

Supporting Information

Metal (Au, Pt) Nanoparticle–Latex Nanocomposites as Probes for Immunochromatographic Test Strips with Enhanced Sensitivity

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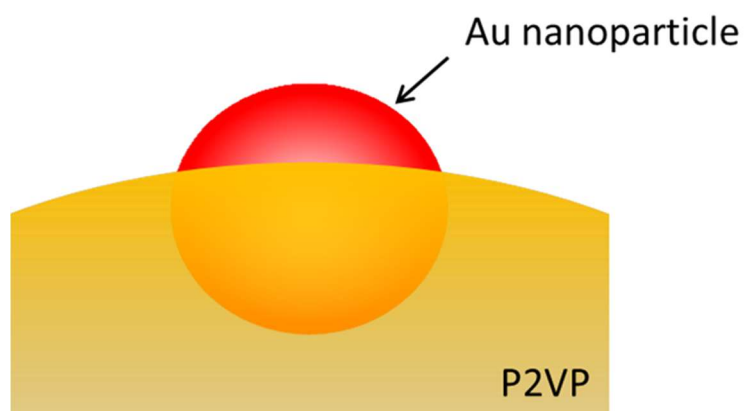


Figure S1 Schematic illustration of an Au nanoparticle buried in a P2VP particle.

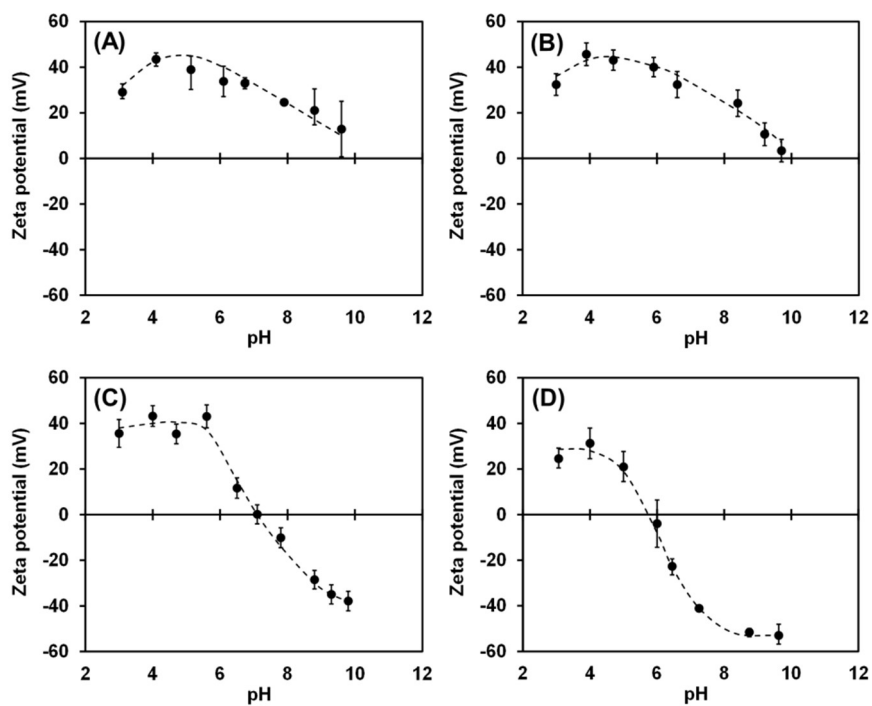


Figure S2. Zeta potentials of (A) Au-P2VPs, (B) Au/Pt (8:2 mol/mol)-P2VPs, (C) Au/Pt (5:5 mol/mol)-P2VPs, and (D) Pt-P2VPs.

NMR Spectroscopy

Solid-state NMR spectra were recorded using a JEOL JNM-ECA400 spectrometer equipped with a 7-T narrow-bore superconducting magnet. The rotors were inserted into a 4-mm magic angle spinning probe, and samples were spun at 15 kHz. The probe was tuned to 100.5 MHz (^{13}C Larmor frequency). ^{13}C dipolar decoupled (DDMAS) experiments were carried out with a repetition time of 200 s. Typically, 1300–1700 scans were collected and added together.

