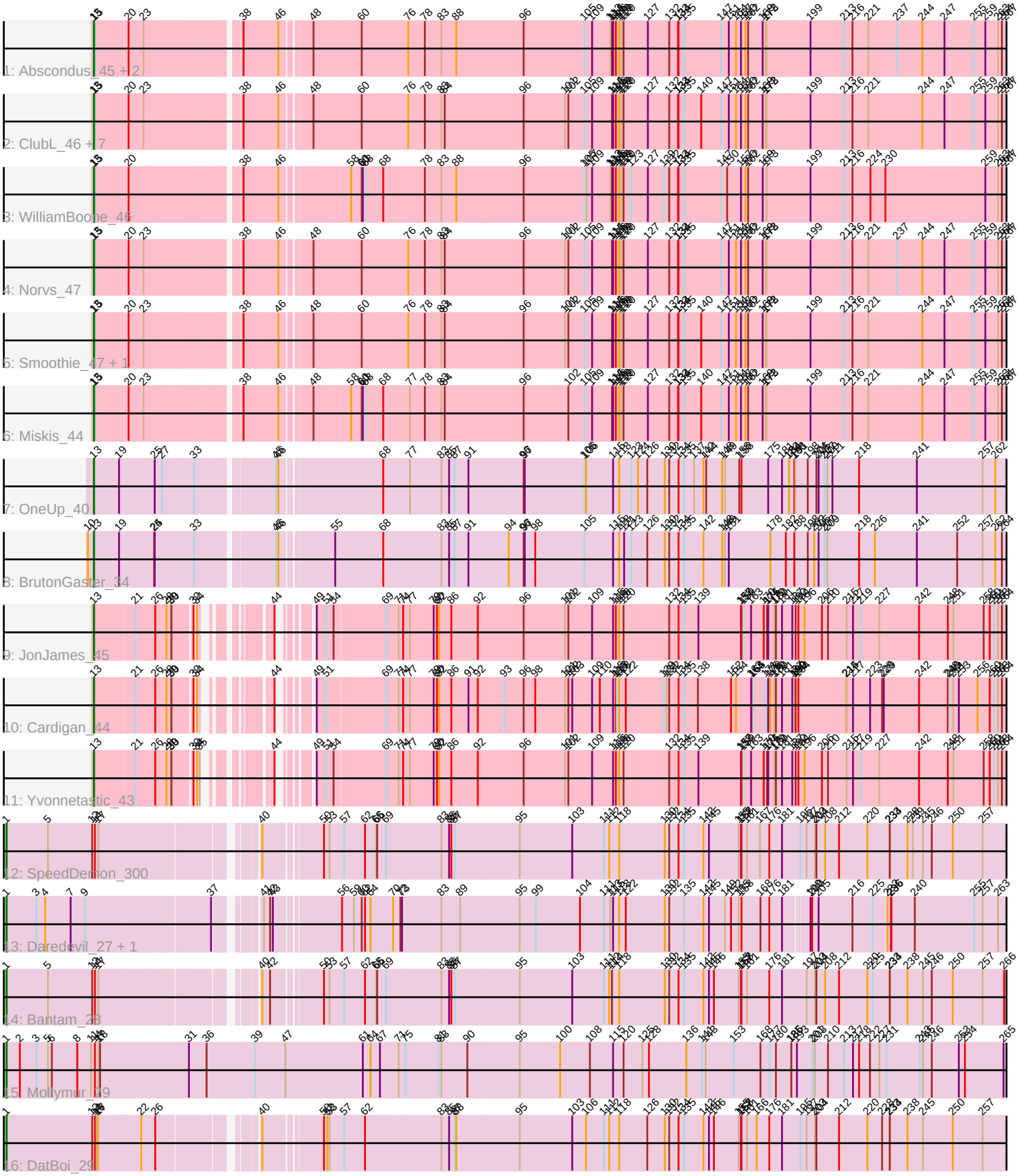
Zoomed Pham 337046



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 337046 Report

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

Pham number 337046 has 27 members, 1 are drafts.

Phages represented in each track:
• Track 1 : Abscondus_45, Dusty_45, Culver_46
• Track 2 : ClubL_46, Toniann_46, PhinkBoden_46, Aphelion_46, Geeche_45, Cucurbita_48, Bachita_48, Engineer_47
• Track 3 : WilliamBoone_46
• Track 4 : Norvs_47
• Track 5 : Smoothie_47, Lozinak_46
• Track 6 : Miskis_44
• Track 7 : OneUp_40
• Track 8 : BrutonGaster_34
• Track 9 : JonJames_45
• Track 10 : Cardigan_44
• Track 11 : Yvonnetastic_43
• Track 12 : SpeedDemon_300
• Track 13 : Daredevil_27, Towmatter_26
• Track 14 : Bantam_28
• Track 15 : Mollymur_29
• Track 16 : DatBoi_29

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

The start number called the most often in the published annotations is 13, it was called in 20 of the 26 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Abscondus_45, Aphelion_46, Bachita_48, BrutonGaster_34, Cardigan_44, ClubL_46, Cucurbita_48, Culver_46, Dusty_45, Engineer_47, Geeche_45, JonJames_45, Lozinak_46, Miskis_44, Norvs_47, OneUp_40, PhinkBoden_46, Smoothie_47, Toniann_46, WilliamBoone_46, Yvonnetastic_43,

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

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

• Bantam_28, Daredevil_27, DatBoi_29, Mollymur_29, SpeedDemon_300, Towmatter_26,

Summary by start number:

Start 1:
• Found in 6 of 27 (22.2%) of genes in pham
• Manual Annotations of this start: 6 of 26
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Bantam_28 (DL), Daredevil_27 (DL), DatBoi_29 (DL), Mollymur_29 (DL), SpeedDemon_300 (DL), Towmatter_26 (DL),

Start 13:
• Found in 21 of 27 (77.8%) of genes in pham
• Manual Annotations of this start: 20 of 26
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Abscondus_45 (CQ1), Aphelion_46 (CQ1), Bachita_48 (CQ1), BrutonGaster_34 (CQ2), Cardigan_44 (DD), ClubL_46 (CQ1), Cucurbita_48 (CQ1), Culver_46 (CQ1), Dusty_45 (CQ1), Engineer_47 (CQ1), Geeche_45 (CQ1), JonJames_45 (DD), Lozinak_46 (CQ1), Miskis_44 (CQ1), Norvs_47 (CQ1), OneUp_40 (CQ2), PhinkBoden_46 (CQ1), Smoothie_47 (CQ1), Toniann_46 (CQ1), WilliamBoone_46 (CQ1), Yvonnetastic_43 (DD),

Summary by clusters:

There are 4 clusters represented in this pham: CQ2, CQ1, DD, DL,

Info for manual annotations of cluster CQ1:
•Start number 13 was manually annotated 15 times for cluster CQ1.

Info for manual annotations of cluster CQ2:
•Start number 13 was manually annotated 2 times for cluster CQ2.

Info for manual annotations of cluster DD:
•Start number 13 was manually annotated 3 times for cluster DD.

Info for manual annotations of cluster DL:
•Start number 1 was manually annotated 6 times for cluster DL.

