

SUPPLEMENTARY MATERIAL

Two unconventional metallothioneins in the apple snail *Pomacea bridgesii* have lost their metal specificity during adaptation to freshwater habitats

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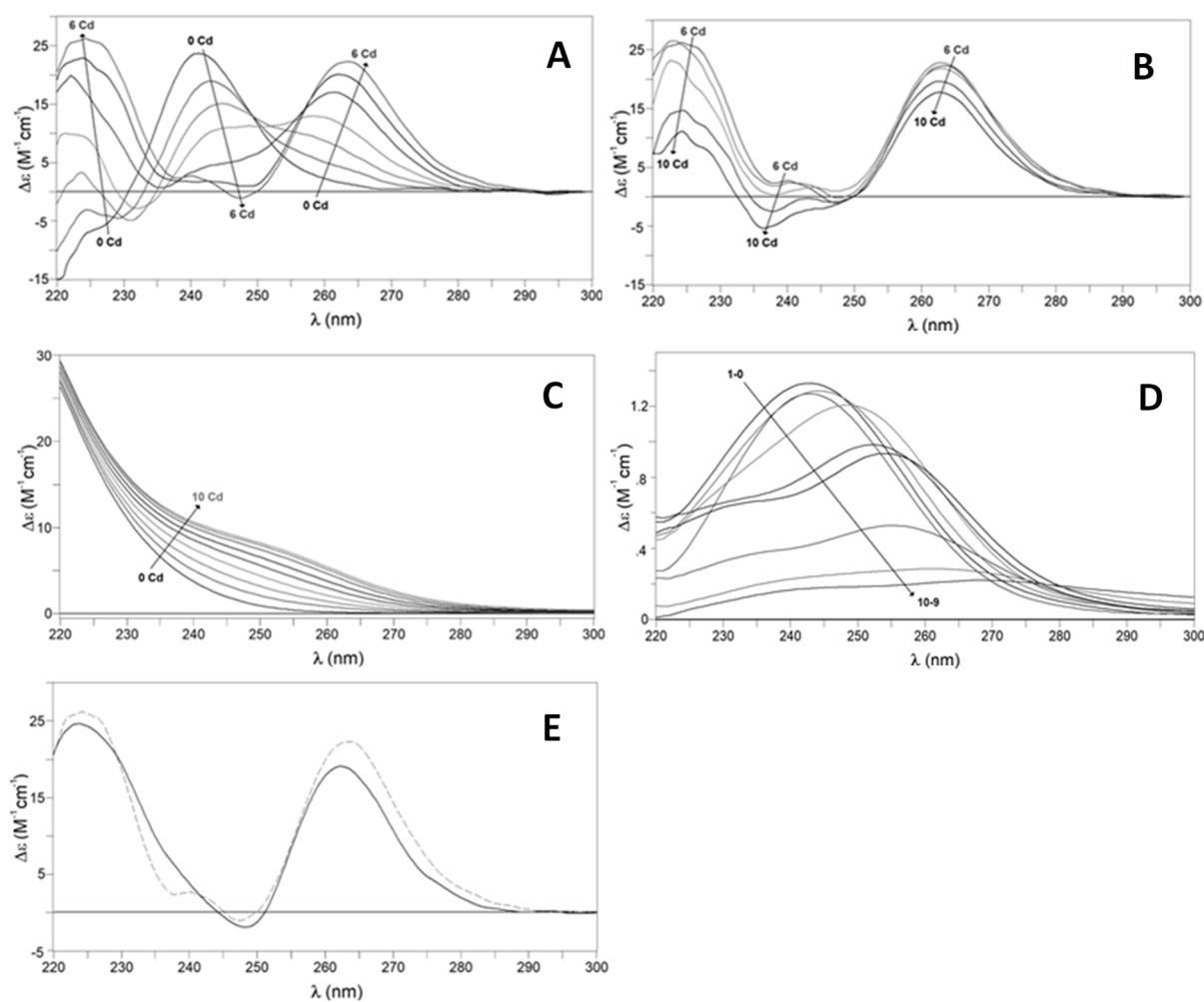


