

Supplementary Materials

1. Characterization of Chitosan and its Derivatives: Series Dod_x-CH-Pr₅₀

1.1. Hydrogen Nuclear Magnetic Resonance (¹H-NMR)

Figure S1. ¹H-NMR spectrum of deacetylated chitosan (CH).

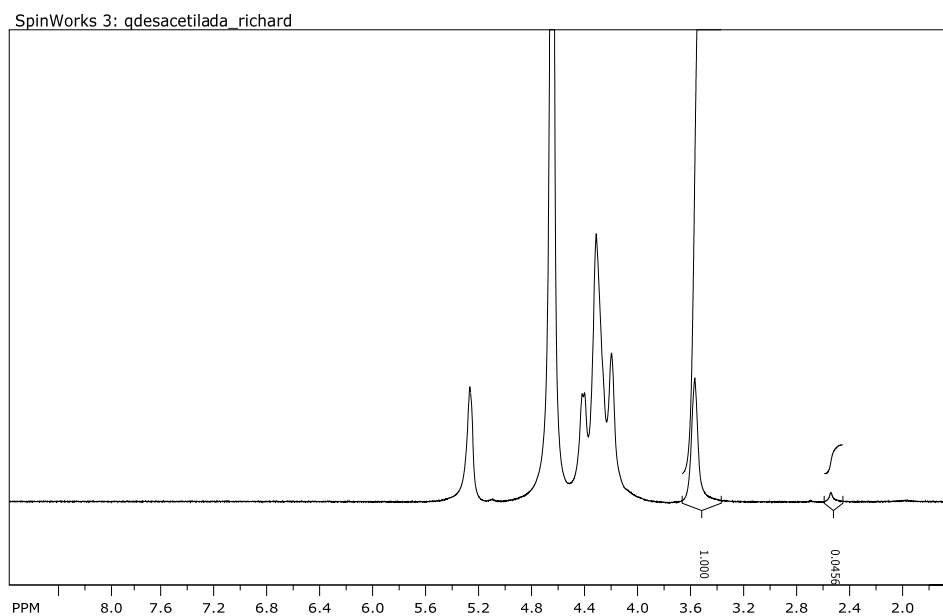


Figure S2. ¹H-NMR spectrum of quaternized chitosan - CH-Pr₅₀.

