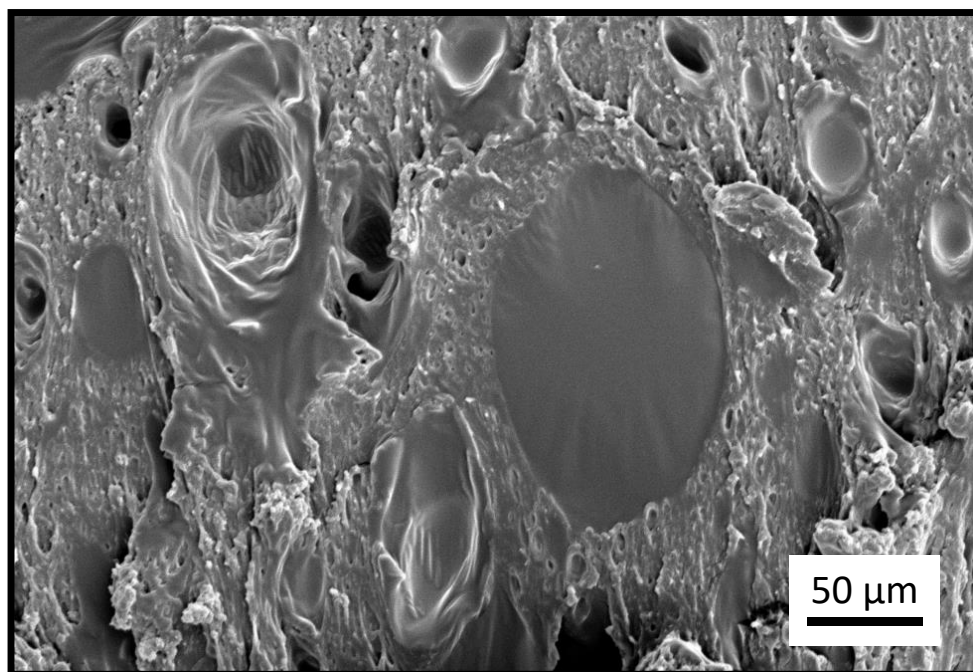


**Figure S1.** FT-IR spectra of raw BMI689-F400 (red line) and BMI689-F400 subtracted from the Humins-DA spectra (black line).



**Figure S2.** SEM picture of the Humins-DA crosssection thermally treated at 80°C for 2 hours.