

Supporting Information for

**Can TEMPO-oxidized cellulose nanofibers be used as
additives in bio-based building materials?
A preliminary study on earth-plasters**

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1. Earths XRD

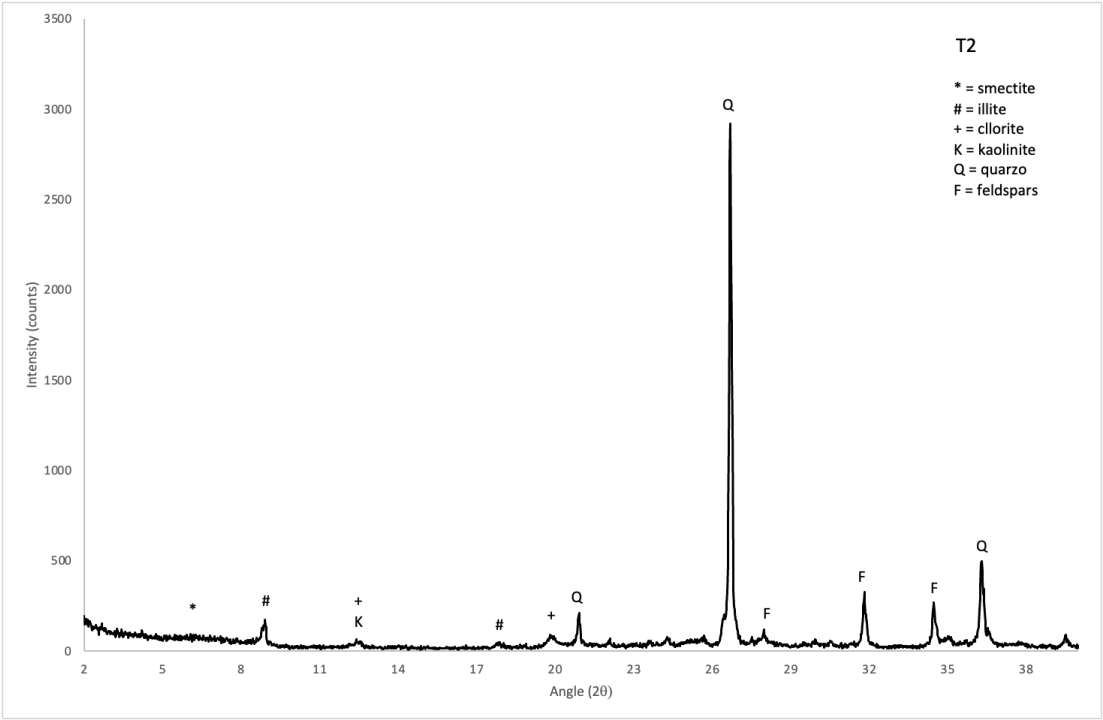


Figure S1: XRD pattern of T2 earth.

