

# Nanocellulose from cotton waste and its glycidyl methacrylate grafting and allylation. Synthesis, characterisation, and adsorption properties.

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## Supplementary information

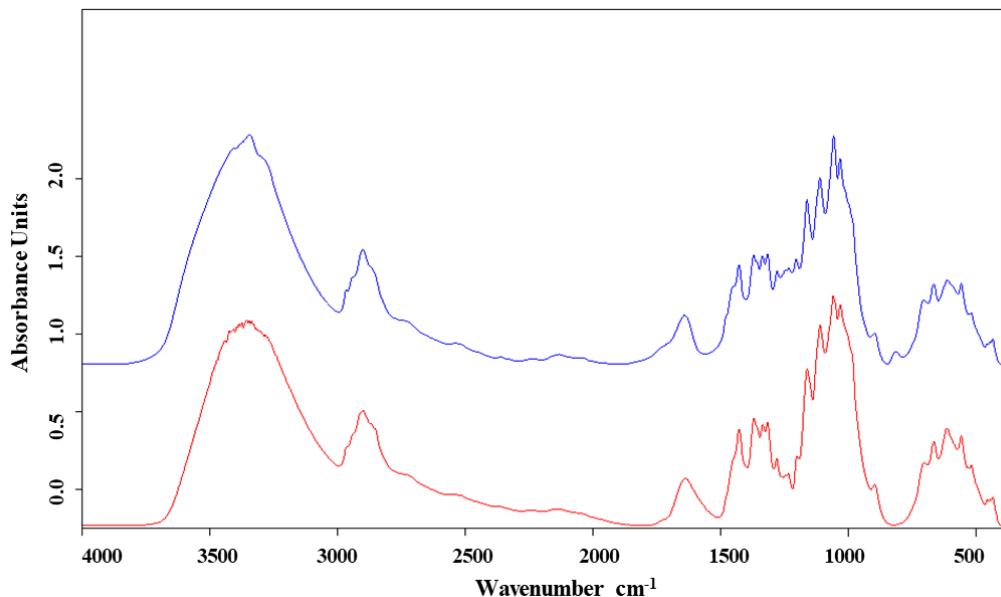


Figure S1. FT-IR spectra of HNC (blue) and CFT (red).