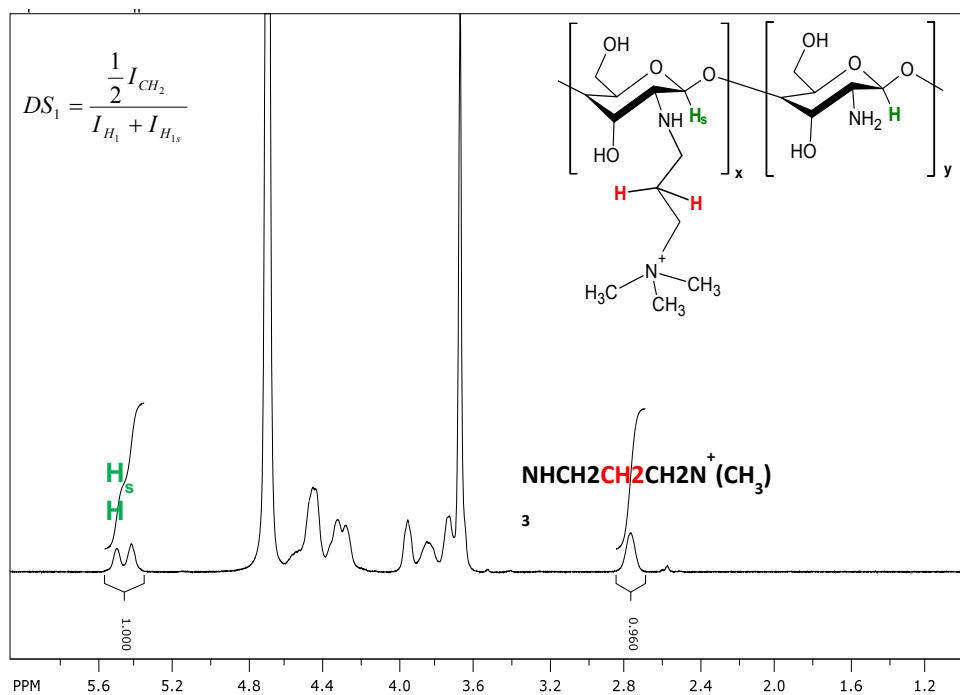


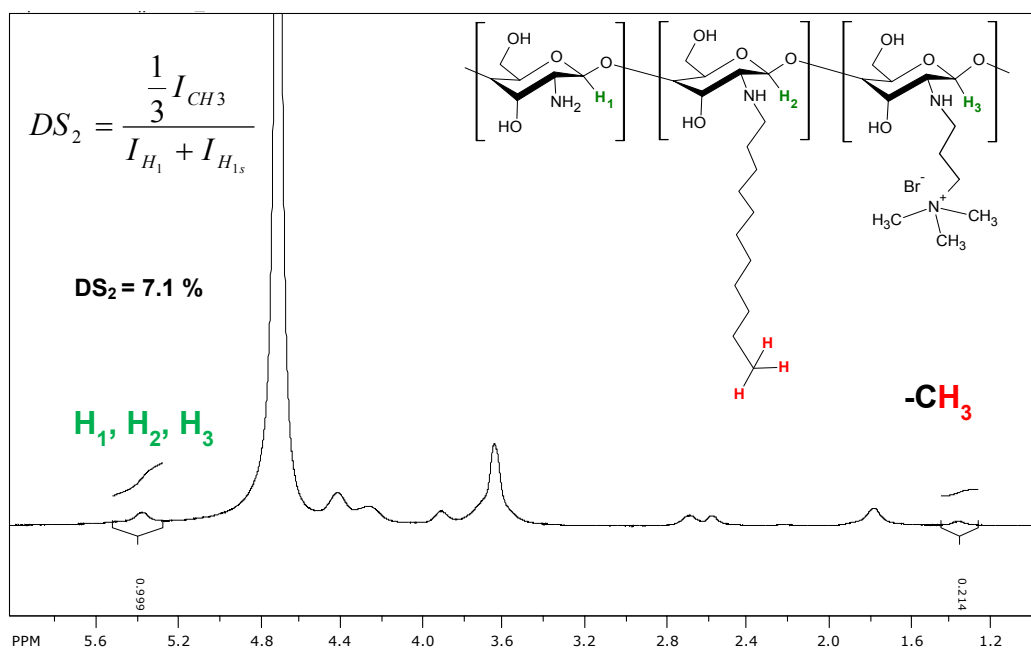
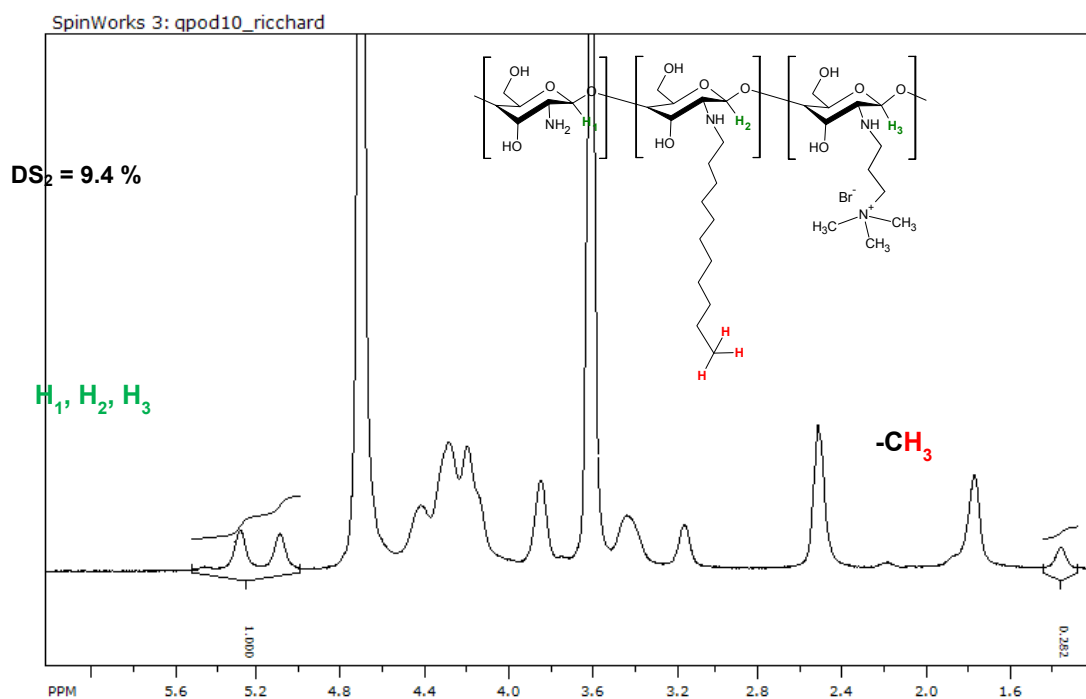
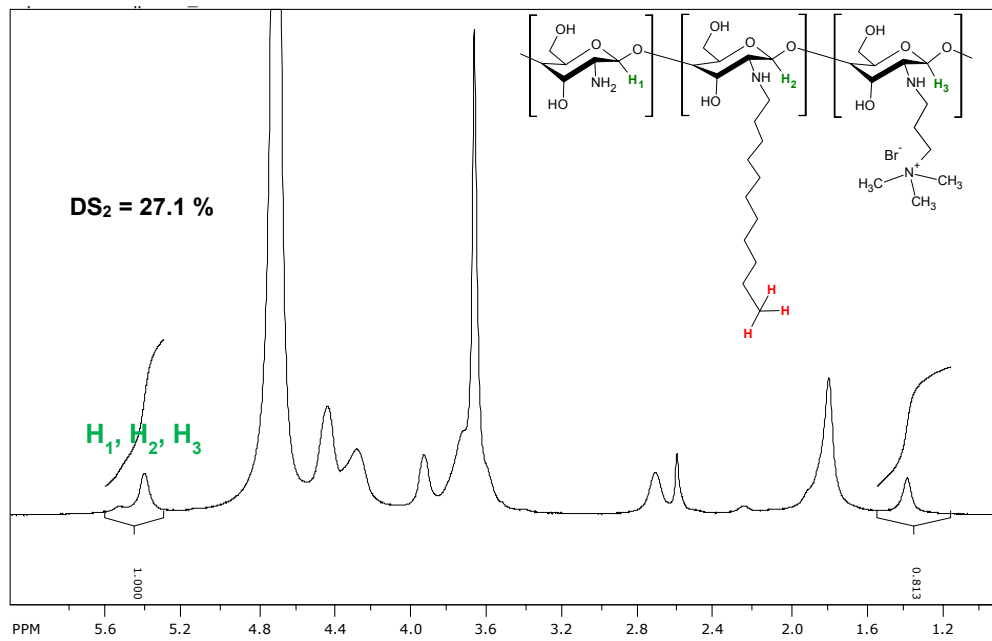
Figure S3. $^1\text{H-NMR}$ spectrum of Dod₁₀-CH-Pr₅₀.Figure S4. $^1\text{H-NMR}$ spectrum of Dod₁₅-CH-Pr₅₀.

