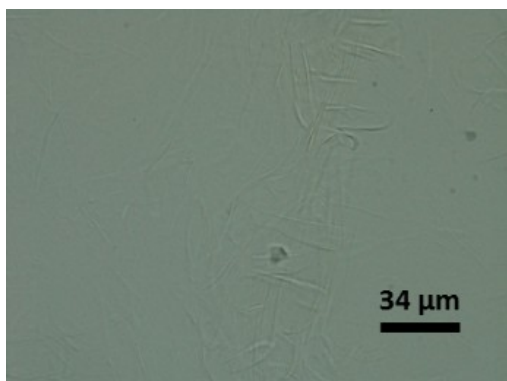
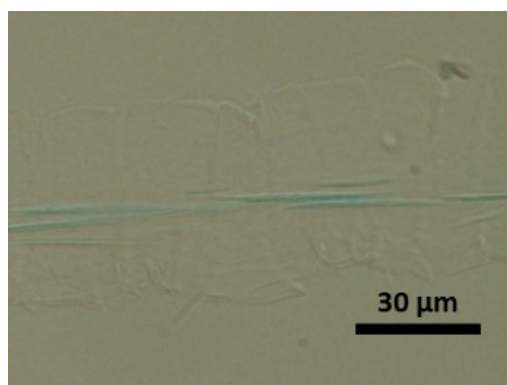


## Supplementary Materials

**Figure S1.** Polarizing optical microscope (POM) image of wool dissolution in a vial in [BMIM]Ac at 120 °C for 2 h with stirring. Remaining of cuticle can be seen clearly.



**Figure S2.** POM image of wool fibre dissolved in [Choline]TGA at 120 °C for 10 min. TGA: thioglycolic acid.



**Figure S3.** (a) Raman spectra of wool fibres treated in aqueous solution of TGA; and (b) Fourier transform infrared spectroscopy (FTIR) spectra of wool fibres treated in aqueous solution of hydrogen peroxide ( $\text{H}_2\text{O}_2$ ).

