Electronic Supplementary Material (ESI) for New Journal of Chemistry.

Silver Nanoparticles Incorporated Ultralong Hydroxyapatite Nanowires with Internal Reference as SERS Substrate for trace Environmental Pollutants Detection

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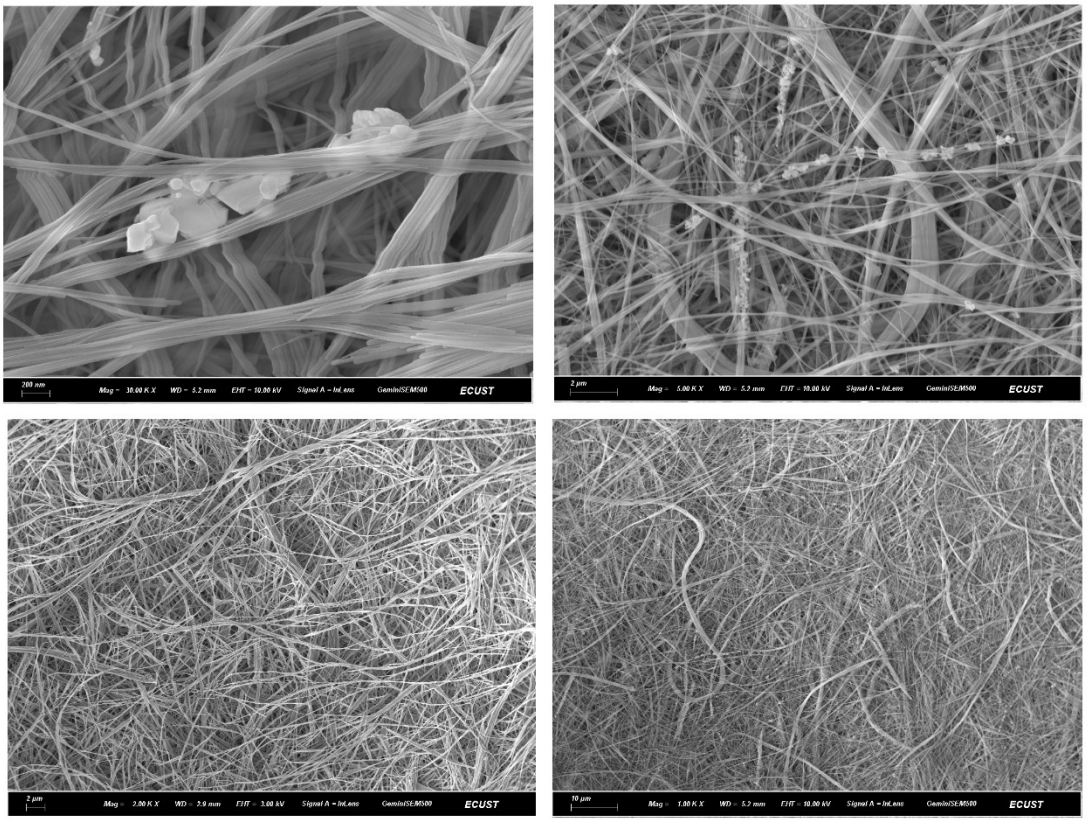
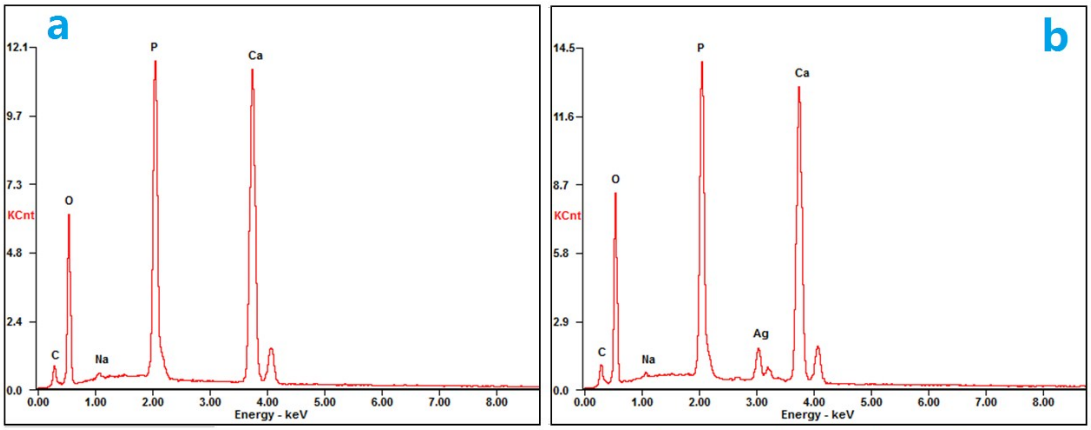


