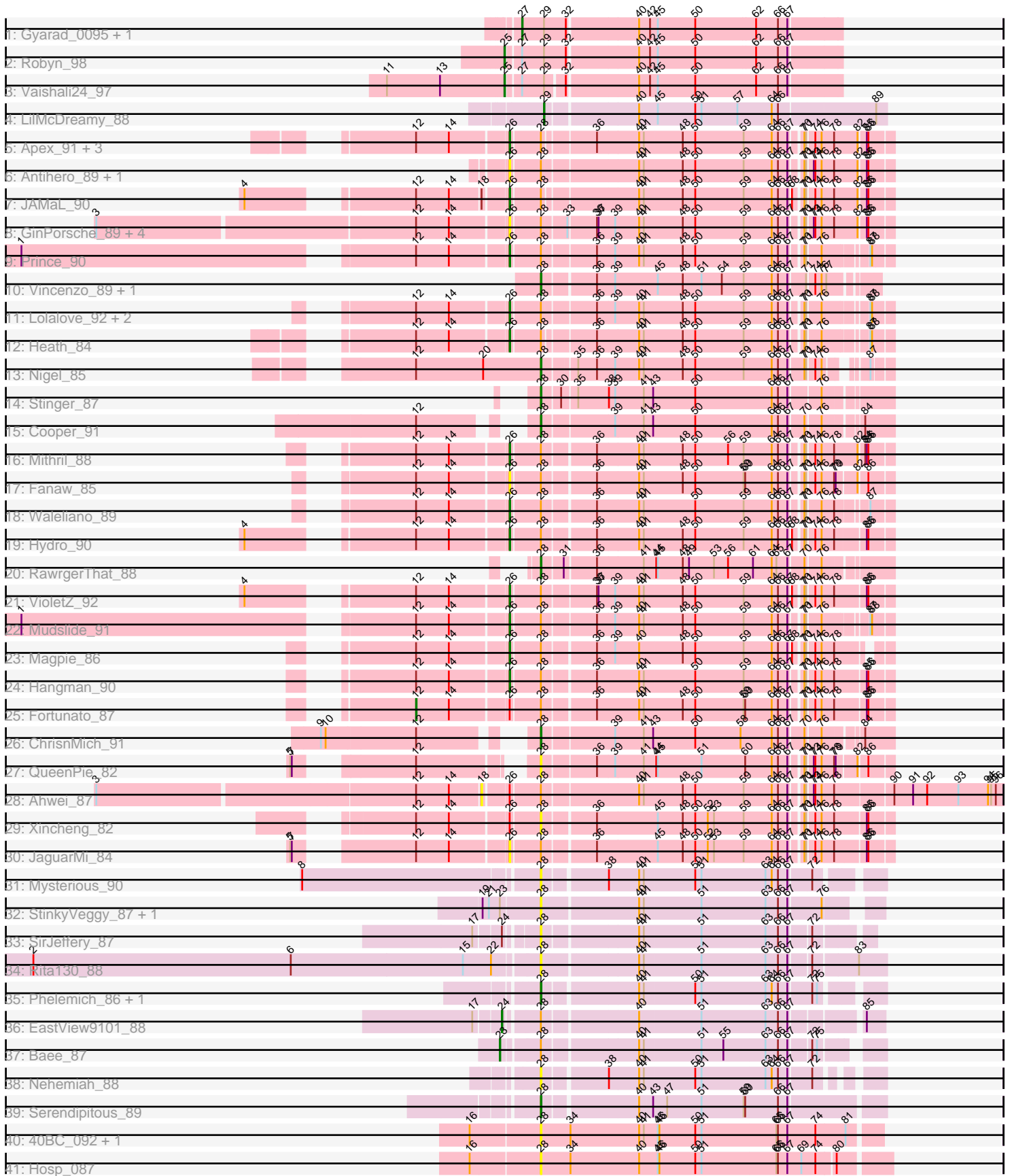


Pham 200296



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 200296 Report

This analysis was run 01/18/25 on database version 583.

Pham number 200296 has 56 members, 21 are drafts.

Phages represented in each track:

- Track 1 : Gyarad_0095, Vivaldi_97
- Track 2 : Robyn_98
- Track 3 : Vaishali24_97
- Track 4 : LilMcDreamy_88
- Track 5 : Apex_91, Frederick_91, BobbyK_90, Zemanar_88
- Track 6 : Antihero_89, Epah_89
- Track 7 : JAMaL_90
- Track 8 : GinPorsche_89, Nanao_89, Poster_88, Lambano_87, Hally898_87
- Track 9 : Prince_90
- Track 10 : Vincenzo_89, AlanGrant_90
- Track 11 : Lolalove_92, BrownCNA_90, Austelle_90
- Track 12 : Heath_84
- Track 13 : Nigel_85
- Track 14 : Stinger_87
- Track 15 : Cooper_91
- Track 16 : Mithril_88
- Track 17 : Fanaw_85
- Track 18 : Waleliano_89
- Track 19 : Hydro_90
- Track 20 : RawrgerThat_88
- Track 21 : VioletZ_92
- Track 22 : Mudslide_91
- Track 23 : Magpie_86
- Track 24 : Hangman_90
- Track 25 : Fortunato_87
- Track 26 : ChrisnMich_91
- Track 27 : QueenPie_82
- Track 28 : Ahwei_87
- Track 29 : Xincheng_82
- Track 30 : JaguarMi_84
- Track 31 : Mysterious_90
- Track 32 : StinkyVeggy_87, KarasumaRum_87
- Track 33 : SirJeffery_87
- Track 34 : Rita130_88
- Track 35 : Phelemich_86, Reprobate_88
- Track 36 : EastView9101_88
- Track 37 : Bae_87

