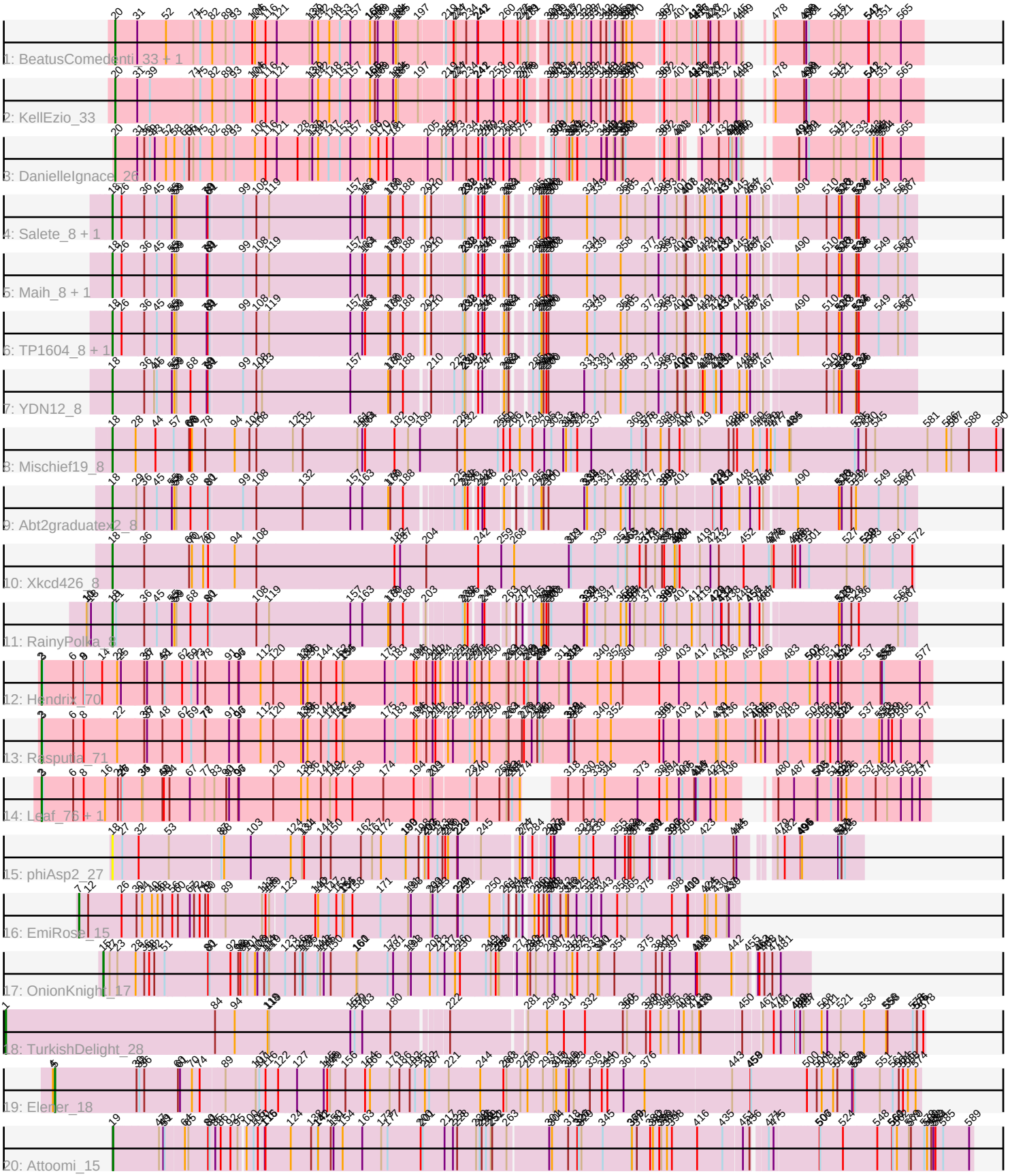
Pham 347959


1: BeatusComedenti_33 + 1
2: KellEzio_33
3: DanielleIgnace_26
4: Salete_8 + 1
5: Maih_8 + 1
6: TP1604_8 + 1
7: YDN12_8
8: Mischief19_8
9: Abt2graduatex2_8
10: Xkcd426_8
11: RainyPolka_8
12: Hendrix_70
13: Rasputia_71
14: Leaf_75 + 1
15: phiAsp2_27
16: EmiRose_15
17: OnionKnight_17
18: TurkishDelight_28
19: Elemer_18
20: Attoomi_15

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 347959 Report

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

WARNING: Pham size does not match number of genes in report. Either unphamerated genes have been added (by you) or starterator has removed genes due to invalid start codon.

Pham number 347959 has 25 members, 1 are drafts.

