

Electronic Supplementary Information

Plasmonic Indicator by Naked Eyes with Multi-Responsive Polymer Brush as Signal Transducer and Amplifier

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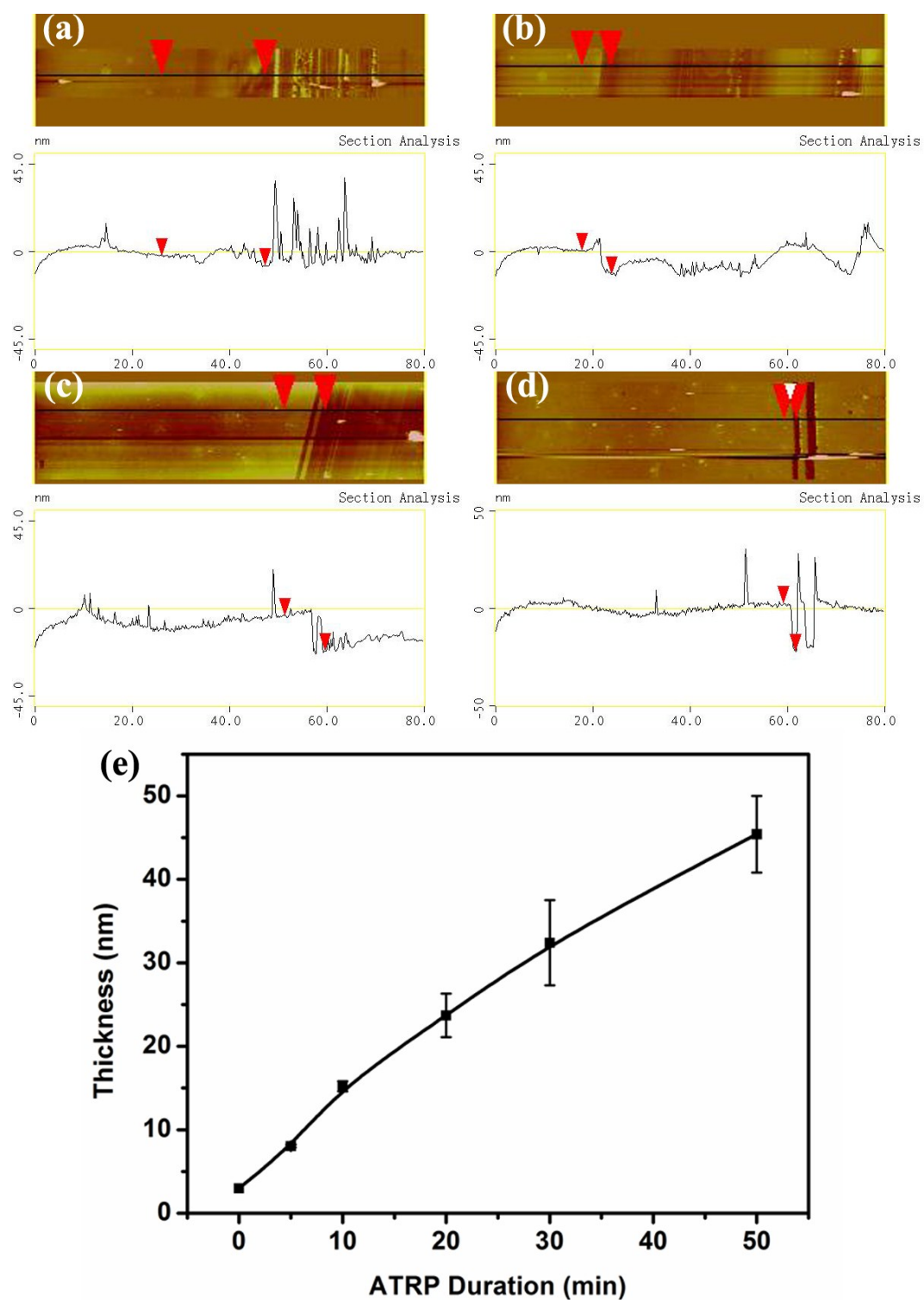


Fig. S1 (a)-(d) the AFM image of polymer brush obtained after SI-ATRP with different polymerization duration. (e) The thickness of PNIPAm as a function of polymerization duration.

