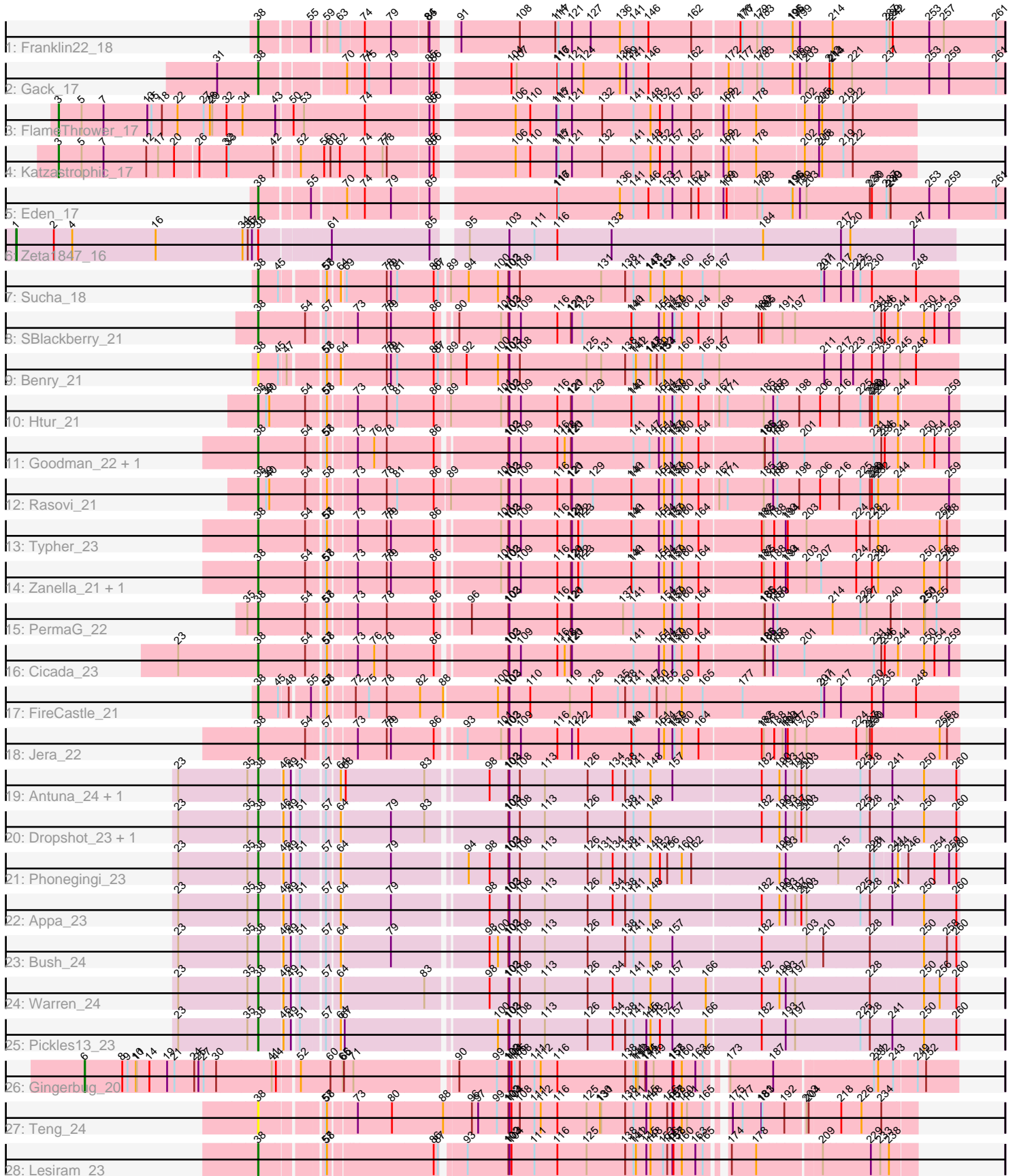


Pham 171653



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 171653 Report

This analysis was run 07/10/24 on database version 566.

Pham number 171653 has 32 members, 3 are drafts.

