Supplementary Materials: Octanoic Hydrazide-Linked Chitooligosaccharides-2,5-Anhydro-D-Mannofuranose

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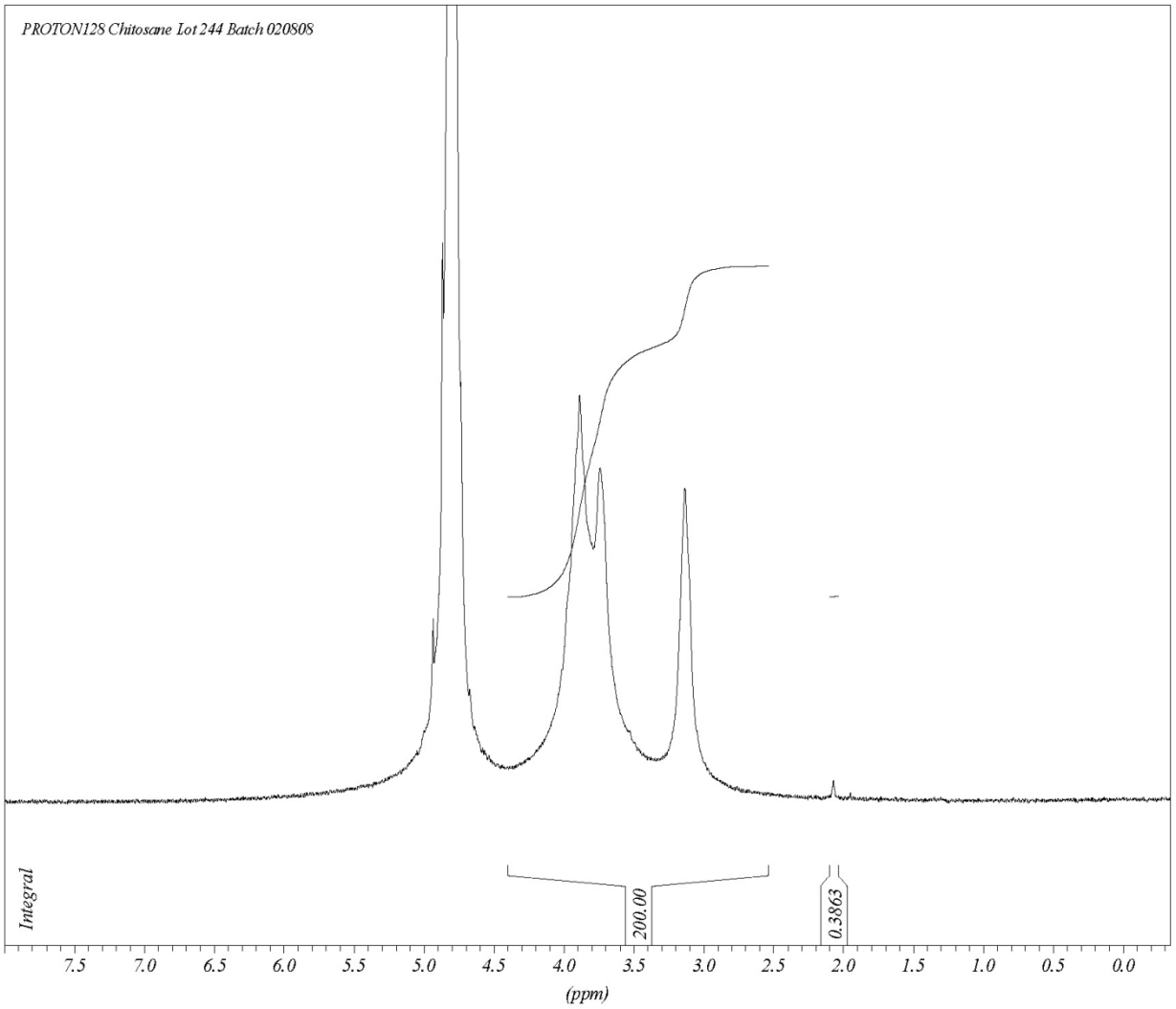
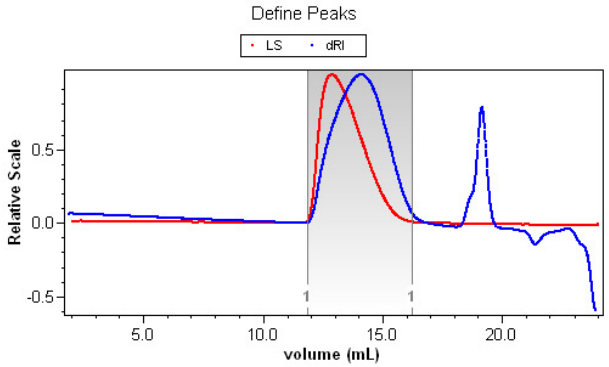


