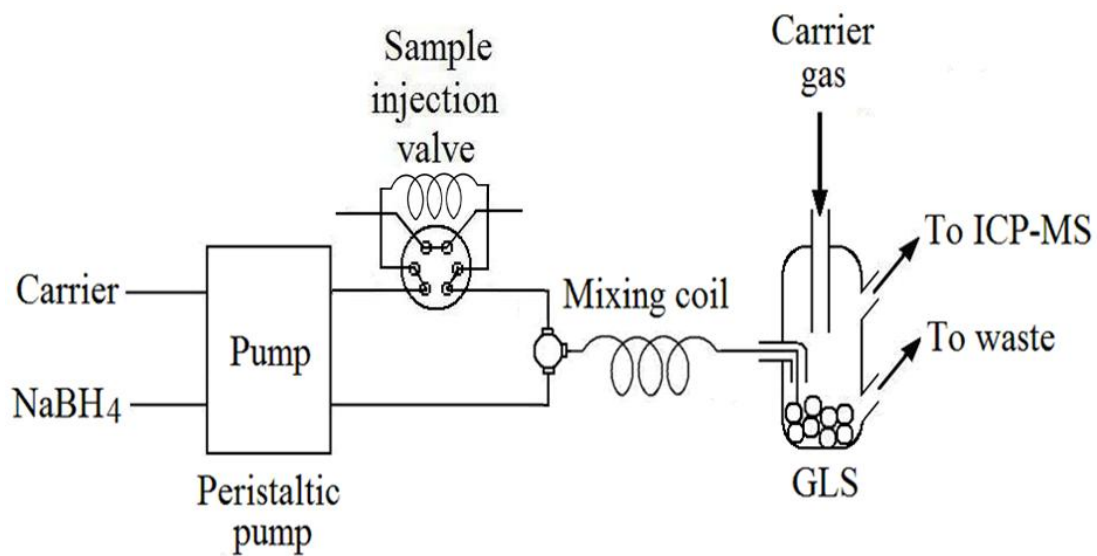
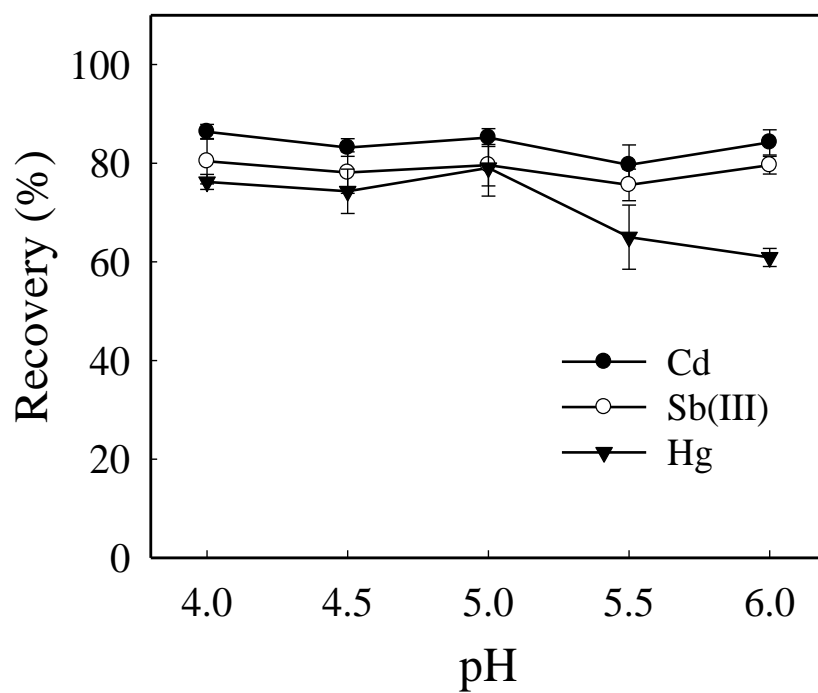


**Cloud point extraction combined with flow injection vapor  
generation inductively coupled plasma mass spectrometry for  
preconcentration and determination of ultra trace Cd, Sb and Hg in  
water samples**

