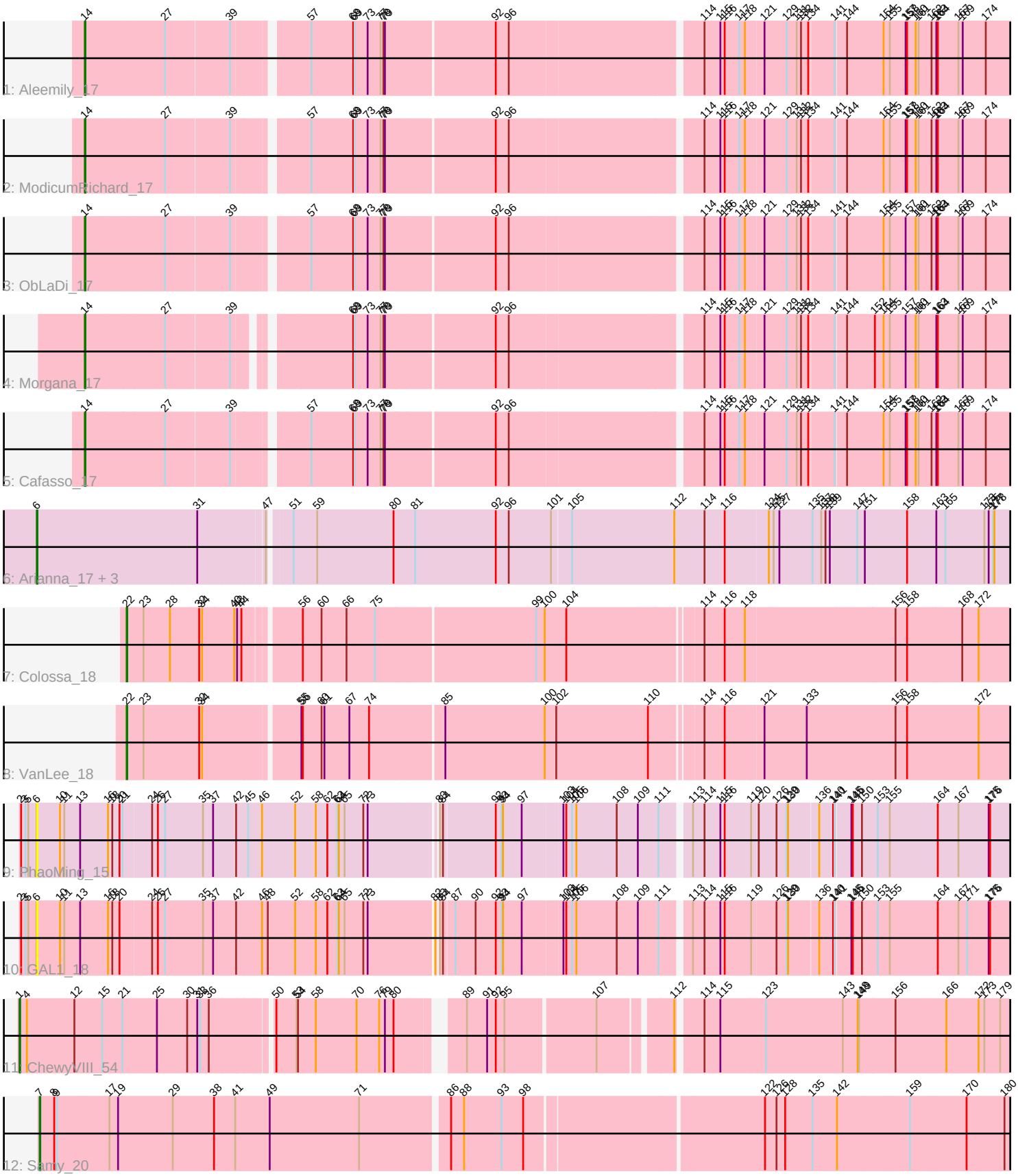
# Zoomed Pham 348148



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 348148 Report

This analysis was run 11/14/26 on database version 672.

Pham number 348148 has 15 members, 2 are drafts.

