

# Facile fabrication of CDs/PVA composite polymer to access light-responsive shape-memory effects

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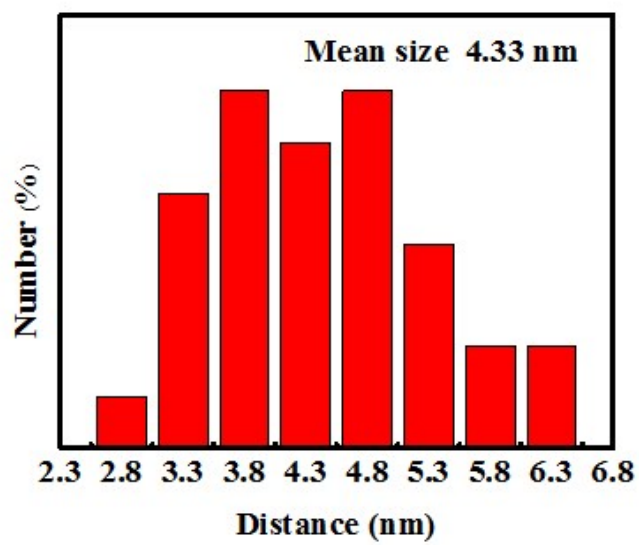
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Keyword: carbon dots / PVA composition, photo-thermal conversion, light-responsive, shape memory materials

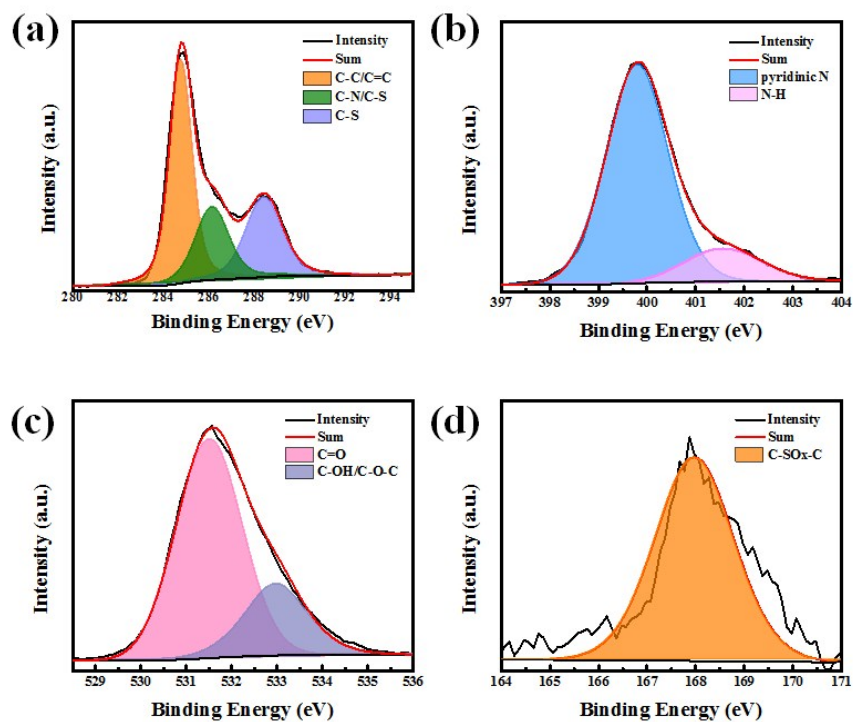
## Supporting information

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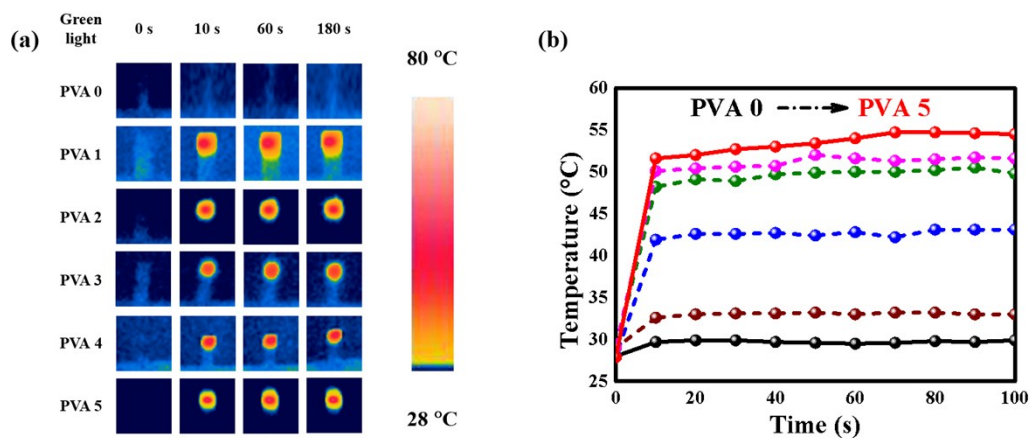
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**Fig. S1** Particle size distribution of CDs.



**Fig. S2** (a) XPS C 1s spectrum, (b) XPS N 1s spectrum, (c) XPS O 1s spectrum, and (d) XPS S 1s spectrum of CDs.



**Fig. S3** (a) The photothermal images of CDs / PVA composite polymer upon exposure to the 550 nm laser irradiation ( $0.10 \text{ W cm}^{-2}$ ) for various time. (b) Temperature variations of CDs / PVA composite polymer upon exposure to the 550 nm laser irradiation ( $0.10 \text{ W cm}^{-2}$ ).