Supporting Information

Glycine assists efficient synthesis of herbal carbon dots with enhanced yield and performance

Qingyuan Cen,[a] Fangmei Fu,[a] Hong Xu,[a] Lianxiang Luo,[b] Fanfan Huang,[b] Jing Xiang,[b] Wei Li,[a,c] Xiaoqin Pan,[a] Haoran Zhang,[a,c] Mingtao Zheng,*[a,c] Yinjian Zheng,*[d] Qingming Li,[d] and Bingfu Lei*[a,c]

[a] Key Laboratory for Biobased Materials and Energy of Ministry of Education, College of Materials and Energy, South China Agricultural University, Guangzhou 510642, P. R. China.

[b] The Marine Biomedical Research Institute of Guangdong Zhanjiang, Guangdong Medical University, Zhanjiang 524023, P. R. China.

[c] Maoming Branch, Guangdong Laboratory for Lingnan Modern Agriculture, Guangdong Maoming 525100, P. R. China.

[d] Institute of Urban Agriculture, Chinese Academy of Agricultural Sciences, Chengdu 610213, P.R. China.

Email: tleibf@scau.edu.cn.

Experimental Section

Materials

Exocarpium Citri Grandis dried fruit was produced in Boyang Town, Huazhou City, Guangdong Province, China. Glycine (AR), oxalic acid (AR) and 2,2-Diphenyl-1-picrylhydrazyl (DPPH•, 96%) were purchased from Shanghai Macklin Biochemical Co., Ltd. Ethylenediamine was purchased from Guangdong Guangshi reagent Technology Co., Ltd. RAW264.7 cells were purchased from the American Type Culture Collection (ATCC). iNOS (D6B6S) Rabbit mAb #13120 and Cox2 (D5H5) XP® Rabbit mAb #12282 were purchased from Cell Signaling Technology.

Table S1 Information about carbon dots

Sample	ECG-CDs	CDs-1	CDs-2	CDs-3
Productivity（%）	3.3	3.8	18.8	11.2
380 nm-ex PL peak（nm）	471	473	505	544
420 nm-ex PL peak（nm）	511	507	520	544

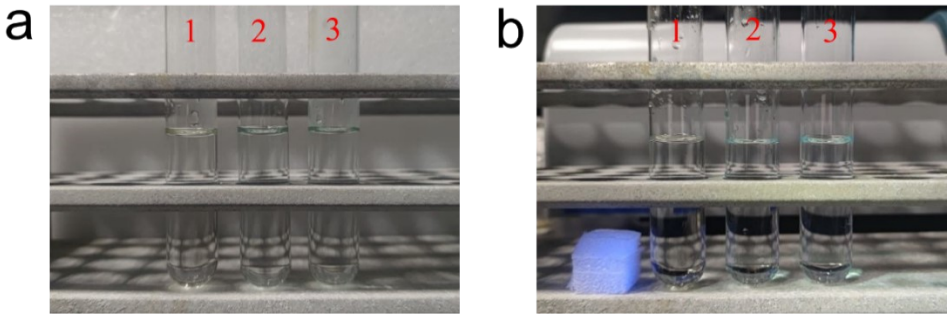

Fig. S1 (a) 1, 2 and 3 are the images of the solution after the hydrothermal reaction of oxalic acid, glycine and ethylenediamine respectively. (b) Solution excited by 395 nm UV, with a fluorescent foam at the lower left corner.