Figure S 1. SEM of HAPNWs@AgNPs after storage ten months.(Scale bar: 200 nm; 2 μm; 2 μm; 10 μm)



Element	Wt %	At %
C K	04.23	08.73
O K	30.00	46.47
NaK	00.40	00.44
P K	21.73	17.39
CaK	43.63	26.98

Element	Wt %	At %
C K	03.87	08.29
O K	30.20	48.60
NaK	00.36	00.40
P K	19.72	16.39
AgL	07.77	01.85
CaK	38.08	24.46

Figure S 2. Energy Dispersive Spectrometer (EDS) of HAPNWs (a) and HAPNWs@AgNPs (b)

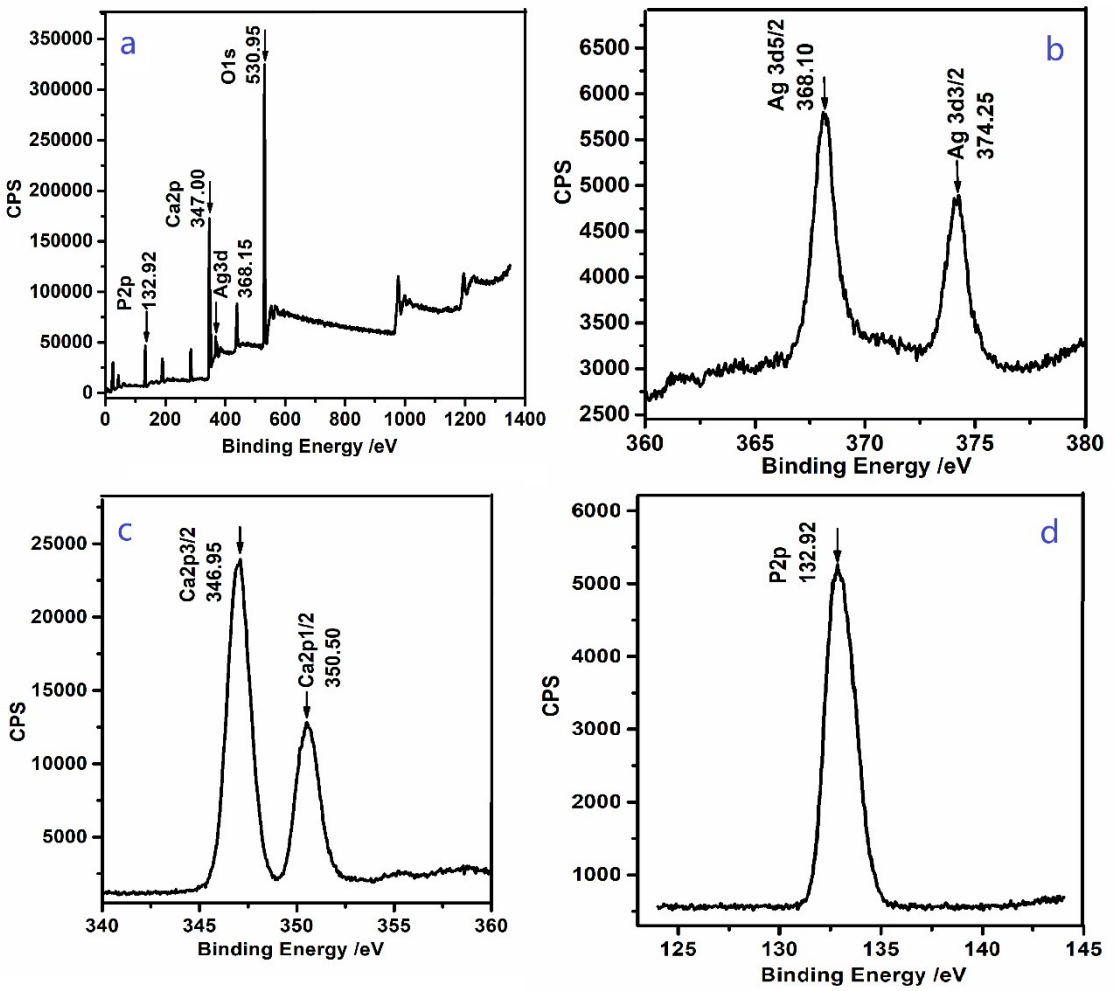


Figure S 3. XPS of HAPNWs@AgNPs after storage ten months (a), Ag elementand (b), Ca element (c) and P element (d)