Phages represented in each track:

- Track 1 : Franklin22_18
- Track 2 : Gack_17
- Track 3 : FlameThrower_17
- Track 4 : Katzastrophic_17
- Track 5 : Eden_17
- Track 6 : Zeta1847_16
- Track 7 : Sucha_18
- Track 8 : SBlackberry_21
- Track 9 : Benry_21
- Track 10 : Htur_21
- Track 11 : Goodman_22, Johann_22
- Track 12 : Rasovi_21
- Track 13 : Typher_23
- Track 14 : Zanella_21, TurboVicky_21
- Track 15 : PermaG_22
- Track 16 : Cicada_23
- Track 17 : FireCastle_21
- Track 18 : Jera_22
- Track 19 : Antuna_24, MenE_27
- Track 20 : Dropshot_23, Blett_24
- Track 21 : Phonegingi_23
- Track 22 : Appa_23
- Track 23 : Bush_24
- Track 24 : Warren_24
- Track 25 : Pickles13_23
- Track 26 : Gingerbug_20
- Track 27 : Teng_24
- Track 28 : Lesiram_23

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

The start number called the most often in the published annotations is 38, it was called in 25 of the 29 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Antuna_24, Appa_23, Benry_21, Blett_24, Bush_24, Cicada_23, Dropshot_23, Eden_17, FireCastle_21, Franklin22_18, Gack_17, Goodman_22, Htur_21, Jera_22, Johann_22, Lesiram_23, MenE_27, PermaG_22, Phonegingi_23, Pickles13_23, Rasovi_21, SBlackberry_21, Sucha_18, Teng_24, TurboVicky_21, Typher_23, Warren_24, Zanella_21,

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

- Zeta1847_16,

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

- FlameThrower_17, Gingerbug_20, Katzastrophic_17,

Summary by start number:

Start 1:

- Found in 1 of 32 (3.1%) of genes in pham
- Manual Annotations of this start: 1 of 29
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Zeta1847_16 (EH),

Start 3:

- Found in 2 of 32 (6.2%) of genes in pham
- Manual Annotations of this start: 2 of 29
- Called 100.0% of time when present
- Phage (with cluster) where this start called: FlameThrower_17 (EB), Katzastrophic_17 (EB),

Start 6:

- Found in 1 of 32 (3.1%) of genes in pham
- Manual Annotations of this start: 1 of 29
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Gingerbug_20 (GF),

Start 38:

- Found in 29 of 32 (90.6%) of genes in pham
- Manual Annotations of this start: 25 of 29
- Called 96.6% of time when present
- Phage (with cluster) where this start called: Antuna_24 (GA), Appa_23 (GA), Benry_21 (EJ), Blett_24 (GA), Bush_24 (GA), Cicada_23 (EJ), Dropshot_23 (GA), Eden_17 (EB), FireCastle_21 (EJ), Franklin22_18 (EB), Gack_17 (EB), Goodman_22 (EJ), Htur_21 (EJ), Jera_22 (EJ), Johann_22 (EJ), Lesiram_23 (GF), MenE_27 (GA), PermaG_22 (EJ), Phonegingi_23 (GA), Pickles13_23 (GA), Rasovi_21 (EJ), SBlackberry_21 (EJ), Sucha_18 (EJ), Teng_24 (GF), TurboVicky_21 (EJ), Typher_23 (EJ), Warren_24 (GA), Zanella_21 (EJ),

Summary by clusters:

There are 5 clusters represented in this pham: GF, EB, EH, GA, EJ,

Info for manual annotations of cluster EB:

- Start number 3 was manually annotated 2 times for cluster EB.
- Start number 38 was manually annotated 3 times for cluster EB.

Info for manual annotations of cluster EH:

- Start number 1 was manually annotated 1 time for cluster EH.

Info for manual annotations of cluster EJ:

- Start number 38 was manually annotated 13 times for cluster EJ.

Info for manual annotations of cluster GA:

- Start number 38 was manually annotated 8 times for cluster GA.

Info for manual annotations of cluster GF:

- Start number 6 was manually annotated 1 time for cluster GF.
- Start number 38 was manually annotated 1 time for cluster GF.

