## **Supplementary Information**

## Strain-induced Stiffening of Nanocellulose-Reinforced Poly(vinyl alcohol) Hydrogels Mimicking Collagenous Soft Tissues

Gopi Krishna Tummala, Thomas Joffre, Ramiro Rojas, Cecilia Persson, and Albert Mihranyan\*

## Axial strain measurement using Digital Image Correlation (DIC)

Poisson's ratio used in the modelling was obtained from DIC using the commercial system GOM Aramis stereo 5M. Each sample was spray painted to create speckles that could be tracked during deformation. Images were acquired at a frequency of 1 Hz. Each image of the acquired sample was compared with the initial image to estimate the displacement and strain fields. After some time the system was unable to track the points due to relatively large displacements between the points. Nonetheless, the data obtained at low strains could be used to calculate the Poisson's ratio.



Figure S1. Time lapse images of the pure PVA sample under test conditions. (a) t=0 sec, (b) t= 50 sec, (c) t= 100 sec. Scale shows strain along axial direction, as obtained by DIC.