Supplementary Material (ESI) for Journal of Analytical Atomic Spectrometry

Electronic supplementary information

L-cysteine-induced degradation of organic mercury as a novel interface in the HPLC-CV-AFS hyphenated system for speciation of mercury

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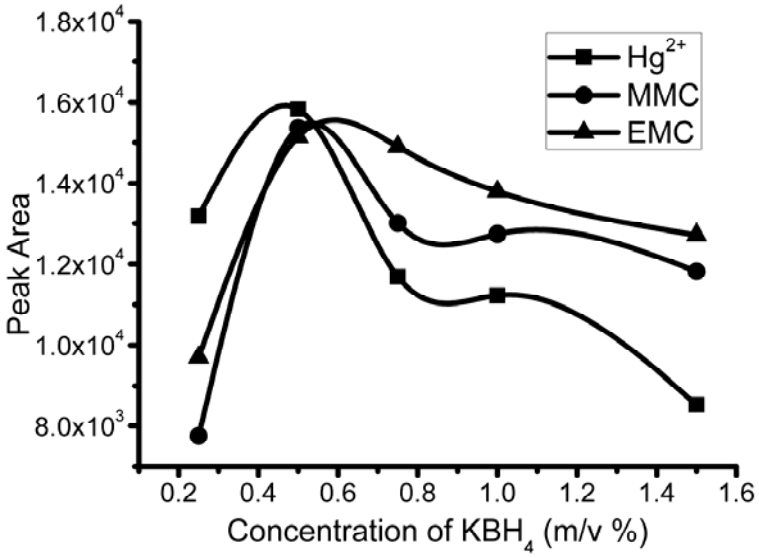
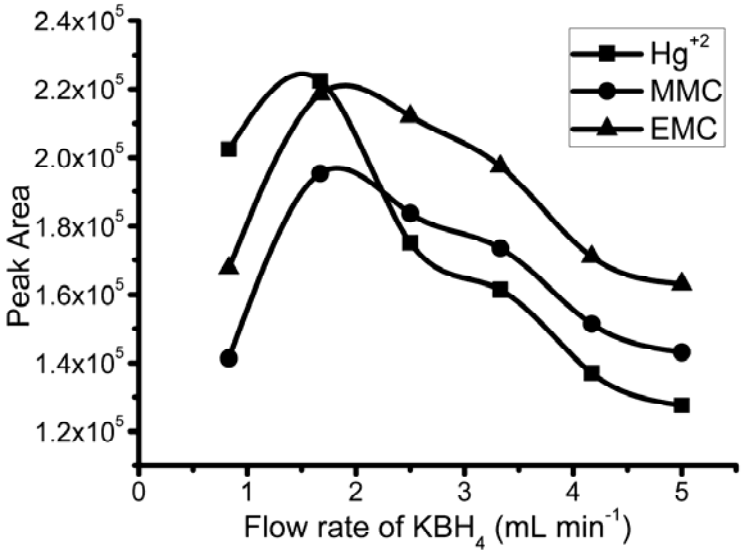
Figures

Fig. S1 Effects of the concentration and flow rate of KBH_4 on fluorescence signal intensity. Each mercury species present at 10 μg L^{-1}. Other conditions were given in Table 1. (A) Flow rate of KBH_4 was 2.5 mL min^{-1}. (B) The concentration of KBH_4 was 0.5% (m/V).



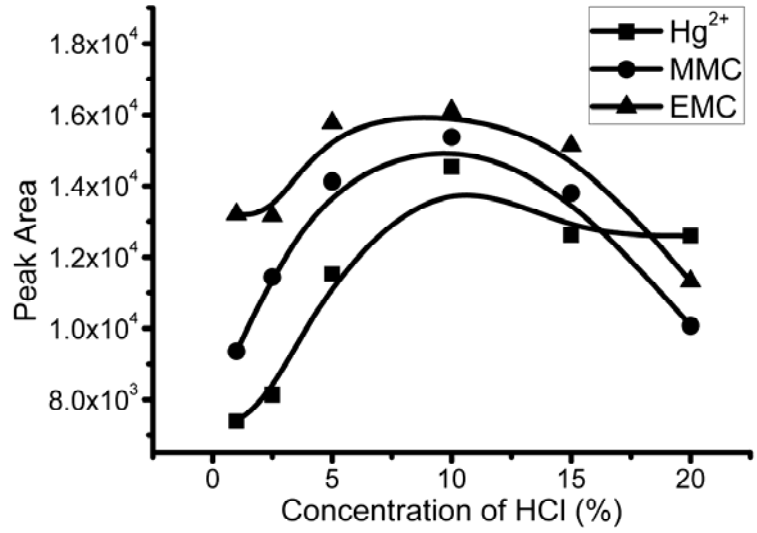
(A)