Figure S1. Spectroscopic characterization of the Zn/Cd replacement in the Zn-PbrMT1 preparation followed by (A and B) CD and (C) UV-vis. (D) UV-Vis difference spectra. (E) Comparison of CD spectra of *in vivo* Cd-PbrMT1 preparation (solid line) and the *in vitro* Cd-PbrMT1 spectrum measured after adding 7 equivalents of Cd(II) to the Zn-PbrMT1 preparation (dashed line)

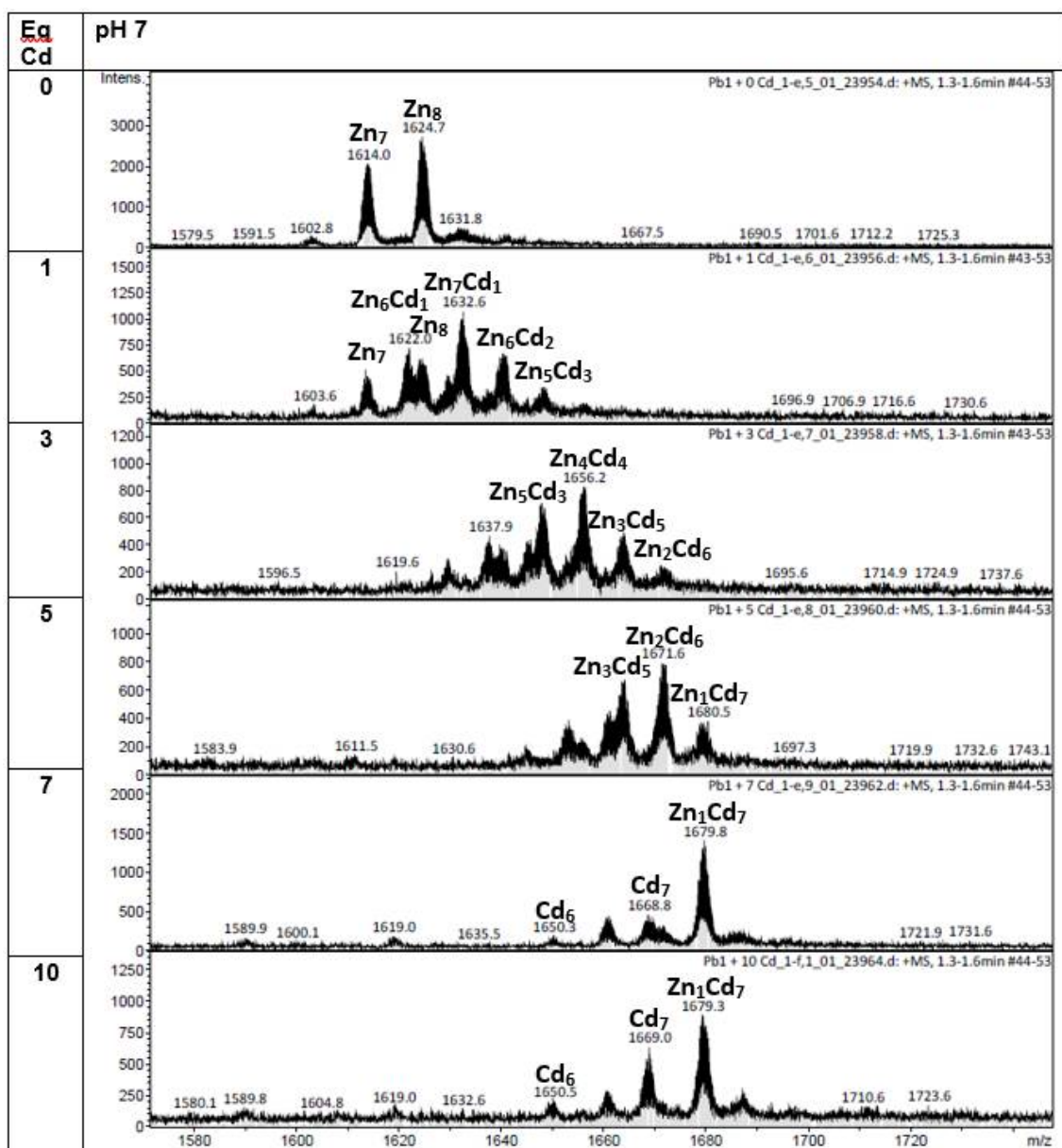


Figure S2. ESI-MS spectra of the Zn/Cd replacement experiment performed on the Zn-PbrMT1 production at pH 7.