Figure S1. ^{1}H-NMR spectrum (D_2O, 300 MHz) of commercial, fully *N*-deacetylated chitosan.

Size-exclusion chromatography (SEC): SEC was performed on a chromatographic equipment composed of a 1260 Infinity Agilent Technologies pump connected to two TSK gel G2500 and G6000 columns (Tosoh Bioscience, Tessenderlo, Belgium) in series. A multi-angle laser light-scattering (MALLS) detector Dawn EOS (Wyatt Technology, Toulouse, France) operating at 690 nm was coupled on-line to a Wyatt Optilab T-Rex differential refractometer. Sample solutions at 1–2 mg/mL were prepared and eluted in AcOH (0.2 M)/$AcONH_4$ (0.15 M) buffer (pH = 4.5). Solutions were previously filtered through 0.22 μm pore-size membranes (Millipore, Molsheim, France) before injection. The eluent flow rate was 0.5 mL/min. The refractive index increment dn/dc used for molar mass calculations was equal to 0.198 $cm^3 \cdot g^{-1}$.

File Name: F:244-2[10oct2012].afe6
Collection Operator: LMPB-AR2000\Aqueux (LMPB-AR2000\Aqueux (Aqueux))
Processing Operator: UNIV-LYON1\stephane.trombotto (TROMBOTTO STEPHANE)

Sample: 244-2
Concentration: 1.010 mg/mL
Injected Volume: 100.0 µL



Configuration

Notes:
Colonnes : TSK6000 et TSK2500, Solvant filtré sur CME 0,1 et échantillon filtré sur CME 0,45

Concentration Source: RI
Flow Rate: 0.500 mL/min

Light Scattering Instrument: DAWN EOS
Cell Type: K5
Wavelength: 690.0 nm
Calibration Constant: 7.4800×10^{-6} 1/(V cm)

RI Instrument: Optilab rEX

Solvent: Tampon AcAc/AcNH pH 4.5
Refractive Index: 1.330

Processing

Collection Time: Thursday October 11, 2012 03:35:55 AM Paris, Madrid (heure d'été)
Processing time: Thursday October 11, 2012 11:05:24.828 AM Paris, Madrid (heure d'été)

Peak settings:

Peak Name	Peak 1
Light Scattering Model	Zimm
Fit Degree	1
dn/dc (mL/g)	0.1980

Results Fitting Procedure:

Data	Fit Model	Degree	R^2	Extrapolation

Results

Peak Results

	Peak 1
Masses	
Injected Mass (µg)	101.00
Calculated Mass (µg)	77.56
Molar mass moments (g/mol)	
Mn	1.146×10^{5} (±1.632%)
Mp	1.528×10^{5} (±0.797%)
Mv	n/a
Mw	2.702×10^{5} (±0.713%)
Mz	6.120×10^{5} (±1.768%)
Polydispersity	
Mw/Mn	2.357 (±1.781%)
Mz/Mn	5.338 (±2.406%)
rms radius moments (nm)	
Rn	42.6 (±4.5%)
Rw	59.6 (±1.6%)
Rz	86.9 (±0.7%)

Figure S2. Size-exclusion chromatogram of commercial fully *N*-deacetylated chitosan.