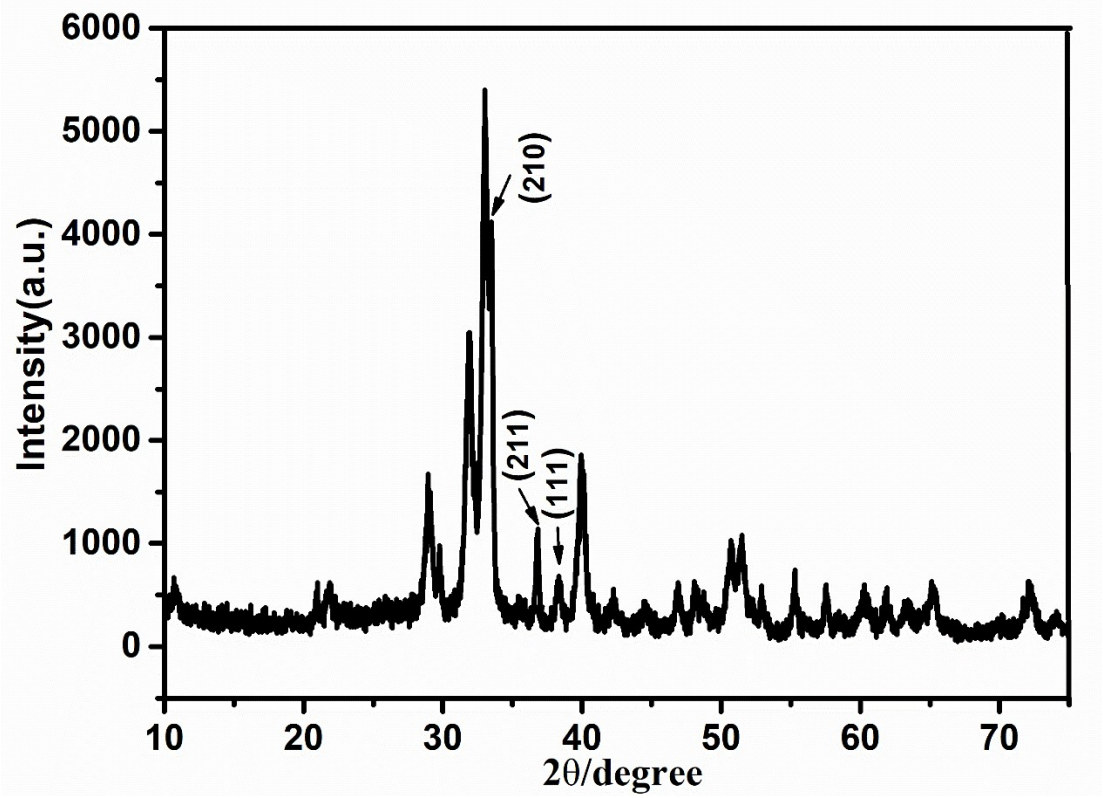


Figure S 4. XRD of HAPNWs@AgNPs after storage ten months

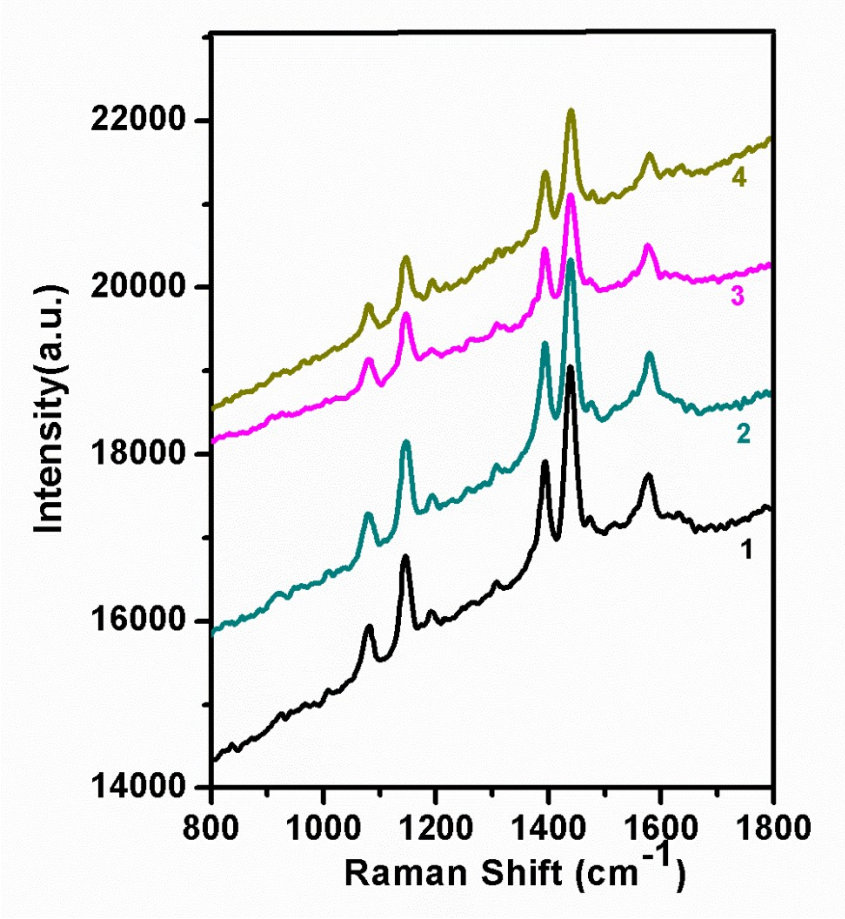


Figure S 5. The reproducibility of the HAPNWs@AgNPs paper; SERS of 1.0 μM 4-ATP ethanol solution with different batches (1; 2; 3; 4)