Gene Information:

Gene: Abscondus_45 Start: 19642, Stop: 28437, Start Num: 13
Candidate Starts for Abscondus_45:
(Start: 13 @19642 has 20 MA's), (15, 19648), (20, 19798), (23, 19870), (38, 20284), (46, 20458), (48, 20599), (60, 20857), (76, 21103), (78, 21193), (83, 21283), (88, 21364), (96, 21721), (105, 22051), (109, 22093), (113, 22189), (114, 22198), (115, 22204), (116, 22219), (118, 22237), (119, 22249), (120, 22261), (127, 22393), (132, 22507), (133, 22555), (134, 22558), (135, 22588), (147, 22783), (151, 22825), (154, 22864), (157, 22891), (160, 22915), (162, 22930), (169, 23008), (172, 23026), (173, 23029), (199, 23245), (213, 23425), (216, 23470), (221, 23548), (237, 23701), (244, 23836), (247, 23956), (255, 24115), (259, 24175), (263, 24244), (264, 24265), (267, 24286), (270, 24316), (280, 24421), (289, 24550), (291, 24559), (302, 24811), (305, 24829), (315, 25015), (316, 25027),

(323, 25168), (330, 25279), (331, 25294), (341, 25462), (343, 25489), (345, 25534), (353, 25636), (355, 25738), (358, 25816), (359, 25822), (360, 25834), (362, 25861), (364, 25897), (370, 26011), (388, 26197), (391, 26230), (394, 26287), (396, 26320), (406, 26482), (407, 26491), (414, 26521), (419, 26551), (422, 26569), (425, 26593), (426, 26605), (429, 26644), (431, 26677), (435, 26719), (437, 26728), (440, 26782), (441, 26842), (442, 26887), (448, 26968), (449, 27016), (451, 27070), (454, 27157), (456, 27196), (458, 27232), (459, 27238), (460, 27247), (461, 27253), (477, 27850), (478, 27886), (481, 27982), (484, 28135), (485, 28144), (486, 28174), (487, 28186), (497, 28381),

Gene: Aphelion_46 Start: 19911, Stop: 28706, Start Num: 13
Candidate Starts for Aphelion_46:
(Start: 13 @19911 has 20 MA's), (15, 19917), (20, 20067), (23, 20139), (38, 20553), (46, 20727), (48, 20868), (60, 21126), (76, 21372), (78, 21462), (83, 21552), (84, 21570), (96, 21990), (101, 22215), (102, 22233), (105, 22320), (109, 22362), (114, 22467), (115, 22473), (116, 22488), (118, 22506), (119, 22518), (120, 22530), (127, 22662), (132, 22776), (133, 22824), (134, 22827), (135, 22857), (140, 22950), (147, 23052), (151, 23094), (154, 23133), (157, 23160), (160, 23184), (162, 23199), (169, 23277), (172, 23295), (173, 23298), (199, 23514), (213, 23694), (216, 23739), (221, 23817), (244, 24105), (247, 24225), (255, 24384), (259, 24444), (263, 24513), (264, 24534), (267, 24555), (270, 24585), (280, 24690), (289, 24819), (291, 24828), (302, 25080), (305, 25098), (315, 25284), (316, 25296), (323, 25437), (330, 25548), (331, 25563), (341, 25731), (343, 25758), (345, 25803), (353, 25905), (359, 26091), (360, 26103), (362, 26130), (365, 26190), (370, 26280), (388, 26466), (391, 26499), (394, 26556), (396, 26589), (406, 26751), (407, 26760), (414, 26790), (419, 26820), (422, 26838), (425, 26862), (426, 26874), (429, 26913), (431, 26946), (435, 26988), (437, 26997), (440, 27051), (441, 27111), (442, 27156), (443, 27165), (448, 27237), (449, 27285), (451, 27339), (454, 27426), (456, 27465), (458, 27501), (459, 27507), (460, 27516), (461, 27522), (477, 28119), (478, 28155), (481, 28251), (484, 28404), (485, 28413), (486, 28443), (487, 28455), (497, 28650),

Gene: Bachita_48 Start: 20344, Stop: 29139, Start Num: 13
Candidate Starts for Bachita_48:
(Start: 13 @20344 has 20 MA's), (15, 20350), (20, 20500), (23, 20572), (38, 20986), (46, 21160), (48, 21301), (60, 21559), (76, 21805), (78, 21895), (83, 21985), (84, 22003), (96, 22423), (101, 22648), (102, 22666), (105, 22753), (109, 22795), (114, 22900), (115, 22906), (116, 22921), (118, 22939), (119, 22951), (120, 22963), (127, 23095), (132, 23209), (133, 23257), (134, 23260), (135, 23290), (140, 23383), (147, 23485), (151, 23527), (154, 23566), (157, 23593), (160, 23617), (162, 23632), (169, 23710), (172, 23728), (173, 23731), (199, 23947), (213, 24127), (216, 24172), (221, 24250), (244, 24538), (247, 24658), (255, 24817), (259, 24877), (263, 24946), (264, 24967), (267, 24988), (270, 25018), (280, 25123), (289, 25252), (291, 25261), (302, 25513), (305, 25531), (315, 25717), (316, 25729), (323, 25870), (330, 25981), (331, 25996), (341, 26164), (343, 26191), (345, 26236), (353, 26338), (359, 26524), (360, 26536), (362, 26563), (365, 26623), (370, 26713), (388, 26899), (391, 26932), (394, 26989), (396, 27022), (406, 27184), (407, 27193), (414, 27223), (419, 27253), (422, 27271), (425, 27295), (426, 27307), (429, 27346), (431, 27379), (435, 27421), (437, 27430), (440, 27484), (441, 27544), (442, 27589), (443, 27598), (448, 27670), (449, 27718), (451, 27772), (454, 27859), (456, 27898), (458, 27934), (459, 27940), (460, 27949), (461, 27955), (477, 28552), (478, 28588), (481, 28684), (484, 28837), (485, 28846), (486, 28876), (487, 28888), (497, 29083),

Gene: Bantam_28 Start: 17349, Stop: 26183, Start Num: 1
Candidate Starts for Bantam_28:
(Start: 1 @17349 has 6 MA's), (5, 17574), (12, 17814), (14, 17829), (17, 17847), (40, 18486), (42, 18519), (50, 18744), (53, 18774), (57, 18849), (62, 18957), (65, 19017), (66, 19023), (69, 19068), (83, 19365), (85, 19407), (86, 19419), (87, 19437), (95, 19776), (103, 20061), (111, 20223), (112, 20253), (114, 20268), (118, 20307), (130, 20553), (132, 20577), (134, 20628), (135, 20658), (142, 20763), (145, 20793), (146, 20820), (155, 20952), (157, 20964), (158, 20967), (161, 20997), (176, 21117), (181, 21186), (197, 21300), (203, 21342), (204, 21351), (208, 21399), (212, 21474), (220, 21621), (225, 21642), (233, 21729), (234, 21732), (238, 21828), (245, 21909), (246, 21957), (250, 22071),

(257, 22227), (266, 22335), (273, 22392), (278, 22461), (283, 22518), (298, 22737), (305, 22884), (321, 23118), (324, 23166), (329, 23229), (339, 23391), (340, 23409), (351, 23589), (354, 23667), (359, 23790), (362, 23829), (366, 23895), (368, 23955), (372, 24006), (374, 24030), (375, 24039), (380, 24078), (383, 24087), (389, 24177), (395, 24282), (396, 24291), (400, 24369), (408, 24483), (415, 24513), (419, 24537), (420, 24543), (422, 24552), (423, 24564), (432, 24672), (434, 24693), (440, 24765), (441, 24825), (448, 24951), (451, 25053), (455, 25164), (457, 25203), (463, 25233), (468, 25335), (480, 25704), (489, 25962), (490, 26007), (491, 26025), (495, 26049),

