Electronic Supplementary Material (ESI) for Analytical Methods

SUPPLEMENTARY INFORMATION

Colorimetric screening of β-glucosidase inhibition based on gold nanocomposites

Cui Lai [a,b], Guang-Ming Zeng [a,b,*], Dan-Lian Huang [a,b,*], Mei-Hua Zhao [a,b], Ming Chen [a,b], Zhen Wei [a,b], Chao Huang [a,b], Piao Xu [a,b], Ning-Jie Li [a,b], Xue Li [c], Chen Zhang [a,b]

[a] *College of Environmental Science and Engineering, Hunan University, Changsha 410082, Hunan, PR China*

[b] *Key Laboratory of Environmental Biology and Pollution Control (Hunan University), Ministry of Education, Changsha 410082, Hunan, PR China*

[c] *Department of Bioengineering and Environmental Science, Changsha University, Changsha 410003, Hunan, PR. China*

∗ Corresponding author at: College of Environmental Science and Engineering, Hunan University, Changsha, Hunan 410082, China. Tel.: +86–731– 88822754; fax: +86–731–88823701. E-mail address: zgming@hnu.edu.cn (G.M. Zeng) and huangdanlian1981@163.com(D.L.Huang).

Table S1. Determination of β-glucosidase activity in the compost extracts sample

Samples	β-glucosidase activity (U L^{-1})			R.S.D. (%)
	Added	Detected using gold-cellobiose nanocomposites[a]	Detected by DNS colorimetric assay method[b]	
C1	10.0	11.8 ± 0.56	9.8 ± 0.73	4.7
C2	30.0	32.1 ± 1.54	30.4 ± 1.45	4.8
C 3	50.0	55.6 ± 2.25	51.8 ± 1.20	4.0
C 4	90.0	92.4 ± 3.58	88.6 ± 2.55	3.9

[a,b] Means ± standard deviations of three measurements.

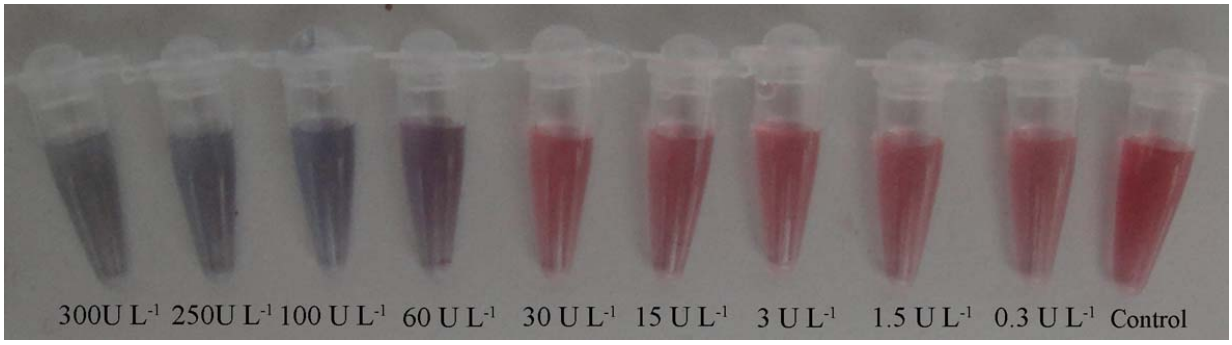

Fig. S1. The β-glucosidase concentration-dependent color changes. From left to right: 300 U L^{-1}; 250 U L^{-1}; 100 U L^{-1}; 60 U L^{-1}; 30 U L^{-1}; 15 U L^{-1}; 3 U L^{-1}; 1.5 U L^{-1}; 0.3 U L^{-1}; Control sample.

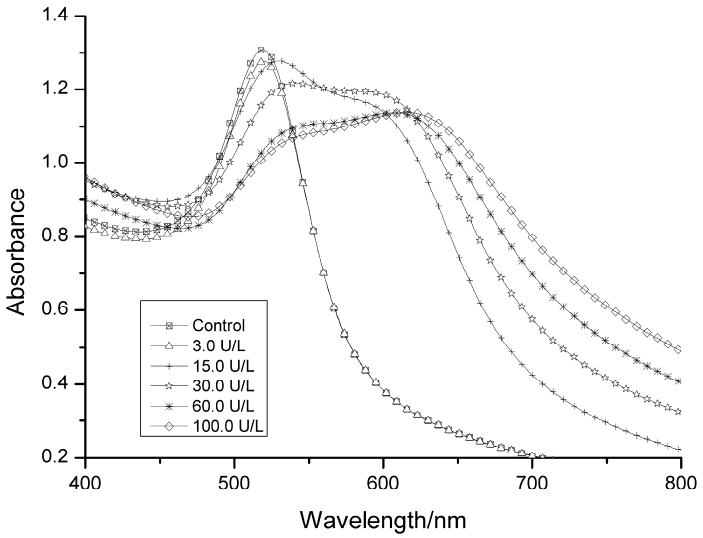

Fig. S2. Absorption spectra of the gold-cellobiose nanocomposites at 20 min after incubation with different concentrations of β-glucosidase (from 3 U L^{-1} to 100 U L^{-1}).