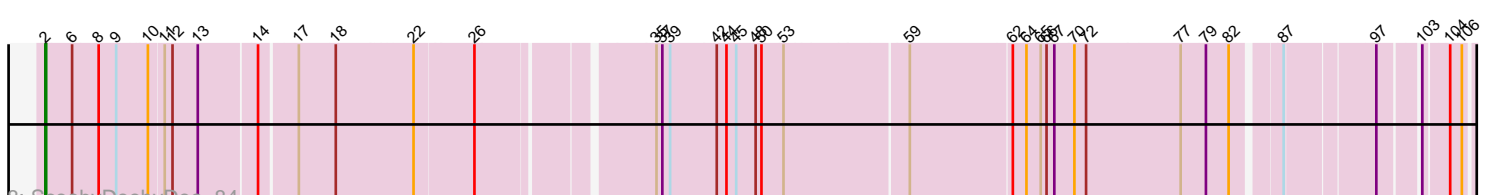
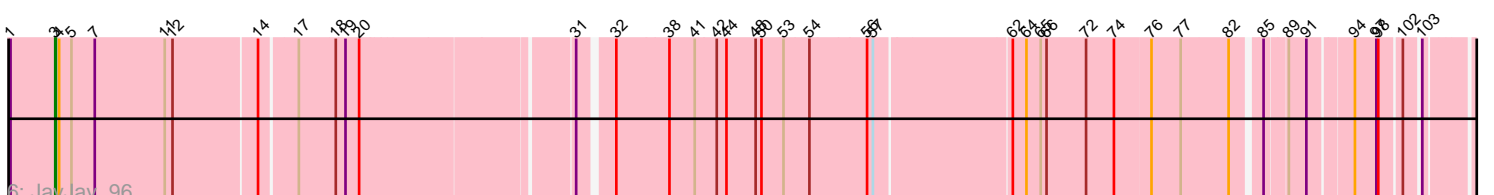
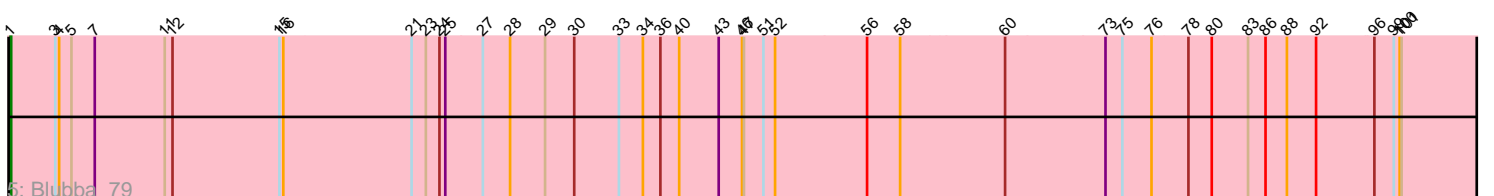
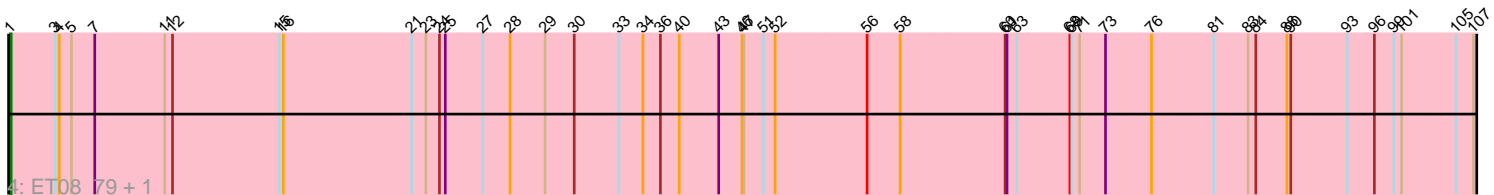
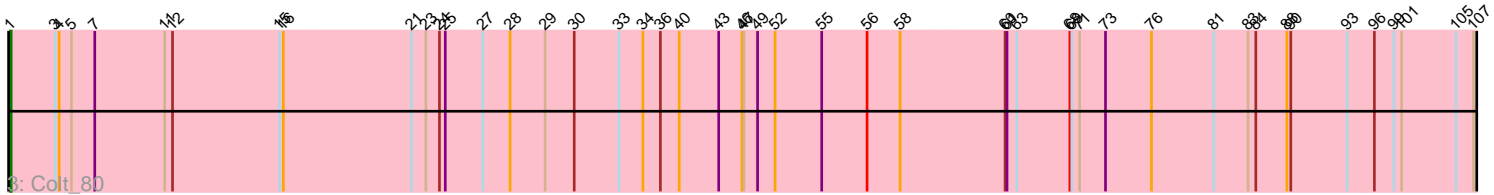
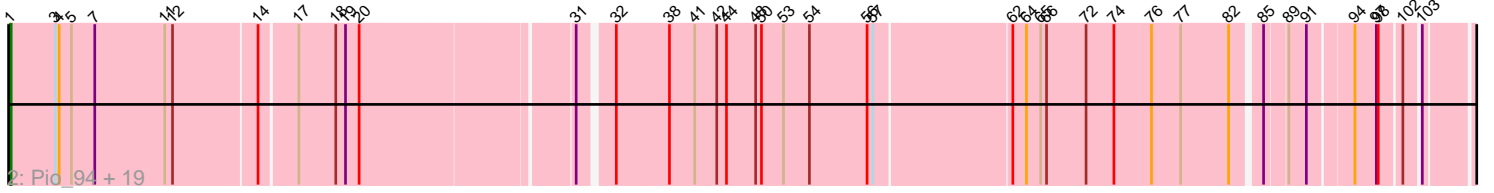
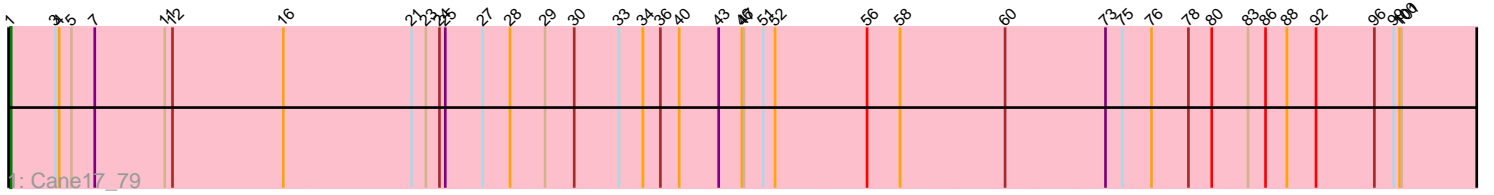


Zoomed Pham 303603



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 303603 Report

This analysis was run 06/08/26 on database version 649.