- Track 38 : Nehemiah_88
- Track 39 : Serendipitous_89
- Track 40 : 40BC_092, 39HC_092
- Track 41 : Hosp_087

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

The start number called the most often in the published annotations is 26, it was called in 17 of the 35 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Antihero_89, Apex_91, Austelle_90, BobbyK_90, BrownCNA_90, Epah_89, Fanaw_85, Frederick_91, GinPorsche_89, Hally898_87, Hangman_90, Heath_84, Hydro_90, JAMaL_90, JaguarMi_84, Lambano_87, Lolalove_92, Magpie_86, Mithril_88, Mudslide_91, Nanao_89, Poster_88, Prince_90, VioletZ_92, Waleliano_89, Zemanar_88,

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

- Ahwei_87, Fortunato_87, Xincheng_82,

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

- 39HC_092, 40BC_092, AlanGrant_90, Bae_87, ChrisnMich_91, Cooper_91, EastView9101_88, Gyarad_0095, Hosp_087, KarasumaRum_87, LilMcDreamy_88, Mysterious_90, Nehemiah_88, Nigel_85, Phelemich_86, QueenPie_82, RawrgerThat_88, Reprobate_88, Rita130_88, Robyn_98, Serendipitous_89, SirJeffery_87, Stinger_87, StinkyVeggy_87, Vaishali24_97, Vincenzo_89, Vivaldi_97,

Summary by start number:

Start 12:

- Found in 31 of 56 (55.4%) of genes in pham
- Manual Annotations of this start: 1 of 35
- Called 3.2% of time when present
- Phage (with cluster) where this start called: Fortunato_87 (B4),

Start 18:

- Found in 2 of 56 (3.6%) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Ahwei_87 (B4),

Start 23:

- Found in 3 of 56 (5.4%) of genes in pham
- Manual Annotations of this start: 1 of 35
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Bae_87 (B5),

Start 24:

- Found in 2 of 56 (3.6%) of genes in pham
- Manual Annotations of this start: 1 of 35

- Called 50.0% of time when present
- Phage (with cluster) where this start called: EastView9101_88 (B5),

Start 25:

- Found in 2 of 56 (3.6%) of genes in pham
- Manual Annotations of this start: 2 of 35
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Robyn_98 (B1), Vaishali24_97 (B1),

Start 26:

- Found in 29 of 56 (51.8%) of genes in pham
- Manual Annotations of this start: 17 of 35
- Called 89.7% of time when present
- Phage (with cluster) where this start called: Antihero_89 (B4), Apex_91 (B4), Austelle_90 (B4), BobbyK_90 (B4), BrownCNA_90 (B4), Epah_89 (B4), Fanaw_85 (B4), Frederick_91 (B4), GinPorsche_89 (B4), Hally898_87 (B4), Hangman_90 (B4), Heath_84 (B4), Hydro_90 (B4), JAMaL_90 (B4), JaguarMi_84 (B4), Lambano_87 (B4), Lolalove_92 (B4), Magpie_86 (B4), Mithril_88 (B4), Mudslide_91 (B4), Nanao_89 (B4), Poster_88 (B4), Prince_90 (B4), VioletZ_92 (B4), Waleliano_89 (B4), Zemanar_88 (B4),

Start 27:

- Found in 4 of 56 (7.1%) of genes in pham
- Manual Annotations of this start: 2 of 35
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Gyarad_0095 (B1), Vivaldi_97 (B1),

Start 28:

- Found in 51 of 56 (91.1%) of genes in pham
- Manual Annotations of this start: 10 of 35
- Called 41.2% of time when present
- Phage (with cluster) where this start called: 39HC_092 (B6), 40BC_092 (B6), AlanGrant_90 (B4), ChrisnMich_91 (B4), Cooper_91 (B4), Hosp_087 (B6), KarasumaRum_87 (B5), Mysterious_90 (B5), Nehemiah_88 (B5), Nigel_85 (B4), Phelemich_86 (B5), QueenPie_82 (B4), RawrgerThat_88 (B4), Reprobate_88 (B5), Rita130_88 (B5), Serendipitous_89 (B5), SirJeffery_87 (B5), Stinger_87 (B4), StinkyVeggy_87 (B5), Vincenzo_89 (B4), Xincheng_82 (B4),

Start 29:

- Found in 5 of 56 (8.9%) of genes in pham
- Manual Annotations of this start: 1 of 35
- Called 20.0% of time when present
- Phage (with cluster) where this start called: LilMcDreamy_88 (B12),

Summary by clusters:

There are 5 clusters represented in this pham: B4, B5, B6, B12, B1,

Info for manual annotations of cluster B1:

- Start number 25 was manually annotated 2 times for cluster B1.
- Start number 27 was manually annotated 2 times for cluster B1.