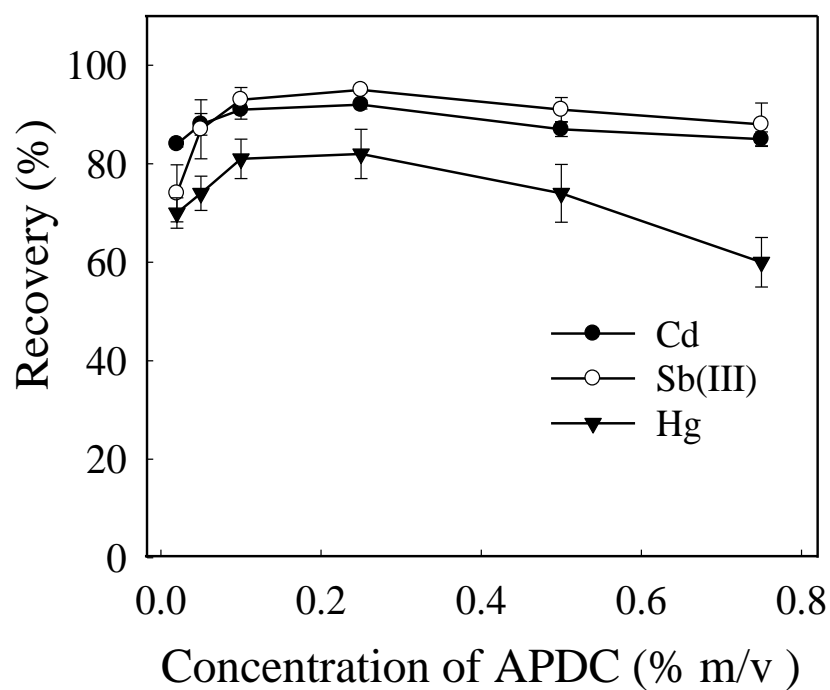
Pei-Han Liao<sup>a</sup>, Shih-Jen Jiang<sup>b,\*</sup> and A. C. Sahayam<sup>c</sup>



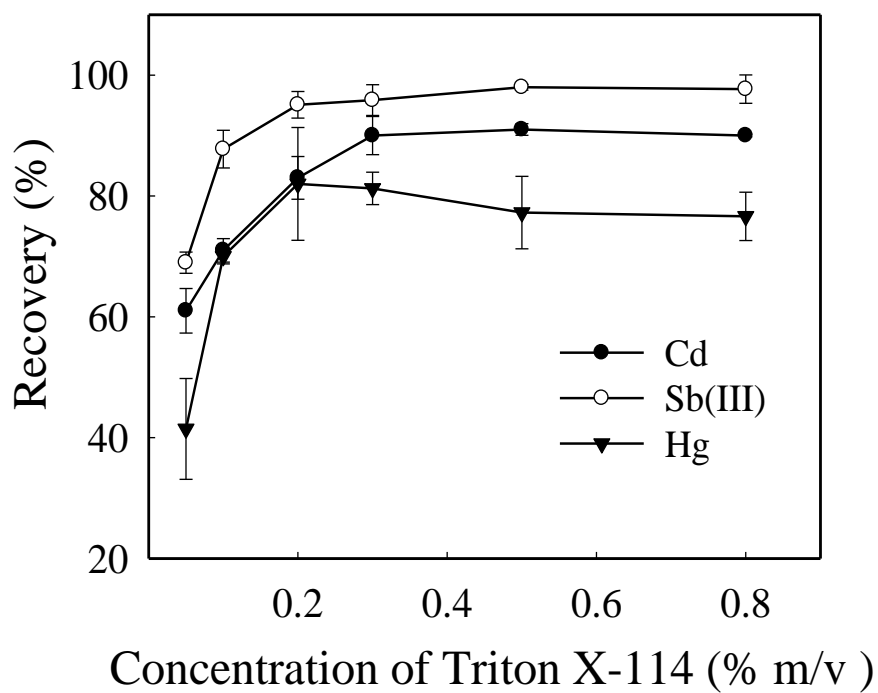
**Fig. S1** Schematic diagram of flow injection vapor generation.