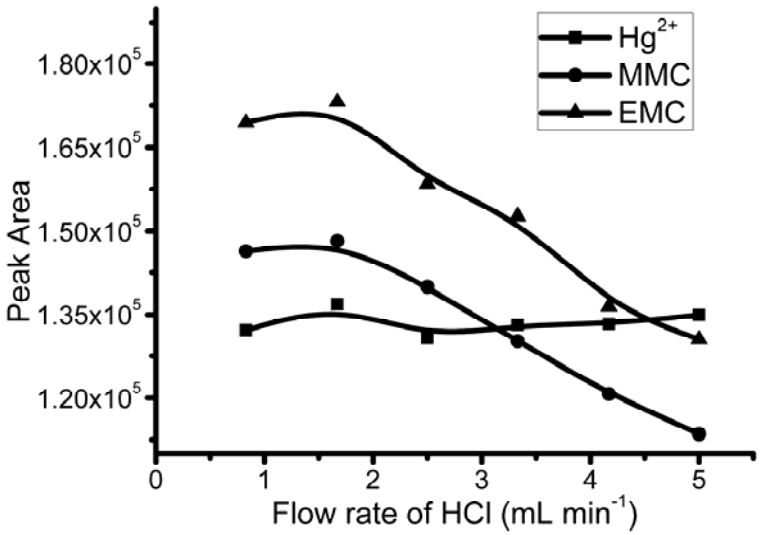
(B)

Fig. S2 Effects of the concentration and flow rate of HCl on fluorescence signal intensity. Each mercury species present at 10 μg L^{-1}. Other conditions were given in Table 1.

(A) Flow rate of HCl was 2.5 mL min^{-1}. (B) The concentration of HCl was 10% (V/V).

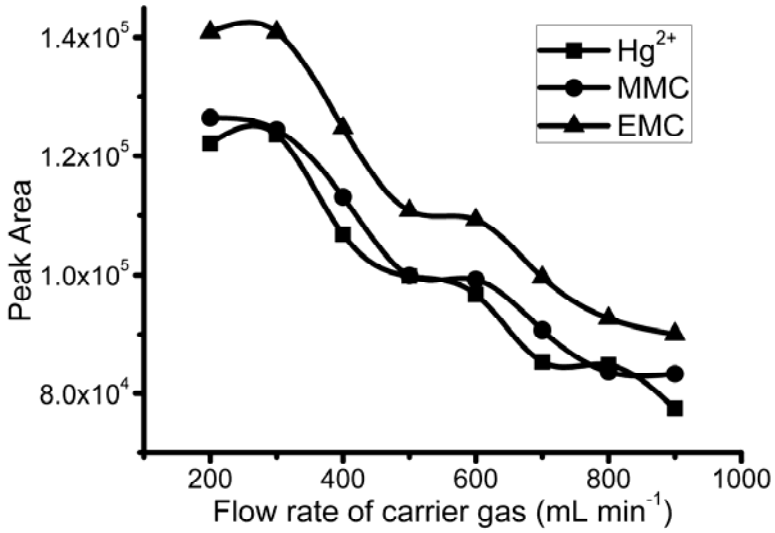


(A)

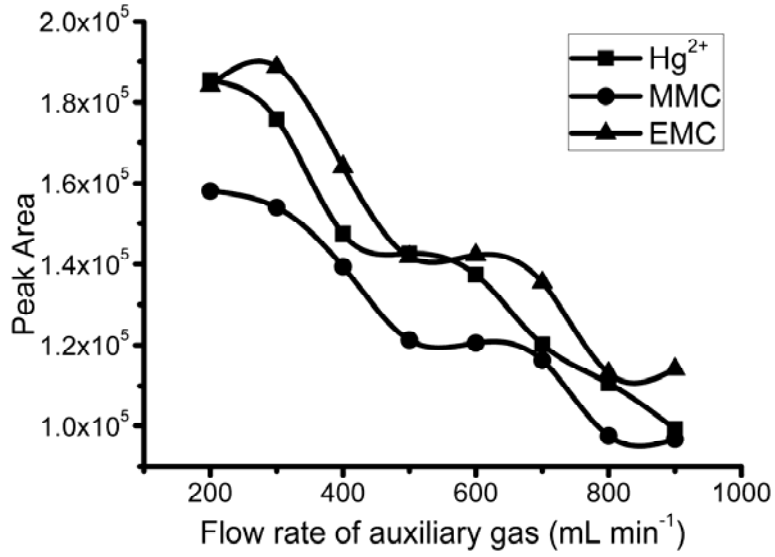


(B)

Fig. S3 Effects of flow rate of carrier gas and auxiliary gas. Each mercury species present at 10 μg L^{-1}. Other conditions were given in Table 1. (A) Flow rate of auxiliary gas was 300 mL min^{-1}. (B) Flow rate of carrier gas was 300 mL min^{-1}.



(A)



(B)

Fig. S4 Typical Chromatograms of three mercury species using this new method and HPLC-UV-CV-AFS. Concentrations of mercury species: 50 μg L^{-1} as Hg. Retention time of mercury species using this new HPLC-CV-AFS system: Hg^{2+}, 3.5min; MMC, 6.3 min; EMC, 15.5 min. Retention time of mercury species in HPLC-UV-CV-AFS system: MMC, 16 min;, Hg^{2+} 17.0 min; EMC, 42.5 min.