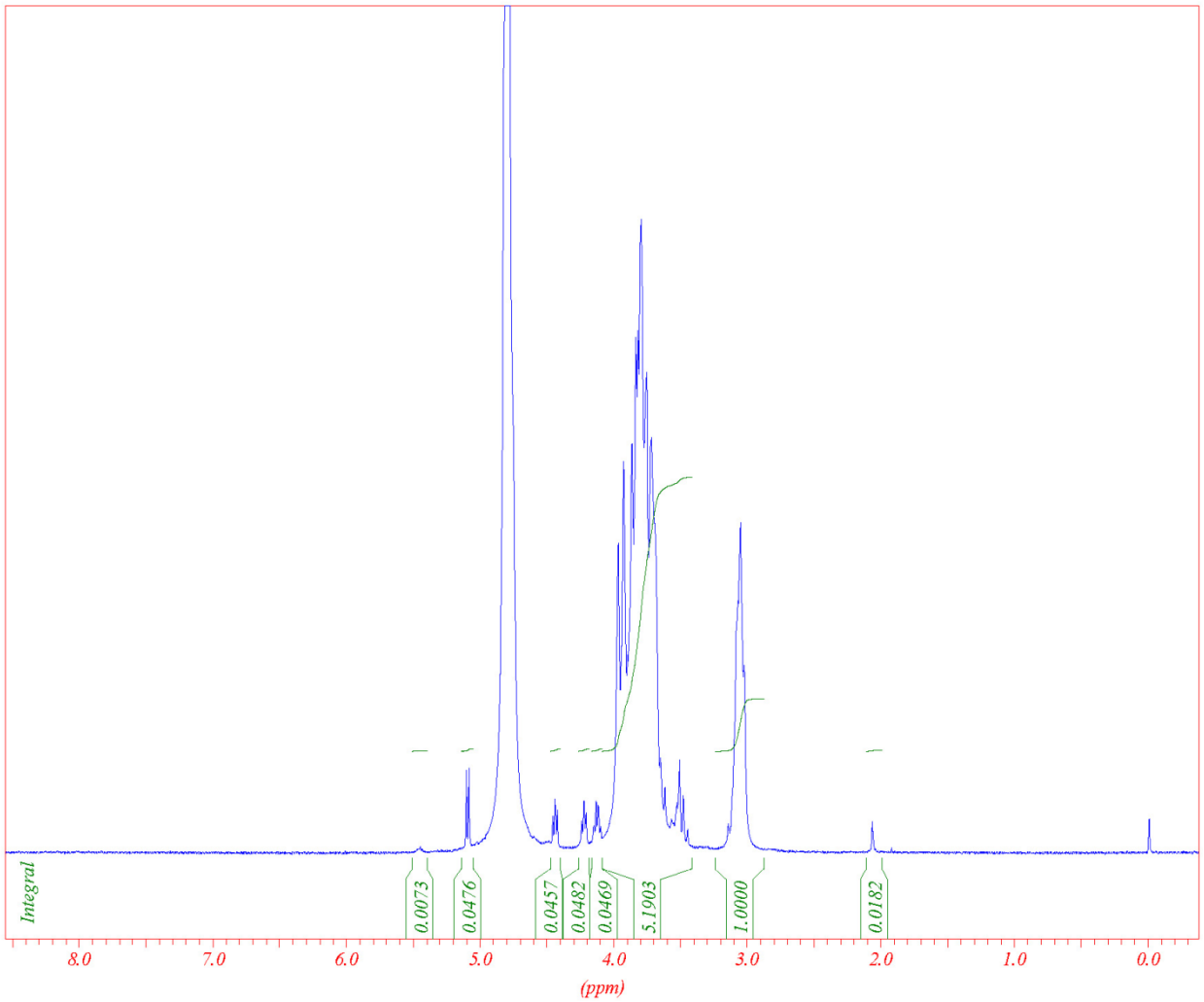


Figure S3. ^{1}H-NMR spectrum (D_2O, 300 MHz) of COSamf **1**.