Phages represented in each track:
• Track 1 : Aleemily_17
• Track 2 : ModicumRichard_17
• Track 3 : ObLaDi_17
• Track 4 : Morgana_17
• Track 5 : Cafasso_17
• Track 6 : Arianna_17, TouchMeNot_17, Colleen_17, Poushou_17
• Track 7 : Colossa_18
• Track 8 : VanLee_18
• Track 9 : PhaoMing_15
• Track 10 : GAL1_18
• Track 11 : ChewyVIII_54
• Track 12 : Samy_20

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

The start number called the most often in the published annotations is 14, it was called in 5 of the 13 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Aleemily_17, Cafasso_17, ModicumRichard_17, Morgana_17, ObLaDi_17,

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

Genes that do not have the "Most Annotated" start:
• Arianna_17, ChewyVIII_54, Colleen_17, Colossa_18, GAL1_18, PhaoMing_15, Poushou_17, Samy_20, TouchMeNot_17, VanLee_18,

**Summary by start number:**

Start 1:
• Found in 1 of 15 ( 6.7% ) of genes in pham
• Manual Annotations of this start: 1 of 13
• Called 100.0% of time when present

• Phage (with cluster) where this start called: ChewyVIII_54 (singleton),

Start 6:
• Found in 6 of 15 ( 40.0% ) of genes in pham
• Manual Annotations of this start: 4 of 13
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Arianna_17 (EO), Colleen_17 (EO), GAL1_18 (singleton), PhaoMing_15 (UNK), Poushou_17 (EO), TouchMeNot_17 (EO),

Start 7:
• Found in 1 of 15 ( 6.7% ) of genes in pham
• Manual Annotations of this start: 1 of 13
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Samy_20 (singleton),

Start 14:
• Found in 5 of 15 ( 33.3% ) of genes in pham
• Manual Annotations of this start: 5 of 13
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Aleemily_17 (DZ), Cafasso_17 (DZ), ModicumRichard_17 (DZ), Morgana_17 (DZ), ObLaDi_17 (DZ),

Start 22:
• Found in 2 of 15 ( 13.3% ) of genes in pham
• Manual Annotations of this start: 2 of 13
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Colossa_18 (KA), VanLee_18 (KA),

**Summary by clusters:**

There are 5 clusters represented in this pham: EO, UNK, DZ, KA, singleton,

Info for manual annotations of cluster DZ:
•Start number 14 was manually annotated 5 times for cluster DZ.

Info for manual annotations of cluster EO:
•Start number 6 was manually annotated 4 times for cluster EO.

Info for manual annotations of cluster KA:
•Start number 22 was manually annotated 2 times for cluster KA.

***Gene Information:***

Gene: Aleemily_17 Start: 10958, Stop: 15649, Start Num: 14
Candidate Starts for Aleemily_17:
(Start: 14 @10958 has 5 MA's), (27, 11117), (39, 11240), (57, 11375), (68, 11462), (69, 11465), (73, 11492), (77, 11519), (78, 11525), (79, 11528), (92, 11747), (96, 11774), (114, 12149), (115, 12182), (116, 12191), (117, 12221), (118, 12233), (121, 12269), (129, 12314), (131, 12335), (132, 12344), (134, 12359), (141, 12407), (144, 12428), (154, 12503), (155, 12515), (157, 12548), (158, 12551),

(160, 12569), (161, 12575), (162, 12602), (163, 12611), (164, 12614), (167, 12656), (169, 12665), (174, 12713), (182, 12776), (196, 12914), (197, 12923), (205, 13010), (206, 13022), (207, 13043), (208, 13049), (213, 13076), (214, 13079), (220, 13127), (222, 13136), (226, 13178), (228, 13190), (236, 13232), (242, 13253), (243, 13265), (246, 13307), (261, 13436), (271, 13535), (277, 13583), (278, 13619), (285, 13703), (286, 13706), (289, 13712), (296, 13784), (305, 13889), (306, 13895), (310, 13943), (314, 13979), (317, 14003), (331, 14198), (332, 14210), (346, 14435), (363, 14714), (368, 14792), (385, 15098), (387, 15143), (395, 15221), (396, 15227), (398, 15239), (402, 15284), (403, 15287), (410, 15461), (423, 15620),