Gene: BrutonGaster_34 Start: 16533, Stop: 25052, Start Num: 13
Candidate Starts for BrutonGaster_34:
(10, 16500), (Start: 13 @16533 has 20 MA's), (19, 16656), (24, 16803), (25, 16806), (33, 16998), (45, 17349), (46, 17361), (55, 17619), (68, 17877), (83, 18189), (85, 18231), (87, 18261), (91, 18336), (94, 18546), (96, 18627), (97, 18633), (98, 18690), (105, 18957), (115, 19113), (118, 19146), (121, 19173), (123, 19212), (126, 19299), (130, 19392), (132, 19416), (134, 19467), (135, 19497), (142, 19602), (148, 19701), (149, 19716), (151, 19737), (178, 19962), (182, 20037), (188, 20076), (198, 20145), (202, 20178), (205, 20202), (207, 20235), (209, 20250), (218, 20421), (226, 20493), (241, 20715), (252, 20934), (257, 21063), (262, 21123), (264, 21159), (268, 21201), (286, 21402), (287, 21429), (293, 21465), (299, 21594), (301, 21657), (321, 21972), (333, 22170), (334, 22176), (337, 22221), (339, 22257), (343, 22323), (345, 22368), (348, 22401), (353, 22470), (356, 22587), (357, 22611), (358, 22650), (359, 22656), (361, 22677), (362, 22695), (364, 22731), (366, 22761), (368, 22821), (372, 22872), (389, 23040), (396, 23154), (397, 23163), (409, 23349), (411, 23358), (416, 23382), (419, 23400), (420, 23406), (423, 23427), (428, 23490), (429, 23493), (431, 23526), (432, 23538), (440, 23631), (441, 23691), (443, 23745), (449, 23865), (451, 23919), (464, 24108), (471, 24246), (481, 24597), (483, 24741), (484, 24750), (485, 24759), (486, 24789), (487, 24801), (493, 24912), (497, 24996), (498, 25041),

Gene: Cardigan_44 Start: 21568, Stop: 29889, Start Num: 13
Candidate Starts for Cardigan_44:
(Start: 13 @21568 has 20 MA's), (21, 21751), (26, 21850), (28, 21898), (29, 21919), (30, 21922), (32, 22015), (34, 22018), (44, 22201), (49, 22279), (51, 22318), (69, 22603), (71, 22669), (74, 22693), (77, 22729), (79, 22858), (80, 22876), (82, 22888), (86, 22954), (91, 23047), (92, 23098), (93, 23242), (96, 23347), (98, 23410), (101, 23572), (102, 23590), (103, 23611), (109, 23719), (110, 23761), (115, 23833), (116, 23848), (117, 23854), (118, 23866), (122, 23902), (129, 24106), (131, 24121), (132, 24136), (134, 24187), (135, 24217), (138, 24292), (152, 24469), (154, 24496), (163, 24577), (164, 24586), (165, 24589), (171, 24655), (175, 24670), (178, 24682), (179, 24703), (180, 24712), (181, 24745), (187, 24784), (189, 24796), (190, 24799), (192, 24802), (194, 24817), (214, 25072), (215, 25075), (217, 25108), (223, 25201), (228, 25261), (229, 25270), (242, 25459), (248, 25615), (249, 25624), (251, 25645), (253, 25675), (256, 25771), (260, 25837), (261, 25861), (263, 25882), (264, 25903), (268, 25945), (271, 25957), (274, 25981), (277, 26014), (282, 26083), (295, 26245), (297, 26275), (302, 26431), (303, 26440), (304, 26443), (308, 26479), (309, 26485), (314, 26614), (316, 26647), (317, 26695), (318, 26710), (319, 26722), (327, 26821), (328, 26833), (330, 26896), (331, 26911), (338, 27028), (342, 27100), (343, 27106), (344, 27118), (349, 27205), (351, 27238), (353, 27253), (356, 27370), (361, 27460), (362, 27478), (364, 27514), (366, 27544), (368, 27604), (372, 27655), (381, 27730), (383, 27736), (389, 27826), (396, 27940), (398, 27964), (403, 28099), (413, 28150), (417, 28171), (422, 28213), (427, 28285), (432, 28333), (433, 28336), (440, 28423), (441, 28483), (444, 28552), (445, 28561), (449, 28657), (452, 28726), (453, 28777), (456, 28837), (457, 28861), (467, 28936), (472, 29125), (479, 29344), (481, 29431), (484, 29584), (485, 29593), (486, 29623), (487, 29635), (492, 29743), (494, 29749),

Gene: ClubL_46 Start: 19833, Stop: 28628, Start Num: 13
Candidate Starts for ClubL_46:
(Start: 13 @19833 has 20 MA's), (15, 19839), (20, 19989), (23, 20061), (38, 20475), (46, 20649), (48, 20790), (60, 21048), (76, 21294), (78, 21384), (83, 21474), (84, 21492), (96, 21912), (101, 22137),

(102, 22155), (105, 22242), (109, 22284), (114, 22389), (115, 22395), (116, 22410), (118, 22428), (119, 22440), (120, 22452), (127, 22584), (132, 22698), (133, 22746), (134, 22749), (135, 22779), (140, 22872), (147, 22974), (151, 23016), (154, 23055), (157, 23082), (160, 23106), (162, 23121), (169, 23199), (172, 23217), (173, 23220), (199, 23436), (213, 23616), (216, 23661), (221, 23739), (244, 24027), (247, 24147), (255, 24306), (259, 24366), (263, 24435), (264, 24456), (267, 24477), (270, 24507), (280, 24612), (289, 24741), (291, 24750), (302, 25002), (305, 25020), (315, 25206), (316, 25218), (323, 25359), (330, 25470), (331, 25485), (341, 25653), (343, 25680), (345, 25725), (353, 25827), (359, 26013), (360, 26025), (362, 26052), (365, 26112), (370, 26202), (388, 26388), (391, 26421), (394, 26478), (396, 26511), (406, 26673), (407, 26682), (414, 26712), (419, 26742), (422, 26760), (425, 26784), (426, 26796), (429, 26835), (431, 26868), (435, 26910), (437, 26919), (440, 26973), (441, 27033), (442, 27078), (443, 27087), (448, 27159), (449, 27207), (451, 27261), (454, 27348), (456, 27387), (458, 27423), (459, 27429), (460, 27438), (461, 27444), (477, 28041), (478, 28077), (481, 28173), (484, 28326), (485, 28335), (486, 28365), (487, 28377), (497, 28572),

Gene: Cucurbita_48 Start: 21203, Stop: 29998, Start Num: 13
Candidate Starts for Cucurbita_48:
(Start: 13 @21203 has 20 MA's), (15, 21209), (20, 21359), (23, 21431), (38, 21845), (46, 22019), (48, 22160), (60, 22418), (76, 22664), (78, 22754), (83, 22844), (84, 22862), (96, 23282), (101, 23507), (102, 23525), (105, 23612), (109, 23654), (114, 23759), (115, 23765), (116, 23780), (118, 23798), (119, 23810), (120, 23822), (127, 23954), (132, 24068), (133, 24116), (134, 24119), (135, 24149), (140, 24242), (147, 24344), (151, 24386), (154, 24425), (157, 24452), (160, 24476), (162, 24491), (169, 24569), (172, 24587), (173, 24590), (199, 24806), (213, 24986), (216, 25031), (221, 25109), (244, 25397), (247, 25517), (255, 25676), (259, 25736), (263, 25805), (264, 25826), (267, 25847), (270, 25877), (280, 25982), (289, 26111), (291, 26120), (302, 26372), (305, 26390), (315, 26576), (316, 26588), (323, 26729), (330, 26840), (331, 26855), (341, 27023), (343, 27050), (345, 27095), (353, 27197), (359, 27383), (360, 27395), (362, 27422), (365, 27482), (370, 27572), (388, 27758), (391, 27791), (394, 27848), (396, 27881), (406, 28043), (407, 28052), (414, 28082), (419, 28112), (422, 28130), (425, 28154), (426, 28166), (429, 28205), (431, 28238), (435, 28280), (437, 28289), (440, 28343), (441, 28403), (442, 28448), (443, 28457), (448, 28529), (449, 28577), (451, 28631), (454, 28718), (456, 28757), (458, 28793), (459, 28799), (460, 28808), (461, 28814), (477, 29411), (478, 29447), (481, 29543), (484, 29696), (485, 29705), (486, 29735), (487, 29747), (497, 29942),

