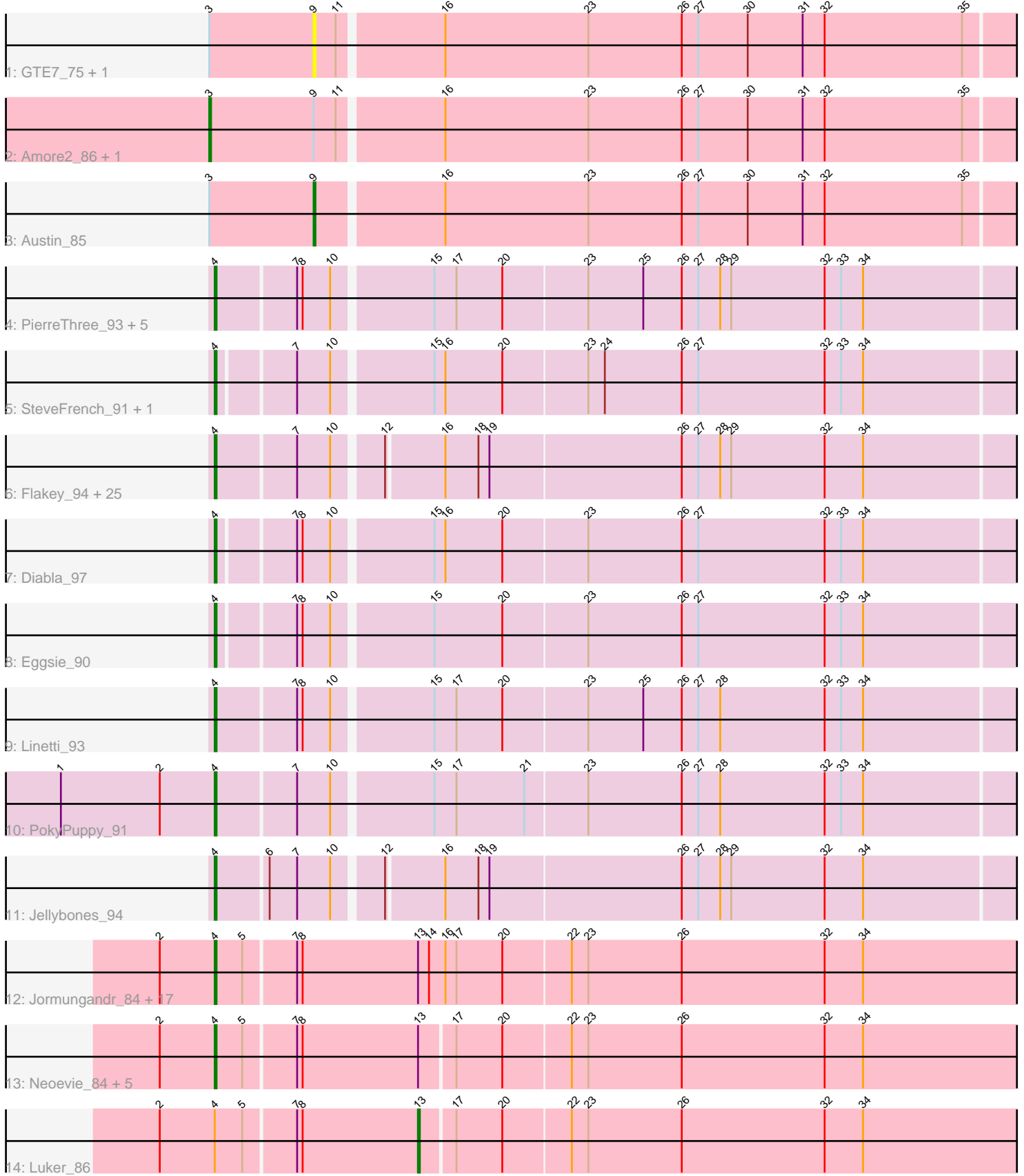


Pham 221411



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 221411 Report

This analysis was run 03/28/25 on database version 593.

Pham number 221411 has 69 members, 9 are drafts.

Phages represented in each track:

- Track 1 : GTE7_75, GMA7_74
- Track 2 : Amore2_86, HayZem_87
- Track 3 : Austin_85
- Track 4 : PierreThree_93, BigShaq_94, Dakiti_95, BenoitCattle_95, Chelms_93, Crete_94
- Track 5 : SteveFrench_91, RoyalG_92
- Track 6 : Flakey_94, Monty_93, Worcestershire_92, Sam12_92, BirksAndSocks_96, Breezic_94, Exiguo_92, Adgers_96, John316_96, Ekhein_95, Boneham_95, CathyBurgh_92, Poland_97, FelixAlejandro_96, RemRem_96, GourdThymes_93, Gorko_92, Lizzo_93, Barbochs_92, Sombrero_94, Msay19_97, Butterball_94, Squibbles_93, Hotorobo_95, Beaver_96, CinnamonToast_97
- Track 7 : Diabla_97
- Track 8 : Eggsie_90
- Track 9 : Linetti_93
- Track 10 : PokyPuppy_91
- Track 11 : Jellybones_94
- Track 12 : Jormungandr_84, MrWormie_85, Nimi13_84, Charianelly_85, Anamika_84, Damp_85, Shelley_85, Lahirium_85, Lidong_85, Bianmat_85, Hello_84, Jams_85, Berries_85, Sticker17_85, Harambe_84, Guillaume_84, Kaseim_84, Newt_86
- Track 13 : Neoevie_84, Minos_86, Hail2Pitt_83, GalacticEye_85, Teal_84, Woes_84
- Track 14 : Luker_86