Phages represented in each track:
- Track 1 : BeatusComedenti_33, Kitkat_34
- Track 2 : KellEzio_33
- Track 3 : DanielleIgnace_26
- Track 4 : Salete_8, BayC_8
- Track 5 : Maih_8, Asis_8
- Track 6 : TP1604_8, BabyGotBac_8
- Track 7 : YDN12_8
- Track 8 : Mischief19_8
- Track 9 : Abt2graduatex2_8
- Track 10 : Xkcd426_8
- Track 11 : RainyPolka_8
- Track 12 : Hendrix_70
- Track 13 : Rasputia_71
- Track 14 : Leaf_76, Dewdrop_76
- Track 15 : phiAsp2_27
- Track 16 : EmiRose_15
- Track 17 : OnionKnight_17
- Track 18 : TurkishDelight_28
- Track 19 : Elener_18
- Track 20 : Attoomi_15

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

The start number called the most often in the published annotations is 18, it was called in 11 of the 24 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
- Abt2graduatex2_8, Asis_8, BabyGotBac_8, BayC_8, Maih_8, Mischief19_8, RainyPolka_8, Salete_8, TP1604_8, Xkcd426_8, YDN12_8, phiAsp2_27,

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

Genes that do not have the "Most Annotated" start:
• Attoomi_15, BeatusComedenti_33, DanielleIgnace_26, Dewdrop_76, Elener_18, EmiRose_15, Hendrix_70, KellEzio_33, Kitkat_34, Leaf_76, OnionKnight_17, Rasputia_71, TurkishDelight_28,

Summary by start number:

Start 1:
• Found in 1 of 25 (4.0%) of genes in pham
• Manual Annotations of this start: 1 of 24
• Called 100.0% of time when present
• Phage (with cluster) where this start called: TurkishDelight_28 (singleton),

Start 2:
• Found in 4 of 25 (16.0%) of genes in pham
• Manual Annotations of this start: 4 of 24
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Dewdrop_76 (GC), Hendrix_70 (GC), Leaf_76 (GC), Rasputia_71 (GC),

Start 5:
• Found in 1 of 25 (4.0%) of genes in pham
• Manual Annotations of this start: 1 of 24
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Elener_18 (singleton),

Start 7:
• Found in 1 of 25 (4.0%) of genes in pham
• Manual Annotations of this start: 1 of 24
• Called 100.0% of time when present
• Phage (with cluster) where this start called: EmiRose_15 (singleton),

Start 15:
• Found in 1 of 25 (4.0%) of genes in pham
• Manual Annotations of this start: 1 of 24
• Called 100.0% of time when present
• Phage (with cluster) where this start called: OnionKnight_17 (singleton),

Start 18:
• Found in 12 of 25 (48.0%) of genes in pham
• Manual Annotations of this start: 11 of 24
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Abt2graduatex2_8 (BG), Asis_8 (BG), BabyGotBac_8 (BG), BayC_8 (BG), Maih_8 (BG), Mischief19_8 (BG), RainyPolka_8 (BG), Salete_8 (BG), TP1604_8 (BG), Xkcd426_8 (BG), YDN12_8 (BG), phiAsp2_27 (singleton),

Start 19:
• Found in 1 of 25 (4.0%) of genes in pham
• Manual Annotations of this start: 1 of 24

• Called 100.0% of time when present
• Phage (with cluster) where this start called: Attoomi_15 (singleton),

Start 20:
• Found in 4 of 25 (16.0%) of genes in pham
• Manual Annotations of this start: 4 of 24
• Called 100.0% of time when present
• Phage (with cluster) where this start called: BeatusComedenti_33 (AT), DanielleIgnace_26 (AT), KellEzio_33 (AT), Kitkat_34 (AT),

Summary by clusters:

There are 4 clusters represented in this pham: singleton, BG, GC, AT,

Info for manual annotations of cluster AT:
•Start number 20 was manually annotated 4 times for cluster AT.

Info for manual annotations of cluster BG:
•Start number 18 was manually annotated 11 times for cluster BG.

Info for manual annotations of cluster GC:
•Start number 2 was manually annotated 4 times for cluster GC.

Gene Information:

Gene: Abt2graduatex2_8 Start: 4210, Stop: 7257, Start Num: 18
Candidate Starts for Abt2graduatex2_8:
(Start: 18 @4210 has 11 MA's), (29, 4312), (36, 4345), (45, 4399), (55, 4462), (58, 4471), (59, 4480), (68, 4540), (80, 4615), (81, 4621), (99, 4753), (108, 4810), (132, 5005), (157, 5200), (163, 5251), (178, 5362), (180, 5371), (188, 5422), (225, 5587), (231, 5611), (232, 5620), (236, 5632), (242, 5656), (247, 5674), (248, 5683), (262, 5731), (270, 5761), (285, 5809), (292, 5839), (294, 5848), (300, 5869), (331, 6013), (333, 6022), (334, 6025), (339, 6058), (347, 6091), (358, 6154), (363, 6175), (367, 6187), (371, 6205), (377, 6253), (388, 6316), (392, 6328), (393, 6331), (401, 6382), (428, 6514), (429, 6517), (433, 6547), (434, 6550), (448, 6616), (457, 6658), (464, 6679), (467, 6682), (490, 6790), (518, 6949), (520, 6952), (523, 6961), (528, 7000), (532, 7018), (549, 7105), (563, 7177), (567, 7207),

