

## **Development of standard reference material for PIXE analysis made by macroporous type cation exchange resin**

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### **Abstract**

Standard Reference Material is indispensable to the calibration of apparatus and the evaluation of the accuracy and precision of analytical technique. PIXE is well suited for trace analysis of a small or thin target on a thin film support with organic specimens. PIXE has so unique and particular suitability to properties of analytical sample. New Standard Reference Materials are necessary for PIXE analysis.

In this work, we made Standard Reference Material for PIXE by smaller ion exchange resins, Macro-Prep 25S (Bio-rad). These resins are macroporous type. Concentration of elements in the resin was given by volumetric concentration such as ppmv and concentration of Ca in resin was 400 ppmv and Zn, Cu and Sr were 10-400 ppmv.

Zn, Cu and Sr distributes uniformly of in the resin. It was found the macro porous nature of the resin allows cations to access the exchange sites located throughout the matrix. Standard Reference Material made of macroporous resin has a possibility for use as pseudo-biological Standard Reference Material for micro beam and normal PIXE analysis.