

## Supplementary material

### In situ ATR-FTIR spectroscopic study of the co-adsorption of *myo*-inositol hexakisphosphate and Zn(II) on goethite

Yupeng Yan<sup>A</sup>, Biao Wan<sup>A</sup>, Yanyi Zhang<sup>B</sup>, Limei Zhang<sup>A,C</sup>, Fan Liu<sup>A</sup>, and Xionghan Feng<sup>A</sup>

<sup>A</sup>Key Laboratory of Arable Land Conservation (Middle and Lower Reaches of Yangtse River), Ministry of Agriculture, College of Resources and Environment, Huazhong Agricultural University, Wuhan 430070, PR China.

<sup>B</sup>Environmental Monitoring Center of National High-tech Industrial Development Zone Branch, Qingdao Municipal Environmental Protection Bureau, Qingdao 266000, PR China.

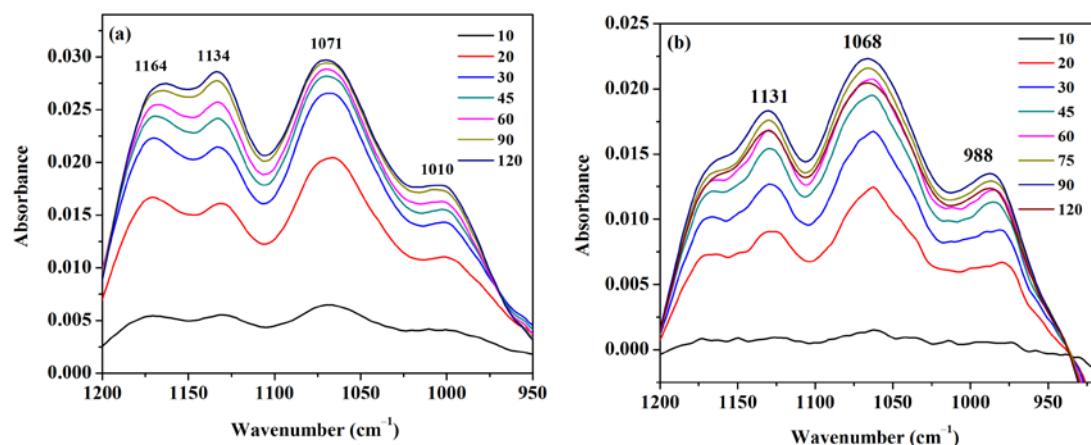
<sup>C</sup>Corresponding author. Email: lmzhang@mail.hzau.edu.cn



**Fig. S1.** The single-reflection diamond ATR unit (Pike Technologies, Inc.; Part No. is P025-2100).



**Fig. S2.** The multiple-reflection horizontal ATR cell unit with a ZnSe crystal (Pike Technologies, Inc.; Part Nos. are P022-1951 and P022-5210). P022-1951 is the HATR platform optics assembly, and P022-5210 is the ZnSe HATR flow-through cell.



**Fig. S3.** ATR-FTIR spectra of  $30 \mu\text{mol L}^{-1}$  IHP adsorbed on goethite at pH 5 (a) and 6 (b) as a function of time (min).