Figure S5. $^1\text{H-NMR}$ spectrum of Dod₃₀-CH-Pr₅₀.

1.2. Viscosity Measurements of CH, CH-Pr₈₀ and CH-Pr₅₀

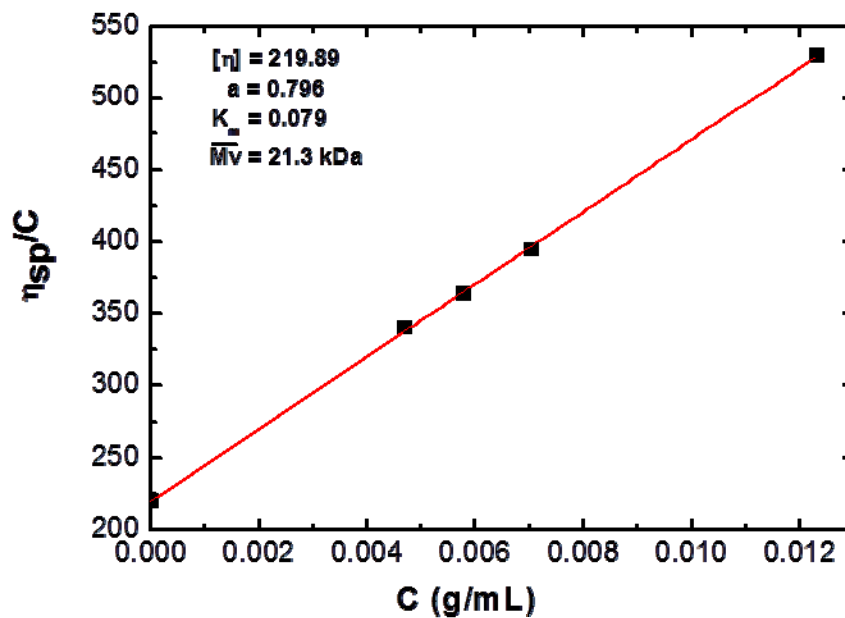
Figure S6. Viscosimetric molecular weight determination of deacetylated chitosan (CH) using Mark Haouwink-Sakurada equation.