Info for manual annotations of cluster B12:

- Start number 29 was manually annotated 1 time for cluster B12.

Info for manual annotations of cluster B4:

- Start number 12 was manually annotated 1 time for cluster B4.
- Start number 26 was manually annotated 17 times for cluster B4.
- Start number 28 was manually annotated 7 times for cluster B4.

Info for manual annotations of cluster B5:

- Start number 23 was manually annotated 1 time for cluster B5.
- Start number 24 was manually annotated 1 time for cluster B5.
- Start number 28 was manually annotated 3 times for cluster B5.

Gene Information:

Gene: 39HC_092 Start: 66926, Stop: 66300, Start Num: 28

Candidate Starts for 39HC_092:

(16, 67055), (Start: 28 @66926 has 10 MA's), (34, 66869), (40, 66740), (41, 66731), (45, 66710), (46, 66707), (50, 66638), (51, 66626), (65, 66485), (66, 66482), (67, 66464), (74, 66413), (81, 66356),

Gene: 40BC_092 Start: 66926, Stop: 66300, Start Num: 28

Candidate Starts for 40BC_092:

(16, 67055), (Start: 28 @66926 has 10 MA's), (34, 66869), (40, 66740), (41, 66731), (45, 66710), (46, 66707), (50, 66638), (51, 66626), (65, 66485), (66, 66482), (67, 66464), (74, 66413), (81, 66356),

Gene: Ahwei_87 Start: 66494, Stop: 65571, Start Num: 18

Candidate Starts for Ahwei_87:

(3, 67208), (Start: 12 @66614 has 1 MA's), (14, 66551), (18, 66494), (Start: 26 @66452 has 17 MA's), (Start: 28 @66401 has 10 MA's), (40, 66230), (41, 66221), (48, 66149), (50, 66125), (59, 66032), (64, 65981), (66, 65969), (67, 65951), (70, 65933), (71, 65930), (73, 65921), (74, 65918), (76, 65906), (78, 65882), (90, 65780), (91, 65744), (92, 65717), (93, 65657), (94, 65600), (95, 65594), (96, 65585),

Gene: AlanGrant_90 Start: 68004, Stop: 67411, Start Num: 28

Candidate Starts for AlanGrant_90:

(Start: 28 @68004 has 10 MA's), (36, 67911), (39, 67878), (45, 67800), (48, 67752), (51, 67716), (54, 67677), (59, 67635), (64, 67584), (66, 67572), (67, 67554), (71, 67524), (74, 67512), (76, 67500), (77, 67491),

Gene: Antihero_89 Start: 66371, Stop: 65703, Start Num: 26

Candidate Starts for Antihero_89:

(Start: 26 @66371 has 17 MA's), (Start: 28 @66320 has 10 MA's), (40, 66152), (41, 66143), (48, 66071), (50, 66047), (59, 65954), (64, 65903), (66, 65891), (67, 65873), (70, 65855), (71, 65852), (73, 65843), (74, 65840), (76, 65828), (78, 65804), (82, 65759), (85, 65747), (86, 65744),

Gene: Apex_91 Start: 67472, Stop: 66804, Start Num: 26

Candidate Starts for Apex_91:

(Start: 12 @67640 has 1 MA's), (14, 67577), (Start: 26 @67472 has 17 MA's), (Start: 28 @67421 has 10 MA's), (36, 67331), (40, 67253), (41, 67244), (48, 67172), (50, 67148), (59, 67055), (64, 67004), (66, 66992), (67, 66974), (70, 66956), (71, 66953), (74, 66941), (76, 66929), (78, 66905), (82, 66860), (85, 66848), (86, 66845),

Gene: Austelle_90 Start: 68073, Stop: 67420, Start Num: 26

Candidate Starts for Austelle_90:

(Start: 12 @68241 has 1 MA's), (14, 68178), (Start: 26 @68073 has 17 MA's), (Start: 28 @68022 has 10 MA's), (36, 67929), (39, 67896), (40, 67851), (41, 67842), (48, 67770), (50, 67746), (59, 67653), (64, 67602), (66, 67590), (67, 67572), (70, 67554), (71, 67551), (76, 67527), (87, 67455), (88, 67452),

Gene: Bae_87 Start: 66191, Stop: 65547, Start Num: 23

Candidate Starts for Bae_87:

(Start: 23 @66191 has 1 MA's), (Start: 28 @66128 has 10 MA's), (40, 65963), (41, 65954), (51, 65846), (55, 65804), (63, 65729), (66, 65705), (67, 65687), (72, 65651), (75, 65642),

Gene: BobbyK_90 Start: 66980, Stop: 66312, Start Num: 26

Candidate Starts for BobbyK_90:

(Start: 12 @67148 has 1 MA's), (14, 67085), (Start: 26 @66980 has 17 MA's), (Start: 28 @66929 has 10 MA's), (36, 66839), (40, 66761), (41, 66752), (48, 66680), (50, 66656), (59, 66563), (64, 66512), (66, 66500), (67, 66482), (70, 66464), (71, 66461), (74, 66449), (76, 66437), (78, 66413), (82, 66368), (85, 66356), (86, 66353),

Gene: BrownCNA_90 Start: 67488, Stop: 66835, Start Num: 26

Candidate Starts for BrownCNA_90:

(Start: 12 @67656 has 1 MA's), (14, 67593), (Start: 26 @67488 has 17 MA's), (Start: 28 @67437 has 10 MA's), (36, 67344), (39, 67311), (40, 67266), (41, 67257), (48, 67185), (50, 67161), (59, 67068), (64, 67017), (66, 67005), (67, 66987), (70, 66969), (71, 66966), (76, 66942), (87, 66870), (88, 66867),

Gene: ChrisnMich_91 Start: 66059, Stop: 65439, Start Num: 28

Candidate Starts for ChrisnMich_91:

(9, 66395), (10, 66386), (Start: 12 @66218 has 1 MA's), (Start: 28 @66059 has 10 MA's), (39, 65930), (41, 65876), (43, 65858), (50, 65780), (58, 65693), (64, 65636), (66, 65624), (67, 65606), (70, 65579), (76, 65552), (84, 65492),

Gene: Cooper_91 Start: 66596, Stop: 65976, Start Num: 28

Candidate Starts for Cooper_91:

(Start: 12 @66749 has 1 MA's), (Start: 28 @66596 has 10 MA's), (39, 66467), (41, 66413), (43, 66395), (50, 66317), (64, 66173), (66, 66161), (67, 66143), (70, 66116), (76, 66089), (84, 66029),

Gene: EastView9101_88 Start: 65729, Stop: 65082, Start Num: 24

Candidate Starts for EastView9101_88:

(17, 65771), (Start: 24 @65729 has 1 MA's), (Start: 28 @65675 has 10 MA's), (40, 65510), (51, 65393), (63, 65276), (66, 65252), (67, 65234), (85, 65117),

Gene: Epah_89 Start: 66371, Stop: 65703, Start Num: 26

Candidate Starts for Epah_89:

(Start: 26 @66371 has 17 MA's), (Start: 28 @66320 has 10 MA's), (40, 66152), (41, 66143), (48, 66071), (50, 66047), (59, 65954), (64, 65903), (66, 65891), (67, 65873), (70, 65855), (71, 65852), (73, 65843), (74, 65840), (76, 65828), (78, 65804), (82, 65759), (85, 65747), (86, 65744),

Gene: Fanaw_85 Start: 67084, Stop: 66422, Start Num: 26

Candidate Starts for Fanaw_85:

(Start: 12 @67252 has 1 MA's), (14, 67189), (Start: 26 @67084 has 17 MA's), (Start: 28 @67033 has 10 MA's), (36, 66943), (40, 66865), (41, 66856), (48, 66784), (50, 66760), (59, 66667), (60, 66664), (64, 66616), (66, 66604), (67, 66586), (70, 66568), (71, 66565), (74, 66553), (76, 66541), (78, 66517), (79, 66514), (82, 66478), (86, 66463),

Gene: Fortunato_87 Start: 66949, Stop: 66113, Start Num: 12

Candidate Starts for Fortunato_87:

(Start: 12 @66949 has 1 MA's), (14, 66886), (Start: 26 @66781 has 17 MA's), (Start: 28 @66730 has 10 MA's), (36, 66640), (40, 66562), (41, 66553), (48, 66481), (50, 66457), (59, 66364), (60, 66361), (64, 66313), (66, 66301), (67, 66283), (70, 66265), (71, 66262), (74, 66250), (76, 66238), (78, 66214), (85, 66157), (86, 66154),

Gene: Frederick_91 Start: 67286, Stop: 66618, Start Num: 26

Candidate Starts for Frederick_91:

(Start: 12 @67454 has 1 MA's), (14, 67391), (Start: 26 @67286 has 17 MA's), (Start: 28 @67235 has 10 MA's), (36, 67145), (40, 67067), (41, 67058), (48, 66986), (50, 66962), (59, 66869), (64, 66818), (66, 66806), (67, 66788), (70, 66770), (71, 66767), (74, 66755), (76, 66743), (78, 66719), (82, 66674), (85, 66662), (86, 66659),

