

Robust Electrospinning-Constructed Cellulose Acetate@Anthocyanin Ultrafine Fibers: Synthesis, Characterization, and Controlled Release Properties

Mingzhu Liu^{1,2}, Shilei Zhang², Yuanyuan Ye^{1,2}, Xiaoqing Liu^{1,2}, Jiangling He^{1,*}, Lingfeng Wei^{1,2}, Die Zhang², Jiaojiao Zhou¹ and Jie Cai^{2,*}

¹ National R&D Center for Se-rich Agricultural Products Processing, Hubei Engineering Research Center for Deep Processing of Green Se-rich Agricultural Products, School of Modern Industry for Selenium Science and Engineering, Wuhan Polytechnic University, Wuhan 430023, China

² Key Laboratory for Deep Processing of Major Grain and Oil, Ministry of Education, Hubei Key Laboratory for Processing and Transformation of Agricultural Products, Wuhan Polytechnic University, Wuhan 430023, China

* Correspondence: hejiangling@whpu.edu.cn (J.H.); caijievip@whpu.edu.cn (J.C.)

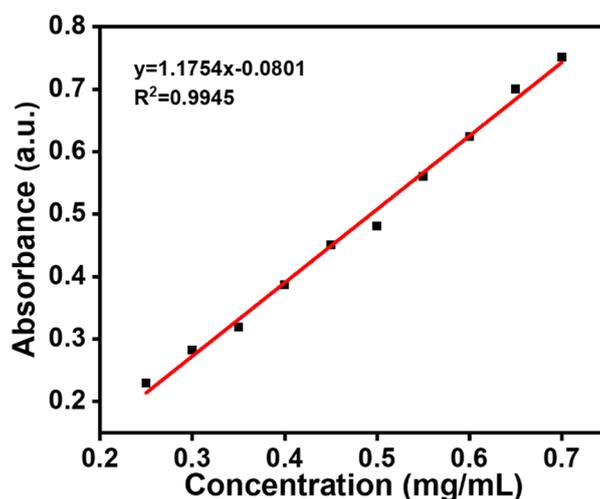


Figure S1. Standard curve of anthocyanin aqueous solution with various concentrations.