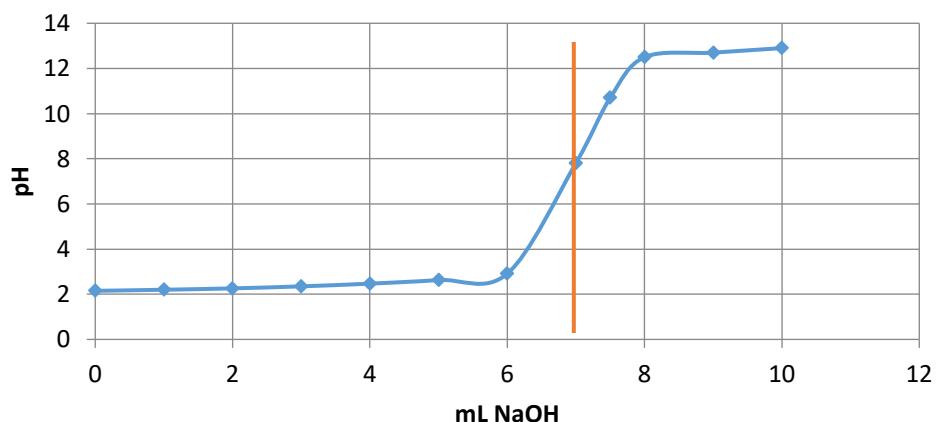
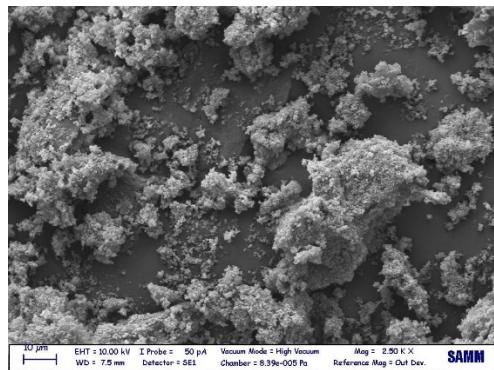
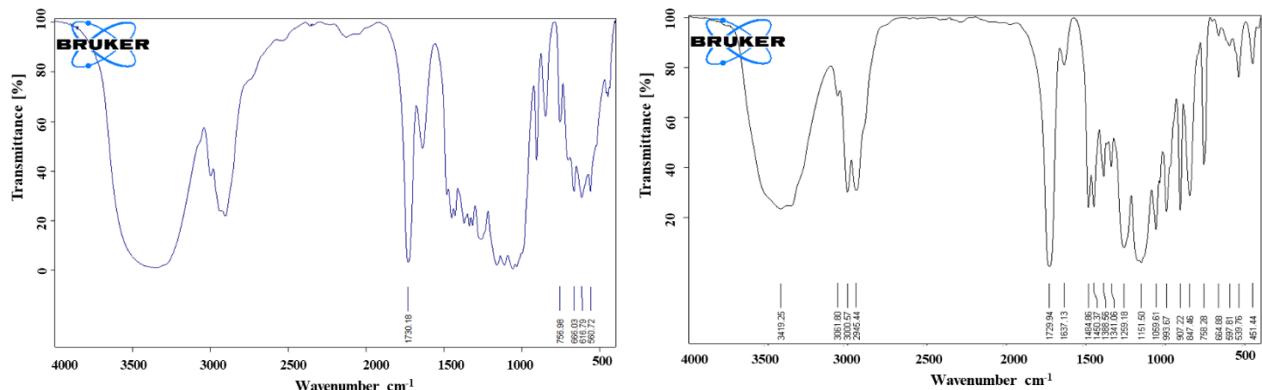