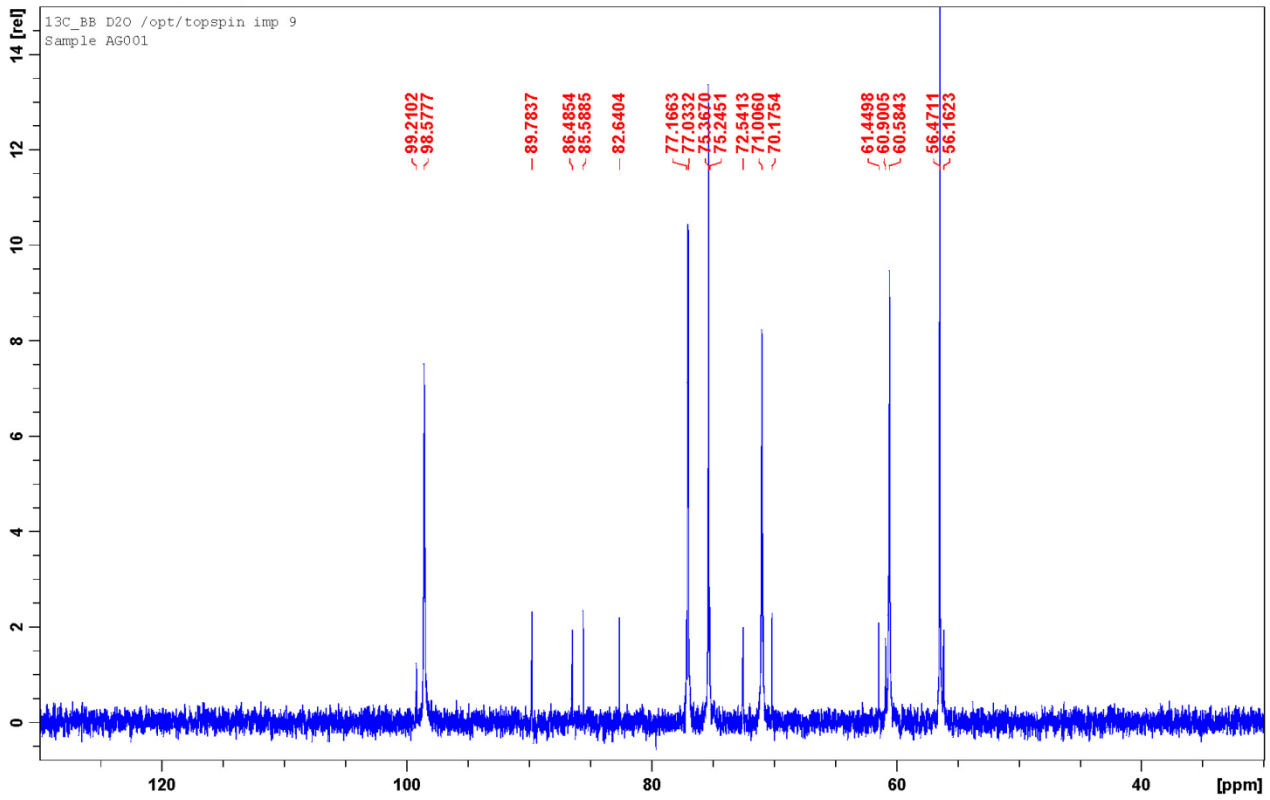


Figure S4. ^{13}C-NMR spectrum (D_2O, 125 MHz) of COSamf **1**.

