

Electronic Supplementary Information

Chemical interactions of mercury species and some transition and noble metals towards metallothionein (Zn₇MT-2) evaluated using SEC/ICP-MS and RP-HPLC/ESI-MS as well as MALDI-TOF-MS

Ming Xu,^a Limin Yang^a and Qiuquan Wang ^{*,a,b}

^a Department of Chemistry & the Key Laboratory of Analytical Sciences, College of Chemistry and Chemical Engineering, Xiamen University, Xiamen 361005, China

^b State Key Laboratory of Marine Environmental Science, Xiamen University, Xiamen 361005, China

* Corresponding author: Qiuquan Wang; Tel: +86 592 2181796; Fax: +86 592 2187400; E-mail: qqwang@xmu.edu.cn

Table S1. Operating Conditions of ICP-MS, ESI-IT-MS and MALDI-TOF-MS

ICP-MS parameters	
ICP RF Power	1100 W
Plasma gas flow	16 L Ar min ⁻¹
Auxiliary gas flow	1.1 L Ar min ⁻¹
Nebulizer gas flow	0.92 L Ar min ⁻¹
Dwell time	100 ms
Reaction gas	O ₂
Reaction gas flow rate	0.6 mL min ⁻¹
Rejection parameter q	0.45
Rejection parameter a	0.0
ESI-IT-MS parameters	
Scan type	positive
Dry gas	8 L N ₂ min ⁻¹

Dry temperature	300 °C
Neb gas	65 psi
Capillary voltage	-3400 V
Endplate offset	-500 V
MALDI-TOF-MS parameters	
Laser	337 nm
Mode	reflection

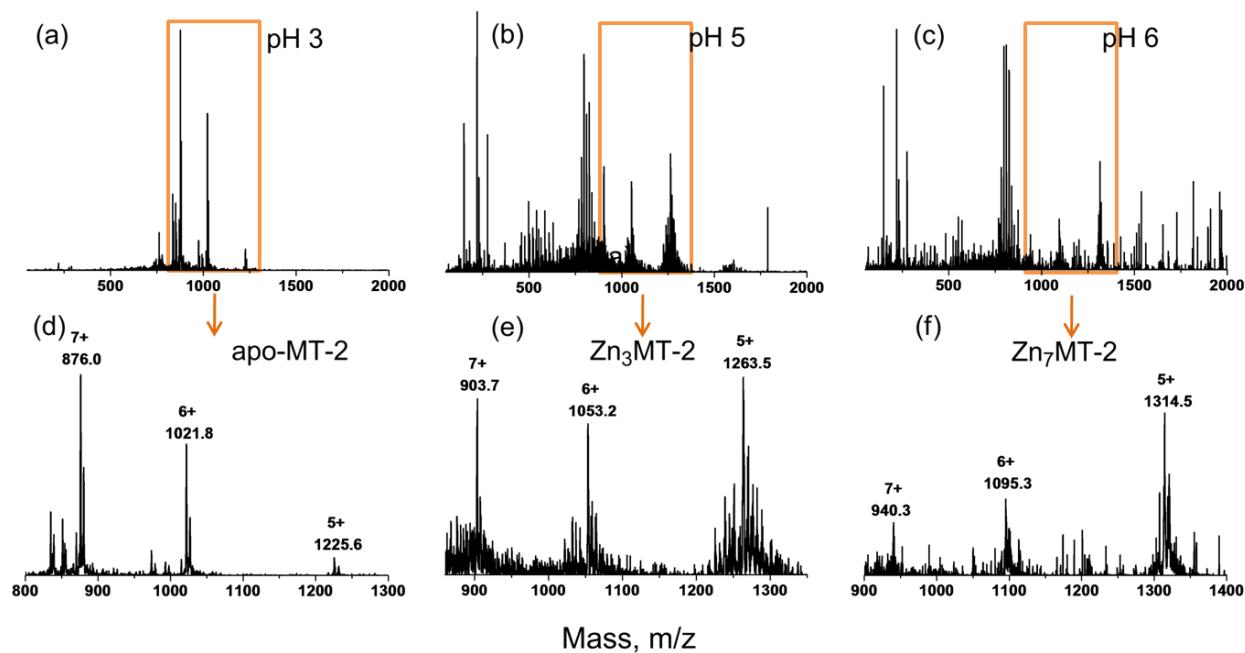


Fig. S1 ESI-MS spectra of Zn₇MT-2. (a) is full mass spectrum recorded at pH 3 and (d) is its enlarged mass spectrum from m/z 800 to 1300; (b) and (e) at pH 5; (c) and (f) at pH 6.

