Supplementary Materials

SERS and Indicator Paper Sensing of Hydrogen Peroxide Using Au@Ag Nanorods

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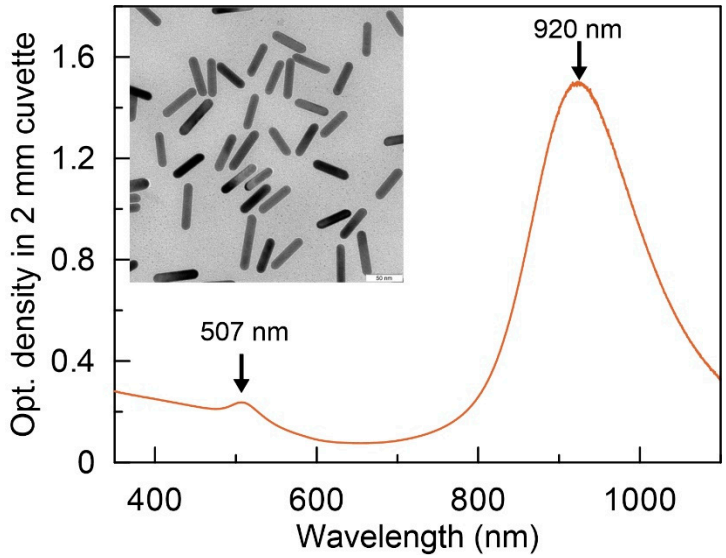

Figure S1. Extinction spectra of AuNRs. The insert shows a typical TEM image of the nanorods.

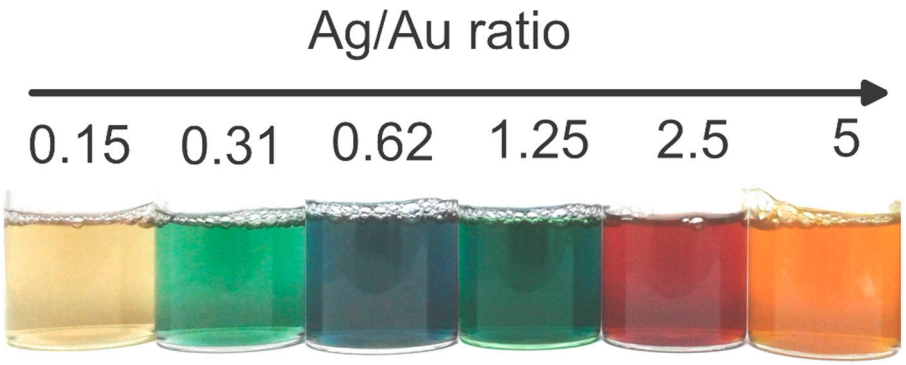

Figure S2. Color changes during the growth of a silver shell on the surface of a gold nanorod at various Ag/Au molar ratios.

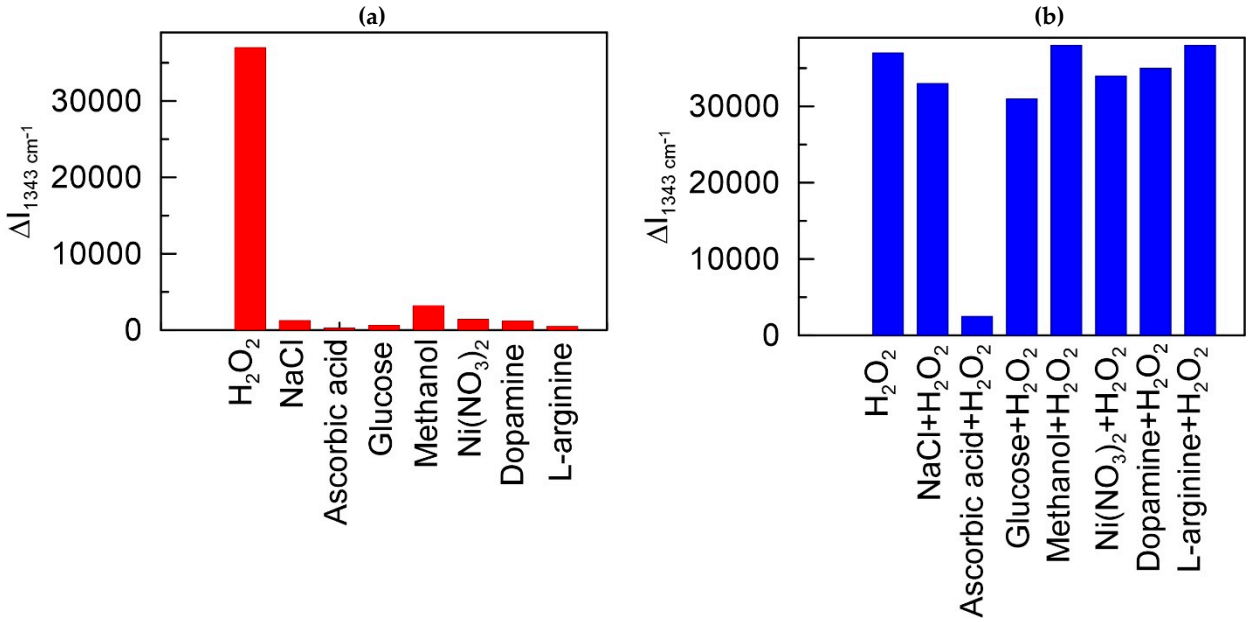

Figure S3. Possible interferences tested with the H_2O_2sensor: (**a**) 10 mM H_2O_2, sodium chloride, ascorbic acid, glucose, methanol, nickel nitrate, dopamine, l-arginine; (**b**) adding another 10 mM H_2O_2 in the above solutions.

Table S1. Comparison of the sensitivity and speed of various methods for the determination of hydrogen peroxide.

Nanoparticle type	Detection method	Detection range	Time for assay	Reference
Biogenic silver nanoparticles	Colorimetric	1-10 mM	1 hour	[20]
Ag nanospheres	Colorimetric	0.1-50 mM	1 hour	[42]
Siver/carbon nanomaterial	Colorimentric	0.01-0.2 mM	30 min	[19]
Ag nanocubes Ag nanospheres Ag prisms	Colorimentric	1-10 mM 0.1-10 mM 0.02-10 mM	2 hour	[24]
Fluorescent/Ag microparticles	Fluorescence	0.001-0.5 mM	1 hour	[17]
Ag NP-assembled substrate	SERS	0.01-0.1 mM	2 hour	[26]
Au@Ag nanospheres	SERS	0.01-0.3 M	2 hour	[31]
Au@Ag nanorods	SERS	0.1-20 mM	1 hour	This paper
Indicator paper	Naked eye	1-50 mM	10 min	This paper

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