

Supplementary Materials

Study of the spatio-chemical heterogeneity of tannin-furanic foams: from 1D FTIR spectroscopy to 3D FTIR micro-computed tomography.

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Figure S1. Tannin-furanic rigid foam.

Figure S2. FTIR- μ CT setup.

Movie Clip 1.mp4. FTIR- μ CT setup in operation.

Movie Clip 2.mp4. Nylon loop through the visible and IR camera (FPA).

Virtual sectioning of the tomographic samples: Video Reference_merged.mp4: tannin-furanic foam; Video Acid_High_merged.mpa4: Acid-High formulation; Video Acid_Low_merged.mp4: Acid-Low formulation; Video FOH_High_merged: FOH-High formulation; Video FOH_Low_merged: FOH-Low formulation.

Figure S1. Tannin-furanic rigid foam.

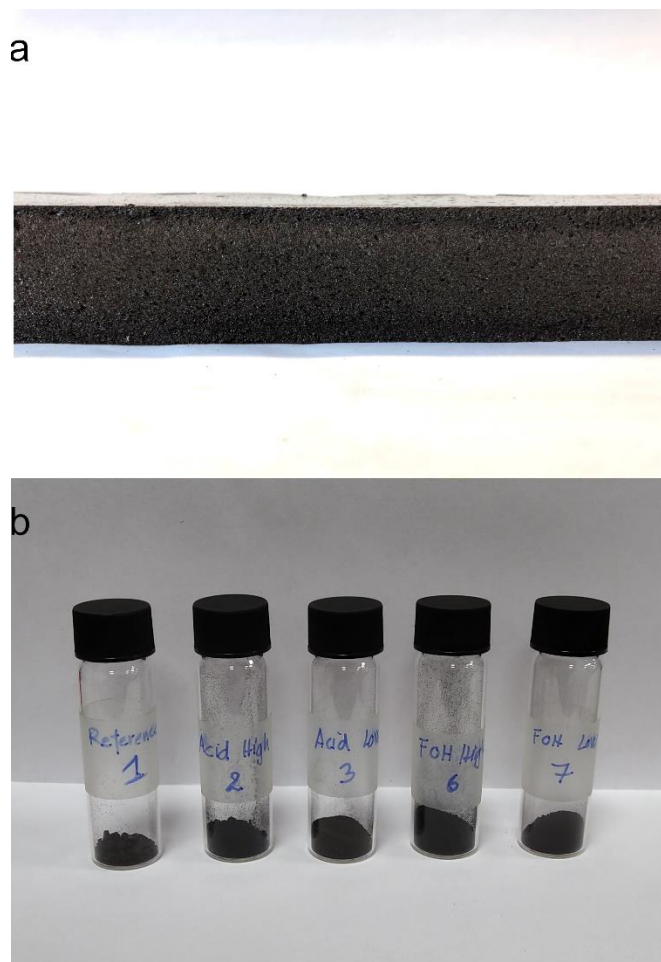


Figure S1 a) Tannin-furanic rigid foam, Reference formulation b) Crushed powders of the five formulations as used for FTIR-ATR, FTIR imaging and FTIR- μ CT: 1: Reference, 2: Acid High, 3: Acid Low, 6: FOH High, 7: FOH Low.

