

Supporting information

Natural phenolic compound-iron complexes: sustainable solar absorbers for wood-based solar steam generation devices

He Gao⁺, Mingming Yang⁺, Ben Dang, Xiongfei Luo, Shouxin Liu, Shujun Li, Zhijun

Chen,^{*} and Jian Li^{*}

Key Laboratory of Bio-based Material Science and Technology of Ministry of Education, Northeast Forestry University, Hexing Road 26, Harbin 150040, P.R. China

Email: chenzhijun@nefu.edu.cn; nefulijian@163.com

⁺ These authors contributed equally to the work.

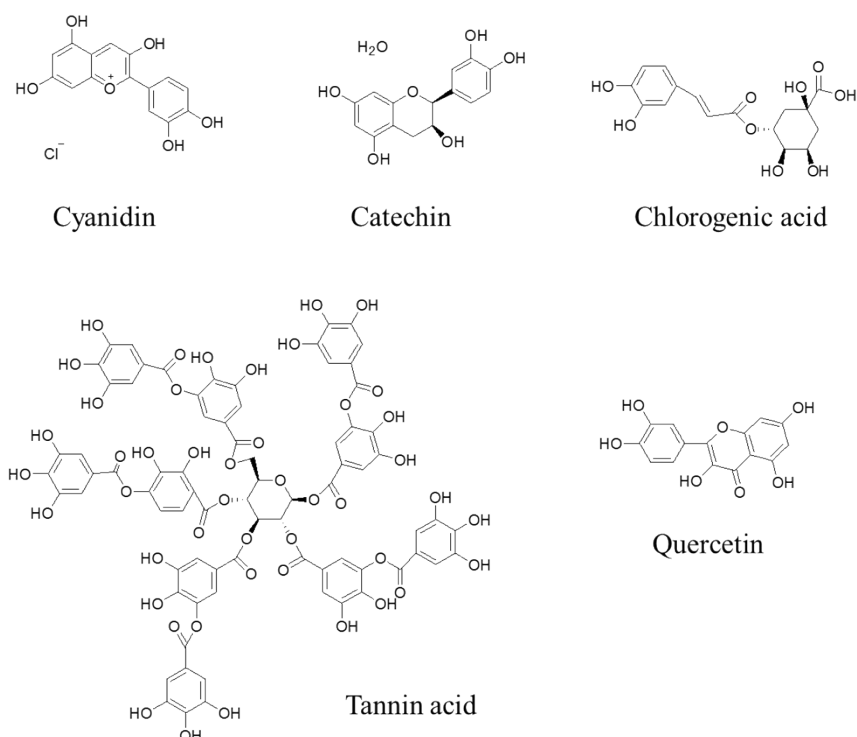


Figure S1. Chemical structures of natural phenolic compounds. catechin (1), quercetin (2), cyanidin (3), chlorogenic acid (4) and tannin acid (5)

