Electronic supplementary Information (ESI)

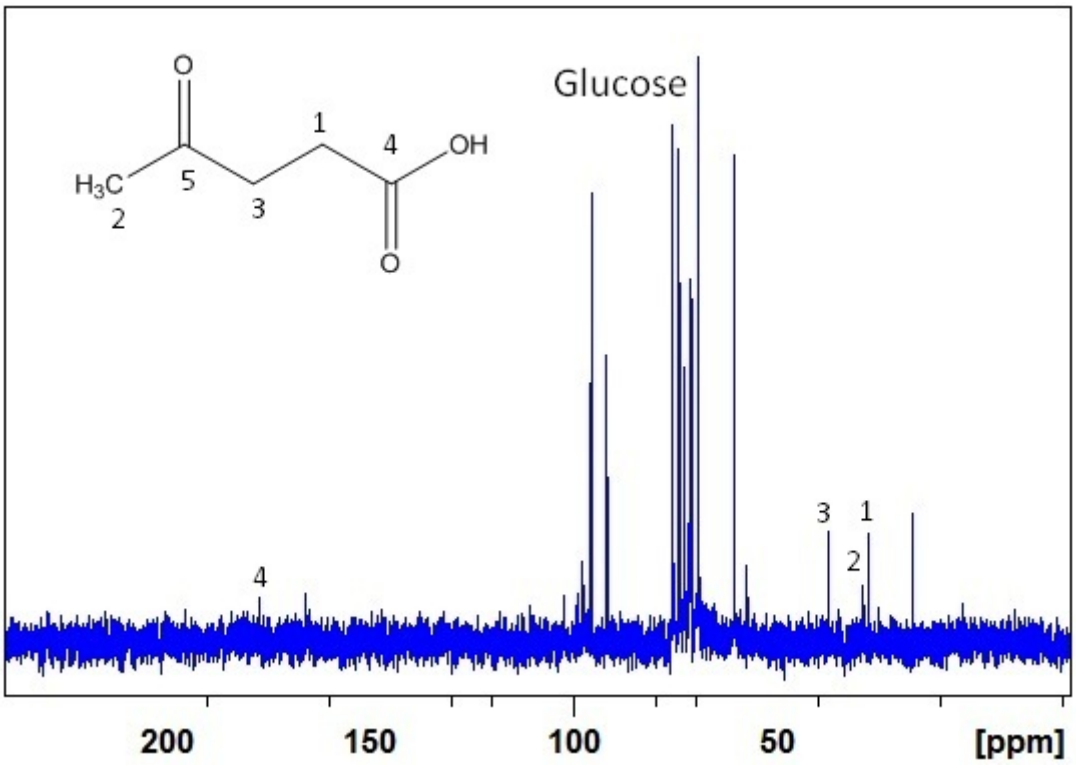

Fig. SI. ^{13}C NMR spectra of hydrolyzate from glycogen in 1 M HCl upon microwave irradiation (10 min.) (In addition to the main hydrolysis product glucose, levulinic acid is also observed with signals at: C1-27.9 ppm; C2-29.1 ppm; C3-37.7 ppm; C4-177.4 ppm).

