

SUPPORTING INFORMATION

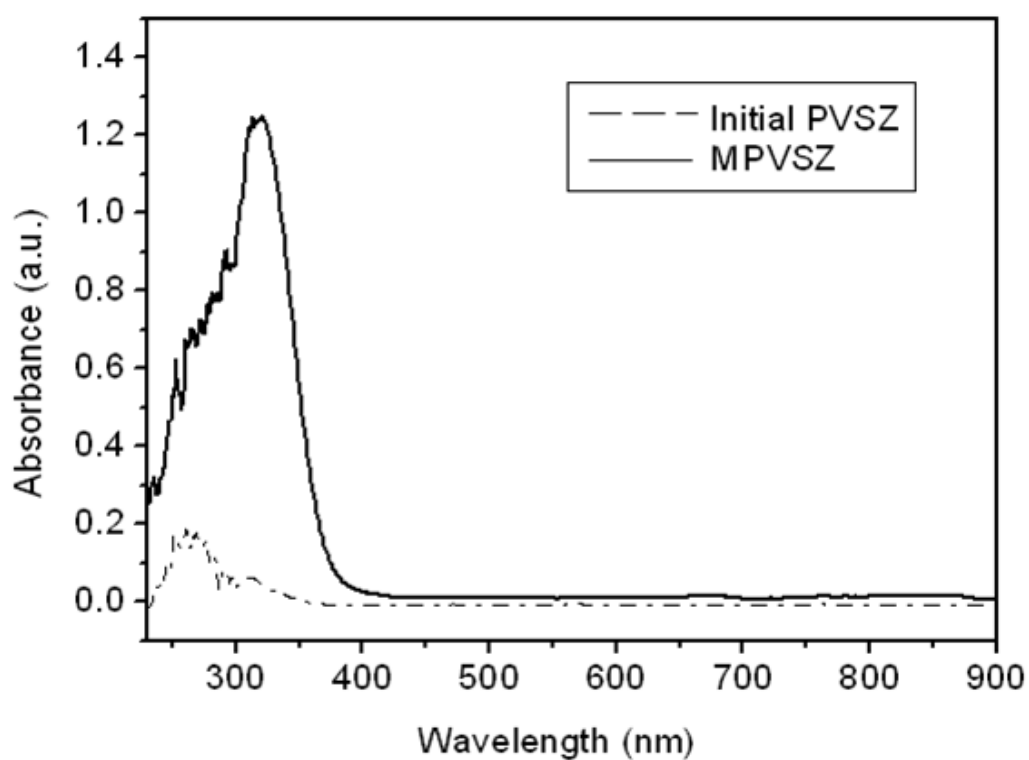


Fig. S1 UV-Vis absorbance spectra of the initial PVSZ and the MPVSZ in the presence of the 3wt% photoinitiator Irgacure 369.

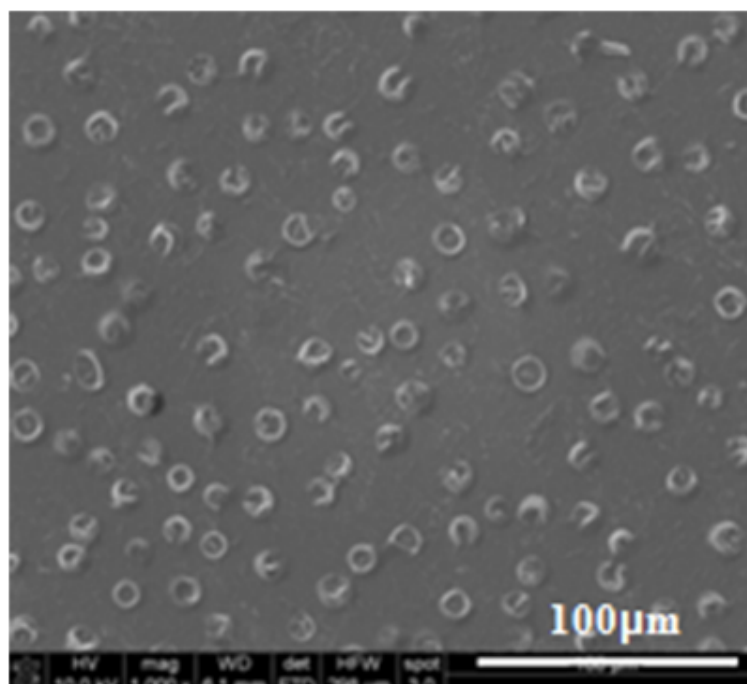


Fig. S2 Scanning electron micrographs of the hydrolyzed MPVSZ film surface after the UV-curing with no post-heat treatment at 150°C.