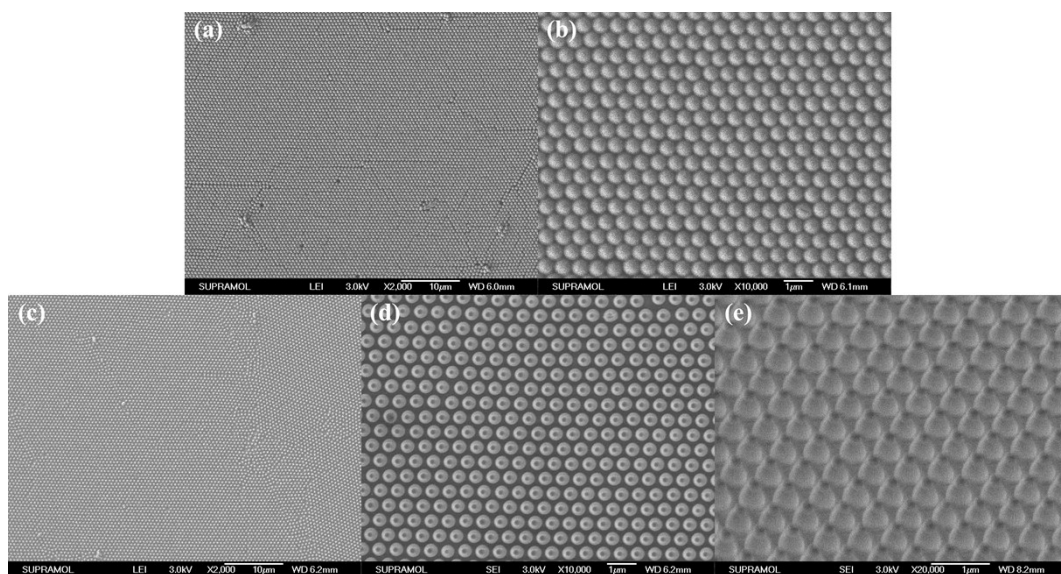


Fig. S2 (a) and (b) large area SEM image of the PS sphere mask. (c-e) large area SEM image of the microstructure obtained after RIE etching treatment, (c-d) top view and (e) 45° tilted view.