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

The start number called the most often in the published annotations is 4, it was called in 56 of the 60 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Adgers_96, Anamika_84, Barbochs_92, Beaver_96, BenoitCattle_95, Berries_85, Bianmat_85, BigShaq_94, BirksAndSocks_96, Boneham_95, Breezic_94, Butterball_94, CathyBurgh_92, Charianelly_85, Chelms_93, CinnamonToast_97, Crete_94, Dakiti_95, Damp_85, Diabla_97, Eggsie_90, Ekhein_95, Exiguo_92, FelixAlejandro_96, Flakey_94, GalacticEye_85, Gorko_92, GourdThymes_93,

Guillaume_84, Hail2Pitt_83, Harambe_84, Hello_84, Hotorobo_95, Jams_85, Jellybones_94, John316_96, Jormungandr_84, Kaseim_84, Lahirium_85, Lidong_85, Linetti_93, Lizzo_93, Minos_86, Monty_93, MrWormie_85, Msay19_97, Neoevie_84, Newt_86, Nimi13_84, PierreThree_93, PokyPuppy_91, Poland_97, RemRem_96, RoyalG_92, Sam12_92, Shelley_85, Sombrero_94, Squibbles_93, SteveFrench_91, Sticker17_85, Teal_84, Woes_84, Worcestershire_92,

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

- Luker_86,

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

- Amore2_86, Austin_85, GMA7_74, GTE7_75, HayZem_87,

Summary by start number:

Start 3:

- Found in 5 of 69 (7.2%) of genes in pham
- Manual Annotations of this start: 2 of 60
- Called 40.0% of time when present
- Phage (with cluster) where this start called: Amore2_86 (CS1), HayZem_87 (CS1),

Start 4:

- Found in 64 of 69 (92.8%) of genes in pham
- Manual Annotations of this start: 56 of 60
- Called 98.4% of time when present
- Phage (with cluster) where this start called: Adgers_96 (CS2), Anamika_84 (CS3), Barbochs_92 (CS2), Beaver_96 (CS2), BenoitCattle_95 (CS2), Berries_85 (CS3), Bianmat_85 (CS3), BigShaq_94 (CS2), BirksAndSocks_96 (CS2), Boneham_95 (CS2), Breezic_94 (CS2), Butterball_94 (CS2), CathyBurgh_92 (CS2), Charianelly_85 (CS3), Chelms_93 (CS2), CinnamonToast_97 (CS2), Crete_94 (CS2), Dakiti_95 (CS2), Damp_85 (CS3), Diabla_97 (CS2), Eggsie_90 (CS2), Ekhein_95 (CS2), Exiguo_92 (CS2), FelixAlejandro_96 (CS2), Flakey_94 (CS2), GalacticEye_85 (CS3), Gorko_92 (CS2), GourdThymes_93 (CS2), Guillaume_84 (CS3), Hail2Pitt_83 (CS3), Harambe_84 (CS3), Hello_84 (CS3), Hotorobo_95 (CS2), Jams_85 (CS3), Jellybones_94 (CS2), John316_96 (CS2), Jormungandr_84 (CS3), Kaseim_84 (CS3), Lahirium_85 (CS3), Lidong_85 (CS3), Linetti_93 (CS2), Lizzo_93 (CS2), Minos_86 (CS3), Monty_93 (CS2), MrWormie_85 (CS3), Msay19_97 (CS2), Neoevie_84 (CS3), Newt_86 (CS3), Nimi13_84 (CS3), PierreThree_93 (CS2), PokyPuppy_91 (CS2), Poland_97 (CS2), RemRem_96 (CS2), RoyalG_92 (CS2), Sam12_92 (CS2), Shelley_85 (CS3), Sombrero_94 (CS2), Squibbles_93 (CS2), SteveFrench_91 (CS2), Sticker17_85 (CS3), Teal_84 (CS3), Woes_84 (CS3), Worcestershire_92 (CS2),

Start 9:

- Found in 5 of 69 (7.2%) of genes in pham
- Manual Annotations of this start: 1 of 60
- Called 60.0% of time when present
- Phage (with cluster) where this start called: Austin_85 (CS1), GMA7_74 (CS1), GTE7_75 (CS1),

Start 13:

- Found in 25 of 69 (36.2%) of genes in pham
- Manual Annotations of this start: 1 of 60
- Called 4.0% of time when present

- Phage (with cluster) where this start called: Luker_86 (CS3),

Summary by clusters:

There are 3 clusters represented in this pham: CS1, CS3, CS2,

Info for manual annotations of cluster CS1:

- Start number 3 was manually annotated 2 times for cluster CS1.
- Start number 9 was manually annotated 1 time for cluster CS1.