Gene: Arianna_17 Start: 11629, Stop: 16536, Start Num: 6
Candidate Starts for Arianna_17:
(Start: 6 @11629 has 4 MA's), (31, 11956), (47, 12085), (51, 12124), (59, 12172), (80, 12325), (81, 12370), (92, 12538), (96, 12565), (101, 12649), (105, 12688), (112, 12898), (114, 12961), (116, 13003), (124, 13090), (125, 13099), (127, 13111), (135, 13180), (137, 13198), (138, 13207), (139, 13216), (147, 13270), (151, 13285), (158, 13369), (163, 13429), (165, 13447), (173, 13525), (175, 13534), (177, 13543), (178, 13546), (184, 13606), (185, 13618), (188, 13630), (189, 13639), (202, 13771), (217, 13918), (218, 13936), (223, 13966), (227, 14002), (228, 14008), (233, 14038), (239, 14062), (240, 14065), (247, 14140), (249, 14149), (250, 14170), (251, 14173), (252, 14179), (254, 14203), (255, 14206), (258, 14221), (259, 14233), (260, 14254), (262, 14266), (264, 14278), (265, 14287), (272, 14386), (274, 14398), (276, 14419), (280, 14485), (291, 14575), (292, 14596), (302, 14701), (323, 14980), (338, 15115), (339, 15151), (343, 15253), (344, 15283), (349, 15325), (354, 15403), (362, 15565), (367, 15661), (376, 15802), (377, 15844), (379, 15865), (390, 16063), (393, 16087), (400, 16135), (413, 16384), (415, 16417), (422, 16480), (423, 16513), (424, 16522),

Gene: Cafasso_17 Start: 10946, Stop: 15646, Start Num: 14
Candidate Starts for Cafasso_17:
(Start: 14 @10946 has 5 MA's), (27, 11105), (39, 11228), (57, 11363), (68, 11450), (69, 11453), (73, 11480), (77, 11507), (78, 11513), (79, 11516), (92, 11735), (96, 11762), (114, 12137), (115, 12170), (116, 12179), (117, 12209), (118, 12221), (121, 12257), (129, 12302), (131, 12323), (132, 12332), (134, 12347), (141, 12395), (144, 12416), (154, 12491), (155, 12503), (157, 12536), (158, 12539), (160, 12557), (161, 12563), (162, 12590), (163, 12599), (164, 12602), (167, 12644), (169, 12653), (174, 12701), (182, 12764), (196, 12902), (197, 12911), (205, 12998), (206, 13010), (207, 13031), (208, 13037), (213, 13064), (214, 13067), (220, 13115), (222, 13124), (226, 13166), (228, 13178), (236, 13220), (242, 13241), (243, 13253), (246, 13295), (276, 13565), (277, 13571), (278, 13607), (286, 13694), (296, 13772), (300, 13820), (305, 13877), (306, 13883), (310, 13931), (314, 13967), (317, 13991), (324, 14114), (331, 14186), (334, 14225), (346, 14432), (363, 14711), (368, 14789), (382, 15047), (385, 15095), (387, 15140), (395, 15218), (396, 15224), (398, 15236), (402, 15281), (403, 15284), (410, 15458), (423, 15617),

Gene: ChewyVIII_54 Start: 32390, Stop: 37234, Start Num: 1
Candidate Starts for ChewyVIII_54:
(Start: 1 @32390 has 1 MA's), (4, 32405), (12, 32504), (15, 32561), (21, 32603), (25, 32672), (30, 32732), (31, 32753), (33, 32759), (36, 32777), (50, 32894), (53, 32936), (54, 32939), (58, 32975), (70, 33056), (76, 33101), (79, 33113), (80, 33131), (89, 33236), (91, 33278), (92, 33296), (95, 33314), (107, 33494), (112, 33632), (114, 33674), (115, 33707), (123, 33800), (143, 33956), (148, 33986), (149, 33989), (156, 34064), (166, 34166), (172, 34229), (173, 34241), (179, 34274), (181, 34301), (186, 34346), (187, 34352), (190, 34370), (193, 34385), (211, 34580), (225, 34715), (229, 34742), (232, 34754), (234, 34772), (258, 34946), (259, 34958), (268, 35039), (296, 35390), (297, 35411), (298, 35435), (301, 35459), (304, 35486), (306, 35507), (308, 35543), (310, 35555), (311, 35573), (313, 35582), (319, 35630), (321, 35675), (323, 35738), (325, 35756), (328, 35786), (330, 35810), (335, 35852), (341, 35960), (345, 36053), (348, 36077), (357, 36239), (358, 36254), (366, 36413), (369, 36467), (374, 36524), (375, 36554), (378, 36638), (381, 36707), (402, 36932), (403, 36935), (404, 36944), (409, 37085), (412, 37121), (416, 37169), (418, 37175), (419, 37178),

