Supporting Information

Carbon Nanodots Aqueous Binding Phase based Diffusive Gradients in Thin-Films Technique for Measurement of Dissolvable Copper and Lead Species in Aquatic Environment

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Table S1 Physic-chemical characters of the water samples

Measured parameters	Water samples		
	Hun River	Xi Lake	Industrial discharge water
Location	41°41′ N, 123 °13′ E	41°44′ N, 123 °14′ E	41°73′ N, 123 °24′ E
Conductivity (μs cm^{-1})[a]	1932	1754	2813
Salinity (ppt) [a]	0.85	0.90	1.1
ORP (mV) [a]	206	161	312
TDS (mg L^{-1}) [a]	745	703	932
DOC (mg C L^{-1}) [b]	9.7±2.1	14.6±4.1	78.7±9.3
COD (mg L^{-1}) [c]	74.1±9.7	94.3±8.7	694.3±79.1
pH	7.9±0.4	7.5±0.3	5.6±0.1
Cu [d] /mg L^{-1}	N.D. [e]	N.D.	N.D.
Pb [d] /mg L^{-1}	N.D.	N.D.	N.D.

[a] Conductivity, salinity, oxidation-reduction potential and total dissolved solids were measured by pen conductivity meter (ST10C-B), pen salinity meter (ST20S), pen ORP meter (ST10R)and pen TDS meter (ST10T-B), respectively (Ohaus, Canada).

[b] Dissolved organic carbon was measured using a TOC analyzer (Dohrmanne DC-190, GE, USA).

[c] Chemical oxygen demand was measured by potassium dichromate method.

[f] The concentrations of Cu^{2+} and Pb^{2+} were measured by FAAS and by AFS, respectively .

[e] N.D. means not detected.