Info for manual annotations of cluster CS2:

- Start number 4 was manually annotated 33 times for cluster CS2.

Info for manual annotations of cluster CS3:

- Start number 4 was manually annotated 23 times for cluster CS3.
- Start number 13 was manually annotated 1 time for cluster CS3.

Gene Information:

Gene: Adgers_96 Start: 69350, Stop: 68928, Start Num: 4

Candidate Starts for Adgers_96:

(Start: 4 @69350 has 56 MA's), (7, 69308), (10, 69290), (12, 69266), (16, 69236), (18, 69218), (19, 69212), (26, 69110), (27, 69101), (28, 69089), (29, 69083), (32, 69032), (34, 69011),

Gene: Amore2_86 Start: 66698, Stop: 66267, Start Num: 3

Candidate Starts for Amore2_86:

(Start: 3 @66698 has 2 MA's), (Start: 9 @66641 has 1 MA's), (11, 66629), (16, 66575), (23, 66497), (26, 66446), (27, 66437), (30, 66410), (31, 66380), (32, 66368), (35, 66293),

Gene: Anamika_84 Start: 67876, Stop: 67436, Start Num: 4

Candidate Starts for Anamika_84:

(2, 67906), (Start: 4 @67876 has 56 MA's), (5, 67861), (7, 67834), (8, 67831), (Start: 13 @67768 has 1 MA's), (14, 67762), (16, 67753), (17, 67747), (20, 67723), (22, 67687), (23, 67678), (26, 67627), (32, 67549), (34, 67528),

Gene: Austin_85 Start: 66639, Stop: 66265, Start Num: 9

Candidate Starts for Austin_85:

(Start: 3 @66696 has 2 MA's), (Start: 9 @66639 has 1 MA's), (16, 66573), (23, 66495), (26, 66444), (27, 66435), (30, 66408), (31, 66378), (32, 66366), (35, 66291),

Gene: Barbochs_92 Start: 68520, Stop: 68098, Start Num: 4

Candidate Starts for Barbochs_92:

(Start: 4 @68520 has 56 MA's), (7, 68478), (10, 68460), (12, 68436), (16, 68406), (18, 68388), (19, 68382), (26, 68280), (27, 68271), (28, 68259), (29, 68253), (32, 68202), (34, 68181),

Gene: Beaver_96 Start: 70691, Stop: 70269, Start Num: 4

Candidate Starts for Beaver_96:

(Start: 4 @70691 has 56 MA's), (7, 70649), (10, 70631), (12, 70607), (16, 70577), (18, 70559), (19, 70553), (26, 70451), (27, 70442), (28, 70430), (29, 70424), (32, 70373), (34, 70352),

Gene: BenoitCattle_95 Start: 70089, Stop: 69664, Start Num: 4

Candidate Starts for BenoitCattle_95:

(Start: 4 @70089 has 56 MA's), (7, 70047), (8, 70044), (10, 70029), (15, 69978), (17, 69966), (20, 69942), (23, 69897), (25, 69867), (26, 69846), (27, 69837), (28, 69825), (29, 69819), (32, 69768), (33, 69759), (34, 69747),

Gene: Berries_85 Start: 67848, Stop: 67408, Start Num: 4

Candidate Starts for Berries_85:

(2, 67878), (Start: 4 @67848 has 56 MA's), (5, 67833), (7, 67806), (8, 67803), (Start: 13 @67740 has 1 MA's), (14, 67734), (16, 67725), (17, 67719), (20, 67695), (22, 67659), (23, 67650), (26, 67599), (32, 67521), (34, 67500),

Gene: Bianmat_85 Start: 67888, Stop: 67448, Start Num: 4

Candidate Starts for Bianmat_85:

(2, 67918), (Start: 4 @67888 has 56 MA's), (5, 67873), (7, 67846), (8, 67843), (Start: 13 @67780 has 1 MA's), (14, 67774), (16, 67765), (17, 67759), (20, 67735), (22, 67699), (23, 67690), (26, 67639), (32, 67561), (34, 67540),

Gene: BigShaq_94 Start: 69679, Stop: 69254, Start Num: 4

Candidate Starts for BigShaq_94:

(Start: 4 @69679 has 56 MA's), (7, 69637), (8, 69634), (10, 69619), (15, 69568), (17, 69556), (20, 69532), (23, 69487), (25, 69457), (26, 69436), (27, 69427), (28, 69415), (29, 69409), (32, 69358), (33, 69349), (34, 69337),