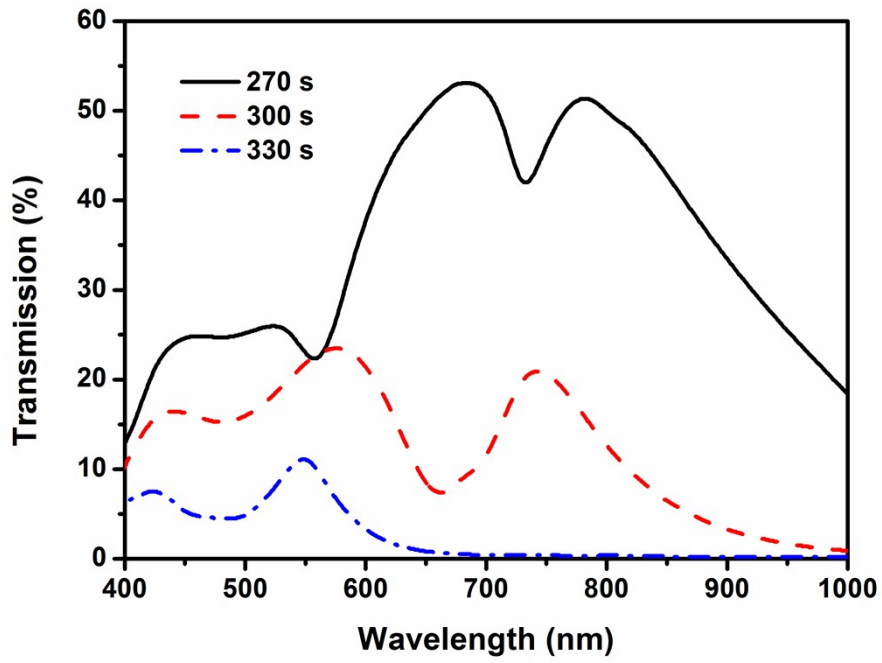


Fig. S3 The measured transmission spectra of the Ag nanovolcano array fabricated after etching the photoresist for different etching duration using PS sphere array as etching mask.

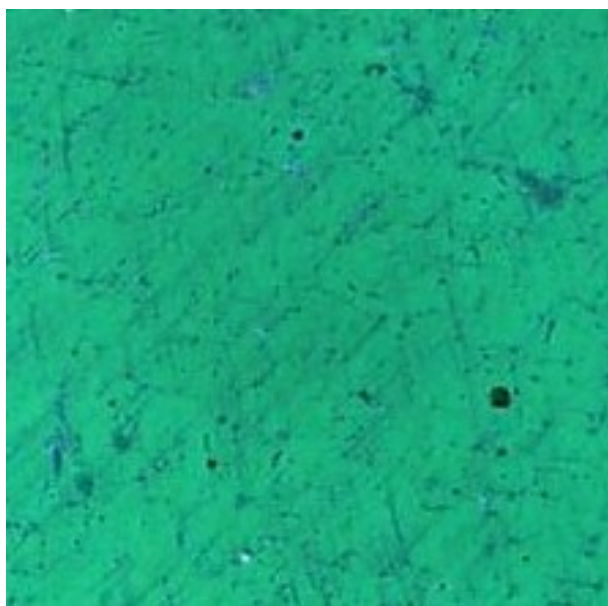


Fig. S4 The optical microscope images of the as-prepared Ag nanovolcano array fabricated after etching for 330 s;

