## Supplementary information

## Molecular layer deposited alucone thin films from long-chain organic precursors: from brittle to ductile mechanical characteristics

Janne-Petteri Niemelä\*, Nadia Rohbeck, Johann Michler and Ivo Utke

\*janne-petteri.niemelae@empa.ch

Laboratory for Mechanics of Materials and Nanostructures Empa - Swiss Federal Laboratories for Materials Science and Technology Feuerwerkerstrasse 39, Thun CH-3602, Switzerland



**Figure S1**. An example X-ray reflection pattern (solid markers) together with the corresponding fit (line) for a hybrid inorganic-organic film deposited through the TMA/DD route.



**Figure S2**. Optical micrographs of the film surface for various uniaxial tensile strain ( $\epsilon$ ) values as followed through the in-situ optical microscopy. The micrographs are for the hybrid inorganic-organic film deposited through the TMA/HD route.



**Figure S3**. Optical micrographs of the film surface for various uniaxial tensile strain ( $\epsilon$ ) values as followed through the in-situ optical microscopy. The micrographs are for the hybrid inorganic-organic film deposited through the TMA/DD route.