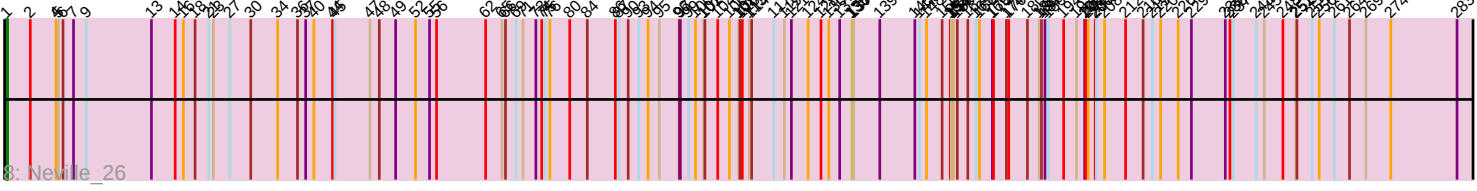
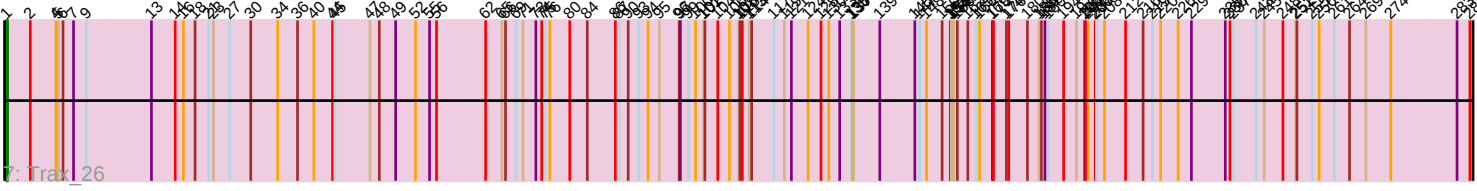
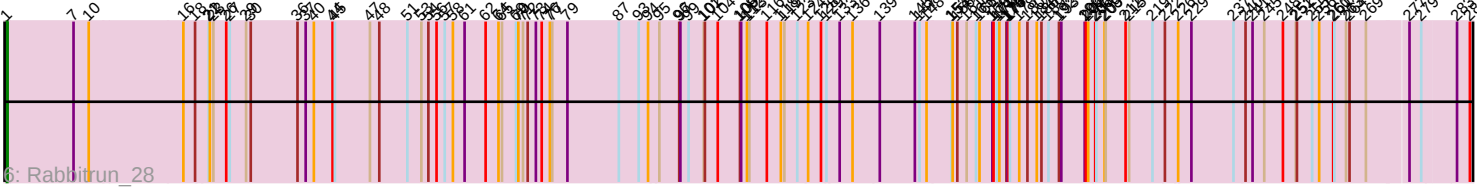
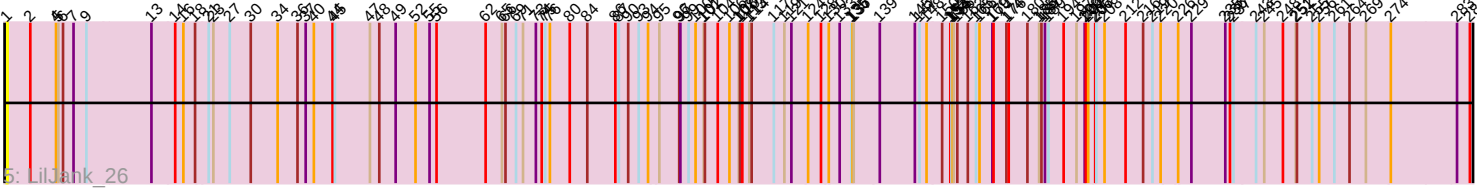
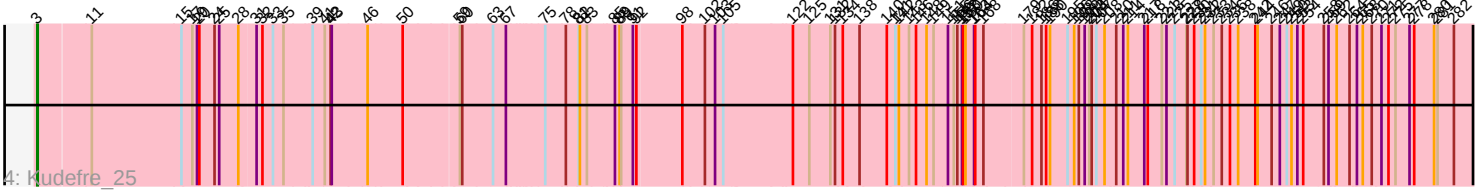
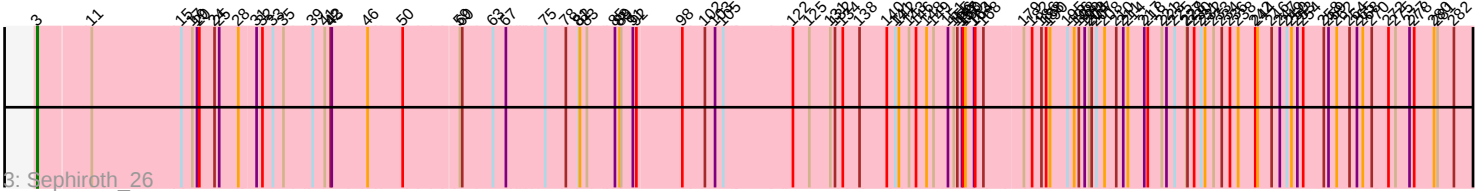
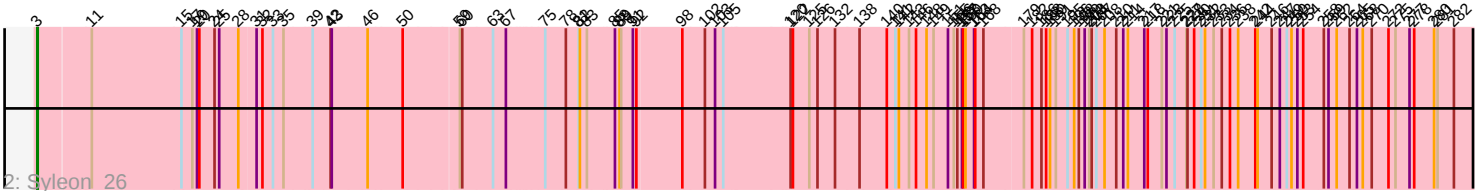
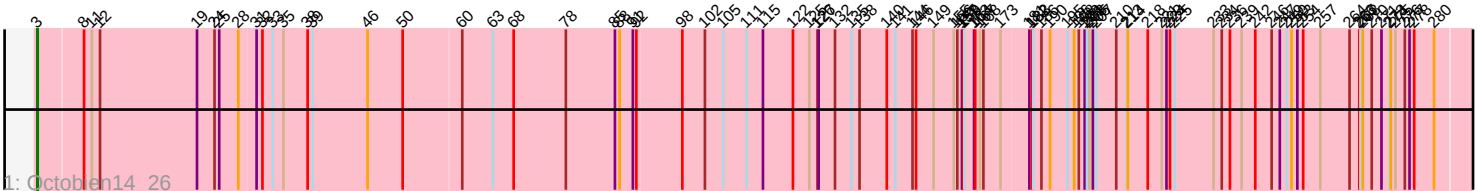


