

## **Supplementary Materials**

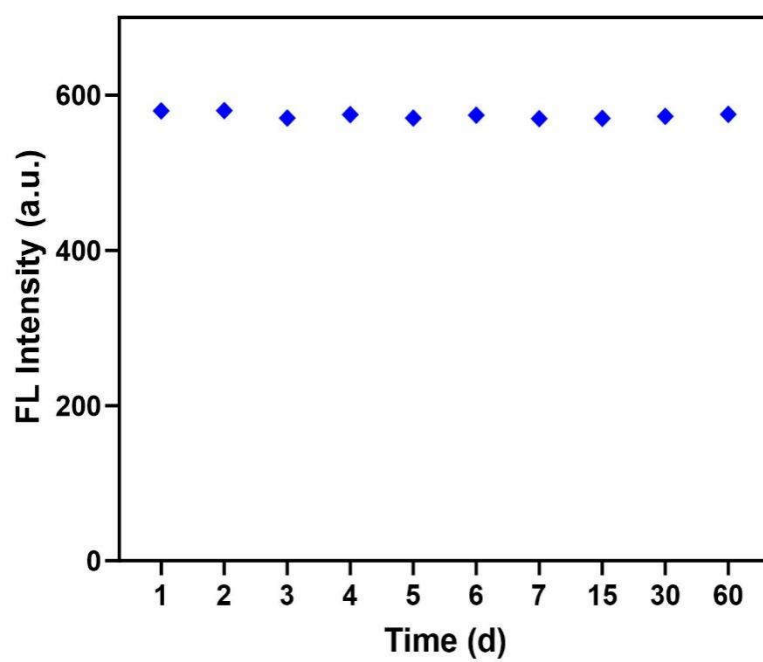
### **Epimedium-derived multi-antioxidant carbon dots nanozymes for mitigating drought stress of ginseng seedlings**

Yanghong Liu <sup>1</sup>, Tong Wu <sup>1</sup>, Jialong He <sup>1</sup>, Chunyao Shang <sup>1</sup>, Jiaheng Li <sup>1</sup>, Yu Dong <sup>1</sup>,  
Huiyuan Xie <sup>1</sup>, Chen Xu <sup>1,2\*</sup>, Yingping Wang <sup>1,2\*</sup> and Kai Dong <sup>1,2\*</sup>

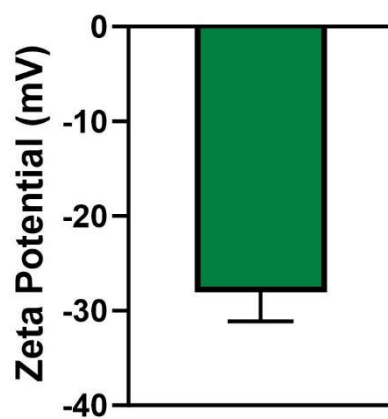
<sup>1</sup> College of Chinese Medicinal Materials, Jilin Agricultural University, Changchun 130118, China

<sup>2</sup> National & Local Joint Engineering Research Center for Ginseng Breeding and Development,  
Changchun 130118, China

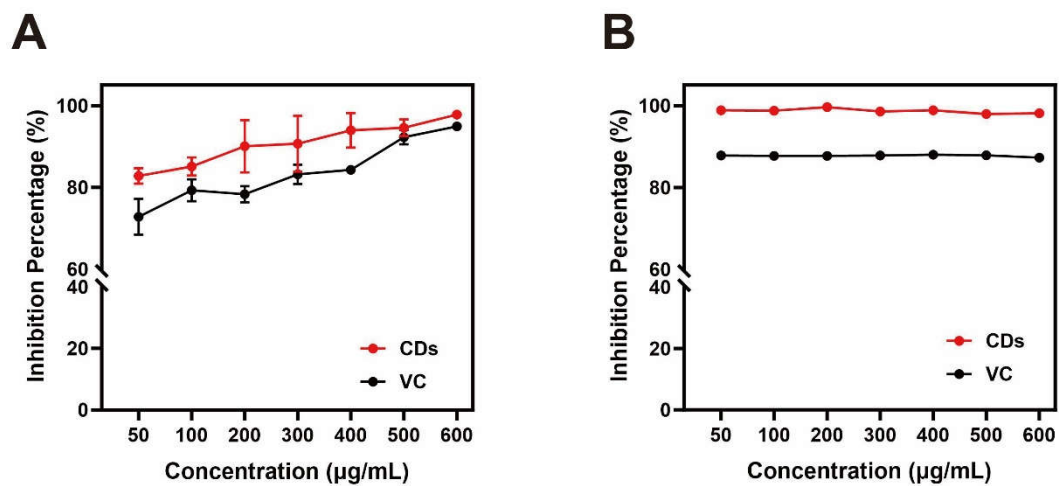
\*Corresponding Author: Chen Xu (E-mail: [xuchen@jlau.edu.cn](mailto:xuchen@jlau.edu.cn)), Yingping Wang  
([wangyingping@jlau.edu.cn](mailto:wangyingping@jlau.edu.cn)) and Kai Dong ([dongkai@jlau.edu.cn](mailto:dongkai@jlau.edu.cn)).



