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Pectin: Structure and Function. A Special Issue Dedicated to Professor Walter Pilnik

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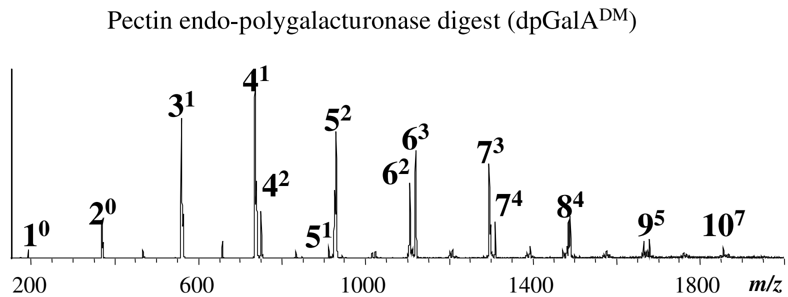
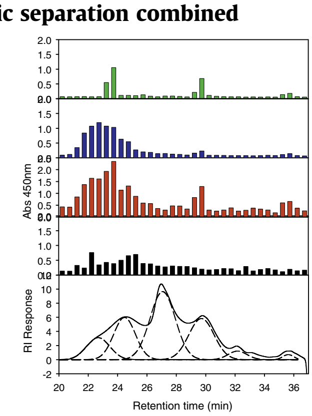
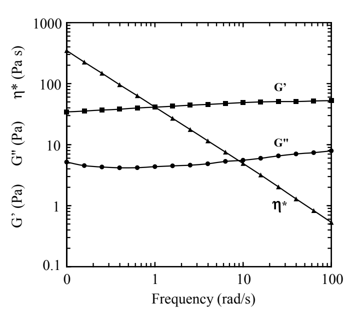
FULL PAPERS

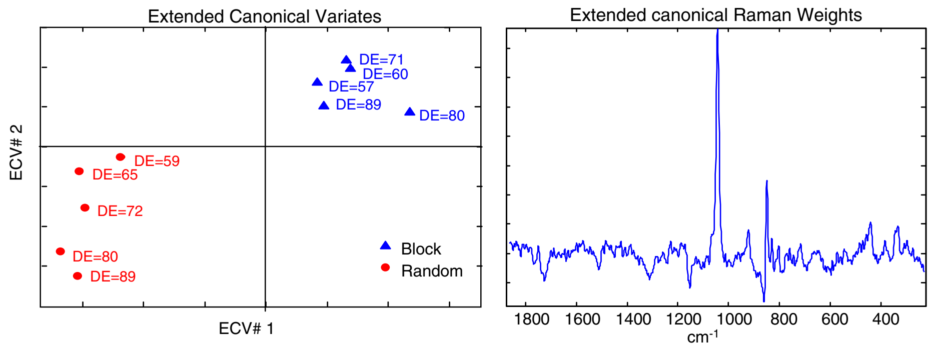




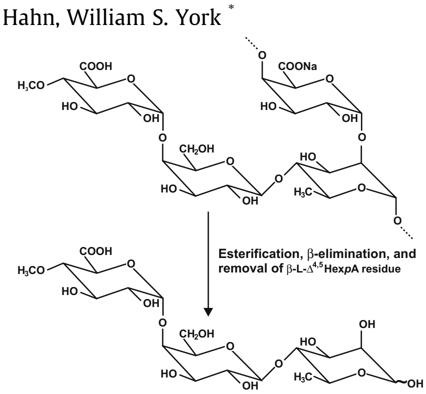


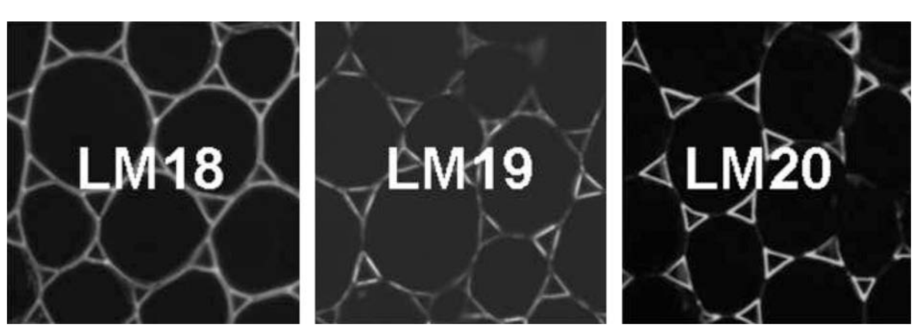
Cohesive gels are formed when high-methoxy pectin is de-esterified by fungal pectin methyl esterase in the presence of calcium ions.

