

SUPPLEMENTARY INFORMATION

PANalytical X'Pert Pro MPD with focusing slit geometry and PIXcel detector was used for evaluating the crystallinity of the films prepared in this work.

Based on X-ray diffraction, all derivatives are more or less amorphous with an exception of fully hydrogenated TOFA that starts to show nanocrystalline behavior. The diffractograms and full width at half maximum (FWHM) values of the main peak are shown on Supplementary Figure 1. While smaller peak width indicates higher degree of order, the crystallite size of the fully hydrogenated TOFA is still in the nanometer range.

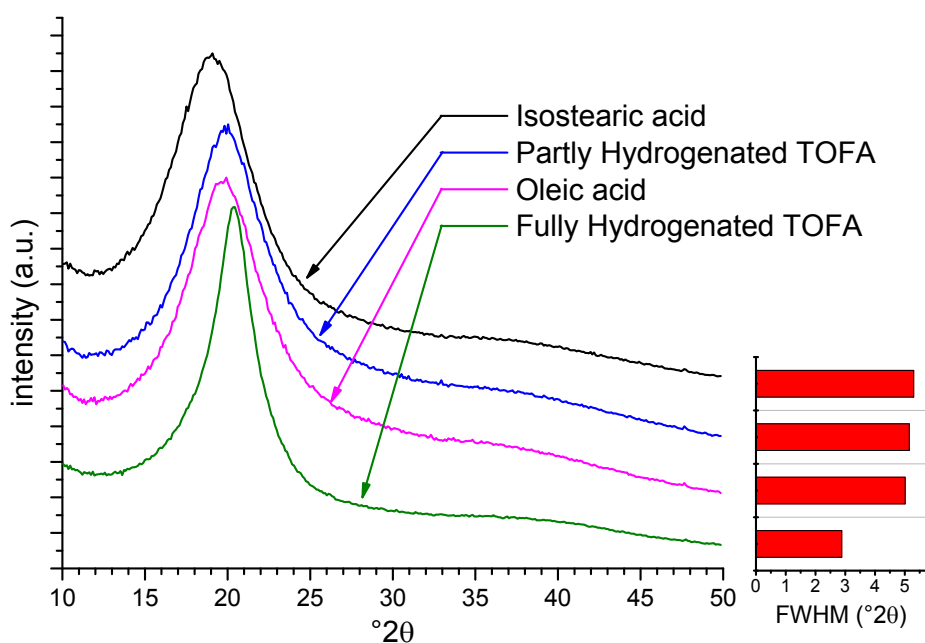


Fig. 1 X-ray diffractograms of the different cellulose films. Diffractograms are normalized to one and shifted vertically for clarity. The column plot on the right indicates the full width at half maximum (FWHM) of the peaks.