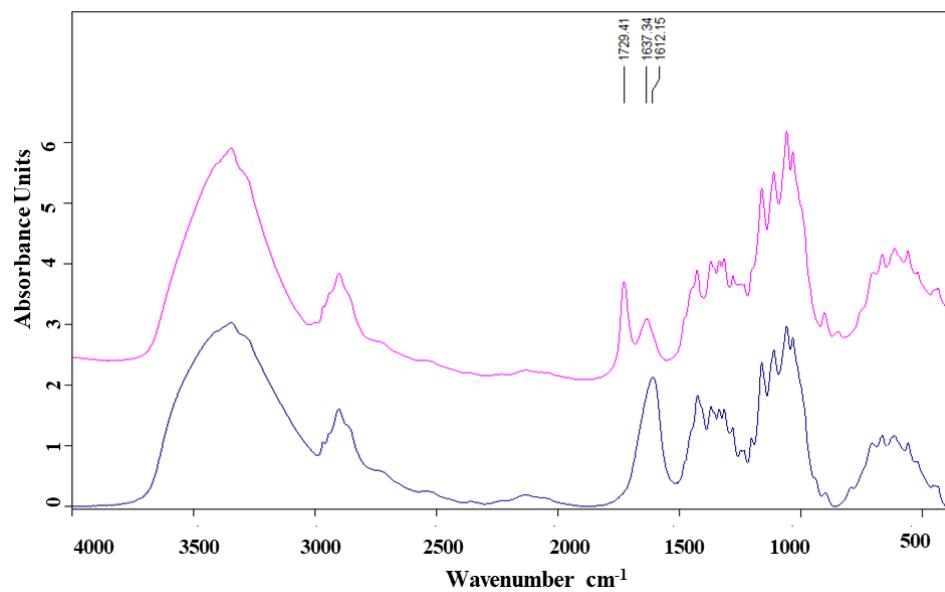
Figure S2. Graph of ONC titration



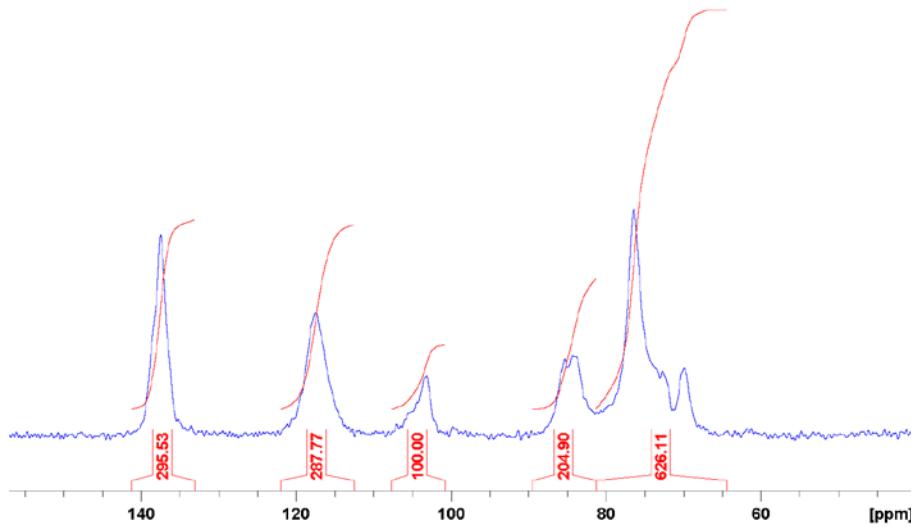
**Figure S3.** SEM image of ONC-GMA, MS = 2.2



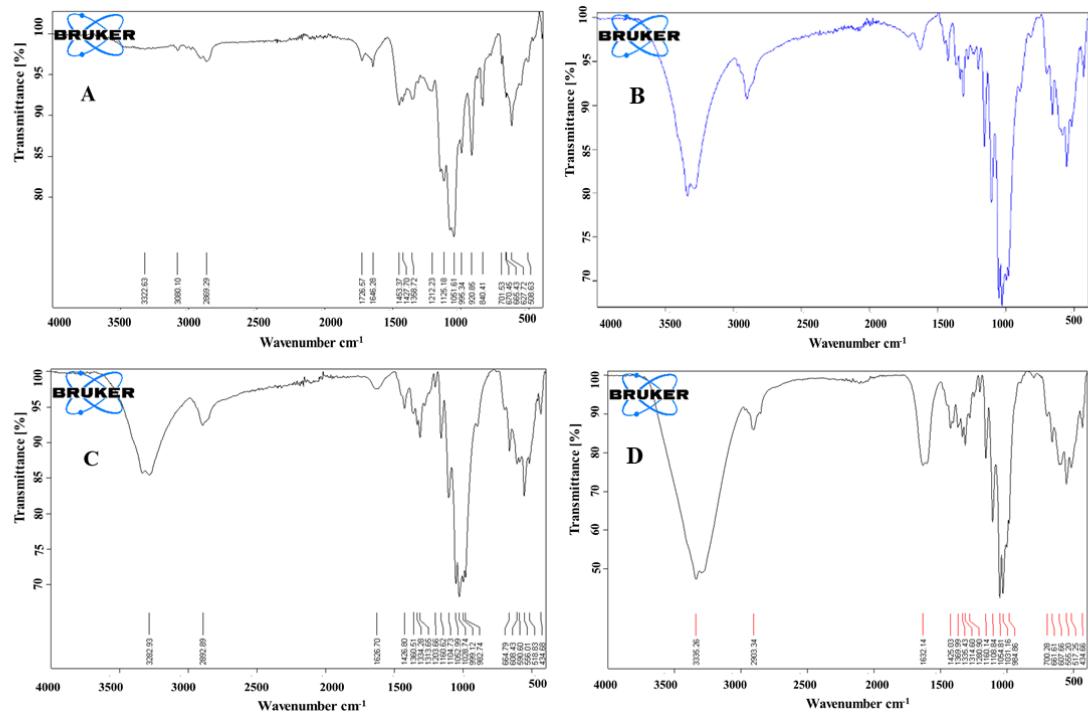
**Figure S4.** FT-IR HNC-GMA MS=0.43, blue (left); MS=1.5, black (right).



