Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics.

Supporting Information

A Fast Self-Cleaning SERS-Active Substrate Based on Inorganic–Organic Hybrid Nanobelts Film

Rui Hao†, Jie Lin†, Hua Wang, Bo Li, Fengshi Li, and Lin Guo**

School of Chemistry and Environment, Beihang University, Beijing 100191, P.R. China

E-mail: wanghua8651@buaa.edu.cn; guolin@buaa.edu.cn

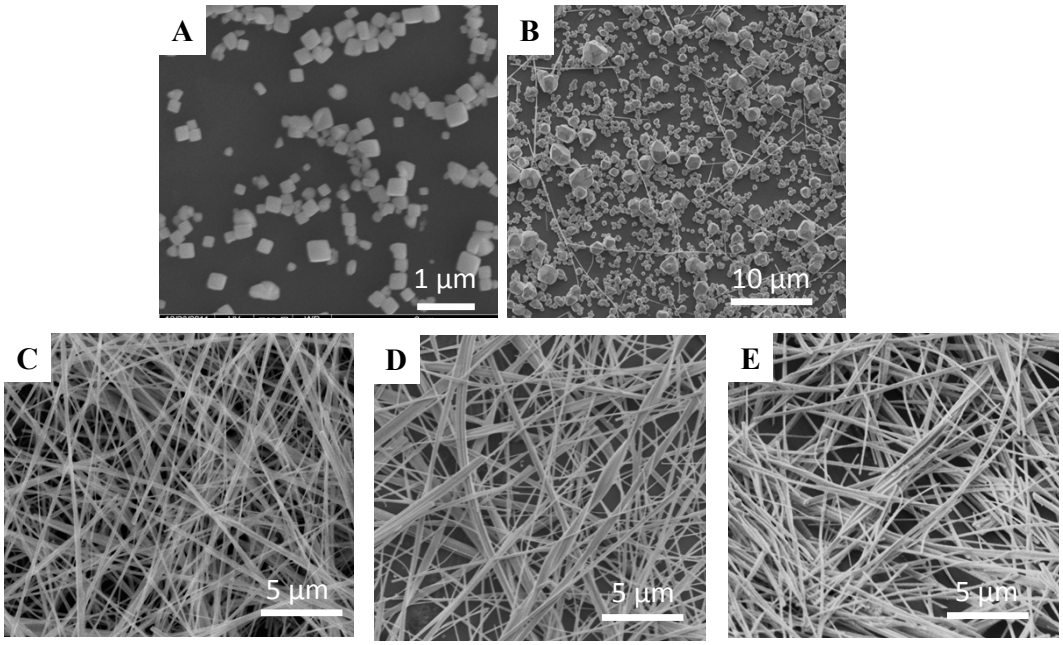

Fig. S1 SEM images of the samples prepared with different hydrothermal reaction time: (A) 0 h; (B) 1 h; (C) 2 h; (D) 4 h; (E) 6 h.

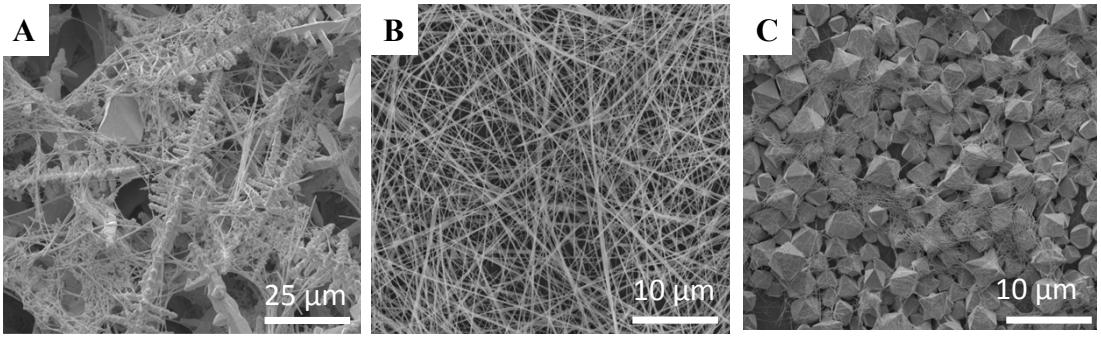

Fig. S2 SEM images of the samples prepared with different mass of added PVP: (A) 0 g; (B) 0.054 g; (C) 0.54 g.