Zoomed Pham 278935



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 278935 Report

This analysis was run 02/07/26 on database version 634.

Pham number 278935 has 8 members, 1 are drafts.

Phages represented in each track:

- Track 1 : Octobien14_26
- Track 2 : Syleon_26
- Track 3 : Sephiroth_26
- Track 4 : Kudefre_25
- Track 5 : LilJank_26
- Track 6 : Rabbitrun_28
- Track 7 : Trax_26
- Track 8 : Neville_26

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

The start number called the most often in the published annotations is 3, it was called in 4 of the 7 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Kudefre_25, Octobien14_26, Sephiroth_26, Syleon_26,

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

-

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

- LilJank_26, Neville_26, Rabbitrun_28, Trax_26,

Summary by start number:

Start 1:

- Found in 4 of 8 (50.0%) of genes in pham
- Manual Annotations of this start: 3 of 7
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LilJank_26 (DU2), Neville_26 (DU2), Rabbitrun_28 (DU2), Trax_26 (DU2),

Start 3:

- Found in 4 of 8 (50.0%) of genes in pham

- Manual Annotations of this start: 4 of 7
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kudefre_25 (DU1), Octobien14_26 (DU1), Sephiroth_26 (DU1), Syleon_26 (DU1),

Summary by clusters:

There are 2 clusters represented in this pham: DU1, DU2,

Info for manual annotations of cluster DU1:

- Start number 3 was manually annotated 4 times for cluster DU1.