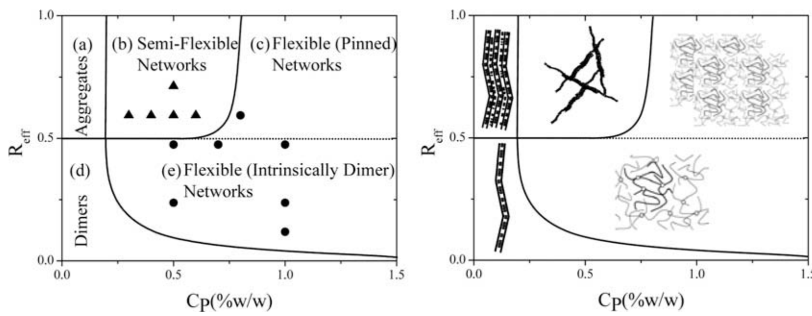
	Yield (g/100gAIS)	Rha	Ara	Fuc	Xyl	Man (mol%)	Gal	Glc	GalA	GlcA	DA(%)	DM(%)	Carbohydrate content	Protein content
AIS		3(2)	5(2)	0	5(2)	3(2)	17(10)	44(25)	16(14)	7(1.7)	40	59	57.5	15.8
HBSS	11.2	26(2.5)	0	0	0	0	34(3.2)	1 (0.1)	35(4.0)	3(0.3)	58	24	90.0	3.5
CHSS	4.8	14(0.5)	3(0.1)	0	0	0	17(0.6)	1(0)	63(3.0)	2(0.1)	18	48	86.2	10.5
DASS	13.2	13(1.2)	13(1.0)	0	0	0	19(1.8)	4(0.4)	48(5.5)	2(0.2)	-[d]	-[d]	76.9	16.6
CASS	4.1	1(0.05)	3(0.1)	2(0.1)	27(0.8)	3(0.1)	8(0.3)	52(2.0)	3(0.1)	1(0.1)	-[d]	-[d]	86.8	13.2
RES	26.5	3(0.5)	5(0.8)	0	5(0.9)	tr(0)	7(1.3)	78(15.3)	0	1(0.2)	-[d]	-[d]	73.7	16.1

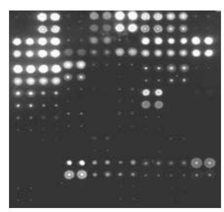


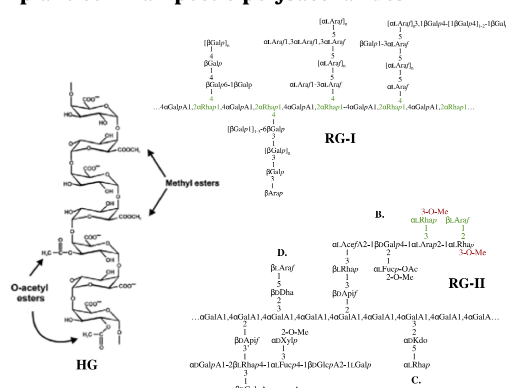
Okra RG I	H-1	H-2	H-3	H-4	H-5	H-6	Ratio
1,2,4,-α-L-Rha	5.238	4.227	5.249	3.903 (78.11)	3.965 (69.33)	1.332 (18.19)	1
1,4-α-D-GalA (RG I)	4.984	3.947	4.109	4.441	4.555		0.92
t-α-D-Gal	4.952 (101.57)	3.808 (70.55)	3.923 (70.29)	4.039	4.399 (72.06)	3.967 (61.84)	1
1,4-β-D-Gal	4.603	3.477	3.743	4.025	-	-	0.66
t-β-D-Gal	4.492 (104.98)	3.428	3.647	3.891	-	-	0.69
CH3 (*O*-Acetyl)	2.106 (22.09)						0.98
COO	174.91						











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COVER

High-mannose-type asparagine-linked glycans play critical roles in glycoprotein processing and quality control in the endoplasmic reticulum. However, the analysis of these events has been hindered by the limited availability of glycan substrates. Work by Ito and co-worker's has enabled the systematic synthesis of high mannose-type glycans, which were converted to conjugates with various small molecules and proteins. These probes revealed the substrate specificities of lectins, chaperones, and glycoprotein-processing enzymes.

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