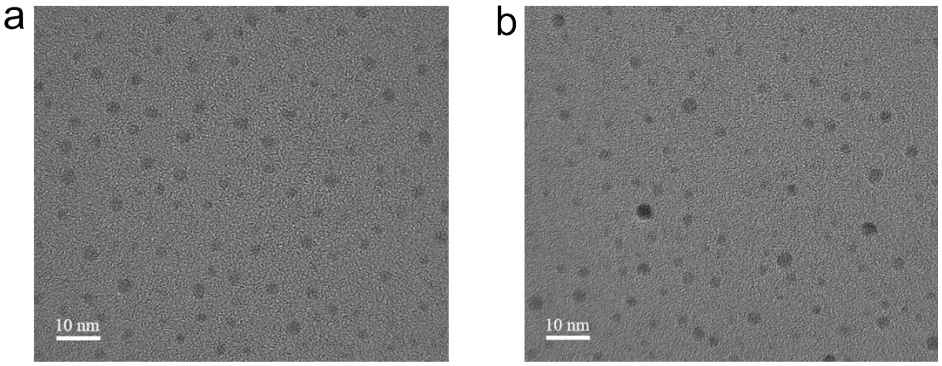

Fig. S2 TEM images of ECG-CDs (a) and CDs-2 (b).

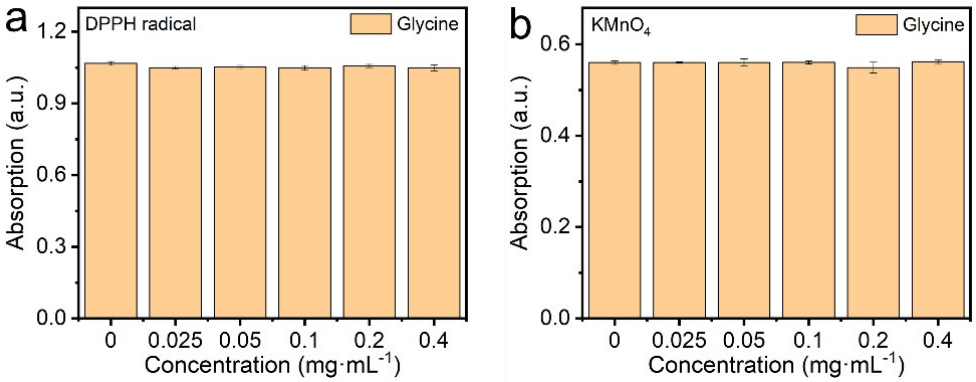

Fig. S3 Effects of different concentrations of glycine on the absorbance of DPPH• solution(a) and $KMnO_4$ solution(b).

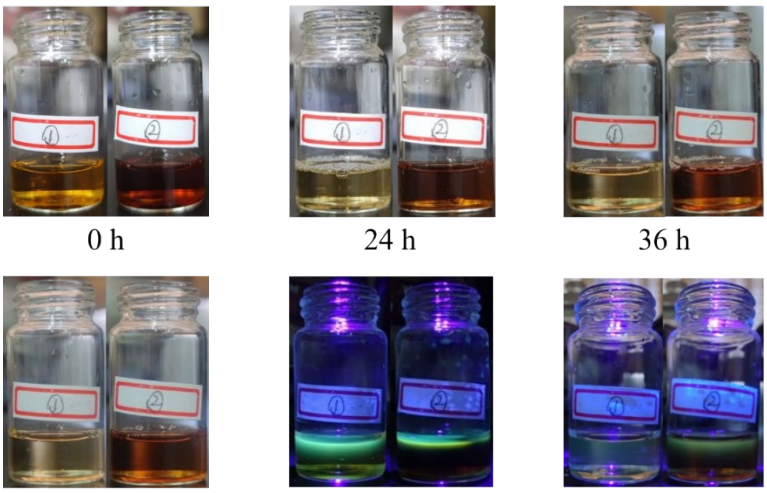

Fig. S4 Dialysis changes of ECG-CDs and CDs-2.