Gene: Culver_46 Start: 19642, Stop: 28437, Start Num: 13
Candidate Starts for Culver_46:
(Start: 13 @19642 has 20 MA's), (15, 19648), (20, 19798), (23, 19870), (38, 20284), (46, 20458), (48, 20599), (60, 20857), (76, 21103), (78, 21193), (83, 21283), (88, 21364), (96, 21721), (105, 22051), (109, 22093), (113, 22189), (114, 22198), (115, 22204), (116, 22219), (118, 22237), (119, 22249), (120, 22261), (127, 22393), (132, 22507), (133, 22555), (134, 22558), (135, 22588), (147, 22783), (151, 22825), (154, 22864), (157, 22891), (160, 22915), (162, 22930), (169, 23008), (172, 23026), (173, 23029), (199, 23245), (213, 23425), (216, 23470), (221, 23548), (237, 23701), (244, 23836), (247, 23956), (255, 24115), (259, 24175), (263, 24244), (264, 24265), (267, 24286), (270, 24316), (280, 24421), (289, 24550), (291, 24559), (302, 24811), (305, 24829), (315, 25015), (316, 25027), (323, 25168), (330, 25279), (331, 25294), (341, 25462), (343, 25489), (345, 25534), (353, 25636), (355, 25738), (358, 25816), (359, 25822), (360, 25834), (362, 25861), (364, 25897), (370, 26011), (388, 26197), (391, 26230), (394, 26287), (396, 26320), (406, 26482), (407, 26491), (414, 26521), (419, 26551), (422, 26569), (425, 26593), (426, 26605), (429, 26644), (431, 26677), (435, 26719), (437, 26728), (440, 26782), (441, 26842), (442, 26887), (448, 26968), (449, 27016), (451, 27070), (454, 27157), (456, 27196), (458, 27232), (459, 27238), (460, 27247), (461, 27253), (477, 27850), (478, 27886), (481, 27982), (484, 28135), (485, 28144), (486, 28174), (487, 28186), (497, 28381),

Gene: Daredevil_27 Start: 15737, Stop: 24547, Start Num: 1
Candidate Starts for Daredevil_27:

(Start: 1 @15737 has 6 MA's), (3, 15899), (4, 15947), (7, 16085), (9, 16163), (37, 16766), (41, 16901), (42, 16925), (43, 16940), (56, 17246), (59, 17306), (60, 17348), (62, 17366), (64, 17396), (70, 17513), (72, 17552), (73, 17561), (83, 17774), (89, 17876), (95, 18182), (99, 18269), (104, 18509), (111, 18629), (113, 18665), (115, 18680), (118, 18713), (122, 18749), (130, 18959), (132, 18983), (135, 19064), (142, 19169), (145, 19199), (149, 19283), (152, 19316), (155, 19358), (158, 19373), (168, 19475), (176, 19523), (181, 19592), (199, 19685), (200, 19694), (205, 19727), (216, 19910), (225, 20006), (232, 20084), (235, 20102), (236, 20105), (240, 20231), (255, 20546), (257, 20591), (263, 20675), (290, 20975), (307, 21281), (311, 21305), (312, 21338), (320, 21503), (324, 21554), (326, 21581), (329, 21617), (338, 21761), (340, 21791), (346, 21896), (347, 21905), (351, 21971), (357, 22127), (358, 22166), (359, 22172), (362, 22211), (363, 22223), (368, 22337), (370, 22361), (372, 22388), (378, 22442), (386, 22529), (387, 22532), (393, 22622), (395, 22655), (401, 22805), (402, 22817), (404, 22826), (408, 22856), (410, 22862), (420, 22910), (425, 22934), (431, 23018), (436, 23063), (440, 23123), (441, 23183), (449, 23357), (455, 23522), (457, 23561), (465, 23612), (469, 23696), (473, 23837),

Gene: DatBoi_29 Start: 18137, Stop: 26974, Start Num: 1
Candidate Starts for DatBoi_29:
(Start: 1 @18137 has 6 MA's), (12, 18602), (14, 18617), (16, 18629), (17, 18635), (22, 18833), (26, 18899), (40, 19274), (50, 19532), (52, 19550), (53, 19562), (57, 19637), (62, 19745), (83, 20153), (85, 20195), (87, 20225), (88, 20234), (95, 20564), (103, 20849), (106, 20924), (111, 21011), (112, 21041), (118, 21095), (126, 21248), (130, 21341), (132, 21365), (134, 21416), (135, 21446), (142, 21551), (145, 21581), (146, 21608), (155, 21740), (157, 21752), (158, 21755), (161, 21785), (166, 21836), (176, 21905), (181, 21974), (195, 22058), (197, 22088), (203, 22130), (204, 22139), (212, 22262), (220, 22409), (228, 22481), (233, 22517), (234, 22520), (238, 22616), (245, 22697), (250, 22859), (257, 23018), (272, 23174), (273, 23183), (275, 23204), (278, 23252), (283, 23309), (298, 23528), (321, 23921), (329, 24032), (332, 24095), (339, 24194), (340, 24212), (351, 24392), (359, 24593), (362, 24632), (366, 24698), (368, 24758), (372, 24809), (374, 24833), (375, 24842), (380, 24881), (383, 24890), (386, 24953), (395, 25085), (396, 25094), (400, 25172), (408, 25286), (415, 25316), (419, 25340), (420, 25346), (422, 25355), (423, 25367), (430, 25451), (432, 25475), (440, 25568), (441, 25628), (446, 25715), (448, 25754), (449, 25802), (451, 25856), (455, 25967), (457, 26006), (463, 26036), (474, 26294), (475, 26321), (480, 26495), (490, 26798),

Gene: Dusty_45 Start: 19642, Stop: 28437, Start Num: 13
Candidate Starts for Dusty_45:
(Start: 13 @19642 has 20 MA's), (15, 19648), (20, 19798), (23, 19870), (38, 20284), (46, 20458), (48, 20599), (60, 20857), (76, 21103), (78, 21193), (83, 21283), (88, 21364), (96, 21721), (105, 22051), (109, 22093), (113, 22189), (114, 22198), (115, 22204), (116, 22219), (118, 22237), (119, 22249), (120, 22261), (127, 22393), (132, 22507), (133, 22555), (134, 22558), (135, 22588), (147, 22783), (151, 22825), (154, 22864), (157, 22891), (160, 22915), (162, 22930), (169, 23008), (172, 23026), (173, 23029), (199, 23245), (213, 23425), (216, 23470), (221, 23548), (237, 23701), (244, 23836), (247, 23956), (255, 24115), (259, 24175), (263, 24244), (264, 24265), (267, 24286), (270, 24316), (280, 24421), (289, 24550), (291, 24559), (302, 24811), (305, 24829), (315, 25015), (316, 25027), (323, 25168), (330, 25279), (331, 25294), (341, 25462), (343, 25489), (345, 25534), (353, 25636), (355, 25738), (358, 25816), (359, 25822), (360, 25834), (362, 25861), (364, 25897), (370, 26011), (388, 26197), (391, 26230), (394, 26287), (396, 26320), (406, 26482), (407, 26491), (414, 26521), (419, 26551), (422, 26569), (425, 26593), (426, 26605), (429, 26644), (431, 26677), (435, 26719), (437, 26728), (440, 26782), (441, 26842), (442, 26887), (448, 26968), (449, 27016), (451, 27070), (454, 27157), (456, 27196), (458, 27232), (459, 27238), (460, 27247), (461, 27253), (477, 27850), (478, 27886), (481, 27982), (484, 28135), (485, 28144), (486, 28174), (487, 28186), (497, 28381),