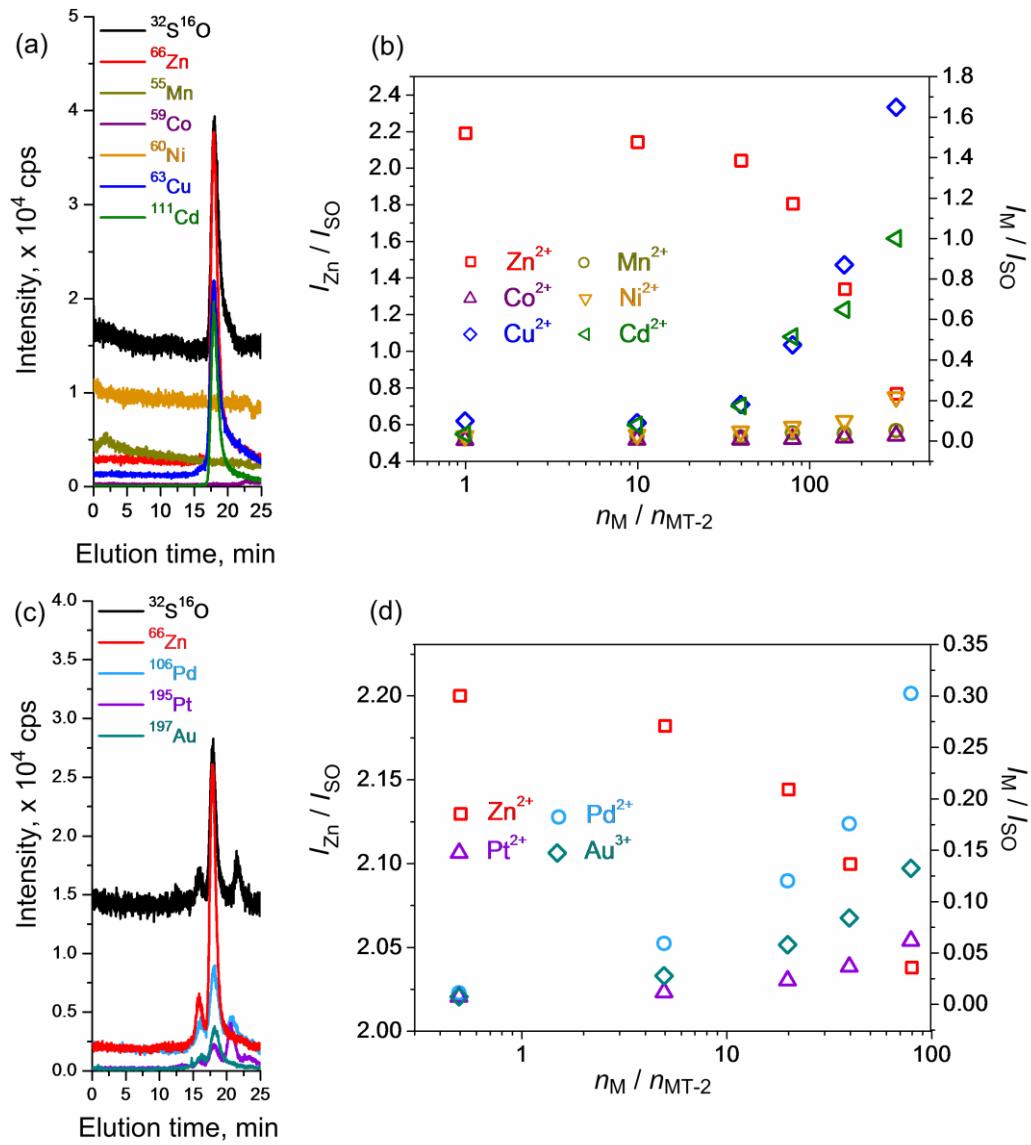


Fig. S2 SEC/ICP-MS chromatograms of Zn₇MT-2 reacting with “Mn, Co, Ni, Cu, Cd” (a) and “Pd, Pt, Au” (c) at $n_M / n_{\text{MT-2}} = 100$. Substitution processes of Zn²⁺ in Zn₇MT-2 by “Mn, Co, Ni, Cu, Cd” (b) and “Pd, Pt, Au” (d) at different molar ratios ($n_M / n_{\text{MT-2}}$) under the physiological solution (pH 7.4).