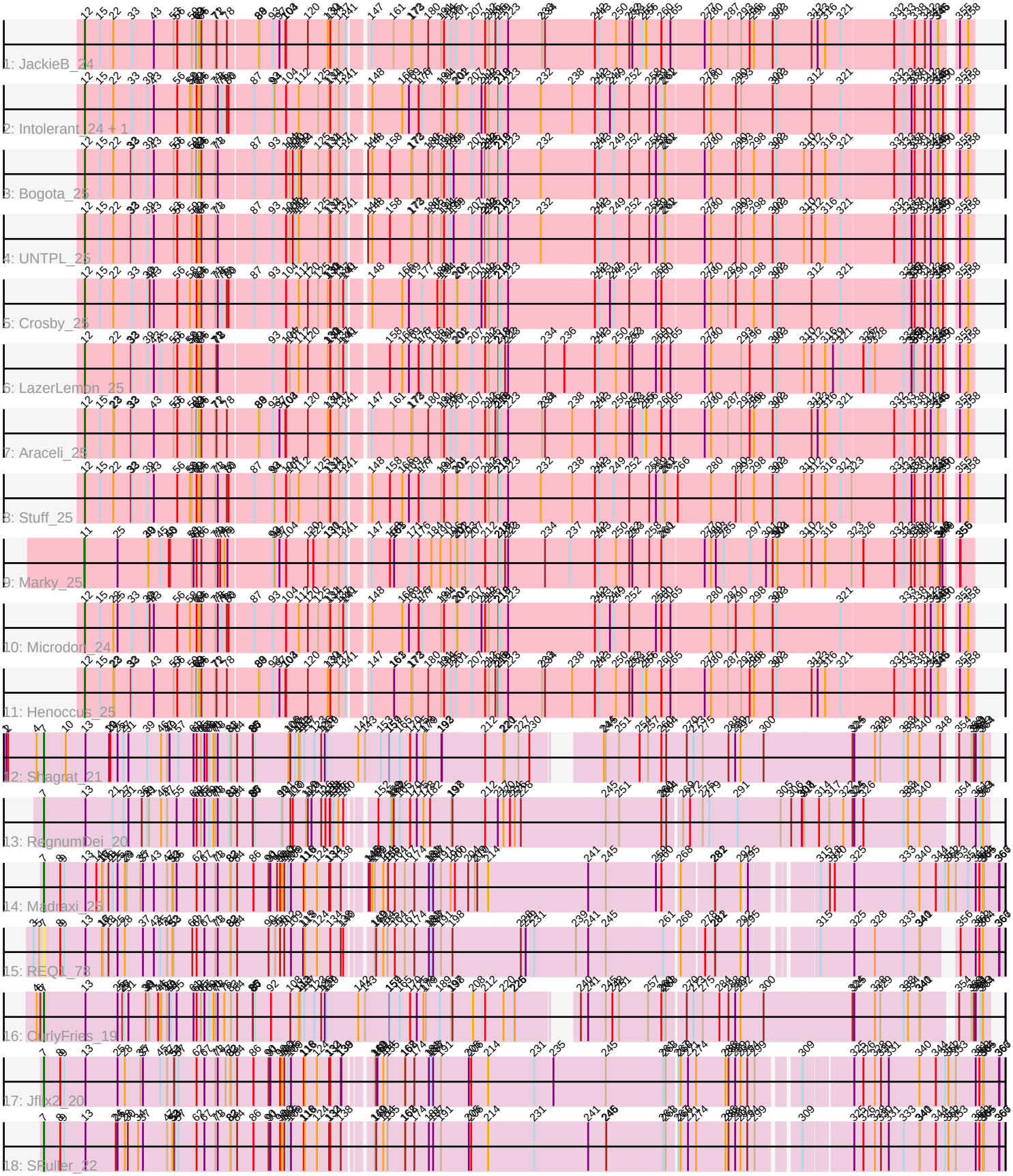
Pham 346205


1: JackieB_24
2: Intolerant_24 + 1
3: Bogota_23
4: UNTPL_25
5: Crosby_23
6: LazerLemon_25
7: Araceli_25
8: Stuff_25
9: Marky_25
10: Microdon_24
11: Henoccus_25
12: Shagrat_21
13: RegnumDei_20
14: Madraxi_25
15: REQI_78
16: CurlyFries_19
17: Jflix2_20
18: SRuller_22

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 346205 Report

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

Pham number 346205 has 19 members, 1 are drafts.