Gene: GinPorsche_89 Start: 66368, Stop: 65700, Start Num: 26

Candidate Starts for GinPorsche_89:

(3, 67130), (Start: 12 @66536 has 1 MA's), (14, 66473), (Start: 26 @66368 has 17 MA's), (Start: 28 @66317 has 10 MA's), (33, 66278), (36, 66227), (37, 66224), (39, 66194), (40, 66149), (41, 66140), (48, 66068), (50, 66044), (59, 65951), (64, 65900), (66, 65888), (67, 65870), (70, 65852), (71, 65849), (73, 65840), (74, 65837), (76, 65825), (78, 65801), (82, 65756), (85, 65744), (86, 65741),

Gene: Gyarad_0095 Start: 66382, Stop: 65804, Start Num: 27

Candidate Starts for Gyarad_0095:

(Start: 27 @66382 has 2 MA's), (Start: 29 @66343 has 1 MA's), (32, 66301), (40, 66175), (42, 66154), (45, 66142), (50, 66070), (62, 65956), (66, 65917), (67, 65899),

Gene: Hally898_87 Start: 66208, Stop: 65540, Start Num: 26

Candidate Starts for Hally898_87:

(3, 66970), (Start: 12 @66376 has 1 MA's), (14, 66313), (Start: 26 @66208 has 17 MA's), (Start: 28 @66157 has 10 MA's), (33, 66118), (36, 66067), (37, 66064), (39, 66034), (40, 65989), (41, 65980), (48, 65908), (50, 65884), (59, 65791), (64, 65740), (66, 65728), (67, 65710), (70, 65692), (71, 65689), (73, 65680), (74, 65677), (76, 65665), (78, 65641), (82, 65596), (85, 65584), (86, 65581),

Gene: Hangman_90 Start: 67581, Stop: 66913, Start Num: 26

Candidate Starts for Hangman_90:

(Start: 12 @67749 has 1 MA's), (14, 67686), (Start: 26 @67581 has 17 MA's), (Start: 28 @67530 has 10 MA's), (36, 67440), (40, 67362), (41, 67353), (50, 67257), (59, 67164), (64, 67113), (66, 67101), (67, 67083), (70, 67065), (71, 67062), (74, 67050), (76, 67038), (78, 67014), (85, 66957), (86, 66954),

Gene: Heath_84 Start: 65351, Stop: 64701, Start Num: 26

Candidate Starts for Heath_84:

(Start: 12 @65519 has 1 MA's), (14, 65456), (Start: 26 @65351 has 17 MA's), (Start: 28 @65300 has 10 MA's), (36, 65210), (40, 65132), (41, 65123), (48, 65051), (50, 65027), (59, 64934), (64, 64883), (66, 64871), (67, 64853), (70, 64835), (71, 64832), (76, 64808), (87, 64736), (88, 64733),

Gene: Hosp_087 Start: 64231, Stop: 63587, Start Num: 28

Candidate Starts for Hosp_087:

(16, 64360), (Start: 28 @64231 has 10 MA's), (34, 64174), (40, 64045), (45, 64015), (46, 64012), (50, 63943), (51, 63931), (65, 63790), (66, 63787), (67, 63769), (69, 63742), (74, 63715), (80, 63682),

Gene: Hydro_90 Start: 67357, Stop: 66692, Start Num: 26

Candidate Starts for Hydro_90:

(4, 67777), (Start: 12 @67525 has 1 MA's), (14, 67462), (Start: 26 @67357 has 17 MA's), (Start: 28 @67306 has 10 MA's), (36, 67216), (40, 67138), (41, 67129), (48, 67057), (50, 67033), (59, 66940), (64, 66889), (66, 66877), (67, 66859), (68, 66856), (70, 66841), (71, 66838), (74, 66826), (76, 66814), (78, 66790), (85, 66736), (86, 66733),

Gene: JAMaL_90 Start: 66895, Stop: 66227, Start Num: 26

Candidate Starts for JAMaL_90:

(4, 67309), (Start: 12 @67057 has 1 MA's), (14, 66994), (18, 66937), (Start: 26 @66895 has 17 MA's), (Start: 28 @66844 has 10 MA's), (40, 66676), (41, 66667), (48, 66595), (50, 66571), (59, 66478), (64, 66427), (66, 66415), (67, 66397), (68, 66394), (70, 66379), (71, 66376), (74, 66364), (76, 66352), (78, 66328), (82, 66283), (85, 66271), (86, 66268),

Gene: JaguarMi_84 Start: 67336, Stop: 66665, Start Num: 26

Candidate Starts for JaguarMi_84:

(5, 67675), (7, 67672), (Start: 12 @67504 has 1 MA's), (14, 67441), (Start: 26 @67336 has 17 MA's), (Start: 28 @67285 has 10 MA's), (36, 67195), (45, 67081), (48, 67033), (50, 67009), (52, 66985), (53, 66973), (59, 66916), (64, 66865), (66, 66853), (67, 66835), (70, 66817), (71, 66814), (74, 66802), (76, 66790), (78, 66766), (85, 66712), (86, 66709),

