

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 296602 Report

This analysis was run 04/25/26 on database version 644.

Pham number 296602 has 58 members, 21 are drafts.

Phages represented in each track:

- Track 1 : Mesh1_61
- Track 2 : BobbyK_53, Hangman_52, JoyceMaria_52
- Track 3 : Fanaw_51
- Track 4 : ChrisnMich_52, Fortunato_53, Hally898_51, Epah_51, Antihero_51, Lolalove_53, GinPorsche_52, Ahwei_51, Poster_51, Lambano_51, Nanao_51, Hydro_52
- Track 5 : Prince_52, LittleDigger_51, Apex_53, Austelle_53, Renkei_51, 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 : Magpie_51
- Track 14 : Cooper_53
- Track 15 : Frederick_53, RawrgerThat_53
- Track 16 : Mithril_52, VioletZ_54
- Track 17 : QueenPie_50
- Track 18 : Acadian_57
- Track 19 : EastView9101_56
- Track 20 : DigitDog_57
- Track 21 : KarasumaRum_57, StinkyVeggy_57
- Track 22 : Suigeneris_58
- Track 23 : Rich_57
- Track 24 : Phelemich_55, Reprobate_56
- Track 25 : Serendipitous_55
- Track 26 : Mysterious_55, Nehemiah_56
- Track 27 : Nangang_57
- Track 28 : Shenyu_57
- Track 29 : Bae_58
- Track 30 : SirJeffery_56
- Track 31 : Rinkes_55
- Track 32 : CRB2_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 21 of the 37 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_52, Hally898_51, Hangman_52, Heath_51, Hydro_52, JAMaL_52, JaguarMi_54, JoyceMaria_52, Lambano_51, LittleDigger_51, Lolalove_53, Magpie_51, Mithril_52, Mudslide_52, Nanao_51, Poster_51, Prince_52, QueenPie_50, RawrgerThat_53, Renkei_51, 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, CRB2_56, Cooper_53, DigitDog_57, EastView9101_56, KarasumaRum_57, Mesh1_61, Mysterious_55, Nangang_57, Nehemiah_56, Phelemich_55, Reprobate_56, Rich_57, Rinke_55, Serendipitous_55, Shenyu_57, SirJeffery_56, Stinger_52, StinkyVeggy_57, Suigeneris_58, Vincenzo_54,

Summary by start number:

Start 2:

- Found in 2 of 58 (3.4%) of genes in pham
- Manual Annotations of this start: 2 of 37
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AlanGrant_55 (B4), Vincenzo_54 (B4),

Start 5:

- Found in 2 of 58 (3.4%) of genes in pham
- Manual Annotations of this start: 1 of 37
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Stinger_52 (B4),

Start 6:

- Found in 35 of 58 (60.3%) of genes in pham
- Manual Annotations of this start: 21 of 37
- 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_52 (B4), Hally898_51 (B4), Hangman_52 (B4), Heath_51 (B4), Hydro_52 (B4), JAMaL_52 (B4), JaguarMi_54 (B4), JoyceMaria_52 (B4), Lambano_51 (B4), LittleDigger_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), Renkei_51 (B4), VioletZ_54 (B4), Waleliano_52 (B4), Xincheng_53 (B4), Zemanar_53 (B4),

Start 9:

- Found in 1 of 58 (1.7%) of genes in pham
- Manual Annotations of this start: 1 of 37
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cooper_53 (B4),

Start 10:

- Found in 10 of 58 (17.2%) of genes in pham
- Manual Annotations of this start: 7 of 37
- Called 80.0% of time when present
- Phage (with cluster) where this start called: Bae_58 (B5), EastView9101_56 (B5), Mysterious_55 (B5), Nehemiah_56 (B5), Phelemich_55 (B5), Reprobate_56 (B5), Serendipitous_55 (B5), Suigeneris_58 (B5),

Start 15:

- Found in 1 of 58 (1.7%) of genes in pham
- Manual Annotations of this start: 1 of 37
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Mesh1_61 (B1),

Start 20:

- Found in 6 of 58 (10.3%) of genes in pham
- Manual Annotations of this start: 1 of 37
- 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 22:

- Found in 1 of 58 (1.7%) 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),

Start 24:

- Found in 39 of 58 (67.2%) of genes in pham
- Manual Annotations of this start: 2 of 37
- Called 5.1% of time when present
- Phage (with cluster) where this start called: CRB2_56 (B9), Rinkes_55 (B9),

Start 28:

- Found in 13 of 58 (22.4%) of genes in pham
- Manual Annotations of this start: 1 of 37
- Called 7.7% of time when present
- Phage (with cluster) where this start called: Rich_57 (B5),

Summary by clusters:

There are 4 clusters represented in this pham: B4, B5, B9, B1,

Info for manual annotations of cluster B1:

- Start number 15 was manually annotated 1 time for cluster B1.

