

## Supporting Information

### Silver Nanoparticle-Loaded Microgel-Based Etalons for H<sub>2</sub>O<sub>2</sub> Sensing

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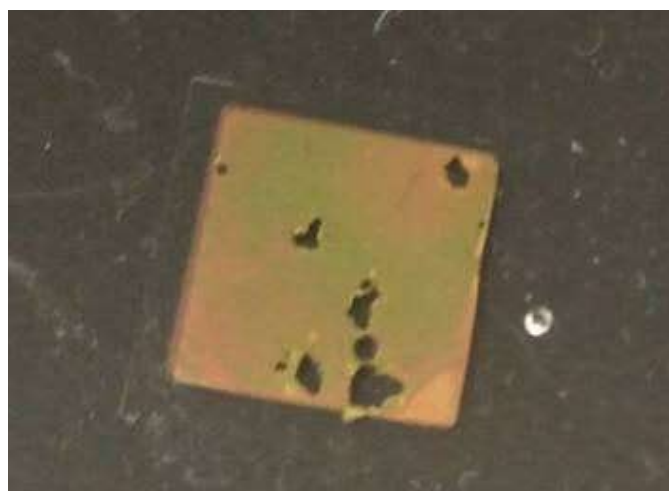
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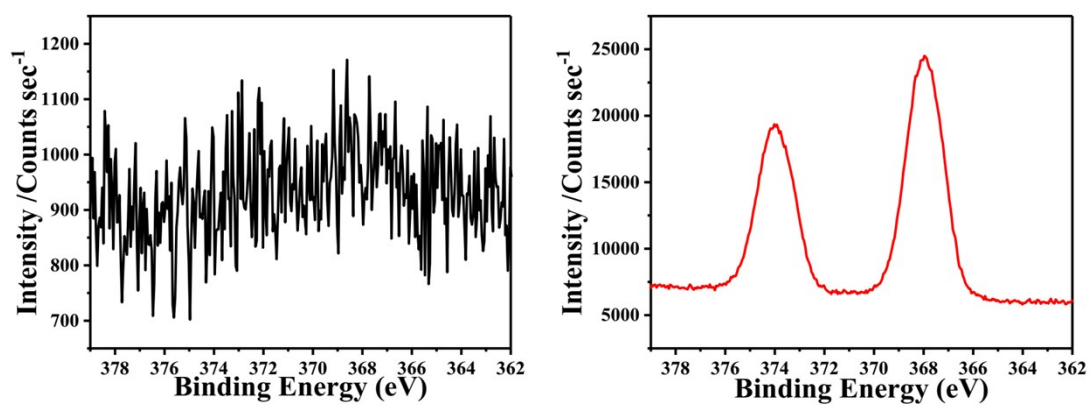
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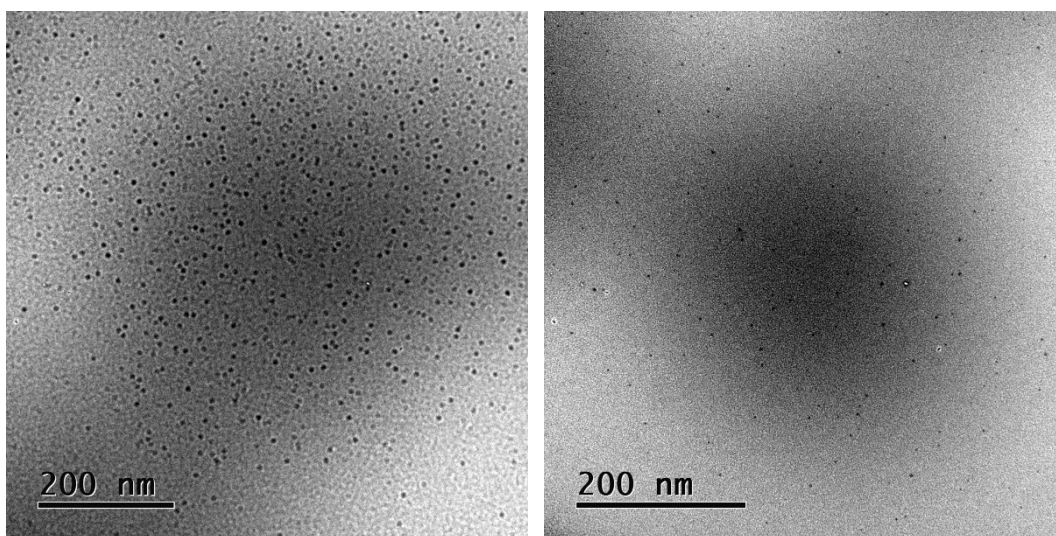
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**Figure S1.** Photograph of an etalon made via the in situ synthesis of AgNPs in the etalon at room temperature.



**Figure S2.** X-ray photoelectron spectroscopy spectrum of pNIPAm-co-AAc microgels (left) before and after incorporating the AgNPs (right).



**Figure S3.** TEM images of the AgNPs incorporated microgels (left) before and (right) after treating with 6 mM H<sub>2</sub>O<sub>2</sub>.

**Table S1.** A partial list of H<sub>2</sub>O<sub>2</sub> sensors

<b>Materials</b>	<b>Linear range (mM)</b>	<b>Reference</b>
Graphene wrapped Cu <sub>2</sub> O nanocube	0.3-3	1
Fe <sub>2</sub> O <sub>3</sub> /graphite	0.2-5.5	2
rGO/Fe <sub>3</sub> O <sub>4</sub>	0.1-6	3
Graphene nanosheets	1-20	4
boron-doped graphene nanosheets	1-20	4
Ferrocene-Modified Microgels	0.6-35	5
AgNPs-incorporated microgels	0.5-6	This work

**References**

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