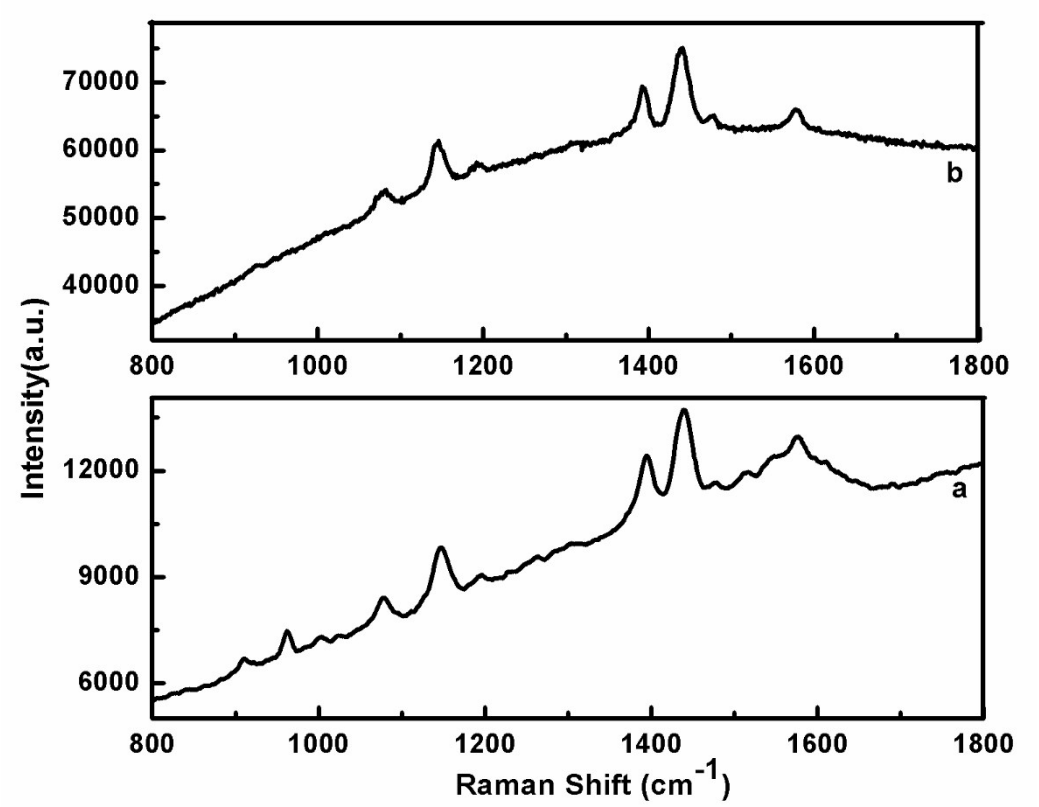


Figure S 6. The stability of the HAPNWs@AgNPs paper, SERS of 1.0 μM 4-ATP ethanol solution (a); SERS of detection after one hundred days (b)

