Zoomed Pham 158111

1: Cane17_79

2: Pio_I94 + 19

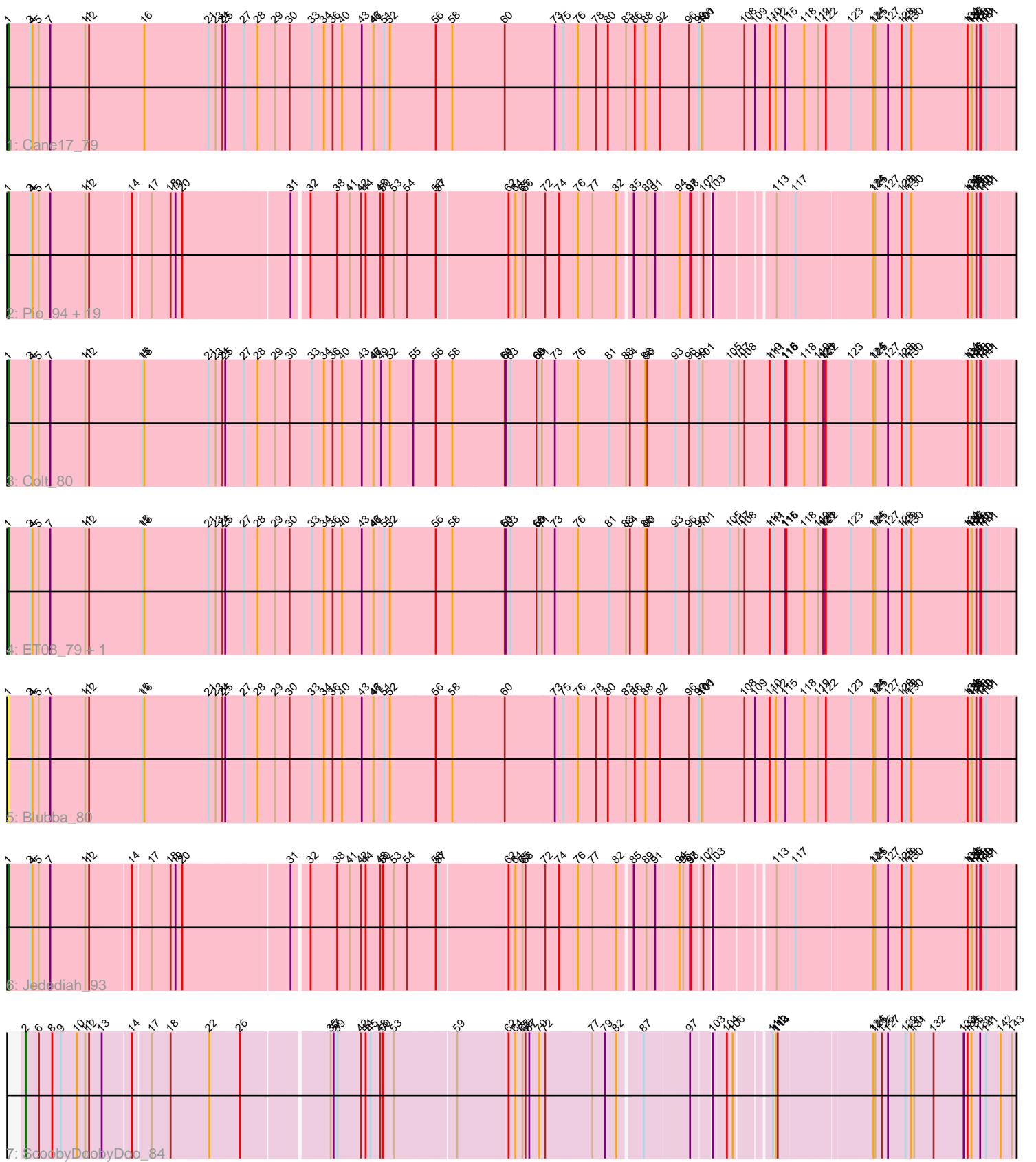3: Colti_80

4: ET08_79 + 1

5: Blubba_80

6: Jedediah_I93

7: ScoobyDdobyDoo_84

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 158111 Report

This analysis was run 04/13/24 on database version 558.