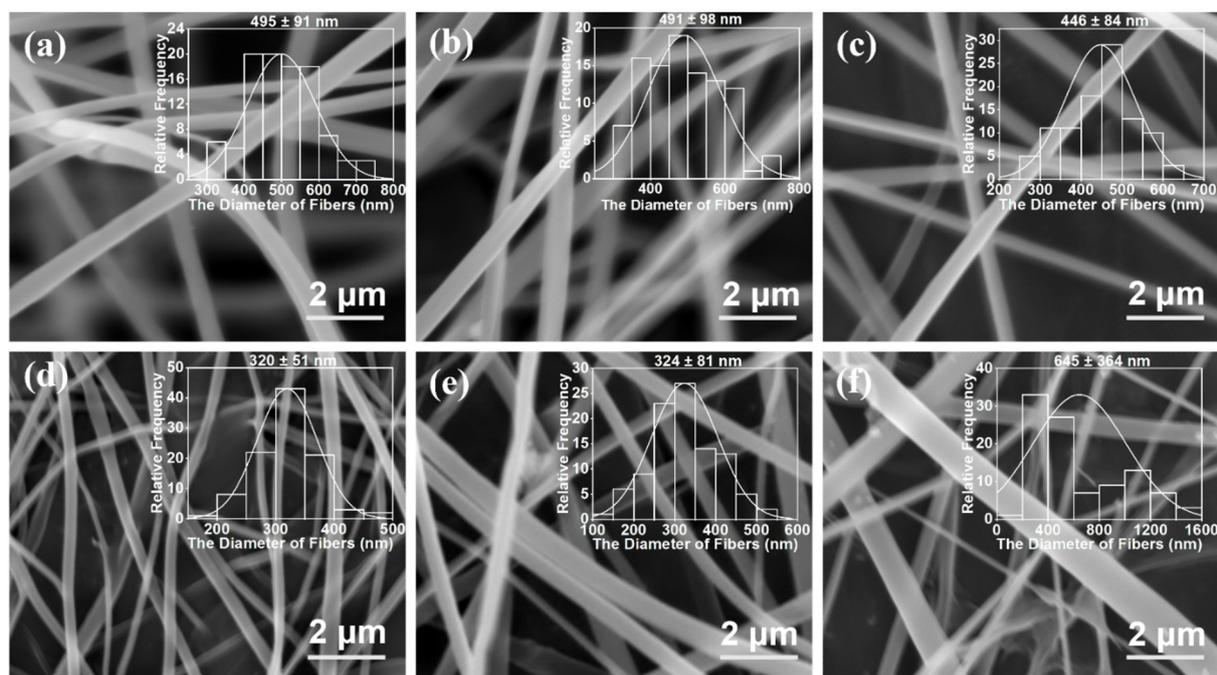


Figure S2. (a–f) SEM images of CA@Anthocyanin UFs with various concentrations of anthocyanin (a-0%, b-3%, c-5%, d-7%, e-9%, f-11%). Inset: diameter distribution of CA@Anthocyanin UFs; a-0%, b-3%, c-5%, d-7%, e-9%, f-11%.



Figure S3. The captured photo of the CA@Anthocyanin UFs under room light (7 wt.%).

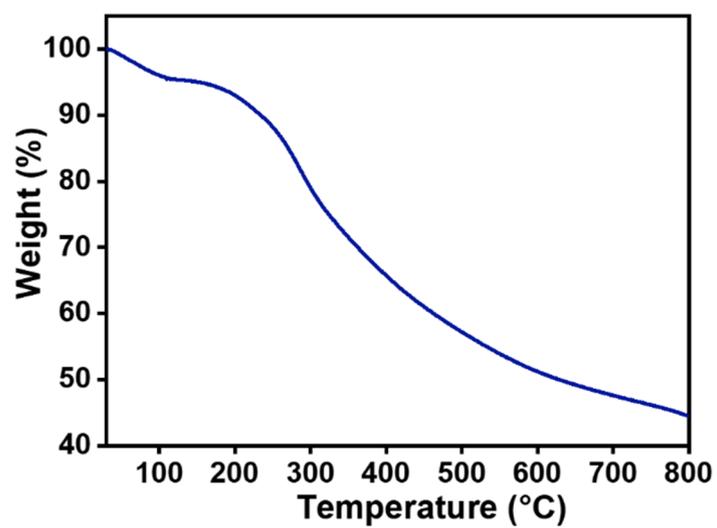


Figure S4. TGA curve of anthocyanin.