Pham number 303603 has 28 members, 2 are drafts.

Phages represented in each track:

- Track 1 : Cane17_79
- Track 2 : Pio_94, Jemmno_90, LifeSavor_89, Ading_90, Jaygup_90, Adlitam_90, Pier_94, Spec_85, Rahel_89, JPickles_88, Matsumoto_89, Essence_87, Tyke_92, CindyLou_91, Substance289_87, BeanWater_82, Derek_90, Shnickers_90, Chomp_89, ShiaLabeouf_90
- Track 3 : Colt_80
- Track 4 : ET08_79, Gizmo_94
- Track 5 : Blubba_79
- Track 6 : JayJay_96
- Track 7 : Jedediah_93
- Track 8 : ScoobyDoobyDoo_84

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

The start number called the most often in the published annotations is 1, it was called in 24 of the 26 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Ading_90, Adlitam_90, BeanWater_82, Blubba_79, Cane17_79, Chomp_89, CindyLou_91, Colt_80, Derek_90, ET08_79, Essence_87, Gizmo_94, JPickles_88, Jaygup_90, Jedediah_93, Jemmno_90, LifeSavor_89, Matsumoto_89, Pier_94, Pio_94, Rahel_89, ShiaLabeouf_90, Shnickers_90, Spec_85, Substance289_87, Tyke_92,

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

- JayJay_96,

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

- ScoobyDoobyDoo_84,

Summary by start number:

Start 1:

- Found in 27 of 28 (96.4%) of genes in pham

- Manual Annotations of this start: 24 of 26
- Called 96.3% of time when present
- Phage (with cluster) where this start called: Ading_90 (C1), Adlitam_90 (C1), BeanWater_82 (C1), Blubba_79 (C1), Cane17_79 (C1), Chomp_89 (C1), CindyLou_91 (C1), Colt_80 (C1), Derek_90 (C1), ET08_79 (C1), Essence_87 (C1), Gizmo_94 (C1), JPickles_88 (C1), Jaygup_90 (C1), Jedediah_93 (C1), Jemmno_90 (C1), LifeSavor_89 (C1), Matsumoto_89 (C1), Pier_94 (C1), Pio_94 (C1), Rahel_89 (C1), ShiaLabeouf_90 (C1), Shnickers_90 (C1), Spec_85 (C1), Substance289_87 (C1), Tyke_92 (C1),

Start 2:

- Found in 1 of 28 (3.6%) of genes in pham
- Manual Annotations of this start: 1 of 26
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ScoobyDoobyDoo_84 (C2),

Start 3:

- Found in 27 of 28 (96.4%) of genes in pham
- Manual Annotations of this start: 1 of 26
- Called 3.7% of time when present
- Phage (with cluster) where this start called: JayJay_96 (C1),

Summary by clusters:

There are 2 clusters represented in this pham: C2, C1,

Info for manual annotations of cluster C1:

- Start number 1 was manually annotated 24 times for cluster C1.
- Start number 3 was manually annotated 1 time for cluster C1.

Info for manual annotations of cluster C2:

- Start number 2 was manually annotated 1 time for cluster C2.

Gene Information:

Gene: Ading_90 Start: 35182, Stop: 38610, Start Num: 1

Candidate Starts for Ading_90:

(Start: 1 @35182 has 24 MA's), (Start: 3 @35251 has 1 MA's), (4, 35257), (5, 35275), (7, 35311), (11, 35419), (12, 35431), (14, 35554), (17, 35605), (18, 35659), (19, 35671), (20, 35692), (31, 35986), (32, 36031), (38, 36109), (41, 36145), (42, 36178), (44, 36193), (48, 36238), (50, 36247), (53, 36280), (54, 36316), (56, 36400), (57, 36406), (62, 36601), (64, 36622), (65, 36643), (66, 36652), (72, 36709), (74, 36751), (76, 36805), (77, 36850), (82, 36919), (85, 36955), (89, 36982), (91, 37009), (94, 37069), (97, 37102), (98, 37105), (102, 37135), (103, 37153), (113, 37294), (117, 37345), (124, 37555), (125, 37561), (127, 37600), (128, 37642), (129, 37654), (130, 37672), (134, 37846), (135, 37855), (136, 37858), (137, 37861), (138, 37873), (139, 37885), (140, 37888), (141, 37903), (144, 37990), (145, 38005), (146, 38149), (147, 38161), (148, 38341), (149, 38359), (152, 38440), (154, 38476), (155, 38497), (156, 38563),

Gene: Adlitam_90 Start: 35199, Stop: 38627, Start Num: 1

Candidate Starts for Adlitam_90:

(Start: 1 @35199 has 24 MA's), (Start: 3 @35268 has 1 MA's), (4, 35274), (5, 35292), (7, 35328), (11, 35436), (12, 35448), (14, 35571), (17, 35622), (18, 35676), (19, 35688), (20, 35709), (31, 36003), (32, 36048), (38, 36126), (41, 36162), (42, 36195), (44, 36210), (48, 36255), (50, 36264), (53, 36297), (54, 36333), (56, 36417), (57, 36423), (62, 36618), (64, 36639), (65, 36660), (66, 36669), (72, 36726), (74, 36768), (76, 36822), (77, 36867), (82, 36936), (85, 36972), (89, 36999), (91, 37026), (94, 37086), (97, 37119), (98, 37122), (102, 37152), (103, 37170), (113, 37311), (117, 37362), (124, 37572), (125, 37578), (127, 37617), (128, 37659), (129, 37671), (130, 37689), (134, 37863), (135, 37872), (136, 37875), (137, 37878), (138, 37890), (139, 37902), (140, 37905), (141, 37920), (144, 38007), (145, 38022), (146, 38166), (147, 38178), (148, 38358), (149, 38376), (152, 38457), (154, 38493), (155, 38514), (156, 38580),

