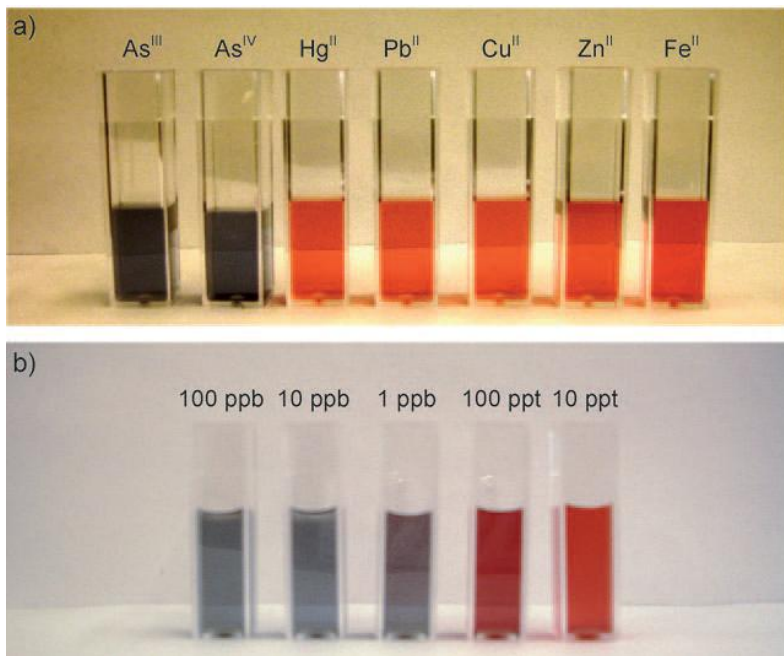


Use of Gold Nanoparticles in a Simple Colorimetric and Ultrasensitive Dynamic Light Scattering Assay: Selective Detection of Arsenic in Groundwater

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The contamination of drinking water with arsenic poses a threat to global health. As many as 140 million people worldwide may have been exposed to drinking water with arsenic contamination levels higher than the World Health Organization (WHO) guideline of 10 ppb. Driven by need, we have demonstrated a label-free, selective colorimetric assay and highly sensitive DLS assay for 3 ppt arsenic recognition in aqueous solution. The experimental results show that arsenic can be detected at the ppt level quickly and accurately without any tagging, and with excellent discrimination against other heavy metals.

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