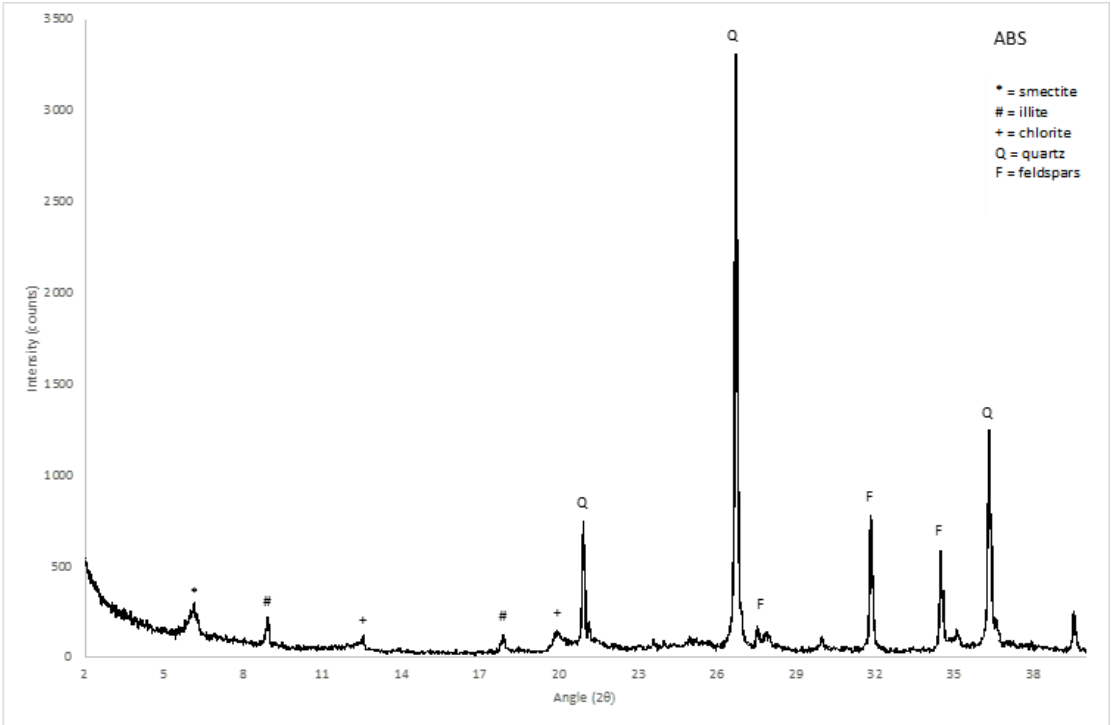


Figure S2: XRD pattern of ABS earth.