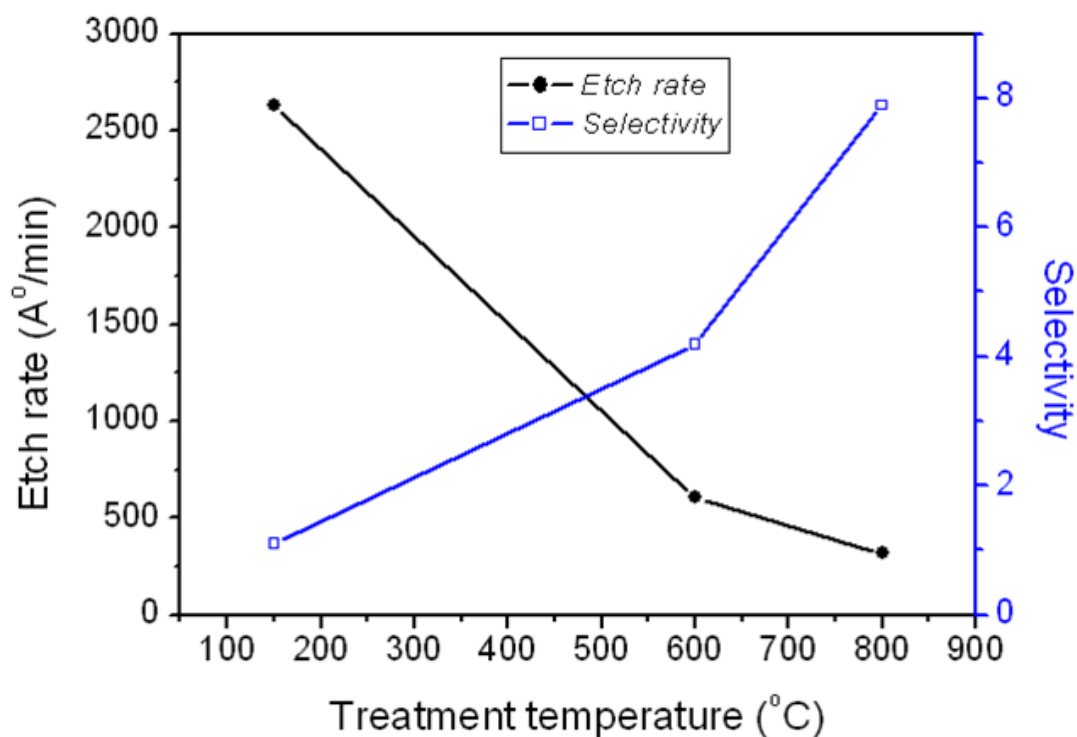


Fig.S3 Etching performance (etch rate and selectivity) of the MPVSZ patterns annealed in the temperature range 150~800°C in nitrogen ambience with no hydrolysis, using inductively coupled plasma under pressure 5 mTorr, microwave power 500 W, bias 100 W, etch time 4 min, and Cl₂/Ar (80/20) mixture as etchant.

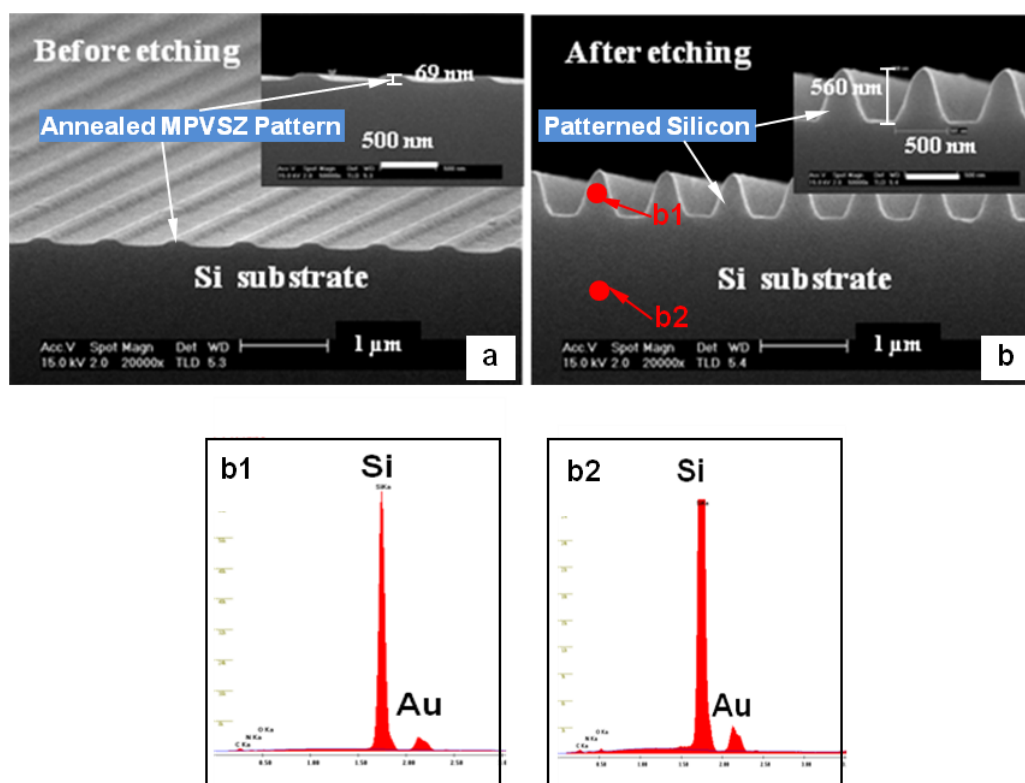


Fig. S4 Scanning electron micrographs of pattern transfer of the annealed MPVSZ at 800 °C to silicon substrate: (a) before etching; (b) after etching. The Si peak in EDS spectrum of (b1) and (b2) illustrated the transferred pattern was silicon, the Au peak in the EDS spectrum was introduced from the gold employed in the SEM specimen preparation. Inductively coupled plasma microwave power 500 W, bias 100 W, pressure 5 mTorr, etch time 4 min and Cl₂/Ar (80/20) mixture as etchant.