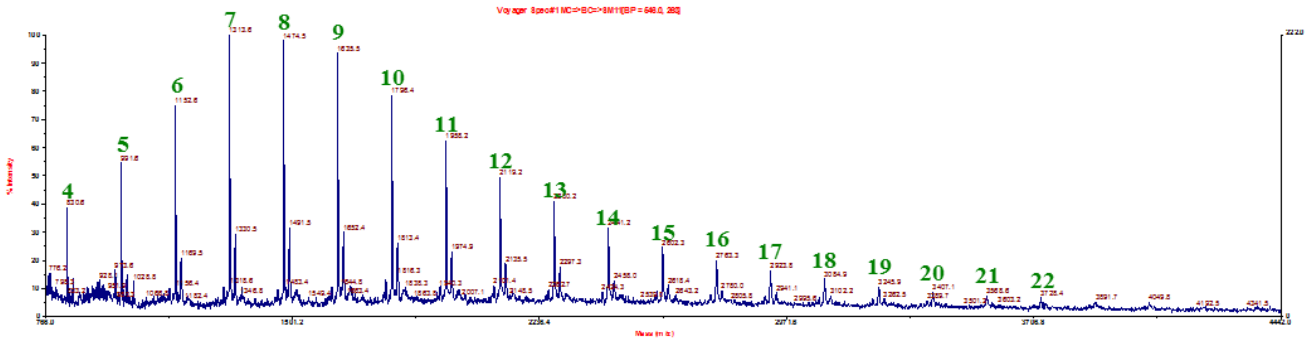


Figure S5. MALDI-TOF mass spectrum (positive linear mode) of COSamf **1**. (Note that for each oligomer peak, the number of GlcN unit into the chain is given in green).

