

**Figure S2. Screening of biomolecules binding different elements in rice seeds samples.**

Rice seeds (RS) samples are selected from different locations of Wanshan Hg mining areas: Dashuixi (DSX), Meizixi (MZX) and Gouxi (GX). Screening of biomolecules binding elements (202Hg, 82Se, 112Cd, 65Cu and 64Zn)are performed by HPLC-ICP-MS using a size exclusion chromatographic column. The molecular weight varies from approximately 650 to less than 10 kDa.