Figure S7. Viscosimetric molecular weight determination of CH-Pr₈₀ using Mark Houwink-Sakurada equation.

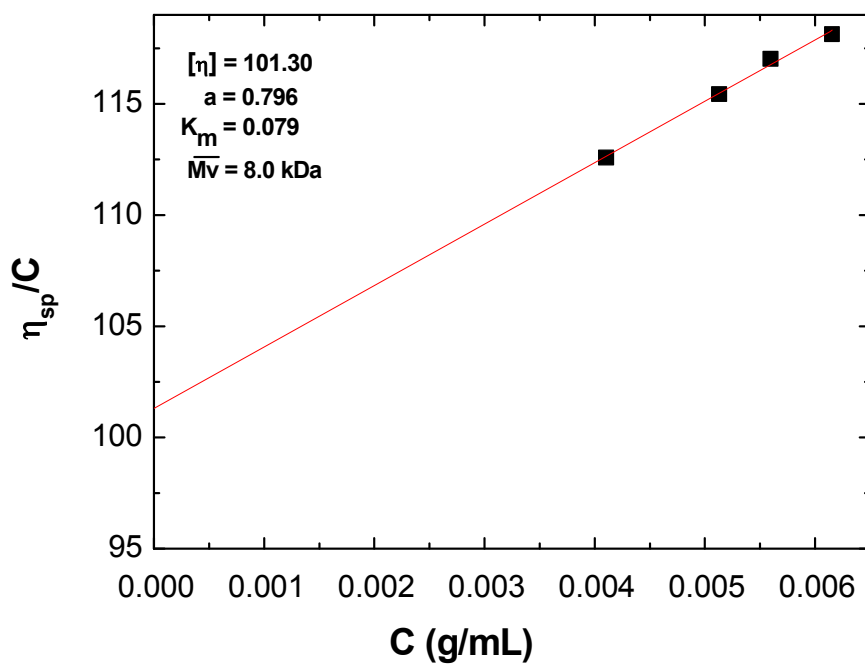
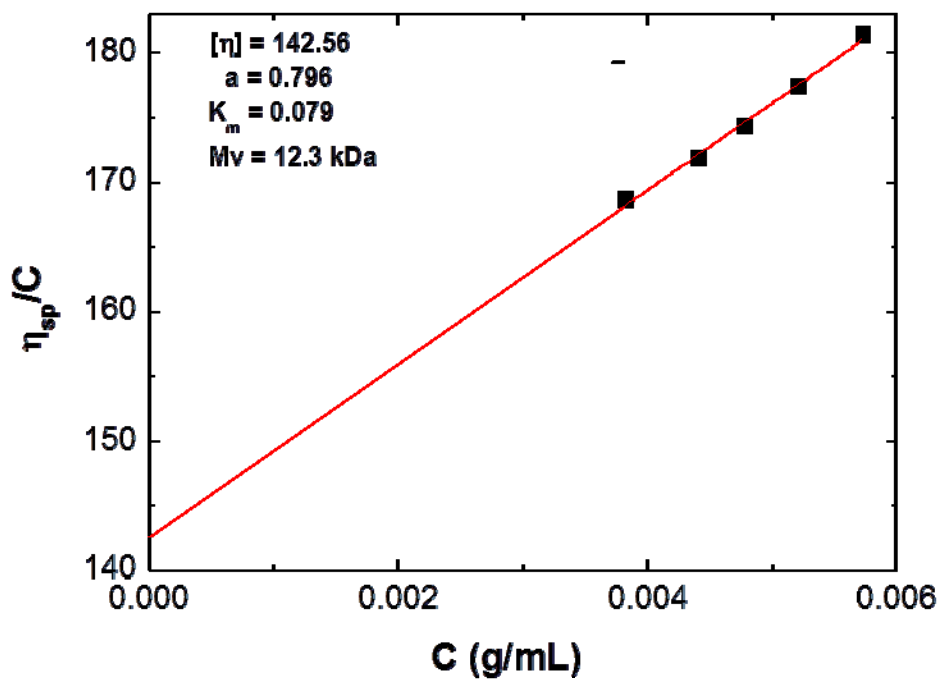


Figure S8. Viscosimetric molecular weight determination of CH-Pr₅₀ using Mark Houwink-Sakurada equation.