Gene: Asis_8 Start: 4267, Stop: 7314, Start Num: 18
Candidate Starts for Asis_8:
(Start: 18 @4267 has 11 MA's), (26, 4306), (36, 4402), (45, 4456), (55, 4519), (58, 4528), (59, 4537), (79, 4666), (80, 4672), (81, 4678), (99, 4810), (108, 4867), (119, 4921), (157, 5257), (163, 5308), (164, 5320), (178, 5419), (180, 5428), (188, 5479), (202, 5551), (210, 5566), (231, 5668), (232, 5677), (233, 5680), (242, 5713), (247, 5731), (248, 5740), (262, 5788), (263, 5797), (264, 5806), (285, 5866), (291, 5887), (292, 5896), (294, 5905), (296, 5917), (300, 5926), (303, 5938), (334, 6082), (339, 6115), (358, 6211), (377, 6310), (385, 6364), (393, 6388), (401, 6439), (407, 6472), (408, 6475), (419, 6517), (424, 6538), (429, 6574), (433, 6604), (434, 6607), (445, 6661), (454, 6703), (457, 6715), (467, 6739), (490, 6847), (510, 6961), (518, 7006), (520, 7009), (523, 7018), (532, 7075), (534, 7078), (536, 7087), (549, 7162), (563, 7234), (567, 7264),

Gene: Attoomi_15 Start: 9427, Stop: 12852, Start Num: 19
Candidate Starts for Attoomi_15:

(Start: 19 @9427 has 1 MA's), (47, 9610), (49, 9628), (51, 9634), (64, 9706), (65, 9718), (80, 9793), (81, 9799), (85, 9823), (86, 9844), (92, 9886), (95, 9916), (100, 9937), (105, 9967), (110, 9985), (115, 10006), (116, 10009), (124, 10117), (138, 10204), (141, 10225), (142, 10228), (150, 10279), (151, 10291), (154, 10330), (163, 10414), (173, 10492), (177, 10519), (200, 10657), (201, 10666), (217, 10750), (223, 10786), (228, 10804), (239, 10882), (243, 10894), (246, 10903), (249, 10915), (251, 10933), (252, 10939), (263, 10996), (301, 11155), (304, 11167), (318, 11230), (326, 11266), (327, 11272), (329, 11284), (345, 11371), (369, 11482), (370, 11485), (372, 11506), (380, 11560), (382, 11572), (386, 11596), (389, 11605), (394, 11629), (398, 11650), (416, 11758), (435, 11863), (451, 11941), (456, 11968), (471, 12013), (475, 12031), (506, 12205), (507, 12208), (524, 12298), (548, 12442), (560, 12505), (561, 12508), (562, 12526), (569, 12577), (570, 12586), (579, 12643), (580, 12655), (582, 12673), (583, 12682), (584, 12691), (585, 12724), (589, 12835),

Gene: BabyGotBac_8 Start: 4267, Stop: 7314, Start Num: 18
Candidate Starts for BabyGotBac_8:
(Start: 18 @4267 has 11 MA's), (26, 4306), (36, 4402), (45, 4456), (55, 4519), (58, 4528), (59, 4537), (79, 4666), (80, 4672), (81, 4678), (99, 4810), (108, 4867), (119, 4921), (157, 5257), (163, 5308), (164, 5320), (178, 5419), (180, 5428), (188, 5479), (202, 5551), (210, 5566), (231, 5668), (232, 5677), (233, 5680), (242, 5713), (247, 5731), (248, 5740), (262, 5788), (263, 5797), (264, 5806), (285, 5866), (291, 5887), (292, 5896), (294, 5905), (296, 5917), (300, 5926), (334, 6082), (339, 6115), (358, 6211), (365, 6238), (377, 6310), (385, 6364), (393, 6388), (401, 6439), (407, 6472), (408, 6475), (419, 6517), (424, 6538), (429, 6574), (433, 6604), (434, 6607), (445, 6661), (454, 6703), (457, 6715), (467, 6739), (490, 6847), (510, 6961), (518, 7006), (520, 7009), (523, 7018), (532, 7075), (534, 7078), (536, 7087), (549, 7162), (563, 7234), (567, 7264),

Gene: BayC_8 Start: 4267, Stop: 7314, Start Num: 18
Candidate Starts for BayC_8:
(Start: 18 @4267 has 11 MA's), (26, 4306), (36, 4402), (45, 4456), (55, 4519), (58, 4528), (59, 4537), (79, 4666), (80, 4672), (81, 4678), (99, 4810), (108, 4867), (119, 4921), (157, 5257), (163, 5308), (164, 5320), (178, 5419), (180, 5428), (188, 5479), (202, 5551), (210, 5566), (231, 5668), (232, 5677), (233, 5680), (242, 5713), (247, 5731), (248, 5740), (262, 5788), (263, 5797), (264, 5806), (285, 5866), (291, 5887), (292, 5896), (294, 5905), (296, 5917), (300, 5926), (303, 5938), (334, 6082), (339, 6115), (358, 6211), (365, 6238), (377, 6310), (385, 6364), (393, 6388), (401, 6439), (407, 6472), (408, 6475), (419, 6517), (424, 6538), (429, 6574), (433, 6604), (434, 6607), (445, 6661), (454, 6703), (457, 6715), (467, 6739), (490, 6847), (510, 6961), (518, 7006), (520, 7009), (523, 7018), (532, 7075), (534, 7078), (536, 7087), (549, 7162), (563, 7234), (567, 7264),