Gene: Engineer_47 Start: 19859, Stop: 28654, Start Num: 13
Candidate Starts for Engineer_47:

(Start: 13 @19859 has 20 MA's), (15, 19865), (20, 20015), (23, 20087), (38, 20501), (46, 20675), (48, 20816), (60, 21074), (76, 21320), (78, 21410), (83, 21500), (84, 21518), (96, 21938), (101, 22163), (102, 22181), (105, 22268), (109, 22310), (114, 22415), (115, 22421), (116, 22436), (118, 22454), (119, 22466), (120, 22478), (127, 22610), (132, 22724), (133, 22772), (134, 22775), (135, 22805), (140, 22898), (147, 23000), (151, 23042), (154, 23081), (157, 23108), (160, 23132), (162, 23147), (169, 23225), (172, 23243), (173, 23246), (199, 23462), (213, 23642), (216, 23687), (221, 23765), (244, 24053), (247, 24173), (255, 24332), (259, 24392), (263, 24461), (264, 24482), (267, 24503), (270, 24533), (280, 24638), (289, 24767), (291, 24776), (302, 25028), (305, 25046), (315, 25232), (316, 25244), (323, 25385), (330, 25496), (331, 25511), (341, 25679), (343, 25706), (345, 25751), (353, 25853), (359, 26039), (360, 26051), (362, 26078), (365, 26138), (370, 26228), (388, 26414), (391, 26447), (394, 26504), (396, 26537), (406, 26699), (407, 26708), (414, 26738), (419, 26768), (422, 26786), (425, 26810), (426, 26822), (429, 26861), (431, 26894), (435, 26936), (437, 26945), (440, 26999), (441, 27059), (442, 27104), (443, 27113), (448, 27185), (449, 27233), (451, 27287), (454, 27374), (456, 27413), (458, 27449), (459, 27455), (460, 27464), (461, 27470), (477, 28067), (478, 28103), (481, 28199), (484, 28352), (485, 28361), (486, 28391), (487, 28403), (497, 28598),

Gene: Geeche_45 Start: 19733, Stop: 28528, Start Num: 13
Candidate Starts for Geeche_45:
(Start: 13 @19733 has 20 MA's), (15, 19739), (20, 19889), (23, 19961), (38, 20375), (46, 20549), (48, 20690), (60, 20948), (76, 21194), (78, 21284), (83, 21374), (84, 21392), (96, 21812), (101, 22037), (102, 22055), (105, 22142), (109, 22184), (114, 22289), (115, 22295), (116, 22310), (118, 22328), (119, 22340), (120, 22352), (127, 22484), (132, 22598), (133, 22646), (134, 22649), (135, 22679), (140, 22772), (147, 22874), (151, 22916), (154, 22955), (157, 22982), (160, 23006), (162, 23021), (169, 23099), (172, 23117), (173, 23120), (199, 23336), (213, 23516), (216, 23561), (221, 23639), (244, 23927), (247, 24047), (255, 24206), (259, 24266), (263, 24335), (264, 24356), (267, 24377), (270, 24407), (280, 24512), (289, 24641), (291, 24650), (302, 24902), (305, 24920), (315, 25106), (316, 25118), (323, 25259), (330, 25370), (331, 25385), (341, 25553), (343, 25580), (345, 25625), (353, 25727), (359, 25913), (360, 25925), (362, 25952), (365, 26012), (370, 26102), (388, 26288), (391, 26321), (394, 26378), (396, 26411), (406, 26573), (407, 26582), (414, 26612), (419, 26642), (422, 26660), (425, 26684), (426, 26696), (429, 26735), (431, 26768), (435, 26810), (437, 26819), (440, 26873), (441, 26933), (442, 26978), (443, 26987), (448, 27059), (449, 27107), (451, 27161), (454, 27248), (456, 27287), (458, 27323), (459, 27329), (460, 27338), (461, 27344), (477, 27941), (478, 27977), (481, 28073), (484, 28226), (485, 28235), (486, 28265), (487, 28277), (497, 28472),

Gene: JonJames_45 Start: 23785, Stop: 32082, Start Num: 13
Candidate Starts for JonJames_45:
(Start: 13 @23785 has 20 MA's), (21, 23968), (26, 24067), (28, 24115), (29, 24136), (30, 24139), (32, 24232), (34, 24235), (44, 24418), (49, 24496), (51, 24535), (54, 24568), (69, 24820), (71, 24886), (74, 24910), (77, 24946), (79, 25075), (80, 25093), (82, 25105), (86, 25171), (92, 25315), (96, 25564), (101, 25789), (102, 25807), (109, 25936), (115, 26050), (116, 26065), (118, 26083), (120, 26107), (132, 26353), (134, 26404), (135, 26434), (139, 26512), (157, 26740), (158, 26743), (159, 26755), (163, 26794), (170, 26863), (174, 26881), (175, 26887), (179, 26920), (180, 26929), (181, 26962), (187, 27001), (192, 27019), (194, 27034), (196, 27064), (206, 27157), (210, 27190), (215, 27292), (217, 27325), (219, 27367), (227, 27466), (242, 27679), (248, 27835), (251, 27865), (258, 28024), (260, 28057), (261, 28081), (263, 28102), (264, 28123), (268, 28165), (277, 28234), (281, 28294), (283, 28315), (285, 28345), (288, 28378), (294, 28411), (296, 28462), (300, 28567), (303, 28648), (304, 28651), (306, 28684), (308, 28687), (313, 28753), (314, 28810), (316, 28843), (317, 28891), (318, 28906), (319, 28918), (328, 29029), (330, 29092), (331, 29107), (338, 29224), (342, 29296), (343, 29302), (344, 29314), (349, 29401), (351, 29434), (353, 29449), (356, 29566), (357, 29590), (359, 29635), (362, 29674), (364, 29710), (366, 29740), (368, 29800), (370, 29824), (371, 29842), (372, 29851), (377, 29905), (383, 29935), (384, 29947), (385, 29992), (396, 30139), (399, 30208), (405, 30307), (411, 30343), (414, 30352), (417, 30367), (418, 30373), (419, 30382), (421, 30391), (422, 30406), (424, 30421), (427, 30478), (432, 30526), (434, 30547), (440, 30616), (441, 30676), (444,

30745), (445, 30754), (449, 30850), (452, 30919), (453, 30970), (456, 31030), (457, 31054), (467, 31129), (472, 31318), (479, 31537), (481, 31624), (484, 31777), (485, 31786), (486, 31816), (487, 31828), (492, 31936), (494, 31942),