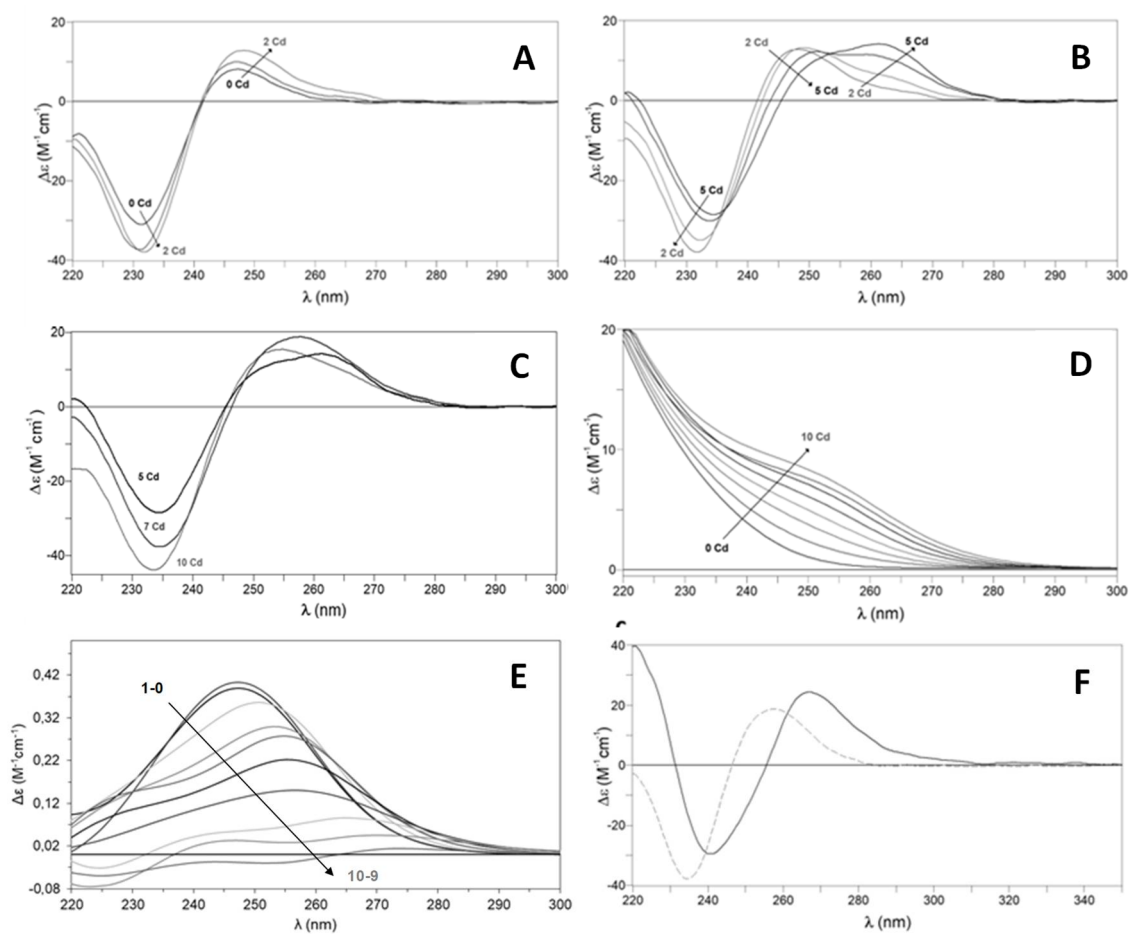


Figure S3. Spectroscopic characterization of the Zn/Cd replacement in the Zn-PbrMT2 preparation followed by (A, B and C) CD and (D) UV-vis. (E) UV-Vis difference spectra. (F) Comparison of CD spectra of *in vivo* Cd-PbrMT2 species (solid line) and the *in vitro* Cd-PbrMT2 species (dashed line) after adding 7 equivalents of Cd(II) to Zn-PbrMT2 production.