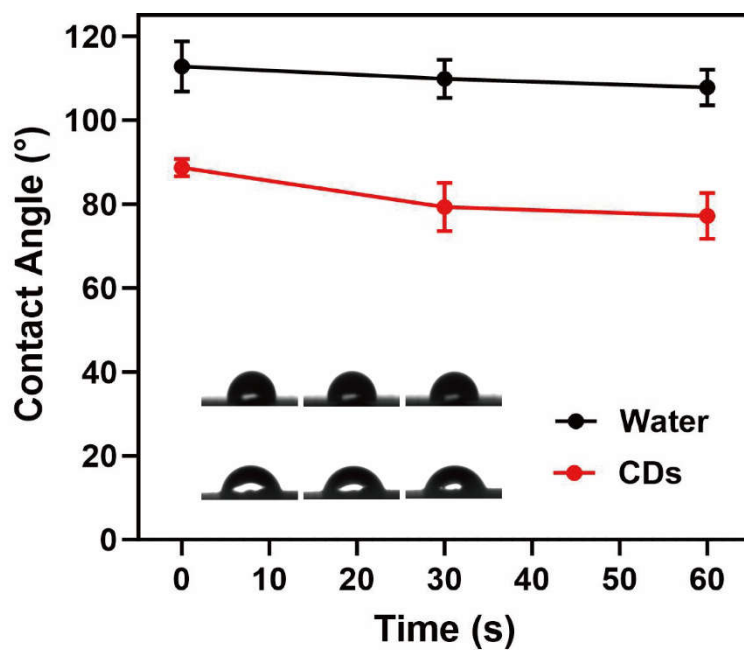
**Figure S1.** Fluorescence intensity of CDs solution stored for different times.



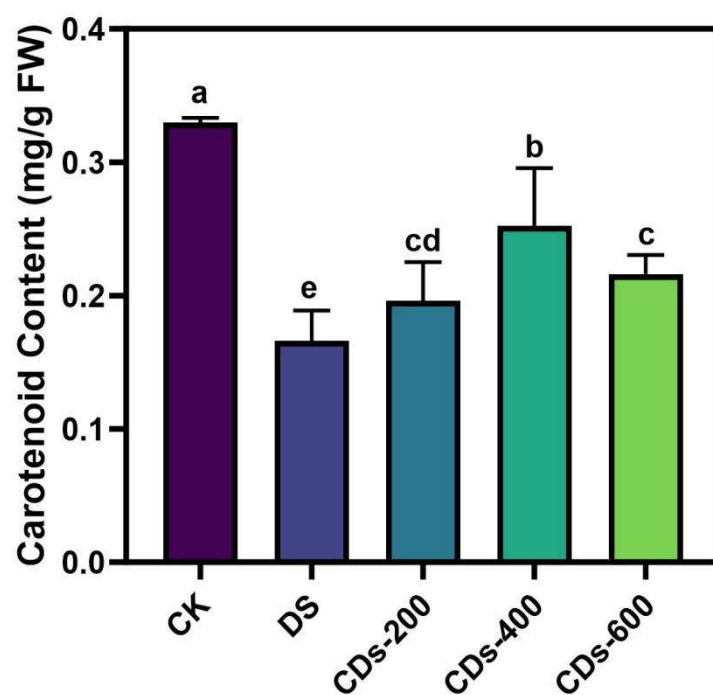
**Figure S2.** The Zeta potential of CDs.



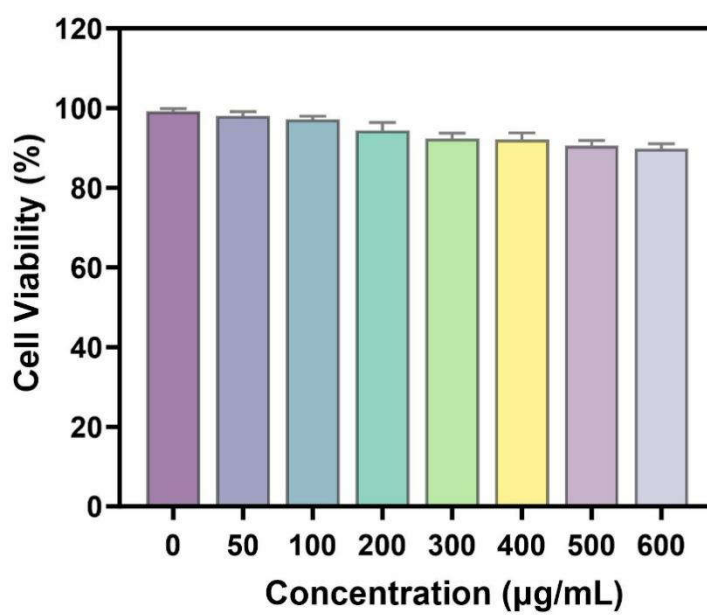
**Figure S3.** (A)  $O_2^{\cdot-}$  and (B)  $ABTS^{\cdot+}$  radical inhibition percentage at different concentrations.



**Figure S4.** Contact angle on the surface of ginseng leaves.



**Figure S5.** Effect of different treatments on ginseng seedlings for carotenoid content.



**Figure S6.** Cytotoxicity assessment of different concentrations of CDs.