Electronic Supplementary Information (ESI)

Cyanobacterium metallothionein decorated graphene oxide nanosheets for highly selective adsorption of ultra-trace cadmium

Ting Yang, Lan-hua Liu, Jia-wei Liu, Ming-Li Chen*, Jian-Hua Wang*
Research Center for Analytical Sciences, College of Sciences, Box 332, Northeastern University, Shenyang 110819, China
**Figure S1.** The vector map of pET29a-SmtA and agarose gel electrophoresis. Electrophoresis condition: agarose, 0.8%, voltage, 150V, supercoiled DNA ladder marker, plasmid was loaded without enzyme cleavage.

**Figure S2.** The SDS-PAGE of purified SmtA. Lane M: molecular weight standards (marker in kDa); Lane 1: cell lysis solution of induced E. coli SmtA; Lane 2: effluent after purification by Ni-NTA affinity column; Lane 3: purified SmtA;

**Figure S3.** The effect of sampling flow rate on the cadmium sorption efficiency by SmtA-GO@cytopore. Sample: 200 µL, pH 6, 1.0 µg L⁻¹ Cd²⁺; Eluent (0.1 mol L⁻¹ HNO₃): 50 µL; Elution flow rate: 2 µL s⁻¹.

**Figure S4.** The effect of eluent concentration on the cadmium elution efficiency. Sample: 500 µL, pH 6, 0.1 µg L⁻¹ Cd²⁺; Sample loading flow rate: 5 µL s⁻¹; Eluent: 50 µL; Elution flow rate: 2 µL s⁻¹.

**Figure S5.** The effect of elution flow rate on the cadmium elution efficiency. Sample: 500 µL, pH 6, 0.1 µg L⁻¹ Cd²⁺; Sample loading flow rate: 5 µL s⁻¹; Eluent (0.1 mol L⁻¹ HNO₃): 50 µL.
Figure S1
Figure S2
Figure S3
Figure S4
Figure S5