2. TG analyses

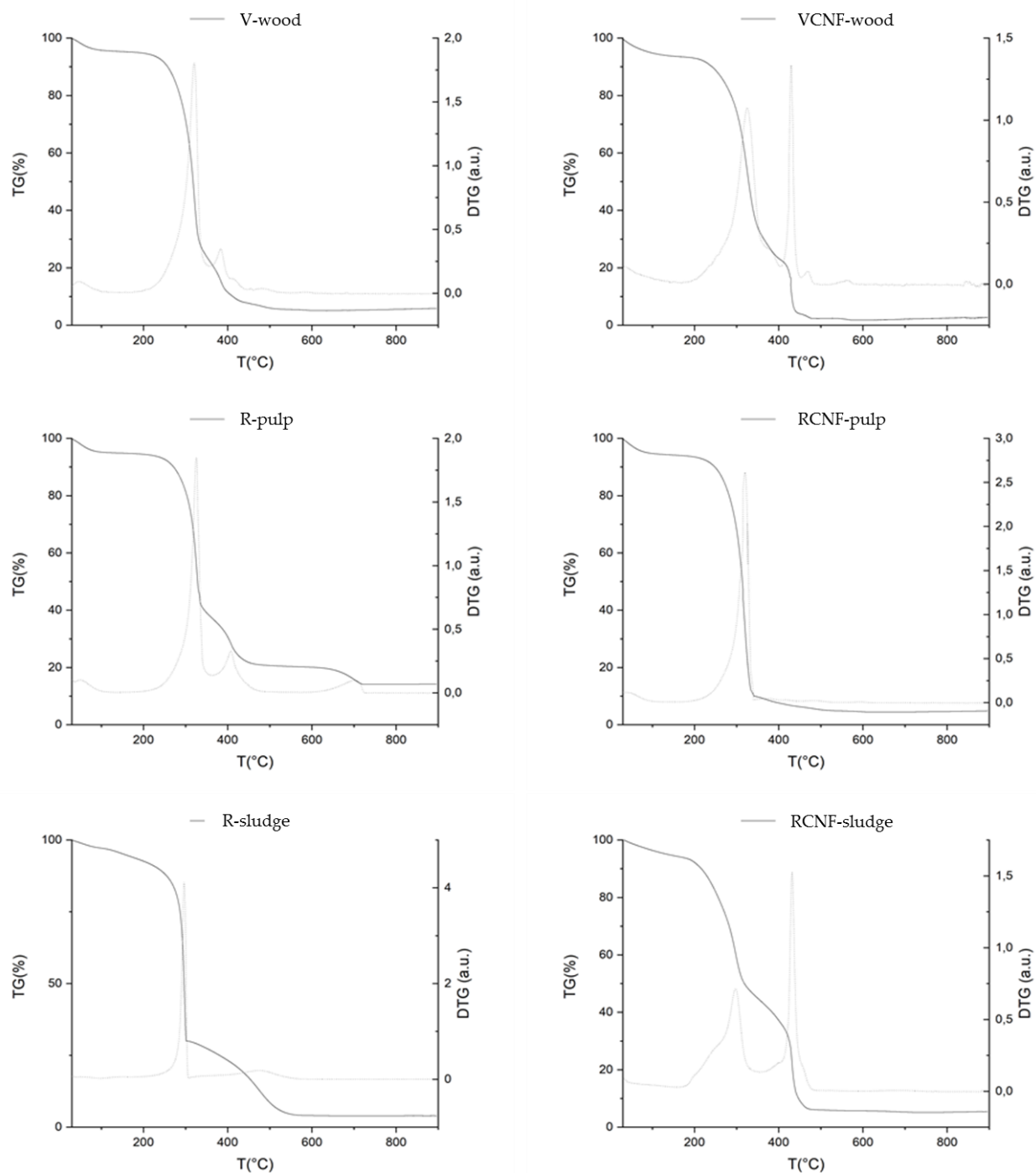


Figure S3. Thermogravimetric analysis of cellulose sources and additives obtained by TOHO process; analyses performed in air.