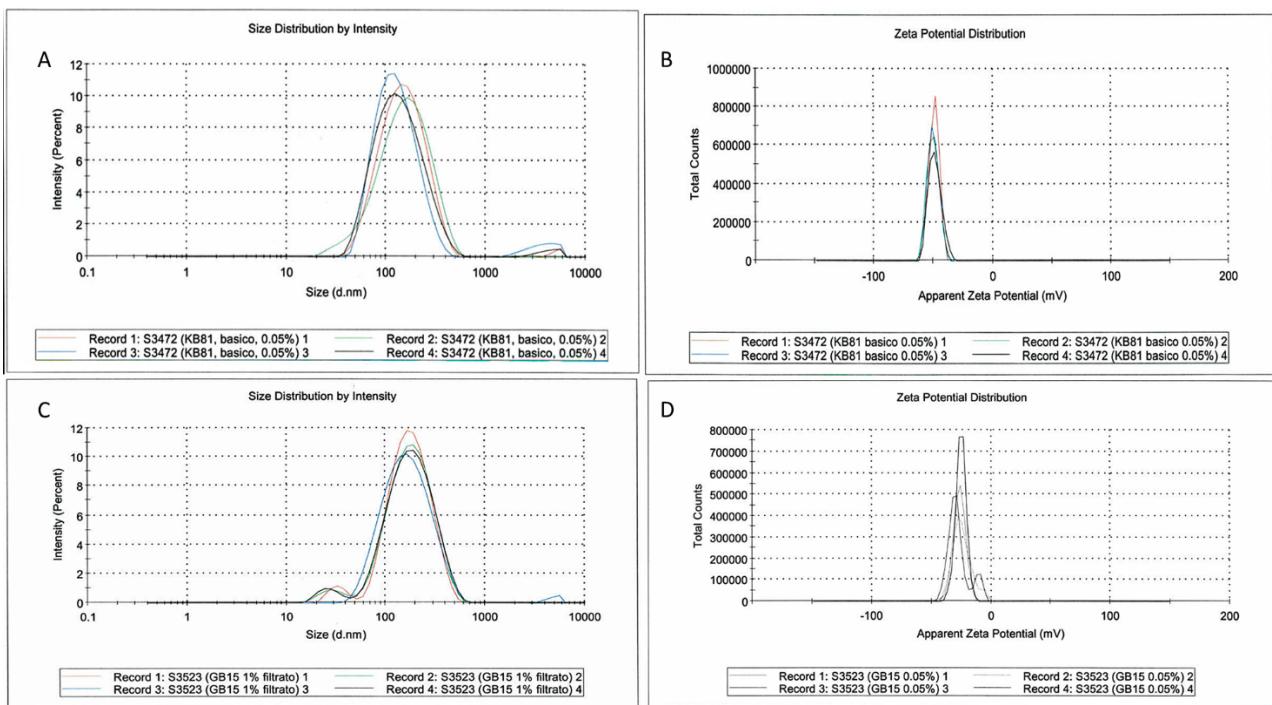
**Figure S5.** FT-IR spectra of salted form ONC (blue) and salted form ONC-GMA (purple).