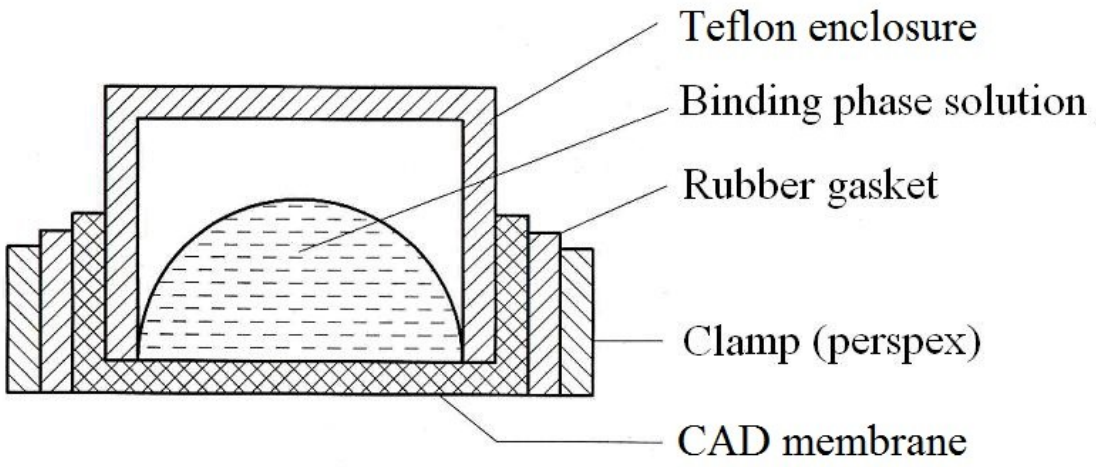

Figure S1 The schematic diagram of DGT device

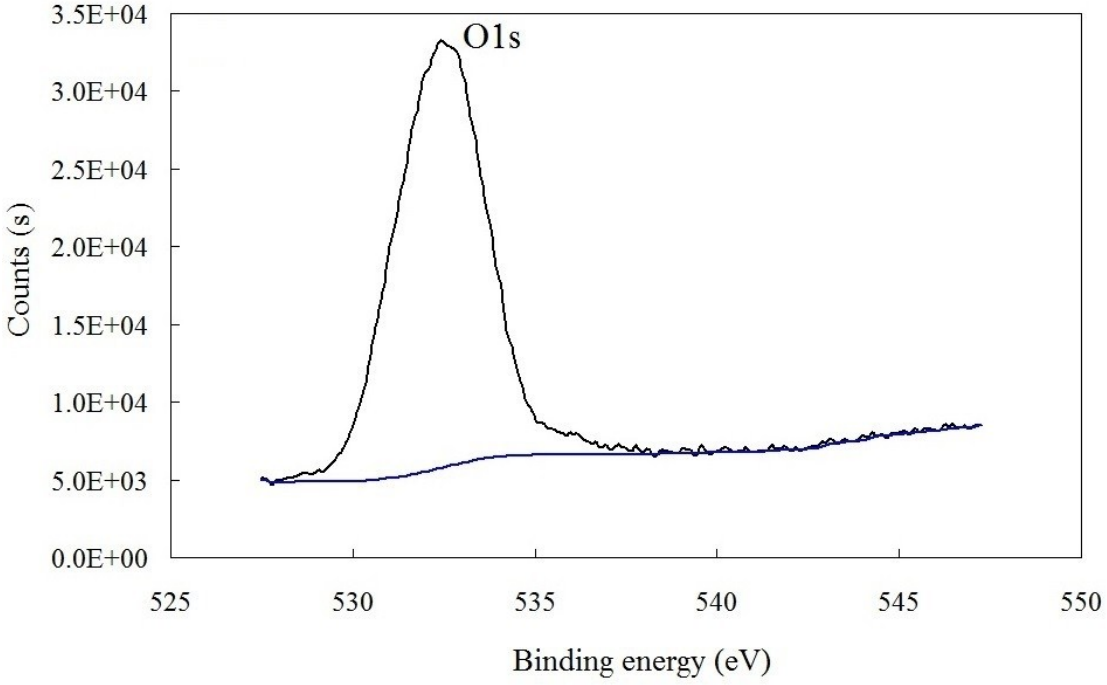

Figure S2 XPS spectra of CDs for the O_{1s} peak

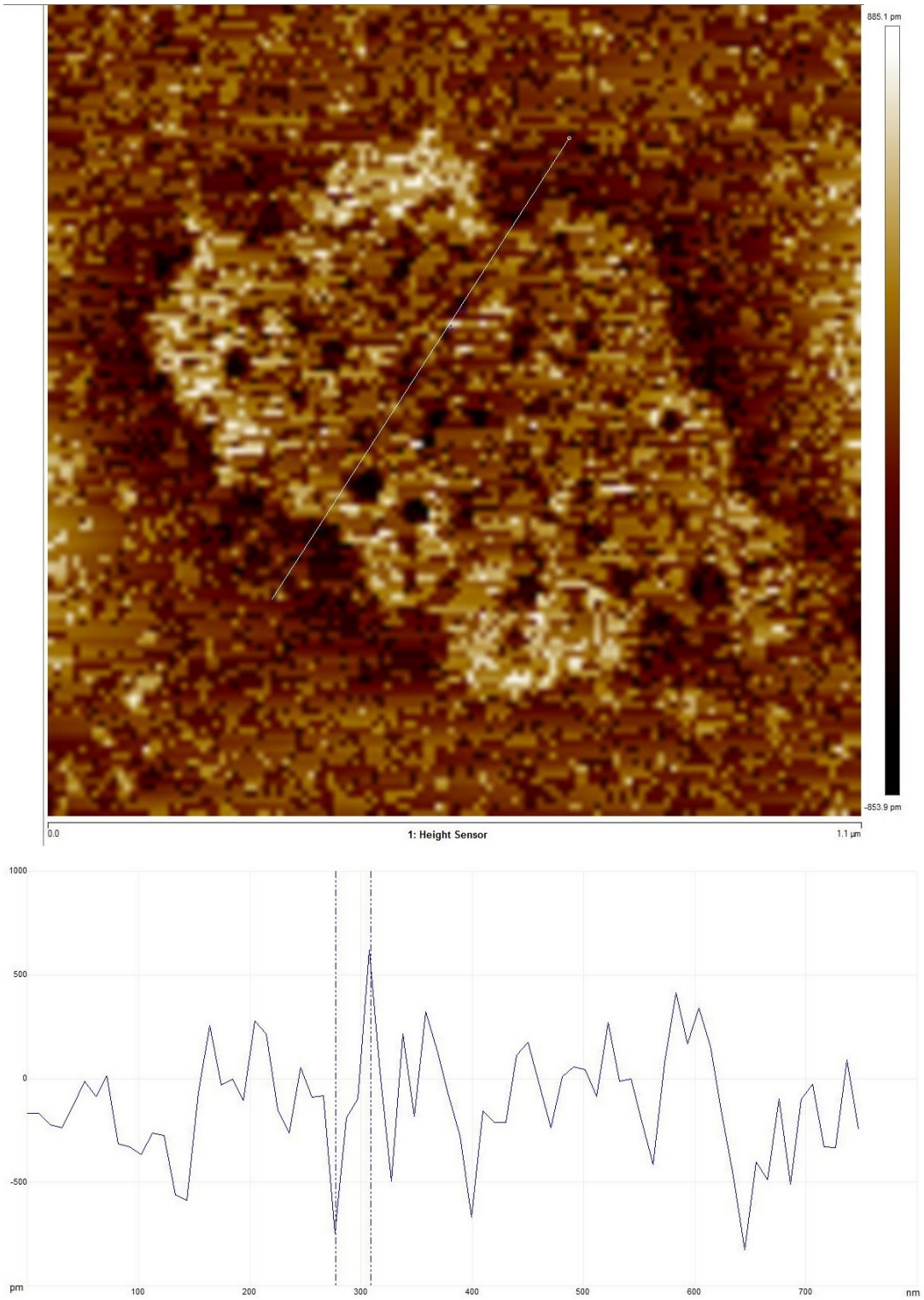

