

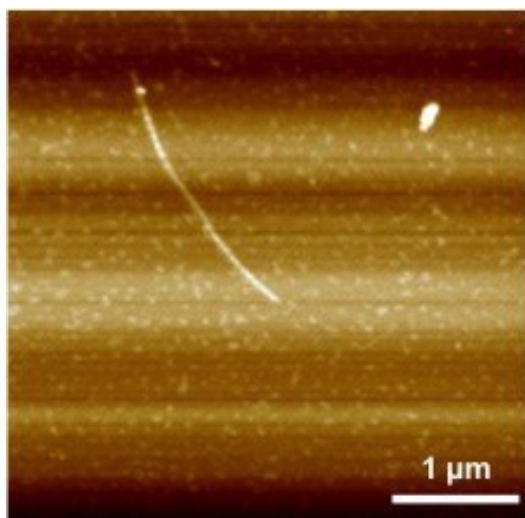
Electronic Supplementary Information for

**Development of biomineralization-inspired hybrids based on  $\beta$ -chitin and zinc hydroxide carbonate and their conversion into zinc oxide thin films**

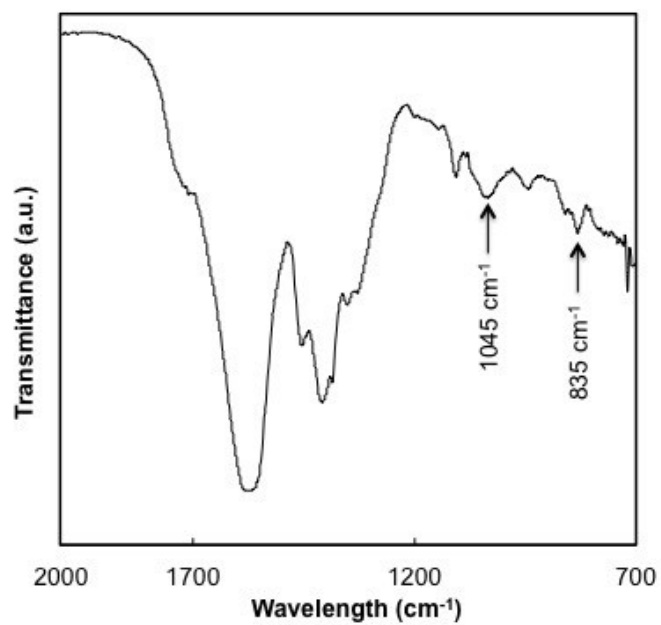
David Kuo, Satoshi Kajiyama and Takashi Kato\*

Department of Chemistry and Biotechnology, School of Engineering, The  
University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113-8656, Japan

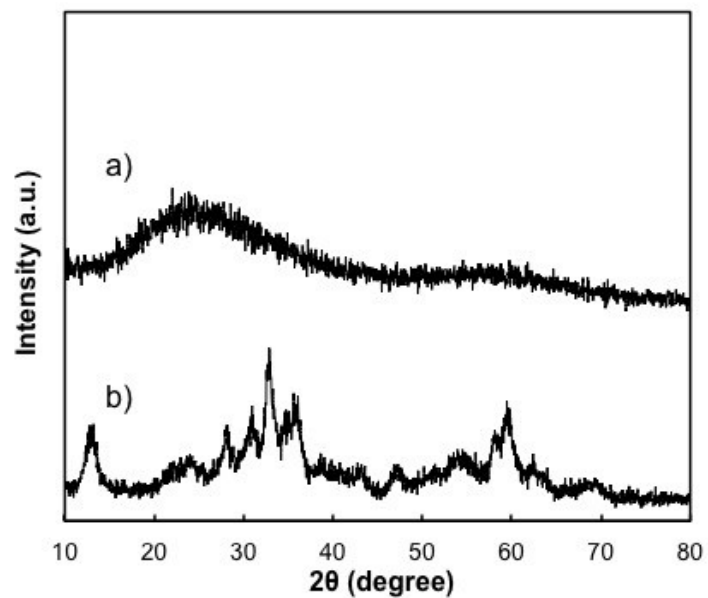
\*E-mail: [kato@chiral.t.u-tokyo.ac.jp](mailto:kato@chiral.t.u-tokyo.ac.jp)



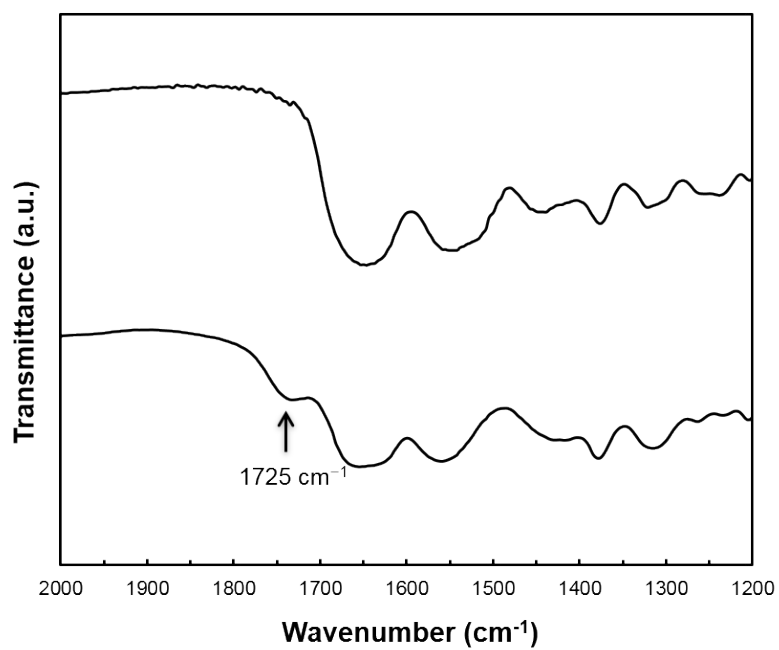
**Fig. S1** Atomic force microscope image of a  $\beta$ -chitin nanofiber.



**Fig. S2** FT-IR spectrum of chitin/ZHC hybrid with the presence of PAA.



**Fig. S3** XRD patterns of zinc hydroxide carbonate precipitates formed a) with  $3.6 \times 10^{-2}$  wt% of PAA and b) in the absence of PAA.



**Fig. S4** FT-IR of a)  $\beta$ -chitin and b) TEMPO-mediated oxidized  $\beta$ -chitin. The peak at  $1725\text{ cm}^{-1}$  is attributed to carboxylic acid group.