## **Supplementary Materials**

**Figure S1** Powder pattern of Si/Al<sub>2</sub>O<sub>3</sub> measured at three more energies in addition to 30.862 keV and the fitting at all four energies. The data marked as (x), and the red solid line indicates the calculated pattern and the blue curve under the pattern is the residual. (a) 10.101 keV,  $R_{wp} = 13.61\%$ ,  $R_p = 9.74\%$ ,  $\chi^2 = 4.015$ , (b) 20.378 keV,  $R_{wp} = 9.39\%$ ,  $R_p = 6.35\%$ ,  $\chi^2 = 3.001$ , (c) 39.363 keV,  $R_{wp} = 12.9\%$ ,  $R_p = 9.81\%$ ,  $\chi^2 = 1.261$ .