Phages represented in each track:
• Track 1 : JackieB_24
• Track 2 : Intolerant_24, Shynx_25
• Track 3 : Bogota_25
• Track 4 : UNTPL_25
• Track 5 : Crosby_25
• Track 6 : LazerLemon_25
• Track 7 : Araceli_25
• Track 8 : Stuff_25
• Track 9 : Marky_25
• Track 10 : Microdon_24
• Track 11 : Henoccus_25
• Track 12 : Shagrat_21
• Track 13 : RegnumDei_20
• Track 14 : Madraxi_25
• Track 15 : REQ1_78
• Track 16 : CurlyFries_19
• Track 17 : Jflix2_20
• Track 18 : SFuller_22

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

The start number called the most often in the published annotations is 12, it was called in 11 of the 18 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Araceli_25, Bogota_25, Crosby_25, Henoccus_25, Intolerant_24, JackieB_24, LazerLemon_25, Microdon_24, Shynx_25, Stuff_25, UNTPL_25,

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

Genes that do not have the "Most Annotated" start:
• CurlyFries_19, Jflix2_20, Madraxi_25, Marky_25, REQ1_78, RegnumDei_20, SFuller_22, Shagrat_21,

Summary by start number:

Start 7:
• Found in 7 of 19 (36.8%) of genes in pham
• Manual Annotations of this start: 6 of 18
• Called 100.0% of time when present
• Phage (with cluster) where this start called: CurlyFries_19 (CF), Jflix2_20 (CF), Madraxi_25 (CF), REQ1_78 (CF), RegnumDei_20 (CF), SFuller_22 (CF), Shagrat_21 (CF),

Start 11:
• Found in 1 of 19 (5.3%) of genes in pham
• Manual Annotations of this start: 1 of 18
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Marky_25 (BH),

Start 12:
• Found in 11 of 19 (57.9%) of genes in pham
• Manual Annotations of this start: 11 of 18
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Araceli_25 (BH), Bogota_25 (BH), Crosby_25 (BH), Henoccus_25 (BH), Intolerant_24 (BH), JackieB_24 (BH), LazerLemon_25 (BH), Microdon_24 (BH), Shynx_25 (BH), Stuff_25 (BH), UNTPL_25 (BH),

Summary by clusters:

There are 2 clusters represented in this pham: BH, CF,

Info for manual annotations of cluster BH:
•Start number 11 was manually annotated 1 time for cluster BH.
•Start number 12 was manually annotated 11 times for cluster BH.

Info for manual annotations of cluster CF:
•Start number 7 was manually annotated 6 times for cluster CF.

Gene Information:

Gene: Araceli_25 Start: 16171, Stop: 20268, Start Num: 12
Candidate Starts for Araceli_25:
(Start: 12 @16171 has 11 MA's), (15, 16237), (22, 16303), (23, 16309), (32, 16387), (33, 16393), (43, 16495), (53, 16588), (56, 16606), (59, 16678), (62, 16702), (63, 16705), (64, 16714), (66, 16726), (71, 16795), (72, 16801), (78, 16852), (88, 16993), (89, 16996), (93, 17050), (97, 17083), (103, 17113), (104, 17116), (120, 17224), (130, 17323), (134, 17335), (137, 17368), (141, 17401), (147, 17467), (161, 17575), (172, 17656), (173, 17662), (180, 17731), (191, 17788), (194, 17803), (195, 17830), (201, 17860), (207, 17938), (212, 18004), (215, 18022), (216, 18055), (218, 18070), (219, 18073), (223, 18118), (233, 18286), (234, 18301), (238, 18436), (242, 18547), (243, 18568), (250, 18646), (252, 18709), (253, 18724), (255, 18775), (256, 18793), (260, 18868), (265, 18913), (277, 19063), (280, 19093), (287, 19174), (293, 19237), (296, 19279), (298, 19294), (302, 19387), (303, 19405), (312, 19561), (313, 19588), (316, 19624), (321, 19693), (332, 19933), (333, 19978), (338, 20032),

(342, 20083), (343, 20110), (345, 20140), (346, 20146), (355, 20203), (358, 20239),