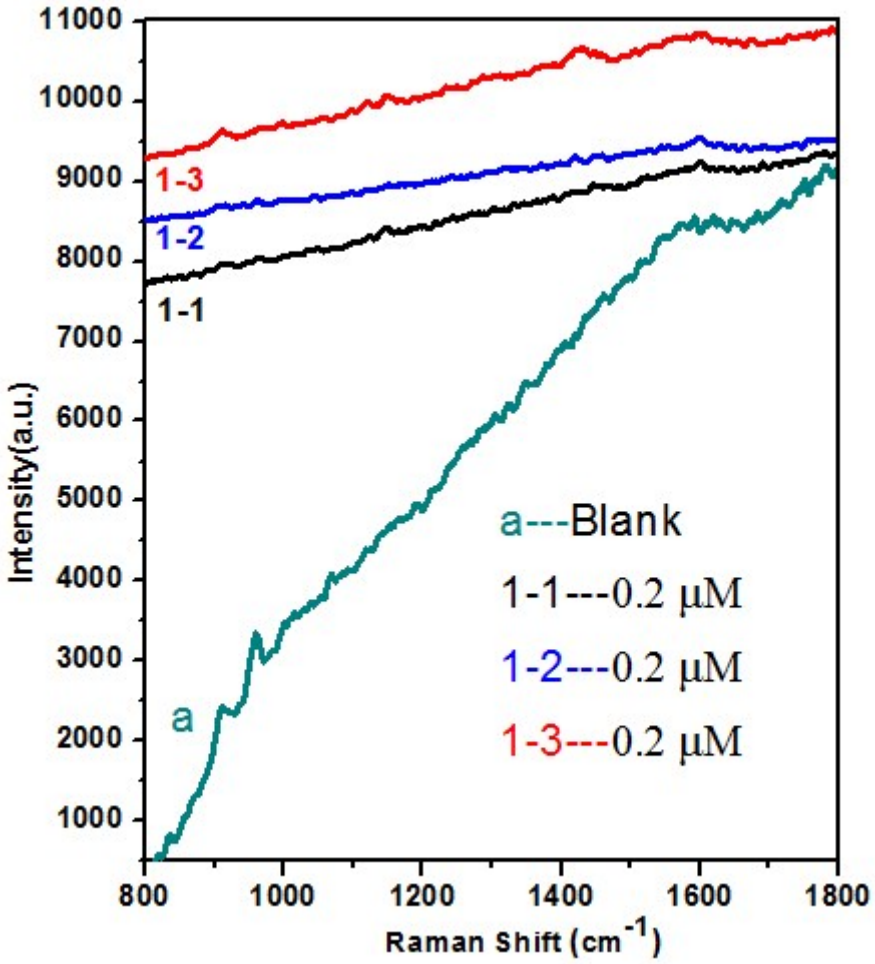


Figure S 7. The LOD of SERS about benzidine, SERS of blank water (a); SERS of 0.2 μM benzidine solution (1-1; 1-2; 1-3)