 60093), (54, 60192), (55, 60198), (61, 60261), (65, 60306), (66, 60318), (80, 60435), (86, 60501),