Gene: Bogota_25 Start: 16314, Stop: 20414, Start Num: 12
Candidate Starts for Bogota_25:
(Start: 12 @16314 has 11 MA's), (15, 16380), (22, 16446), (32, 16530), (33, 16536), (39, 16608), (43, 16638), (53, 16731), (56, 16749), (59, 16821), (62, 16845), (63, 16848), (64, 16857), (66, 16869), (71, 16938), (73, 16950), (87, 17118), (93, 17193), (104, 17259), (107, 17277), (110, 17292), (111, 17304), (112, 17322), (114, 17334), (125, 17418), (131, 17469), (134, 17478), (137, 17511), (141, 17544), (144, 17592), (148, 17613), (158, 17700), (172, 17799), (173, 17805), (180, 17874), (185, 17892), (191, 17931), (194, 17946), (195, 17973), (199, 17991), (207, 18081), (211, 18129), (212, 18147), (213, 18150), (215, 18165), (218, 18213), (219, 18216), (223, 18261), (232, 18423), (242, 18690), (243, 18711), (249, 18777), (252, 18852), (258, 18951), (259, 18984), (261, 19020), (262, 19029), (277, 19209), (280, 19239), (290, 19356), (293, 19383), (298, 19440), (302, 19533), (303, 19551), (310, 19671), (312, 19707), (316, 19770), (321, 19839), (332, 20079), (333, 20124), (337, 20163), (338, 20178), (342, 20229), (343, 20256), (345, 20286), (346, 20292), (350, 20316), (355, 20349), (358, 20385),

Gene: Crosby_25 Start: 16313, Stop: 20413, Start Num: 12
Candidate Starts for Crosby_25:
(Start: 12 @16313 has 11 MA's), (15, 16379), (22, 16445), (33, 16535), (39, 16607), (42, 16619), (43, 16637), (56, 16748), (58, 16811), (62, 16844), (64, 16856), (66, 16868), (71, 16937), (73, 16949), (75, 16967), (78, 16994), (80, 17003), (87, 17117), (93, 17192), (104, 17258), (112, 17321), (120, 17366), (125, 17417), (130, 17465), (131, 17468), (134, 17477), (137, 17510), (140, 17531), (141, 17543), (148, 17612), (166, 17753), (169, 17786), (177, 17852), (188, 17912), (191, 17930), (194, 17945), (201, 18002), (202, 18008), (207, 18080), (211, 18128), (212, 18146), (215, 18164), (218, 18212), (219, 18215), (223, 18260), (242, 18689), (243, 18710), (247, 18761), (249, 18776), (252, 18851), (259, 18983), (260, 19010), (277, 19205), (280, 19235), (287, 19316), (290, 19352), (298, 19436), (302, 19529), (303, 19547), (312, 19703), (321, 19838), (333, 20123), (335, 20156), (337, 20162), (338, 20177), (342, 20228), (343, 20255), (345, 20285), (346, 20291), (350, 20315), (355, 20348), (358, 20384),

Gene: CurlyFries_19 Start: 12522, Stop: 16934, Start Num: 7
Candidate Starts for CurlyFries_19:
(4, 12486), (6, 12504), (Start: 7 @12522 has 6 MA's), (13, 12726), (25, 12882), (26, 12906), (27, 12912), (31, 12936), (38, 13023), (39, 13029), (41, 13038), (44, 13083), (46, 13098), (47, 13128), (49, 13140), (51, 13143), (55, 13173), (61, 13257), (62, 13272), (65, 13293), (67, 13311), (69, 13335), (70, 13356), (71, 13365), (73, 13377), (76, 13410), (83, 13443), (84, 13473), (85, 13551), (86, 13554), (87, 13560), (92, 13641), (108, 13737), (112, 13779), (113, 13785), (117, 13806), (123, 13854), (126, 13887), (127, 13905), (129, 13914), (142, 14070), (143, 14103), (157, 14223), (159, 14226), (165, 14274), (170, 14319), (175, 14352), (178, 14385), (179, 14397), (189, 14463), (197, 14517), (198, 14523), (208, 14622), (212, 14682), (220, 14766), (225, 14817), (226, 14820), (240, 15015), (241, 15048), (245, 15135), (248, 15168), (251, 15201), (257, 15336), (260, 15402), (261, 15411), (263, 15423), (270, 15507), (273, 15540), (275, 15585), (284, 15666), (288, 15711), (289, 15741), (292, 15768), (300, 15879), (324, 16317), (325, 16326), (328, 16428), (329, 16455), (333, 16569), (334, 16590), (340, 16647), (341, 16650), (354, 16791), (359, 16848), (360, 16860), (361, 16869), (363, 16893), (364, 16899),

Gene: Henoccus_25 Start: 16181, Stop: 20278, Start Num: 12
Candidate Starts for Henoccus_25:
(Start: 12 @16181 has 11 MA's), (15, 16247), (22, 16313), (23, 16319), (32, 16397), (33, 16403), (43, 16505), (53, 16598), (56, 16616), (59, 16688), (62, 16712), (63, 16715), (64, 16724), (66, 16736), (71, 16805), (72, 16811), (78, 16862), (88, 17003), (89, 17006), (93, 17060), (97, 17093), (103, 17123), (104, 17126), (120, 17234), (130, 17333), (134, 17345), (137, 17378), (141, 17411), (147, 17477),