Gene: BeanWater_82 Start: 34836, Stop: 38264, Start Num: 1

Candidate Starts for BeanWater_82:

(Start: 1 @34836 has 24 MA's), (Start: 3 @34905 has 1 MA's), (4, 34911), (5, 34929), (7, 34965), (11, 35073), (12, 35085), (14, 35208), (17, 35259), (18, 35313), (19, 35325), (20, 35346), (31, 35640), (32, 35685), (38, 35763), (41, 35799), (42, 35832), (44, 35847), (48, 35892), (50, 35901), (53, 35934), (54, 35970), (56, 36054), (57, 36060), (62, 36255), (64, 36276), (65, 36297), (66, 36306), (72, 36363), (74, 36405), (76, 36459), (77, 36504), (82, 36573), (85, 36609), (89, 36636), (91, 36663), (94, 36723), (97, 36756), (98, 36759), (102, 36789), (103, 36807), (113, 36948), (117, 36999), (124, 37209), (125, 37215), (127, 37254), (128, 37296), (129, 37308), (130, 37326), (134, 37500), (135, 37509), (136, 37512), (137, 37515), (138, 37527), (139, 37539), (140, 37542), (141, 37557), (144, 37644), (145, 37659), (146, 37803), (147, 37815), (148, 37995), (149, 38013), (152, 38094), (154, 38130), (155, 38151), (156, 38217),

Gene: Blubba_79 Start: 32769, Stop: 36464, Start Num: 1

Candidate Starts for Blubba_79:

(Start: 1 @32769 has 24 MA's), (Start: 3 @32838 has 1 MA's), (4, 32844), (5, 32862), (7, 32898), (11, 33006), (12, 33018), (15, 33183), (16, 33189), (21, 33384), (23, 33405), (24, 33426), (25, 33435), (27, 33492), (28, 33534), (29, 33588), (30, 33633), (33, 33702), (34, 33738), (36, 33765), (40, 33792), (43, 33852), (46, 33885), (47, 33888), (51, 33918), (52, 33936), (56, 34077), (58, 34128), (60, 34284), (73, 34437), (75, 34461), (76, 34506), (78, 34560), (80, 34596), (83, 34650), (86, 34677), (88, 34710), (92, 34755), (96, 34842), (99, 34872), (100, 34881), (101, 34884), (108, 35013), (109, 35046), (110, 35091), (112, 35109), (115, 35139), (118, 35196), (119, 35238), (122, 35262), (123, 35340), (124, 35409), (125, 35415), (127, 35454), (128, 35496), (129, 35508), (130, 35526), (134, 35700), (135, 35709), (136, 35712), (137, 35715), (138, 35727), (139, 35739), (140, 35742), (141, 35757), (144, 35844), (145, 35859), (146, 36003), (147, 36015), (148, 36195), (149, 36213), (152, 36294), (154, 36330), (155, 36351), (156, 36417),

Gene: Cane17_79 Start: 32842, Stop: 36537, Start Num: 1

Candidate Starts for Cane17_79:

(Start: 1 @32842 has 24 MA's), (Start: 3 @32911 has 1 MA's), (4, 32917), (5, 32935), (7, 32971), (11, 33079), (12, 33091), (16, 33262), (21, 33457), (23, 33478), (24, 33499), (25, 33508), (27, 33565), (28, 33607), (29, 33661), (30, 33706), (33, 33775), (34, 33811), (36, 33838), (40, 33865), (43, 33925), (46, 33958), (47, 33961), (51, 33991), (52, 34009), (56, 34150), (58, 34201), (60, 34357), (73, 34510), (75, 34534), (76, 34579), (78, 34633), (80, 34669), (83, 34723), (86, 34750), (88, 34783), (92, 34828), (96, 34915), (99, 34945), (100, 34954), (101, 34957), (108, 35086), (109, 35119), (110, 35164), (112, 35182), (115, 35212), (118, 35269), (119, 35311), (122, 35335), (123, 35413), (124, 35482), (125, 35488), (127, 35527), (128, 35569), (129, 35581), (130, 35599), (134, 35773), (135, 35782), (136, 35785), (137, 35788), (138, 35800), (139, 35812), (140, 35815), (141, 35830), (144, 35917), (145, 35932), (146, 36076), (147, 36088), (148, 36268), (149, 36286), (152, 36367), (154, 36403), (155, 36424), (156, 36490),

Gene: Chomp_89 Start: 35732, Stop: 39160, Start Num: 1

Candidate Starts for Chomp_89:

(Start: 1 @35732 has 24 MA's), (Start: 3 @35801 has 1 MA's), (4, 35807), (5, 35825), (7, 35861), (11, 35969), (12, 35981), (14, 36104), (17, 36155), (18, 36209), (19, 36221), (20, 36242), (31, 36536), (32, 36581), (38, 36659), (41, 36695), (42, 36728), (44, 36743), (48, 36788), (50, 36797), (53, 36830), (54, 36866), (56, 36950), (57, 36956), (62, 37151), (64, 37172), (65, 37193), (66, 37202), (72, 37259), (74, 37301), (76, 37355), (77, 37400), (82, 37469), (85, 37505), (89, 37532), (91, 37559), (94, 37619), (97, 37652), (98, 37655), (102, 37685), (103, 37703), (113, 37844), (117, 37895), (124, 38105), (125, 38111), (127, 38150), (128, 38192), (129, 38204), (130, 38222), (134, 38396), (135, 38405), (136, 38408), (137, 38411), (138, 38423), (139, 38435), (140, 38438), (141, 38453), (144, 38540), (145, 38555), (146, 38699), (147, 38711), (148, 38891), (149, 38909), (152, 38990), (154, 39026), (155, 39047), (156, 39113),

Gene: CindyLou_91 Start: 35773, Stop: 39201, Start Num: 1

Candidate Starts for CindyLou_91:

(Start: 1 @35773 has 24 MA's), (Start: 3 @35842 has 1 MA's), (4, 35848), (5, 35866), (7, 35902), (11, 36010), (12, 36022), (14, 36145), (17, 36196), (18, 36250), (19, 36262), (20, 36283), (31, 36577), (32, 36622), (38, 36700), (41, 36736), (42, 36769), (44, 36784), (48, 36829), (50, 36838), (53, 36871), (54, 36907), (56, 36991), (57, 36997), (62, 37192), (64, 37213), (65, 37234), (66, 37243), (72, 37300), (74, 37342), (76, 37396), (77, 37441), (82, 37510), (85, 37546), (89, 37573), (91, 37600), (94, 37660), (97, 37693), (98, 37696), (102, 37726), (103, 37744), (113, 37885), (117, 37936), (124, 38146), (125, 38152), (127, 38191), (128, 38233), (129, 38245), (130, 38263), (134, 38437), (135, 38446), (136, 38449), (137, 38452), (138, 38464), (139, 38476), (140, 38479), (141, 38494), (144, 38581), (145, 38596), (146, 38740), (147, 38752), (148, 38932), (149, 38950), (152, 39031), (154, 39067), (155, 39088), (156, 39154),

Gene: Colt_80 Start: 33441, Stop: 37133, Start Num: 1

Candidate Starts for Colt_80:

(Start: 1 @33441 has 24 MA's), (Start: 3 @33510 has 1 MA's), (4, 33516), (5, 33534), (7, 33570), (11, 33678), (12, 33690), (15, 33855), (16, 33861), (21, 34056), (23, 34077), (24, 34098), (25, 34107), (27, 34164), (28, 34206), (29, 34260), (30, 34305), (33, 34374), (34, 34410), (36, 34437), (40, 34464), (43, 34524), (46, 34557), (47, 34560), (49, 34581), (52, 34608), (55, 34680), (56, 34749), (58, 34800), (60, 34956), (61, 34959), (63, 34974), (68, 35055), (69, 35058), (71, 35070), (73, 35109), (76, 35178), (81, 35271), (83, 35322), (84, 35334), (88, 35382), (90, 35388), (93, 35475), (96, 35514), (99, 35544), (101, 35556), (105, 35640), (107, 35667), (108, 35685), (110, 35763), (111, 35772), (115, 35811), (116, 35814), (118, 35868), (119, 35910), (120, 35925), (121, 35928), (122, 35934), (123, 36009), (124, 36078), (125, 36084), (127, 36123), (128, 36165), (129, 36177), (130, 36195), (134, 36369), (135, 36378), (136, 36381), (137, 36384), (138, 36396), (139, 36408), (140, 36411), (141, 36426), (144, 36513), (145, 36528), (146, 36672), (147, 36684), (148, 36864), (149, 36882), (152, 36963), (154, 36999), (155, 37020), (156, 37086),

Gene: Derek_90 Start: 35534, Stop: 38962, Start Num: 1

Candidate Starts for Derek_90:

(Start: 1 @35534 has 24 MA's), (Start: 3 @35603 has 1 MA's), (4, 35609), (5, 35627), (7, 35663), (11, 35771), (12, 35783), (14, 35906), (17, 35957), (18, 36011), (19, 36023), (20, 36044), (31, 36338), (32, 36383), (38, 36461), (41, 36497), (42, 36530), (44, 36545), (48, 36590), (50, 36599), (53, 36632), (54, 36668), (56, 36752), (57, 36758), (62, 36953), (64, 36974), (65, 36995), (66, 37004), (72, 37061), (74, 37103), (76, 37157), (77, 37202), (82, 37271), (85, 37307), (89, 37334), (91, 37361), (94, 37421), (97, 37454), (98, 37457), (102, 37487), (103, 37505), (113, 37646), (117, 37697), (124, 37907), (125, 37913), (127, 37952), (128, 37994), (129, 38006), (130, 38024), (134, 38198), (135, 38207), (136, 38210), (137, 38213), (138, 38225), (139, 38237), (140, 38240), (141, 38255), (144, 38342), (145, 38357), (146, 38501), (147, 38513), (148, 38693), (149, 38711), (152, 38792), (154, 38828), (155, 38849), (156, 38915),

Gene: ET08_79 Start: 33946, Stop: 37638, Start Num: 1

Candidate Starts for ET08_79:

(Start: 1 @33946 has 24 MA's), (Start: 3 @34015 has 1 MA's), (4, 34021), (5, 34039), (7, 34075), (11, 34183), (12, 34195), (15, 34360), (16, 34366), (21, 34561), (23, 34582), (24, 34603), (25, 34612), (27, 34669), (28, 34711), (29, 34765), (30, 34810), (33, 34879), (34, 34915), (36, 34942), (40, 34969), (43, 35029), (46, 35062), (47, 35065), (51, 35095), (52, 35113), (56, 35254), (58, 35305), (60, 35461), (61, 35464), (63, 35479), (68, 35560), (69, 35563), (71, 35575), (73, 35614), (76, 35683), (81, 35776), (83, 35827), (84, 35839), (88, 35887), (90, 35893), (93, 35980), (96, 36019), (99, 36049), (101, 36061), (105, 36145), (107, 36172), (108, 36190), (110, 36268), (111, 36277), (115, 36316), (116, 36319), (118, 36373), (119, 36415), (120, 36430), (121, 36433), (122, 36439), (123, 36514), (124, 36583), (125, 36589), (127, 36628), (128, 36670), (129, 36682), (130, 36700), (134, 36874), (135, 36883), (136, 36886), (137, 36889), (138, 36901), (139, 36913), (140, 36916), (141, 36931), (144, 37018), (145, 37033), (146, 37177), (147, 37189), (148, 37369), (149, 37387), (152, 37468), (154, 37504), (155, 37525), (156, 37591),

Gene: Essence_87 Start: 34998, Stop: 38426, Start Num: 1

Candidate Starts for Essence_87:

(Start: 1 @34998 has 24 MA's), (Start: 3 @35067 has 1 MA's), (4, 35073), (5, 35091), (7, 35127), (11, 35235), (12, 35247), (14, 35370), (17, 35421), (18, 35475), (19, 35487), (20, 35508), (31, 35802), (32, 35847), (38, 35925), (41, 35961), (42, 35994), (44, 36009), (48, 36054), (50, 36063), (53, 36096), (54, 36132), (56, 36216), (57, 36222), (62, 36417), (64, 36438), (65, 36459), (66, 36468), (72, 36525), (74, 36567), (76, 36621), (77, 36666), (82, 36735), (85, 36771), (89, 36798), (91, 36825), (94, 36885), (97, 36918), (98, 36921), (102, 36951), (103, 36969), (113, 37110), (117, 37161), (124, 37371), (125, 37377), (127, 37416), (128, 37458), (129, 37470), (130, 37488), (134, 37662), (135, 37671), (136, 37674), (137, 37677), (138, 37689), (139, 37701), (140, 37704), (141, 37719), (144, 37806), (145, 37821), (146, 37965), (147, 37977), (148, 38157), (149, 38175), (152, 38256), (154, 38292), (155, 38313), (156, 38379),

Gene: Gizmo_94 Start: 35551, Stop: 39243, Start Num: 1

Candidate Starts for Gizmo_94:

(Start: 1 @35551 has 24 MA's), (Start: 3 @35620 has 1 MA's), (4, 35626), (5, 35644), (7, 35680), (11, 35788), (12, 35800), (15, 35965), (16, 35971), (21, 36166), (23, 36187), (24, 36208), (25, 36217), (27, 36274), (28, 36316), (29, 36370), (30, 36415), (33, 36484), (34, 36520), (36, 36547), (40, 36574), (43, 36634), (46, 36667), (47, 36670), (51, 36700), (52, 36718), (56, 36859), (58, 36910), (60, 37066), (61, 37069), (63, 37084), (68, 37165), (69, 37168), (71, 37180), (73, 37219), (76, 37288), (81, 37381), (83, 37432), (84, 37444), (88, 37492), (90, 37498), (93, 37585), (96, 37624), (99, 37654), (101, 37666), (105, 37750), (107, 37777), (108, 37795), (110, 37873), (111, 37882), (115, 37921), (116, 37924), (118, 37978), (119, 38020), (120, 38035), (121, 38038), (122, 38044), (123, 38119), (124, 38188), (125, 38194), (127, 38233), (128, 38275), (129, 38287), (130, 38305), (134, 38479), (135, 38488), (136, 38491), (137, 38494), (138, 38506), (139, 38518), (140, 38521), (141, 38536), (144, 38623), (145, 38638), (146, 38782), (147, 38794), (148, 38974), (149, 38992), (152, 39073), (154, 39109), (155, 39130), (156, 39196),

Gene: JPickles_88 Start: 33675, Stop: 37103, Start Num: 1

Candidate Starts for JPickles_88:

(Start: 1 @33675 has 24 MA's), (Start: 3 @33744 has 1 MA's), (4, 33750), (5, 33768), (7, 33804), (11, 33912), (12, 33924), (14, 34047), (17, 34098), (18, 34152), (19, 34164), (20, 34185), (31, 34479), (32, 34524), (38, 34602), (41, 34638), (42, 34671), (44, 34686), (48, 34731), (50, 34740), (53, 34773), (54, 34809), (56, 34893), (57, 34899), (62, 35094), (64, 35115), (65, 35136), (66, 35145), (72, 35202), (74, 35244), (76, 35298), (77, 35343), (82, 35412), (85, 35448), (89, 35475), (91, 35502), (94, 35562), (97, 35595), (98, 35598), (102, 35628), (103, 35646), (113, 35787), (117, 35838), (124, 36048), (125, 36054), (127, 36093), (128, 36135), (129, 36147), (130, 36165), (134, 36339), (135, 36348), (136, 36351), (137, 36354), (138, 36366), (139, 36378), (140, 36381), (141, 36396), (144, 36483), (145,

36498), (146, 36642), (147, 36654), (148, 36834), (149, 36852), (152, 36933), (154, 36969), (155, 36990), (156, 37056),

Gene: JayJay_96 Start: 36812, Stop: 40171, Start Num: 3

Candidate Starts for JayJay_96:

(Start: 1 @36743 has 24 MA's), (Start: 3 @36812 has 1 MA's), (4, 36818), (5, 36836), (7, 36872), (11, 36980), (12, 36992), (14, 37115), (17, 37166), (18, 37220), (19, 37232), (20, 37253), (31, 37547), (32, 37592), (38, 37670), (41, 37706), (42, 37739), (44, 37754), (48, 37799), (50, 37808), (53, 37841), (54, 37877), (56, 37961), (57, 37967), (62, 38162), (64, 38183), (65, 38204), (66, 38213), (72, 38270), (74, 38312), (76, 38366), (77, 38411), (82, 38480), (85, 38516), (89, 38543), (91, 38570), (94, 38630), (97, 38663), (98, 38666), (102, 38696), (103, 38714), (113, 38855), (117, 38906), (124, 39116), (125, 39122), (127, 39161), (128, 39203), (129, 39215), (130, 39233), (134, 39407), (135, 39416), (136, 39419), (137, 39422), (138, 39434), (139, 39446), (140, 39449), (141, 39464), (144, 39551), (145, 39566), (146, 39710), (147, 39722), (148, 39902), (149, 39920), (152, 40001), (154, 40037), (155, 40058), (156, 40124),

Gene: Jaygup_90 Start: 35200, Stop: 38628, Start Num: 1

Candidate Starts for Jaygup_90:

(Start: 1 @35200 has 24 MA's), (Start: 3 @35269 has 1 MA's), (4, 35275), (5, 35293), (7, 35329), (11, 35437), (12, 35449), (14, 35572), (17, 35623), (18, 35677), (19, 35689), (20, 35710), (31, 36004), (32, 36049), (38, 36127), (41, 36163), (42, 36196), (44, 36211), (48, 36256), (50, 36265), (53, 36298), (54, 36334), (56, 36418), (57, 36424), (62, 36619), (64, 36640), (65, 36661), (66, 36670), (72, 36727), (74, 36769), (76, 36823), (77, 36868), (82, 36937), (85, 36973), (89, 37000), (91, 37027), (94, 37087), (97, 37120), (98, 37123), (102, 37153), (103, 37171), (113, 37312), (117, 37363), (124, 37573), (125, 37579), (127, 37618), (128, 37660), (129, 37672), (130, 37690), (134, 37864), (135, 37873), (136, 37876), (137, 37879), (138, 37891), (139, 37903), (140, 37906), (141, 37921), (144, 38008), (145, 38023), (146, 38167), (147, 38179), (148, 38359), (149, 38377), (152, 38458), (154, 38494), (155, 38515), (156, 38581),

Gene: Jedediah_93 Start: 35700, Stop: 39128, Start Num: 1

Candidate Starts for Jedediah_93:

(Start: 1 @35700 has 24 MA's), (Start: 3 @35769 has 1 MA's), (4, 35775), (5, 35793), (7, 35829), (11, 35937), (12, 35949), (14, 36072), (17, 36123), (18, 36177), (19, 36189), (20, 36210), (31, 36504), (32, 36549), (38, 36627), (41, 36663), (42, 36696), (44, 36711), (48, 36756), (50, 36765), (53, 36798), (54, 36834), (56, 36918), (57, 36924), (62, 37119), (64, 37140), (65, 37161), (66, 37170), (72, 37227), (74, 37269), (76, 37323), (77, 37368), (82, 37437), (85, 37473), (89, 37500), (91, 37527), (94, 37587), (95, 37599), (97, 37620), (98, 37623), (102, 37653), (103, 37671), (113, 37812), (117, 37863), (124, 38073), (125, 38079), (127, 38118), (128, 38160), (129, 38172), (130, 38190), (134, 38364), (135, 38373), (136, 38376), (137, 38379), (138, 38391), (139, 38403), (140, 38406), (141, 38421), (144, 38508), (145, 38523), (146, 38667), (147, 38679), (148, 38859), (149, 38877), (152, 38958), (154, 38994), (155, 39015), (156, 39081),

Gene: Jemmno_90 Start: 35150, Stop: 38578, Start Num: 1

Candidate Starts for Jemmno_90:

(Start: 1 @35150 has 24 MA's), (Start: 3 @35219 has 1 MA's), (4, 35225), (5, 35243), (7, 35279), (11, 35387), (12, 35399), (14, 35522), (17, 35573), (18, 35627), (19, 35639), (20, 35660), (31, 35954), (32, 35999), (38, 36077), (41, 36113), (42, 36146), (44, 36161), (48, 36206), (50, 36215), (53, 36248), (54, 36284), (56, 36368), (57, 36374), (62, 36569), (64, 36590), (65, 36611), (66, 36620), (72, 36677), (74, 36719), (76, 36773), (77, 36818), (82, 36887), (85, 36923), (89, 36950), (91, 36977), (94, 37037), (97, 37070), (98, 37073), (102, 37103), (103, 37121), (113, 37262), (117, 37313), (124, 37523), (125, 37529), (127, 37568), (128, 37610), (129, 37622), (130, 37640), (134, 37814), (135, 37823), (136, 37826), (137, 37829), (138, 37841), (139, 37853), (140, 37856), (141, 37871), (144, 37958), (145, 37973), (146, 38117), (147, 38129), (148, 38309), (149, 38327), (152, 38408), (154, 38444), (155,

38465), (156, 38531),

Gene: LifeSavor_89 Start: 34965, Stop: 38393, Start Num: 1

Candidate Starts for LifeSavor_89:

(Start: 1 @34965 has 24 MA's), (Start: 3 @35034 has 1 MA's), (4, 35040), (5, 35058), (7, 35094), (11, 35202), (12, 35214), (14, 35337), (17, 35388), (18, 35442), (19, 35454), (20, 35475), (31, 35769), (32, 35814), (38, 35892), (41, 35928), (42, 35961), (44, 35976), (48, 36021), (50, 36030), (53, 36063), (54, 36099), (56, 36183), (57, 36189), (62, 36384), (64, 36405), (65, 36426), (66, 36435), (72, 36492), (74, 36534), (76, 36588), (77, 36633), (82, 36702), (85, 36738), (89, 36765), (91, 36792), (94, 36852), (97, 36885), (98, 36888), (102, 36918), (103, 36936), (113, 37077), (117, 37128), (124, 37338), (125, 37344), (127, 37383), (128, 37425), (129, 37437), (130, 37455), (134, 37629), (135, 37638), (136, 37641), (137, 37644), (138, 37656), (139, 37668), (140, 37671), (141, 37686), (144, 37773), (145, 37788), (146, 37932), (147, 37944), (148, 38124), (149, 38142), (152, 38223), (154, 38259), (155, 38280), (156, 38346),

Gene: Matsumoto_89 Start: 35164, Stop: 38592, Start Num: 1

Candidate Starts for Matsumoto_89:

(Start: 1 @35164 has 24 MA's), (Start: 3 @35233 has 1 MA's), (4, 35239), (5, 35257), (7, 35293), (11, 35401), (12, 35413), (14, 35536), (17, 35587), (18, 35641), (19, 35653), (20, 35674), (31, 35968), (32, 36013), (38, 36091), (41, 36127), (42, 36160), (44, 36175), (48, 36220), (50, 36229), (53, 36262), (54, 36298), (56, 36382), (57, 36388), (62, 36583), (64, 36604), (65, 36625), (66, 36634), (72, 36691), (74, 36733), (76, 36787), (77, 36832), (82, 36901), (85, 36937), (89, 36964), (91, 36991), (94, 37051), (97, 37084), (98, 37087), (102, 37117), (103, 37135), (113, 37276), (117, 37327), (124, 37537), (125, 37543), (127, 37582), (128, 37624), (129, 37636), (130, 37654), (134, 37828), (135, 37837), (136, 37840), (137, 37843), (138, 37855), (139, 37867), (140, 37870), (141, 37885), (144, 37972), (145, 37987), (146, 38131), (147, 38143), (148, 38323), (149, 38341), (152, 38422), (154, 38458), (155, 38479), (156, 38545),