Gene Information:

Gene: Antuna_24 Start: 14563, Stop: 16431, Start Num: 38

Candidate Starts for Antuna_24:

(23, 14338), (35, 14533), (Start: 38 @14563 has 25 MA's), (46, 14623), (49, 14644), (51, 14656), (57, 14710), (64, 14743), (68, 14749), (83, 14965), (98, 15121), (102, 15175), (103, 15178), (108, 15208), (113, 15280), (126, 15403), (134, 15475), (138, 15508), (141, 15532), (148, 15580), (157, 15643), (182, 15877), (190, 15928), (193, 15946), (197, 15973), (200, 15991), (203, 16006), (225, 16153), (228, 16180), (241, 16243), (250, 16330), (260, 16423),

Gene: Appa_23 Start: 14425, Stop: 16293, Start Num: 38

Candidate Starts for Appa_23:

(23, 14200), (35, 14395), (Start: 38 @14425 has 25 MA's), (46, 14485), (49, 14506), (51, 14518), (57, 14572), (64, 14605), (79, 14734), (98, 14983), (102, 15037), (103, 15040), (108, 15070), (113, 15142), (126, 15265), (134, 15337), (138, 15370), (141, 15394), (148, 15442), (182, 15739), (190, 15790), (193, 15808), (197, 15835), (200, 15853), (203, 15868), (225, 16015), (228, 16042), (241, 16105), (250, 16192), (260, 16285),

Gene: Benry_21 Start: 14670, Stop: 16571, Start Num: 38

Candidate Starts for Benry_21:

(Start: 38 @14670 has 25 MA's), (45, 14721), (47, 14739), (57, 14817), (58, 14820), (64, 14850), (78, 14967), (79, 14979), (81, 14997), (86, 15099), (87, 15111), (89, 15138), (92, 15183), (100, 15273), (102, 15303), (103, 15306), (108, 15336), (125, 15528), (131, 15570), (138, 15636), (141, 15660), (142, 15666), (147, 15705), (148, 15708), (150, 15726), (153, 15744), (154, 15747), (160, 15798), (165, 15858), (167, 15906), (211, 16194), (217, 16242), (223, 16275), (230, 16329), (235, 16362), (245, 16410), (248, 16452),

Gene: Blett_24 Start: 14578, Stop: 16446, Start Num: 38

Candidate Starts for Blett_24:

(23, 14353), (35, 14548), (Start: 38 @14578 has 25 MA's), (46, 14638), (49, 14659), (51, 14671), (57, 14725), (64, 14758), (79, 14887), (83, 14980), (102, 15190), (103, 15193), (108, 15223), (113, 15295), (126, 15418), (138, 15523), (141, 15547), (148, 15595), (182, 15892), (190, 15943), (193, 15961), (197, 15988), (200, 16006), (203, 16021), (225, 16168), (228, 16195), (241, 16258), (250, 16345), (260, 16438),

Gene: Bush_24 Start: 14559, Stop: 16421, Start Num: 38

Candidate Starts for Bush_24:

(23, 14334), (35, 14529), (Start: 38 @14559 has 25 MA's), (46, 14619), (49, 14640), (51, 14652), (57, 14706), (64, 14739), (79, 14868), (98, 15117), (100, 15141), (102, 15171), (103, 15174), (108, 15204), (113, 15276), (126, 15399), (138, 15504), (141, 15528), (148, 15576), (157, 15639), (182, 15867), (203, 15996), (210, 16041), (228, 16170), (250, 16320), (258, 16386), (260, 16413),

Gene: Cicada_23 Start: 16468, Stop: 18345, Start Num: 38

Candidate Starts for Cicada_23:

(23, 16243), (Start: 38 @16468 has 25 MA's), (54, 16597), (57, 16636), (58, 16639), (73, 16708), (76, 16753), (78, 16789), (86, 16918), (102, 17098), (103, 17101), (109, 17134), (116, 17239), (118, 17260), (120, 17278), (121, 17281), (141, 17455), (151, 17527), (154, 17542), (157, 17566), (159, 17572), (160, 17593), (164, 17641), (185, 17809), (186, 17812), (187, 17833), (189, 17845), (201, 17920), (231, 18115), (234, 18136), (236, 18145), (244, 18178), (250, 18244), (254, 18274), (259, 18316),