(161, 17585), (163, 17588), (172, 17666), (173, 17672), (180, 17741), (191, 17798), (194, 17813), (195, 17840), (201, 17870), (207, 17948), (212, 18014), (215, 18032), (216, 18065), (218, 18080), (219, 18083), (223, 18128), (233, 18296), (234, 18311), (238, 18446), (242, 18557), (243, 18578), (250, 18656), (252, 18719), (253, 18734), (255, 18785), (256, 18803), (260, 18878), (265, 18923), (277, 19073), (280, 19103), (287, 19184), (293, 19247), (296, 19289), (298, 19304), (302, 19397), (303, 19415), (312, 19571), (313, 19598), (316, 19634), (321, 19703), (332, 19943), (333, 19988), (338, 20042), (342, 20093), (343, 20120), (345, 20150), (346, 20156), (355, 20213), (358, 20249),

Gene: Intolerant_24 Start: 16181, Stop: 20281, Start Num: 12
Candidate Starts for Intolerant_24:
(Start: 12 @16181 has 11 MA's), (15, 16247), (22, 16313), (33, 16403), (39, 16475), (43, 16505), (56, 16616), (58, 16679), (59, 16688), (62, 16712), (64, 16724), (66, 16736), (71, 16805), (73, 16817), (75, 16835), (78, 16862), (80, 16871), (87, 16985), (93, 17060), (94, 17069), (104, 17126), (112, 17189), (125, 17285), (131, 17336), (134, 17345), (137, 17378), (141, 17411), (148, 17480), (166, 17621), (169, 17654), (176, 17702), (177, 17720), (191, 17798), (194, 17813), (201, 17870), (202, 17876), (207, 17948), (211, 17996), (212, 18014), (215, 18032), (218, 18080), (219, 18083), (223, 18128), (232, 18290), (238, 18446), (242, 18557), (243, 18578), (247, 18629), (249, 18644), (252, 18719), (258, 18818), (259, 18851), (261, 18887), (262, 18896), (276, 19073), (280, 19106), (290, 19223), (293, 19250), (302, 19400), (303, 19418), (312, 19574), (321, 19706), (332, 19946), (333, 19991), (337, 20030), (338, 20045), (342, 20096), (343, 20123), (345, 20153), (346, 20159), (350, 20183), (355, 20216), (358, 20252),

Gene: JackieB_24 Start: 16036, Stop: 20133, Start Num: 12
Candidate Starts for JackieB_24:
(Start: 12 @16036 has 11 MA's), (15, 16102), (22, 16168), (33, 16258), (43, 16360), (53, 16453), (56, 16471), (59, 16543), (62, 16567), (63, 16570), (64, 16579), (66, 16591), (71, 16660), (72, 16666), (78, 16717), (88, 16858), (89, 16861), (93, 16915), (97, 16948), (103, 16978), (104, 16981), (120, 17089), (130, 17188), (134, 17200), (137, 17233), (141, 17266), (147, 17332), (161, 17440), (172, 17521), (173, 17527), (180, 17596), (191, 17653), (194, 17668), (195, 17695), (201, 17725), (207, 17803), (212, 17869), (215, 17887), (216, 17920), (219, 17938), (223, 17983), (233, 18151), (234, 18166), (242, 18412), (243, 18433), (250, 18511), (252, 18574), (253, 18589), (255, 18640), (256, 18658), (260, 18733), (265, 18778), (277, 18928), (280, 18958), (287, 19039), (293, 19102), (296, 19144), (298, 19159), (302, 19252), (303, 19270), (312, 19426), (313, 19453), (316, 19489), (321, 19558), (332, 19798), (333, 19843), (338, 19897), (342, 19948), (343, 19975), (345, 20005), (346, 20011), (355, 20068), (358, 20104),