Gene: Colleen_17 Start: 11629, Stop: 16536, Start Num: 6
Candidate Starts for Colleen_17:
(Start: 6 @11629 has 4 MA's), (31, 11956), (47, 12085), (51, 12124), (59, 12172), (80, 12325), (81, 12370), (92, 12538), (96, 12565), (101, 12649), (105, 12688), (112, 12898), (114, 12961), (116, 13003), (124, 13090), (125, 13099), (127, 13111), (135, 13180), (137, 13198), (138, 13207), (139, 13216), (147, 13270), (151, 13285), (158, 13369), (163, 13429), (165, 13447), (173, 13525), (175, 13534), (177, 13543), (178, 13546), (184, 13606), (185, 13618), (188, 13630), (189, 13639), (202, 13771), (217, 13918), (218, 13936), (223, 13966), (227, 14002), (228, 14008), (233, 14038), (239, 14062), (240, 14065), (247, 14140), (249, 14149), (250, 14170), (251, 14173), (252, 14179), (254, 14203), (255, 14206), (258, 14221), (259, 14233), (260, 14254), (262, 14266), (264, 14278), (265, 14287), (272, 14386), (274, 14398), (276, 14419), (280, 14485), (291, 14575), (292, 14596), (302, 14701), (323, 14980), (338, 15115), (339, 15151), (343, 15253), (344, 15283), (349, 15325), (354, 15403), (362, 15565), (367, 15661), (376, 15802), (377, 15844), (379, 15865), (390, 16063), (393, 16087), (400, 16135), (413, 16384), (415, 16417), (422, 16480), (423, 16513), (424, 16522),

Gene: Colossa_18 Start: 10917, Stop: 15554, Start Num: 22
Candidate Starts for Colossa_18:
(Start: 22 @10917 has 2 MA's), (23, 10950), (28, 11001), (32, 11061), (34, 11067), (40, 11130), (43, 11136), (44, 11145), (56, 11247), (60, 11283), (66, 11331), (75, 11388), (99, 11712), (100, 11730), (104, 11775), (114, 12039), (116, 12081), (118, 12123), (156, 12426), (158, 12447), (168, 12558), (172, 12591), (226, 13089), (244, 13182), (261, 13347), (267, 13383), (274, 13491), (275, 13509), (279, 13578), (283, 13614), (286, 13650), (291, 13677), (294, 13725), (310, 13899), (312, 13920), (314, 13935), (317, 13959), (318, 13962), (326, 14109), (332, 14169), (352, 14469), (353, 14487), (371, 14805), (384, 15069), (390, 15153), (395, 15198), (399, 15225), (407, 15336), (408, 15387), (409, 15402), (411, 15423), (417, 15492), (420, 15531), (421, 15534),

Gene: GAL1_18 Start: 11671, Stop: 16068, Start Num: 6
Candidate Starts for GAL1_18:
(2, 11638), (3, 11647), (5, 11653), (Start: 6 @11671 has 4 MA's), (10, 11719), (11, 11728), (13, 11761), (16, 11818), (18, 11827), (20, 11842), (24, 11905), (26, 11914), (27, 11926), (35, 12004), (37, 12025), (42, 12073), (46, 12124), (48, 12136), (52, 12193), (58, 12235), (62, 12259), (63, 12280), (64, 12283), (65, 12295), (72, 12334), (73, 12343), (82, 12472), (83, 12475), (84, 12481), (87, 12502), (90, 12544), (92, 12586), (93, 12598), (94, 12601), (97, 12640), (103, 12718), (104, 12724), (105, 12736), (106, 12745), (108, 12829), (109, 12871), (111, 12913), (113, 12958), (114, 12979), (115, 13012), (116, 13021), (119, 13075), (126, 13123), (129, 13144), (130, 13147), (136, 13207), (140, 13234), (141, 13237), (145, 13267), (146, 13270), (150, 13288), (153, 13321), (155, 13345), (164, 13444), (167, 13486), (171, 13504), (175, 13549), (176, 13552), (183, 13627), (195, 13723), (196, 13744), (198, 13756), (200, 13777), (201, 13810), (203, 13822), (204, 13828), (209, 13888), (210, 13897), (211, 13900), (212, 13909), (213, 13930), (214, 13933), (215, 13939), (216, 13942), (219, 13981), (220, 13987), (221, 13993), (224, 14008), (225, 14029), (227, 14044), (230, 14059), (235, 14089), (236, 14092), (237, 14095), (238, 14104), (241, 14110), (245, 14143), (246, 14164), (248, 14188), (253, 14221), (257, 14254), (261, 14296), (273, 14392), (281, 14500), (290, 14563), (299, 14653), (315, 14794), (327, 14962), (329, 14992), (336, 15052), (346, 15235), (350, 15283), (359, 15406), (361, 15454), (364, 15508), (373, 15637), (383, 15853), (386, 15883), (388, 15919), (391, 15964), (392, 15967), (397, 16000), (401, 16021), (405, 16054),

