

Figure S1. LDH_s-DGT probe device.



Figure S2. LDH_s-DGT test stand.



Figure S3. Experimental setup for imaging of the dynamic distributions of multi-elements in rice rhizosphere using LDH_s-DGT probe.

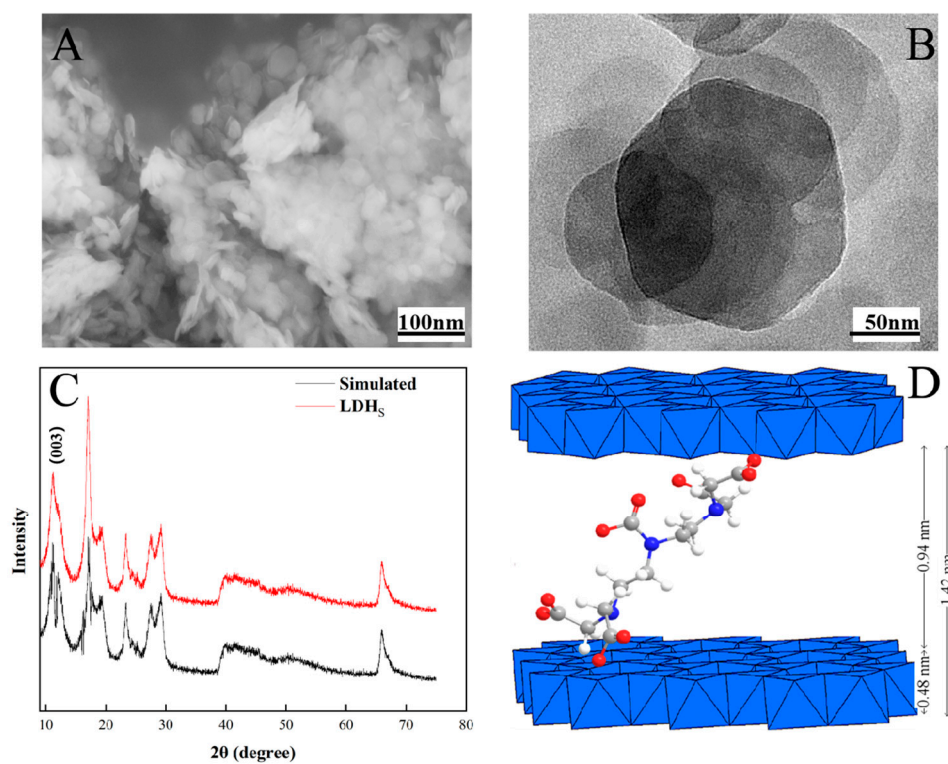


Figure S4. SEM (A) and TEM images (B) of LDHs samples; XRD patterns of the standard and as-prepared LDHs (C); Schematic representation of LDHs structure (D).

