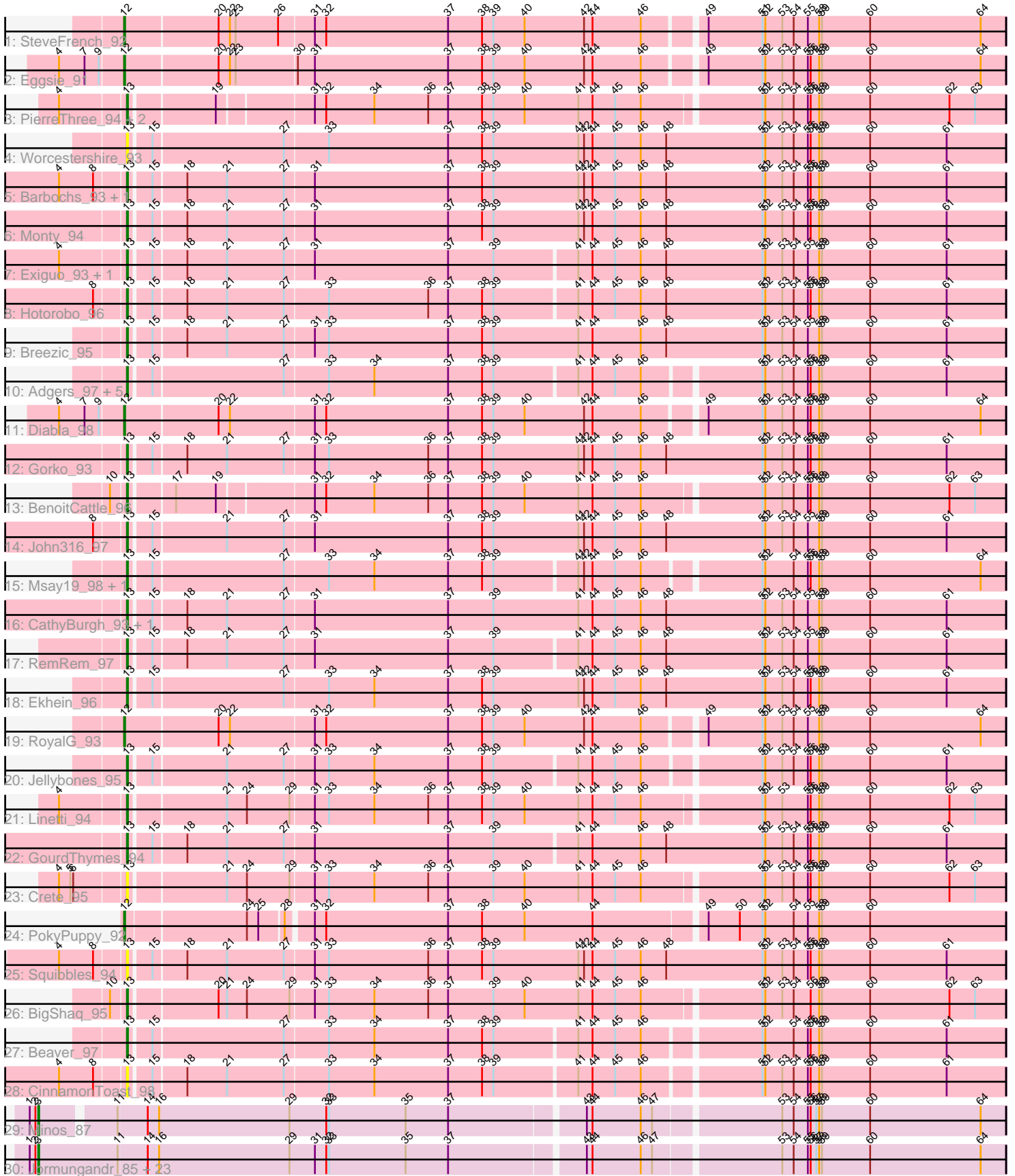


Pham 212587



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 212587 Report

This analysis was run 02/22/25 on database version 588.

Pham number 212587 has 64 members, 7 are drafts.

Phages represented in each track:

- Track 1 : SteveFrench_92
- Track 2 : Eggsie_91
- Track 3 : PierreThree_94, Dakiti_96, Chelms_94
- Track 4 : Worcestershire_93
- Track 5 : Barbochs_93, Flakey_95
- Track 6 : Monty_94
- Track 7 : Exiguo_93, Sam12_93
- Track 8 : Hotorobo_96
- Track 9 : Breezic_95
- Track 10 : Adgers_97, BirksAndSocks_97, FelixAlejandro_97, Boneham_96, Sombrero_95, Butterball_95
- Track 11 : Diabla_98
- Track 12 : Gorko_93
- Track 13 : BenoitCattle_96
- Track 14 : John316_97
- Track 15 : Msay19_98, Poland_98
- Track 16 : CathyBurgh_93, Lizzo_94
- Track 17 : RemRem_97
- Track 18 : Ekhein_96
- Track 19 : RoyalG_93
- Track 20 : Jellybones_95
- Track 21 : Linetti_94
- Track 22 : GourdThymes_94
- Track 23 : Crete_95
- Track 24 : PokyPuppy_92
- Track 25 : Squibbles_94
- Track 26 : BigShaq_95
- Track 27 : Beaver_97
- Track 28 : CinnamonToast_98
- Track 29 : Minos_87
- Track 30 : Jormungandr_85, Jams_86, Harambe_85, Charianelly_86, Luker_87, Anamika_85, Woes_85, Damp_86, Shelley_86, Nimi13_85, Hail2Pitt_84, Bianmat_86, GalacticEye_86, MrWormie_86, Hello_85, Neoevie_85, Berries_86, Sticker17_86, Teal_85, Lahirium_86, Guillaume_85, Kaseim_85, Newt_87, Lidong_86

