

Supporting Information

Simultaneous Determination of Thiocyanate Ion and Melamine in Milk and Milk Powder using Surface-Enhanced Raman Spectroscopy

Qingqing Yang,¹ Fanghui Liang,² Di Wang,¹ Pinyi Ma,¹ Dejiang Gao,³ Jingyan Han,¹ Yuling Li,¹ Aimin Yu,¹ Daqian Song¹ and Xinghua Wang^{1,*}

1 College of Chemistry, Jilin University, Qianjin Street 2699, Changchun 130012, China

2 Department of Pharmacy, Changchun Medical College, Jilin Street 6177, Changchun 130031, China

3 Changchun Jilin University Little Swan Instruments Co., Ltd., Chuangxin Road 1203, Changchun 130012, China

*Corresponding author: Xinghua Wang

Tel: +86 431 85168399; Fax: +86 431 85168399

E-mail: wxh.anal@gmail.com

Supplementary Figures:

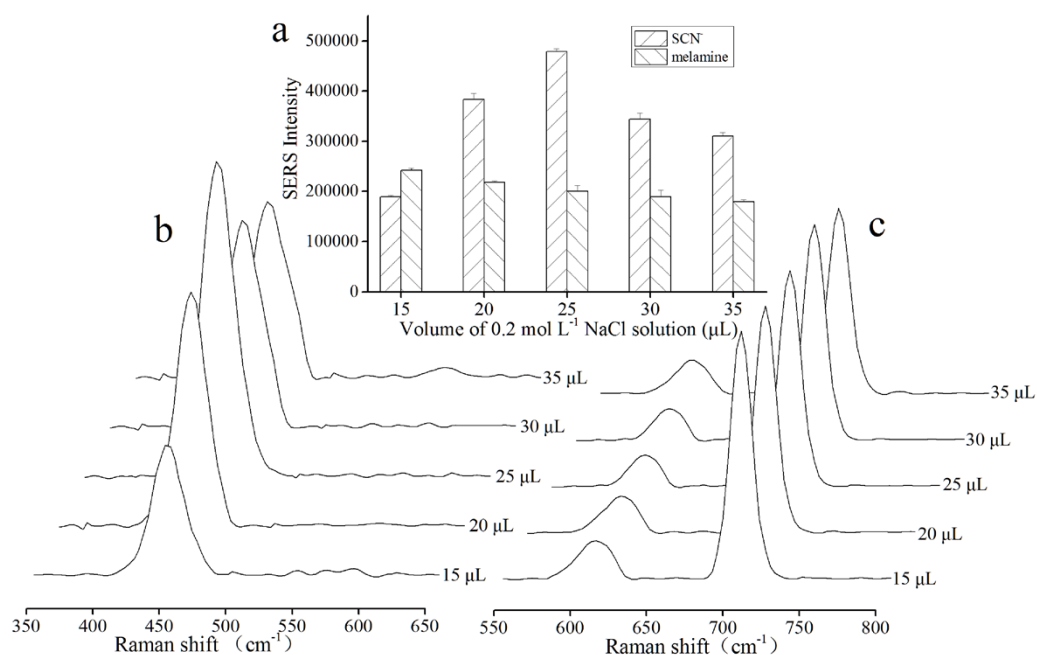


Fig. S1 Effect of volume of 0.2 mol L⁻¹ NaCl solution on SERS intensity of SCN⁻ and melamine. Solution volume: 100 μL for AgNP colloid, 200 μL for standard solution, 250 μL for 2.0 mol L⁻¹ NaCl, 400 μL for 1.0 mol L⁻¹ NaOH solution; mixing time: 0 min for SCN⁻, 6 min for melamine. (a) The column chart of processing results. (b) The SERS spectra of SCN⁻. (c) The SERS spectra of melamine.

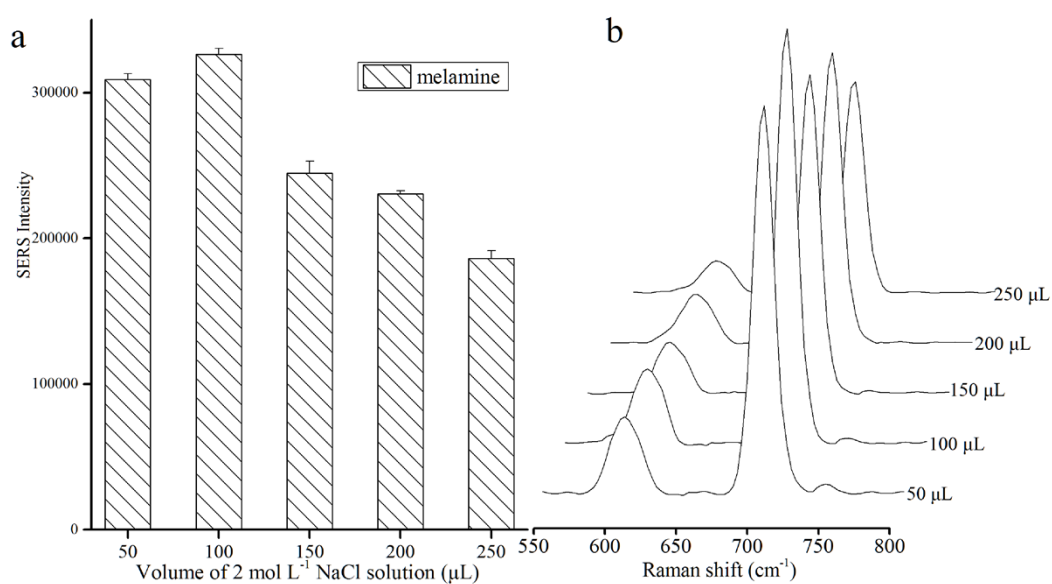


Fig. S2 Effect of volume of 2.0 mol L⁻¹ NaCl solution on SERS intensity of melamine.

