



Extraction of copper and zinc-humic acid with an ionic liquid

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Extraction of copper and zinc in the contaminated soil with a room temperature ionic liquid (RTIL) has been studied by X-ray absorption near edge structural (XANES) and X-ray absorption fine structural (EXAFS) spectroscopies in the present work. By the least-square fitted XANES spectra, the major copper and zinc species in the contaminated soil are adsorbed copper- and adsorbed zinc-humic acid (HA). In a short contact, 80% of copper and zinc in the contaminated soil was extracted into the RTIL. The fitted EXAFS spectra show that Cu-HA and Zn-HA in the RTIL possessed the Cu-O and ZnO (1st shell) bond distances of 1.96 and 1.82 Å, respectively. The possible reaction path involved in extraction of copper and zinc in the contaminated soil into the RTIL has also been pointed out.

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