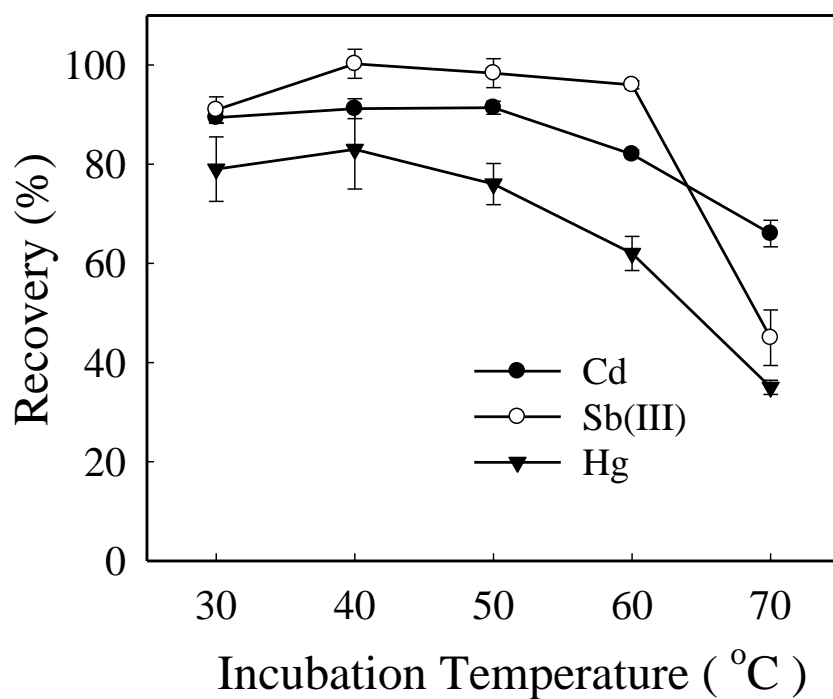
**Fig. S2** Effect of pH on the recovery of Cd, Sb and Hg in the surfactant-rich phase. Sample solution contained  $2.0 \mu\text{g L}^{-1}$  of Cd, Sb(III) and  $10 \mu\text{g L}^{-1}$  of Hg. Concentration of APDC and Triton X-114 was 0.50% m/v each. The solution was heated at  $40^\circ\text{C}$  for 20 min using microwave heating.



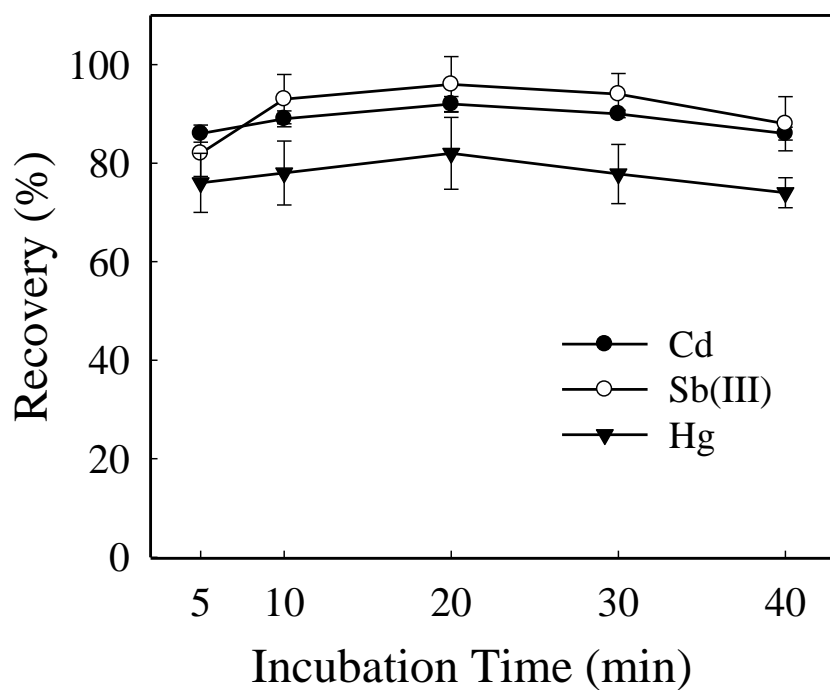
**Fig. S3** Effect of the concentration of APDC on recovery. Sample solution contained  $2.0 \mu\text{g L}^{-1}$  of Cd, Sb(III) and  $5 \mu\text{g L}^{-1}$  of Hg (pH 5.0). Concentration of Triton X-114 was 0.50% m/v. The solution was heated at  $40^\circ\text{C}$  for 20 min using microwave heating.