Info for manual annotations of cluster B4:

- Start number 2 was manually annotated 2 times for cluster B4.

- Start number 5 was manually annotated 1 time for cluster B4.
- Start number 6 was manually annotated 21 times for cluster B4.
- Start number 9 was manually annotated 1 time for cluster B4.

Info for manual annotations of cluster B5:

- Start number 10 was manually annotated 7 times for cluster B5.
- Start number 20 was manually annotated 1 time for cluster B5.
- Start number 28 was manually annotated 1 time for cluster B5.

Info for manual annotations of cluster B9:

- Start number 24 was manually annotated 2 times for cluster B9.

Gene Information:

Gene: Acadian_57 Start: 52639, Stop: 51956, Start Num: 20

Candidate Starts for Acadian_57:

(17, 52663), (Start: 20 @52639 has 1 MA's), (Start: 28 @52519 has 1 MA's), (30, 52498), (39, 52399), (46, 52351), (57, 52279), (70, 52132), (73, 52117), (77, 52075),

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

Candidate Starts for Ahwei_51:

(Start: 6 @51165 has 21 MA's), (11, 51141), (Start: 24 @51006 has 2 MA's), (49, 50847), (53, 50823), (56, 50796), (58, 50778), (64, 50712), (65, 50691), (69, 50640), (70, 50637), (75, 50607), (78, 50595), (80, 50586), (81, 50580), (85, 50529),

Gene: AlanGrant_55 Start: 53102, Stop: 52275, Start Num: 2

Candidate Starts for AlanGrant_55:

(Start: 2 @53102 has 2 MA's), (3, 53096), (8, 52961), (12, 52928), (21, 52820), (25, 52778), (35, 52742), (37, 52727), (54, 52616), (55, 52604), (59, 52574), (62, 52538), (70, 52439), (75, 52409), (78, 52397), (79, 52394), (82, 52367), (84, 52334),

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

Candidate Starts for Antihero_51:

(Start: 6 @51163 has 21 MA's), (11, 51139), (Start: 24 @51004 has 2 MA's), (49, 50845), (53, 50821), (56, 50794), (58, 50776), (64, 50710), (65, 50689), (69, 50638), (70, 50635), (75, 50605), (78, 50593), (80, 50584), (81, 50578), (85, 50527),

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

Candidate Starts for Apex_53:

(Start: 6 @52379 has 21 MA's), (11, 52355), (Start: 24 @52220 has 2 MA's), (44, 52058), (49, 52007), (53, 51983), (56, 51956), (58, 51938), (64, 51872), (65, 51851), (69, 51800), (70, 51797), (75, 51767), (78, 51755), (80, 51746), (81, 51740), (85, 51689),

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

Candidate Starts for Austelle_53:

(Start: 6 @52832 has 21 MA's), (11, 52808), (Start: 24 @52673 has 2 MA's), (44, 52511), (49, 52460), (53, 52436), (56, 52409), (58, 52391), (64, 52325), (65, 52304), (69, 52253), (70, 52250), (75, 52220), (78, 52208), (80, 52199), (81, 52193), (85, 52142),

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

Candidate Starts for Bae_58:

(Start: 10 @53704 has 7 MA's), (27, 53590), (Start: 28 @53587 has 1 MA's), (57, 53518), (69, 53383), (78, 53338),

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

Candidate Starts for BobbyK_53:

(Start: 6 @52148 has 21 MA's), (11, 52124), (Start: 24 @51983 has 2 MA's), (53, 51746), (56, 51719), (58, 51701), (69, 51563), (70, 51560), (75, 51530), (78, 51518), (80, 51509), (81, 51503), (85, 51452),

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

Candidate Starts for BrownCNA_54:

(Start: 6 @52490 has 21 MA's), (11, 52466), (Start: 24 @52331 has 2 MA's), (26, 52280), (32, 52205), (53, 52043), (56, 52016), (58, 51998), (69, 51860), (70, 51857), (75, 51827), (78, 51815), (81, 51800), (85, 51749),