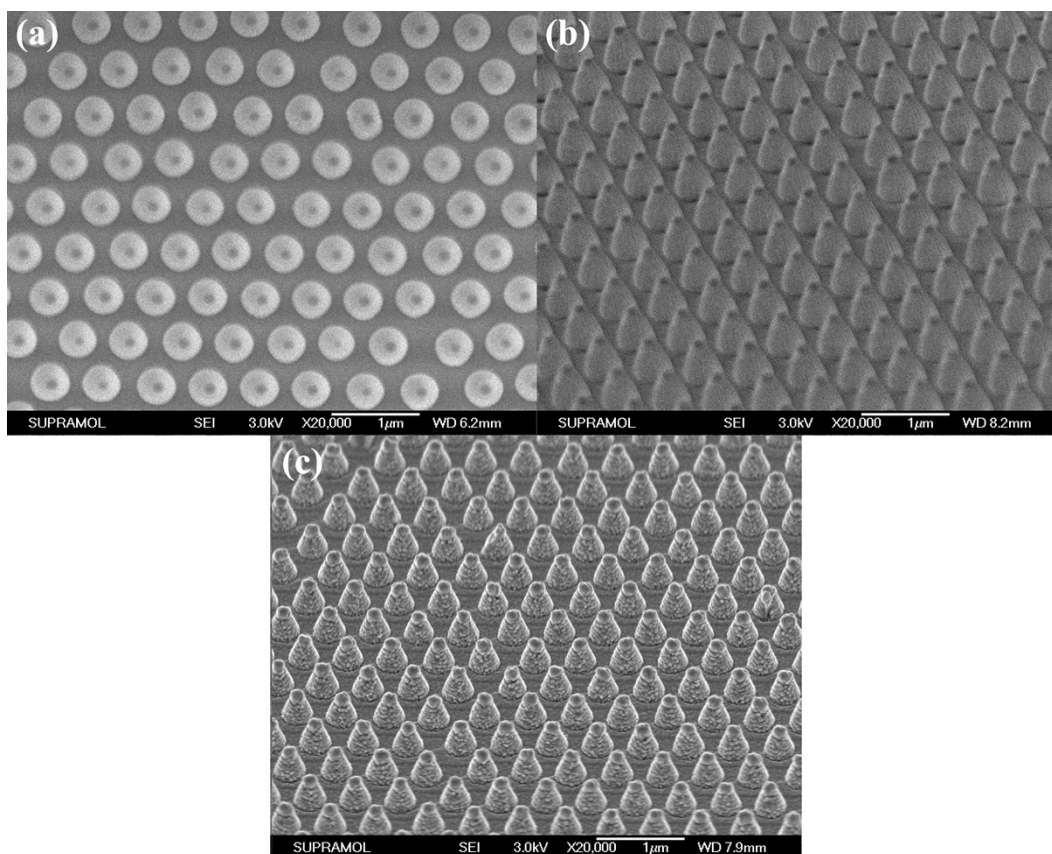


Fig. S5 (a) top view and (b) 45° tilted view SEM image of the microstructure obtained after RIE etching treatment for 360 s. (c) 45° tilted view SEM image of (b) after deposition of 100-nm Ag.

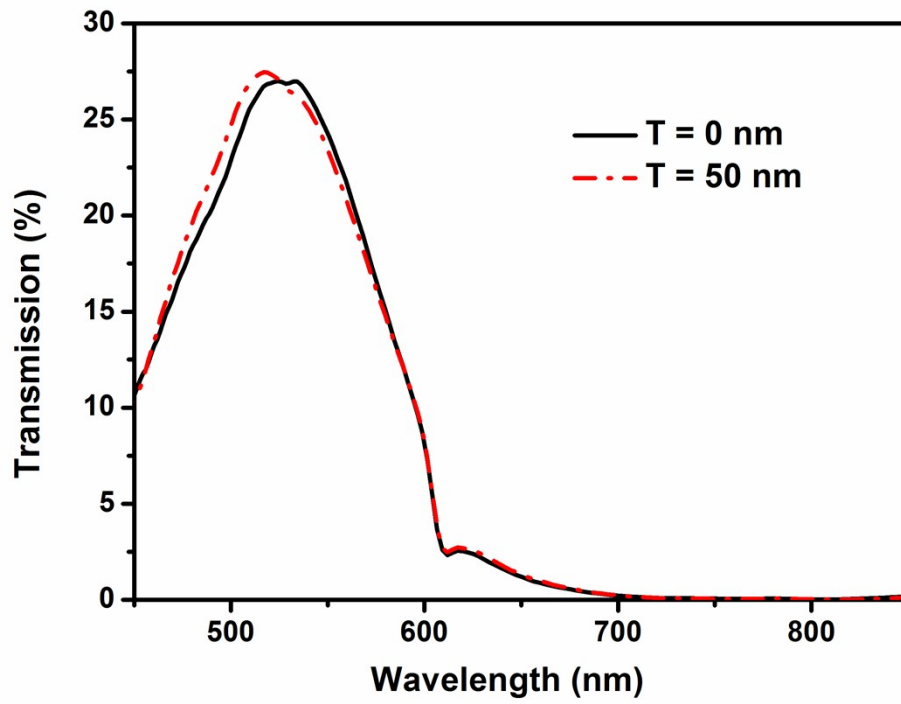


Fig. S6 The calculated transmission spectra of the responsive Ag nanovolcano array with and without PNIPAm brush in the cavity of the Ag nanovolcano;