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

The start number called the most often in the published annotations is 13, it was called in 28 of the 57 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Adgers_97, Barbochs_93, Beaver_97, BenoitCattle_96, BigShaq_95, BirksAndSocks_97, Boneham_96, Breezic_95, Butterball_95, CathyBurgh_93, Chelms_94, CinnamonToast_98, Crete_95, Dakiti_96, Ekhein_96, Exiguo_93, FelixAlejandro_97, Flakey_95, Gorko_93, GourdThymes_94, Hotorobo_96, Jellybones_95, John316_97, Linetti_94, Lizzo_94, Monty_94, Msay19_98, PierreThree_94, Poland_98, RemRem_97, Sam12_93, Sombrero_95, Squibbles_94, Worcestershire_93,

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

-

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

- Anamika_85, Berries_86, Bianmat_86, Charianelly_86, Damp_86, Diabla_98, Eggsie_91, GalacticEye_86, Guillaume_85, Hail2Pitt_84, Harambe_85, Hello_85, Jams_86, Jormungandr_85, Kaseim_85, Lahirium_86, Lidong_86, Luker_87, Minos_87, MrWormie_86, Neoevie_85, Newt_87, Nimi13_85, PokyPuppy_92, RoyalG_93, Shelley_86, SteveFrench_92, Sticker17_86, Teal_85, Woes_85,

Summary by start number:

Start 3:

- Found in 25 of 64 (39.1%) of genes in pham
- Manual Annotations of this start: 24 of 57
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Anamika_85 (CS3), Berries_86 (CS3), Bianmat_86 (CS3), Charianelly_86 (CS3), Damp_86 (CS3), GalacticEye_86 (CS3), Guillaume_85 (CS3), Hail2Pitt_84 (CS3), Harambe_85 (CS3), Hello_85 (CS3), Jams_86 (CS3), Jormungandr_85 (CS3), Kaseim_85 (CS3), Lahirium_86 (CS3), Lidong_86 (CS3), Luker_87 (CS3), Minos_87 (CS3), MrWormie_86 (CS3), Neoevie_85 (CS3), Newt_87 (CS3), Nimi13_85 (CS3), Shelley_86 (CS3), Sticker17_86 (CS3), Teal_85 (CS3), Woes_85 (CS3),

Start 12:

- Found in 5 of 64 (7.8%) of genes in pham
- Manual Annotations of this start: 5 of 57
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Diabla_98 (CS2), Eggsie_91 (CS2), PokyPuppy_92 (CS2), RoyalG_93 (CS2), SteveFrench_92 (CS2),

Start 13:

- Found in 34 of 64 (53.1%) of genes in pham
- Manual Annotations of this start: 28 of 57
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Adgers_97 (CS2), Barbochs_93 (CS2), Beaver_97 (CS2), BenoitCattle_96 (CS2), BigShaq_95 (CS2), BirksAndSocks_97 (CS2), Boneham_96 (CS2), Breezic_95 (CS2), Butterball_95 (CS2), CathyBurgh_93

(CS2), Chelms_94 (CS2), CinnamonToast_98 (CS2), Crete_95 (CS2), Dakiti_96 (CS2), Ekhein_96 (CS2), Exiguo_93 (CS2), FelixAlejandro_97 (CS2), Flakey_95 (CS2), Gorko_93 (CS2), GourdThymes_94 (CS2), Hotorobo_96 (CS2), Jellybones_95 (CS2), John316_97 (CS2), Linetti_94 (CS2), Lizzo_94 (CS2), Monty_94 (CS2), Msay19_98 (CS2), PierreThree_94 (CS2), Poland_98 (CS2), RemRem_97 (CS2), Sam12_93 (CS2), Sombrero_95 (CS2), Squibbles_94 (CS2), Worcestershire_93 (CS2),

Summary by clusters:

There are 2 clusters represented in this pham: CS3, CS2,

Info for manual annotations of cluster CS2:

- Start number 12 was manually annotated 5 times for cluster CS2.
- Start number 13 was manually annotated 28 times for cluster CS2.

Info for manual annotations of cluster CS3:

- Start number 3 was manually annotated 24 times for cluster CS3.

Gene Information:

Gene: Adgers_97 Start: 70250, Stop: 69354, Start Num: 13

Candidate Starts for Adgers_97:

(Start: 13 @70250 has 28 MA's), (15, 70229), (27, 70094), (33, 70049), (34, 70001), (37, 69923), (38, 69887), (39, 69875), (41, 69791), (44, 69776), (45, 69752), (46, 69725), (51, 69611), (52, 69608), (53, 69590), (54, 69578), (55, 69563), (56, 69560), (58, 69551), (59, 69548), (60, 69497), (61, 69416),

Gene: Anamika_85 Start: 68874, Stop: 67876, Start Num: 3

Candidate Starts for Anamika_85:

(1, 68883), (2, 68877), (Start: 3 @68874 has 24 MA's), (11, 68790), (14, 68760), (16, 68748), (29, 68610), (31, 68583), (32, 68571), (33, 68568), (35, 68487), (37, 68442), (43, 68307), (44, 68301), (46, 68250), (47, 68238), (53, 68112), (54, 68100), (55, 68085), (56, 68082), (57, 68076), (58, 68073), (59, 68070), (60, 68019), (64, 67902),

Gene: Barbochs_93 Start: 69441, Stop: 68524, Start Num: 13

Candidate Starts for Barbochs_93:

(4, 69507), (8, 69471), (Start: 13 @69441 has 28 MA's), (15, 69420), (18, 69387), (21, 69345), (27, 69285), (31, 69255), (37, 69114), (38, 69078), (39, 69066), (41, 68976), (42, 68970), (44, 68961), (45, 68937), (46, 68910), (48, 68883), (51, 68781), (52, 68778), (53, 68760), (54, 68748), (55, 68733), (56, 68730), (58, 68721), (59, 68718), (60, 68667), (61, 68586),

Gene: Beaver_97 Start: 71591, Stop: 70695, Start Num: 13

Candidate Starts for Beaver_97:

(Start: 13 @71591 has 28 MA's), (15, 71570), (27, 71435), (33, 71390), (34, 71342), (37, 71264), (38, 71228), (39, 71216), (41, 71132), (44, 71117), (45, 71093), (46, 71066), (51, 70952), (52, 70949), (54, 70919), (55, 70904), (56, 70901), (58, 70892), (59, 70889), (60, 70838), (61, 70757),

Gene: BenoitCattle_96 Start: 70989, Stop: 70093, Start Num: 13

Candidate Starts for BenoitCattle_96:

(10, 71004), (Start: 13 @70989 has 28 MA's), (17, 70947), (19, 70905), (31, 70812), (32, 70800), (34, 70749), (36, 70692), (37, 70671), (38, 70635), (39, 70623), (40, 70590), (41, 70533), (44, 70518), (45,

70494), (46, 70467), (51, 70350), (52, 70347), (53, 70329), (54, 70317), (55, 70302), (56, 70299), (58, 70290), (59, 70287), (60, 70236), (62, 70152), (63, 70125),

Gene: Berries_86 Start: 68846, Stop: 67848, Start Num: 3

Candidate Starts for Berries_86:

(1, 68855), (2, 68849), (Start: 3 @68846 has 24 MA's), (11, 68762), (14, 68732), (16, 68720), (29, 68582), (31, 68555), (32, 68543), (33, 68540), (35, 68459), (37, 68414), (43, 68279), (44, 68273), (46, 68222), (47, 68210), (53, 68084), (54, 68072), (55, 68057), (56, 68054), (57, 68048), (58, 68045), (59, 68042), (60, 67991), (64, 67874),

Gene: Bianmat_86 Start: 68886, Stop: 67888, Start Num: 3

Candidate Starts for Bianmat_86:

(1, 68895), (2, 68889), (Start: 3 @68886 has 24 MA's), (11, 68802), (14, 68772), (16, 68760), (29, 68622), (31, 68595), (32, 68583), (33, 68580), (35, 68499), (37, 68454), (43, 68319), (44, 68313), (46, 68262), (47, 68250), (53, 68124), (54, 68112), (55, 68097), (56, 68094), (57, 68088), (58, 68085), (59, 68082), (60, 68031), (64, 67914),

Gene: BigShaq_95 Start: 70588, Stop: 69683, Start Num: 13

Candidate Starts for BigShaq_95:

(10, 70603), (Start: 13 @70588 has 28 MA's), (20, 70501), (21, 70492), (24, 70471), (29, 70426), (31, 70402), (33, 70387), (34, 70339), (36, 70282), (37, 70261), (39, 70213), (40, 70180), (41, 70123), (44, 70108), (45, 70084), (46, 70057), (51, 69940), (52, 69937), (53, 69919), (54, 69907), (56, 69889), (58, 69880), (59, 69877), (60, 69826), (62, 69742), (63, 69715),

Gene: BirksAndSocks_97 Start: 71205, Stop: 70309, Start Num: 13

Candidate Starts for BirksAndSocks_97:

(Start: 13 @71205 has 28 MA's), (15, 71184), (27, 71049), (33, 71004), (34, 70956), (37, 70878), (38, 70842), (39, 70830), (41, 70746), (44, 70731), (45, 70707), (46, 70680), (51, 70566), (52, 70563), (53, 70545), (54, 70533), (55, 70518), (56, 70515), (58, 70506), (59, 70503), (60, 70452), (61, 70371),

Gene: Boneham_96 Start: 71130, Stop: 70234, Start Num: 13

Candidate Starts for Boneham_96:

(Start: 13 @71130 has 28 MA's), (15, 71109), (27, 70974), (33, 70929), (34, 70881), (37, 70803), (38, 70767), (39, 70755), (41, 70671), (44, 70656), (45, 70632), (46, 70605), (51, 70491), (52, 70488), (53, 70470), (54, 70458), (55, 70443), (56, 70440), (58, 70431), (59, 70428), (60, 70377), (61, 70296),

Gene: Breezic_95 Start: 70142, Stop: 69225, Start Num: 13

Candidate Starts for Breezic_95:

(Start: 13 @70142 has 28 MA's), (15, 70121), (18, 70088), (21, 70046), (27, 69986), (31, 69956), (33, 69941), (37, 69815), (38, 69779), (39, 69767), (41, 69677), (44, 69662), (46, 69611), (48, 69584), (51, 69482), (52, 69479), (53, 69461), (54, 69449), (55, 69434), (58, 69422), (59, 69419), (60, 69368), (61, 69287),

Gene: Butterball_95 Start: 71135, Stop: 70239, Start Num: 13

Candidate Starts for Butterball_95:

(Start: 13 @71135 has 28 MA's), (15, 71114), (27, 70979), (33, 70934), (34, 70886), (37, 70808), (38, 70772), (39, 70760), (41, 70676), (44, 70661), (45, 70637), (46, 70610), (51, 70496), (52, 70493), (53, 70475), (54, 70463), (55, 70448), (56, 70445), (58, 70436), (59, 70433), (60, 70382), (61, 70301),

Gene: CathyBurgh_93 Start: 70172, Stop: 69255, Start Num: 13

Candidate Starts for CathyBurgh_93:

(Start: 13 @70172 has 28 MA's), (15, 70151), (18, 70118), (21, 70076), (27, 70016), (31, 69986), (37, 69845), (39, 69797), (41, 69707), (44, 69692), (45, 69668), (46, 69641), (48, 69614), (51, 69512), (52,

69509), (53, 69491), (54, 69479), (55, 69464), (58, 69452), (59, 69449), (60, 69398), (61, 69317),

Gene: Charianelly_86 Start: 68596, Stop: 67598, Start Num: 3

Candidate Starts for Charianelly_86:

(1, 68605), (2, 68599), (Start: 3 @68596 has 24 MA's), (11, 68512), (14, 68482), (16, 68470), (29, 68332), (31, 68305), (32, 68293), (33, 68290), (35, 68209), (37, 68164), (43, 68029), (44, 68023), (46, 67972), (47, 67960), (53, 67834), (54, 67822), (55, 67807), (56, 67804), (57, 67798), (58, 67795), (59, 67792), (60, 67741), (64, 67624),