Gene: CRB2_56 Start: 53718, Stop: 53233, Start Num: 24

Candidate Starts for CRB2_56:

(16, 53814), (Start: 24 @53718 has 2 MA's), (34, 53694), (61, 53499), (68, 53412), (78, 53355),

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

Candidate Starts for ChrisnMich_52:

(Start: 6 @51144 has 21 MA's), (11, 51120), (Start: 24 @50985 has 2 MA's), (49, 50772), (53, 50748), (56, 50721), (58, 50703), (64, 50637), (65, 50616), (69, 50565), (70, 50562), (75, 50532), (78, 50520), (80, 50511), (81, 50505), (85, 50454),

Gene: Cooper_53 Start: 51371, Stop: 50706, Start Num: 9

Candidate Starts for Cooper_53:

(Start: 9 @51371 has 1 MA's), (Start: 24 @51209 has 2 MA's), (44, 51119), (58, 50999), (68, 50885), (75, 50840), (78, 50828), (81, 50813), (85, 50762),

Gene: DigitDog_57 Start: 52573, Stop: 51959, Start Num: 20

Candidate Starts for DigitDog_57:

(Start: 20 @52573 has 1 MA's), (27, 52462), (29, 52456), (40, 52393), (41, 52384), (46, 52354), (57, 52282), (70, 52135), (73, 52120), (77, 52078),

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

Candidate Starts for EastView9101_56:

(Start: 10 @52507 has 7 MA's), (Start: 28 @52390 has 1 MA's), (43, 52288), (57, 52198), (70, 52060), (78, 52018),

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

Candidate Starts for Epah_51:

(Start: 6 @51163 has 21 MA's), (11, 51139), (Start: 24 @51004 has 2 MA's), (49, 50845), (53, 50821), (56, 50794), (58, 50776), (64, 50710), (65, 50689), (69, 50638), (70, 50635), (75, 50605), (78, 50593), (80, 50584), (81, 50578), (85, 50527),

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

Candidate Starts for Fanaw_51:

(Start: 6 @51919 has 21 MA's), (11, 51895), (Start: 24 @51760 has 2 MA's), (26, 51709), (32, 51631), (45, 51538), (53, 51469), (57, 51433), (58, 51424), (63, 51361), (64, 51358), (69, 51286), (70, 51283), (78, 51241), (81, 51226), (85, 51175),

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

Candidate Starts for Fortunato_53:

(Start: 6 @52173 has 21 MA's), (11, 52149), (Start: 24 @52014 has 2 MA's), (49, 51855), (53, 51831), (56, 51804), (58, 51786), (64, 51720), (65, 51699), (69, 51648), (70, 51645), (75, 51615), (78, 51603), (80, 51594), (81, 51588), (85, 51537),

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

Candidate Starts for Frederick_53:

(Start: 6 @52088 has 21 MA's), (11, 52064), (Start: 24 @51929 has 2 MA's), (49, 51770), (56, 51719), (58, 51701), (64, 51635), (65, 51614), (69, 51563), (70, 51560), (75, 51530), (78, 51518), (80, 51509), (81, 51503), (85, 51452),

Gene: GinPorsche_52 Start: 51163, Stop: 50471, Start Num: 6

Candidate Starts for GinPorsche_52:

(Start: 6 @51163 has 21 MA's), (11, 51139), (Start: 24 @51004 has 2 MA's), (49, 50845), (53, 50821), (56, 50794), (58, 50776), (64, 50710), (65, 50689), (69, 50638), (70, 50635), (75, 50605), (78, 50593), (80, 50584), (81, 50578), (85, 50527),

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

Candidate Starts for Hally898_51:

(Start: 6 @51178 has 21 MA's), (11, 51154), (Start: 24 @51019 has 2 MA's), (49, 50860), (53, 50836), (56, 50809), (58, 50791), (64, 50725), (65, 50704), (69, 50653), (70, 50650), (75, 50620), (78, 50608), (80, 50599), (81, 50593), (85, 50542),

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

Candidate Starts for Hangman_52:

(Start: 6 @52233 has 21 MA's), (11, 52209), (Start: 24 @52062 has 2 MA's), (53, 51825), (56, 51798), (58, 51780), (69, 51642), (70, 51639), (75, 51609), (78, 51597), (80, 51588), (81, 51582), (85, 51531),

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

Candidate Starts for Heath_51:

(Start: 6 @51844 has 21 MA's), (11, 51820), (Start: 24 @51685 has 2 MA's), (36, 51568), (49, 51472), (53, 51448), (56, 51421), (58, 51403), (64, 51337), (65, 51316), (69, 51265), (70, 51262), (75, 51232), (78, 51220), (80, 51211), (81, 51205), (85, 51154),

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

Candidate Starts for Hydro_52:

(Start: 6 @52225 has 21 MA's), (11, 52201), (Start: 24 @52066 has 2 MA's), (49, 51853), (53, 51829), (56, 51802), (58, 51784), (64, 51718), (65, 51697), (69, 51646), (70, 51643), (75, 51613), (78, 51601), (80, 51592), (81, 51586), (85, 51535),

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

Candidate Starts for JAMaL_52:

(Start: 6 @52342 has 21 MA's), (11, 52318), (Start: 24 @52183 has 2 MA's), (48, 52030), (53, 52000), (56, 51973), (58, 51955), (64, 51889), (65, 51868), (69, 51817), (70, 51814), (75, 51784), (78, 51772), (80, 51763), (81, 51757), (85, 51706),

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

Candidate Starts for JaguarMi_54:

(Start: 6 @53280 has 21 MA's), (11, 53256), (Start: 24 @53121 has 2 MA's), (50, 52950), (53, 52938), (57, 52902), (58, 52893), (64, 52812), (69, 52740), (70, 52737), (75, 52707), (78, 52695), (80, 52686), (81, 52680), (85, 52629),

Gene: JoyceMaria_52 Start: 52113, Stop: 51367, Start Num: 6

Candidate Starts for JoyceMaria_52:

(Start: 6 @52113 has 21 MA's), (11, 52089), (Start: 24 @51954 has 2 MA's), (53, 51717), (56, 51690), (58, 51672), (69, 51534), (70, 51531), (75, 51501), (78, 51489), (80, 51480), (81, 51474), (85, 51423),

Gene: KarasumaRum_57 Start: 52746, Stop: 52102, Start Num: 20

Candidate Starts for KarasumaRum_57:

(Start: 20 @52746 has 1 MA's), (Start: 28 @52632 has 1 MA's), (41, 52551), (42, 52548), (45, 52530), (46, 52521), (57, 52425), (70, 52278), (77, 52221),

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

Candidate Starts for Lambano_51:

(Start: 6 @51178 has 21 MA's), (11, 51154), (Start: 24 @51019 has 2 MA's), (49, 50860), (53, 50836), (56, 50809), (58, 50791), (64, 50725), (65, 50704), (69, 50653), (70, 50650), (75, 50620), (78, 50608), (80, 50599), (81, 50593), (85, 50542),

Gene: LittleDigger_51 Start: 51191, Stop: 50499, Start Num: 6

Candidate Starts for LittleDigger_51:

(Start: 6 @51191 has 21 MA's), (11, 51167), (Start: 24 @51032 has 2 MA's), (44, 50924), (49, 50873), (53, 50849), (56, 50822), (58, 50804), (64, 50738), (65, 50717), (69, 50666), (70, 50663), (75, 50633), (78, 50621), (80, 50612), (81, 50606), (85, 50555),

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

Candidate Starts for Lolalove_53:

(Start: 6 @52193 has 21 MA's), (11, 52169), (Start: 24 @52034 has 2 MA's), (49, 51821), (53, 51797), (56, 51770), (58, 51752), (64, 51686), (65, 51665), (69, 51614), (70, 51611), (75, 51581), (78, 51569), (80, 51560), (81, 51554), (85, 51503),

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

Candidate Starts for Magpie_51:

(Start: 6 @52088 has 21 MA's), (11, 52064), (Start: 24 @51929 has 2 MA's), (26, 51890), (32, 51812), (49, 51674), (53, 51650), (56, 51623), (58, 51605), (64, 51539), (65, 51518), (69, 51467), (70, 51464), (75, 51434), (78, 51422), (80, 51413), (85, 51356),

Gene: Mesh1_61 Start: 52743, Stop: 52129, Start Num: 15

Candidate Starts for Mesh1_61:

(7, 52809), (13, 52755), (Start: 15 @52743 has 1 MA's), (18, 52716), (19, 52698), (23, 52644), (34, 52611), (38, 52578), (52, 52485), (67, 52323), (68, 52311), (74, 52284), (86, 52161),

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

Candidate Starts for Mithril_52:

(Start: 6 @52185 has 21 MA's), (11, 52161), (Start: 24 @52026 has 2 MA's), (45, 51858), (53, 51789), (56, 51762), (58, 51744), (69, 51606), (70, 51603), (75, 51573), (78, 51561), (80, 51552), (81, 51546), (85, 51495),

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

Candidate Starts for Mudslide_52:

(Start: 6 @52443 has 21 MA's), (11, 52419), (Start: 24 @52284 has 2 MA's), (44, 52122), (49, 52071), (53, 52047), (56, 52020), (58, 52002), (64, 51936), (65, 51915), (69, 51864), (70, 51861), (75, 51831), (78, 51819), (80, 51810), (81, 51804), (85, 51753),

Gene: Mysterious_55 Start: 52741, Stop: 52097, Start Num: 10

Candidate Starts for Mysterious_55:

(Start: 10 @52741 has 7 MA's), (Start: 28 @52615 has 1 MA's), (50, 52447), (57, 52423), (70, 52273), (73, 52258), (77, 52216),

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

Candidate Starts for Nanao_51:

(Start: 6 @51168 has 21 MA's), (11, 51144), (Start: 24 @51009 has 2 MA's), (49, 50850), (53, 50826), (56, 50799), (58, 50781), (64, 50715), (65, 50694), (69, 50643), (70, 50640), (75, 50610), (78, 50598), (80, 50589), (81, 50583), (85, 50532),

Gene: Nangang_57 Start: 52928, Stop: 52311, Start Num: 20

Candidate Starts for Nangang_57:

(Start: 20 @52928 has 1 MA's), (27, 52817), (29, 52811), (40, 52748), (41, 52739), (57, 52637), (70, 52487), (77, 52430),

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

Candidate Starts for Nehemiah_56:

(Start: 10 @52741 has 7 MA's), (Start: 28 @52615 has 1 MA's), (50, 52447), (57, 52423), (70, 52273), (73, 52258), (77, 52216),

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

Candidate Starts for Phelemich_55:

(Start: 10 @52737 has 7 MA's), (Start: 28 @52611 has 1 MA's), (33, 52566), (50, 52443), (51, 52440), (57, 52419), (70, 52272), (72, 52260), (77, 52215),

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

Candidate Starts for Poster_51:

(Start: 6 @51169 has 21 MA's), (11, 51145), (Start: 24 @51010 has 2 MA's), (49, 50851), (53, 50827), (56, 50800), (58, 50782), (64, 50716), (65, 50695), (69, 50644), (70, 50641), (75, 50611), (78, 50599), (80, 50590), (81, 50584), (85, 50533),

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

Candidate Starts for Prince_52:

(Start: 6 @52350 has 21 MA's), (11, 52326), (Start: 24 @52191 has 2 MA's), (44, 52029), (49, 51978), (53, 51954), (56, 51927), (58, 51909), (64, 51843), (65, 51822), (69, 51771), (70, 51768), (75, 51738), (78, 51726), (80, 51717), (81, 51711), (85, 51660),

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

Candidate Starts for QueenPie_50:

(Start: 5 @51875 has 1 MA's), (Start: 6 @51863 has 21 MA's), (Start: 24 @51719 has 2 MA's), (44, 51620), (49, 51569), (56, 51518), (58, 51500), (64, 51434), (65, 51413), (69, 51362), (70, 51359), (75, 51329), (78, 51317), (80, 51308), (81, 51302), (85, 51251),

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

Candidate Starts for RawrgerThat_53:

(Start: 6 @52205 has 21 MA's), (11, 52181), (Start: 24 @52046 has 2 MA's), (49, 51887), (56, 51836), (58, 51818), (64, 51752), (65, 51731), (69, 51680), (70, 51677), (75, 51647), (78, 51635), (80, 51626), (81, 51620), (85, 51569),

Gene: Renkei_51 Start: 51185, Stop: 50493, Start Num: 6

Candidate Starts for Renkei_51:

(Start: 6 @51185 has 21 MA's), (11, 51161), (Start: 24 @51026 has 2 MA's), (44, 50918), (49, 50867), (53, 50843), (56, 50816), (58, 50798), (64, 50732), (65, 50711), (69, 50660), (70, 50657), (75, 50627), (78, 50615), (80, 50606), (81, 50600), (85, 50549),

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

Candidate Starts for Reprobate_56:

(Start: 10 @52742 has 7 MA's), (Start: 28 @52616 has 1 MA's), (33, 52571), (50, 52448), (51, 52445), (57, 52424), (70, 52277), (72, 52265), (77, 52220),