Gene: BirksAndSocks_96 Start: 70305, Stop: 69883, Start Num: 4

Candidate Starts for BirksAndSocks_96:

(Start: 4 @70305 has 56 MA's), (7, 70263), (10, 70245), (12, 70221), (16, 70191), (18, 70173), (19, 70167), (26, 70065), (27, 70056), (28, 70044), (29, 70038), (32, 69987), (34, 69966),

Gene: Boneham_95 Start: 70230, Stop: 69808, Start Num: 4

Candidate Starts for Boneham_95:

(Start: 4 @70230 has 56 MA's), (7, 70188), (10, 70170), (12, 70146), (16, 70116), (18, 70098), (19, 70092), (26, 69990), (27, 69981), (28, 69969), (29, 69963), (32, 69912), (34, 69891),

Gene: Breezic_94 Start: 69221, Stop: 68799, Start Num: 4

Candidate Starts for Breezic_94:

(Start: 4 @69221 has 56 MA's), (7, 69179), (10, 69161), (12, 69137), (16, 69107), (18, 69089), (19, 69083), (26, 68981), (27, 68972), (28, 68960), (29, 68954), (32, 68903), (34, 68882),

Gene: Butterball_94 Start: 70235, Stop: 69813, Start Num: 4

Candidate Starts for Butterball_94:

(Start: 4 @70235 has 56 MA's), (7, 70193), (10, 70175), (12, 70151), (16, 70121), (18, 70103), (19, 70097), (26, 69995), (27, 69986), (28, 69974), (29, 69968), (32, 69917), (34, 69896),

Gene: CathyBurgh_92 Start: 69251, Stop: 68829, Start Num: 4

Candidate Starts for CathyBurgh_92:

(Start: 4 @69251 has 56 MA's), (7, 69209), (10, 69191), (12, 69167), (16, 69137), (18, 69119), (19, 69113), (26, 69011), (27, 69002), (28, 68990), (29, 68984), (32, 68933), (34, 68912),

Gene: Charianelly_85 Start: 67598, Stop: 67158, Start Num: 4

Candidate Starts for Charianelly_85:

(2, 67628), (Start: 4 @67598 has 56 MA's), (5, 67583), (7, 67556), (8, 67553), (Start: 13 @67490 has 1 MA's), (14, 67484), (16, 67475), (17, 67469), (20, 67445), (22, 67409), (23, 67400), (26, 67349), (32, 67271), (34, 67250),

Gene: Chelms_93 Start: 69826, Stop: 69401, Start Num: 4

Candidate Starts for Chelms_93:

(Start: 4 @69826 has 56 MA's), (7, 69784), (8, 69781), (10, 69766), (15, 69715), (17, 69703), (20, 69679), (23, 69634), (25, 69604), (26, 69583), (27, 69574), (28, 69562), (29, 69556), (32, 69505), (33, 69496), (34, 69484),

Gene: CinnamonToast_97 Start: 70798, Stop: 70376, Start Num: 4

Candidate Starts for CinnamonToast_97:

(Start: 4 @70798 has 56 MA's), (7, 70756), (10, 70738), (12, 70714), (16, 70684), (18, 70666), (19, 70660), (26, 70558), (27, 70549), (28, 70537), (29, 70531), (32, 70480), (34, 70459),

Gene: Crete_94 Start: 69862, Stop: 69437, Start Num: 4

Candidate Starts for Crete_94:

(Start: 4 @69862 has 56 MA's), (7, 69820), (8, 69817), (10, 69802), (15, 69751), (17, 69739), (20, 69715), (23, 69670), (25, 69640), (26, 69619), (27, 69610), (28, 69598), (29, 69592), (32, 69541), (33, 69532), (34, 69520),

Gene: Dakiti_95 Start: 70769, Stop: 70344, Start Num: 4

Candidate Starts for Dakiti_95:

(Start: 4 @70769 has 56 MA's), (7, 70727), (8, 70724), (10, 70709), (15, 70658), (17, 70646), (20, 70622), (23, 70577), (25, 70547), (26, 70526), (27, 70517), (28, 70505), (29, 70499), (32, 70448), (33, 70439), (34, 70427),

Gene: Damp_85 Start: 66762, Stop: 66322, Start Num: 4

Candidate Starts for Damp_85:

(2, 66792), (Start: 4 @66762 has 56 MA's), (5, 66747), (7, 66720), (8, 66717), (Start: 13 @66654 has 1 MA's), (14, 66648), (16, 66639), (17, 66633), (20, 66609), (22, 66573), (23, 66564), (26, 66513), (32, 66435), (34, 66414),

Gene: Diabla_97 Start: 70219, Stop: 69797, Start Num: 4

Candidate Starts for Diabla_97:

(Start: 4 @70219 has 56 MA's), (7, 70180), (8, 70177), (10, 70162), (15, 70111), (16, 70105), (20, 70075), (23, 70030), (26, 69979), (27, 69970), (32, 69901), (33, 69892), (34, 69880),

Gene: Eggsie_90 Start: 67775, Stop: 67353, Start Num: 4

Candidate Starts for Eggsie_90:

(Start: 4 @67775 has 56 MA's), (7, 67736), (8, 67733), (10, 67718), (15, 67667), (20, 67631), (23, 67586), (26, 67535), (27, 67526), (32, 67457), (33, 67448), (34, 67436),

Gene: Ekhein_95 Start: 69265, Stop: 68843, Start Num: 4

Candidate Starts for Ekhein_95:

(Start: 4 @69265 has 56 MA's), (7, 69223), (10, 69205), (12, 69181), (16, 69151), (18, 69133), (19, 69127), (26, 69025), (27, 69016), (28, 69004), (29, 68998), (32, 68947), (34, 68926),

Gene: Exiguo_92 Start: 68690, Stop: 68268, Start Num: 4

Candidate Starts for Exiguo_92:

(Start: 4 @68690 has 56 MA's), (7, 68648), (10, 68630), (12, 68606), (16, 68576), (18, 68558), (19, 68552), (26, 68450), (27, 68441), (28, 68429), (29, 68423), (32, 68372), (34, 68351),

Gene: FelixAlejandro_96 Start: 70748, Stop: 70326, Start Num: 4

Candidate Starts for FelixAlejandro_96:

(Start: 4 @70748 has 56 MA's), (7, 70706), (10, 70688), (12, 70664), (16, 70634), (18, 70616), (19, 70610), (26, 70508), (27, 70499), (28, 70487), (29, 70481), (32, 70430), (34, 70409),

Gene: Flakey_94 Start: 70162, Stop: 69740, Start Num: 4

Candidate Starts for Flakey_94:

(Start: 4 @70162 has 56 MA's), (7, 70120), (10, 70102), (12, 70078), (16, 70048), (18, 70030), (19, 70024), (26, 69922), (27, 69913), (28, 69901), (29, 69895), (32, 69844), (34, 69823),

Gene: GMA7_74 Start: 60526, Stop: 60152, Start Num: 9

Candidate Starts for GMA7_74:

(Start: 3 @60583 has 2 MA's), (Start: 9 @60526 has 1 MA's), (11, 60514), (16, 60460), (23, 60382), (26, 60331), (27, 60322), (30, 60295), (31, 60265), (32, 60253), (35, 60178),

Gene: GTE7_75 Start: 61092, Stop: 60718, Start Num: 9

Candidate Starts for GTE7_75:

(Start: 3 @61149 has 2 MA's), (Start: 9 @61092 has 1 MA's), (11, 61080), (16, 61026), (23, 60948), (26, 60897), (27, 60888), (30, 60861), (31, 60831), (32, 60819), (35, 60744),

Gene: GalacticEye_85 Start: 67556, Stop: 67119, Start Num: 4

Candidate Starts for GalacticEye_85:

(2, 67586), (Start: 4 @67556 has 56 MA's), (5, 67541), (7, 67514), (8, 67511), (Start: 13 @67448 has 1 MA's), (17, 67430), (20, 67406), (22, 67370), (23, 67361), (26, 67310), (32, 67232), (34, 67211),

Gene: Gorko_92 Start: 68434, Stop: 68012, Start Num: 4

Candidate Starts for Gorko_92:

(Start: 4 @68434 has 56 MA's), (7, 68392), (10, 68374), (12, 68350), (16, 68320), (18, 68302), (19, 68296), (26, 68194), (27, 68185), (28, 68173), (29, 68167), (32, 68116), (34, 68095),

Gene: GourdThymes_93 Start: 69278, Stop: 68856, Start Num: 4

Candidate Starts for GourdThymes_93:

(Start: 4 @69278 has 56 MA's), (7, 69236), (10, 69218), (12, 69194), (16, 69164), (18, 69146), (19, 69140), (26, 69038), (27, 69029), (28, 69017), (29, 69011), (32, 68960), (34, 68939),

Gene: Guillaume_84 Start: 67609, Stop: 67169, Start Num: 4

Candidate Starts for Guillaume_84:

(2, 67639), (Start: 4 @67609 has 56 MA's), (5, 67594), (7, 67567), (8, 67564), (Start: 13 @67501 has 1 MA's), (14, 67495), (16, 67486), (17, 67480), (20, 67456), (22, 67420), (23, 67411), (26, 67360), (32, 67282), (34, 67261),

Gene: Hail2Pitt_83 Start: 68082, Stop: 67645, Start Num: 4

Candidate Starts for Hail2Pitt_83:

(2, 68112), (Start: 4 @68082 has 56 MA's), (5, 68067), (7, 68040), (8, 68037), (Start: 13 @67974 has 1 MA's), (17, 67956), (20, 67932), (22, 67896), (23, 67887), (26, 67836), (32, 67758), (34, 67737),