Gene: BeatusComedenti_33 Start: 18505, Stop: 21594, Start Num: 20
Candidate Starts for BeatusComedenti_33:
(Start: 20 @18505 has 4 MA's), (31, 18595), (52, 18718), (71, 18826), (75, 18847), (82, 18898), (89, 18955), (93, 18991), (104, 19069), (106, 19081), (116, 19126), (121, 19174), (137, 19312), (139, 19324), (142, 19348), (148, 19396), (153, 19441), (157, 19486), (165, 19558), (166, 19561), (168, 19579), (169, 19591), (181, 19654), (184, 19666), (185, 19675), (197, 19756), (219, 19849), (224, 19879), (227, 19888), (234, 19927), (241, 19975), (242, 19978), (260, 20086), (272, 20143), (275, 20155), (279, 20176), (281, 20182), (300, 20248), (303, 20260), (309, 20275), (315, 20308), (317, 20317), (322, 20341), (329, 20380), (333, 20401), (337, 20422), (342, 20455), (348, 20473), (351, 20485), (355, 20509), (359, 20536), (360, 20542), (364, 20557), (370, 20575), (387, 20674), (392, 20686), (401, 20731), (411, 20794), (413, 20797), (416, 20818), (417, 20821), (426, 20863), (427, 20872), (432, 20908), (445, 20974), (449, 20995), (478, 21016), (498, 21127), (499, 21136), (501, 21148), (515, 21247), (521, 21277), (541, 21385), (542, 21388), (551, 21427), (565, 21505),

Gene: DanielleIgnace_26 Start: 17678, Stop: 20671, Start Num: 20
Candidate Starts for DanielleIgnace_26:

(Start: 20 @17678 has 4 MA's), (31, 17768), (36, 17798), (39, 17822), (43, 17843), (52, 17891), (58, 17927), (63, 17960), (66, 17981), (71, 17999), (75, 18020), (82, 18071), (89, 18128), (93, 18164), (106, 18254), (116, 18299), (121, 18347), (128, 18434), (137, 18485), (139, 18497), (142, 18521), (147, 18566), (153, 18614), (157, 18659), (166, 18734), (170, 18767), (176, 18803), (181, 18827), (205, 18962), (215, 19016), (219, 19022), (223, 19049), (234, 19100), (242, 19151), (247, 19169), (249, 19184), (253, 19217), (260, 19259), (265, 19283), (275, 19328), (303, 19400), (308, 19412), (309, 19415), (317, 19457), (320, 19469), (321, 19475), (322, 19481), (326, 19502), (333, 19541), (343, 19598), (348, 19613), (349, 19616), (353, 19643), (355, 19649), (359, 19676), (360, 19682), (363, 19694), (387, 19814), (392, 19826), (401, 19871), (403, 19880), (421, 19913), (432, 19982), (440, 20024), (441, 20027), (443, 20036), (445, 20048), (447, 20057), (449, 20069), (491, 20177), (492, 20180), (499, 20210), (501, 20222), (515, 20321), (521, 20351), (533, 20417), (543, 20468), (544, 20483), (547, 20498), (551, 20504), (554, 20516), (565, 20582),

Gene: Dewdrop_76 Start: 41140, Stop: 44556, Start Num: 2
Candidate Starts for Dewdrop_76:
(Start: 2 @41140 has 4 MA's), (3, 41146), (6, 41275), (8, 41320), (16, 41410), (24, 41464), (26, 41479), (27, 41482), (34, 41566), (35, 41569), (48, 41653), (50, 41659), (54, 41680), (67, 41764), (77, 41827), (83, 41869), (90, 41920), (91, 41932), (96, 41971), (97, 41974), (120, 42121), (130, 42238), (136, 42262), (144, 42307), (149, 42346), (152, 42373), (158, 42442), (174, 42574), (194, 42700), (209, 42763), (211, 42772), (237, 42910), (240, 42940), (258, 43030), (263, 43060), (264, 43069), (267, 43084), (274, 43117), (318, 43186), (330, 43252), (339, 43300), (346, 43336), (373, 43471), (386, 43561), (394, 43594), (403, 43645), (405, 43660), (414, 43711), (415, 43717), (417, 43726), (427, 43777), (430, 43801), (436, 43843), (480, 43933), (487, 43990), (503, 44083), (505, 44089), (513, 44143), (517, 44173), (521, 44185), (522, 44188), (526, 44209), (537, 44278), (546, 44332), (557, 44380), (565, 44431), (571, 44476), (577, 44509),

Gene: Elener_18 Start: 11966, Stop: 15586, Start Num: 5
Candidate Starts for Elener_18:
(4, 11957), (Start: 5 @11966 has 1 MA's), (30, 12311), (33, 12323), (36, 12344), (60, 12482), (61, 12491), (70, 12542), (74, 12575), (89, 12674), (107, 12803), (111, 12818), (116, 12845), (122, 12896), (127, 12974), (145, 13088), (146, 13103), (149, 13115), (156, 13178), (164, 13262), (166, 13283), (179, 13367), (186, 13409), (192, 13451), (195, 13472), (202, 13514), (207, 13532), (221, 13607), (244, 13739), (260, 13835), (263, 13847), (275, 13907), (280, 13937), (293, 14003), (305, 14048), (310, 14060), (316, 14102), (319, 14114), (323, 14135), (336, 14204), (344, 14255), (350, 14279), (361, 14348), (376, 14438), (443, 14804), (458, 14882), (459, 14885), (500, 15110), (504, 15152), (508, 15173), (514, 15221), (516, 15239), (529, 15302), (530, 15311), (531, 15314), (551, 15416), (561, 15467), (564, 15491), (566, 15509), (568, 15530), (574, 15563),