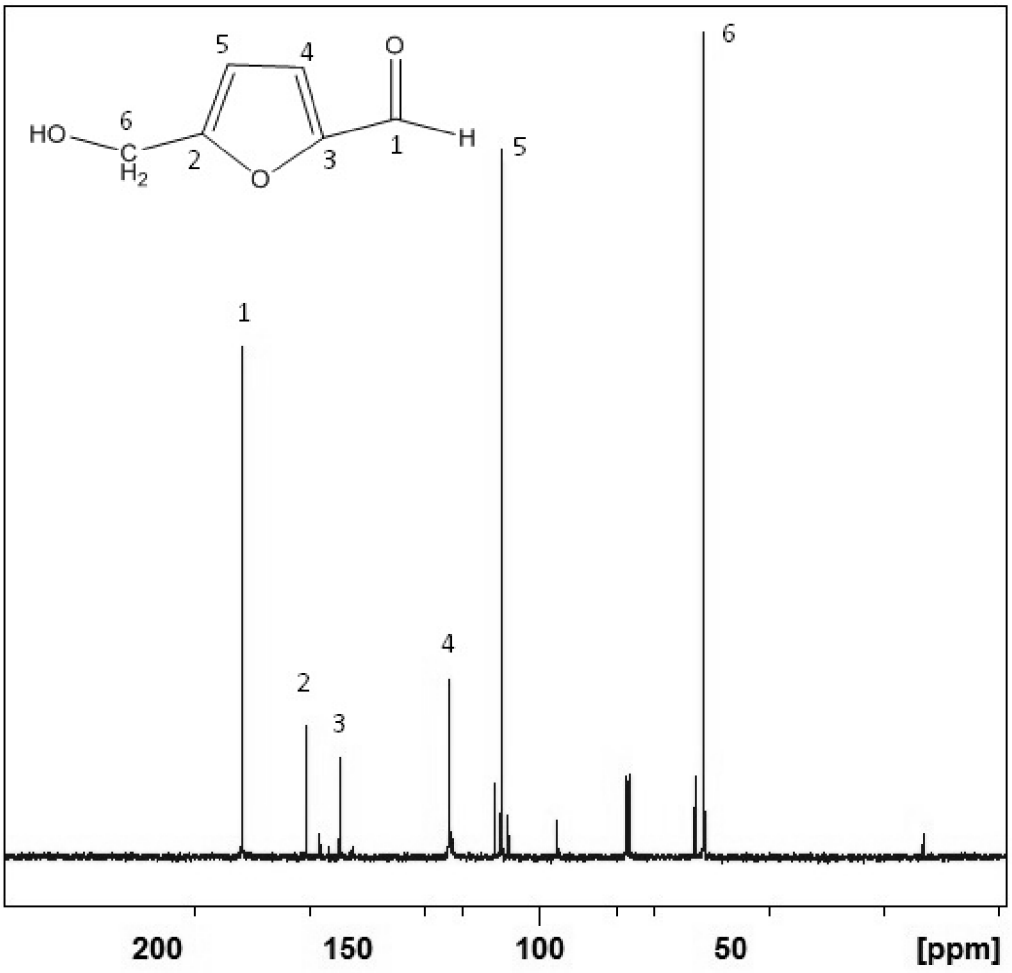

Fig. SII. ^{13}C NMR spectra of authentic sample of HMF (C1-177 ppm; C2-161 ppm; C3-152 ppm; C4-123 ppm; C5-110 ppm; C6-57 ppm).

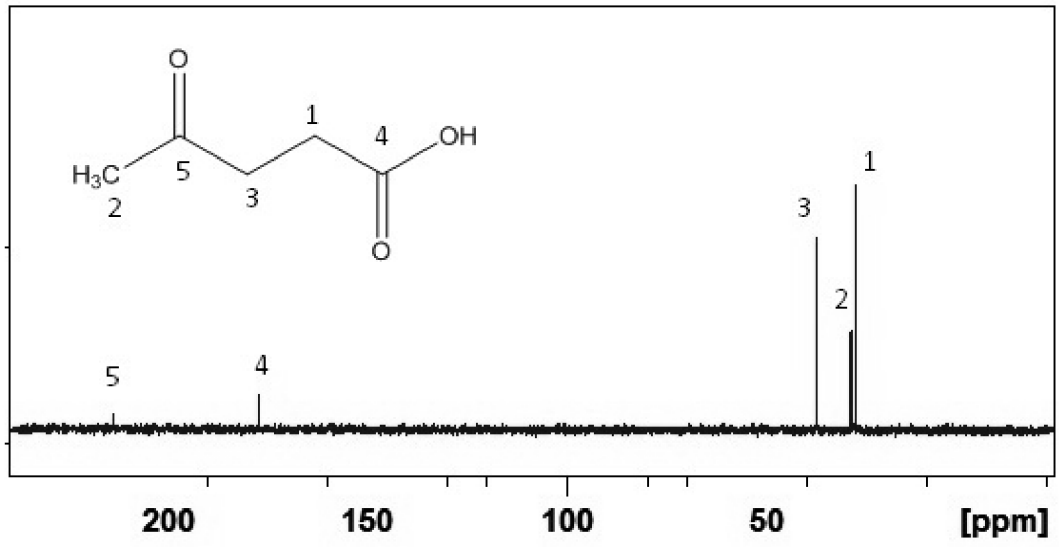

Fig. SIII. ^{13}C NMR spectra of authentic sample of levulinic acid (C1-27.9 ppm; C2-29.1 ppm; C3-37.7 ppm; C4-177.4 ppm; C5-213.7 ppm).