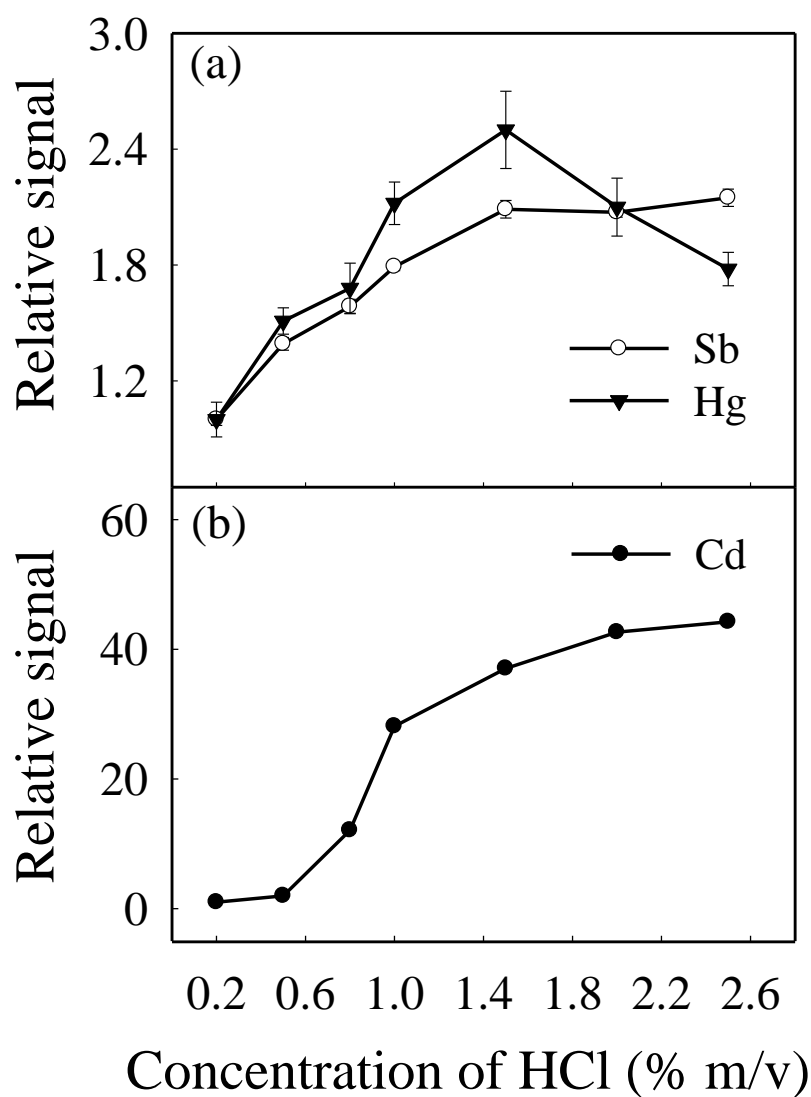
**Fig. S4** Effect of Triton X-114 concentration on recovery. Sample solution contained  $2.0 \mu\text{g L}^{-1}$  of Cd, Sb(III) and  $5 \mu\text{g L}^{-1}$  of Hg (pH 5.0). Concentration of APDC was 0.25% m/v. The solution was heated at  $40^{\circ}\text{C}$  for 20 min using microwave heating.



**Fig. S5** Effect of incubation temperature on recovery. Sample solution contained  $2.0 \mu\text{g L}^{-1}$  of Cd, Sb(III) and  $5 \mu\text{g L}^{-1}$  of Hg (pH 5.0). Concentration of APDC and Troton X-114 was 0.25% m/v and 0.30%, respectively. The solution was heated at  $40^\circ\text{C}$  for 20 min using microwave heating.



**Fig. S6** Effect of incubation time on recovery. Sample solution contained  $2.0 \mu\text{g L}^{-1}$  of Cd, Sb(III) and  $5 \mu\text{g L}^{-1}$  of Hg (pH 5.0). Concentration of APDC and Troton X-114 was 0.25% m/v and 0.30%, respectively. The solution was heated at  $40^\circ\text{C}$  for 20 min using microwave heating.



**Fig. S7** The influence of hydrochloric acid concentration on peak area of the flow injection peak of (a) Sb and Hg and (b) Cd. Injected solution contained  $1 \text{ ng mL}^{-1}$  of Cd, Sb and Hg, 0.9% m/v thiourea and  $0.1 \text{ } \mu\text{g mL}^{-1}$  Co(II) in various concentration of HCl. Carrier solution was 0.9% m/v thiourea and  $0.1 \text{ } \mu\text{g mL}^{-1}$  Co(II) in various concentration of HCl. Concentration of  $\text{NaBH}_4$  solution was 1.0% m/v in 0.2% m/v NaOH. All the data were measured relative to first point (0.2% v/v HCl).