Gene: EmiRose_15 Start: 10389, Stop: 13049, Start Num: 7
Candidate Starts for EmiRose_15:
(Start: 7 @10389 has 1 MA's), (12, 10428), (26, 10569), (30, 10632), (34, 10656), (40, 10698), (46, 10722), (48, 10743), (56, 10785), (60, 10809), (67, 10860), (72, 10878), (74, 10902), (78, 10926), (80, 10938), (89, 10998), (113, 11145), (116, 11160), (119, 11175), (123, 11232), (140, 11349), (142, 11361), (147, 11403), (152, 11436), (154, 11463), (155, 11469), (158, 11505), (171, 11625), (191, 11736), (193, 11748), (209, 11832), (211, 11841), (213, 11862), (228, 11946), (229, 11949), (231, 11970), (250, 12078), (261, 12129), (264, 12150), (270, 12162), (273, 12174), (277, 12189), (286, 12216), (290, 12234), (294, 12255), (298, 12270), (301, 12279), (303, 12288), (312, 12321), (316, 12345), (318, 12354), (325, 12390), (333, 12432), (337, 12453), (343, 12486), (356, 12552), (365, 12594), (375, 12651), (398, 12777), (409, 12843), (410, 12846), (424, 12909), (425, 12921), (430, 12957), (437, 13002), (439, 13011),

Gene: Hendrix_70 Start: 40377, Stop: 44069, Start Num: 2
Candidate Starts for Hendrix_70:

(Start: 2 @40377 has 4 MA's), (3, 40383), (6, 40512), (8, 40557), (9, 40560), (14, 40635), (22, 40698), (25, 40713), (36, 40812), (37, 40824), (48, 40890), (51, 40899), (62, 40968), (69, 41007), (73, 41034), (78, 41067), (91, 41169), (96, 41208), (97, 41211), (112, 41304), (120, 41358), (130, 41475), (133, 41481), (136, 41499), (144, 41544), (152, 41610), (154, 41637), (155, 41643), (175, 41817), (183, 41859), (194, 41937), (196, 41949), (204, 41982), (211, 42009), (212, 42015), (214, 42036), (223, 42078), (229, 42099), (235, 42135), (237, 42147), (238, 42168), (246, 42198), (250, 42231), (263, 42297), (264, 42306), (269, 42336), (278, 42372), (279, 42384), (281, 42390), (288, 42429), (289, 42432), (291, 42438), (311, 42522), (318, 42555), (319, 42558), (321, 42567), (340, 42681), (352, 42732), (360, 42783), (386, 42930), (403, 43014), (417, 43095), (430, 43170), (436, 43212), (453, 43293), (466, 43359), (483, 43467), (501, 43554), (502, 43557), (505, 43590), (512, 43641), (517, 43674), (521, 43686), (522, 43689), (537, 43779), (552, 43854), (553, 43860), (555, 43869), (577, 44016),

Gene: KellEzio_33 Start: 18507, Stop: 21596, Start Num: 20
Candidate Starts for KellEzio_33:
(Start: 20 @18507 has 4 MA's), (31, 18597), (39, 18651), (71, 18828), (75, 18849), (82, 18900), (89, 18957), (93, 18993), (104, 19071), (106, 19083), (116, 19128), (121, 19176), (137, 19314), (139, 19326), (142, 19350), (148, 19398), (153, 19443), (157, 19488), (165, 19560), (166, 19563), (168, 19581), (169, 19593), (181, 19656), (184, 19668), (185, 19677), (197, 19758), (219, 19851), (224, 19881), (227, 19890), (234, 19929), (241, 19977), (242, 19980), (253, 20046), (260, 20088), (272, 20145), (275, 20157), (278, 20166), (279, 20178), (300, 20250), (303, 20262), (309, 20277), (315, 20310), (317, 20319), (322, 20343), (329, 20382), (333, 20403), (337, 20424), (342, 20457), (348, 20475), (351, 20487), (355, 20511), (359, 20538), (360, 20544), (364, 20559), (370, 20577), (387, 20676), (392, 20688), (401, 20733), (411, 20796), (413, 20799), (416, 20820), (417, 20823), (426, 20865), (427, 20874), (432, 20910), (445, 20976), (449, 20997), (478, 21018), (498, 21129), (499, 21138), (501, 21150), (515, 21249), (521, 21279), (541, 21387), (542, 21390), (551, 21429), (565, 21507),

Gene: Kitkat_34 Start: 18625, Stop: 21714, Start Num: 20
Candidate Starts for Kitkat_34:
(Start: 20 @18625 has 4 MA's), (31, 18715), (52, 18838), (71, 18946), (75, 18967), (82, 19018), (89, 19075), (93, 19111), (104, 19189), (106, 19201), (116, 19246), (121, 19294), (137, 19432), (139, 19444), (142, 19468), (148, 19516), (153, 19561), (157, 19606), (165, 19678), (166, 19681), (168, 19699), (169, 19711), (181, 19774), (184, 19786), (185, 19795), (197, 19876), (219, 19969), (224, 19999), (227, 20008), (234, 20047), (241, 20095), (242, 20098), (260, 20206), (272, 20263), (275, 20275), (279, 20296), (281, 20302), (300, 20368), (303, 20380), (309, 20395), (315, 20428), (317, 20437), (322, 20461), (329, 20500), (333, 20521), (337, 20542), (342, 20575), (348, 20593), (351, 20605), (355, 20629), (359, 20656), (360, 20662), (364, 20677), (370, 20695), (387, 20794), (392, 20806), (401, 20851), (411, 20914), (413, 20917), (416, 20938), (417, 20941), (426, 20983), (427, 20992), (432, 21028), (445, 21094), (449, 21115), (478, 21136), (498, 21247), (499, 21256), (501, 21268), (515, 21367), (521, 21397), (541, 21505), (542, 21508), (551, 21547), (565, 21625),