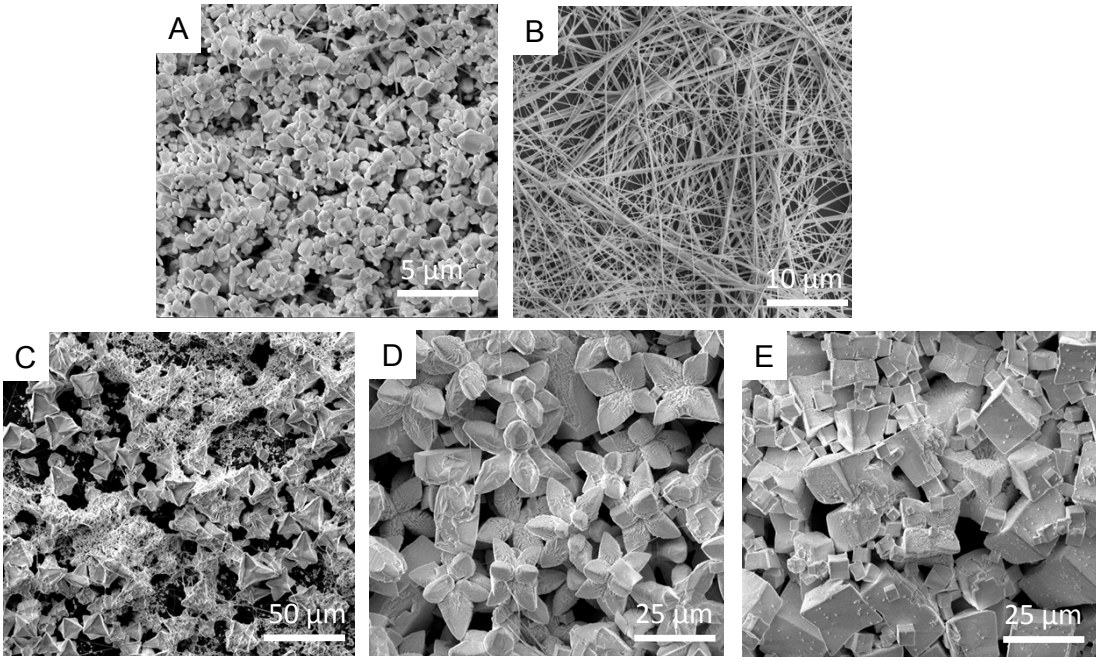

Fig. S3 SEM images of the samples prepared with different mass of added NaCl: (A) 0.0256 g; (B) 0.768 g; (C) 1.28 g; (D) 1.792 g; (E) 2.56 g.

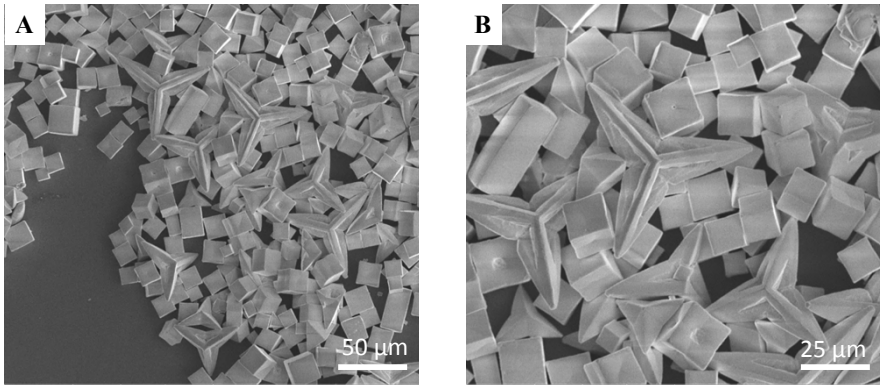

Fig. S4 (A, B) SEM images of the sample prepared with $AgNO_3$ as silver source.