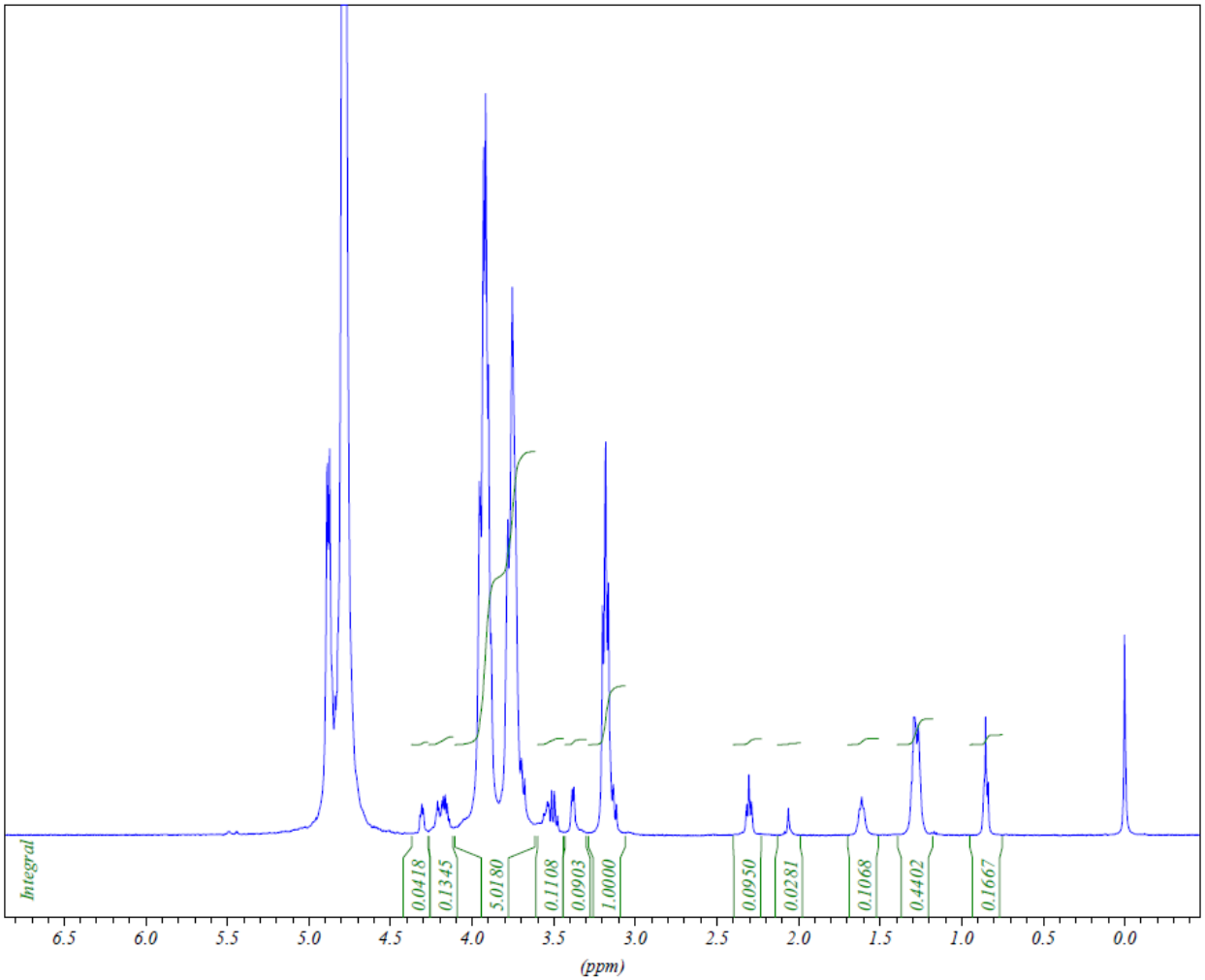


Figure S7. ^{1}H-NMR spectrum (D_2O, 300 MHz) of octanoïc acid–linked chitooligosaccharide-2,5-anhydro-D-mannofuranose (**2**)