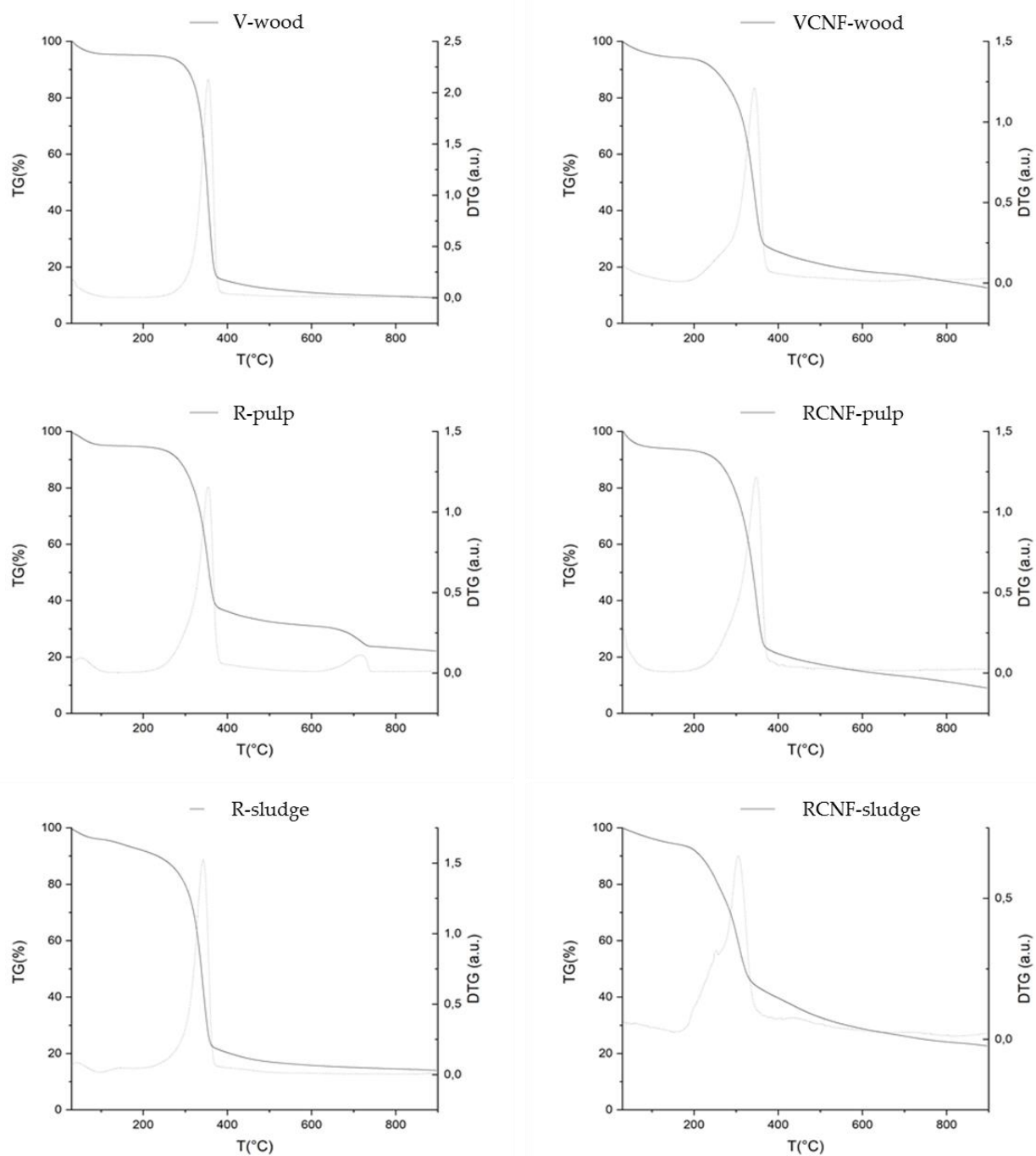


Figure S4. Thermogravimetric analysis of cellulose sources and additives obtained by TOHO process; analyses performed in N_2 .

3. Schopper-Riegler of cellulose sources

Table S1. Drainage (°SR) of cellulose pulp calculated for each source selected for the production of cellulose nanofibers.

Source	°SR
V-wood	14
R-pulp	17
R-sludge	26

4. FT-IR Spectra

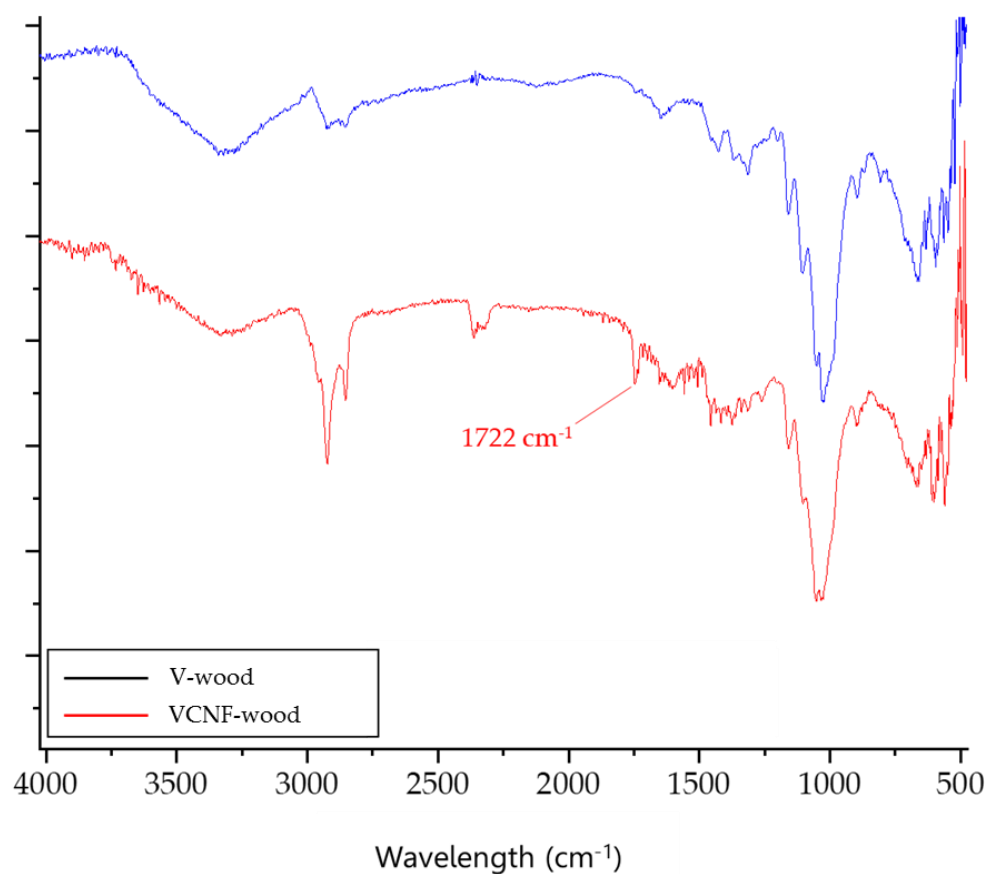


Figure S5. FT-IR spectrum of V-wood and VCNF-wood.