Gene: Dropshot_23 Start: 14425, Stop: 16293, Start Num: 38

Candidate Starts for Dropshot_23:

(23, 14200), (35, 14395), (Start: 38 @14425 has 25 MA's), (46, 14485), (49, 14506), (51, 14518), (57, 14572), (64, 14605), (79, 14734), (83, 14827), (102, 15037), (103, 15040), (108, 15070), (113, 15142), (126, 15265), (138, 15370), (141, 15394), (148, 15442), (182, 15739), (190, 15790), (193, 15808), (197, 15835), (200, 15853), (203, 15868), (225, 16015), (228, 16042), (241, 16105), (250, 16192), (260, 16285),

Gene: Eden_17 Start: 12590, Stop: 14578, Start Num: 38

Candidate Starts for Eden_17:

(Start: 38 @12590 has 25 MA's), (55, 12713), (70, 12791), (74, 12833), (79, 12908), (85, 13007), (116, 13325), (117, 13328), (136, 13505), (141, 13544), (146, 13586), (153, 13628), (157, 13655), (162, 13709), (164, 13730), (169, 13790), (170, 13799), (179, 13877), (183, 13892), (195, 13976), (196, 13979), (199, 14000), (203, 14015), (228, 14192), (230, 14198), (237, 14240), (239, 14249), (240, 14252), (253, 14360), (259, 14417), (261, 14552),

Gene: FireCastle_21 Start: 16238, Stop: 18142, Start Num: 38

Candidate Starts for FireCastle_21:

(Start: 38 @16238 has 25 MA's), (45, 16289), (48, 16313), (55, 16361), (57, 16385), (58, 16388), (72, 16448), (75, 16484), (78, 16535), (82, 16628), (88, 16694), (100, 16841), (102, 16871), (103, 16874), (110, 16934), (119, 17048), (128, 17111), (135, 17183), (138, 17204), (141, 17228), (147, 17273), (150, 17294), (155, 17321), (160, 17366), (165, 17426), (177, 17540), (207, 17756), (211, 17765), (217, 17813), (230, 17900), (235, 17933), (248, 18023),

Gene: FlameThrower_17 Start: 13345, Stop: 15654, Start Num: 3

Candidate Starts for FlameThrower_17:

(Start: 3 @13345 has 2 MA's), (5, 13411), (7, 13474), (13, 13600), (15, 13612), (18, 13642), (22, 13687), (27, 13762), (28, 13780), (29, 13786), (32, 13825), (34, 13870), (43, 13957), (50, 13996), (53, 14026), (74, 14194), (85, 14368), (86, 14380), (106, 14566), (110, 14608), (115, 14683), (117, 14689), (121, 14728), (132, 14815), (141, 14905), (148, 14953), (152, 14980), (157, 15016), (162, 15070), (169, 15151), (172, 15166), (178, 15235), (202, 15358), (205, 15394), (208, 15403), (219, 15463), (222, 15490),

Gene: Franklin22_18 Start: 12769, Stop: 14757, Start Num: 38

Candidate Starts for Franklin22_18:

(Start: 38 @12769 has 25 MA's), (55, 12892), (59, 12922), (63, 12955), (74, 13015), (79, 13090), (84, 13186), (85, 13189), (91, 13234), (108, 13399), (114, 13501), (117, 13510), (121, 13549), (127, 13603), (136, 13687), (141, 13726), (146, 13768), (162, 13891), (176, 14014), (177, 14020), (179, 14059), (183, 14074), (195, 14158), (196, 14161), (199, 14182), (214, 14269), (237, 14419), (239,

14428), (242, 14437), (253, 14539), (257, 14581), (261, 14731),

Gene: Gack_17 Start: 12658, Stop: 14643, Start Num: 38

Candidate Starts for Gack_17:

(31, 12544), (Start: 38 @12658 has 25 MA's), (70, 12859), (74, 12901), (75, 12913), (79, 12976), (85, 13075), (86, 13087), (104, 13261), (107, 13276), (116, 13393), (117, 13396), (121, 13435), (124, 13468), (136, 13573), (139, 13591), (141, 13612), (146, 13654), (162, 13777), (172, 13873), (177, 13906), (179, 13945), (183, 13960), (196, 14047), (199, 14068), (203, 14083), (212, 14146), (213, 14152), (214, 14155), (221, 14209), (237, 14305), (253, 14425), (259, 14482), (261, 14617),

Gene: Gingerbug_20 Start: 14337, Stop: 16679, Start Num: 6

Candidate Starts for Gingerbug_20:

(Start: 6 @14337 has 1 MA's), (8, 14445), (9, 14460), (10, 14484), (11, 14487), (14, 14523), (19, 14574), (21, 14595), (24, 14652), (25, 14664), (27, 14679), (30, 14715), (41, 14871), (44, 14883), (52, 14934), (60, 15018), (65, 15051), (66, 15054), (71, 15078), (90, 15345), (99, 15453), (102, 15486), (103, 15489), (104, 15495), (105, 15504), (108, 15519), (111, 15561), (112, 15579), (116, 15627), (138, 15819), (141, 15843), (142, 15849), (143, 15855), (144, 15876), (145, 15879), (149, 15900), (157, 15954), (158, 15957), (160, 15981), (163, 16020), (165, 16041), (173, 16074), (187, 16188), (231, 16452), (232, 16464), (243, 16503), (249, 16563), (252, 16587),

Gene: Goodman_22 Start: 16381, Stop: 18258, Start Num: 38

Candidate Starts for Goodman_22:

(Start: 38 @16381 has 25 MA's), (54, 16510), (57, 16549), (58, 16552), (73, 16621), (76, 16666), (78, 16702), (86, 16831), (102, 17011), (103, 17014), (109, 17047), (116, 17152), (118, 17173), (120, 17191), (121, 17194), (141, 17368), (147, 17413), (151, 17440), (154, 17455), (157, 17479), (159, 17485), (160, 17506), (164, 17554), (185, 17722), (186, 17725), (187, 17746), (189, 17758), (201, 17833), (231, 18028), (234, 18049), (236, 18058), (244, 18091), (250, 18157), (254, 18187), (259, 18229),

Gene: Htur_21 Start: 16411, Stop: 18312, Start Num: 38

Candidate Starts for Htur_21:

(Start: 38 @16411 has 25 MA's), (39, 16432), (40, 16438), (54, 16540), (57, 16579), (58, 16582), (73, 16651), (78, 16732), (81, 16762), (86, 16861), (89, 16903), (101, 17044), (102, 17065), (103, 17068), (109, 17101), (116, 17206), (120, 17245), (121, 17248), (129, 17308), (140, 17416), (141, 17422), (151, 17494), (154, 17509), (157, 17533), (159, 17539), (160, 17560), (164, 17608), (167, 17659), (171, 17680), (185, 17776), (187, 17800), (189, 17812), (198, 17875), (206, 17932), (216, 17986), (225, 18043), (228, 18070), (230, 18076), (231, 18082), (232, 18094), (244, 18145), (259, 18283),

Gene: Jera_22 Start: 15478, Stop: 17370, Start Num: 38

Candidate Starts for Jera_22:

(Start: 38 @15478 has 25 MA's), (54, 15607), (57, 15646), (73, 15718), (78, 15799), (79, 15811), (86, 15928), (93, 15994), (101, 16087), (102, 16108), (103, 16111), (109, 16144), (116, 16249), (121, 16291), (122, 16309), (140, 16459), (141, 16465), (151, 16537), (154, 16552), (157, 16576), (159, 16582), (160, 16603), (164, 16651), (182, 16816), (185, 16822), (188, 16852), (191, 16876), (193, 16885), (194, 16891), (197, 16912), (203, 16945), (224, 17080), (227, 17110), (228, 17119), (230, 17125), (256, 17314), (258, 17335),