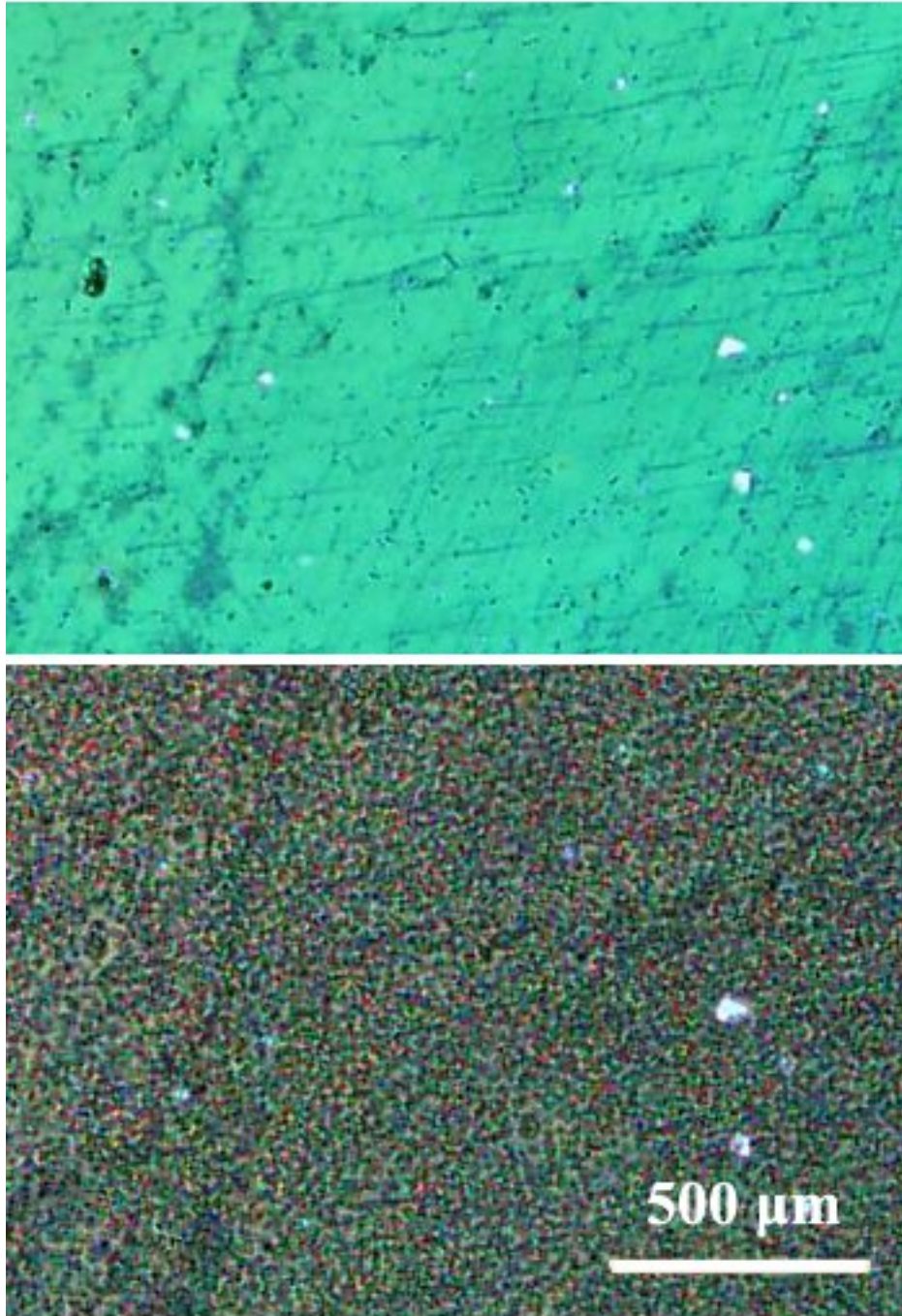


Fig. S7 The optical microscope images of the Ag nanovolcano array without PNIPAm brush (top) before and (bottom) after exposure in saturated water vapor.