Supporting information

Silver ions-regulated reliable and rapid detection technique of alkaline phosphatase based on surface-enhanced Raman spectroscopy

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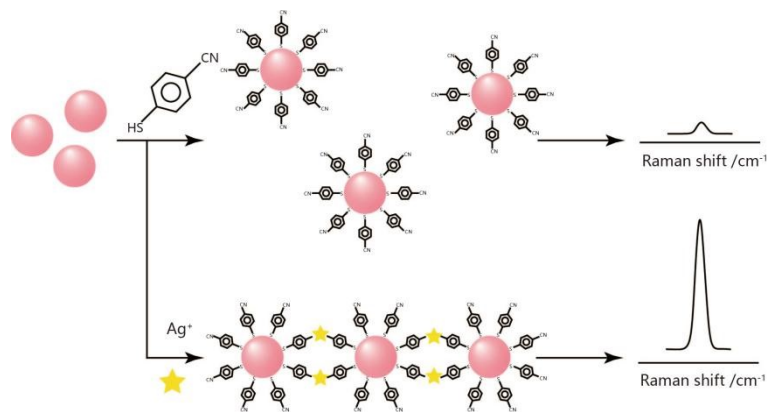List of contents

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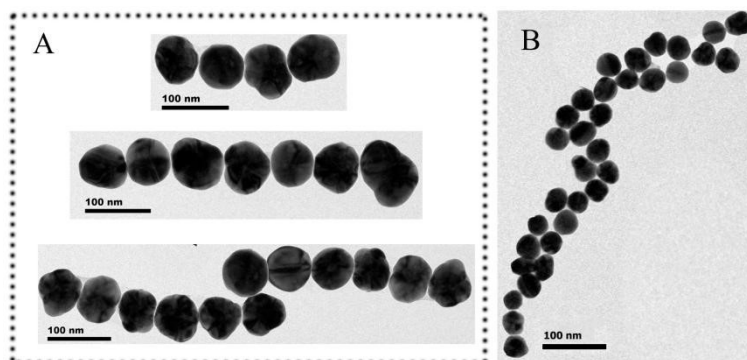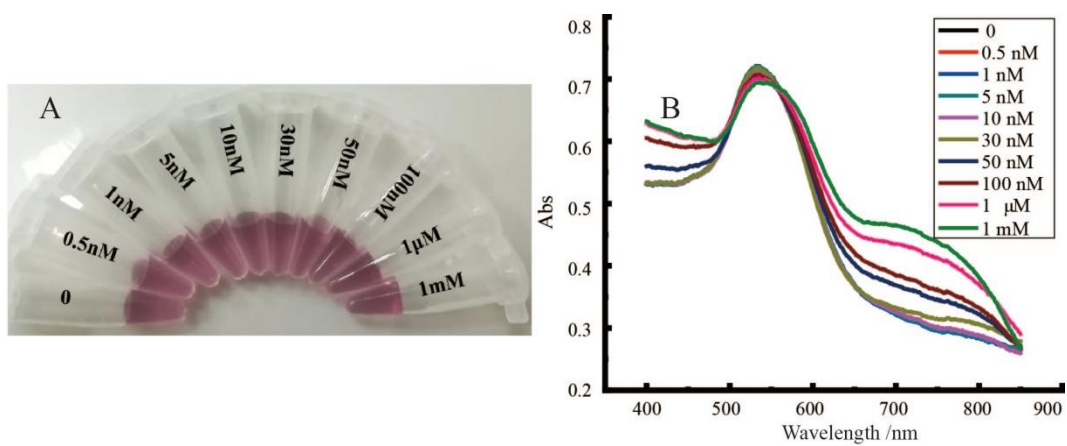7. **Fig. S6**. Stability of functional Au NPs over a period of six months.

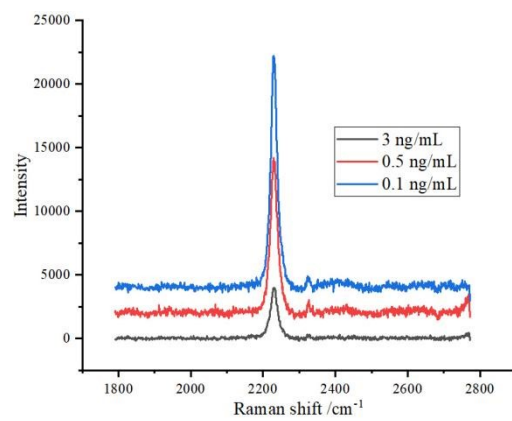MBN

Fig. S1. The chemical structure of MBN.

Fig. S2. The schematic diagram between the functionalized Au NPs and Ag⁺.

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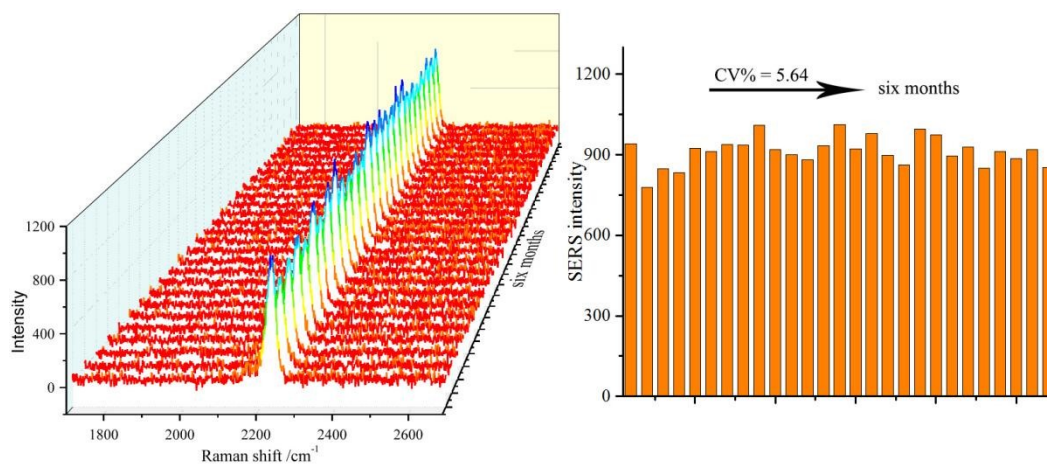
Fig. S5. (A) SERS spectroscopy of the detection system for different concentration of ALP.

Table S1. Comparison of the performance of the SERS based ALP detection technique with the other existing methods.

Material	Method	Linear range (U/L)	LOD (U/L)	Reference
CQDs	Fluorescence	16.7-782.6	1.1	Qian et al., 2015 [1]
Electrospun fibrous strips	Fluorescence	5-100	1.5	Zhao et al., 2017 [2]
CdSe nanoparticles	Electrochemistry	2-25	2	Jiang et al., 2012 [3]
CoOOH nanoflakes	Electrochemistry	1.25-100	0.37	Rao et al., 2022 [4]
Sulfuration-engineered	Colorimetry	0.8-320	0.38	Song et al., 2020 [5]
Fe/C NS	Colorimetry	0.05-6	0.03	Zhou et al., 2021 [6]
Ag NPs	SERS	0.72-3	0.01	Zeng et al., 2017 [7]
2-MBQ	SERS	1-300	0.38	Xi et al., 2022 [8]
Functionalized Au NPs	SERS	0.2-2.0	0.005	This work

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Fig. S6. Stability of functional Au NPs over a period of six months.