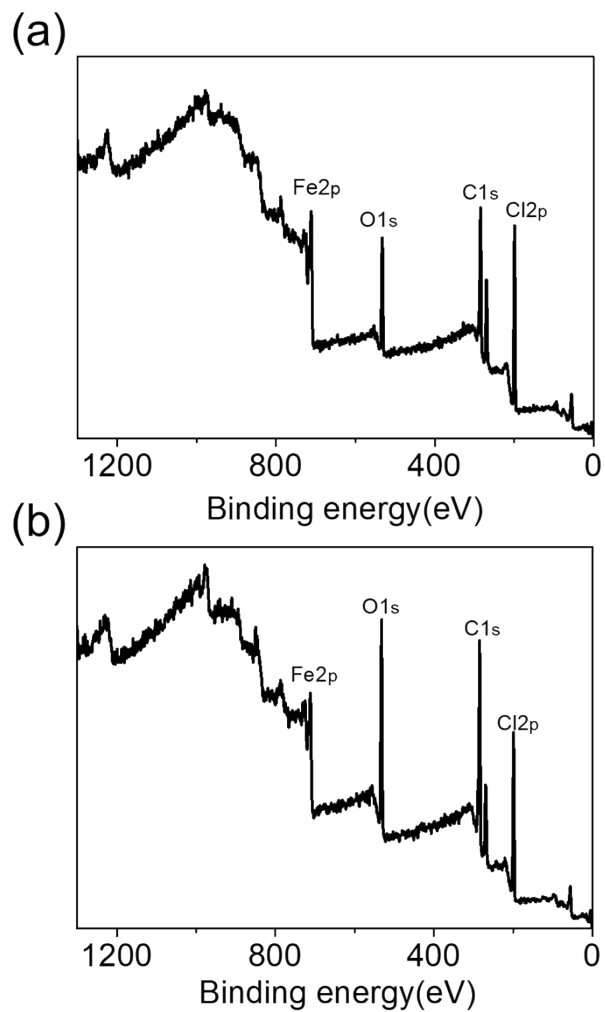


Figure S2. XPS spectra of PCF-1 and PCF-2

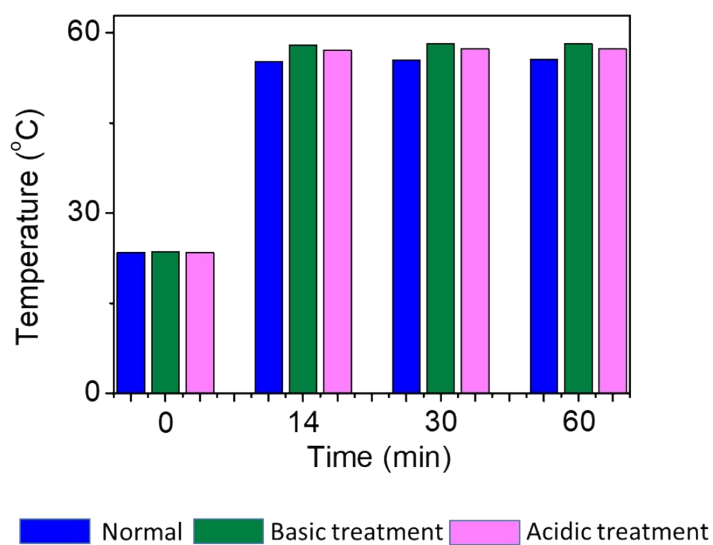


Figure S3. Temperature change of PCF-1 upon light irradiation for different time

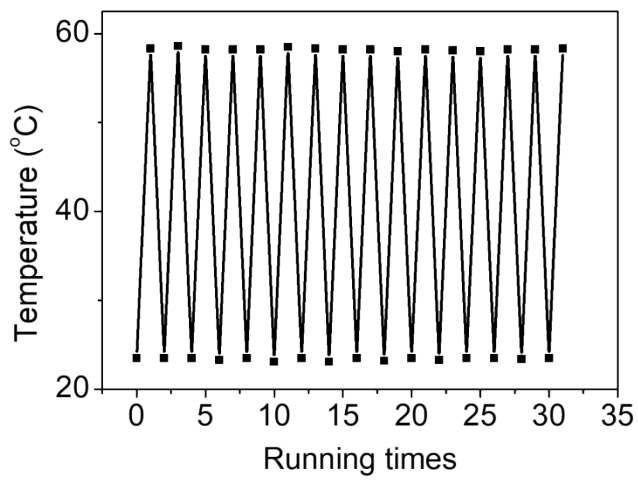


Figure S4. Cycling temperature of PCF-1 under one sun irradiation

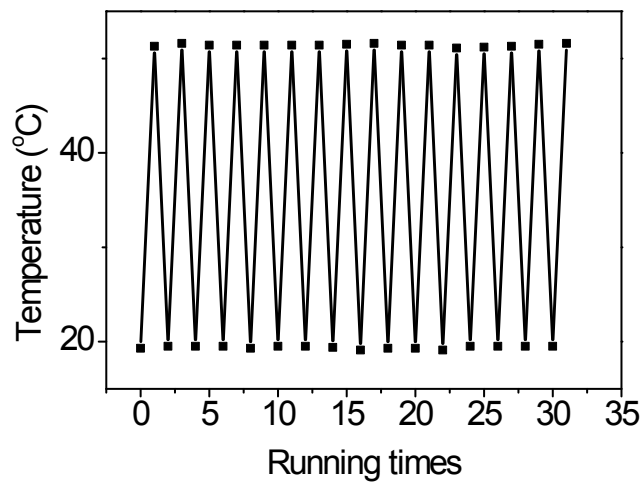


Figure S5. Cycling temperature of PCF-2 under one sun irradiation

Figure S6. Images of W-SSGD made from PCF-1 and wood

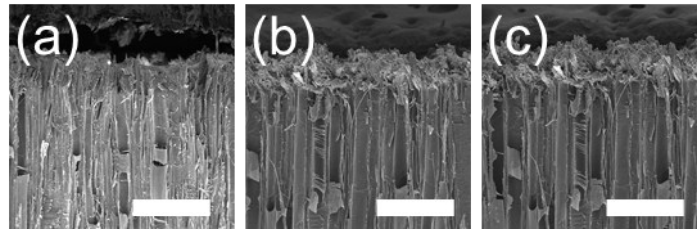


