Supporting Information for

An Entropy-Elastic Gelatin-Based Hydrogel System

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Optical profilometry

Surface profiles of dry films and scaffolds were obtained with an optical profilometer type MicoProf 200, equipped with a white-light chromatic sensor CWL 300 (Fries Research & Technology GmbH, Bergisch Gladbach, Germany), using the data acquisition software AQUIRE (version 1.21) and the data evaluation software MARK III (version 3.8b). All scans were performed at a measuring rate of 300 Hz. First, an overview scan size of 4*0.25 mm² was obtained. Within that area, scans with 50*50 µm² size at three different locations were performed.

Optical profilometry was used to analyze the extent of bubble/foaming suppression in the resulting material, and showed relatively film flat surfaces with an averaged roughness (Rₐ) in the range of 0.1-1 µm. One example is shown in Figure 1. Therefore, homogeneous bulk films could be produced after only 10 min of reaction time.

![Region of Interest (ROI) and Profile](image)

**Figure 1:** Overview scan size (Left) and relative profile (right) of a crosslinked gelatin film (G7_HNCO8), displaying an averaged roughness (Rₐ) and root mean square roughness (Rq) of roughly 0.1 and 0.272 µm, respectively.