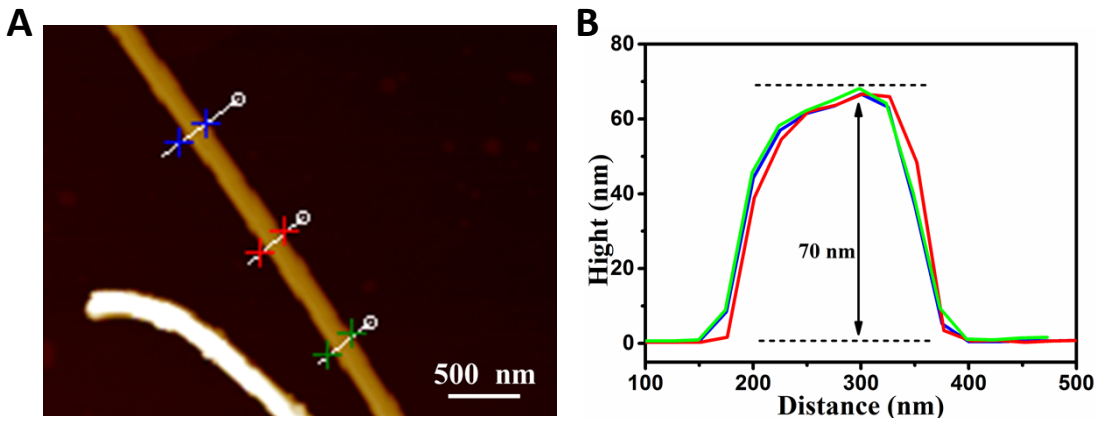

Fig. S5 (A) AFM image and (B) the corresponding height profiles of Ag@Ag(DMSO)$_x$Cl nanobelts.

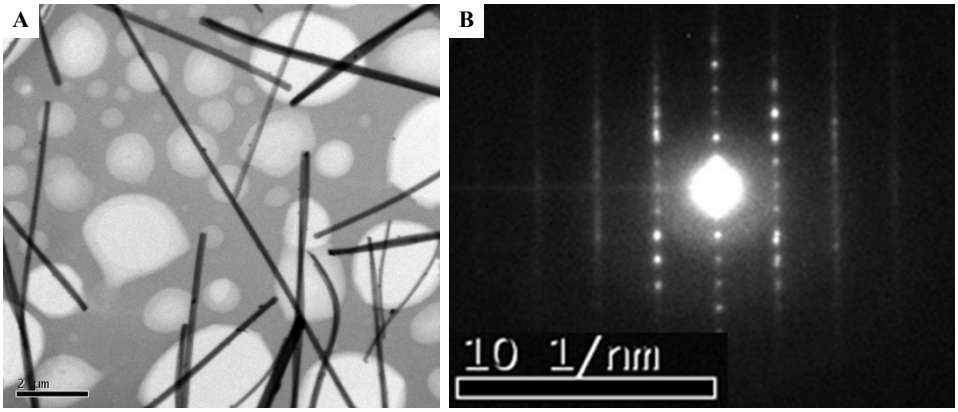

Fig. S6 (A, B) TEM and SAED images of Ag@Ag(DMSO)$_x$Cl nanobelts.