**Figure S6.** HNC-ALL <sup>13</sup>C CP-MAS NMR spectrum.

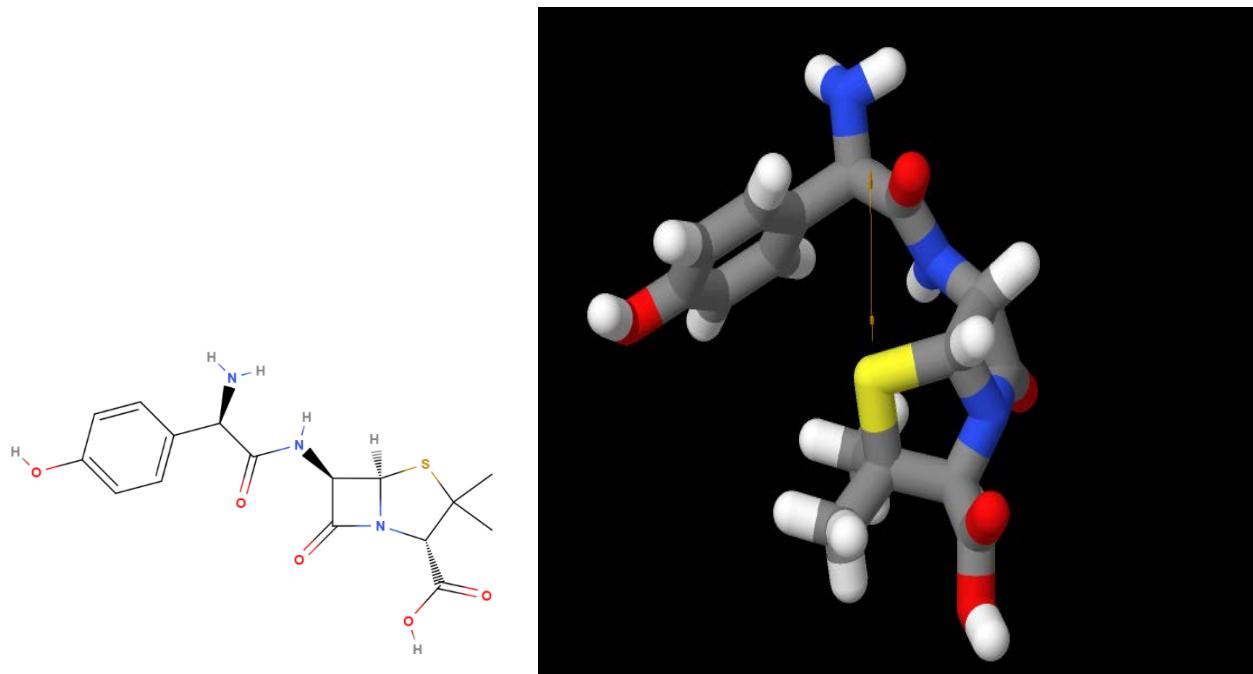


**Figure S7.** ATR FT-IR HNC-ALL (A), HNC (B); ONC-ALL (C); ONC (D).

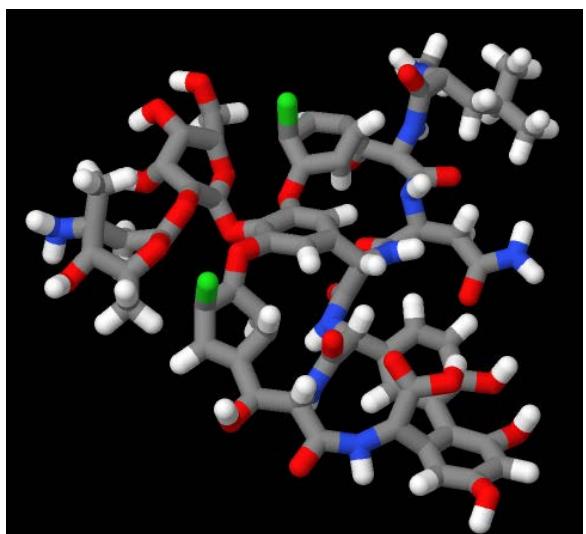
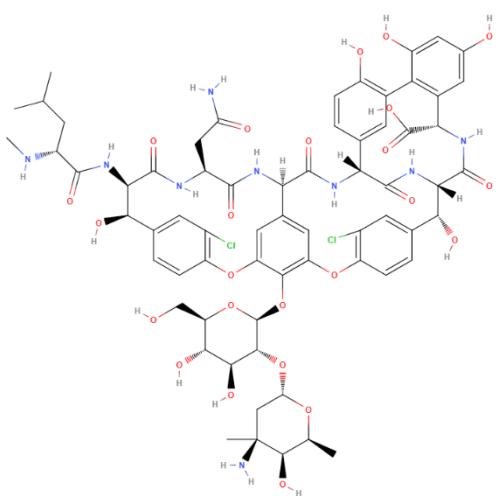