Gene: ModicumRichard_17 Start: 10946, Stop: 15646, Start Num: 14
Candidate Starts for ModicumRichard_17:
(Start: 14 @10946 has 5 MA's), (27, 11105), (39, 11228), (57, 11363), (68, 11450), (69, 11453), (73, 11480), (77, 11507), (78, 11513), (79, 11516), (92, 11735), (96, 11762), (114, 12137), (115, 12170), (116, 12179), (117, 12209), (118, 12221), (121, 12257), (129, 12302), (131, 12323), (132, 12332), (134, 12347), (141, 12395), (144, 12416), (154, 12491), (155, 12503), (157, 12536), (158, 12539),

(160, 12557), (161, 12563), (162, 12590), (163, 12599), (164, 12602), (167, 12644), (169, 12653), (174, 12701), (182, 12764), (196, 12902), (197, 12911), (205, 12998), (206, 13010), (207, 13031), (208, 13037), (213, 13064), (214, 13067), (220, 13115), (222, 13124), (226, 13166), (228, 13178), (236, 13220), (242, 13241), (243, 13253), (246, 13295), (276, 13565), (277, 13571), (278, 13607), (286, 13694), (296, 13772), (300, 13820), (305, 13877), (306, 13883), (310, 13931), (314, 13967), (317, 13991), (324, 14114), (331, 14186), (334, 14225), (346, 14432), (363, 14711), (368, 14789), (385, 15095), (387, 15140), (395, 15218), (396, 15224), (398, 15236), (402, 15281), (403, 15284), (410, 15458), (423, 15617),

Gene: Morgana_17 Start: 10951, Stop: 15636, Start Num: 14
Candidate Starts for Morgana_17:
(Start: 14 @10951 has 5 MA's), (27, 11110), (39, 11236), (68, 11440), (69, 11443), (73, 11470), (77, 11497), (78, 11503), (79, 11506), (92, 11725), (96, 11752), (114, 12127), (115, 12160), (116, 12169), (117, 12199), (118, 12211), (121, 12247), (129, 12292), (131, 12313), (132, 12322), (134, 12337), (141, 12385), (144, 12406), (152, 12463), (154, 12481), (155, 12493), (157, 12526), (160, 12547), (161, 12553), (163, 12589), (164, 12592), (167, 12634), (169, 12643), (174, 12691), (182, 12754), (197, 12901), (205, 12988), (206, 13000), (207, 13021), (208, 13027), (213, 13054), (214, 13057), (220, 13105), (222, 13114), (226, 13156), (228, 13168), (236, 13210), (242, 13231), (243, 13243), (246, 13285), (261, 13414), (277, 13561), (285, 13681), (286, 13684), (289, 13690), (296, 13762), (300, 13810), (305, 13867), (310, 13921), (314, 13957), (317, 13981), (331, 14176), (334, 14215), (346, 14422), (363, 14701), (368, 14779), (382, 15037), (385, 15085), (387, 15130), (395, 15208), (396, 15214), (398, 15226), (402, 15271), (403, 15274), (410, 15448), (423, 15607),