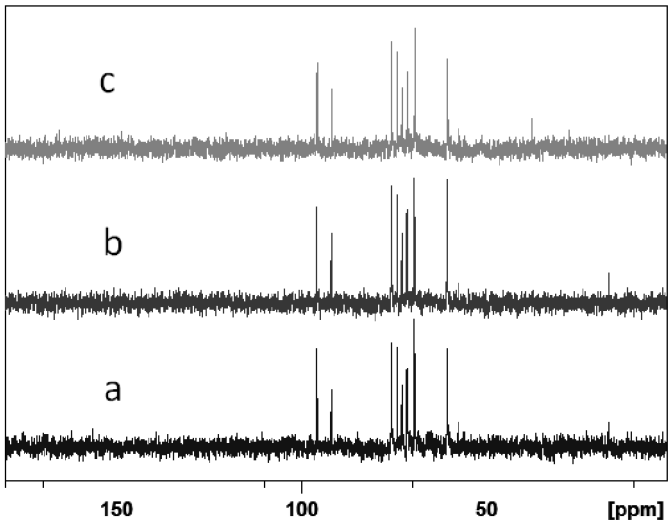

Fig. SIV. ^{13}C NMR spectra of the reaction product of glycogen hydrolysis carried out with microwave irradiation at 1M HCl for various time periods: (a) 2 minutes, (b) 6 minutes, and (c) 10 minutes.

Table SV. Conversion of glycogen under reflux conditions, stirring and oil bath at 80 ºC (1 M HCl)

Reaction time (hours)	Reactant	Reaction products		
	Glycogen	Glucose	L.A	F.A
3	+	+	−	−
6	+	+	−	−
22*	−	+	−	−

- L.A− levulinic acid; F.A− formic acid. "+" present; "−" absent

* The yield of glucose after 22 h of hydrolysis of glycogen under reflux conditions, as deduced from HPLC analysis is 39 wt.%.

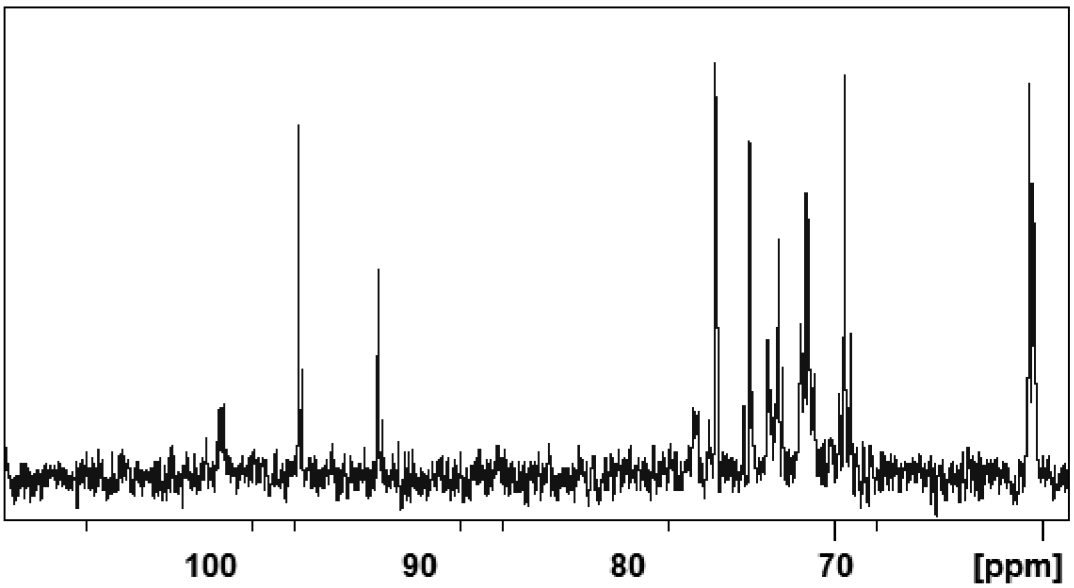

Fig. SVI. ^{13}C NMR spectra of the reaction product of glycogen (0.4 g) hydrolysis carried out with microwave (commcercial, MARS 5 CEM) irradiation at 80 ºC in 1M HCl (20 mL) for 10 minutes.