

1 Supporting Information for

2 **Structurally Integrated Properties of Random, Uni-directional and Bi-directional Freeze-**  
3 **dried Cellulose/Chitosan Aerogels**

4 Journal: Cellulose

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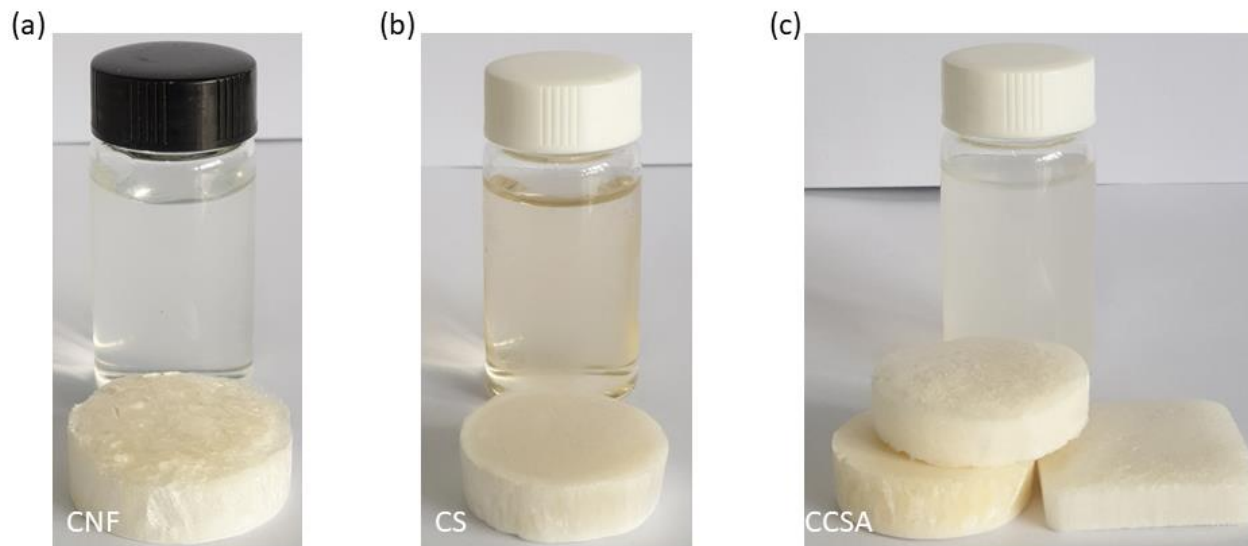
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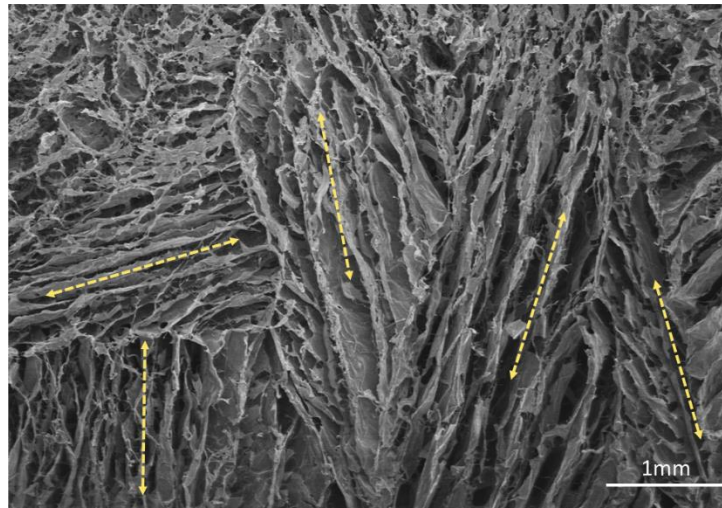
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13 **Supplementary Figures**



**Fig. S 1** Digital photograph of CNF/CS suspension and CCSAs samples. **a** Pure CNF suspension and its aerogels. **b** Pure CS suspension and aerogels. **c** CNF/CS suspension and CCSAs

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**Fig. S 2** Micro structure and macro-anisotropic lamellar orientation of u-CCSA

