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**Supporting Information for:**

**Glutathione Modified Gold Nanoparticles for  
Sensitive Colorimetric Detection of Pb<sup>2+</sup> ions  
in Rain Water Polluted by Leaking Perovskite  
Solar Cells**

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**Figure S2.** Photographs for the self-assembled AuNPs sensing assay in the presence of various ions (4 μM) (a) and in the presence of Pb<sup>2+</sup> (4 μM) and another ion (X) (4 μM).

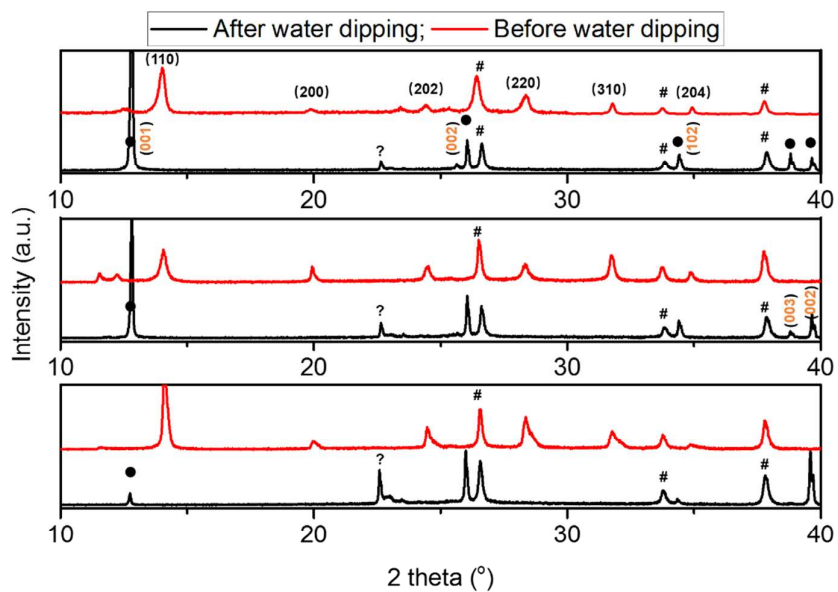
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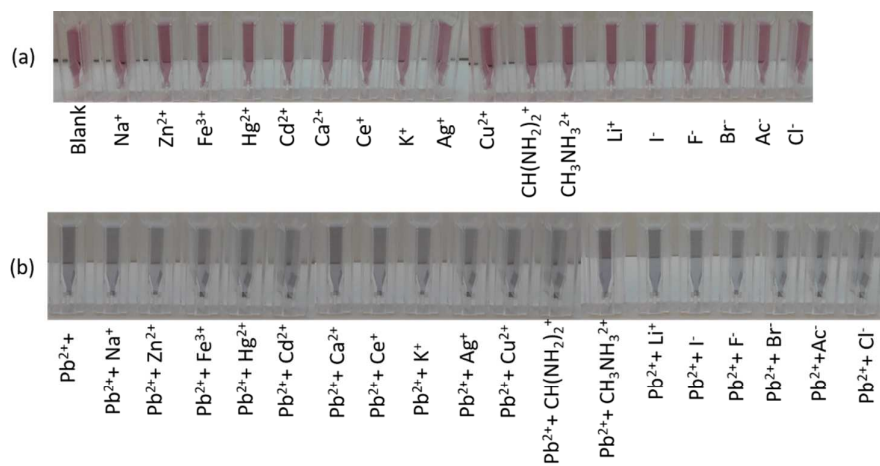
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samples	ICP-MS mmol/L, n=3, in 10ml water					
	pH=4.5			pH=5.6		
	1h	3h	1d	1h	3h	1d
PSCs-1	1.81±0.052	1.92±0.023	2.47±0.058	0.87±0.032	0.88±0.074	2.68±0.069
PSCs-2	1.74±0.040	2.44±0.084	2.58±0.116	0.66±0.003	0.72±0.036	2.68±0.080
PSCs-3	1.67±0.005	1.73±0.026	2.40±0.015	0.63±0.006	0.71±0.013	2.10±0.027

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**Figure S1.** X-ray diffraction of PSCs films before (red line) and after (black line) water dipping. (a) PSCs-1, (b) PSCs-2, and (c) PSCs-3.



**Figure S2.** Photographs for the self-assembled AuNPs sensing assay in the presence of various ions (4  $\mu\text{M}$ ) (a) and in the presence of  $\text{Pb}^{2+}$  (4  $\mu\text{M}$ ) and another ion (X) (4  $\mu\text{M}$ ).