Gene: Chelms_94 Start: 70726, Stop: 69830, Start Num: 13

Candidate Starts for Chelms_94:

(4, 70792), (Start: 13 @70726 has 28 MA's), (19, 70642), (31, 70549), (32, 70537), (34, 70486), (36, 70429), (37, 70408), (38, 70372), (39, 70360), (40, 70327), (41, 70270), (44, 70255), (45, 70231), (46, 70204), (51, 70087), (52, 70084), (53, 70066), (54, 70054), (55, 70039), (56, 70036), (58, 70027), (59, 70024), (60, 69973), (62, 69889), (63, 69862),

Gene: CinnamonToast_98 Start: 71698, Stop: 70802, Start Num: 13

Candidate Starts for CinnamonToast_98:

(4, 71764), (8, 71728), (Start: 13 @71698 has 28 MA's), (15, 71677), (18, 71644), (21, 71602), (27, 71542), (33, 71497), (34, 71449), (37, 71371), (38, 71335), (39, 71323), (41, 71239), (44, 71224), (45, 71200), (46, 71173), (51, 71059), (52, 71056), (53, 71038), (54, 71026), (55, 71011), (56, 71008), (58, 70999), (59, 70996), (60, 70945), (61, 70864),

Gene: Crete_95 Start: 70771, Stop: 69866, Start Num: 13

Candidate Starts for Crete_95:

(4, 70837), (5, 70825), (6, 70822), (Start: 13 @70771 has 28 MA's), (21, 70675), (24, 70654), (29, 70609), (31, 70585), (33, 70570), (34, 70522), (36, 70465), (37, 70444), (39, 70396), (40, 70363), (41, 70306), (44, 70291), (45, 70267), (46, 70240), (51, 70123), (52, 70120), (53, 70102), (54, 70090), (55, 70075), (56, 70072), (58, 70063), (59, 70060), (60, 70009), (62, 69925), (63, 69898),

Gene: Dakiti_96 Start: 71669, Stop: 70773, Start Num: 13

Candidate Starts for Dakiti_96:

(4, 71735), (Start: 13 @71669 has 28 MA's), (19, 71585), (31, 71492), (32, 71480), (34, 71429), (36, 71372), (37, 71351), (38, 71315), (39, 71303), (40, 71270), (41, 71213), (44, 71198), (45, 71174), (46, 71147), (51, 71030), (52, 71027), (53, 71009), (54, 70997), (55, 70982), (56, 70979), (58, 70970), (59, 70967), (60, 70916), (62, 70832), (63, 70805),

Gene: Damp_86 Start: 67760, Stop: 66762, Start Num: 3

Candidate Starts for Damp_86:

(1, 67769), (2, 67763), (Start: 3 @67760 has 24 MA's), (11, 67676), (14, 67646), (16, 67634), (29, 67496), (31, 67469), (32, 67457), (33, 67454), (35, 67373), (37, 67328), (43, 67193), (44, 67187), (46, 67136), (47, 67124), (53, 66998), (54, 66986), (55, 66971), (56, 66968), (57, 66962), (58, 66959), (59, 66956), (60, 66905), (64, 66788),

Gene: Diabla_98 Start: 71134, Stop: 70223, Start Num: 12

Candidate Starts for Diabla_98:

(4, 71200), (7, 71173), (9, 71158), (Start: 12 @71134 has 5 MA's), (20, 71038), (22, 71026), (31, 70939), (32, 70927), (37, 70798), (38, 70762), (39, 70750), (40, 70717), (42, 70654), (44, 70645), (46, 70594), (49, 70537), (51, 70480), (52, 70477), (53, 70459), (54, 70447), (55, 70432), (56, 70429), (58, 70420), (59, 70417), (60, 70366), (64, 70249),

Gene: Eggsie_91 Start: 68690, Stop: 67779, Start Num: 12

Candidate Starts for Eggsie_91:

(4, 68756), (7, 68729), (9, 68714), (Start: 12 @68690 has 5 MA's), (20, 68594), (22, 68582), (23, 68576), (30, 68513), (31, 68495), (37, 68354), (38, 68318), (39, 68306), (40, 68273), (42, 68210), (44, 68201), (46, 68150), (49, 68093), (51, 68036), (52, 68033), (53, 68015), (54, 68003), (55, 67988), (56, 67985), (58, 67976), (59, 67973), (60, 67922), (64, 67805),

Gene: Ekhein_96 Start: 70186, Stop: 69269, Start Num: 13

Candidate Starts for Ekhein_96:

(Start: 13 @70186 has 28 MA's), (15, 70165), (27, 70030), (33, 69985), (34, 69937), (37, 69859), (38, 69823), (39, 69811), (41, 69721), (42, 69715), (44, 69706), (45, 69682), (46, 69655), (48, 69628), (51, 69526), (52, 69523), (53, 69505), (54, 69493), (55, 69478), (56, 69475), (58, 69466), (59, 69463), (60, 69412), (61, 69331),

Gene: Exiguo_93 Start: 69605, Stop: 68694, Start Num: 13

Candidate Starts for Exiguo_93:

(4, 69671), (Start: 13 @69605 has 28 MA's), (15, 69584), (18, 69551), (21, 69509), (27, 69449), (31, 69419), (37, 69278), (39, 69230), (41, 69146), (44, 69131), (45, 69107), (46, 69080), (48, 69053), (51, 68951), (52, 68948), (53, 68930), (54, 68918), (55, 68903), (58, 68891), (59, 68888), (60, 68837), (61, 68756),

Gene: FelixAlejandro_97 Start: 71648, Stop: 70752, Start Num: 13

Candidate Starts for FelixAlejandro_97:

(Start: 13 @71648 has 28 MA's), (15, 71627), (27, 71492), (33, 71447), (34, 71399), (37, 71321), (38, 71285), (39, 71273), (41, 71189), (44, 71174), (45, 71150), (46, 71123), (51, 71009), (52, 71006), (53, 70988), (54, 70976), (55, 70961), (56, 70958), (58, 70949), (59, 70946), (60, 70895), (61, 70814),

Gene: Flakey_95 Start: 71083, Stop: 70166, Start Num: 13

Candidate Starts for Flakey_95:

(4, 71149), (8, 71113), (Start: 13 @71083 has 28 MA's), (15, 71062), (18, 71029), (21, 70987), (27, 70927), (31, 70897), (37, 70756), (38, 70720), (39, 70708), (41, 70618), (42, 70612), (44, 70603), (45, 70579), (46, 70552), (48, 70525), (51, 70423), (52, 70420), (53, 70402), (54, 70390), (55, 70375), (56, 70372), (58, 70363), (59, 70360), (60, 70309), (61, 70228),

Gene: GalacticEye_86 Start: 68554, Stop: 67556, Start Num: 3

Candidate Starts for GalacticEye_86:

(1, 68563), (2, 68557), (Start: 3 @68554 has 24 MA's), (11, 68470), (14, 68440), (16, 68428), (29, 68290), (31, 68263), (32, 68251), (33, 68248), (35, 68167), (37, 68122), (43, 67987), (44, 67981), (46, 67930), (47, 67918), (53, 67792), (54, 67780), (55, 67765), (56, 67762), (57, 67756), (58, 67753), (59, 67750), (60, 67699), (64, 67582),

Gene: Gorko_93 Start: 69355, Stop: 68438, Start Num: 13

Candidate Starts for Gorko_93:

(Start: 13 @69355 has 28 MA's), (15, 69334), (18, 69301), (21, 69259), (27, 69199), (31, 69169), (33, 69154), (36, 69049), (37, 69028), (38, 68992), (39, 68980), (41, 68890), (42, 68884), (44, 68875), (45, 68851), (46, 68824), (48, 68797), (51, 68695), (52, 68692), (53, 68674), (54, 68662), (55, 68647), (56, 68644), (58, 68635), (59, 68632), (60, 68581), (61, 68500),

Gene: GourdThymes_94 Start: 70193, Stop: 69282, Start Num: 13

Candidate Starts for GourdThymes_94:

(Start: 13 @70193 has 28 MA's), (15, 70172), (18, 70139), (21, 70097), (27, 70037), (31, 70007), (37, 69866), (39, 69818), (41, 69734), (44, 69719), (46, 69668), (48, 69641), (51, 69539), (52, 69536), (53, 69518), (54, 69506), (55, 69491), (56, 69488), (58, 69479), (59, 69476), (60, 69425), (61, 69344),

Gene: Guillaume_85 Start: 68607, Stop: 67609, Start Num: 3

Candidate Starts for Guillaume_85:

(1, 68616), (2, 68610), (Start: 3 @68607 has 24 MA's), (11, 68523), (14, 68493), (16, 68481), (29, 68343), (31, 68316), (32, 68304), (33, 68301), (35, 68220), (37, 68175), (43, 68040), (44, 68034), (46, 67983), (47, 67971), (53, 67845), (54, 67833), (55, 67818), (56, 67815), (57, 67809), (58, 67806), (59, 67803), (60, 67752), (64, 67635),

Gene: Hail2Pitt_84 Start: 69080, Stop: 68082, Start Num: 3

Candidate Starts for Hail2Pitt_84:

(1, 69089), (2, 69083), (Start: 3 @69080 has 24 MA's), (11, 68996), (14, 68966), (16, 68954), (29, 68816), (31, 68789), (32, 68777), (33, 68774), (35, 68693), (37, 68648), (43, 68513), (44, 68507), (46, 68456), (47, 68444), (53, 68318), (54, 68306), (55, 68291), (56, 68288), (57, 68282), (58, 68279), (59, 68276), (60, 68225), (64, 68108),

Gene: Harambe_85 Start: 68874, Stop: 67876, Start Num: 3

Candidate Starts for Harambe_85:

(1, 68883), (2, 68877), (Start: 3 @68874 has 24 MA's), (11, 68790), (14, 68760), (16, 68748), (29, 68610), (31, 68583), (32, 68571), (33, 68568), (35, 68487), (37, 68442), (43, 68307), (44, 68301), (46, 68250), (47, 68238), (53, 68112), (54, 68100), (55, 68085), (56, 68082), (57, 68076), (58, 68073), (59, 68070), (60, 68019), (64, 67902),

Gene: Hello_85 Start: 68836, Stop: 67838, Start Num: 3

Candidate Starts for Hello_85:

(1, 68845), (2, 68839), (Start: 3 @68836 has 24 MA's), (11, 68752), (14, 68722), (16, 68710), (29, 68572), (31, 68545), (32, 68533), (33, 68530), (35, 68449), (37, 68404), (43, 68269), (44, 68263), (46, 68212), (47, 68200), (53, 68074), (54, 68062), (55, 68047), (56, 68044), (57, 68038), (58, 68035), (59, 68032), (60, 67981), (64, 67864),

Gene: Hotorobo_96 Start: 71054, Stop: 70143, Start Num: 13

Candidate Starts for Hotorobo_96:

(8, 71084), (Start: 13 @71054 has 28 MA's), (15, 71033), (18, 71000), (21, 70958), (27, 70898), (33, 70853), (36, 70748), (37, 70727), (38, 70691), (39, 70679), (41, 70595), (44, 70580), (45, 70556), (46, 70529), (48, 70502), (51, 70400), (52, 70397), (53, 70379), (54, 70367), (55, 70352), (56, 70349), (58, 70340), (59, 70337), (60, 70286), (61, 70205),

Gene: Jams_86 Start: 67884, Stop: 66886, Start Num: 3

Candidate Starts for Jams_86:

(1, 67893), (2, 67887), (Start: 3 @67884 has 24 MA's), (11, 67800), (14, 67770), (16, 67758), (29, 67620), (31, 67593), (32, 67581), (33, 67578), (35, 67497), (37, 67452), (43, 67317), (44, 67311), (46, 67260), (47, 67248), (53, 67122), (54, 67110), (55, 67095), (56, 67092), (57, 67086), (58, 67083), (59, 67080), (60, 67029), (64, 66912),

Gene: Jellybones_95 Start: 71336, Stop: 70440, Start Num: 13

Candidate Starts for Jellybones_95:

(Start: 13 @71336 has 28 MA's), (15, 71315), (21, 71240), (27, 71180), (31, 71150), (33, 71135), (34, 71087), (37, 71009), (38, 70973), (39, 70961), (41, 70877), (44, 70862), (45, 70838), (46, 70811), (51, 70697), (52, 70694), (53, 70676), (54, 70664), (55, 70649), (56, 70646), (58, 70637), (59, 70634), (60, 70583), (61, 70502),

Gene: John316_97 Start: 71313, Stop: 70396, Start Num: 13

Candidate Starts for John316_97:

(8, 71343), (Start: 13 @71313 has 28 MA's), (15, 71292), (21, 71217), (27, 71157), (31, 71127), (37, 70986), (38, 70950), (39, 70938), (41, 70848), (42, 70842), (44, 70833), (45, 70809), (46, 70782), (48, 70755), (51, 70653), (52, 70650), (53, 70632), (54, 70620), (55, 70605), (58, 70593), (59, 70590), (60,

70539), (61, 70458),

Gene: Jormungandr_85 Start: 68589, Stop: 67591, Start Num: 3

Candidate Starts for Jormungandr_85:

(1, 68598), (2, 68592), (Start: 3 @68589 has 24 MA's), (11, 68505), (14, 68475), (16, 68463), (29, 68325), (31, 68298), (32, 68286), (33, 68283), (35, 68202), (37, 68157), (43, 68022), (44, 68016), (46, 67965), (47, 67953), (53, 67827), (54, 67815), (55, 67800), (56, 67797), (57, 67791), (58, 67788), (59, 67785), (60, 67734), (64, 67617),

Gene: Kaseim_85 Start: 68031, Stop: 67033, Start Num: 3

Candidate Starts for Kaseim_85:

(1, 68040), (2, 68034), (Start: 3 @68031 has 24 MA's), (11, 67947), (14, 67917), (16, 67905), (29, 67767), (31, 67740), (32, 67728), (33, 67725), (35, 67644), (37, 67599), (43, 67464), (44, 67458), (46, 67407), (47, 67395), (53, 67269), (54, 67257), (55, 67242), (56, 67239), (57, 67233), (58, 67230), (59, 67227), (60, 67176), (64, 67059),

Gene: Lahirium_86 Start: 69625, Stop: 68627, Start Num: 3

Candidate Starts for Lahirium_86:

(1, 69634), (2, 69628), (Start: 3 @69625 has 24 MA's), (11, 69541), (14, 69511), (16, 69499), (29, 69361), (31, 69334), (32, 69322), (33, 69319), (35, 69238), (37, 69193), (43, 69058), (44, 69052), (46, 69001), (47, 68989), (53, 68863), (54, 68851), (55, 68836), (56, 68833), (57, 68827), (58, 68824), (59, 68821), (60, 68770), (64, 68653),

Gene: Lidong_86 Start: 68846, Stop: 67848, Start Num: 3

Candidate Starts for Lidong_86:

(1, 68855), (2, 68849), (Start: 3 @68846 has 24 MA's), (11, 68762), (14, 68732), (16, 68720), (29, 68582), (31, 68555), (32, 68543), (33, 68540), (35, 68459), (37, 68414), (43, 68279), (44, 68273), (46, 68222), (47, 68210), (53, 68084), (54, 68072), (55, 68057), (56, 68054), (57, 68048), (58, 68045), (59, 68042), (60, 67991), (64, 67874),

Gene: Linetti_94 Start: 71695, Stop: 70790, Start Num: 13

Candidate Starts for Linetti_94:

(4, 71761), (Start: 13 @71695 has 28 MA's), (21, 71599), (24, 71578), (29, 71533), (31, 71509), (33, 71494), (34, 71446), (36, 71389), (37, 71368), (38, 71332), (39, 71320), (40, 71287), (41, 71230), (44, 71215), (45, 71191), (46, 71164), (51, 71047), (52, 71044), (53, 71026), (55, 70999), (56, 70996), (58, 70987), (59, 70984), (60, 70933), (62, 70849), (63, 70822),

Gene: Lizzo_94 Start: 70172, Stop: 69255, Start Num: 13

Candidate Starts for Lizzo_94:

(Start: 13 @70172 has 28 MA's), (15, 70151), (18, 70118), (21, 70076), (27, 70016), (31, 69986), (37, 69845), (39, 69797), (41, 69707), (44, 69692), (45, 69668), (46, 69641), (48, 69614), (51, 69512), (52, 69509), (53, 69491), (54, 69479), (55, 69464), (58, 69452), (59, 69449), (60, 69398), (61, 69317),

Gene: Luker_87 Start: 68899, Stop: 67901, Start Num: 3

Candidate Starts for Luker_87:

(1, 68908), (2, 68902), (Start: 3 @68899 has 24 MA's), (11, 68815), (14, 68785), (16, 68773), (29, 68635), (31, 68608), (32, 68596), (33, 68593), (35, 68512), (37, 68467), (43, 68332), (44, 68326), (46, 68275), (47, 68263), (53, 68137), (54, 68125), (55, 68110), (56, 68107), (57, 68101), (58, 68098), (59, 68095), (60, 68044), (64, 67927),

Gene: Minos_87 Start: 68573, Stop: 67587, Start Num: 3

Candidate Starts for Minos_87:

(1, 68582), (2, 68576), (Start: 3 @68573 has 24 MA's), (11, 68501), (14, 68471), (16, 68459), (29, 68321), (32, 68282), (33, 68279), (35, 68198), (37, 68153), (43, 68018), (44, 68012), (46, 67961), (47, 67949), (53, 67823), (54, 67811), (55, 67796), (56, 67793), (57, 67787), (58, 67784), (59, 67781), (60, 67730), (64, 67613),

Gene: Monty_94 Start: 69874, Stop: 68957, Start Num: 13

Candidate Starts for Monty_94:

(Start: 13 @69874 has 28 MA's), (15, 69853), (18, 69820), (21, 69778), (27, 69718), (31, 69688), (37, 69547), (38, 69511), (39, 69499), (41, 69409), (42, 69403), (44, 69394), (45, 69370), (46, 69343), (48, 69316), (51, 69214), (52, 69211), (53, 69193), (54, 69181), (55, 69166), (56, 69163), (58, 69154), (59, 69151), (60, 69100), (61, 69019),

Gene: MrWormie_86 Start: 67587, Stop: 66589, Start Num: 3

Candidate Starts for MrWormie_86:

(1, 67596), (2, 67590), (Start: 3 @67587 has 24 MA's), (11, 67503), (14, 67473), (16, 67461), (29, 67323), (31, 67296), (32, 67284), (33, 67281), (35, 67200), (37, 67155), (43, 67020), (44, 67014), (46, 66963), (47, 66951), (53, 66825), (54, 66813), (55, 66798), (56, 66795), (57, 66789), (58, 66786), (59, 66783), (60, 66732), (64, 66615),

Gene: Msay19_98 Start: 71931, Stop: 71035, Start Num: 13

Candidate Starts for Msay19_98:

(Start: 13 @71931 has 28 MA's), (15, 71910), (27, 71775), (33, 71730), (34, 71682), (37, 71604), (38, 71568), (39, 71556), (41, 71472), (42, 71466), (44, 71457), (45, 71433), (46, 71406), (51, 71292), (52, 71289), (54, 71259), (55, 71244), (56, 71241), (58, 71232), (59, 71229), (60, 71178), (64, 71061),

Gene: Neevie_85 Start: 68847, Stop: 67849, Start Num: 3

Candidate Starts for Neevie_85:

(1, 68856), (2, 68850), (Start: 3 @68847 has 24 MA's), (11, 68763), (14, 68733), (16, 68721), (29, 68583), (31, 68556), (32, 68544), (33, 68541), (35, 68460), (37, 68415), (43, 68280), (44, 68274), (46, 68223), (47, 68211), (53, 68085), (54, 68073), (55, 68058), (56, 68055), (57, 68049), (58, 68046), (59, 68043), (60, 67992), (64, 67875),

Gene: Newt_87 Start: 68916, Stop: 67918, Start Num: 3

Candidate Starts for Newt_87:

(1, 68925), (2, 68919), (Start: 3 @68916 has 24 MA's), (11, 68832), (14, 68802), (16, 68790), (29, 68652), (31, 68625), (32, 68613), (33, 68610), (35, 68529), (37, 68484), (43, 68349), (44, 68343), (46, 68292), (47, 68280), (53, 68154), (54, 68142), (55, 68127), (56, 68124), (57, 68118), (58, 68115), (59, 68112), (60, 68061), (64, 67944),

Gene: Nimi13_85 Start: 68597, Stop: 67599, Start Num: 3

Candidate Starts for Nimi13_85:

(1, 68606), (2, 68600), (Start: 3 @68597 has 24 MA's), (11, 68513), (14, 68483), (16, 68471), (29, 68333), (31, 68306), (32, 68294), (33, 68291), (35, 68210), (37, 68165), (43, 68030), (44, 68024), (46, 67973), (47, 67961), (53, 67835), (54, 67823), (55, 67808), (56, 67805), (57, 67799), (58, 67796), (59, 67793), (60, 67742), (64, 67625),

Gene: PierreThree_94 Start: 71300, Stop: 70404, Start Num: 13

Candidate Starts for PierreThree_94:

(4, 71366), (Start: 13 @71300 has 28 MA's), (19, 71216), (31, 71123), (32, 71111), (34, 71060), (36, 71003), (37, 70982), (38, 70946), (39, 70934), (40, 70901), (41, 70844), (44, 70829), (45, 70805), (46, 70778), (51, 70661), (52, 70658), (53, 70640), (54, 70628), (55, 70613), (56, 70610), (58, 70601), (59, 70598), (60, 70547), (62, 70463), (63, 70436),

Gene: PokyPuppy_92 Start: 70572, Stop: 69670, Start Num: 12

Candidate Starts for PokyPuppy_92:

(Start: 12 @70572 has 5 MA's), (24, 70449), (25, 70437), (28, 70413), (31, 70389), (32, 70377), (37, 70248), (38, 70212), (40, 70167), (44, 70095), (49, 69984), (50, 69951), (51, 69927), (52, 69924), (54, 69894), (55, 69879), (58, 69867), (59, 69864), (60, 69813),

Gene: Poland_98 Start: 71913, Stop: 71017, Start Num: 13

Candidate Starts for Poland_98:

(Start: 13 @71913 has 28 MA's), (15, 71892), (27, 71757), (33, 71712), (34, 71664), (37, 71586), (38, 71550), (39, 71538), (41, 71454), (42, 71448), (44, 71439), (45, 71415), (46, 71388), (51, 71274), (52, 71271), (54, 71241), (55, 71226), (56, 71223), (58, 71214), (59, 71211), (60, 71160), (64, 71043),

Gene: RemRem_97 Start: 70163, Stop: 69252, Start Num: 13

Candidate Starts for RemRem_97:

(Start: 13 @70163 has 28 MA's), (15, 70142), (18, 70109), (21, 70067), (27, 70007), (31, 69977), (37, 69836), (39, 69788), (41, 69704), (44, 69689), (45, 69665), (46, 69638), (48, 69611), (51, 69509), (52, 69506), (53, 69488), (54, 69476), (55, 69461), (58, 69449), (59, 69446), (60, 69395), (61, 69314),