Figure S7. SEM images of W-SSGD a) normal condition, cross-sectional view, scale bar = 400 μm ; b) after basic treatment, cross-sectional view, scale bar = 400 μm ; c) after acidic treatment, cross-sectional view, scale bar = 400 μm

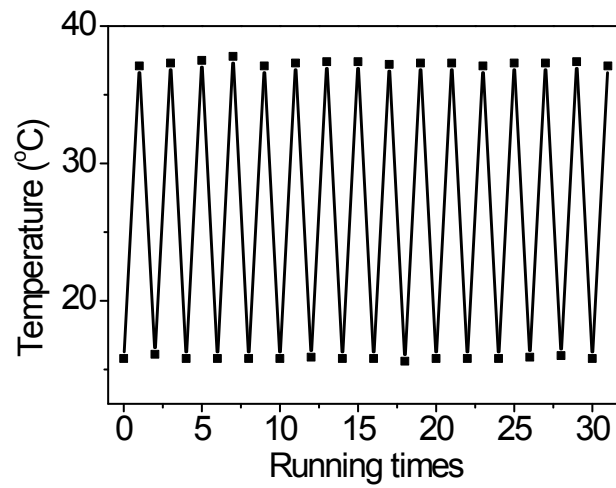


Figure S8. Cycling temperature of the W-SSGD under one sun irradiation

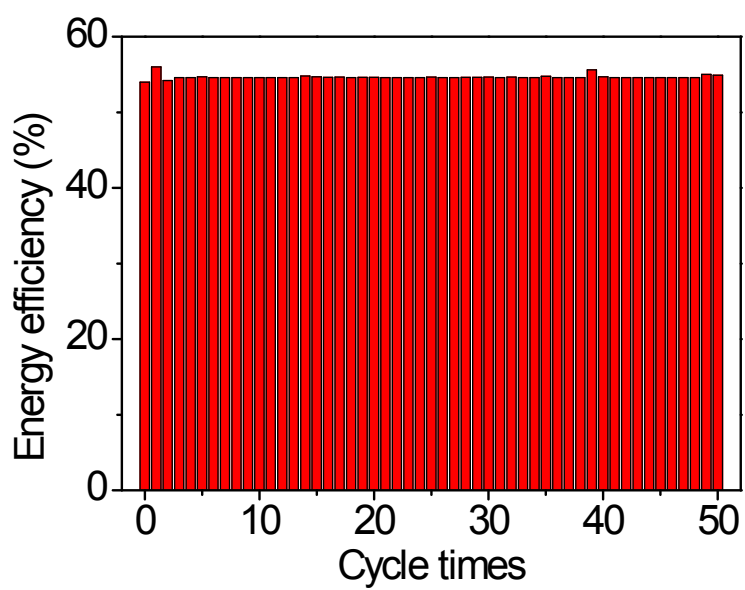


Figure S9. Cycling performance of the W-SSGD under one sun irradiation

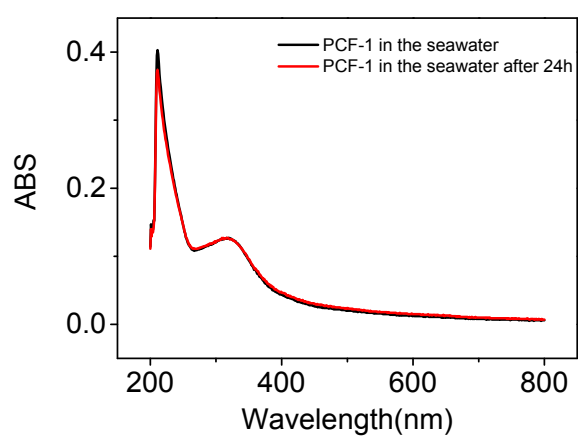


Figure S10. UV-Vis spectra of PCF-1 in seawater