Gene: Lozinak_46 Start: 19914, Stop: 28709, Start Num: 13
Candidate Starts for Lozinak_46:
(Start: 13 @19914 has 20 MA's), (15, 19920), (20, 20070), (23, 20142), (38, 20556), (46, 20730), (48, 20871), (60, 21129), (76, 21375), (78, 21465), (83, 21555), (84, 21573), (96, 21993), (101, 22218), (102, 22236), (105, 22323), (109, 22365), (114, 22470), (115, 22476), (116, 22491), (118, 22509), (119, 22521), (120, 22533), (127, 22665), (132, 22779), (133, 22827), (134, 22830), (135, 22860), (140, 22953), (147, 23055), (151, 23097), (154, 23136), (157, 23163), (160, 23187), (162, 23202), (169, 23280), (172, 23298), (173, 23301), (199, 23517), (213, 23697), (216, 23742), (221, 23820), (244, 24108), (247, 24228), (255, 24387), (259, 24447), (263, 24516), (264, 24537), (267, 24558), (270, 24588), (280, 24693), (289, 24822), (291, 24831), (302, 25083), (305, 25101), (315, 25287), (316, 25299), (323, 25440), (330, 25551), (331, 25566), (341, 25734), (343, 25761), (345, 25806), (353, 25908), (355, 26010), (358, 26088), (359, 26094), (360, 26106), (362, 26133), (364, 26169), (370, 26283), (388, 26469), (391, 26502), (394, 26559), (396, 26592), (406, 26754), (407, 26763), (414, 26793), (419, 26823), (422, 26841), (425, 26865), (426, 26877), (429, 26916), (431, 26949), (435, 26991), (437, 27000), (440, 27054), (441, 27114), (442, 27159), (448, 27240), (449, 27288), (451, 27342), (454, 27429), (456, 27468), (458, 27504), (459, 27510), (460, 27519), (461, 27525), (477, 28122), (478, 28158), (481, 28254), (484, 28407), (485, 28416), (486, 28446), (487, 28458), (497, 28653),

Gene: Miskis_44 Start: 19677, Stop: 28472, Start Num: 13
Candidate Starts for Miskis_44:
(Start: 13 @19677 has 20 MA's), (15, 19683), (20, 19833), (23, 19905), (38, 20319), (46, 20493), (48, 20634), (58, 20835), (60, 20892), (61, 20898), (63, 20913), (68, 21006), (77, 21147), (78, 21228), (83, 21318), (84, 21336), (96, 21756), (102, 21999), (105, 22086), (109, 22128), (114, 22233), (115, 22239), (116, 22254), (118, 22272), (119, 22284), (120, 22296), (127, 22428), (132, 22542), (133, 22590), (134, 22593), (135, 22623), (140, 22716), (147, 22818), (151, 22860), (154, 22899), (157, 22926), (160, 22950), (162, 22965), (169, 23043), (172, 23061), (173, 23064), (199, 23280), (213, 23460), (216, 23505), (221, 23583), (244, 23871), (247, 23991), (255, 24150), (259, 24210), (263, 24279), (264, 24300), (267, 24321), (270, 24351), (280, 24456), (289, 24585), (291, 24594), (302, 24846), (305, 24864), (315, 25050), (316, 25062), (323, 25203), (330, 25314), (331, 25329), (341, 25497), (343, 25524), (345, 25569), (353, 25671), (355, 25773), (358, 25851), (359, 25857), (360, 25869), (362, 25896), (364, 25932), (370, 26046), (388, 26232), (391, 26265), (394, 26322), (396, 26355), (406, 26517), (407, 26526), (414, 26556), (419, 26586), (422, 26604), (425, 26628), (426, 26640), (429, 26679), (431, 26712), (435, 26754), (437, 26763), (440, 26817), (441, 26877), (442, 26922), (448, 27003), (449, 27051), (451, 27105), (454, 27192), (456, 27231), (458, 27267), (459, 27273), (460, 27282), (461, 27288), (477, 27885), (478, 27921), (481, 28017), (484, 28170), (485, 28179), (486, 28209), (487, 28221), (497, 28416),

Gene: Mollymur_29 Start: 18217, Stop: 27249, Start Num: 1
Candidate Starts for Mollymur_29:
(Start: 1 @18217 has 6 MA's), (2, 18289), (3, 18379), (5, 18442), (6, 18463), (8, 18601), (11, 18676), (14, 18697), (17, 18715), (18, 18724), (31, 19207), (36, 19303), (39, 19567), (47, 19729), (61, 20140), (64, 20182), (67, 20233), (71, 20329), (75, 20365), (81, 20545), (83, 20560), (90, 20701), (95, 20974), (100, 21193), (108, 21355), (115, 21472), (120, 21529), (125, 21631), (128, 21667), (136, 21868), (141, 21955), (143, 21973), (153, 22123), (168, 22267), (177, 22318), (180, 22351), (185, 22432), (186, 22435), (193, 22465), (201, 22549), (203, 22561), (210, 22633), (213, 22720), (217, 22768), (218, 22801), (222, 22852), (227, 22903), (231, 22942), (243, 23113), (245, 23131), (246, 23179), (253, 23326), (254, 23356), (265, 23554), (268, 23587), (269, 23593), (276, 23650), (279, 23689), (284, 23764), (292, 23839), (310, 24148), (321, 24367), (324, 24415), (325, 24430), (329, 24478),

(335, 24577), (336, 24592), (340, 24652), (350, 24811), (351, 24832), (356, 24964), (359, 25033), (362, 25072), (367, 25153), (373, 25261), (376, 25285), (390, 25438), (392, 25477), (412, 25753), (420, 25795), (423, 25816), (424, 25819), (426, 25840), (438, 25984), (440, 26014), (441, 26074), (448, 26200), (449, 26248), (450, 26275), (462, 26461), (466, 26515), (476, 26656), (480, 26770), (482, 26836), (488, 27016), (492, 27106), (496, 27157),

Gene: Norvs_47 Start: 19916, Stop: 28711, Start Num: 13
Candidate Starts for Norvs_47:
(Start: 13 @19916 has 20 MA's), (15, 19922), (20, 20072), (23, 20144), (38, 20558), (46, 20732), (48, 20873), (60, 21131), (76, 21377), (78, 21467), (83, 21557), (84, 21575), (96, 21995), (101, 22220), (102, 22238), (105, 22325), (109, 22367), (114, 22472), (115, 22478), (116, 22493), (118, 22511), (119, 22523), (120, 22535), (127, 22667), (132, 22781), (133, 22829), (134, 22832), (135, 22862), (147, 23057), (151, 23099), (154, 23138), (157, 23165), (160, 23189), (162, 23204), (169, 23282), (172, 23300), (173, 23303), (199, 23519), (213, 23699), (216, 23744), (221, 23822), (237, 23975), (244, 24110), (247, 24230), (255, 24389), (259, 24449), (263, 24518), (264, 24539), (267, 24560), (270, 24590), (280, 24695), (289, 24824), (291, 24833), (302, 25085), (305, 25103), (315, 25289), (316, 25301), (323, 25442), (330, 25553), (331, 25568), (341, 25736), (343, 25763), (345, 25808), (353, 25910), (355, 26012), (358, 26090), (359, 26096), (360, 26108), (362, 26135), (364, 26171), (370, 26285), (388, 26471), (391, 26504), (394, 26561), (396, 26594), (406, 26756), (407, 26765), (414, 26795), (419, 26825), (422, 26843), (425, 26867), (426, 26879), (429, 26918), (431, 26951), (435, 26993), (437, 27002), (440, 27056), (441, 27116), (442, 27161), (448, 27242), (449, 27290), (451, 27344), (454, 27431), (456, 27470), (458, 27506), (459, 27512), (460, 27521), (461, 27527), (477, 28124), (478, 28160), (481, 28256), (484, 28409), (485, 28418), (486, 28448), (487, 28460), (497, 28655),