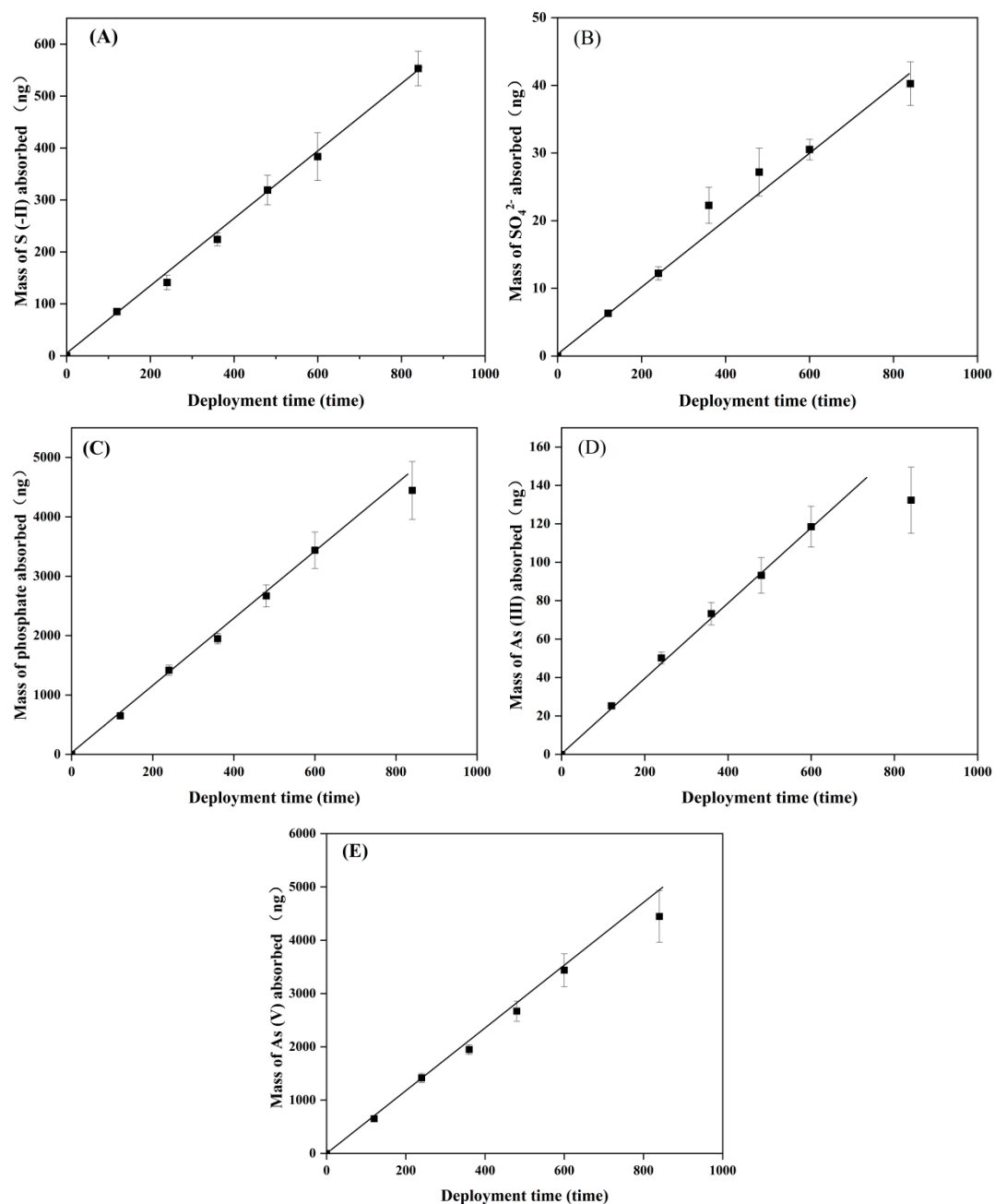


Figure S5. The accumulated mass of S(-II) (A), SO_4^{2-} (B), phosphate (C), As(III) (D), As(V) (E) in the binding gel with the time of LDHs-DGT deployment. Values are mean \pm SD (n = 3).