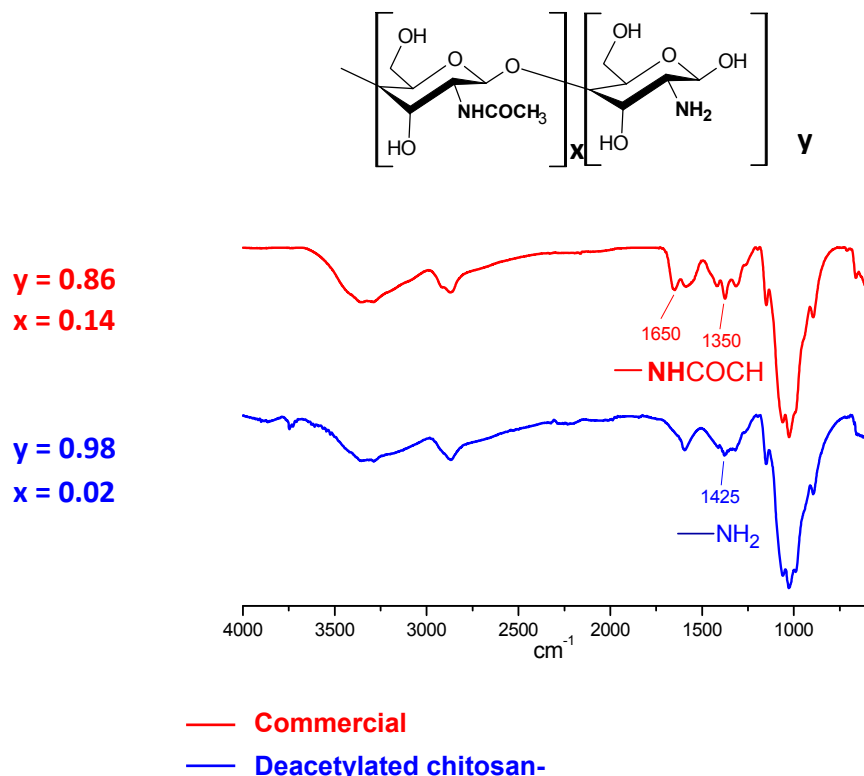
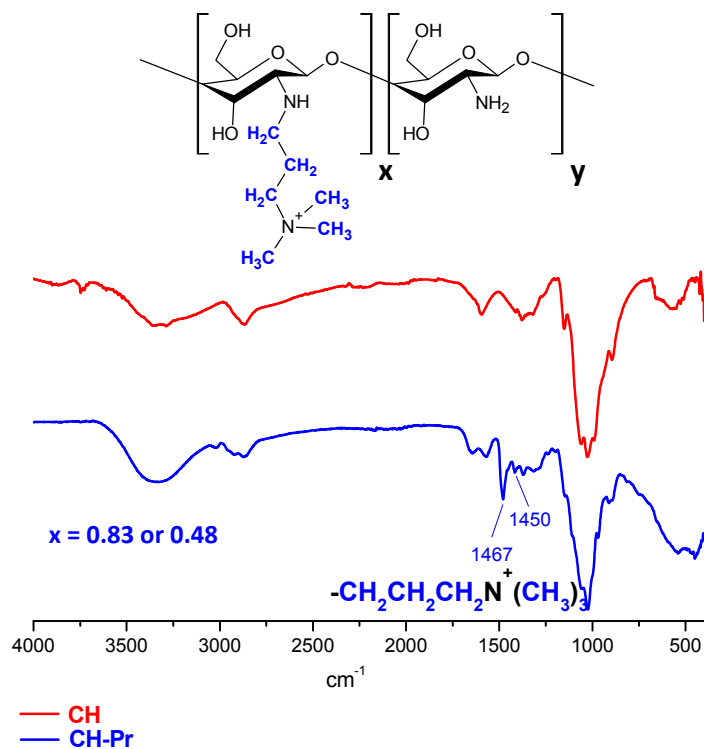
1.3. FTIR Measurements of CH, CH-Pr₅₀ and Dod₃₀-CH-Pr₅₀**Figure S9.** FTIR spectra of commercial and deacetylated chitosans (CH).**Figure S10.** FTIR spectra of deacetylated chitosan and CH-Pr₅₀.

Figure S11. FTIR spectra of deacetylated chitosan, CH-Pr₅₀ and Dod₃₀-CH-Pr₅₀.