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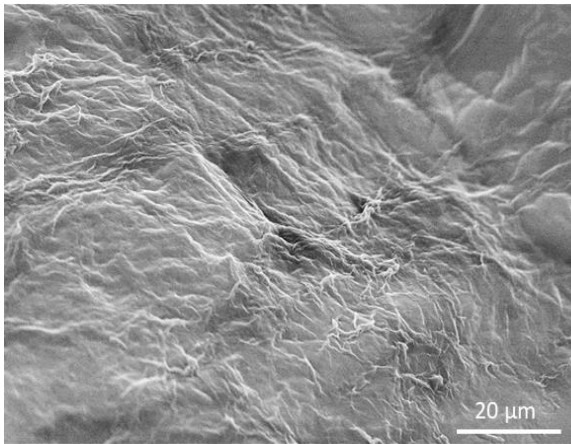
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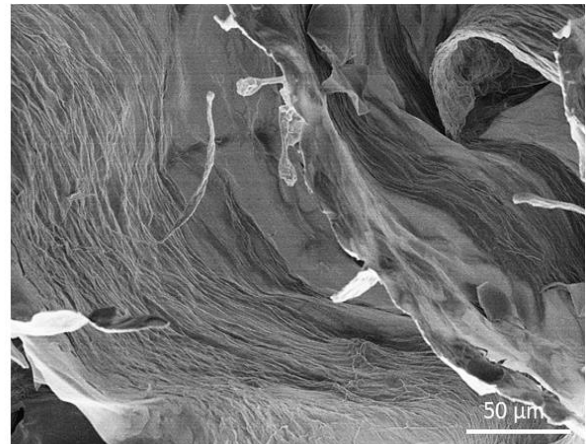
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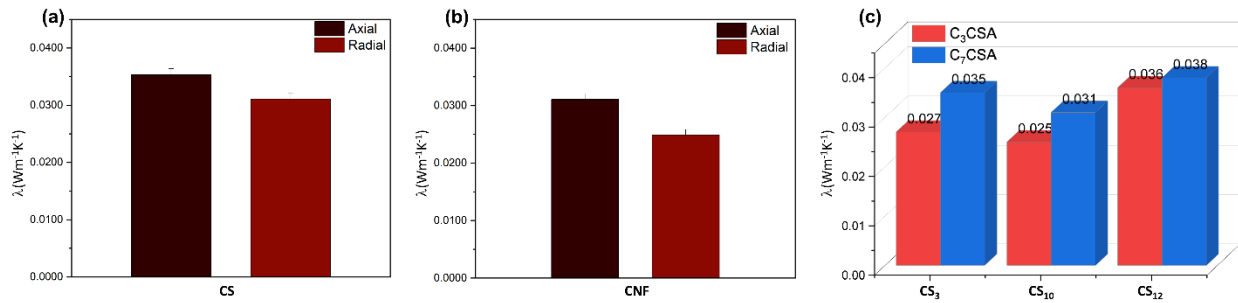
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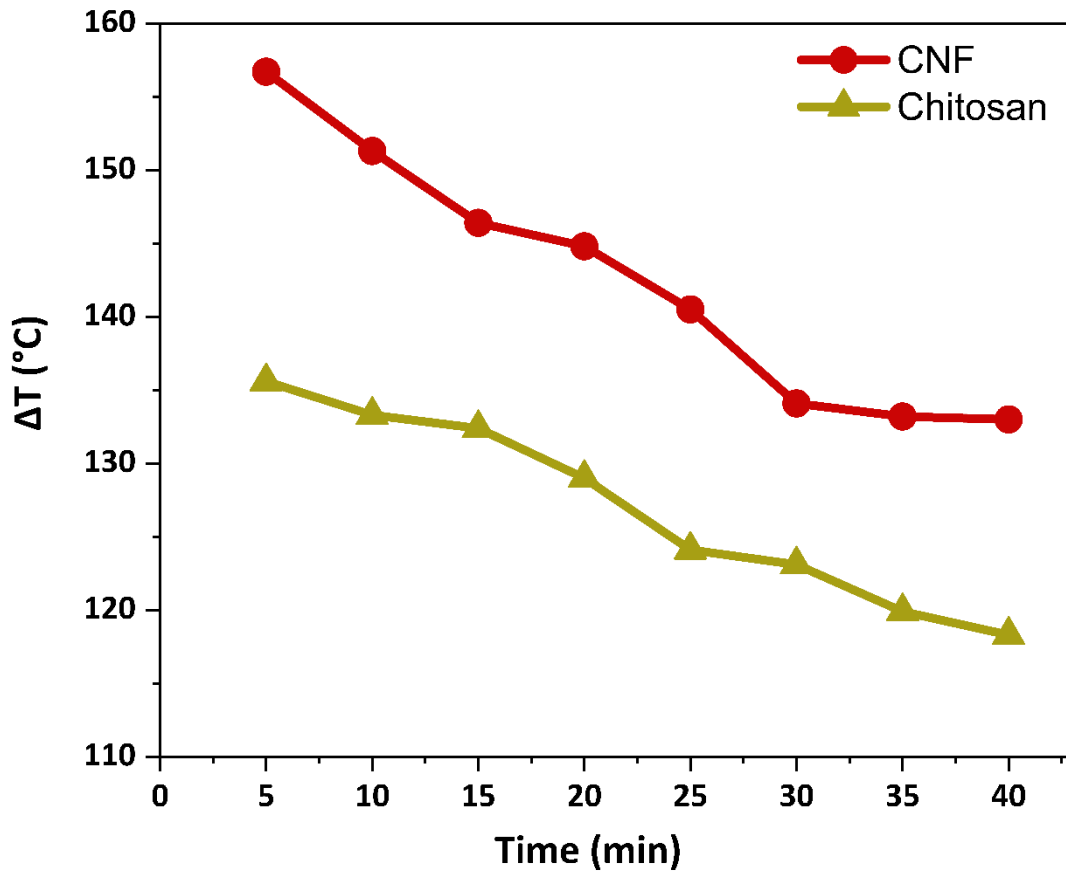
(b)