Gene: ObLaDi_17 Start: 10934, Stop: 15625, Start Num: 14
Candidate Starts for ObLaDi_17:
(Start: 14 @10934 has 5 MA's), (27, 11093), (39, 11216), (57, 11351), (68, 11438), (69, 11441), (73, 11468), (77, 11495), (78, 11501), (79, 11504), (92, 11723), (96, 11750), (114, 12125), (115, 12158), (116, 12167), (117, 12197), (118, 12209), (121, 12245), (129, 12290), (131, 12311), (132, 12320), (134, 12335), (141, 12383), (144, 12404), (154, 12479), (155, 12491), (157, 12524), (160, 12545), (161, 12551), (162, 12578), (163, 12587), (164, 12590), (167, 12632), (169, 12641), (174, 12689), (182, 12752), (196, 12890), (197, 12899), (201, 12956), (205, 12986), (206, 12998), (207, 13019), (208, 13025), (213, 13052), (214, 13055), (220, 13103), (222, 13112), (226, 13154), (228, 13166), (236, 13208), (242, 13229), (243, 13241), (246, 13283), (261, 13412), (271, 13511), (277, 13559), (278, 13595), (285, 13679), (286, 13682), (289, 13688), (296, 13760), (305, 13865), (306, 13871), (310, 13919), (314, 13955), (317, 13979), (331, 14174), (332, 14186), (346, 14411), (363, 14690), (368, 14768), (382, 15026), (385, 15074), (387, 15119), (395, 15197), (396, 15203), (398, 15215), (402, 15260), (403, 15263), (410, 15437), (423, 15596),

Gene: PhaoMing_15 Start: 10315, Stop: 14700, Start Num: 6
Candidate Starts for PhaoMing_15:
(2, 10282), (3, 10291), (5, 10297), (Start: 6 @10315 has 4 MA's), (10, 10363), (11, 10372), (13, 10405), (16, 10462), (18, 10471), (20, 10486), (21, 10492), (24, 10549), (26, 10558), (27, 10570), (35, 10648), (37, 10669), (42, 10717), (45, 10741), (46, 10768), (52, 10837), (58, 10879), (62, 10903), (63, 10924), (64, 10927), (65, 10939), (72, 10978), (73, 10987), (83, 11119), (84, 11125), (92, 11230), (93, 11242), (94, 11245), (97, 11284), (103, 11362), (104, 11368), (105, 11380), (106, 11389), (108, 11473), (109, 11515), (111, 11557), (113, 11602), (114, 11623), (115, 11656), (116, 11665), (119, 11719), (120, 11731), (126, 11767), (129, 11788), (130, 11791), (136, 11851), (140, 11878), (141, 11881), (145, 11911), (146, 11914), (150, 11932), (153, 11965), (155, 11989), (164, 12088), (167, 12130), (175, 12193), (176, 12196), (183, 12271), (191, 12325), (192, 12328), (195, 12367), (196, 12388), (198, 12400), (200, 12421), (201, 12454), (203, 12466), (204, 12472), (209, 12532), (210, 12541), (211, 12544), (212, 12553), (213, 12574), (214, 12577), (215, 12583), (216, 12586), (219, 12625), (220, 12631), (221, 12637), (224, 12652), (227, 12688), (230, 12703), (235, 12733), (236, 12736), (237, 12739), (238, 12748), (242, 12757), (245, 12787), (248, 12832), (253, 12865), (257, 12898), (261,

12940), (273, 13036), (281, 13144), (290, 13207), (295, 13246), (299, 13297), (303, 13324), (309, 13399), (315, 13438), (320, 13507), (337, 13699), (346, 13867), (350, 13915), (359, 14038), (361, 14086), (364, 14140), (373, 14269), (383, 14485), (386, 14515), (388, 14551), (391, 14596), (392, 14599), (397, 14632), (401, 14653), (405, 14686),

Gene: Poushou_17 Start: 11629, Stop: 16536, Start Num: 6
Candidate Starts for Poushou_17:
(Start: 6 @11629 has 4 MA's), (31, 11956), (47, 12085), (51, 12124), (59, 12172), (80, 12325), (81, 12370), (92, 12538), (96, 12565), (101, 12649), (105, 12688), (112, 12898), (114, 12961), (116, 13003), (124, 13090), (125, 13099), (127, 13111), (135, 13180), (137, 13198), (138, 13207), (139, 13216), (147, 13270), (151, 13285), (158, 13369), (163, 13429), (165, 13447), (173, 13525), (175, 13534), (177, 13543), (178, 13546), (184, 13606), (185, 13618), (188, 13630), (189, 13639), (202, 13771), (217, 13918), (218, 13936), (223, 13966), (227, 14002), (228, 14008), (233, 14038), (239, 14062), (240, 14065), (247, 14140), (249, 14149), (250, 14170), (251, 14173), (252, 14179), (254, 14203), (255, 14206), (258, 14221), (259, 14233), (260, 14254), (262, 14266), (264, 14278), (265, 14287), (272, 14386), (274, 14398), (276, 14419), (280, 14485), (291, 14575), (292, 14596), (302, 14701), (323, 14980), (338, 15115), (339, 15151), (343, 15253), (344, 15283), (349, 15325), (354, 15403), (362, 15565), (367, 15661), (376, 15802), (377, 15844), (379, 15865), (390, 16063), (393, 16087), (400, 16135), (413, 16384), (415, 16417), (422, 16480), (423, 16513), (424, 16522),