Gene: Pier_94 Start: 36440, Stop: 39868, Start Num: 1

Candidate Starts for Pier_94:

(Start: 1 @36440 has 24 MA's), (Start: 3 @36509 has 1 MA's), (4, 36515), (5, 36533), (7, 36569), (11, 36677), (12, 36689), (14, 36812), (17, 36863), (18, 36917), (19, 36929), (20, 36950), (31, 37244), (32, 37289), (38, 37367), (41, 37403), (42, 37436), (44, 37451), (48, 37496), (50, 37505), (53, 37538), (54, 37574), (56, 37658), (57, 37664), (62, 37859), (64, 37880), (65, 37901), (66, 37910), (72, 37967), (74, 38009), (76, 38063), (77, 38108), (82, 38177), (85, 38213), (89, 38240), (91, 38267), (94, 38327), (97, 38360), (98, 38363), (102, 38393), (103, 38411), (113, 38552), (117, 38603), (124, 38813), (125, 38819), (127, 38858), (128, 38900), (129, 38912), (130, 38930), (134, 39104), (135, 39113), (136, 39116), (137, 39119), (138, 39131), (139, 39143), (140, 39146), (141, 39161), (144, 39248), (145, 39263), (146, 39407), (147, 39419), (148, 39599), (149, 39617), (152, 39698), (154, 39734), (155, 39755), (156, 39821),

Gene: Pio_94 Start: 37172, Stop: 40600, Start Num: 1

Candidate Starts for Pio_94:

(Start: 1 @37172 has 24 MA's), (Start: 3 @37241 has 1 MA's), (4, 37247), (5, 37265), (7, 37301), (11, 37409), (12, 37421), (14, 37544), (17, 37595), (18, 37649), (19, 37661), (20, 37682), (31, 37976), (32, 38021), (38, 38099), (41, 38135), (42, 38168), (44, 38183), (48, 38228), (50, 38237), (53, 38270), (54, 38306), (56, 38390), (57, 38396), (62, 38591), (64, 38612), (65, 38633), (66, 38642), (72, 38699), (74, 38741), (76, 38795), (77, 38840), (82, 38909), (85, 38945), (89, 38972), (91, 38999), (94, 39059), (97, 39092), (98, 39095), (102, 39125), (103, 39143), (113, 39284), (117, 39335), (124, 39545), (125, 39551), (127, 39590), (128, 39632), (129, 39644), (130, 39662), (134, 39836), (135, 39845), (136, 39848), (137, 39851), (138, 39863), (139, 39875), (140, 39878), (141, 39893), (144, 39980), (145, 39995), (146, 40139), (147, 40151), (148, 40331), (149, 40349), (152, 40430), (154, 40466), (155, 40487), (156, 40553),

Gene: Rahel_89 Start: 34801, Stop: 38229, Start Num: 1

Candidate Starts for Rahel_89:

(Start: 1 @34801 has 24 MA's), (Start: 3 @34870 has 1 MA's), (4, 34876), (5, 34894), (7, 34930), (11, 35038), (12, 35050), (14, 35173), (17, 35224), (18, 35278), (19, 35290), (20, 35311), (31, 35605), (32, 35650), (38, 35728), (41, 35764), (42, 35797), (44, 35812), (48, 35857), (50, 35866), (53, 35899), (54, 35935), (56, 36019), (57, 36025), (62, 36220), (64, 36241), (65, 36262), (66, 36271), (72, 36328), (74, 36370), (76, 36424), (77, 36469), (82, 36538), (85, 36574), (89, 36601), (91, 36628), (94, 36688), (97, 36721), (98, 36724), (102, 36754), (103, 36772), (113, 36913), (117, 36964), (124, 37174), (125, 37180), (127, 37219), (128, 37261), (129, 37273), (130, 37291), (134, 37465), (135, 37474), (136, 37477), (137, 37480), (138, 37492), (139, 37504), (140, 37507), (141, 37522), (144, 37609), (145, 37624), (146, 37768), (147, 37780), (148, 37960), (149, 37978), (152, 38059), (154, 38095), (155, 38116), (156, 38182),

Gene: ScoobyDoobyDoo_84 Start: 34152, Stop: 37481, Start Num: 2

Candidate Starts for ScoobyDoobyDoo_84:

(Start: 2 @34152 has 1 MA's), (6, 34191), (8, 34230), (9, 34257), (10, 34299), (11, 34320), (12, 34332), (13, 34371), (14, 34455), (17, 34506), (18, 34560), (22, 34665), (26, 34752), (35, 34989), (37, 34998), (39, 35010), (42, 35079), (44, 35094), (45, 35109), (48, 35139), (50, 35148), (53, 35181), (59, 35355), (62, 35502), (64, 35523), (65, 35544), (66, 35553), (67, 35565), (70, 35592), (72, 35610), (77, 35751), (79, 35787), (82, 35820), (87, 35880), (97, 36003), (103, 36054), (104, 36084), (106, 36099), (111, 36183), (112, 36192), (113, 36195), (114, 36198), (124, 36456), (125, 36462), (126, 36483), (127, 36501), (129, 36555), (130, 36573), (131, 36582), (132, 36642), (133, 36735), (134, 36747), (136, 36759), (139, 36786), (141, 36804), (142, 36849), (143, 36885), (146, 37071), (149, 37239), (150, 37251), (151, 37266), (153, 37314), (156, 37434), (157, 37464),

Gene: ShiaLabeouf_90 Start: 35640, Stop: 39068, Start Num: 1

Candidate Starts for ShiaLabeouf_90:

(Start: 1 @35640 has 24 MA's), (Start: 3 @35709 has 1 MA's), (4, 35715), (5, 35733), (7, 35769), (11, 35877), (12, 35889), (14, 36012), (17, 36063), (18, 36117), (19, 36129), (20, 36150), (31, 36444), (32, 36489), (38, 36567), (41, 36603), (42, 36636), (44, 36651), (48, 36696), (50, 36705), (53, 36738), (54, 36774), (56, 36858), (57, 36864), (62, 37059), (64, 37080), (65, 37101), (66, 37110), (72, 37167), (74, 37209), (76, 37263), (77, 37308), (82, 37377), (85, 37413), (89, 37440), (91, 37467), (94, 37527), (97, 37560), (98, 37563), (102, 37593), (103, 37611), (113, 37752), (117, 37803), (124, 38013), (125, 38019), (127, 38058), (128, 38100), (129, 38112), (130, 38130), (134, 38304), (135, 38313), (136, 38316), (137, 38319), (138, 38331), (139, 38343), (140, 38346), (141, 38361), (144, 38448), (145, 38463), (146, 38607), (147, 38619), (148, 38799), (149, 38817), (152, 38898), (154, 38934), (155, 38955), (156, 39021),

Gene: Shnickers_90 Start: 35200, Stop: 38628, Start Num: 1

Candidate Starts for Shnickers_90:

(Start: 1 @35200 has 24 MA's), (Start: 3 @35269 has 1 MA's), (4, 35275), (5, 35293), (7, 35329), (11, 35437), (12, 35449), (14, 35572), (17, 35623), (18, 35677), (19, 35689), (20, 35710), (31, 36004), (32, 36049), (38, 36127), (41, 36163), (42, 36196), (44, 36211), (48, 36256), (50, 36265), (53, 36298), (54, 36334), (56, 36418), (57, 36424), (62, 36619), (64, 36640), (65, 36661), (66, 36670), (72, 36727), (74, 36769), (76, 36823), (77, 36868), (82, 36937), (85, 36973), (89, 37000), (91, 37027), (94, 37087), (97, 37120), (98, 37123), (102, 37153), (103, 37171), (113, 37312), (117, 37363), (124, 37573), (125, 37579), (127, 37618), (128, 37660), (129, 37672), (130, 37690), (134, 37864), (135, 37873), (136, 37876), (137, 37879), (138, 37891), (139, 37903), (140, 37906), (141, 37921), (144, 38008), (145, 38023), (146, 38167), (147, 38179), (148, 38359), (149, 38377), (152, 38458), (154, 38494), (155, 38515), (156, 38581),

Gene: Spec_85 Start: 34965, Stop: 38393, Start Num: 1

Candidate Starts for Spec_85:

(Start: 1 @34965 has 24 MA's), (Start: 3 @35034 has 1 MA's), (4, 35040), (5, 35058), (7, 35094), (11, 35202), (12, 35214), (14, 35337), (17, 35388), (18, 35442), (19, 35454), (20, 35475), (31, 35769), (32, 35814), (38, 35892), (41, 35928), (42, 35961), (44, 35976), (48, 36021), (50, 36030), (53, 36063), (54, 36099), (56, 36183), (57, 36189), (62, 36384), (64, 36405), (65, 36426), (66, 36435), (72, 36492), (74, 36534), (76, 36588), (77, 36633), (82, 36702), (85, 36738), (89, 36765), (91, 36792), (94, 36852), (97, 36885), (98, 36888), (102, 36918), (103, 36936), (113, 37077), (117, 37128), (124, 37338), (125, 37344), (127, 37383), (128, 37425), (129, 37437), (130, 37455), (134, 37629), (135, 37638), (136, 37641), (137, 37644), (138, 37656), (139, 37668), (140, 37671), (141, 37686), (144, 37773), (145, 37788), (146, 37932), (147, 37944), (148, 38124), (149, 38142), (152, 38223), (154, 38259), (155, 38280), (156, 38346),

Gene: Substance289_87 Start: 34718, Stop: 38146, Start Num: 1

Candidate Starts for Substance289_87:

(Start: 1 @34718 has 24 MA's), (Start: 3 @34787 has 1 MA's), (4, 34793), (5, 34811), (7, 34847), (11, 34955), (12, 34967), (14, 35090), (17, 35141), (18, 35195), (19, 35207), (20, 35228), (31, 35522), (32, 35567), (38, 35645), (41, 35681), (42, 35714), (44, 35729), (48, 35774), (50, 35783), (53, 35816), (54, 35852), (56, 35936), (57, 35942), (62, 36137), (64, 36158), (65, 36179), (66, 36188), (72, 36245), (74, 36287), (76, 36341), (77, 36386), (82, 36455), (85, 36491), (89, 36518), (91, 36545), (94, 36605), (97, 36638), (98, 36641), (102, 36671), (103, 36689), (113, 36830), (117, 36881), (124, 37091), (125, 37097), (127, 37136), (128, 37178), (129, 37190), (130, 37208), (134, 37382), (135, 37391), (136, 37394), (137, 37397), (138, 37409), (139, 37421), (140, 37424), (141, 37439), (144, 37526), (145, 37541), (146, 37685), (147, 37697), (148, 37877), (149, 37895), (152, 37976), (154, 38012), (155, 38033), (156, 38099),

Gene: Tyke_92 Start: 37005, Stop: 40433, Start Num: 1

Candidate Starts for Tyke_92:

(Start: 1 @37005 has 24 MA's), (Start: 3 @37074 has 1 MA's), (4, 37080), (5, 37098), (7, 37134), (11, 37242), (12, 37254), (14, 37377), (17, 37428), (18, 37482), (19, 37494), (20, 37515), (31, 37809), (32, 37854), (38, 37932), (41, 37968), (42, 38001), (44, 38016), (48, 38061), (50, 38070), (53, 38103), (54, 38139), (56, 38223), (57, 38229), (62, 38424), (64, 38445), (65, 38466), (66, 38475), (72, 38532), (74, 38574), (76, 38628), (77, 38673), (82, 38742), (85, 38778), (89, 38805), (91, 38832), (94, 38892), (97, 38925), (98, 38928), (102, 38958), (103, 38976), (113, 39117), (117, 39168), (124, 39378), (125, 39384), (127, 39423), (128, 39465), (129, 39477), (130, 39495), (134, 39669), (135, 39678), (136, 39681), (137, 39684), (138, 39696), (139, 39708), (140, 39711), (141, 39726), (144, 39813), (145, 39828), (146, 39972), (147, 39984), (148, 40164), (149, 40182), (152, 40263), (154, 40299), (155, 40320), (156, 40386),