Info for manual annotations of cluster DU2:

- Start number 1 was manually annotated 3 times for cluster DU2.

Gene Information:

Gene: Kudefre_25 Start: 14284, Stop: 20781, Start Num: 3

Candidate Starts for Kudefre_25:

(Start: 3 @14284 has 4 MA's), (11, 14413), (15, 14641), (17, 14668), (19, 14680), (20, 14686), (24, 14725), (25, 14737), (28, 14785), (31, 14824), (32, 14839), (33, 14866), (35, 14893), (39, 14962), (41, 14989), (42, 15004), (43, 15007), (46, 15094), (50, 15178), (59, 15310), (60, 15316), (63, 15382), (67, 15415), (75, 15499), (78, 15550), (81, 15577), (82, 15580), (83, 15598), (85, 15661), (88, 15673), (89, 15676), (91, 15706), (92, 15715), (98, 15826), (102, 15877), (103, 15898), (105, 15919), (122, 16087), (125, 16129), (131, 16183), (132, 16195), (134, 16213), (138, 16255), (140, 16324), (141, 16345), (142, 16354), (143, 16378), (146, 16396), (148, 16423), (149, 16441), (151, 16474), (155, 16489), (156, 16498), (157, 16510), (158, 16513), (160, 16519), (163, 16540), (164, 16543), (168, 16564), (179, 16657), (182, 16675), (186, 16699), (188, 16711), (190, 16717), (195, 16762), (196, 16774), (198, 16786), (199, 16798), (203, 16810), (204, 16816), (207, 16828), (208, 16849), (210, 16876), (211, 16894), (214, 16906), (217, 16948), (218, 16957), (221, 16993), (223, 17005), (225, 17026), (227, 17056), (228, 17059), (230, 17071), (231, 17089), (232, 17098), (233, 17119), (234, 17140), (236, 17161), (238, 17182), (242, 17224), (244, 17230), (246, 17266), (247, 17287), (249, 17305), (250, 17317), (253, 17332), (254, 17347), (258, 17395), (259, 17407), (262, 17425), (264, 17458), (265, 17473), (268, 17488), (270, 17509), (271, 17533), (272, 17551), (275, 17569), (277, 17605), (278, 17617), (280, 17668), (281, 17677), (282, 17719), (285, 17797), (287, 17842), (288, 17851), (289, 17887), (300, 18061), (301, 18064), (302, 18067), (304, 18094), (305, 18097), (306, 18121), (307, 18127), (308, 18151), (309, 18181), (311, 18229), (312, 18274), (313, 18289), (314, 18301), (315, 18322), (326, 18556), (329, 18583), (330, 18601), (352, 19081), (353, 19084), (357, 19144), (364, 19234), (365, 19237), (366, 19255), (367, 19288), (368, 19321), (370, 19411), (371, 19417), (372, 19435), (379, 19603), (384, 19681), (387, 19699), (388, 19735), (389, 19753), (390, 19759), (394, 19867), (399, 19957), (400, 19978), (401, 19984), (402, 19999), (403, 20008), (405, 20089), (406, 20092), (408, 20137), (410, 20260), (413, 20323), (415, 20359), (417, 20389), (420, 20410), (421, 20473), (424, 20509), (426, 20554), (431, 20596), (432, 20623), (433, 20656), (435, 20686), (437, 20758),

Gene: LilJank_26 Start: 15872, Stop: 22708, Start Num: 1

Candidate Starts for LilJank_26:

(Start: 1 @15872 has 3 MA's), (2, 15932), (4, 15998), (5, 16004), (6, 16016), (7, 16043), (9, 16076), (13, 16238), (14, 16298), (16, 16319), (18, 16349), (21, 16382), (23, 16394), (27, 16436), (30, 16490), (34, 16559), (36, 16610), (37, 16631), (40, 16652), (44, 16700), (45, 16706), (47, 16796), (48, 16820), (49, 16862), (52, 16913), (55, 16949), (56, 16967), (62, 17093), (65, 17135), (66, 17144), (69, 17171),