Gene: Leaf_76 Start: 41140, Stop: 44556, Start Num: 2
Candidate Starts for Leaf_76:
(Start: 2 @41140 has 4 MA's), (3, 41146), (6, 41275), (8, 41320), (16, 41410), (24, 41464), (26, 41479), (27, 41482), (34, 41566), (35, 41569), (48, 41653), (50, 41659), (54, 41680), (67, 41764), (77, 41827), (83, 41869), (90, 41920), (91, 41932), (96, 41971), (97, 41974), (120, 42121), (130, 42238), (136, 42262), (144, 42307), (149, 42346), (152, 42373), (158, 42442), (174, 42574), (194, 42700), (209, 42763), (211, 42772), (237, 42910), (240, 42940), (258, 43030), (263, 43060), (264, 43069), (267, 43084), (274, 43117), (318, 43186), (330, 43252), (339, 43300), (346, 43336), (373, 43471), (386, 43561), (394, 43594), (403, 43645), (405, 43660), (414, 43711), (415, 43717), (417, 43726), (427, 43777), (430, 43801), (436, 43843), (480, 43933), (487, 43990), (503, 44083), (505, 44089), (513, 44143), (517, 44173), (521, 44185), (522, 44188), (526, 44209), (537, 44278), (546, 44332), (557,

44380), (565, 44431), (571, 44476), (577, 44509),

Gene: Maih_8 Start: 4266, Stop: 7313, Start Num: 18
Candidate Starts for Maih_8:
(Start: 18 @4266 has 11 MA's), (26, 4305), (36, 4401), (45, 4455), (55, 4518), (58, 4527), (59, 4536), (79, 4665), (80, 4671), (81, 4677), (99, 4809), (108, 4866), (119, 4920), (157, 5256), (163, 5307), (164, 5319), (178, 5418), (180, 5427), (188, 5478), (202, 5550), (210, 5565), (231, 5667), (232, 5676), (233, 5679), (242, 5712), (247, 5730), (248, 5739), (262, 5787), (263, 5796), (264, 5805), (285, 5865), (291, 5886), (292, 5895), (294, 5904), (296, 5916), (300, 5925), (303, 5937), (334, 6081), (339, 6114), (358, 6210), (377, 6309), (385, 6363), (393, 6387), (401, 6438), (407, 6471), (408, 6474), (419, 6516), (424, 6537), (429, 6573), (433, 6603), (434, 6606), (445, 6660), (454, 6702), (457, 6714), (467, 6738), (490, 6846), (510, 6960), (518, 7005), (520, 7008), (523, 7017), (532, 7074), (534, 7077), (536, 7086), (549, 7161), (563, 7233), (567, 7263),

Gene: Mischief19_8 Start: 4246, Stop: 8070, Start Num: 18
Candidate Starts for Mischief19_8:
(Start: 18 @4246 has 11 MA's), (28, 4345), (44, 4429), (57, 4507), (66, 4573), (68, 4579), (70, 4585), (78, 4642), (94, 4765), (102, 4828), (108, 4858), (125, 5011), (132, 5053), (161, 5278), (163, 5299), (164, 5311), (182, 5437), (191, 5491), (199, 5542), (228, 5701), (232, 5734), (255, 5875), (260, 5899), (266, 5926), (274, 5968), (284, 6022), (295, 6067), (303, 6097), (313, 6139), (316, 6151), (321, 6172), (326, 6199), (337, 6259), (369, 6409), (375, 6454), (378, 6472), (388, 6532), (396, 6565), (404, 6610), (407, 6631), (419, 6676), (438, 6796), (444, 6817), (446, 6832), (460, 6898), (465, 6928), (470, 6949), (472, 6964), (477, 6982), (484, 7042), (485, 7048), (531, 7309), (535, 7324), (540, 7354), (545, 7387), (581, 7606), (586, 7687), (587, 7708), (588, 7783), (590, 7900),

Gene: OnionKnight_17 Start: 10736, Stop: 13582, Start Num: 15
Candidate Starts for OnionKnight_17:
(Start: 15 @10736 has 1 MA's), (17, 10763), (23, 10796), (28, 10874), (36, 10910), (38, 10931), (42, 10952), (51, 10994), (80, 11174), (81, 11180), (92, 11267), (96, 11300), (98, 11309), (99, 11321), (101, 11339), (106, 11372), (109, 11381), (114, 11402), (117, 11414), (119, 11423), (123, 11492), (126, 11534), (129, 11555), (132, 11567), (135, 11579), (141, 11624), (143, 11633), (145, 11648), (150, 11678), (160, 11789), (161, 11792), (177, 11918), (181, 11942), (191, 12002), (193, 12014), (208, 12095), (213, 12128), (217, 12149), (226, 12194), (230, 12215), (249, 12323), (251, 12341), (254, 12362), (256, 12374), (257, 12377), (271, 12440), (280, 12485), (282, 12497), (287, 12521), (299, 12566), (307, 12593), (317, 12638), (322, 12662), (326, 12683), (335, 12731), (340, 12770), (341, 12773), (354, 12833), (375, 12944), (384, 13004), (390, 13025), (397, 13058), (415, 13169), (416, 13175), (419, 13187), (442, 13319), (455, 13373), (463, 13391), (464, 13397), (468, 13409), (474, 13430), (481, 13457),

