

Supporting information

**Preparation of cationic exchange stir bar sorptive extraction based
on poly (acrylic acid-ethylene dimethacrylate) monolith and its
application to the analysis of soluble cations in milk by ion
chromatography**

Xiaojia Huang^{*}, Jianbin Lin, Dongxing Yuan

1. *State Key Laboratory of Marine Environmental Science, Environmental Science
Research Center, Xiamen University, Xiamen 361005, China*

The Estimation of Cation-Exchange Capacity of monolith

The exchange capacity of the monolith was detected by CuSO_4 . The monolith was dipped in 50 mM CuSO_4 24 h, then dipped in water 4 h to remove the CuSO_4 which was adsorbed by physical interaction. Finally, the monolith was immersed in 3 mL of 100 mM disodium ethylenediamine tetraacetate (EDTA) solution 24 h to release the CuSO_4 . The absorbance of stripping solvent was detected at 288 nm and the absorption amount of CuSO_4 on the monolith could be calculated from the standard calibration curve of Cu-EDMA. The desorption procedure can be repeated until no CuSO_4 was detected.

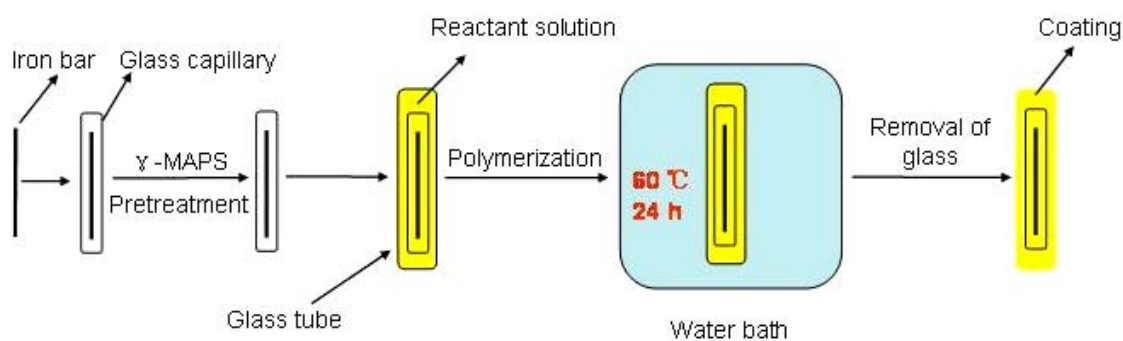


Fig.S1 The schematic diagram of the preparation of SBSE-CE

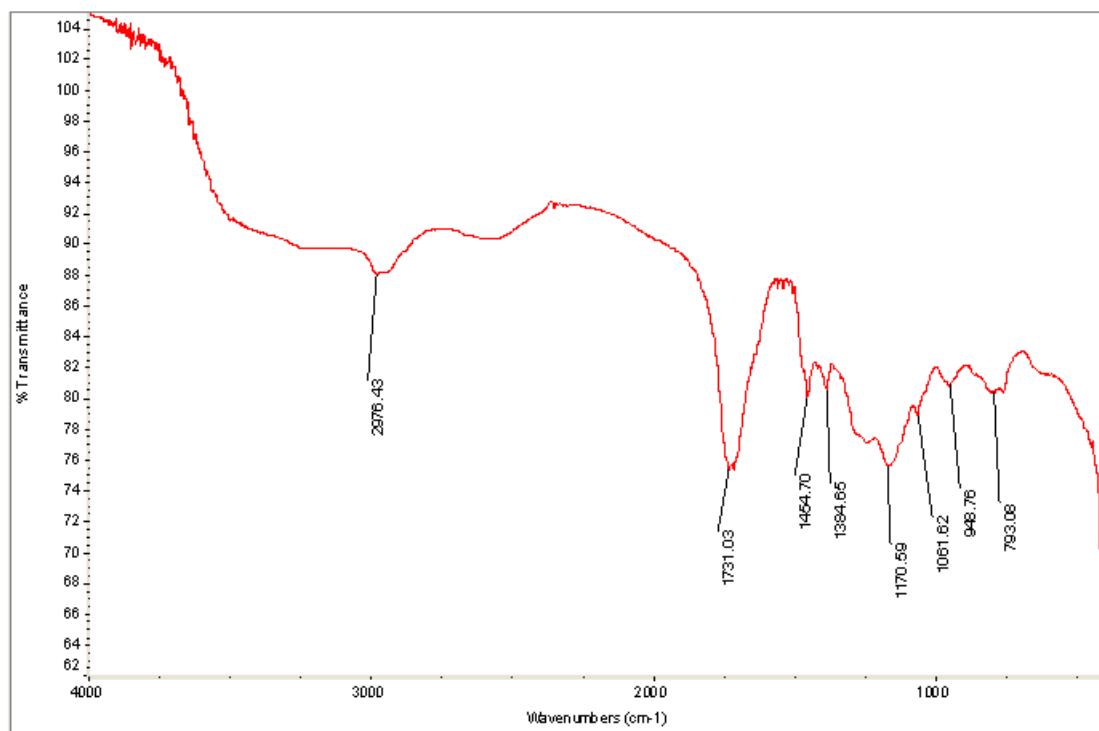


Fig.S2. The IR spectrum of poly (AC-EDMA)