Gene: OneUp_40 Start: 17638, Stop: 26148, Start Num: 13
Candidate Starts for OneUp_40:
(Start: 13 @17638 has 20 MA's), (19, 17761), (25, 17911), (27, 17941), (33, 18103), (45, 18454), (46, 18466), (68, 18982), (77, 19123), (83, 19294), (85, 19336), (87, 19366), (91, 19441), (96, 19732), (97, 19738), (105, 20062), (106, 20071), (115, 20218), (118, 20251), (123, 20317), (124, 20353), (126, 20404), (130, 20497), (132, 20521), (134, 20572), (135, 20602), (137, 20656), (142, 20707), (144, 20722), (148, 20806), (149, 20821), (156, 20899), (158, 20911), (175, 21055), (181, 21130), (183, 21157), (184, 21160), (188, 21181), (191, 21187), (198, 21250), (204, 21295), (205, 21307), (207, 21340), (209, 21355), (211, 21382), (218, 21526), (241, 21820), (257, 22171), (262, 22231), (268, 22309), (286, 22510), (287, 22537), (299, 22702), (301, 22765), (321, 23077), (333, 23275), (334, 23281), (337, 23326), (339, 23362), (343, 23428), (345, 23473), (346, 23485), (348, 23506), (352, 23572), (356, 23692), (357, 23716), (359, 23761), (361, 23782), (362, 23800), (364, 23836), (366, 23866), (368, 23926), (369, 23941), (372, 23977), (382, 24049), (386, 24118), (389, 24145), (396, 24259), (397, 24268), (409, 24454), (411, 24463), (416, 24487), (419, 24505), (420, 24511), (423, 24532), (429, 24598), (431, 24631), (432, 24643), (440, 24736), (441, 24796), (447, 24898), (449, 24970), (451, 25024), (477, 25561), (481, 25693), (483, 25837), (484, 25846), (485, 25855), (486, 25885), (487, 25897), (497, 26092), (498, 26137),

Gene: PhinkBoden_46 Start: 20297, Stop: 29092, Start Num: 13
Candidate Starts for PhinkBoden_46:
(Start: 13 @20297 has 20 MA's), (15, 20303), (20, 20453), (23, 20525), (38, 20939), (46, 21113), (48, 21254), (60, 21512), (76, 21758), (78, 21848), (83, 21938), (84, 21956), (96, 22376), (101, 22601), (102, 22619), (105, 22706), (109, 22748), (114, 22853), (115, 22859), (116, 22874), (118, 22892), (119, 22904), (120, 22916), (127, 23048), (132, 23162), (133, 23210), (134, 23213), (135, 23243), (140, 23336), (147, 23438), (151, 23480), (154, 23519), (157, 23546), (160, 23570), (162, 23585), (169, 23663), (172, 23681), (173, 23684), (199, 23900), (213, 24080), (216, 24125), (221, 24203), (244, 24491), (247, 24611), (255, 24770), (259, 24830), (263, 24899), (264, 24920), (267, 24941), (270, 24971), (280, 25076), (289, 25205), (291, 25214), (302, 25466), (305, 25484), (315, 25670),

(316, 25682), (323, 25823), (330, 25934), (331, 25949), (341, 26117), (343, 26144), (345, 26189), (353, 26291), (359, 26477), (360, 26489), (362, 26516), (365, 26576), (370, 26666), (388, 26852), (391, 26885), (394, 26942), (396, 26975), (406, 27137), (407, 27146), (414, 27176), (419, 27206), (422, 27224), (425, 27248), (426, 27260), (429, 27299), (431, 27332), (435, 27374), (437, 27383), (440, 27437), (441, 27497), (442, 27542), (443, 27551), (448, 27623), (449, 27671), (451, 27725), (454, 27812), (456, 27851), (458, 27887), (459, 27893), (460, 27902), (461, 27908), (477, 28505), (478, 28541), (481, 28637), (484, 28790), (485, 28799), (486, 28829), (487, 28841), (497, 29036),

Gene: Smoothie_47 Start: 19914, Stop: 28709, Start Num: 13
Candidate Starts for Smoothie_47:
(Start: 13 @19914 has 20 MA's), (15, 19920), (20, 20070), (23, 20142), (38, 20556), (46, 20730), (48, 20871), (60, 21129), (76, 21375), (78, 21465), (83, 21555), (84, 21573), (96, 21993), (101, 22218), (102, 22236), (105, 22323), (109, 22365), (114, 22470), (115, 22476), (116, 22491), (118, 22509), (119, 22521), (120, 22533), (127, 22665), (132, 22779), (133, 22827), (134, 22830), (135, 22860), (140, 22953), (147, 23055), (151, 23097), (154, 23136), (157, 23163), (160, 23187), (162, 23202), (169, 23280), (172, 23298), (173, 23301), (199, 23517), (213, 23697), (216, 23742), (221, 23820), (244, 24108), (247, 24228), (255, 24387), (259, 24447), (263, 24516), (264, 24537), (267, 24558), (270, 24588), (280, 24693), (289, 24822), (291, 24831), (302, 25083), (305, 25101), (315, 25287), (316, 25299), (323, 25440), (330, 25551), (331, 25566), (341, 25734), (343, 25761), (345, 25806), (353, 25908), (355, 26010), (358, 26088), (359, 26094), (360, 26106), (362, 26133), (364, 26169), (370, 26283), (388, 26469), (391, 26502), (394, 26559), (396, 26592), (406, 26754), (407, 26763), (414, 26793), (419, 26823), (422, 26841), (425, 26865), (426, 26877), (429, 26916), (431, 26949), (435, 26991), (437, 27000), (440, 27054), (441, 27114), (442, 27159), (448, 27240), (449, 27288), (451, 27342), (454, 27429), (456, 27468), (458, 27504), (459, 27510), (460, 27519), (461, 27525), (477, 28122), (478, 28158), (481, 28254), (484, 28407), (485, 28416), (486, 28446), (487, 28458), (497, 28653),

Gene: SpeedDemon_300 Start: 19195, Stop: 28041, Start Num: 1
Candidate Starts for SpeedDemon_300:
(Start: 1 @19195 has 6 MA's), (5, 19420), (12, 19660), (14, 19675), (17, 19693), (40, 20332), (50, 20590), (53, 20620), (57, 20695), (62, 20803), (65, 20863), (66, 20869), (69, 20914), (83, 21211), (85, 21253), (86, 21265), (87, 21283), (95, 21622), (103, 21907), (111, 22069), (112, 22099), (118, 22153), (130, 22399), (132, 22423), (134, 22474), (135, 22504), (142, 22609), (145, 22639), (155, 22798), (157, 22810), (158, 22813), (161, 22843), (167, 22912), (176, 22963), (181, 23032), (195, 23116), (197, 23146), (203, 23188), (204, 23197), (208, 23245), (212, 23320), (220, 23467), (233, 23575), (234, 23578), (238, 23674), (239, 23701), (245, 23755), (246, 23803), (250, 23917), (257, 24073), (273, 24238), (278, 24307), (283, 24364), (298, 24583), (321, 24976), (324, 25024), (329, 25087), (332, 25150), (339, 25249), (340, 25267), (351, 25447), (354, 25525), (359, 25648), (362, 25687), (366, 25753), (368, 25813), (372, 25864), (374, 25888), (375, 25897), (380, 25936), (383, 25945), (386, 26008), (395, 26140), (396, 26149), (400, 26227), (408, 26341), (415, 26371), (419, 26395), (420, 26401), (422, 26410), (423, 26422), (432, 26530), (439, 26605), (440, 26623), (441, 26683), (448, 26809), (449, 26857), (451, 26911), (454, 26998), (455, 27022), (457, 27061), (463, 27091), (468, 27193), (480, 27562), (489, 27820), (490, 27865), (491, 27883), (495, 27907),

Gene: Toniann_46 Start: 19859, Stop: 28654, Start Num: 13
Candidate Starts for Toniann_46:
(Start: 13 @19859 has 20 MA's), (15, 19865), (20, 20015), (23, 20087), (38, 20501), (46, 20675), (48, 20816), (60, 21074), (76, 21320), (78, 21410), (83, 21500), (84, 21518), (96, 21938), (101, 22163), (102, 22181), (105, 22268), (109, 22310), (114, 22415), (115, 22421), (116, 22436), (118, 22454), (119, 22466), (120, 22478), (127, 22610), (132, 22724), (133, 22772), (134, 22775), (135, 22805), (140, 22898), (147, 23000), (151, 23042), (154, 23081), (157, 23108), (160, 23132), (162, 23147), (169, 23225), (172, 23243), (173, 23246), (199, 23462), (213, 23642), (216, 23687), (221, 23765), (244, 24053), (247, 24173), (255, 24332), (259, 24392), (263, 24461), (264, 24482), (267, 24503),