**Figure S8.** Hydrodynamic diameter and zeta potential ( $\xi$ ) of ONC (A and B) and HNC (C and D) measured by DLS.

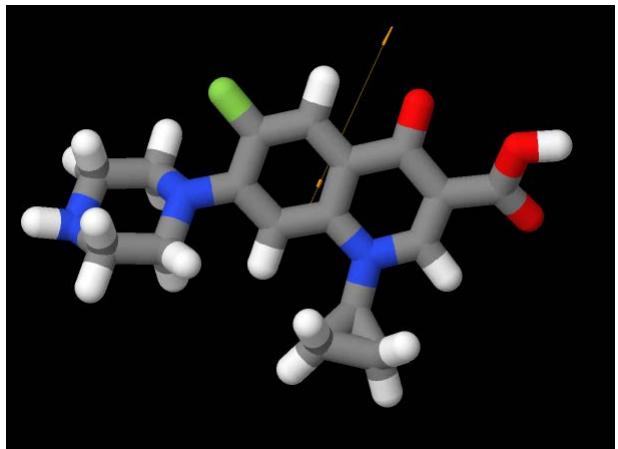
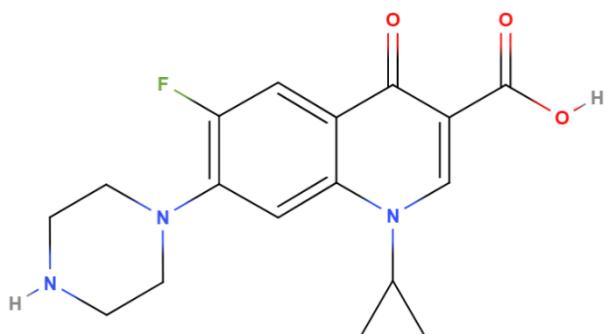
MolView (<https://molview.org/>)



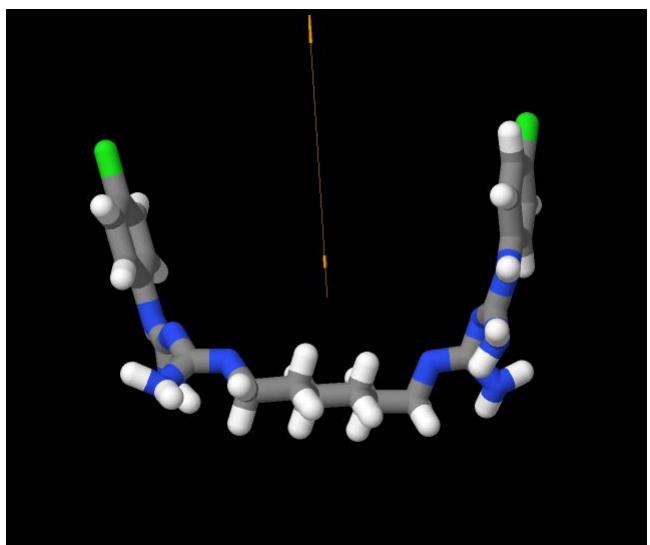
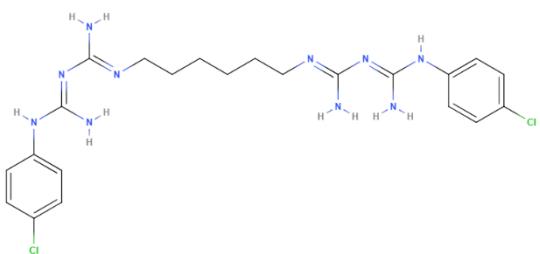
**Figure S9.** AM molecular structure



**Figure S10.** VC molecular structure



**Figure S11.** CP molecular structure



**Figure S12.** CHX molecular structure