# Mo isotopic analysis of SRM using anion exchange chromatography

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With the advent of multi-collector inductively coupled plasma-mass spectrometry (MC-ICP-MS) and the improvement of analytical methods, metal stable isotopes, such as Mo, Fe, Cu, Zn, and Ni isotopes, have received the greatest attention from geologists. Mo has seven naturally occurring stable isotopes ($^{92}$Mo, $^{94}$Mo, $^{95}$Mo, $^{96}$Mo, $^{97}$Mo, $^{98}$Mo and $^{100}$Mo) with a wide variety of oxidation states. Two-stage column method using column tube (BioRad PolyPrep column) and anion exchange resin (BioRad Resin AG1-X8, 200-400 mesh) was used to separate Mo element from SRMs (standard reference material), such as NIST 612, IAPSO, SDO, BHVO, and PACS. The interfering elements were sucessfully separated from Mo using the two-stage column method. Mo isotope ratios ($\delta^{98/95}$Mo) of the SRMs were measured on MC-ICP-MS and then compared with reference Mo isotope ratios. Mo isotope ratios in our study overlap with reference Mo isotope ratios within analytical error.

Keywords: Molybdenum, Isotope, MC-ICP-MS