(71, 17189), (73, 17222), (74, 17237), (75, 17246), (76, 17258), (80, 17309), (84, 17354), (86, 17426), (87, 17435), (90, 17459), (93, 17486), (94, 17510), (95, 17537), (96, 17588), (97, 17591), (99, 17612), (100, 17630), (101, 17651), (102, 17654), (104, 17687), (106, 17717), (107, 17741), (108, 17744), (110, 17750), (113, 17768), (114, 17774), (117, 17831), (119, 17858), (121, 17876), (124, 17918), (128, 17951), (130, 17969), (133, 17996), (135, 18026), (136, 18029), (137, 18032), (139, 18098), (145, 18188), (147, 18200), (148, 18218), (150, 18257), (152, 18278), (153, 18281), (154, 18284), (155, 18287), (156, 18296), (162, 18323), (165, 18344), (166, 18353), (169, 18386), (170, 18389), (174, 18422), (176, 18428), (180, 18476), (185, 18506), (186, 18512), (187, 18521), (189, 18530), (194, 18569), (197, 18602), (199, 18623), (200, 18626), (202, 18632), (206, 18647), (207, 18650), (208, 18671), (212, 18725), (216, 18770), (219, 18794), (220, 18815), (226, 18857), (229, 18890), (235, 18977), (236, 18989), (237, 18998), (243, 19055), (245, 19076), (248, 19124), (251, 19157), (252, 19160), (255, 19199), (256, 19217), (261, 19256), (264, 19295), (269, 19337), (274, 19400), (283, 19565), (284, 19598), (290, 19766), (291, 19784), (292, 19796), (294, 19832), (297, 19871), (298, 19874), (310, 20051), (316, 20174), (318, 20291), (320, 20321), (321, 20327), (322, 20360), (323, 20366), (324, 20387), (325, 20396), (332, 20474), (333, 20483), (336, 20558), (337, 20582), (338, 20624), (340, 20651), (341, 20660), (342, 20696), (343, 20699), (344, 20756), (345, 20792), (346, 20801), (347, 20870), (348, 20924), (349, 20945), (350, 20963), (351, 20981), (355, 21002), (356, 21041), (359, 21056), (360, 21062), (361, 21095), (362, 21104), (369, 21263), (373, 21344), (374, 21368), (378, 21491), (380, 21551), (383, 21596), (385, 21605), (386, 21611), (391, 21761), (398, 21878), (404, 22022), (407, 22049), (409, 22139), (411, 22226), (412, 22229), (413, 22247), (414, 22250), (415, 22283), (416, 22286), (420, 22334), (423, 22424), (427, 22487), (428, 22493), (429, 22502), (432, 22547), (438, 22691),

Gene: Neville_26 Start: 15512, Stop: 22348, Start Num: 1

Candidate Starts for Neville_26:

(Start: 1 @15512 has 3 MA's), (2, 15572), (4, 15638), (5, 15644), (6, 15656), (7, 15683), (9, 15716), (13, 15878), (14, 15938), (16, 15959), (18, 15989), (21, 16022), (23, 16034), (27, 16076), (30, 16130), (34, 16199), (36, 16250), (37, 16271), (40, 16292), (44, 16340), (45, 16346), (47, 16436), (48, 16460), (49, 16502), (52, 16553), (55, 16589), (56, 16607), (62, 16733), (65, 16775), (66, 16784), (69, 16811), (71, 16829), (73, 16862), (74, 16877), (75, 16886), (76, 16898), (80, 16949), (84, 16994), (86, 17066), (87, 17075), (90, 17099), (93, 17126), (94, 17150), (95, 17177), (96, 17228), (97, 17231), (99, 17252), (100, 17270), (101, 17291), (102, 17294), (104, 17327), (106, 17357), (107, 17381), (108, 17384), (110, 17390), (113, 17408), (114, 17414), (117, 17471), (119, 17498), (121, 17516), (124, 17558), (128, 17591), (130, 17609), (133, 17636), (135, 17666), (136, 17669), (137, 17672), (139, 17738), (145, 17828), (147, 17840), (148, 17858), (150, 17897), (152, 17918), (153, 17921), (154, 17924), (155, 17927), (156, 17936), (162, 17963), (165, 17984), (166, 17993), (169, 18026), (170, 18029), (174, 18062), (176, 18068), (180, 18116), (185, 18146), (186, 18152), (187, 18161), (189, 18170), (194, 18209), (197, 18242), (199, 18263), (200, 18266), (202, 18272), (206, 18287), (207, 18290), (208, 18311), (212, 18365), (216, 18410), (219, 18434), (220, 18455), (226, 18497), (229, 18530), (235, 18617), (236, 18629), (237, 18638), (243, 18695), (245, 18716), (248, 18764), (251, 18797), (252, 18800), (255, 18839), (256, 18857), (261, 18896), (264, 18935), (269, 18977), (274, 19040), (283, 19205), (290, 19406), (291, 19424), (292, 19436), (294, 19472), (297, 19511), (298, 19514), (310, 19691), (316, 19814), (318, 19931), (320, 19961), (321, 19967), (322, 20000), (323, 20006), (324, 20027), (325, 20036), (332, 20114), (333, 20123), (336, 20198), (337, 20222), (338, 20264), (340, 20291), (341, 20300), (342, 20336), (343, 20339), (344, 20396), (345, 20432), (346, 20441), (347, 20510), (348, 20564), (351, 20621), (354, 20630), (355, 20642), (356, 20681), (357, 20684), (360, 20702), (361, 20735), (363, 20762), (369, 20903), (370, 20954), (373, 20984), (378, 21131), (383, 21236), (386, 21251), (391, 21401), (398, 21518), (404, 21662), (407, 21689), (409, 21779), (411, 21866), (412, 21869), (413, 21887), (414, 21890), (415, 21923), (416, 21926), (420, 21974), (423, 22064), (427, 22127), (428, 22133), (429, 22142), (432, 22187), (438, 22331),