Gene: Harambe_84 Start: 67876, Stop: 67436, Start Num: 4

Candidate Starts for Harambe_84:

(2, 67906), (Start: 4 @67876 has 56 MA's), (5, 67861), (7, 67834), (8, 67831), (Start: 13 @67768 has 1 MA's), (14, 67762), (16, 67753), (17, 67747), (20, 67723), (22, 67687), (23, 67678), (26, 67627), (32, 67549), (34, 67528),

Gene: HayZem_87 Start: 66696, Stop: 66265, Start Num: 3

Candidate Starts for HayZem_87:

(Start: 3 @66696 has 2 MA's), (Start: 9 @66639 has 1 MA's), (11, 66627), (16, 66573), (23, 66495), (26, 66444), (27, 66435), (30, 66408), (31, 66378), (32, 66366), (35, 66291),

Gene: Hello_84 Start: 67838, Stop: 67398, Start Num: 4

Candidate Starts for Hello_84:

(2, 67868), (Start: 4 @67838 has 56 MA's), (5, 67823), (7, 67796), (8, 67793), (Start: 13 @67730 has 1 MA's), (14, 67724), (16, 67715), (17, 67709), (20, 67685), (22, 67649), (23, 67640), (26, 67589), (32, 67511), (34, 67490),

Gene: Hotorobo_95 Start: 70139, Stop: 69717, Start Num: 4

Candidate Starts for Hotorobo_95:

(Start: 4 @70139 has 56 MA's), (7, 70097), (10, 70079), (12, 70055), (16, 70025), (18, 70007), (19, 70001), (26, 69899), (27, 69890), (28, 69878), (29, 69872), (32, 69821), (34, 69800),

Gene: Jams_85 Start: 66886, Stop: 66446, Start Num: 4

Candidate Starts for Jams_85:

(2, 66916), (Start: 4 @66886 has 56 MA's), (5, 66871), (7, 66844), (8, 66841), (Start: 13 @66778 has 1 MA's), (14, 66772), (16, 66763), (17, 66757), (20, 66733), (22, 66697), (23, 66688), (26, 66637), (32, 66559), (34, 66538),

Gene: Jellybones_94 Start: 70436, Stop: 70014, Start Num: 4

Candidate Starts for Jellybones_94:

(Start: 4 @70436 has 56 MA's), (6, 70409), (7, 70394), (10, 70376), (12, 70352), (16, 70322), (18, 70304), (19, 70298), (26, 70196), (27, 70187), (28, 70175), (29, 70169), (32, 70118), (34, 70097),

Gene: John316_96 Start: 70392, Stop: 69970, Start Num: 4

Candidate Starts for John316_96:

(Start: 4 @70392 has 56 MA's), (7, 70350), (10, 70332), (12, 70308), (16, 70278), (18, 70260), (19, 70254), (26, 70152), (27, 70143), (28, 70131), (29, 70125), (32, 70074), (34, 70053),

Gene: Jormungandr_84 Start: 67591, Stop: 67151, Start Num: 4

Candidate Starts for Jormungandr_84:

(2, 67621), (Start: 4 @67591 has 56 MA's), (5, 67576), (7, 67549), (8, 67546), (Start: 13 @67483 has 1 MA's), (14, 67477), (16, 67468), (17, 67462), (20, 67438), (22, 67402), (23, 67393), (26, 67342), (32, 67264), (34, 67243),

Gene: Kaseim_84 Start: 67033, Stop: 66593, Start Num: 4

Candidate Starts for Kaseim_84:

(2, 67063), (Start: 4 @67033 has 56 MA's), (5, 67018), (7, 66991), (8, 66988), (Start: 13 @66925 has 1 MA's), (14, 66919), (16, 66910), (17, 66904), (20, 66880), (22, 66844), (23, 66835), (26, 66784), (32, 66706), (34, 66685),

Gene: Lahirium_85 Start: 68627, Stop: 68187, Start Num: 4

Candidate Starts for Lahirium_85:

(2, 68657), (Start: 4 @68627 has 56 MA's), (5, 68612), (7, 68585), (8, 68582), (Start: 13 @68519 has 1 MA's), (14, 68513), (16, 68504), (17, 68498), (20, 68474), (22, 68438), (23, 68429), (26, 68378), (32, 68300), (34, 68279),

Gene: Lidong_85 Start: 67848, Stop: 67408, Start Num: 4

Candidate Starts for Lidong_85:

(2, 67878), (Start: 4 @67848 has 56 MA's), (5, 67833), (7, 67806), (8, 67803), (Start: 13 @67740 has 1 MA's), (14, 67734), (16, 67725), (17, 67719), (20, 67695), (22, 67659), (23, 67650), (26, 67599), (32, 67521), (34, 67500),

Gene: Linetti_93 Start: 70786, Stop: 70361, Start Num: 4

Candidate Starts for Linetti_93:

(Start: 4 @70786 has 56 MA's), (7, 70744), (8, 70741), (10, 70726), (15, 70675), (17, 70663), (20, 70639), (23, 70594), (25, 70564), (26, 70543), (27, 70534), (28, 70522), (32, 70465), (33, 70456), (34, 70444),

Gene: Lizzo_93 Start: 69251, Stop: 68829, Start Num: 4

Candidate Starts for Lizzo_93:

(Start: 4 @69251 has 56 MA's), (7, 69209), (10, 69191), (12, 69167), (16, 69137), (18, 69119), (19, 69113), (26, 69011), (27, 69002), (28, 68990), (29, 68984), (32, 68933), (34, 68912),

Gene: Luker_86 Start: 67793, Stop: 67464, Start Num: 13

Candidate Starts for Luker_86:

(2, 67931), (Start: 4 @67901 has 56 MA's), (5, 67886), (7, 67859), (8, 67856), (Start: 13 @67793 has 1 MA's), (17, 67775), (20, 67751), (22, 67715), (23, 67706), (26, 67655), (32, 67577), (34, 67556),

Gene: Minos_86 Start: 67587, Stop: 67150, Start Num: 4

Candidate Starts for Minos_86:

(2, 67617), (Start: 4 @67587 has 56 MA's), (5, 67572), (7, 67545), (8, 67542), (Start: 13 @67479 has 1 MA's), (17, 67461), (20, 67437), (22, 67401), (23, 67392), (26, 67341), (32, 67263), (34, 67242),

Gene: Monty_93 Start: 68953, Stop: 68531, Start Num: 4

Candidate Starts for Monty_93:

(Start: 4 @68953 has 56 MA's), (7, 68911), (10, 68893), (12, 68869), (16, 68839), (18, 68821), (19, 68815), (26, 68713), (27, 68704), (28, 68692), (29, 68686), (32, 68635), (34, 68614),

Gene: MrWormie_85 Start: 66589, Stop: 66149, Start Num: 4

Candidate Starts for MrWormie_85:

(2, 66619), (Start: 4 @66589 has 56 MA's), (5, 66574), (7, 66547), (8, 66544), (Start: 13 @66481 has 1 MA's), (14, 66475), (16, 66466), (17, 66460), (20, 66436), (22, 66400), (23, 66391), (26, 66340), (32, 66262), (34, 66241),

Gene: Msay19_97 Start: 71031, Stop: 70609, Start Num: 4

Candidate Starts for Msay19_97:

(Start: 4 @71031 has 56 MA's), (7, 70989), (10, 70971), (12, 70947), (16, 70917), (18, 70899), (19, 70893), (26, 70791), (27, 70782), (28, 70770), (29, 70764), (32, 70713), (34, 70692),

Gene: Neoevie_84 Start: 67849, Stop: 67412, Start Num: 4

Candidate Starts for Neoevie_84:

(2, 67879), (Start: 4 @67849 has 56 MA's), (5, 67834), (7, 67807), (8, 67804), (Start: 13 @67741 has 1 MA's), (17, 67723), (20, 67699), (22, 67663), (23, 67654), (26, 67603), (32, 67525), (34, 67504),

Gene: Newt_86 Start: 67918, Stop: 67478, Start Num: 4

Candidate Starts for Newt_86:

(2, 67948), (Start: 4 @67918 has 56 MA's), (5, 67903), (7, 67876), (8, 67873), (Start: 13 @67810 has 1 MA's), (14, 67804), (16, 67795), (17, 67789), (20, 67765), (22, 67729), (23, 67720), (26, 67669), (32, 67591), (34, 67570),

Gene: Nimi13_84 Start: 67599, Stop: 67159, Start Num: 4

Candidate Starts for Nimi13_84:

(2, 67629), (Start: 4 @67599 has 56 MA's), (5, 67584), (7, 67557), (8, 67554), (Start: 13 @67491 has 1 MA's), (14, 67485), (16, 67476), (17, 67470), (20, 67446), (22, 67410), (23, 67401), (26, 67350), (32,

67272), (34, 67251),

Gene: PierreThree_93 Start: 70400, Stop: 69975, Start Num: 4

Candidate Starts for PierreThree_93:

(Start: 4 @70400 has 56 MA's), (7, 70358), (8, 70355), (10, 70340), (15, 70289), (17, 70277), (20, 70253), (23, 70208), (25, 70178), (26, 70157), (27, 70148), (28, 70136), (29, 70130), (32, 70079), (33, 70070), (34, 70058),

Gene: PokyPuppy_91 Start: 69670, Stop: 69245, Start Num: 4

Candidate Starts for PokyPuppy_91:

(1, 69754), (2, 69700), (Start: 4 @69670 has 56 MA's), (7, 69628), (10, 69610), (15, 69559), (17, 69547), (21, 69511), (23, 69478), (26, 69427), (27, 69418), (28, 69406), (32, 69349), (33, 69340), (34, 69328),