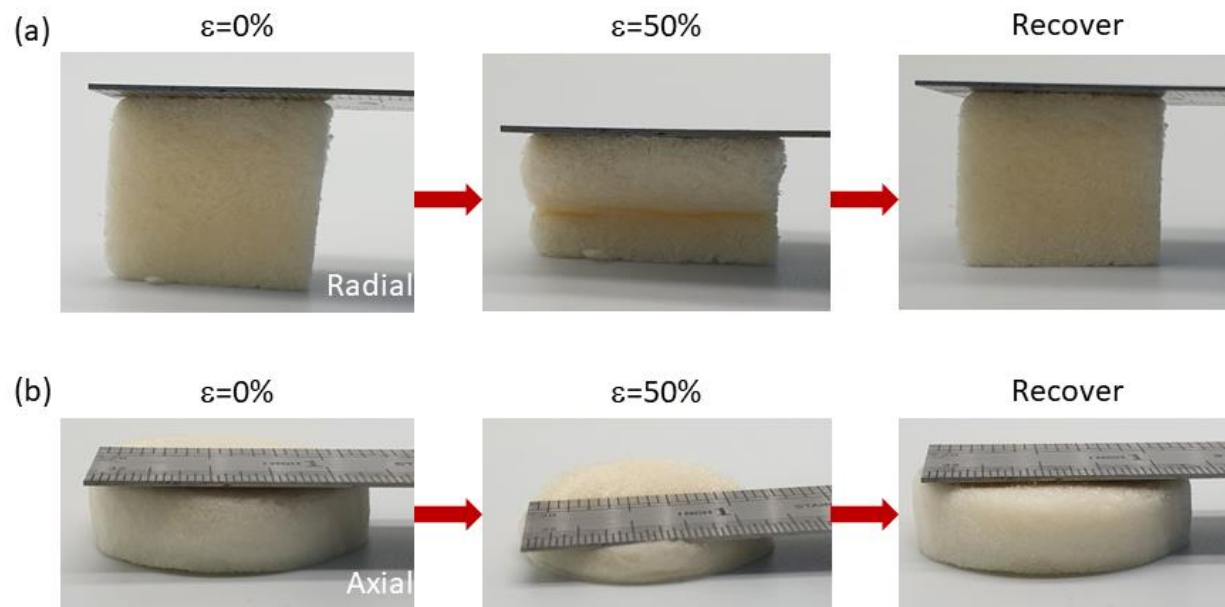
**Fig. S 3** SEM images of CCSA indicating cellulose nano-fibers presence on cellular walls. **a** u-CCSA macro-structure. **b** b-CCSA macro-orientation of CNF



**Fig. S 4** Thermal conductivity of CCSA aerogels. **a** Thermal conductivity of pure CS aerogels. **b**  $\lambda$  of pure CNF aerogels. **c**  $\lambda$  of CCSA with lower and higher CNF/CS ratio



**Fig. S 5** The corresponding temperature distribution along pure CNF and CS aerogels



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**Fig. S 6** Compressibility of the CCSAs with a density  $12 \text{ mgcm}^{-3}$ . **a** Radially compress recovery from 50% strain in CCSA. **b** Axially compress recovery of CCSA