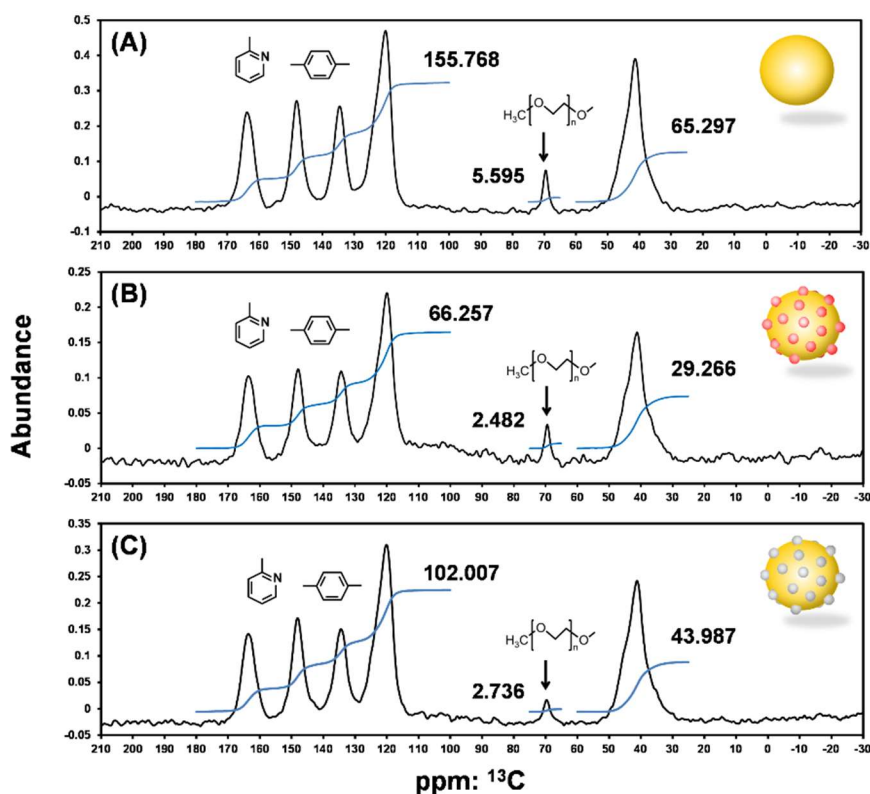


Figure S3. Solid-state ^{13}C NMR spectra of (A) P2VPs, (B) Au-P2VPs, and (C) Pt-P2VPs.

Table S1. Integrals and integral ratios estimated from solid-state ^{13}C NMR spectra of P2VPs, Au-P2VPs, and Pt-P2VPs.

	Integral		Integral ratio
	Aromatic part	PEG part	PEG part /Aromatic part
P2VPs	155.768	5.595	0.036
Au-P2VPs	66.257	2.482	0.037
Pt-P2VPs	102.077	2.736	0.027

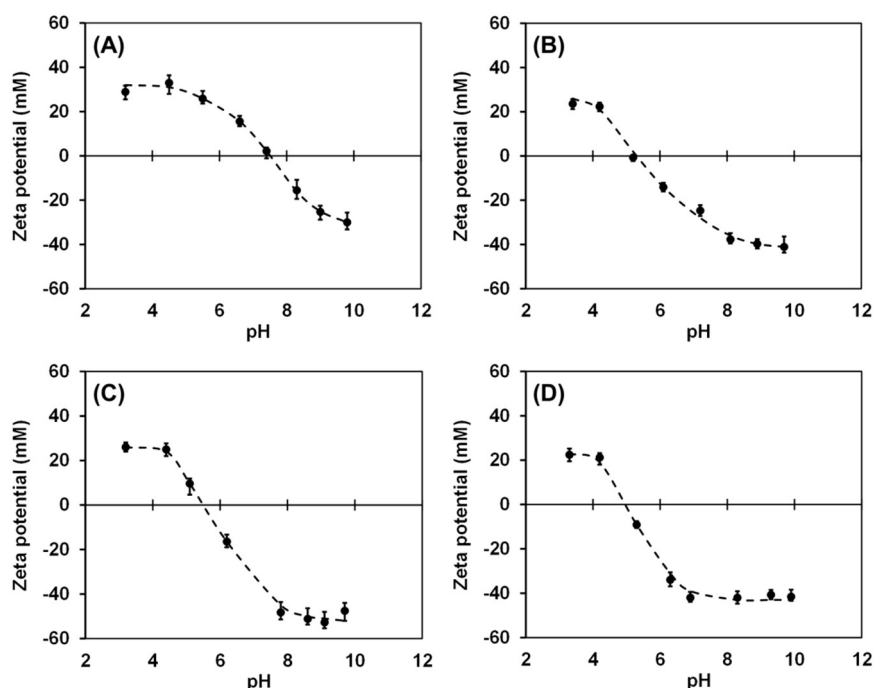


Figure S4. Zeta potentials of (A) Au-P2VPs measured just after treatment with mAb (just before treatment with Block Ace), (B) mAb-Au-P2VPs, (C) Pt-P2VPs measured just after treatment with mAb (just before treatment with Block Ace), and (D) mAb-Pt-P2VPs.

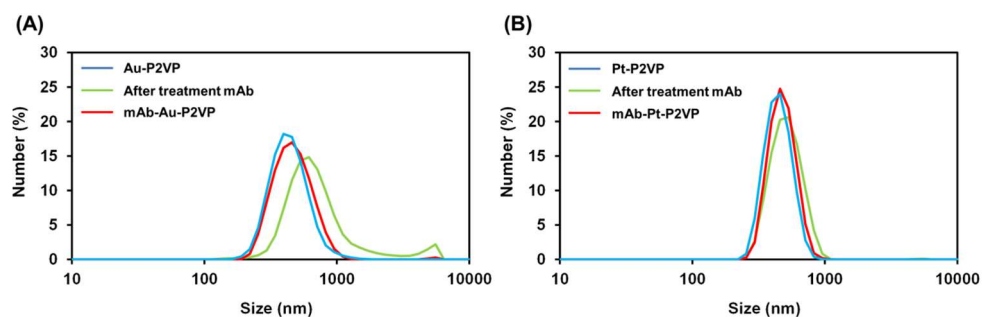


Figure S5. Hydrodynamic diameter distributions of (A) Au-P2VPs and (B) Pt-P2VPs. Blue, green and red lines correspond to the distribution measured before treatment with mAb, the distribution measured just after treatment with mAb (just before treatment with Block Ace) and the size distribution of mAb-Au-P2VPs, respectively.