Gene: Octobien14_26 Start: 15347, Stop: 21745, Start Num: 3

Candidate Starts for Octobien14_26:

(Start: 3 @15347 has 4 MA's), (8, 15458), (11, 15476), (12, 15497), (19, 15743), (24, 15788), (25, 15800), (28, 15848), (31, 15887), (32, 15902), (33, 15929), (35, 15956), (38, 16013), (39, 16025), (46, 16157), (50, 16241), (60, 16379), (63, 16445), (68, 16493), (78, 16613), (85, 16724), (88, 16736), (91, 16769), (92, 16778), (98, 16889), (102, 16940), (105, 16982), (111, 17036), (115, 17078), (122, 17150), (125, 17192), (126, 17213), (127, 17216), (132, 17258), (135, 17297), (138, 17318), (140, 17387), (141, 17408), (144, 17450), (146, 17459), (149, 17504), (155, 17552), (156, 17561), (157, 17573), (158, 17576), (159, 17579), (163, 17603), (164, 17606), (167, 17618), (168, 17627), (173, 17669), (181, 17732), (182, 17738), (183, 17741), (186, 17762), (190, 17780), (195, 17825), (196, 17837), (198, 17849), (199, 17861), (201, 17867), (203, 17873), (205, 17882), (207, 17891), (210, 17939), (213, 17966), (214, 17969), (218, 18020), (221, 18056), (223, 18068), (224, 18077), (225, 18089), (233, 18182), (234, 18203), (236, 18224), (239, 18254), (242, 18287), (246, 18329), (247, 18350), (249, 18368), (250, 18380), (253, 18395), (254, 18410), (257, 18449), (264, 18521), (266, 18542), (267, 18545), (268, 18551), (270, 18572), (271, 18596), (273, 18617), (274, 18620), (275, 18632), (276, 18656), (277, 18668), (278, 18680), (280, 18731), (293, 18911), (295, 18947), (296, 18965), (300, 19019), (305, 19055), (308, 19109), (311, 19187), (312, 19232), (313, 19247), (314, 19259), (315, 19280), (317, 19400), (319, 19418), (326, 19502), (327, 19517), (328, 19520), (329, 19529), (330, 19547), (334, 19592), (335, 19613), (339, 19733), (353, 20054), (358, 20117), (364, 20204), (365, 20207), (366, 20225), (367, 20258), (368, 20291), (370, 20381), (371, 20387), (372, 20405), (375, 20462), (376, 20519), (379, 20567), (381, 20609), (382, 20621), (387, 20663), (389, 20717), (390, 20723), (392, 20801), (393, 20804), (395, 20837), (396, 20888), (398, 20906), (399, 20921), (400, 20942), (401, 20948), (402, 20963), (403, 20972), (405, 21053), (406, 21056), (408, 21101), (413, 21287), (417, 21353), (418, 21365), (419, 21368), (422, 21440), (424, 21473), (425, 21497), (429, 21542), (431, 21560), (432, 21587), (434, 21623), (437, 21722),