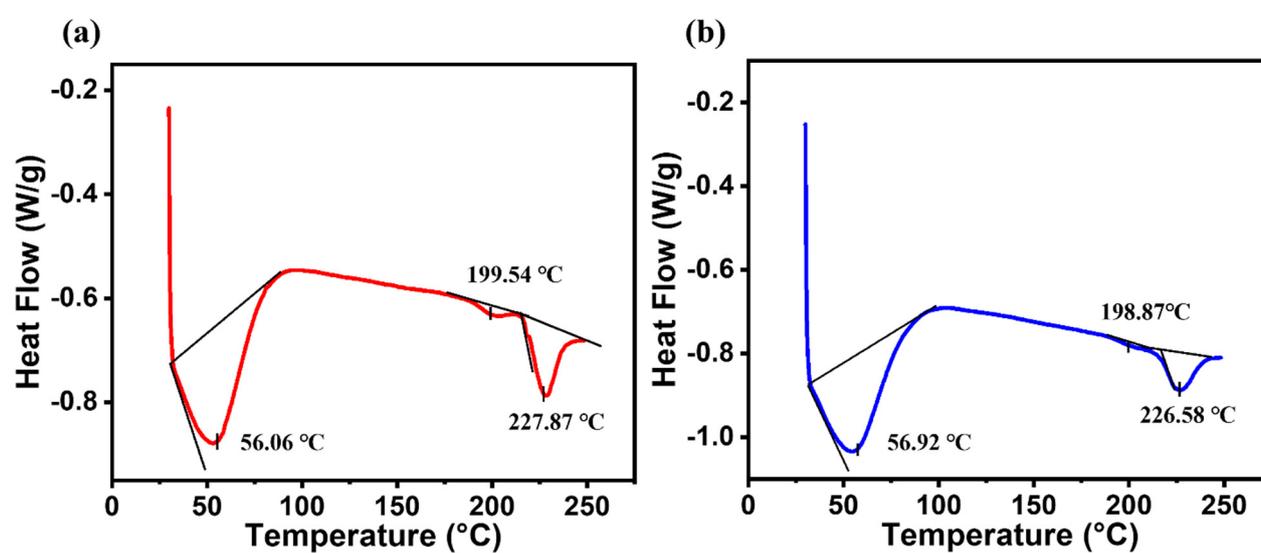


Figure S5. DSC curves of (a) CA UFs and (b) CA@Anthocyanin UFs.

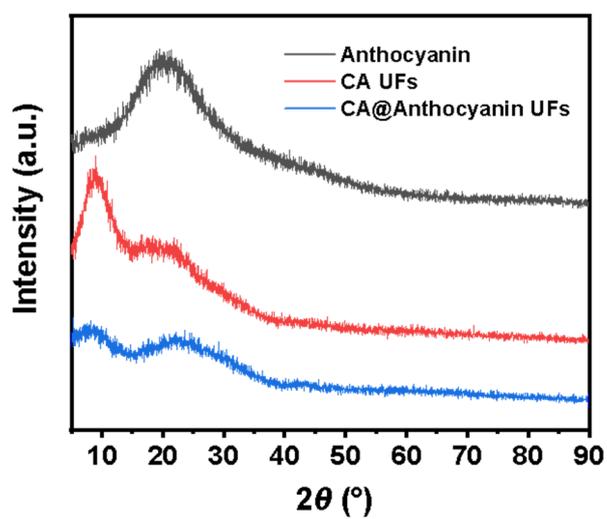


Figure S6. XRD patterns of anthocyanin, CA UFs, and CA@Anthocyanin UFs.

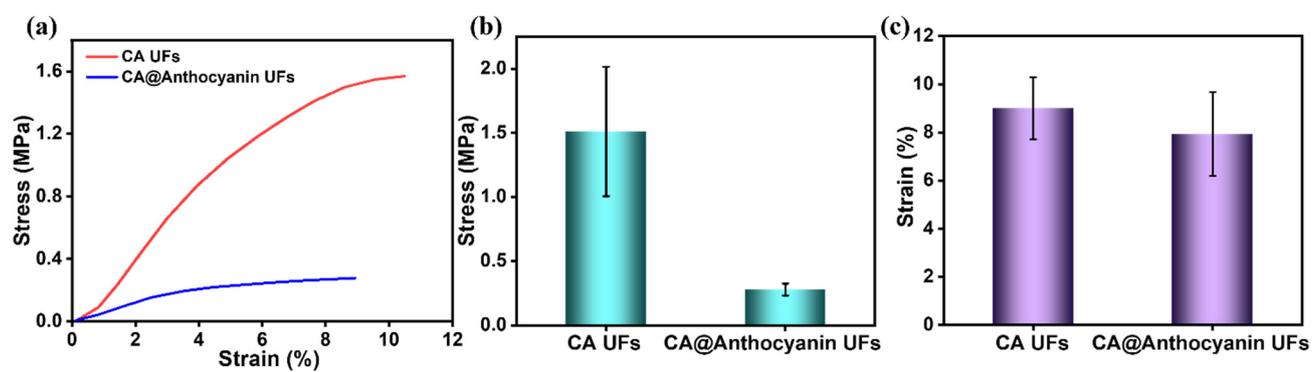


Figure S7. (a) Typical stress-strain curves; (b) tensile strength; (c) elongation at break of CA UFs and CA@Anthocyanin UFs.