Gene: KarasumaRum_87 Start: 65724, Stop: 65134, Start Num: 28

Candidate Starts for KarasumaRum_87:

(19, 65826), (21, 65814), (Start: 23 @65796 has 1 MA's), (Start: 28 @65724 has 10 MA's), (40, 65550), (41, 65541), (51, 65433), (63, 65316), (66, 65292), (67, 65274), (76, 65217),

Gene: Lambano_87 Start: 66208, Stop: 65540, Start Num: 26

Candidate Starts for Lambano_87:

(3, 66970), (Start: 12 @66376 has 1 MA's), (14, 66313), (Start: 26 @66208 has 17 MA's), (Start: 28 @66157 has 10 MA's), (33, 66118), (36, 66067), (37, 66064), (39, 66034), (40, 65989), (41, 65980), (48, 65908), (50, 65884), (59, 65791), (64, 65740), (66, 65728), (67, 65710), (70, 65692), (71, 65689), (73, 65680), (74, 65677), (76, 65665), (78, 65641), (82, 65596), (85, 65584), (86, 65581),

Gene: LilMcDreamy_88 Start: 66128, Stop: 65508, Start Num: 29

Candidate Starts for LilMcDreamy_88:

(Start: 29 @66128 has 1 MA's), (40, 65966), (45, 65933), (50, 65861), (51, 65849), (57, 65780), (64, 65717), (66, 65705), (89, 65528),

Gene: Lolalove_92 Start: 67385, Stop: 66732, Start Num: 26

Candidate Starts for Lolalove_92:

(Start: 12 @67553 has 1 MA's), (14, 67490), (Start: 26 @67385 has 17 MA's), (Start: 28 @67334 has 10 MA's), (36, 67241), (39, 67208), (40, 67163), (41, 67154), (48, 67082), (50, 67058), (59, 66965), (64, 66914), (66, 66902), (67, 66884), (70, 66866), (71, 66863), (76, 66839), (87, 66767), (88, 66764),

Gene: Magpie_86 Start: 67131, Stop: 66481, Start Num: 26

Candidate Starts for Magpie_86:

(Start: 12 @67299 has 1 MA's), (14, 67236), (Start: 26 @67131 has 17 MA's), (Start: 28 @67080 has 10 MA's), (36, 66990), (39, 66957), (40, 66912), (48, 66831), (50, 66807), (59, 66714), (64, 66663), (66, 66651), (67, 66633), (68, 66630), (70, 66615), (71, 66612), (74, 66600), (76, 66588), (78, 66564),

Gene: Mithril_88 Start: 67142, Stop: 66471, Start Num: 26

Candidate Starts for Mithril_88:

(Start: 12 @67310 has 1 MA's), (14, 67247), (Start: 26 @67142 has 17 MA's), (Start: 28 @67091 has 10 MA's), (36, 67001), (40, 66923), (41, 66914), (48, 66842), (50, 66818), (56, 66755), (59, 66725), (64, 66674), (66, 66662), (67, 66644), (70, 66626), (71, 66623), (74, 66611), (76, 66599), (78, 66575),

(82, 66530), (84, 66521), (85, 66518), (86, 66515),

Gene: Mudslide_91 Start: 67615, Stop: 66962, Start Num: 26

Candidate Starts for Mudslide_91:

(1, 68467), (Start: 12 @67783 has 1 MA's), (14, 67720), (Start: 26 @67615 has 17 MA's), (Start: 28 @67564 has 10 MA's), (36, 67471), (39, 67438), (40, 67393), (41, 67384), (48, 67312), (50, 67288), (59, 67195), (64, 67144), (66, 67132), (67, 67114), (70, 67096), (71, 67093), (76, 67069), (87, 66997), (88, 66994),

Gene: Mysterious_90 Start: 65876, Stop: 65298, Start Num: 28

Candidate Starts for Mysterious_90:

(8, 66308), (Start: 28 @65876 has 10 MA's), (38, 65771), (40, 65714), (41, 65705), (50, 65609), (51, 65597), (63, 65480), (64, 65468), (66, 65456), (67, 65438), (72, 65399),

Gene: Nanao_89 Start: 66221, Stop: 65553, Start Num: 26

Candidate Starts for Nanao_89:

(3, 66983), (Start: 12 @66389 has 1 MA's), (14, 66326), (Start: 26 @66221 has 17 MA's), (Start: 28 @66170 has 10 MA's), (33, 66131), (36, 66080), (37, 66077), (39, 66047), (40, 66002), (41, 65993), (48, 65921), (50, 65897), (59, 65804), (64, 65753), (66, 65741), (67, 65723), (70, 65705), (71, 65702), (73, 65693), (74, 65690), (76, 65678), (78, 65654), (82, 65609), (85, 65597), (86, 65594),