Gene: Jflix2_20 Start: 14680, Stop: 19173, Start Num: 7
Candidate Starts for Jflix2_20:
(Start: 7 @14680 has 6 MA's), (8, 14761), (9, 14779), (13, 14884), (25, 15043), (28, 15079), (35, 15157), (37, 15169), (45, 15256), (47, 15289), (53, 15319), (54, 15322), (57, 15343), (62, 15433), (67, 15472), (71, 15526), (73, 15538), (77, 15577), (82, 15601), (83, 15604), (84, 15634), (86, 15715), (90, 15787), (91, 15796), (98, 15844), (100, 15853), (102, 15865), (105, 15883), (109, 15898), (116, 15961), (118, 15967), (124, 16027), (132, 16084), (134, 16090), (138, 16132), (139, 16135), (149, 16234), (150, 16240), (151, 16246), (154, 16273), (155, 16294), (167, 16378), (168, 16381), (174, 16426), (181, 16498), (183, 16507), (187, 16519), (191, 16558), (205, 16693), (206, 16705), (214, 16789), (231, 17014), (235, 17110), (245, 17365), (261, 17635), (263, 17647), (267, 17689), (268, 17701), (271, 17737), (274, 17776), (286, 17920), (288, 17935), (289, 17965), (292, 17992), (294, 18022), (299, 18055), (309, 18220), (325, 18427), (326, 18472), (328, 18529), (330, 18559), (331, 18598), (340, 18748), (344, 18829), (351, 18874), (352, 18892), (353, 18928), (361, 19027), (362, 19045), (364, 19063), (365, 19069), (366, 19141), (367, 19144),

Gene: LazerLemon_25 Start: 16594, Stop: 20694, Start Num: 12
Candidate Starts for LazerLemon_25:

(Start: 12 @16594 has 11 MA's), (22, 16726), (32, 16810), (33, 16816), (39, 16888), (43, 16918), (45, 16951), (53, 17011), (56, 17029), (58, 17092), (59, 17101), (62, 17125), (64, 17137), (66, 17149), (71, 17218), (72, 17224), (73, 17230), (93, 17473), (104, 17539), (107, 17557), (112, 17602), (120, 17647), (130, 17746), (131, 17749), (134, 17758), (137, 17791), (140, 17812), (141, 17824), (158, 17980), (166, 18034), (169, 18067), (176, 18115), (177, 18133), (186, 18175), (191, 18211), (194, 18226), (201, 18283), (202, 18289), (207, 18361), (212, 18427), (215, 18445), (218, 18493), (219, 18496), (222, 18526), (223, 18541), (234, 18724), (236, 18820), (242, 18970), (243, 18991), (250, 19069), (252, 19132), (253, 19147), (259, 19264), (260, 19291), (265, 19336), (277, 19486), (280, 19516), (293, 19660), (296, 19702), (302, 19810), (303, 19828), (310, 19948), (312, 19984), (316, 20047), (319, 20080), (321, 20119), (326, 20218), (327, 20245), (328, 20275), (333, 20404), (335, 20437), (337, 20443), (338, 20458), (339, 20461), (342, 20509), (343, 20536), (345, 20566), (346, 20572), (350, 20596), (355, 20629), (358, 20665),

Gene: Madraxi_25 Start: 17119, Stop: 21537, Start Num: 7
Candidate Starts for Madraxi_25:
(Start: 7 @17119 has 6 MA's), (8, 17200), (9, 17218), (13, 17323), (14, 17377), (16, 17404), (17, 17410), (18, 17437), (21, 17458), (25, 17482), (28, 17518), (29, 17527), (35, 17596), (37, 17608), (43, 17662), (47, 17728), (52, 17752), (53, 17758), (55, 17773), (62, 17872), (67, 17911), (71, 17965), (73, 17977), (82, 18040), (83, 18043), (84, 18073), (86, 18154), (90, 18226), (91, 18235), (96, 18268), (98, 18283), (100, 18292), (102, 18304), (105, 18322), (109, 18337), (116, 18400), (118, 18406), (124, 18466), (132, 18523), (134, 18529), (138, 18571), (145, 18643), (146, 18649), (148, 18661), (149, 18673), (154, 18712), (155, 18733), (156, 18736), (164, 18769), (167, 18817), (174, 18865), (181, 18937), (183, 18946), (187, 18958), (191, 18997), (196, 19045), (200, 19063), (204, 19129), (209, 19162), (210, 19174), (214, 19228), (241, 19717), (245, 19804), (259, 20038), (260, 20065), (268, 20134), (281, 20263), (282, 20266), (292, 20374), (295, 20398), (315, 20644), (318, 20671), (320, 20695), (325, 20791), (333, 21034), (340, 21112), (344, 21193), (351, 21238), (352, 21256), (353, 21292), (357, 21352), (361, 21391), (362, 21409), (364, 21427), (365, 21433), (366, 21505), (367, 21508),