Gene: RainyPolka_8 Start: 4224, Stop: 7268, Start Num: 18
Candidate Starts for RainyPolka_8:
(10, 4122), (11, 4125), (13, 4140), (Start: 18 @4224 has 11 MA's), (21, 4239), (36, 4359), (45, 4413), (55, 4476), (58, 4485), (59, 4494), (68, 4554), (80, 4629), (81, 4635), (108, 4824), (119, 4878), (157, 5214), (163, 5265), (178, 5376), (180, 5385), (188, 5436), (203, 5511), (231, 5625), (232, 5634), (236, 5646), (247, 5688), (248, 5697), (263, 5754), (270, 5775), (277, 5802), (285, 5823), (292, 5853), (294, 5862), (296, 5874), (300, 5883), (303, 5895), (330, 6024), (331, 6027), (334, 6039), (339, 6072), (347, 6105), (358, 6168), (363, 6189), (364, 6192), (367, 6201), (371, 6219), (377, 6267), (388, 6330), (392, 6342), (393, 6345), (401, 6396), (412, 6450), (419, 6474), (428, 6528), (429, 6531), (433, 6561), (434, 6564), (438, 6594), (448, 6630), (456, 6669), (457, 6672), (464, 6693), (467, 6696), (518, 6963), (520, 6966), (523, 6975), (528, 7014), (536, 7044), (563, 7188), (567, 7218),

Gene: Rasputia_71 Start: 40340, Stop: 44032, Start Num: 2
Candidate Starts for Rasputia_71:

(Start: 2 @40340 has 4 MA's), (3, 40346), (6, 40475), (8, 40520), (22, 40661), (36, 40775), (37, 40787), (48, 40853), (62, 40931), (69, 40970), (77, 41027), (78, 41030), (91, 41132), (96, 41171), (97, 41174), (112, 41267), (120, 41321), (130, 41438), (133, 41444), (136, 41462), (144, 41507), (147, 41540), (152, 41573), (154, 41600), (155, 41606), (175, 41780), (183, 41822), (194, 41900), (196, 41912), (204, 41945), (211, 41972), (212, 41978), (220, 42020), (223, 42041), (237, 42110), (238, 42131), (246, 42161), (250, 42194), (263, 42260), (264, 42269), (276, 42326), (278, 42335), (283, 42368), (288, 42392), (291, 42401), (293, 42416), (318, 42518), (319, 42521), (321, 42530), (324, 42545), (340, 42644), (352, 42695), (386, 42893), (391, 42911), (403, 42977), (417, 43058), (430, 43133), (431, 43142), (436, 43175), (453, 43256), (461, 43295), (462, 43298), (466, 43322), (469, 43340), (480, 43397), (483, 43430), (502, 43520), (505, 43553), (509, 43586), (512, 43604), (517, 43637), (521, 43649), (522, 43652), (537, 43742), (550, 43811), (553, 43823), (559, 43850), (560, 43865), (565, 43898), (577, 43979),

Gene: Salete_8 Start: 4267, Stop: 7314, Start Num: 18
Candidate Starts for Salete_8:
(Start: 18 @4267 has 11 MA's), (26, 4306), (36, 4402), (45, 4456), (55, 4519), (58, 4528), (59, 4537), (79, 4666), (80, 4672), (81, 4678), (99, 4810), (108, 4867), (119, 4921), (157, 5257), (163, 5308), (164, 5320), (178, 5419), (180, 5428), (188, 5479), (202, 5551), (210, 5566), (231, 5668), (232, 5677), (233, 5680), (242, 5713), (247, 5731), (248, 5740), (262, 5788), (263, 5797), (264, 5806), (285, 5866), (291, 5887), (292, 5896), (294, 5905), (296, 5917), (300, 5926), (303, 5938), (334, 6082), (339, 6115), (358, 6211), (365, 6238), (377, 6310), (385, 6364), (393, 6388), (401, 6439), (407, 6472), (408, 6475), (419, 6517), (424, 6538), (429, 6574), (433, 6604), (434, 6607), (445, 6661), (454, 6703), (457, 6715), (467, 6739), (490, 6847), (510, 6961), (518, 7006), (520, 7009), (523, 7018), (532, 7075), (534, 7078), (536, 7087), (549, 7162), (563, 7234), (567, 7264),