Solution volume: 100 μL for AgNP colloid, 25 μL for 0.2 mol L⁻¹ NaCl, 200 μL for standard solution, 400 μL for 1.0 mol L⁻¹ NaOH solution; mixing time: 6 min for melamine. (a) The column chart of processing results. (b) The SERS spectra of melamine.

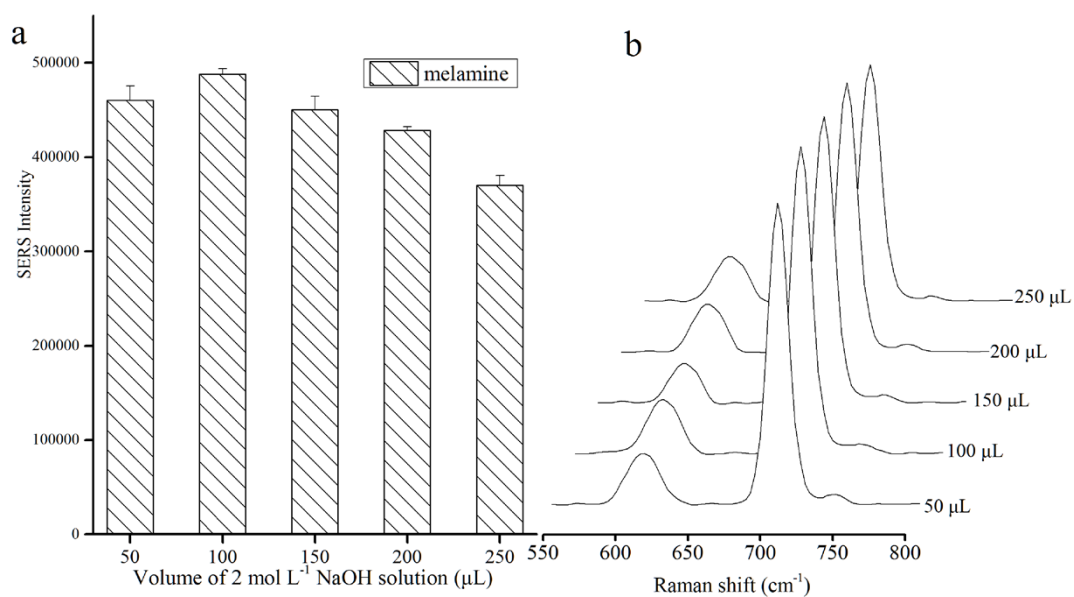


Fig. S3 Effect of volume of NaOH solution on SERS intensity of melamine. Solution volume: 100 μL for AgNP colloid, 25 μL for 0.2 mol L⁻¹ NaCl, 200 μL for standard solution, 100 μL for 2 mol L⁻¹ NaCl solution; mixing time: 6 min for melamine. (a) The column chart of processing results. (b) The SERS spectra of melamine.

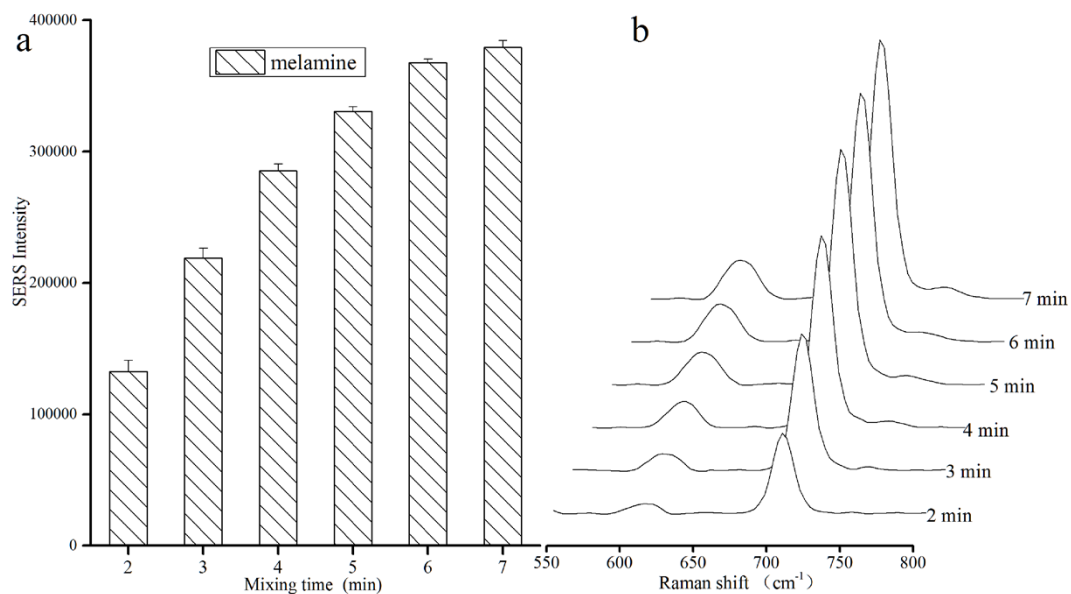


Fig. S4 Effect of mixing time on SERS intensity of melamine. Solution volume: 100 μL for AgNP colloid, 25 μL for 0.2 mol L⁻¹ NaCl, 200 μL for standard solution, 100 μL for 2.0 mol L⁻¹ NaCl, 100 μL of 1.0 mol L⁻¹ NaOH solution. (a) The column chart of processing results. (b) The SERS spectra of melamine.