

Alizarin Red S-Functionalized Polyurethane Coatings as Passive Colorimetric Interfaces for Visual Heavy-Metal Screening in Simulated Seawater

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Table S1. CIE L*a*b* coordinates and corresponding color differences of PU–ARS coatings before immersion and after exposure to metal-free or metal-containing simulated seawater.

Sample	L*	a*	b*	ΔL^*	Δa^*	Δb^*	ΔE^*
PU–ARS Ref.	53.95	31.42	12.77	0.000	0.000	0.000	0.000
ASTM	50.92	40.02	6.65	−3.03	+8.61	−6.12	10.98
Pb ²⁺	44.14	46.001	−8.20	−9.80	+14.58	−20.97	27.36
Cd ²⁺	47.69	46.74	3.96	−6.26	+15.32	−8.81	18.75
Ni ²⁺	43.67	38.90	3.77	−10.28	+7.48	−8.99	15.58
Hg ²⁺	50.32	40.03	4.29	−3.63	+8.61	−8.48	12.61

Note: PU–ARS Ref. denotes the PU–ARS-coated glass slide before immersion and was used the reference for calculating ΔL^* , Δa^* , Δb^* , and ΔE^* . ASTM denotes the PU–ARS-coated glass slide after immersion in metal-free ASTM D1141-98 simulated seawater at pH 8.2. Pb²⁺, Cd²⁺, Ni²⁺, and Hg²⁺ denote PU–ARS-coated glass slides after immersion in ASTM D1141-98 simulated seawater at pH 8.2 containing the corresponding metal ion.