Gene: Poland_97 Start: 71013, Stop: 70591, Start Num: 4

Candidate Starts for Poland_97:

(Start: 4 @71013 has 56 MA's), (7, 70971), (10, 70953), (12, 70929), (16, 70899), (18, 70881), (19, 70875), (26, 70773), (27, 70764), (28, 70752), (29, 70746), (32, 70695), (34, 70674),

Gene: RemRem_96 Start: 69248, Stop: 68826, Start Num: 4

Candidate Starts for RemRem_96:

(Start: 4 @69248 has 56 MA's), (7, 69206), (10, 69188), (12, 69164), (16, 69134), (18, 69116), (19, 69110), (26, 69008), (27, 68999), (28, 68987), (29, 68981), (32, 68930), (34, 68909),

Gene: RoyalG_92 Start: 68966, Stop: 68544, Start Num: 4

Candidate Starts for RoyalG_92:

(Start: 4 @68966 has 56 MA's), (7, 68927), (10, 68909), (15, 68858), (16, 68852), (20, 68822), (23, 68777), (24, 68768), (26, 68726), (27, 68717), (32, 68648), (33, 68639), (34, 68627),

Gene: Sam12_92 Start: 68687, Stop: 68265, Start Num: 4

Candidate Starts for Sam12_92:

(Start: 4 @68687 has 56 MA's), (7, 68645), (10, 68627), (12, 68603), (16, 68573), (18, 68555), (19, 68549), (26, 68447), (27, 68438), (28, 68426), (29, 68420), (32, 68369), (34, 68348),

Gene: Shelley_85 Start: 67075, Stop: 66635, Start Num: 4

Candidate Starts for Shelley_85:

(2, 67105), (Start: 4 @67075 has 56 MA's), (5, 67060), (7, 67033), (8, 67030), (Start: 13 @66967 has 1 MA's), (14, 66961), (16, 66952), (17, 66946), (20, 66922), (22, 66886), (23, 66877), (26, 66826), (32, 66748), (34, 66727),

Gene: Sombrero_94 Start: 69315, Stop: 68893, Start Num: 4

Candidate Starts for Sombrero_94:

(Start: 4 @69315 has 56 MA's), (7, 69273), (10, 69255), (12, 69231), (16, 69201), (18, 69183), (19, 69177), (26, 69075), (27, 69066), (28, 69054), (29, 69048), (32, 68997), (34, 68976),

Gene: Squibbles_93 Start: 69768, Stop: 69346, Start Num: 4

Candidate Starts for Squibbles_93:

(Start: 4 @69768 has 56 MA's), (7, 69726), (10, 69708), (12, 69684), (16, 69654), (18, 69636), (19, 69630), (26, 69528), (27, 69519), (28, 69507), (29, 69501), (32, 69450), (34, 69429),

Gene: SteveFrench_91 Start: 69206, Stop: 68784, Start Num: 4

Candidate Starts for SteveFrench_91:

(Start: 4 @69206 has 56 MA's), (7, 69167), (10, 69149), (15, 69098), (16, 69092), (20, 69062), (23, 69017), (24, 69008), (26, 68966), (27, 68957), (32, 68888), (33, 68879), (34, 68867),

Gene: Sticker17_85 Start: 67563, Stop: 67123, Start Num: 4

Candidate Starts for Sticker17_85:

(2, 67593), (Start: 4 @67563 has 56 MA's), (5, 67548), (7, 67521), (8, 67518), (Start: 13 @67455 has 1 MA's), (14, 67449), (16, 67440), (17, 67434), (20, 67410), (22, 67374), (23, 67365), (26, 67314), (32, 67236), (34, 67215),

Gene: Teal_84 Start: 68054, Stop: 67617, Start Num: 4

Candidate Starts for Teal_84:

(2, 68084), (Start: 4 @68054 has 56 MA's), (5, 68039), (7, 68012), (8, 68009), (Start: 13 @67946 has 1 MA's), (17, 67928), (20, 67904), (22, 67868), (23, 67859), (26, 67808), (32, 67730), (34, 67709),

Gene: Woes_84 Start: 68105, Stop: 67668, Start Num: 4

Candidate Starts for Woes_84:

(2, 68135), (Start: 4 @68105 has 56 MA's), (5, 68090), (7, 68063), (8, 68060), (Start: 13 @67997 has 1 MA's), (17, 67979), (20, 67955), (22, 67919), (23, 67910), (26, 67859), (32, 67781), (34, 67760),

Gene: Worcestershire_92 Start: 68673, Stop: 68251, Start Num: 4

Candidate Starts for Worcestershire_92:

(Start: 4 @68673 has 56 MA's), (7, 68631), (10, 68613), (12, 68589), (16, 68559), (18, 68541), (19, 68535), (26, 68433), (27, 68424), (28, 68412), (29, 68406), (32, 68355), (34, 68334),