Gene: TP1604_8 Start: 4267, Stop: 7314, Start Num: 18
Candidate Starts for TP1604_8:
(Start: 18 @4267 has 11 MA's), (26, 4306), (36, 4402), (45, 4456), (55, 4519), (58, 4528), (59, 4537), (79, 4666), (80, 4672), (81, 4678), (99, 4810), (108, 4867), (119, 4921), (157, 5257), (163, 5308), (164, 5320), (178, 5419), (180, 5428), (188, 5479), (202, 5551), (210, 5566), (231, 5668), (232, 5677), (233, 5680), (242, 5713), (247, 5731), (248, 5740), (262, 5788), (263, 5797), (264, 5806), (285, 5866), (291, 5887), (292, 5896), (294, 5905), (296, 5917), (300, 5926), (334, 6082), (339, 6115), (358, 6211), (365, 6238), (377, 6310), (385, 6364), (393, 6388), (401, 6439), (407, 6472), (408, 6475), (419, 6517), (424, 6538), (429, 6574), (433, 6604), (434, 6607), (445, 6661), (454, 6703), (457, 6715), (467, 6739), (490, 6847), (510, 6961), (518, 7006), (520, 7009), (523, 7018), (532, 7075), (534, 7078), (536, 7087), (549, 7162), (563, 7234), (567, 7264),

Gene: TurkishDelight_28 Start: 22980, Stop: 26681, Start Num: 1
Candidate Starts for TurkishDelight_28:
(Start: 1 @22980 has 1 MA's), (84, 23862), (94, 23943), (118, 24084), (119, 24090), (157, 24426), (159, 24444), (163, 24477), (180, 24597), (222, 24795), (281, 25080), (298, 25158), (314, 25221), (332, 25311), (360, 25458), (365, 25476), (378, 25551), (380, 25569), (388, 25611), (395, 25641), (403, 25686), (406, 25707), (413, 25743), (418, 25773), (420, 25779), (450, 25944), (467, 26010), (476, 26052), (481, 26082), (488, 26139), (489, 26142), (493, 26160), (497, 26175), (508, 26250), (511, 26274), (521, 26325), (538, 26421), (556, 26514), (558, 26520), (573, 26628), (575, 26643), (576, 26646), (578, 26673),

Gene: Xkcd426_8 Start: 4325, Stop: 7600, Start Num: 18
Candidate Starts for Xkcd426_8:
(Start: 18 @4325 has 11 MA's), (36, 4460), (66, 4652), (70, 4664), (76, 4712), (80, 4733), (94, 4835), (108, 4928), (182, 5507), (187, 5528), (204, 5639), (242, 5861), (259, 5960), (268, 6014), (319, 6233), (321, 6242), (339, 6344), (357, 6428), (363, 6461), (365, 6467), (374, 6515), (377, 6539), (378, 6542), (383, 6581), (390, 6605), (392, 6614), (399, 6656), (400, 6659), (401, 6668), (404, 6680), (419, 6746),

(427, 6788), (432, 6824), (452, 6920), (471, 7022), (473, 7034), (476, 7043), (486, 7118), (488, 7130), (493, 7151), (501, 7187), (527, 7334), (538, 7397), (539, 7400), (543, 7418), (561, 7511), (572, 7592),

Gene: YDN12_8 Start: 4250, Stop: 7294, Start Num: 18
Candidate Starts for YDN12_8:
(Start: 18 @4250 has 11 MA's), (36, 4385), (41, 4427), (45, 4439), (55, 4502), (58, 4511), (59, 4520), (68, 4580), (79, 4649), (80, 4655), (81, 4661), (99, 4793), (108, 4850), (113, 4874), (157, 5240), (178, 5402), (180, 5411), (188, 5462), (210, 5549), (225, 5627), (231, 5651), (232, 5660), (233, 5663), (242, 5696), (247, 5714), (262, 5771), (263, 5780), (264, 5789), (285, 5849), (291, 5870), (292, 5879), (294, 5888), (296, 5900), (300, 5909), (331, 6053), (339, 6098), (347, 6131), (358, 6194), (363, 6215), (377, 6293), (385, 6347), (393, 6371), (401, 6422), (402, 6425), (407, 6455), (408, 6458), (419, 6500), (422, 6512), (424, 6521), (429, 6557), (430, 6566), (433, 6587), (434, 6590), (448, 6656), (454, 6686), (457, 6698), (467, 6722), (510, 6944), (515, 6971), (518, 6989), (520, 6992), (523, 7001), (532, 7058), (534, 7061), (536, 7070),

Gene: phiAsp2_27 Start: 16322, Stop: 19258, Start Num: 18
Candidate Starts for phiAsp2_27:
(Start: 18 @16322 has 11 MA's), (27, 16364), (32, 16433), (53, 16559), (87, 16769), (88, 16781), (103, 16895), (124, 17060), (131, 17108), (134, 17117), (144, 17180), (150, 17222), (162, 17345), (167, 17390), (172, 17426), (189, 17522), (190, 17525), (198, 17579), (202, 17588), (203, 17591), (206, 17603), (213, 17636), (216, 17657), (218, 17669), (220, 17681), (228, 17720), (229, 17723), (245, 17813), (274, 17954), (277, 17966), (284, 17987), (297, 18035), (302, 18053), (306, 18065), (307, 18068), (328, 18167), (333, 18197), (338, 18227), (355, 18317), (362, 18359), (366, 18374), (368, 18383), (371, 18398), (379, 18461), (380, 18464), (381, 18470), (396, 18530), (397, 18533), (399, 18551), (405, 18587), (423, 18668), (444, 18794), (445, 18797), (479, 18896), (482, 18926), (494, 18989), (495, 18992), (496, 18995), (517, 19148), (519, 19154), (522, 19163), (525, 19178),