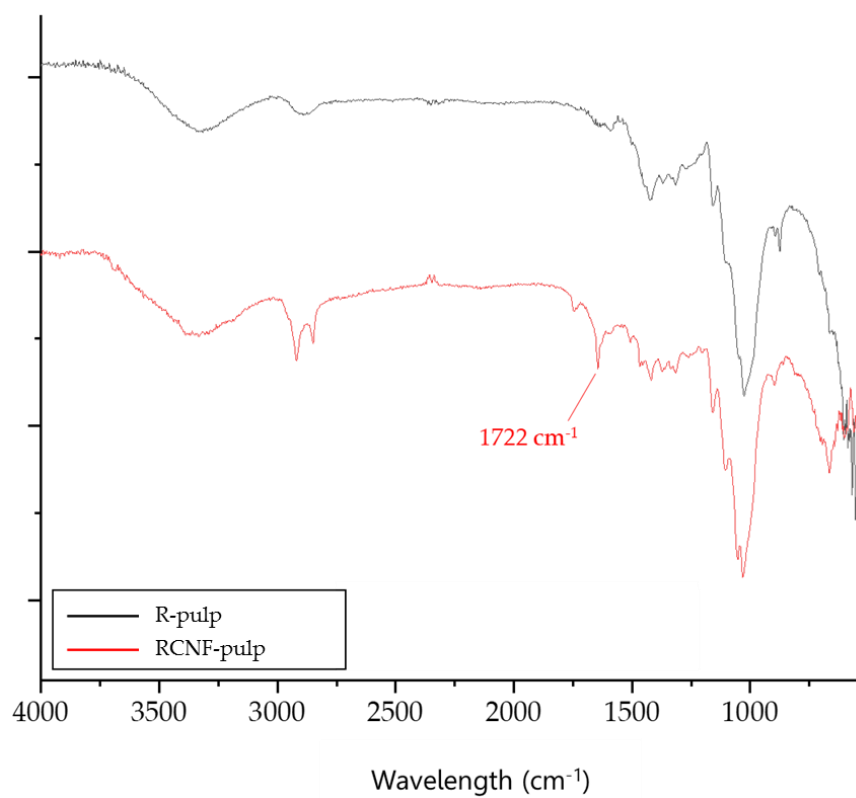


Figure S6. FT-IR spectrum of R-pulp and RCNF-pulp.

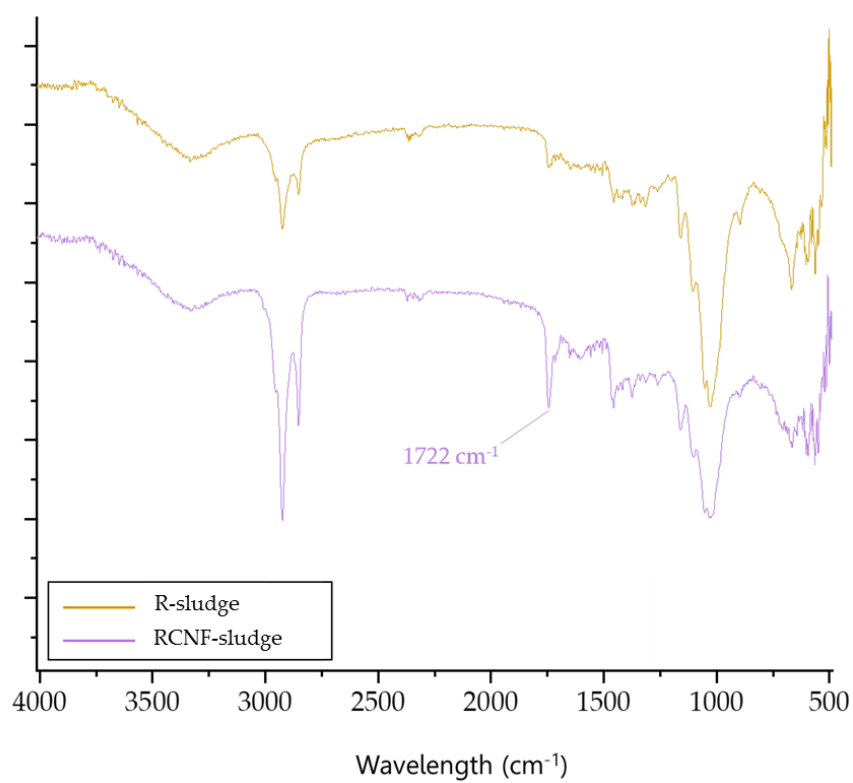


Figure S7. FT-IR spectrum of R-sludge and RCNF-sludge.