Pham number 158111 has 27 members, 5 are drafts.

Phages represented in each track:
• Track 1 : Cane17_79
• Track 2 : Pio_94, Jemmno_90, JayJay_92, Adlitam_90, Ading_90, Jaygup_90, LifeSavor_89, Pier_94, Spec_85, Rahel_89, JPickles_88, Essence_87, Tyke_92, CindyLou_91, BeanWater_82, Matsumoto_88, Derek_90, Shnickers_90, Chomp_87, ShiaLabeouf_90
• Track 3 : Colt_80
• Track 4 : ET08_79, Gizmo_94
• Track 5 : Blubba_80
• Track 6 : Jedediah_93
• Track 7 : 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 21 of the 22 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Ading_90, Adlitam_90, BeanWater_82, Blubba_80, Cane17_79, Chomp_87, CindyLou_91, Colt_80, Derek_90, ET08_79, Essence_87, Gizmo_94, JPickles_88, JayJay_92, Jaygup_90, Jedediah_93, Jemmno_90, LifeSavor_89, Matsumoto_88, Pier_94, Pio_94, Rahel_89, ShiaLabeouf_90, Shnickers_90, Spec_85, Tyke_92,

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

Genes that do not have the "Most Annotated" start:
• ScoobyDoobyDoo_84,

Summary by start number:

Start 1:
• Found in 26 of 27 (96.3%) of genes in pham
• Manual Annotations of this start: 21 of 22
• Called 100.0% of time when present

• Phage (with cluster) where this start called: Ading_90 (C1), Adlitam_90 (C1), BeanWater_82 (C1), Blubba_80 (C1), Cane17_79 (C1), Chomp_87 (C1), CindyLou_91 (C1), Colt_80 (C1), Derek_90 (C1), ET08_79 (C1), Essence_87 (C1), Gizmo_94 (C1), JPickles_88 (C1), JayJay_92 (C1), Jaygup_90 (C1), Jedediah_93 (C1), Jemmno_90 (C1), LifeSavor_89 (C1), Matsumoto_88 (C1), Pier_94 (C1), Pio_94 (C1), Rahel_89 (C1), ShiaLabeouf_90 (C1), Shnickers_90 (C1), Spec_85 (C1), Tyke_92 (C1),

Start 2:
• Found in 1 of 27 (3.7%) of genes in pham
• Manual Annotations of this start: 1 of 22
• Called 100.0% of time when present
• Phage (with cluster) where this start called: ScoobyDoobyDoo_84 (C2),

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 21 times 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 21 MA's), (3, 35251), (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 21 MA's), (3, 35268), (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 21 MA's), (3, 34905), (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_80 Start: 32769, Stop: 36464, Start Num: 1
Candidate Starts for Blubba_80:
(Start: 1 @32769 has 21 MA's), (3, 32838), (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 21 MA's), (3, 32911), (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_87 Start: 35732, Stop: 39160, Start Num: 1
Candidate Starts for Chomp_87:
(Start: 1 @35732 has 21 MA's), (3, 35801), (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 21 MA's), (3, 35842), (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 21 MA's), (3, 33510), (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 21 MA's), (3, 35603), (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 21 MA's), (3, 34015), (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 21 MA's), (3, 35067), (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 21 MA's), (3, 35620), (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 21 MA's), (3, 33744), (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_92 Start: 36743, Stop: 40171, Start Num: 1
Candidate Starts for JayJay_92:
(Start: 1 @36743 has 21 MA's), (3, 36812), (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 21 MA's), (3, 35269), (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 21 MA's), (3, 35769), (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 21 MA's), (3, 35219), (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 21 MA's), (3, 35034), (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_88 Start: 35164, Stop: 38592, Start Num: 1
Candidate Starts for Matsumoto_88:
(Start: 1 @35164 has 21 MA's), (3, 35233), (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 21 MA's), (3, 36509), (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 21 MA's), (3, 37241), (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 21 MA's), (3, 34870), (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 21 MA's), (3, 35709), (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 21 MA's), (3, 35269), (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 21 MA's), (3, 35034), (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: Tyke_92 Start: 37005, Stop: 40433, Start Num: 1
Candidate Starts for Tyke_92:
(Start: 1 @37005 has 21 MA's), (3, 37074), (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),