Gene: RoyalG_93 Start: 69881, Stop: 68970, Start Num: 12

Candidate Starts for RoyalG_93:

(Start: 12 @69881 has 5 MA's), (20, 69785), (22, 69773), (31, 69686), (32, 69674), (37, 69545), (38, 69509), (39, 69497), (40, 69464), (42, 69401), (44, 69392), (46, 69341), (49, 69284), (51, 69227), (52, 69224), (53, 69206), (54, 69194), (55, 69179), (58, 69167), (59, 69164), (60, 69113), (64, 68996),

Gene: Sam12_93 Start: 69602, Stop: 68691, Start Num: 13

Candidate Starts for Sam12_93:

(4, 69668), (Start: 13 @69602 has 28 MA's), (15, 69581), (18, 69548), (21, 69506), (27, 69446), (31, 69416), (37, 69275), (39, 69227), (41, 69143), (44, 69128), (45, 69104), (46, 69077), (48, 69050), (51, 68948), (52, 68945), (53, 68927), (54, 68915), (55, 68900), (58, 68888), (59, 68885), (60, 68834), (61, 68753),

Gene: Shelley_86 Start: 68073, Stop: 67075, Start Num: 3

Candidate Starts for Shelley_86:

(1, 68082), (2, 68076), (Start: 3 @68073 has 24 MA's), (11, 67989), (14, 67959), (16, 67947), (29, 67809), (31, 67782), (32, 67770), (33, 67767), (35, 67686), (37, 67641), (43, 67506), (44, 67500), (46, 67449), (47, 67437), (53, 67311), (54, 67299), (55, 67284), (56, 67281), (57, 67275), (58, 67272), (59, 67269), (60, 67218), (64, 67101),

Gene: Sombrero_95 Start: 70215, Stop: 69319, Start Num: 13

Candidate Starts for Sombrero_95:

(Start: 13 @70215 has 28 MA's), (15, 70194), (27, 70059), (33, 70014), (34, 69966), (37, 69888), (38, 69852), (39, 69840), (41, 69756), (44, 69741), (45, 69717), (46, 69690), (51, 69576), (52, 69573), (53, 69555), (54, 69543), (55, 69528), (56, 69525), (58, 69516), (59, 69513), (60, 69462), (61, 69381),

Gene: Squibbles_94 Start: 70689, Stop: 69772, Start Num: 13

Candidate Starts for Squibbles_94:

(4, 70755), (8, 70719), (Start: 13 @70689 has 28 MA's), (15, 70668), (18, 70635), (21, 70593), (27, 70533), (31, 70503), (33, 70488), (36, 70383), (37, 70362), (38, 70326), (39, 70314), (41, 70224), (42, 70218), (44, 70209), (45, 70185), (46, 70158), (48, 70131), (51, 70029), (52, 70026), (53, 70008), (54, 69996), (55, 69981), (56, 69978), (58, 69969), (59, 69966), (60, 69915), (61, 69834),

Gene: SteveFrench_92 Start: 70121, Stop: 69210, Start Num: 12

Candidate Starts for SteveFrench_92:

(Start: 12 @70121 has 5 MA's), (20, 70025), (22, 70013), (23, 70007), (26, 69962), (31, 69926), (32, 69914), (37, 69785), (38, 69749), (39, 69737), (40, 69704), (42, 69641), (44, 69632), (46, 69581), (49, 69524), (51, 69467), (52, 69464), (53, 69446), (54, 69434), (55, 69419), (58, 69407), (59, 69404), (60, 69353), (64, 69236),

Gene: Sticker17_86 Start: 68561, Stop: 67563, Start Num: 3

Candidate Starts for Sticker17_86:

(1, 68570), (2, 68564), (Start: 3 @68561 has 24 MA's), (11, 68477), (14, 68447), (16, 68435), (29, 68297), (31, 68270), (32, 68258), (33, 68255), (35, 68174), (37, 68129), (43, 67994), (44, 67988), (46, 67937), (47, 67925), (53, 67799), (54, 67787), (55, 67772), (56, 67769), (57, 67763), (58, 67760), (59, 67757), (60, 67706), (64, 67589),

Gene: Teal_85 Start: 69052, Stop: 68054, Start Num: 3

Candidate Starts for Teal_85:

(1, 69061), (2, 69055), (Start: 3 @69052 has 24 MA's), (11, 68968), (14, 68938), (16, 68926), (29, 68788), (31, 68761), (32, 68749), (33, 68746), (35, 68665), (37, 68620), (43, 68485), (44, 68479), (46, 68428), (47, 68416), (53, 68290), (54, 68278), (55, 68263), (56, 68260), (57, 68254), (58, 68251), (59, 68248), (60, 68197), (64, 68080),

Gene: Woes_85 Start: 69103, Stop: 68105, Start Num: 3

Candidate Starts for Woes_85:

(1, 69112), (2, 69106), (Start: 3 @69103 has 24 MA's), (11, 69019), (14, 68989), (16, 68977), (29, 68839), (31, 68812), (32, 68800), (33, 68797), (35, 68716), (37, 68671), (43, 68536), (44, 68530), (46, 68479), (47, 68467), (53, 68341), (54, 68329), (55, 68314), (56, 68311), (57, 68305), (58, 68302), (59, 68299), (60, 68248), (64, 68131),

Gene: Worcestershire_93 Start: 69594, Stop: 68677, Start Num: 13

Candidate Starts for Worcestershire_93:

(Start: 13 @69594 has 28 MA's), (15, 69573), (27, 69438), (33, 69393), (37, 69267), (38, 69231), (39, 69219), (41, 69129), (42, 69123), (44, 69114), (45, 69090), (46, 69063), (48, 69036), (51, 68934), (52, 68931), (53, 68913), (54, 68901), (55, 68886), (56, 68883), (58, 68874), (59, 68871), (60, 68820), (61, 68739),