5. XRD Diffractograms and Crystallinity Index

Table S2. Crystallinity index of sources and cellulose-based nanodimensioned additives.

Cellulose-based additive	Crystallinity index [%]
V-wood	68.5
R-pulp	70.4
R-sludge	67.5
VCNF-wood	65.3
RCNF-pulp	62.2
RCNF-sludge	67.0

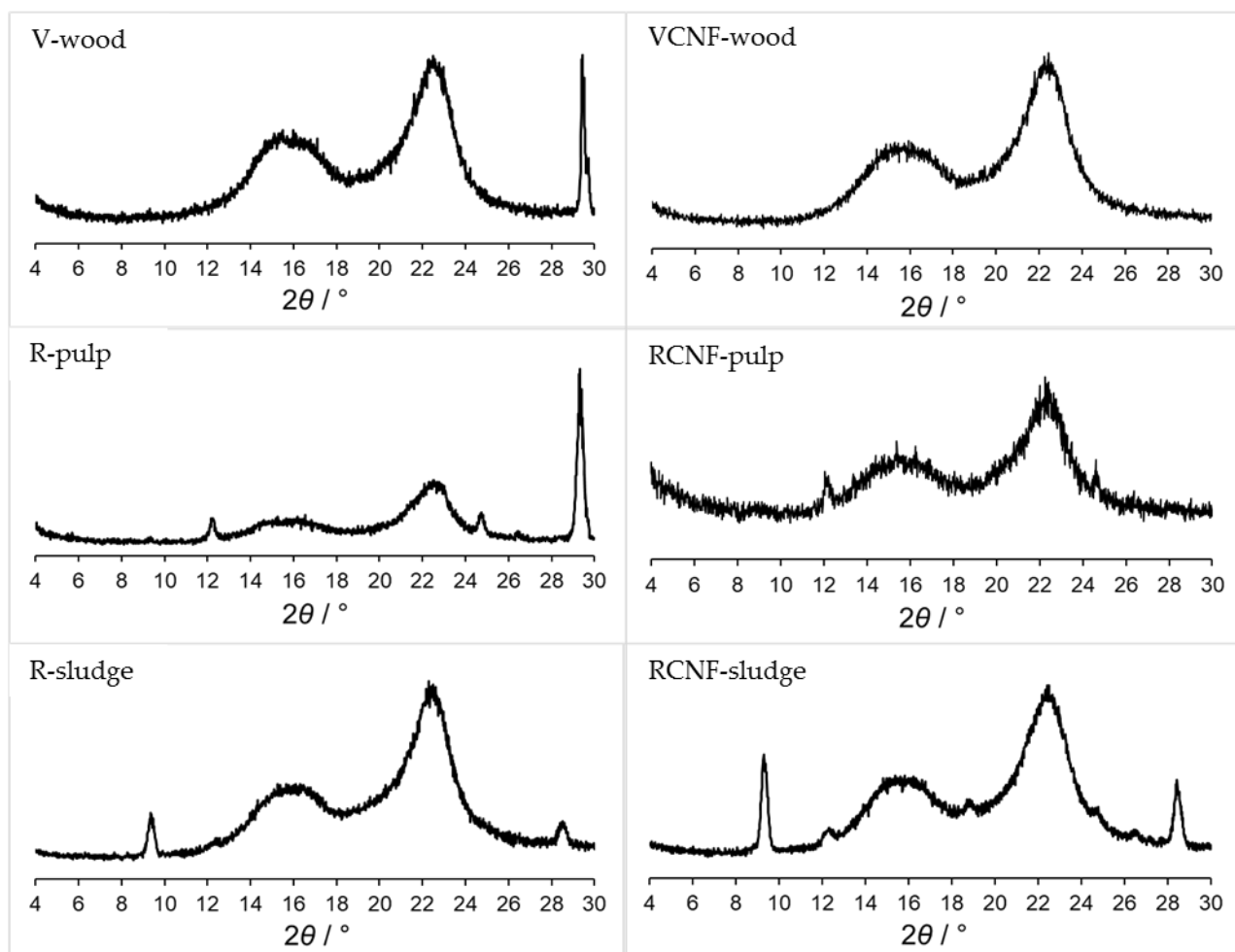


Figure S8. X-Ray diffractograms of cellulose sources and additives obtained by TOHO process.