Figure S3 AFM image of CDs

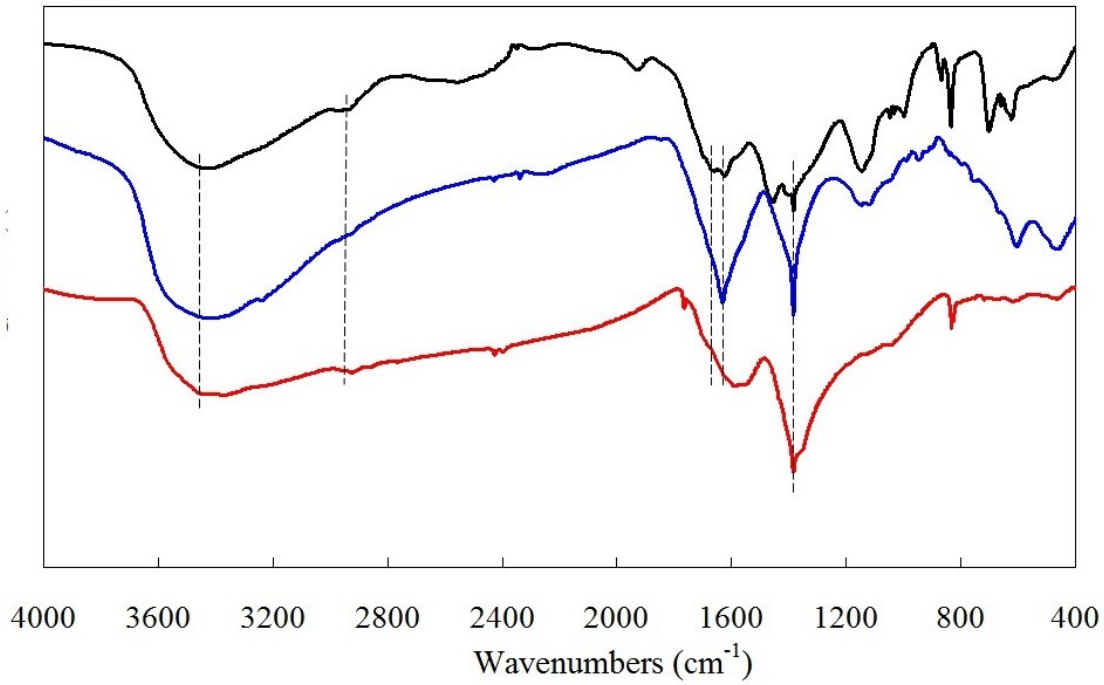

Figure S4 FTIR spectra of CDs before (black line) and after the adsorption of Cu^{2+} (blue line) and Pb^{2+} (red line).