Gene: Rich_57 Start: 53862, Stop: 53494, Start Num: 28

Candidate Starts for Rich_57:

(Start: 10 @53979 has 7 MA's), (27, 53865), (Start: 28 @53862 has 1 MA's), (57, 53793), (69, 53658), (78, 53613),

Gene: Rinkes_55 Start: 52581, Stop: 52141, Start Num: 24

Candidate Starts for Rinkes_55:

(Start: 24 @52581 has 2 MA's), (60, 52422), (74, 52290), (76, 52269), (79, 52260), (83, 52206), (84, 52200),

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

Candidate Starts for Serendipitous_55:

(Start: 10 @51901 has 7 MA's), (14, 51865), (Start: 28 @51808 has 1 MA's), (33, 51763), (51, 51637), (65, 51532), (66, 51514), (70, 51478), (75, 51448), (85, 51370),

Gene: Shenyu_57 Start: 52961, Stop: 52323, Start Num: 20

Candidate Starts for Shenyu_57:

(17, 52985), (Start: 20 @52961 has 1 MA's), (Start: 28 @52844 has 1 MA's), (31, 52802), (40, 52757), (43, 52736), (57, 52646), (70, 52499), (77, 52442),

Gene: SirJeffery_56 Start: 52558, Stop: 51962, Start Num: 22

Candidate Starts for SirJeffery_56:

(Start: 10 @52672 has 7 MA's), (22, 52558), (57, 52279), (70, 52138), (77, 52081),

Gene: Stinger_52 Start: 50893, Stop: 50213, Start Num: 5

Candidate Starts for Stinger_52:

(1, 51100), (4, 50905), (Start: 5 @50893 has 1 MA's), (11, 50854), (Start: 24 @50725 has 2 MA's), (44, 50638), (47, 50614), (53, 50563), (58, 50518), (69, 50380), (70, 50377), (75, 50347), (78, 50335), (80, 50326), (81, 50320), (85, 50269),

Gene: StinkyVeggy_57 Start: 52746, Stop: 52102, Start Num: 20

Candidate Starts for StinkyVeggy_57:

(Start: 20 @52746 has 1 MA's), (Start: 28 @52632 has 1 MA's), (41, 52551), (42, 52548), (45, 52530), (46, 52521), (57, 52425), (70, 52278), (77, 52221),

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

Candidate Starts for Suigeneris_58:

(Start: 10 @52838 has 7 MA's), (Start: 28 @52721 has 1 MA's), (43, 52619), (57, 52529), (70, 52388), (77, 52331),

Gene: Vincenzo_54 Start: 53132, Stop: 52305, Start Num: 2

Candidate Starts for Vincenzo_54:

(Start: 2 @53132 has 2 MA's), (3, 53126), (8, 52991), (12, 52958), (21, 52850), (25, 52808), (35, 52772), (37, 52757), (54, 52646), (55, 52634), (59, 52604), (62, 52568), (70, 52469), (75, 52439), (78, 52427), (79, 52424), (82, 52397), (84, 52364),

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

Candidate Starts for VioletZ_54:

(Start: 6 @52269 has 21 MA's), (11, 52245), (Start: 24 @52110 has 2 MA's), (45, 51942), (53, 51873), (56, 51846), (58, 51828), (69, 51690), (70, 51687), (75, 51657), (78, 51645), (80, 51636), (81, 51630), (85, 51579),

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

Candidate Starts for Waleliano_52:

(Start: 6 @52222 has 21 MA's), (11, 52198), (Start: 24 @52063 has 2 MA's), (26, 52012), (32, 51937), (53, 51775), (56, 51748), (58, 51730), (69, 51592), (70, 51589), (75, 51559), (78, 51547), (81, 51532), (85, 51481),

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

Candidate Starts for Xincheng_53:

(Start: 6 @53256 has 21 MA's), (11, 53232), (Start: 24 @53097 has 2 MA's), (50, 52926), (53, 52914), (57, 52878), (58, 52869), (64, 52788), (69, 52716), (70, 52713), (75, 52683), (78, 52671), (80, 52662), (81, 52656), (85, 52605),

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

Candidate Starts for Zemanar_53:

(Start: 6 @52057 has 21 MA's), (Start: 24 @51910 has 2 MA's), (44, 51820), (45, 51814), (64, 51634), (65, 51613), (69, 51562), (70, 51559), (71, 51556), (75, 51529), (78, 51517), (85, 51451),