Figure S2. FTIR μ -CT setup

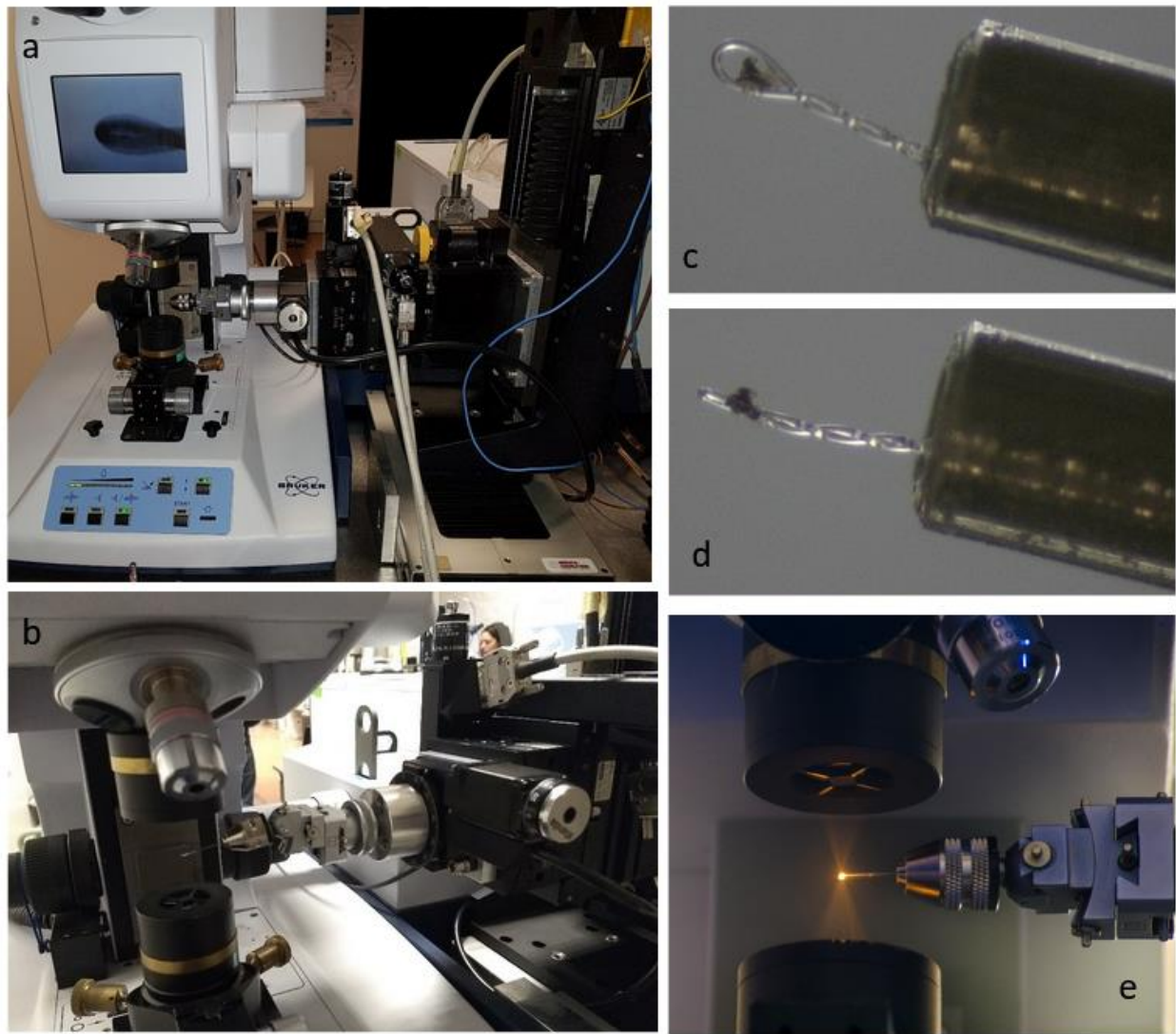


Figure S2 (a,b) The tomography setup has been assembled using the following components: three independent Mdrive (M), Corvus (C) and Standa (S) motors, covering 6 degrees of freedom, enabled sample rotation (S), translation up/down (M1), translation inside-outside the Field of View - FOV (manual), pitch (C), roll (C) and drag (C) movements in the FTIR- μ CT setup. Motor control and data acquisition procedures were integrated and automatized by a dedicated software written in LabVIEW 2017 utilizing USB (S) and TCP/IP (M and C) connection protocols. The software enabled full synchronization of sample rotation with the ongoing data acquisition with the OPUS 7.5 software.