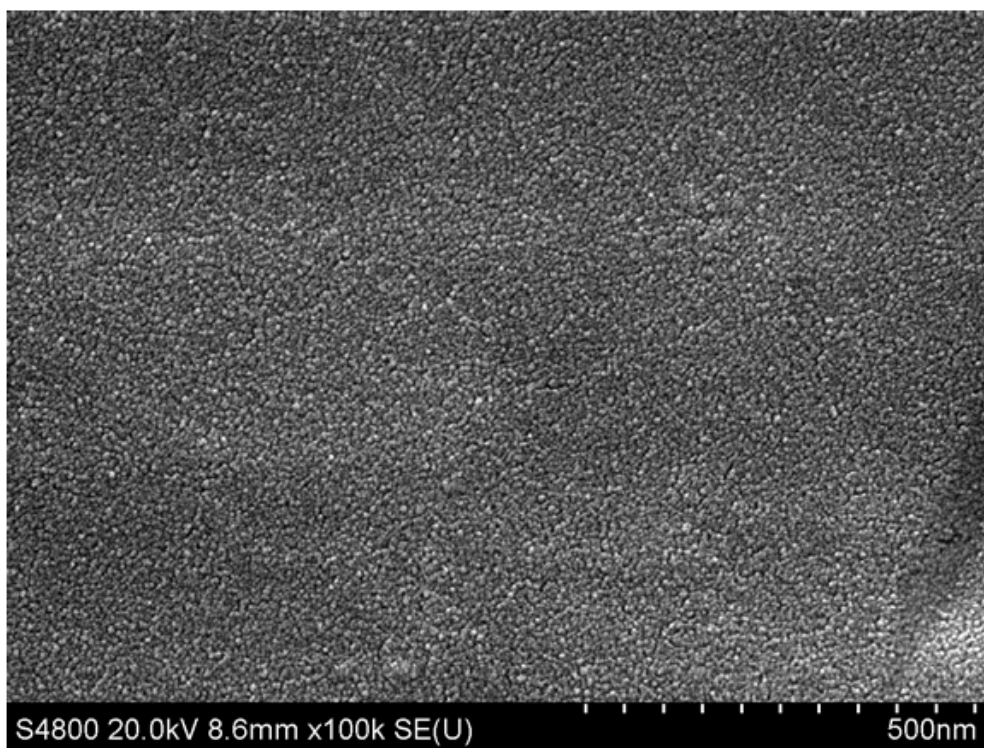


Fig.S3. SEM image of poly (AC-EDMA) monolith at 100000× magnification

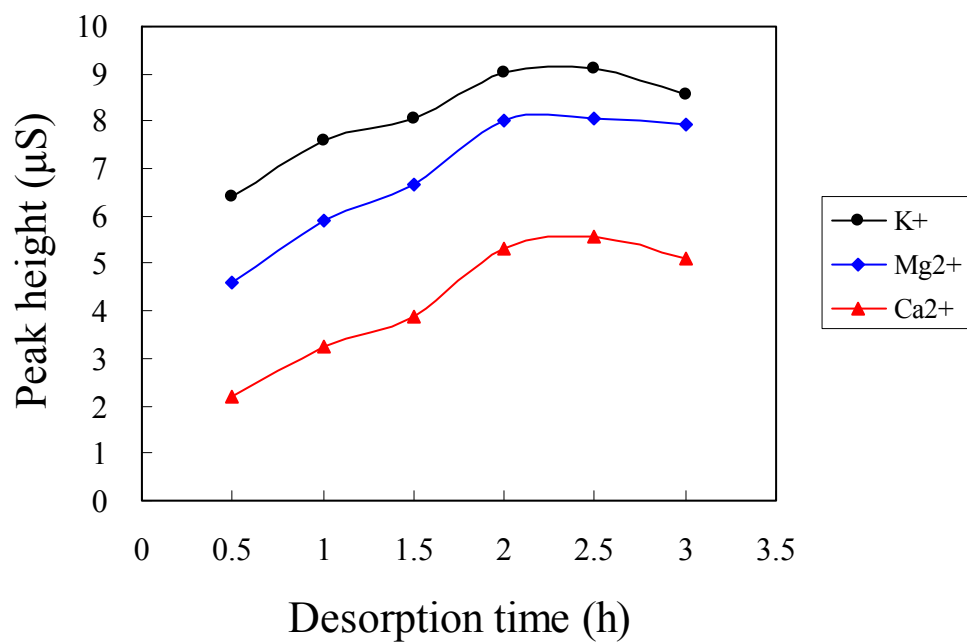


Fig.S4. The effect of desorption time on extraction efficiency.

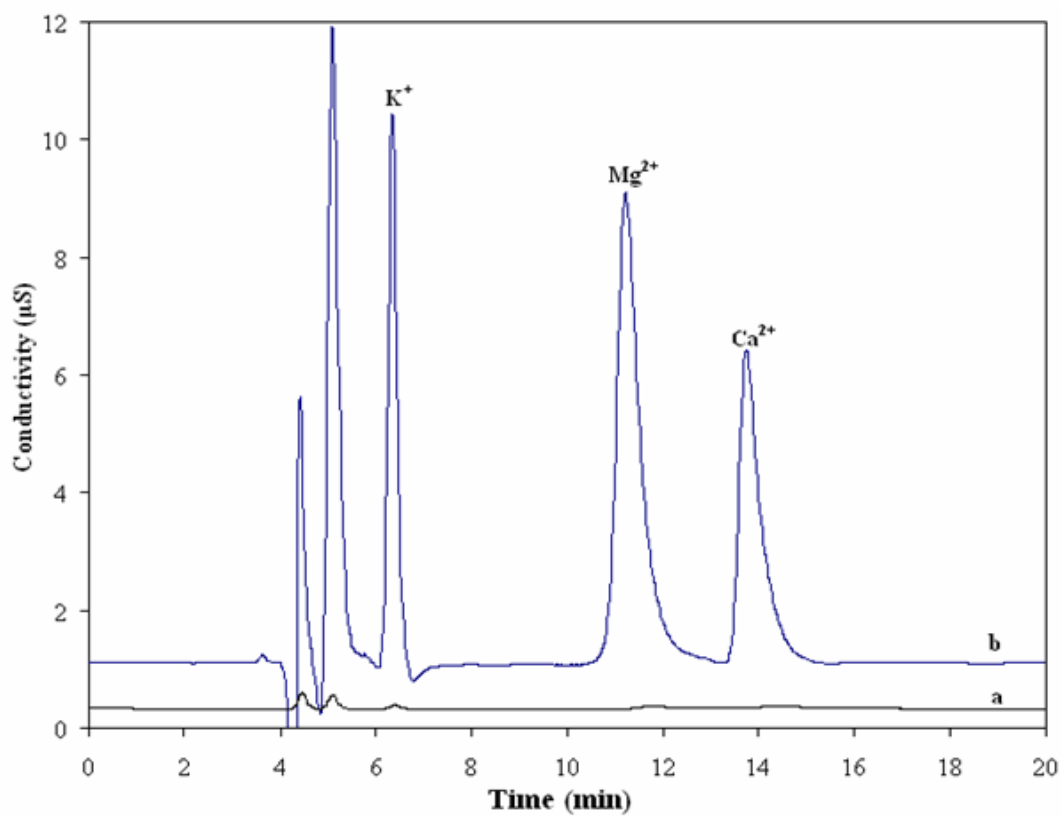


Fig.S5. IC chromatograms of three inorganic cations.

Direct injection of spiked milk sample with each cation at 50 $\mu\text{g/L}$ (after dilution) (a) and treated with SBSE-CE (b). The conditions were the same as in Fig.4.