Gene: Marky_25 Start: 16066, Stop: 20151, Start Num: 11
Candidate Starts for Marky_25:
(Start: 11 @16066 has 1 MA's), (25, 16216), (39, 16357), (40, 16363), (45, 16420), (48, 16456), (50, 16462), (59, 16561), (61, 16570), (62, 16585), (66, 16609), (71, 16678), (73, 16690), (74, 16702), (76, 16723), (79, 16738), (93, 16933), (94, 16942), (97, 16966), (104, 16999), (120, 17107), (122, 17134), (130, 17206), (131, 17209), (137, 17251), (141, 17284), (147, 17350), (158, 17440), (161, 17458), (163, 17461), (171, 17536), (176, 17575), (184, 17629), (190, 17668), (196, 17716), (201, 17743), (202, 17749), (203, 17788), (207, 17821), (212, 17887), (218, 17953), (219, 17956), (222, 17986), (223, 18001), (234, 18184), (237, 18310), (242, 18430), (243, 18451), (250, 18529), (252, 18592), (253, 18607), (258, 18685), (260, 18745), (261, 18754), (277, 18937), (280, 18967), (283, 18991), (285, 19027), (297, 19156), (301, 19234), (302, 19267), (303, 19285), (304, 19291), (310, 19405), (312, 19441), (316, 19504), (323, 19630), (326, 19675), (332, 19816), (333, 19861), (336, 19897), (338, 19915), (341, 19942), (342, 19966), (346, 20029), (347, 20035), (348, 20038), (349, 20050), (355, 20086), (356, 20089),

Gene: Microdon_24 Start: 16006, Stop: 20106, Start Num: 12
Candidate Starts for Microdon_24:
(Start: 12 @16006 has 11 MA's), (15, 16072), (22, 16138), (25, 16159), (33, 16228), (39, 16300), (42, 16312), (43, 16330), (56, 16441), (58, 16504), (62, 16537), (64, 16549), (66, 16561), (71, 16630), (73, 16642), (75, 16660), (78, 16687), (80, 16696), (87, 16810), (93, 16885), (104, 16951), (112, 17014), (120, 17059), (125, 17110), (131, 17161), (134, 17170), (137, 17203), (140, 17224), (141, 17236), (148, 17305), (166, 17446), (169, 17479), (176, 17527), (177, 17545), (191, 17623), (194, 17638), (201, 17695), (202, 17701), (207, 17773), (211, 17821), (212, 17839), (215, 17857), (218, 17905), (219, 17908), (223, 17953), (242, 18382), (243, 18403), (247, 18454), (249, 18469), (252, 18544),

(259, 18676), (260, 18703), (265, 18748), (280, 18928), (287, 19009), (290, 19045), (298, 19129), (302, 19222), (303, 19240), (321, 19531), (333, 19816), (338, 19870), (342, 19921), (343, 19948), (345, 19978), (346, 19984), (350, 20008), (355, 20041), (358, 20077),

Gene: REQ1_78 Start: 38584, Stop: 42927, Start Num: 7
Candidate Starts for REQ1_78:
(3, 38533), (5, 38560), (Start: 7 @38584 has 6 MA's), (8, 38665), (9, 38683), (13, 38788), (16, 38869), (17, 38875), (18, 38902), (25, 38947), (28, 38983), (37, 39073), (43, 39127), (45, 39160), (47, 39193), (52, 39217), (53, 39223), (60, 39316), (62, 39337), (67, 39376), (71, 39430), (73, 39442), (82, 39505), (83, 39508), (84, 39538), (90, 39691), (95, 39724), (98, 39748), (102, 39769), (109, 39802), (115, 39862), (118, 39871), (124, 39931), (134, 39994), (138, 40036), (140, 40048), (149, 40138), (150, 40144), (154, 40177), (155, 40198), (164, 40234), (167, 40282), (174, 40330), (181, 40402), (183, 40411), (187, 40423), (191, 40462), (198, 40519), (228, 40852), (229, 40876), (231, 40918), (239, 41125), (241, 41182), (245, 41269), (261, 41539), (268, 41599), (278, 41689), (281, 41728), (282, 41731), (292, 41839), (295, 41863), (315, 42109), (325, 42259), (328, 42361), (333, 42502), (340, 42580), (341, 42583), (356, 42706), (361, 42781), (362, 42799), (364, 42817), (366, 42895), (367, 42898),