Gene: Nehemiah_88 Start: 65744, Stop: 65178, Start Num: 28

Candidate Starts for Nehemiah_88:

(Start: 28 @65744 has 10 MA's), (38, 65639), (40, 65582), (41, 65573), (50, 65477), (51, 65465), (63, 65348), (64, 65336), (66, 65324), (67, 65306), (72, 65267),

Gene: Nigel_85 Start: 65605, Stop: 65015, Start Num: 28

Candidate Starts for Nigel_85:

(Start: 12 @65845 has 1 MA's), (20, 65716), (Start: 28 @65605 has 10 MA's), (35, 65548), (36, 65512), (39, 65479), (40, 65434), (41, 65425), (48, 65353), (50, 65329), (59, 65236), (64, 65185), (66, 65173), (67, 65155), (70, 65128), (71, 65125), (74, 65113), (76, 65101), (87, 65050),

Gene: Phelemich_86 Start: 65786, Stop: 65199, Start Num: 28

Candidate Starts for Phelemich_86:

(Start: 28 @65786 has 10 MA's), (40, 65621), (41, 65612), (50, 65516), (51, 65504), (63, 65387), (64, 65375), (66, 65363), (67, 65345), (72, 65306), (75, 65297),

Gene: Poster_88 Start: 66222, Stop: 65554, Start Num: 26

Candidate Starts for Poster_88:

(3, 66984), (Start: 12 @66390 has 1 MA's), (14, 66327), (Start: 26 @66222 has 17 MA's), (Start: 28 @66171 has 10 MA's), (33, 66132), (36, 66081), (37, 66078), (39, 66048), (40, 66003), (41, 65994), (48, 65922), (50, 65898), (59, 65805), (64, 65754), (66, 65742), (67, 65724), (70, 65706), (71, 65703), (73, 65694), (74, 65691), (76, 65679), (78, 65655), (82, 65610), (85, 65598), (86, 65595),

Gene: Prince_90 Start: 67482, Stop: 66829, Start Num: 26

Candidate Starts for Prince_90:

(1, 68334), (Start: 12 @67650 has 1 MA's), (14, 67587), (Start: 26 @67482 has 17 MA's), (Start: 28 @67431 has 10 MA's), (36, 67338), (39, 67305), (40, 67260), (41, 67251), (48, 67179), (50, 67155), (59, 67062), (64, 67011), (66, 66999), (67, 66981), (70, 66963), (71, 66960), (76, 66936), (87, 66864), (88, 66861),

Gene: QueenPie_82 Start: 65696, Stop: 65082, Start Num: 28

Candidate Starts for QueenPie_82:

(5, 66044), (7, 66041), (Start: 12 @65876 has 1 MA's), (Start: 28 @65696 has 10 MA's), (36, 65603), (39, 65570), (41, 65516), (44, 65495), (45, 65492), (51, 65408), (60, 65324), (64, 65276), (66, 65264), (67, 65246), (70, 65228), (71, 65225), (73, 65216), (74, 65213), (76, 65201), (78, 65177), (79, 65174), (82, 65138), (86, 65123),

Gene: RawrgerThat_88 Start: 66936, Stop: 66319, Start Num: 28

Candidate Starts for RawrgerThat_88:

(Start: 28 @66936 has 10 MA's), (31, 66900), (36, 66843), (41, 66756), (44, 66735), (45, 66732), (48, 66684), (49, 66672), (53, 66624), (56, 66597), (61, 66552), (64, 66516), (65, 66507), (67, 66486), (70, 66459), (76, 66432),

Gene: Reprobate_88 Start: 65791, Stop: 65204, Start Num: 28

Candidate Starts for Reprobate_88:

(Start: 28 @65791 has 10 MA's), (40, 65626), (41, 65617), (50, 65521), (51, 65509), (63, 65392), (64, 65380), (66, 65368), (67, 65350), (72, 65311), (75, 65302),

Gene: Rita130_88 Start: 65916, Stop: 65299, Start Num: 28

Candidate Starts for Rita130_88:

(2, 66870), (6, 66375), (15, 66045), (22, 65991), (Start: 28 @65916 has 10 MA's), (40, 65745), (41, 65736), (51, 65628), (63, 65511), (66, 65487), (67, 65469), (72, 65433), (83, 65352),

Gene: Robyn_98 Start: 67147, Stop: 66548, Start Num: 25

Candidate Starts for Robyn_98:

(Start: 25 @67147 has 2 MA's), (Start: 27 @67126 has 2 MA's), (Start: 29 @67087 has 1 MA's), (32, 67045), (40, 66919), (42, 66898), (45, 66886), (50, 66814), (62, 66700), (66, 66661), (67, 66643),

Gene: Serendipitous_89 Start: 65633, Stop: 65031, Start Num: 28

Candidate Starts for Serendipitous_89:

(Start: 28 @65633 has 10 MA's), (40, 65468), (43, 65444), (47, 65420), (51, 65354), (59, 65273), (60, 65270), (66, 65213), (67, 65195),

Gene: SirJeffery_87 Start: 65697, Stop: 65122, Start Num: 28

Candidate Starts for SirJeffery_87:

(17, 65790), (Start: 24 @65748 has 1 MA's), (Start: 28 @65697 has 10 MA's), (40, 65532), (41, 65523), (51, 65415), (63, 65298), (66, 65274), (67, 65256), (72, 65220),

Gene: Stinger_87 Start: 65601, Stop: 64981, Start Num: 28

Candidate Starts for Stinger_87:

(Start: 28 @65601 has 10 MA's), (30, 65568), (35, 65541), (38, 65484), (39, 65472), (41, 65418), (43, 65400), (50, 65322), (64, 65178), (66, 65166), (67, 65148), (76, 65094),

Gene: StinkyVeggy_87 Start: 65724, Stop: 65134, Start Num: 28

Candidate Starts for StinkyVeggy_87:

(19, 65826), (21, 65814), (Start: 23 @65796 has 1 MA's), (Start: 28 @65724 has 10 MA's), (40, 65550), (41, 65541), (51, 65433), (63, 65316), (66, 65292), (67, 65274), (76, 65217),

Gene: Vaishali24_97 Start: 66820, Stop: 66230, Start Num: 25

Candidate Starts for Vaishali24_97:

(11, 67039), (13, 66937), (Start: 25 @66820 has 2 MA's), (Start: 27 @66799 has 2 MA's), (Start: 29 @66760 has 1 MA's), (32, 66727), (40, 66601), (42, 66580), (45, 66568), (50, 66496), (62, 66382), (66, 66343), (67, 66325),

Gene: Vincenzo_89 Start: 68034, Stop: 67441, Start Num: 28

Candidate Starts for Vincenzo_89:

(Start: 28 @68034 has 10 MA's), (36, 67941), (39, 67908), (45, 67830), (48, 67782), (51, 67746), (54, 67707), (59, 67665), (64, 67614), (66, 67602), (67, 67584), (71, 67554), (74, 67542), (76, 67530), (77, 67521),

Gene: VioletZ_92 Start: 67510, Stop: 66836, Start Num: 26

Candidate Starts for VioletZ_92:

(4, 67930), (Start: 12 @67678 has 1 MA's), (14, 67615), (Start: 26 @67510 has 17 MA's), (Start: 28 @67459 has 10 MA's), (36, 67363), (37, 67360), (39, 67330), (40, 67285), (41, 67276), (48, 67204), (50, 67180), (59, 67087), (64, 67036), (66, 67024), (67, 67006), (68, 67003), (70, 66988), (71, 66985), (74, 66973), (76, 66961), (78, 66937), (85, 66880), (86, 66877),

Gene: Vivaldi_97 Start: 67032, Stop: 66454, Start Num: 27

Candidate Starts for Vivaldi_97:

(Start: 27 @67032 has 2 MA's), (Start: 29 @66993 has 1 MA's), (32, 66951), (40, 66825), (42, 66804), (45, 66792), (50, 66720), (62, 66606), (66, 66567), (67, 66549),

Gene: Waleliano_89 Start: 67237, Stop: 66587, Start Num: 26

Candidate Starts for Waleliano_89:

(Start: 12 @67405 has 1 MA's), (14, 67342), (Start: 26 @67237 has 17 MA's), (Start: 28 @67186 has 10 MA's), (36, 67096), (40, 67018), (41, 67009), (50, 66913), (59, 66820), (64, 66769), (66, 66757), (67, 66739), (70, 66721), (71, 66718), (76, 66694), (78, 66670), (87, 66622),

Gene: Xincheng_82 Start: 67236, Stop: 66616, Start Num: 28

Candidate Starts for Xincheng_82:

(Start: 12 @67455 has 1 MA's), (14, 67392), (Start: 26 @67287 has 17 MA's), (Start: 28 @67236 has 10 MA's), (36, 67146), (45, 67032), (48, 66984), (50, 66960), (52, 66936), (53, 66924), (59, 66867), (64, 66816), (66, 66804), (67, 66786), (70, 66768), (71, 66765), (74, 66753), (76, 66741), (78, 66717), (85, 66663), (86, 66660),

Gene: Zemanar_88 Start: 67185, Stop: 66517, Start Num: 26

Candidate Starts for Zemanar_88:

(Start: 12 @67353 has 1 MA's), (14, 67290), (Start: 26 @67185 has 17 MA's), (Start: 28 @67134 has 10 MA's), (36, 67044), (40, 66966), (41, 66957), (48, 66885), (50, 66861), (59, 66768), (64, 66717), (66, 66705), (67, 66687), (70, 66669), (71, 66666), (74, 66654), (76, 66642), (78, 66618), (82, 66573), (85, 66561), (86, 66558),