Gene: Rabbitrun_28 Start: 15970, Stop: 22656, Start Num: 1

Candidate Starts for Rabbitrun_28:

(Start: 1 @15970 has 3 MA's), (7, 16138), (10, 16177), (16, 16414), (18, 16444), (21, 16477), (22, 16480), (23, 16489), (26, 16522), (27, 16531), (29, 16573), (30, 16585), (36, 16705), (37, 16726), (40, 16747), (44, 16795), (45, 16801), (47, 16891), (48, 16915), (51, 16987), (53, 17023), (54, 17041), (56, 17062), (57, 17083), (58, 17104), (61, 17134), (62, 17188), (64, 17221), (65, 17230), (69, 17266), (70, 17272), (71, 17284), (72, 17296), (73, 17317), (74, 17332), (76, 17353), (77, 17359), (79, 17398), (87, 17530), (93, 17581), (94, 17605), (95, 17632), (96, 17683), (97, 17686), (99, 17707), (101, 17746), (102, 17749), (104, 17782), (108, 17839), (109, 17842), (112, 17857), (113, 17863), (116, 17908), (118, 17944), (119, 17953), (123, 17986), (124, 18013), (128, 18046), (129, 18058), (133, 18091), (136, 18124), (139, 18193), (145, 18283), (147, 18295), (148, 18313), (153, 18376), (154, 18379), (156, 18391), (161, 18415), (165, 18439), (166, 18448), (169, 18481), (170, 18484), (171, 18493), (172, 18499), (174, 18517), (175, 18520), (176, 18523), (177, 18526), (178, 18550), (180, 18571), (184, 18595), (186, 18607), (189, 18625), (192, 18652), (193, 18658), (199, 18718), (200, 18721), (202, 18727), (206, 18742), (207, 18745), (208, 18766), (209, 18769), (212, 18820), (215, 18829), (219, 18889), (222, 18919), (226, 18952), (229, 18985), (237, 19093), (240, 19123), (241, 19141), (245, 19171), (248, 19219), (251, 19252), (252, 19255), (255, 19294), (256, 19312), (260, 19348), (261, 19351), (263, 19381), (264, 19390), (269, 19432), (277, 19531), (279, 19561), (283, 19642), (284, 19675), (286, 19738), (290, 19816), (291, 19834), (297, 19921), (299, 19954), (302, 19978), (303, 19981), (304, 20005), (310, 20110), (318, 20347), (320, 20377), (321, 20383), (323, 20422), (325, 20452), (331, 20518), (332, 20530), (333, 20539), (336, 20614), (337, 20638), (338, 20680), (340, 20707), (341, 20716), (342, 20752), (343, 20755), (344, 20812), (346, 20857), (347, 20926), (348, 20980), (351, 21037), (354, 21046), (355, 21058), (356, 21097), (357, 21100), (361, 21151), (363, 21178), (369, 21319), (370, 21370), (373, 21400), (377, 21526), (378, 21547), (383, 21652), (386, 21667), (392, 21829), (397, 21928), (398, 21931), (404, 22078), (407, 22105), (409, 22195), (411, 22282), (412, 22285), (413, 22303), (414, 22306), (415, 22339), (416, 22342), (420, 22390), (426, 22426), (428, 22441), (429, 22450), (430, 22459), (432, 22495), (438, 22639), (439, 22648),

Gene: Sephiroth_26 Start: 14455, Stop: 20952, Start Num: 3

Candidate Starts for Sephiroth_26:

(Start: 3 @14455 has 4 MA's), (11, 14584), (15, 14812), (17, 14839), (19, 14851), (20, 14857), (24, 14896), (25, 14908), (28, 14956), (31, 14995), (32, 15010), (33, 15037), (35, 15064), (39, 15133), (41, 15160), (42, 15175), (43, 15178), (46, 15265), (50, 15349), (59, 15481), (60, 15487), (63, 15553), (67, 15586), (75, 15670), (78, 15721), (81, 15748), (82, 15751), (83, 15769), (85, 15832), (88, 15844), (89, 15847), (91, 15877), (92, 15886), (98, 15997), (102, 16048), (103, 16069), (105, 16090), (122, 16258), (125, 16300), (131, 16354), (132, 16366), (134, 16384), (138, 16426), (140, 16495), (141, 16516), (142, 16525), (143, 16549), (146, 16567), (148, 16594), (149, 16612), (151, 16645), (155, 16660), (156, 16669), (157, 16681), (158, 16684), (160, 16690), (163, 16711), (164, 16714), (168, 16735), (179, 16828), (182, 16846), (186, 16870), (188, 16882), (190, 16888), (195, 16933), (196, 16945), (198, 16957), (199, 16969), (203, 16981), (204, 16987), (207, 16999), (208, 17020), (210, 17047), (211, 17065), (214, 17077), (217, 17119), (218, 17128), (221, 17164), (223, 17176), (225, 17197), (227, 17227), (228, 17230), (230, 17242), (231, 17260), (232, 17269), (233, 17290), (234, 17311), (236, 17332), (238, 17353), (242, 17395), (244, 17401), (246, 17437), (247, 17458), (249, 17476), (250, 17488), (253, 17503), (254, 17518), (258, 17566), (259, 17578), (262, 17596), (264, 17629), (265, 17644), (268, 17659), (270, 17680), (272, 17722), (275, 17740), (277, 17776), (278, 17788), (280, 17839), (281, 17848), (282, 17890), (287, 18013), (288, 18022), (289, 18058), (300, 18232), (301, 18235), (302, 18238), (304, 18265), (305, 18268), (306, 18292), (307, 18298), (308, 18322), (309, 18352), (311, 18400), (312, 18445), (313, 18460), (314, 18472), (315, 18493), (326, 18727), (329, 18754), (330, 18772), (352, 19252), (353, 19255), (357, 19315), (364, 19405), (365, 19408), (366, 19426), (367, 19459), (368, 19492), (370, 19582), (371, 19588), (372, 19606), (379, 19774), (384, 19852), (387, 19870), (388, 19906), (389, 19924), (390, 19930), (394, 20038), (399, 20128), (400, 20149), (401, 20155), (402, 20170), (403, 20179), (405, 20260), (406, 20263), (408, 20308), (410, 20431), (415, 20530), (417, 20560), (420, 20581), (421, 20644), (424, 20680), (426, 20725), (431, 20767), (432, 20794), (433, 20827), (435, 20857), (436, 20914), (437, 20929),

Gene: Syleon_26 Start: 14377, Stop: 20874, Start Num: 3

Candidate Starts for Syleon_26:

(Start: 3 @14377 has 4 MA's), (11, 14506), (15, 14734), (17, 14761), (19, 14773), (20, 14779), (24, 14818), (25, 14830), (28, 14878), (31, 14917), (32, 14932), (33, 14959), (35, 14986), (39, 15055), (42, 15097), (43, 15100), (46, 15187), (50, 15271), (59, 15403), (60, 15409), (63, 15475), (67, 15508), (75, 15592), (78, 15643), (81, 15670), (82, 15673), (83, 15691), (85, 15754), (88, 15766), (89, 15769), (91, 15799), (92, 15808), (98, 15919), (102, 15970), (103, 15991), (105, 16012), (120, 16174), (122, 16180), (125, 16222), (126, 16243), (132, 16288), (138, 16348), (140, 16417), (141, 16438), (142, 16447), (143, 16471), (146, 16489), (148, 16516), (149, 16534), (151, 16567), (155, 16582), (156, 16591), (157, 16603), (158, 16606), (160, 16612), (163, 16633), (164, 16636), (168, 16657), (179, 16750), (182, 16768), (186, 16792), (188, 16804), (190, 16810), (191, 16825), (195, 16855), (196, 16867), (198, 16879), (199, 16891), (203, 16903), (204, 16909), (207, 16921), (208, 16942), (210, 16969), (211, 16987), (214, 16999), (217, 17041), (218, 17050), (221, 17086), (223, 17098), (225, 17119), (227, 17149), (228, 17152), (230, 17164), (231, 17182), (232, 17191), (233, 17212), (234, 17233), (236, 17254), (238, 17275), (242, 17317), (244, 17323), (246, 17359), (247, 17380), (249, 17398), (250, 17410), (253, 17425), (254, 17440), (258, 17488), (259, 17500), (262, 17518), (264, 17551), (265, 17566), (268, 17581), (270, 17602), (272, 17644), (275, 17662), (277, 17698), (278, 17710), (280, 17761), (281, 17770), (282, 17812), (287, 17935), (288, 17944), (289, 17980), (300, 18154), (301, 18157), (302, 18160), (304, 18187), (305, 18190), (306, 18214), (307, 18220), (308, 18244), (309, 18274), (311, 18322), (312, 18367), (313, 18382), (314, 18394), (315, 18415), (326, 18649), (329, 18676), (330, 18694), (352, 19174), (353, 19177), (357, 19237), (364, 19327), (365, 19330), (366, 19348), (367, 19381), (368, 19414), (370, 19504), (371, 19510), (372, 19528), (379, 19696), (384, 19774), (387, 19792), (388, 19828), (389, 19846), (390, 19852), (394, 19960), (399, 20050), (400, 20071), (401, 20077), (402, 20092), (403, 20101), (405, 20182), (406, 20185), (408, 20230), (410, 20353), (415, 20452), (417, 20482), (420, 20503), (421, 20566), (424, 20602), (426, 20647), (431, 20689), (432, 20716), (433, 20749), (435, 20779), (436, 20836), (437, 20851),