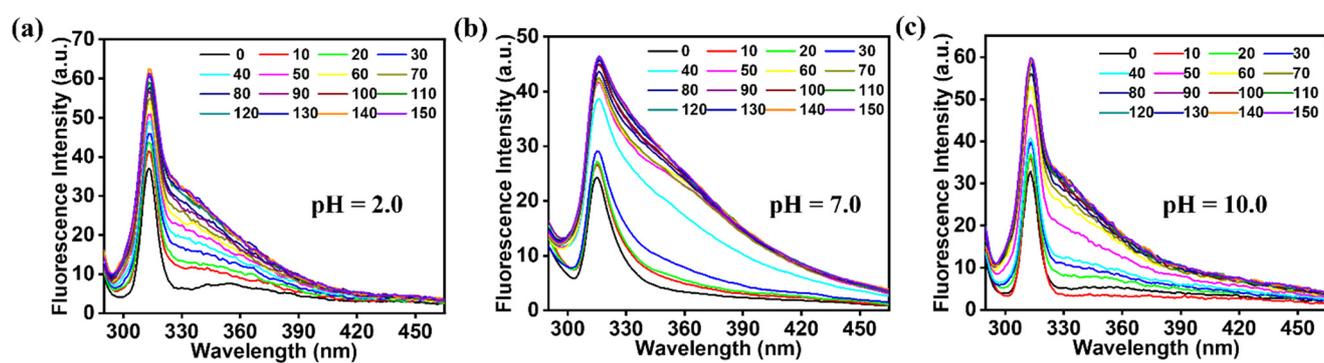


Figure S8. Fluorescence spectra of CA@Anthocyanin UFs in the citric acid/sodium citrate buffer solution with different pH values gathered with time interval of 10 min (0-150 min).

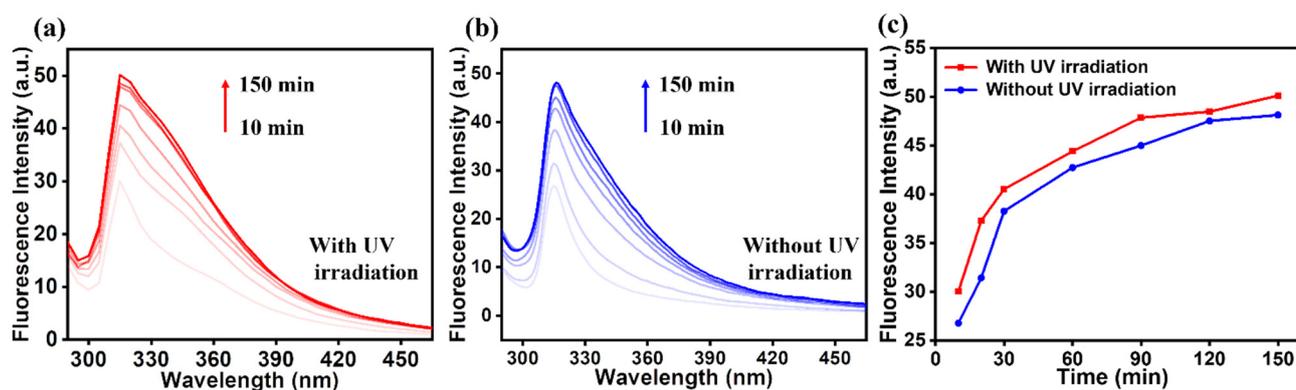


Figure S9. (a) and (b) Fluorescence spectra of CA@Anthocyanin UF in water with/without UV irradiation (10, 20, 30, 60, 90, 120, and 150 min), respectively; (c) comparison of the fluorescence intensity of CA@Anthocyanin UF with/without UV irradiation at different times (10, 20, 30, 60, 90, 120, and 150 min).