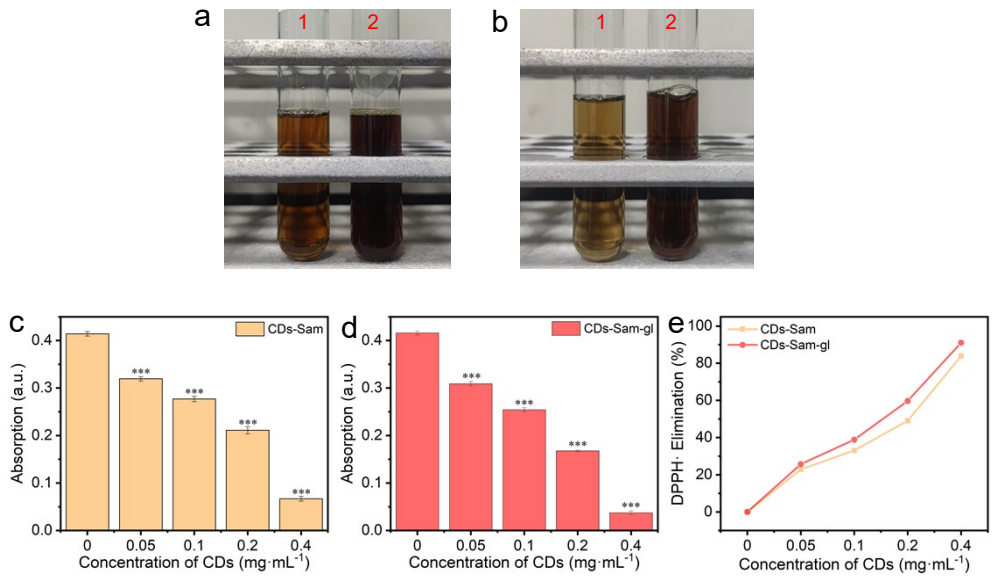

Fig. S5 (a)Image of carbon dots solution of Salvia miltiorrhiza after reaction(No. 1 is CDs-Sam and No. 2 is CDs-Sam-gl), (b)Image of carbon dots solution after dialysis for 48 hours, (c-d)Effect of carbon dots on absorbance of DPPH• solution, (e)Percentage of DPPH• elimination.

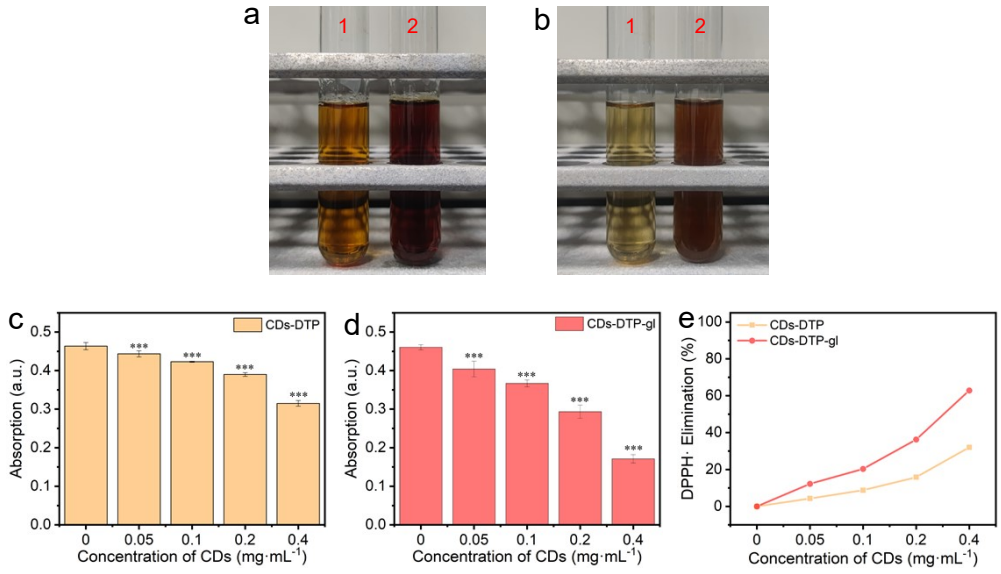

Fig. S6 (a)Image of carbon dots solution of dried tangerine peel after reaction(No. 1 is CDs-DTP and No. 2 is CDs-DTP-gl), (b)Image of carbon dots solution after dialysis for 48 hours, (c-d)Effect of carbon dots on absorbance of DPPH• solution, (e)Percentage of DPPH• elimination.