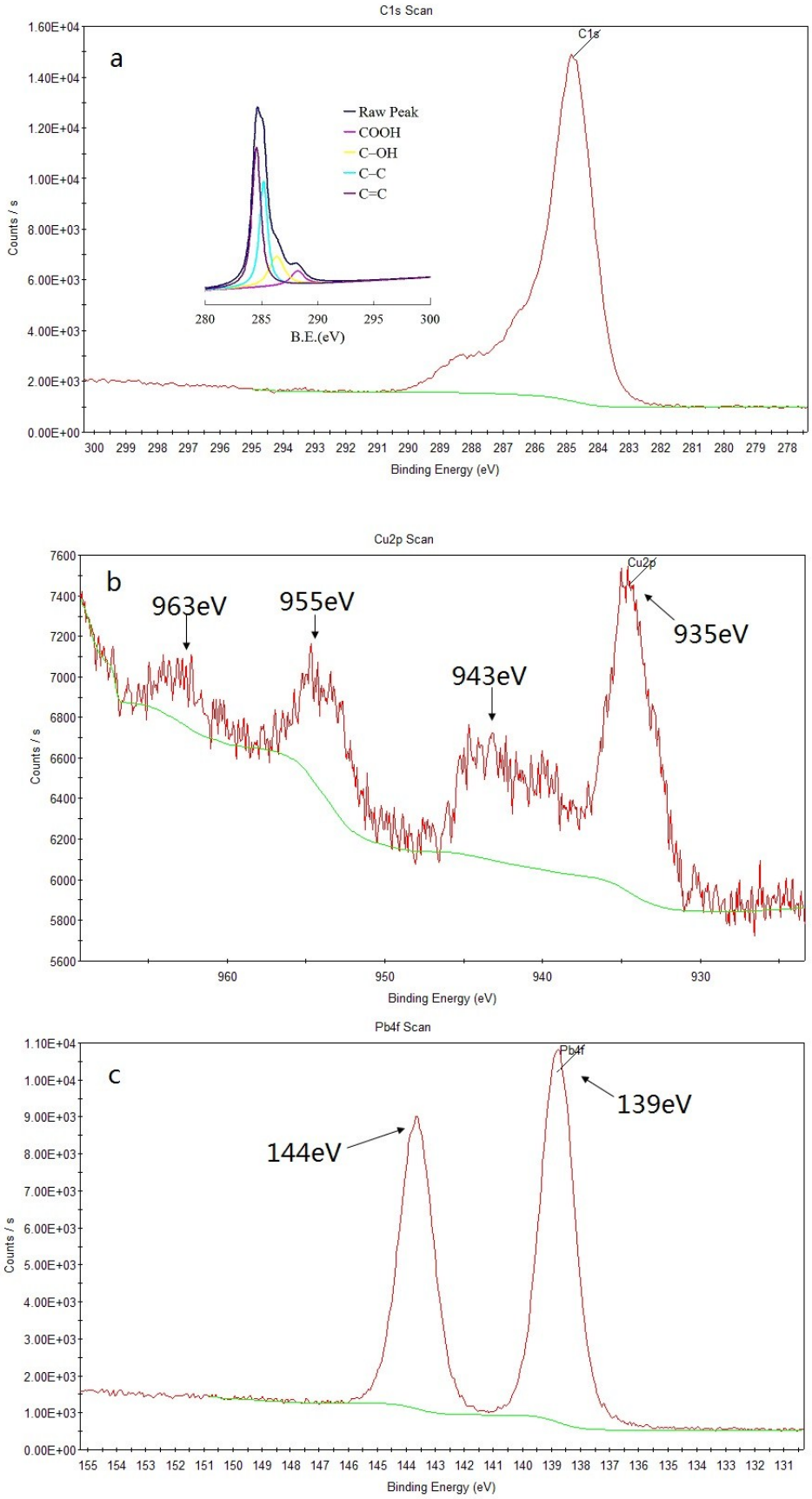

Figure S5 XPS spectra of CDs after the adsorption of Cu^{2+} and Pb^{2+} for the C_{1s} peak **(a),** the Cu_{2p} peak **(b)** and the Pb_{4f} peak **(c)**.