Gene: RegnumDei_20 Start: 13238, Stop: 17680, Start Num: 7
Candidate Starts for RegnumDei_20:
(Start: 7 @13238 has 6 MA's), (13, 13442), (21, 13574), (27, 13628), (31, 13652), (36, 13718), (39, 13745), (41, 13754), (46, 13814), (47, 13844), (55, 13889), (61, 13973), (62, 13988), (65, 14009), (67, 14027), (69, 14051), (70, 14072), (71, 14081), (73, 14093), (81, 14153), (83, 14159), (84, 14189), (85, 14267), (86, 14270), (87, 14276), (99, 14408), (101, 14414), (108, 14453), (110, 14465), (119, 14531), (120, 14540), (121, 14558), (126, 14603), (128, 14624), (133, 14645), (134, 14648), (135, 14663), (136, 14687), (140, 14711), (152, 14810), (159, 14867), (160, 14876), (162, 14885), (165, 14915), (170, 14960), (175, 14993), (178, 15026), (182, 15059), (197, 15158), (198, 15164), (212, 15323), (217, 15380), (220, 15407), (224, 15437), (226, 15461), (228, 15491), (245, 15908), (251, 15974), (260, 16175), (261, 16184), (264, 16199), (269, 16259), (272, 16292), (275, 16355), (279, 16385), (291, 16520), (305, 16724), (306, 16772), (307, 16823), (308, 16826), (311, 16835), (314, 16904), (317, 16952), (322, 17021), (324, 17066), (325, 17075), (326, 17120), (333, 17318), (334, 17339), (340, 17396), (354, 17540), (361, 17618), (363, 17642), (364, 17648),

Gene: SFuller_22 Start: 15291, Stop: 19784, Start Num: 7
Candidate Starts for SFuller_22:
(Start: 7 @15291 has 6 MA's), (8, 15372), (9, 15390), (13, 15495), (24, 15645), (25, 15654), (28, 15690), (30, 15705), (34, 15756), (37, 15780), (47, 15900), (52, 15924), (53, 15930), (54, 15933), (57, 15954), (62, 16044), (67, 16083), (71, 16137), (73, 16149), (82, 16212), (83, 16215), (84, 16245), (86, 16326), (90, 16398), (91, 16407), (98, 16455), (100, 16464), (102, 16476), (105, 16494), (109, 16509), (116, 16572), (118, 16578), (124, 16638), (132, 16695), (134, 16701), (138, 16743), (149, 16845), (150, 16851), (154, 16884), (155, 16905), (167, 16989), (168, 16992), (174, 17037), (181, 17109), (187, 17130), (191, 17169), (205, 17304), (206, 17316), (214, 17400), (231, 17625), (241, 17889), (245, 17976), (246, 17979), (261, 18246), (263, 18258), (267, 18300), (268, 18312), (271, 18348), (274, 18387), (286, 18531), (288, 18546), (289, 18576), (292, 18603), (294, 18633), (299, 18666), (309, 18831), (325, 19038), (326, 19083), (328, 19140), (330, 19170), (331, 19209), (333, 19281), (340, 19359), (341, 19362), (344, 19440), (351, 19485), (352, 19503), (353, 19539), (361, 19638), (362, 19656), (364, 19674), (365, 19680), (366, 19752), (367, 19755),

Gene: Shagrat_21 Start: 14283, Stop: 18716, Start Num: 7
Candidate Starts for Shagrat_21:
(1, 14097), (2, 14106), (4, 14247), (Start: 7 @14283 has 6 MA's), (10, 14391), (13, 14487), (19, 14601), (20, 14607), (25, 14643), (27, 14673), (31, 14697), (39, 14790), (46, 14859), (47, 14889), (49, 14901), (57, 14943), (61, 15018), (62, 15033), (65, 15054), (67, 15072), (68, 15084), (69, 15096), (70, 15117),

(71, 15126), (73, 15138), (81, 15198), (83, 15204), (84, 15234), (85, 15312), (86, 15315), (87, 15321), (106, 15489), (108, 15498), (111, 15522), (112, 15540), (113, 15546), (117, 15567), (123, 15615), (126, 15648), (127, 15666), (129, 15675), (142, 15831), (143, 15864), (153, 15942), (157, 15984), (159, 15987), (165, 16035), (170, 16080), (175, 16113), (178, 16146), (179, 16158), (192, 16230), (193, 16233), (212, 16443), (220, 16527), (221, 16533), (227, 16599), (230, 16653), (244, 16887), (245, 16896), (251, 16962), (254, 17055), (257, 17097), (260, 17163), (264, 17187), (270, 17289), (273, 17322), (275, 17367), (288, 17493), (289, 17523), (292, 17550), (300, 17661), (324, 18099), (325, 18108), (328, 18210), (329, 18237), (333, 18351), (334, 18372), (340, 18429), (348, 18531), (354, 18573), (359, 18630), (360, 18642), (361, 18651), (363, 18675), (364, 18681),