Gene: Samy_20 Start: 11377, Stop: 16083, Start Num: 7
Candidate Starts for Samy_20:
(Start: 7 @11377 has 1 MA's), (8, 11407), (9, 11413), (17, 11521), (19, 11539), (29, 11653), (38, 11737), (41, 11779), (49, 11851), (71, 12037), (86, 12211), (88, 12238), (93, 12313), (98, 12358), (122, 12829), (126, 12853), (128, 12871), (135, 12928), (142, 12979), (159, 13126), (170, 13243), (180, 13321), (194, 13444), (196, 13477), (199, 13498), (206, 13588), (230, 13792), (231, 13798), (235, 13822), (256, 13984), (259, 14002), (263, 14047), (266, 14068), (270, 14125), (282, 14275), (284, 14296), (287, 14317), (288, 14320), (293, 14374), (307, 14551), (316, 14626), (322, 14704), (340, 14938), (342, 14992), (344, 15052), (347, 15088), (351, 15142), (355, 15184), (356, 15250), (360, 15304), (365, 15409), (370, 15484), (380, 15694), (406, 15976),

Gene: TouchMeNot_17 Start: 11629, Stop: 16536, Start Num: 6
Candidate Starts for TouchMeNot_17:
(Start: 6 @11629 has 4 MA's), (31, 11956), (47, 12085), (51, 12124), (59, 12172), (80, 12325), (81, 12370), (92, 12538), (96, 12565), (101, 12649), (105, 12688), (112, 12898), (114, 12961), (116, 13003), (124, 13090), (125, 13099), (127, 13111), (135, 13180), (137, 13198), (138, 13207), (139, 13216), (147, 13270), (151, 13285), (158, 13369), (163, 13429), (165, 13447), (173, 13525), (175, 13534), (177, 13543), (178, 13546), (184, 13606), (185, 13618), (188, 13630), (189, 13639), (202, 13771), (217, 13918), (218, 13936), (223, 13966), (227, 14002), (228, 14008), (233, 14038), (239, 14062), (240, 14065), (247, 14140), (249, 14149), (250, 14170), (251, 14173), (252, 14179), (254, 14203), (255, 14206), (258, 14221), (259, 14233), (260, 14254), (262, 14266), (264, 14278), (265, 14287), (272, 14386), (274, 14398), (276, 14419), (280, 14485), (291, 14575), (292, 14596), (302, 14701), (323, 14980), (338, 15115), (339, 15151), (343, 15253), (344, 15283), (349, 15325), (354, 15403), (362, 15565), (367, 15661), (376, 15802), (377, 15844), (379, 15865), (390, 16063), (393, 16087), (400, 16135), (413, 16384), (415, 16417), (422, 16480), (423, 16513), (424, 16522),

Gene: VanLee_18 Start: 10919, Stop: 15565, Start Num: 22
Candidate Starts for VanLee_18:
(Start: 22 @10919 has 2 MA's), (23, 10952), (32, 11063), (34, 11069), (55, 11249), (56, 11252), (60, 11288), (61, 11291), (67, 11342), (74, 11381), (85, 11528), (100, 11735), (102, 11759), (110, 11948), (114, 12044), (116, 12086), (121, 12164), (133, 12251), (156, 12431), (158, 12452), (172, 12596), (226, 13094), (229, 13112), (267, 13388), (269, 13430), (279, 13583), (286, 13655), (291, 13682), (294, 13730), (306, 13856), (310, 13904), (312, 13925), (314, 13940), (317, 13964), (318, 13967),

(326, 14114), (332, 14174), (333, 14192), (352, 14480), (371, 14819), (372, 14834), (384, 15080), (389, 15137), (390, 15164), (394, 15203), (395, 15209), (399, 15236), (407, 15347), (408, 15398), (411, 15434), (414, 15470), (417, 15503), (420, 15542), (421, 15545),