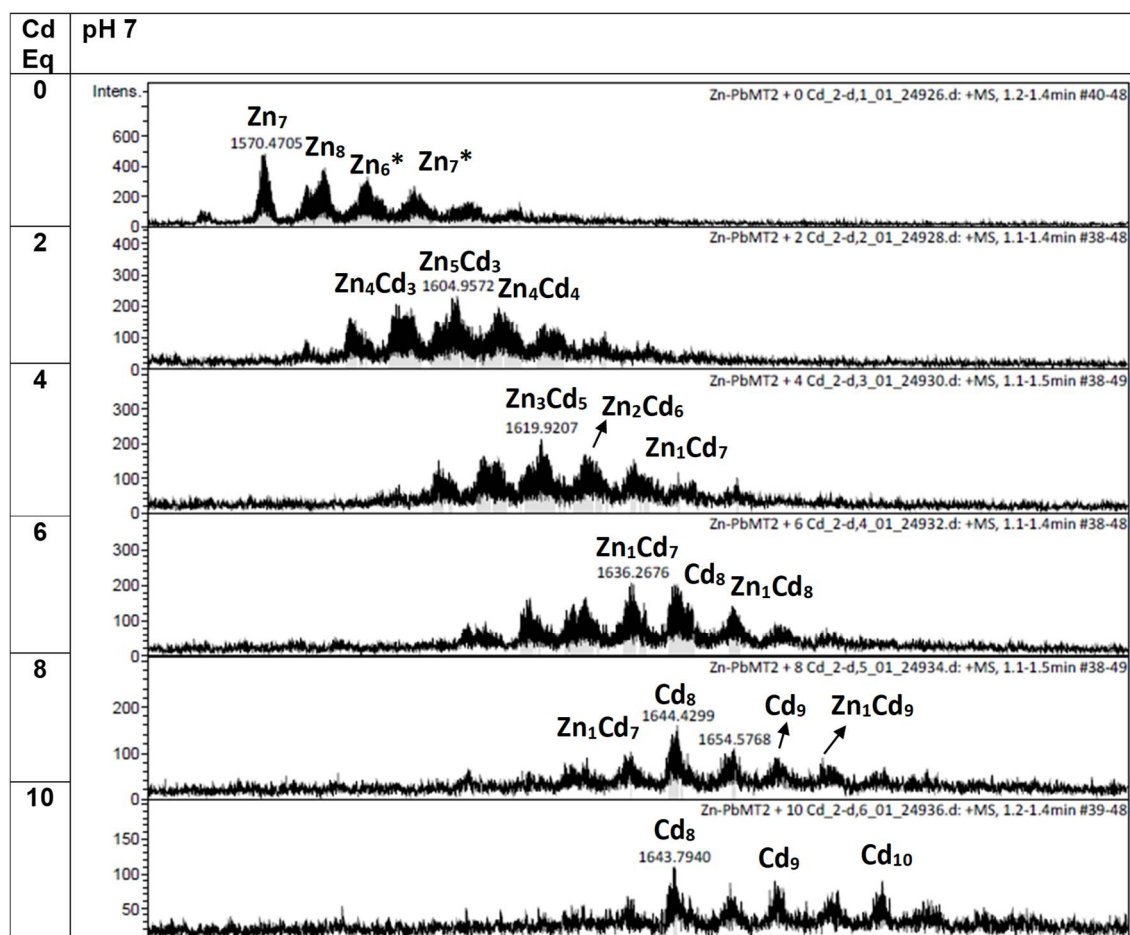


Figure S4. ESI-MS spectra of the Zn/Cd replacement experiment performed on the Zn-PbMT2 production at pH 7.