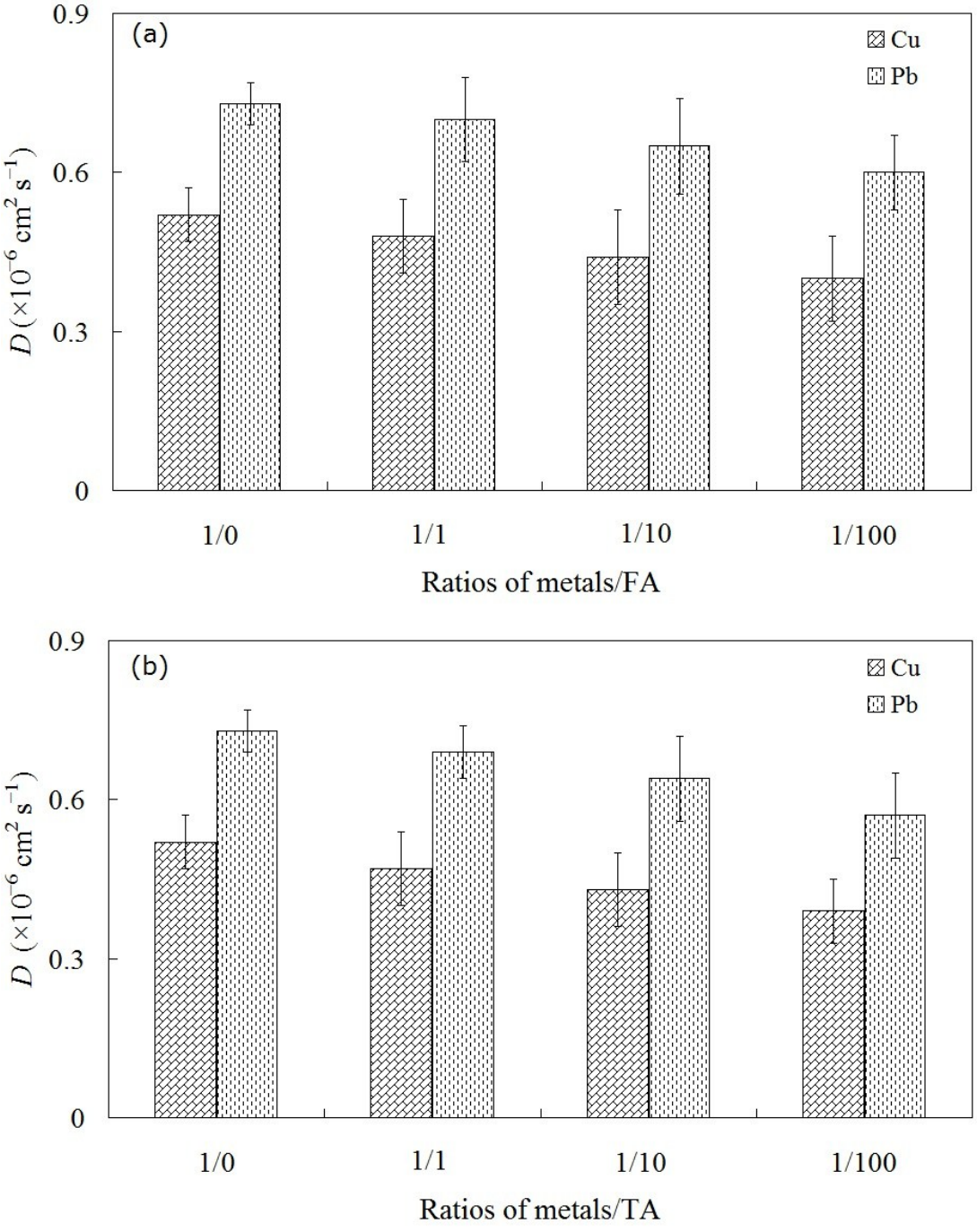

Figure S6 Effects of FA and TA on the diffusion coefficients of Cu^{2+} and Pb^{2+}.