Gene: Shynx_25 Start: 16457, Stop: 20557, Start Num: 12
Candidate Starts for Shynx_25:
(Start: 12 @16457 has 11 MA's), (15, 16523), (22, 16589), (33, 16679), (39, 16751), (43, 16781), (56, 16892), (58, 16955), (59, 16964), (62, 16988), (64, 17000), (66, 17012), (71, 17081), (73, 17093), (75, 17111), (78, 17138), (80, 17147), (87, 17261), (93, 17336), (94, 17345), (104, 17402), (112, 17465), (125, 17561), (131, 17612), (134, 17621), (137, 17654), (141, 17687), (148, 17756), (166, 17897), (169, 17930), (176, 17978), (177, 17996), (191, 18074), (194, 18089), (201, 18146), (202, 18152), (207, 18224), (211, 18272), (212, 18290), (215, 18308), (218, 18356), (219, 18359), (223, 18404), (232, 18566), (238, 18722), (242, 18833), (243, 18854), (247, 18905), (249, 18920), (252, 18995), (258, 19094), (259, 19127), (261, 19163), (262, 19172), (276, 19349), (280, 19382), (290, 19499), (293, 19526), (302, 19676), (303, 19694), (312, 19850), (321, 19982), (332, 20222), (333, 20267), (337, 20306), (338, 20321), (342, 20372), (343, 20399), (345, 20429), (346, 20435), (350, 20459), (355, 20492), (358, 20528),

Gene: Stuff_25 Start: 16476, Stop: 20576, Start Num: 12
Candidate Starts for Stuff_25:
(Start: 12 @16476 has 11 MA's), (15, 16542), (22, 16608), (32, 16692), (33, 16698), (39, 16770), (43, 16800), (56, 16911), (58, 16974), (59, 16983), (62, 17007), (64, 17019), (66, 17031), (71, 17100), (73, 17112), (78, 17157), (80, 17166), (87, 17280), (93, 17355), (94, 17364), (104, 17421), (107, 17439), (112, 17484), (125, 17580), (131, 17631), (134, 17640), (137, 17673), (141, 17706), (148, 17775), (158, 17862), (166, 17916), (169, 17949), (176, 17997), (177, 18015), (191, 18093), (194, 18108), (201, 18165), (202, 18171), (207, 18243), (212, 18309), (215, 18327), (218, 18375), (219, 18378), (223, 18423), (232, 18585), (238, 18741), (242, 18852), (243, 18873), (249, 18939), (252, 19014), (258, 19113), (259, 19146), (261, 19182), (262, 19191), (266, 19242), (280, 19401), (290, 19518), (293, 19545), (298, 19602), (302, 19695), (303, 19713), (310, 19833), (312, 19869), (316, 19932), (321, 20001), (323, 20055), (332, 20241), (333, 20286), (337, 20325), (338, 20340), (342, 20391), (343, 20418), (345, 20448), (346, 20454), (350, 20478), (355, 20511), (358, 20547),

Gene: UNTPL_25 Start: 16295, Stop: 20395, Start Num: 12
Candidate Starts for UNTPL_25:
(Start: 12 @16295 has 11 MA's), (15, 16361), (22, 16427), (32, 16511), (33, 16517), (39, 16589), (43, 16619), (53, 16712), (56, 16730), (59, 16802), (62, 16826), (64, 16838), (66, 16850), (71, 16919), (73, 16931), (87, 17099), (93, 17174), (104, 17240), (107, 17258), (110, 17273), (111, 17285), (112, 17303), (125, 17399), (131, 17450), (134, 17459), (137, 17492), (141, 17525), (144, 17573), (148, 17594), (158, 17681), (172, 17780), (173, 17786), (180, 17855), (185, 17873), (191, 17912), (194, 17927), (195, 17954), (199, 17972), (207, 18062), (211, 18110), (212, 18128), (213, 18131), (215, 18146), (218, 18194), (219, 18197), (223, 18242), (232, 18404), (242, 18671), (243, 18692), (249, 18758), (252, 18833), (258, 18932), (259, 18965), (261, 19001), (262, 19010), (277, 19190), (280, 19220), (290, 19337), (293, 19364), (298, 19421), (302, 19514), (303, 19532), (310, 19652), (312, 19688), (316, 19751), (321, 19820), (332, 20060), (333, 20105), (337, 20144), (338, 20159), (342, 20210), (343, 20237), (345, 20267), (346, 20273), (350, 20297), (355, 20330), (358, 20366),