Gene: Johann_22 Start: 16381, Stop: 18258, Start Num: 38

Candidate Starts for Johann_22:

(Start: 38 @16381 has 25 MA's), (54, 16510), (57, 16549), (58, 16552), (73, 16621), (76, 16666), (78, 16702), (86, 16831), (102, 17011), (103, 17014), (109, 17047), (116, 17152), (118, 17173), (120, 17191), (121, 17194), (141, 17368), (147, 17413), (151, 17440), (154, 17455), (157, 17479), (159, 17485), (160, 17506), (164, 17554), (185, 17722), (186, 17725), (187, 17746), (189, 17758), (201,

17833), (231, 18028), (234, 18049), (236, 18058), (244, 18091), (250, 18157), (254, 18187), (259, 18229),

Gene: Katzastrophic_17 Start: 13520, Stop: 15796, Start Num: 3

Candidate Starts for Katzastrophic_17:

(Start: 3 @13520 has 2 MA's), (5, 13586), (7, 13649), (12, 13772), (17, 13805), (20, 13847), (26, 13910), (32, 13976), (33, 13982), (42, 14102), (52, 14159), (56, 14219), (60, 14237), (62, 14264), (74, 14336), (77, 14387), (78, 14399), (85, 14510), (86, 14522), (106, 14708), (110, 14750), (115, 14825), (117, 14831), (121, 14870), (132, 14957), (141, 15047), (148, 15095), (152, 15122), (157, 15158), (162, 15212), (169, 15293), (172, 15308), (178, 15377), (202, 15500), (205, 15536), (208, 15545), (219, 15605), (222, 15632),

Gene: Lesiram_23 Start: 15098, Stop: 16786, Start Num: 38

Candidate Starts for Lesiram_23:

(Start: 38 @15098 has 25 MA's), (57, 15245), (58, 15248), (86, 15527), (87, 15539), (93, 15593), (102, 15710), (103, 15713), (104, 15719), (111, 15785), (116, 15851), (125, 15935), (138, 16043), (141, 16067), (142, 16073), (145, 16103), (148, 16115), (153, 16151), (156, 16163), (157, 16178), (158, 16181), (160, 16205), (163, 16244), (165, 16265), (174, 16301), (178, 16364), (209, 16526), (229, 16661), (233, 16688), (238, 16712),

Gene: MenE_27 Start: 14693, Stop: 16561, Start Num: 38

Candidate Starts for MenE_27:

(23, 14468), (35, 14663), (Start: 38 @14693 has 25 MA's), (46, 14753), (49, 14774), (51, 14786), (57, 14840), (64, 14873), (68, 14879), (83, 15095), (98, 15251), (102, 15305), (103, 15308), (108, 15338), (113, 15410), (126, 15533), (134, 15605), (138, 15638), (141, 15662), (148, 15710), (157, 15773), (182, 16007), (190, 16058), (193, 16076), (197, 16103), (200, 16121), (203, 16136), (225, 16283), (228, 16310), (241, 16373), (250, 16460), (260, 16553),

Gene: PermaG_22 Start: 16442, Stop: 18325, Start Num: 38

Candidate Starts for PermaG_22:

(35, 16412), (Start: 38 @16442 has 25 MA's), (54, 16571), (57, 16610), (58, 16613), (73, 16682), (78, 16763), (86, 16892), (96, 16970), (102, 17072), (103, 17075), (116, 17213), (120, 17252), (121, 17255), (137, 17399), (141, 17429), (154, 17516), (157, 17540), (159, 17546), (160, 17567), (164, 17615), (185, 17783), (186, 17786), (187, 17807), (189, 17819), (214, 17975), (225, 18050), (227, 18068), (240, 18137), (250, 18224), (251, 18227), (255, 18260),

Gene: Phonegingi_23 Start: 14486, Stop: 16339, Start Num: 38

Candidate Starts for Phonegingi_23:

(23, 14261), (35, 14456), (Start: 38 @14486 has 25 MA's), (46, 14546), (49, 14567), (51, 14579), (57, 14633), (64, 14666), (79, 14795), (94, 14984), (98, 15044), (102, 15098), (103, 15101), (108, 15131), (113, 15203), (126, 15326), (131, 15365), (134, 15398), (138, 15431), (141, 15455), (148, 15503), (152, 15530), (156, 15551), (160, 15593), (162, 15620), (190, 15851), (193, 15869), (215, 16016), (228, 16103), (231, 16115), (241, 16160), (244, 16172), (246, 16193), (254, 16268), (259, 16310), (260, 16331),

Gene: Pickles13_23 Start: 14850, Stop: 16718, Start Num: 38

Candidate Starts for Pickles13_23:

(23, 14625), (35, 14820), (Start: 38 @14850 has 25 MA's), (46, 14910), (49, 14931), (51, 14943), (57, 14997), (64, 15030), (67, 15033), (100, 15432), (102, 15462), (103, 15465), (108, 15495), (113, 15567), (126, 15690), (134, 15762), (138, 15795), (141, 15819), (145, 15855), (148, 15867), (152, 15894), (157, 15930), (166, 16026), (182, 16164), (193, 16233), (197, 16260), (225, 16440), (228, 16467), (241, 16530), (250, 16617), (260, 16710),

Gene: Rasovi_21 Start: 16411, Stop: 18312, Start Num: 38

Candidate Starts for Rasovi_21:

(Start: 38 @16411 has 25 MA's), (39, 16432), (40, 16438), (54, 16540), (58, 16582), (73, 16651), (78, 16732), (81, 16762), (86, 16861), (89, 16903), (101, 17044), (102, 17065), (103, 17068), (109, 17101), (116, 17206), (120, 17245), (121, 17248), (129, 17308), (140, 17416), (141, 17422), (151, 17494), (154, 17509), (157, 17533), (159, 17539), (160, 17560), (164, 17608), (167, 17659), (171, 17680), (185, 17776), (187, 17800), (189, 17812), (198, 17875), (206, 17932), (216, 17986), (225, 18043), (228, 18070), (230, 18076), (231, 18082), (232, 18094), (244, 18145), (259, 18283),

Gene: SBlackberry_21 Start: 16237, Stop: 18123, Start Num: 38

Candidate Starts for SBlackberry_21:

(Start: 38 @16237 has 25 MA's), (54, 16366), (57, 16405), (73, 16477), (78, 16558), (79, 16570), (86, 16687), (90, 16729), (101, 16846), (102, 16867), (103, 16870), (109, 16903), (116, 17008), (120, 17047), (121, 17050), (123, 17080), (140, 17218), (141, 17224), (151, 17296), (154, 17311), (157, 17335), (159, 17341), (160, 17362), (164, 17410), (168, 17467), (180, 17566), (182, 17575), (185, 17581), (191, 17635), (197, 17671), (231, 17893), (234, 17914), (236, 17923), (244, 17956), (250, 18022), (254, 18052), (259, 18094),

Gene: Sucha_18 Start: 13667, Stop: 15568, Start Num: 38

Candidate Starts for Sucha_18:

(Start: 38 @13667 has 25 MA's), (45, 13718), (57, 13814), (58, 13817), (64, 13847), (69, 13856), (78, 13964), (79, 13976), (81, 13994), (86, 14096), (87, 14108), (89, 14135), (94, 14186), (100, 14270), (102, 14300), (103, 14303), (108, 14333), (131, 14567), (138, 14633), (141, 14657), (147, 14702), (148, 14705), (153, 14741), (154, 14744), (160, 14795), (165, 14855), (167, 14903), (207, 15182), (211, 15191), (217, 15239), (223, 15272), (225, 15293), (230, 15326), (248, 15449),

Gene: Teng_24 Start: 15125, Stop: 16837, Start Num: 38

Candidate Starts for Teng_24:

(Start: 38 @15125 has 25 MA's), (57, 15272), (58, 15275), (73, 15341), (80, 15437), (88, 15581), (96, 15659), (97, 15677), (99, 15731), (102, 15764), (103, 15767), (104, 15773), (108, 15797), (111, 15839), (112, 15857), (116, 15905), (125, 15989), (130, 16028), (131, 16031), (138, 16097), (141, 16121), (145, 16157), (148, 16169), (156, 16217), (157, 16232), (158, 16235), (160, 16259), (161, 16274), (165, 16319), (175, 16358), (177, 16382), (181, 16433), (183, 16436), (192, 16490), (203, 16541), (204, 16547), (218, 16631), (226, 16688), (234, 16745),

Gene: TurboVicky_21 Start: 16231, Stop: 18123, Start Num: 38

Candidate Starts for TurboVicky_21:

(Start: 38 @16231 has 25 MA's), (54, 16360), (57, 16399), (58, 16402), (73, 16471), (78, 16552), (79, 16564), (86, 16681), (101, 16840), (102, 16861), (103, 16864), (109, 16897), (116, 17002), (120, 17041), (121, 17044), (122, 17062), (123, 17074), (140, 17212), (141, 17218), (151, 17290), (154, 17305), (157, 17329), (159, 17335), (160, 17356), (164, 17404), (182, 17569), (185, 17575), (188, 17605), (193, 17638), (194, 17644), (203, 17698), (207, 17737), (224, 17833), (230, 17878), (232, 17896), (250, 18022), (256, 18067), (258, 18088),

Gene: Typher_23 Start: 16361, Stop: 18253, Start Num: 38

Candidate Starts for Typher_23:

(Start: 38 @16361 has 25 MA's), (54, 16490), (57, 16529), (58, 16532), (73, 16601), (78, 16682), (79, 16694), (86, 16811), (101, 16970), (102, 16991), (103, 16994), (109, 17027), (116, 17132), (120, 17171), (121, 17174), (122, 17192), (123, 17204), (140, 17342), (141, 17348), (151, 17420), (154, 17435), (157, 17459), (159, 17465), (160, 17486), (164, 17534), (182, 17699), (185, 17705), (188, 17735), (193, 17768), (194, 17774), (203, 17828), (224, 17963), (228, 18002), (232, 18026), (256, 18197), (258, 18218),

Gene: Warren_24 Start: 14623, Stop: 16491, Start Num: 38

Candidate Starts for Warren_24:

(23, 14398), (35, 14593), (Start: 38 @14623 has 25 MA's), (46, 14683), (49, 14704), (51, 14716), (57, 14770), (64, 14803), (83, 15025), (98, 15181), (102, 15235), (103, 15238), (108, 15268), (113, 15340), (126, 15463), (134, 15535), (141, 15592), (148, 15640), (157, 15703), (166, 15799), (182, 15937), (190, 15988), (193, 16006), (197, 16033), (228, 16240), (250, 16390), (256, 16435), (260, 16483),

Gene: Zanella_21 Start: 16234, Stop: 18126, Start Num: 38

Candidate Starts for Zanella_21:

(Start: 38 @16234 has 25 MA's), (54, 16363), (57, 16402), (58, 16405), (73, 16474), (78, 16555), (79, 16567), (86, 16684), (101, 16843), (102, 16864), (103, 16867), (109, 16900), (116, 17005), (120, 17044), (121, 17047), (122, 17065), (123, 17077), (140, 17215), (141, 17221), (151, 17293), (154, 17308), (157, 17332), (159, 17338), (160, 17359), (164, 17407), (182, 17572), (185, 17578), (188, 17608), (193, 17641), (194, 17647), (203, 17701), (207, 17740), (224, 17836), (230, 17881), (232, 17899), (250, 18025), (256, 18070), (258, 18091),

Gene: Zeta1847_16 Start: 13524, Stop: 16088, Start Num: 1

Candidate Starts for Zeta1847_16:

(Start: 1 @13524 has 1 MA's), (2, 13632), (4, 13683), (16, 13923), (34, 14172), (36, 14187), (37, 14199), (Start: 38 @14217 has 25 MA's), (61, 14394), (85, 14664), (95, 14733), (103, 14844), (111, 14916), (116, 14982), (133, 15132), (184, 15552), (217, 15765), (220, 15792), (247, 15969),