Gene: Trax_26 Start: 15821, Stop: 22654, Start Num: 1

Candidate Starts for Trax_26:

(Start: 1 @15821 has 3 MA's), (2, 15881), (4, 15947), (5, 15953), (6, 15965), (7, 15992), (9, 16025), (13, 16187), (14, 16247), (16, 16268), (18, 16298), (21, 16331), (23, 16343), (27, 16385), (30, 16439), (34, 16508), (36, 16559), (40, 16601), (44, 16649), (45, 16655), (47, 16745), (48, 16769), (49, 16811), (52, 16862), (55, 16898), (56, 16916), (62, 17042), (65, 17084), (66, 17093), (69, 17120), (71, 17138), (73, 17171), (74, 17186), (75, 17195), (76, 17207), (80, 17258), (84, 17303), (86, 17375), (87, 17384), (90, 17408), (93, 17435), (94, 17459), (95, 17486), (96, 17537), (97, 17540), (99, 17561), (100, 17579), (101, 17600), (102, 17603), (104, 17636), (106, 17666), (107, 17690), (108, 17693), (110, 17699), (113, 17717), (114, 17723), (117, 17780), (119, 17807), (121, 17825), (124, 17867), (128, 17900), (130, 17918), (133, 17945), (135, 17975), (136, 17978), (137, 17981), (139, 18047), (145, 18137), (147, 18149), (148, 18167), (150, 18206), (152, 18227), (153, 18230), (154, 18233), (155, 18236), (156, 18245), (162, 18272), (165, 18293), (166, 18302), (169, 18335), (170, 18338), (174, 18371), (176, 18377), (180, 18425), (185, 18455), (186, 18461), (187, 18470), (189, 18479), (194, 18518), (197, 18551), (199, 18572), (200, 18575), (202, 18581), (206, 18596), (207, 18599), (208, 18620), (212, 18674), (216, 18719), (219, 18743), (220, 18764), (226, 18806), (229, 18839), (235, 18926), (236, 18938), (237, 18947), (243, 19004), (245, 19025), (248, 19073), (251, 19106), (252, 19109), (255, 19148), (256, 19166), (261, 19205), (264, 19244), (269, 19286), (274, 19349), (283, 19514), (284, 19547), (290, 19715), (291, 19733), (292, 19745), (294, 19781), (297, 19820), (298, 19823), (310, 20000), (316, 20123), (318, 20240), (320, 20270), (321, 20276), (322, 20309), (323, 20315), (324, 20336), (325, 20345), (332, 20423), (333, 20432), (336, 20507), (337, 20531), (338, 20573), (340, 20600), (341, 20609), (342, 20645), (343, 20648), (344, 20705), (345, 20741), (346, 20750), (347, 20819), (348, 20873), (351, 20930), (354, 20939), (355, 20951), (356, 20990), (357, 20993), (360, 21011), (361, 21044), (363, 21071), (369, 21212), (370, 21263), (373, 21293), (378, 21440), (383, 21545), (386, 21560), (391, 21710), (392, 21722), (398, 21824), (404, 21968), (407, 21995), (409, 22085), (411, 22172), (412, 22175), (413, 22193), (414, 22196), (415, 22229), (416, 22232), (420, 22280), (423, 22370), (427, 22433), (428, 22439), (429, 22448), (432, 22493), (438, 22637),