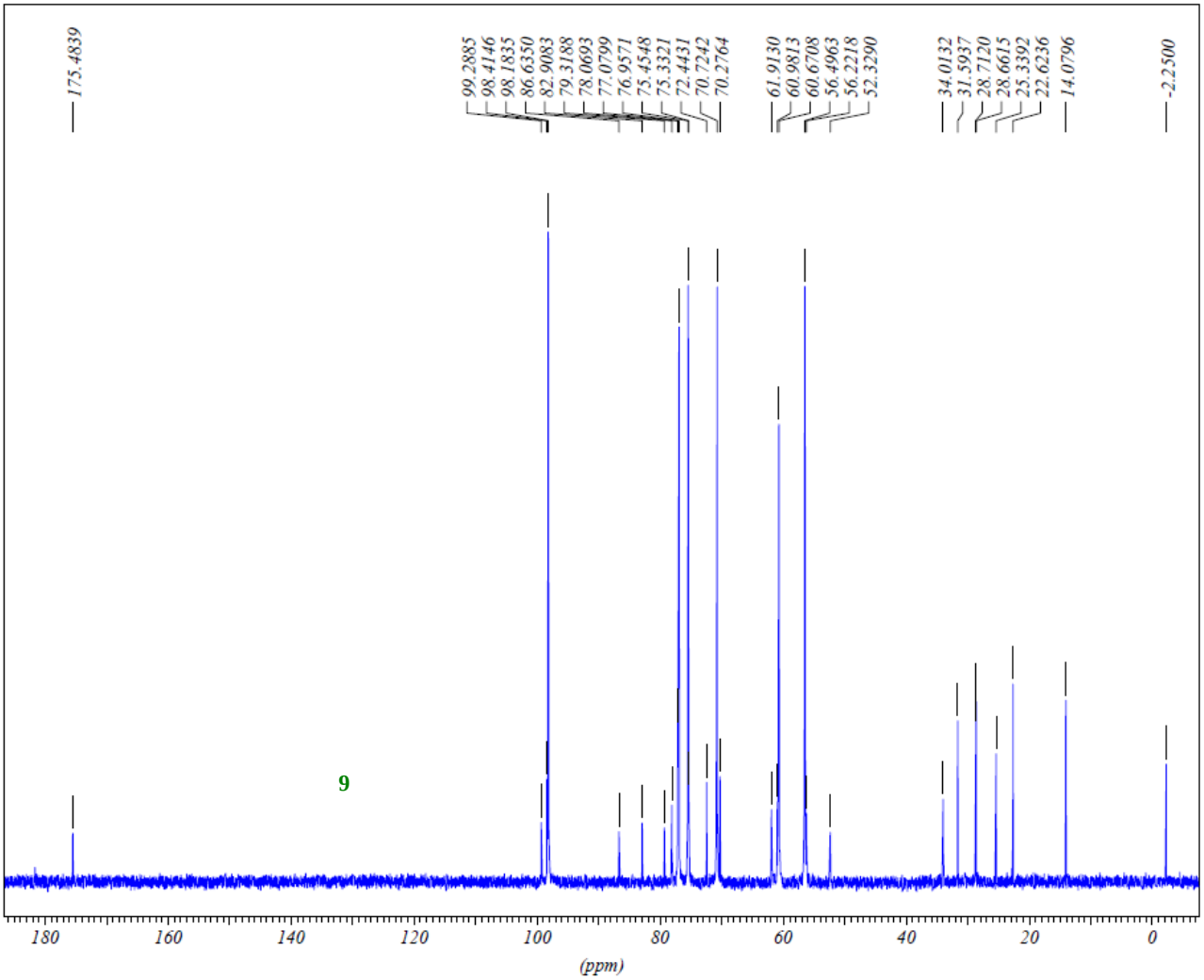


Figure S8. ^{13}C-NMR spectrum (D_2O, 500 MHz) of octanoïc acid–linked chitooligosaccharide-2,5-anhydro-D-mannofuranose (**2**)

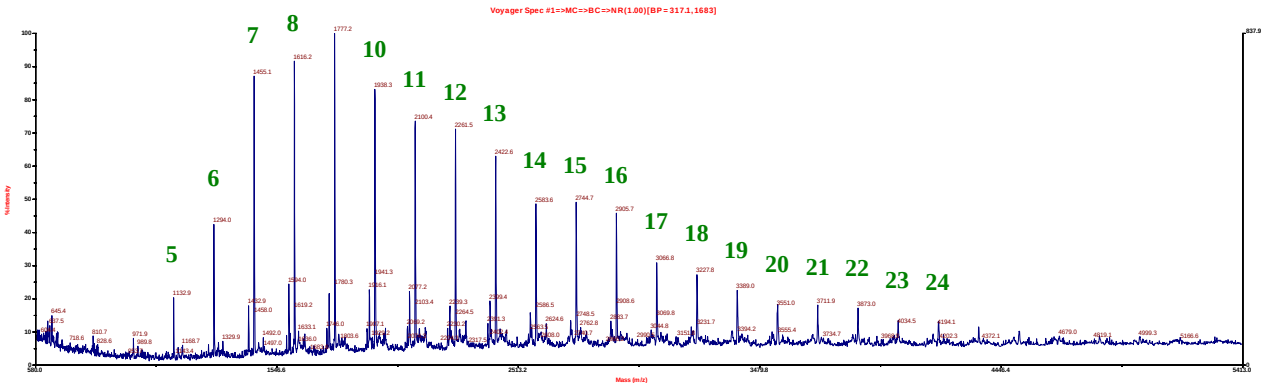


Figure S9. MALDI-TOF mass spectrum (positive reflectron mode) of octanoïc acid–linked chitooligosaccharide-2,5-anhydro-D-mannofuranose (**2**) (Note that for each oligomer peak, the number of GlcN unit into the chain is given in green).