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Solid Phase Extraction with Chelating Adsorbents for the Study of Trace Metals in Seawater

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Abstract:
Solid phase extraction with chelating adsorbents is useful for the preconcentration of trace metals in seawater. We have examined a number of chelating adsorbents and developed simultaneous determination methods for trace metals in seawater on the basis of preconcentration by solid phase extraction and determination by ICP-MS. Here we review the results on the determination of trace bioactive metals(Fe, Co, Ni, Cu, Zn, Cd and Pb) using fluoride-containing metal alkoxide glass immobilized 8-hydroxyquinoline(MAF-8HQ) and the determination of the second and third transition series metals(Zr, Hf, Nb, Ta, Mo and W)using vinyl polymer resin immobilized 8-hydroxyquinoline(TSK-8HQ).

Key words: solid phase extraction, chelating adsorbents, trace metals, seawater, ICP-MS

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