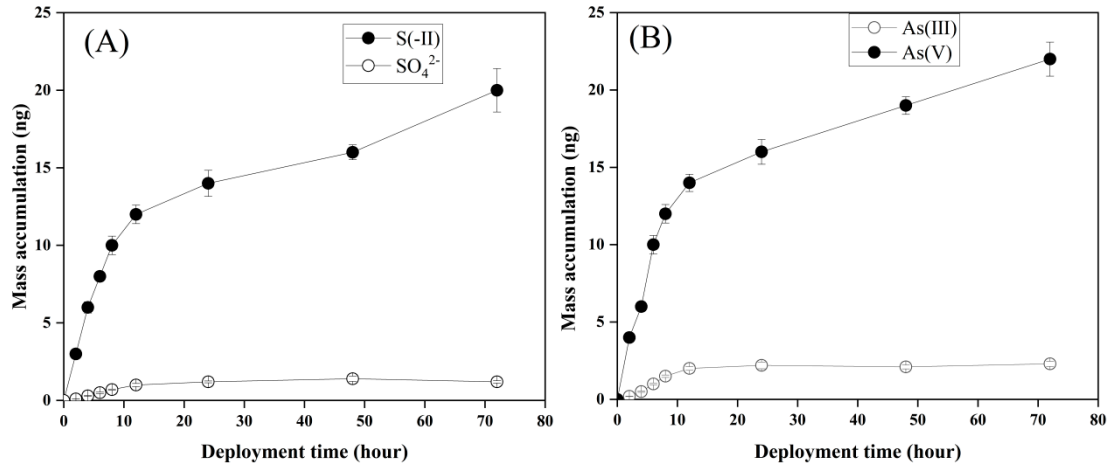


Figure S6. LDHs-DGT uptake curve in mixed solution of S(-II) and SO_4^{2-} (A), and As(III) and As(V) (B). The value is the average \pm SD (pH=5.50, n=3).

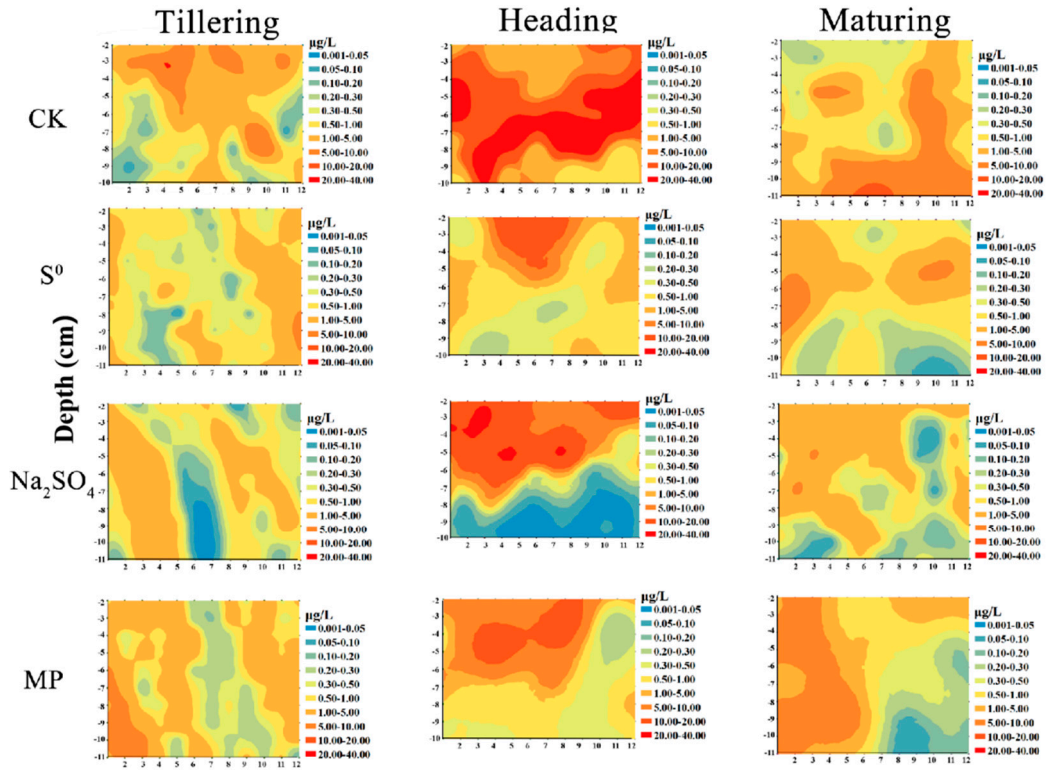


Figure S7. Two-dimensional distribution of labile Cd concentrations in rhizosphere at different growth stages of rice. MP refers to mercaptopyrskite. Arc GIS 10.8 software was used to draw this figure.