(270, 24533), (280, 24638), (289, 24767), (291, 24776), (302, 25028), (305, 25046), (315, 25232), (316, 25244), (323, 25385), (330, 25496), (331, 25511), (341, 25679), (343, 25706), (345, 25751), (353, 25853), (359, 26039), (360, 26051), (362, 26078), (365, 26138), (370, 26228), (388, 26414), (391, 26447), (394, 26504), (396, 26537), (406, 26699), (407, 26708), (414, 26738), (419, 26768), (422, 26786), (425, 26810), (426, 26822), (429, 26861), (431, 26894), (435, 26936), (437, 26945), (440, 26999), (441, 27059), (442, 27104), (443, 27113), (448, 27185), (449, 27233), (451, 27287), (454, 27374), (456, 27413), (458, 27449), (459, 27455), (460, 27464), (461, 27470), (477, 28067), (478, 28103), (481, 28199), (484, 28352), (485, 28361), (486, 28391), (487, 28403), (497, 28598),

Gene: Towmatter_26 Start: 15559, Stop: 24384, Start Num: 1
Candidate Starts for Towmatter_26:
(Start: 1 @15559 has 6 MA's), (3, 15721), (4, 15769), (7, 15907), (9, 15985), (37, 16588), (41, 16723), (42, 16747), (43, 16762), (56, 17068), (59, 17128), (60, 17170), (62, 17188), (64, 17218), (70, 17335), (72, 17374), (73, 17383), (83, 17596), (89, 17698), (95, 18004), (99, 18091), (104, 18331), (111, 18451), (113, 18487), (115, 18502), (118, 18535), (122, 18571), (130, 18781), (132, 18805), (135, 18886), (142, 18991), (145, 19021), (149, 19105), (152, 19138), (155, 19180), (158, 19195), (168, 19297), (176, 19345), (181, 19414), (199, 19507), (200, 19516), (205, 19549), (216, 19732), (225, 19828), (232, 19906), (235, 19924), (236, 19927), (240, 20053), (255, 20368), (257, 20413), (263, 20497), (290, 20797), (307, 21103), (311, 21127), (312, 21160), (320, 21325), (324, 21376), (326, 21403), (329, 21439), (338, 21583), (340, 21613), (346, 21718), (347, 21727), (351, 21793), (357, 21949), (358, 21988), (359, 21994), (362, 22033), (363, 22045), (368, 22159), (370, 22183), (372, 22210), (378, 22264), (386, 22351), (387, 22354), (393, 22444), (395, 22477), (401, 22627), (402, 22639), (404, 22648), (408, 22678), (410, 22684), (420, 22732), (425, 22756), (431, 22840), (436, 22885), (440, 22945), (441, 23005), (449, 23179), (455, 23344), (457, 23383), (465, 23434), (469, 23518), (473, 23674),

Gene: WilliamBoone_46 Start: 19223, Stop: 28018, Start Num: 13
Candidate Starts for WilliamBoone_46:
(Start: 13 @19223 has 20 MA's), (15, 19229), (20, 19379), (38, 19865), (46, 20039), (58, 20381), (60, 20438), (61, 20444), (63, 20459), (68, 20552), (78, 20774), (83, 20864), (88, 20945), (96, 21302), (105, 21632), (107, 21644), (109, 21674), (113, 21770), (114, 21779), (115, 21785), (116, 21800), (118, 21818), (119, 21830), (120, 21842), (123, 21884), (127, 21974), (129, 22058), (132, 22088), (133, 22136), (134, 22139), (135, 22169), (147, 22364), (150, 22397), (157, 22472), (160, 22496), (162, 22511), (169, 22589), (173, 22610), (199, 22826), (213, 23006), (216, 23051), (224, 23141), (230, 23219), (259, 23756), (263, 23825), (264, 23846), (267, 23867), (270, 23897), (274, 23924), (280, 24002), (289, 24131), (291, 24140), (305, 24410), (315, 24596), (316, 24608), (322, 24743), (323, 24749), (330, 24860), (331, 24875), (341, 25043), (343, 25070), (345, 25115), (353, 25217), (354, 25280), (355, 25319), (359, 25403), (360, 25415), (362, 25442), (364, 25478), (369, 25583), (370, 25592), (379, 25691), (388, 25778), (391, 25811), (394, 25868), (396, 25901), (406, 26063), (407, 26072), (414, 26102), (419, 26132), (422, 26150), (425, 26174), (426, 26186), (429, 26225), (431, 26258), (435, 26300), (437, 26309), (440, 26363), (441, 26423), (446, 26510), (448, 26549), (449, 26597), (451, 26651), (454, 26738), (456, 26777), (458, 26813), (459, 26819), (461, 26834), (470, 27182), (477, 27431), (478, 27467), (481, 27563), (484, 27716), (485, 27725), (486, 27755), (487, 27767), (497, 27962),

Gene: Yvonnetastic_43 Start: 21320, Stop: 29617, Start Num: 13
Candidate Starts for Yvonnetastic_43:
(Start: 13 @21320 has 20 MA's), (21, 21503), (26, 21602), (28, 21650), (29, 21671), (30, 21674), (32, 21767), (34, 21770), (35, 21785), (44, 21953), (49, 22031), (51, 22070), (54, 22103), (69, 22355), (71, 22421), (74, 22445), (77, 22481), (79, 22610), (80, 22628), (82, 22640), (86, 22706), (92, 22850), (96, 23099), (101, 23324), (102, 23342), (109, 23471), (115, 23585), (116, 23600), (118, 23618), (120, 23642), (132, 23888), (134, 23939), (135, 23969), (139, 24047), (157, 24275), (158, 24278), (159, 24290), (163, 24329), (170, 24398), (174, 24416), (175, 24422), (179, 24455), (180, 24464), (181,

24497), (187, 24536), (192, 24554), (194, 24569), (196, 24599), (206, 24692), (210, 24725), (215, 24827), (217, 24860), (219, 24902), (227, 25001), (242, 25214), (248, 25370), (251, 25400), (258, 25559), (260, 25592), (261, 25616), (263, 25637), (264, 25658), (268, 25700), (277, 25769), (281, 25829), (283, 25850), (285, 25880), (288, 25913), (294, 25946), (296, 25997), (300, 26102), (303, 26183), (304, 26186), (306, 26219), (308, 26222), (313, 26288), (314, 26345), (316, 26378), (317, 26426), (318, 26441), (319, 26453), (328, 26564), (330, 26627), (331, 26642), (338, 26759), (342, 26831), (343, 26837), (344, 26849), (351, 26969), (353, 26984), (356, 27101), (357, 27125), (359, 27170), (362, 27209), (364, 27245), (366, 27275), (368, 27335), (370, 27359), (371, 27377), (372, 27386), (377, 27440), (383, 27470), (384, 27482), (385, 27527), (396, 27674), (399, 27743), (405, 27842), (411, 27878), (414, 27887), (417, 27902), (418, 27908), (419, 27917), (421, 27926), (422, 27941), (424, 27956), (427, 28013), (432, 28061), (434, 28082), (440, 28151), (441, 28211), (444, 28280), (445, 28289), (449, 28385), (452, 28454), (453, 28505), (456, 28565), (457, 28589), (467, 28664), (472, 28853), (479, 29072), (481, 29159), (484, 29312), (485, 29321), (486, 29351), (487, 29363), (492, 29471), (494, 29477),