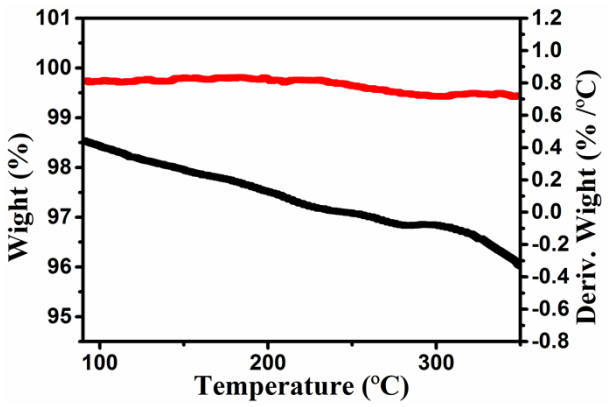

Fig. S7 TGA and DTG curves of pure AgCl product.

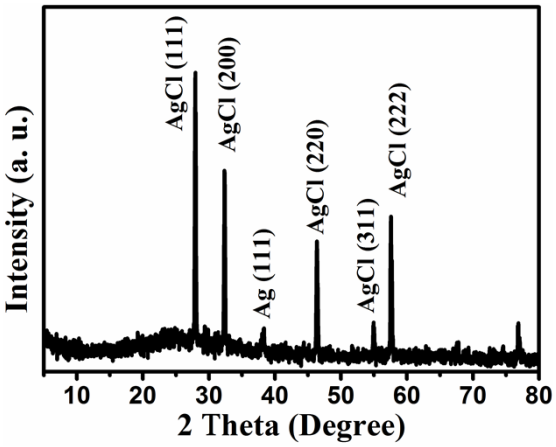

Fig. S8 The XRD of the as-prepared Ag@Ag(DMSO)$_x$Cl nanobelts after calcination at 230 ^{o}C in N_2 atmosphere.

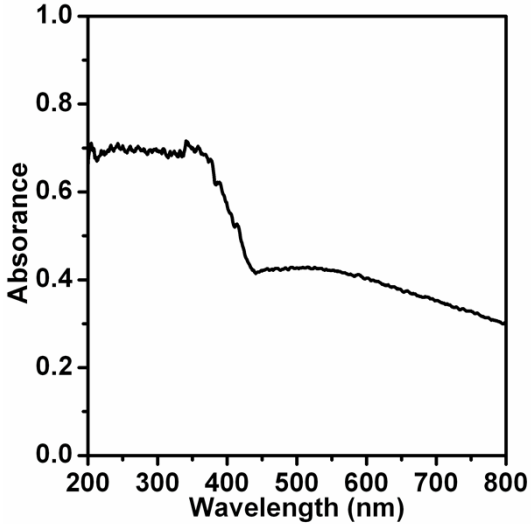

Fig. S9 DRS of as-prepared Ag@Ag(DMSO)xCl nanobelts.

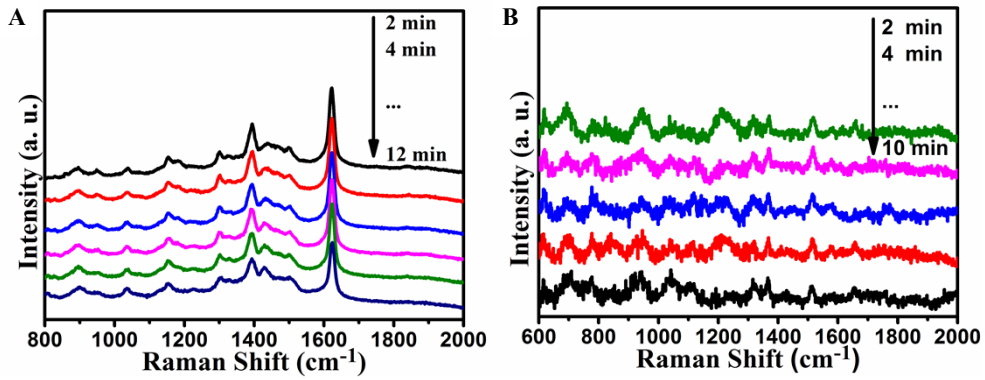

Fig. S10 Raman spectra of pure MB (A) and R 6G (B) dye molecules.

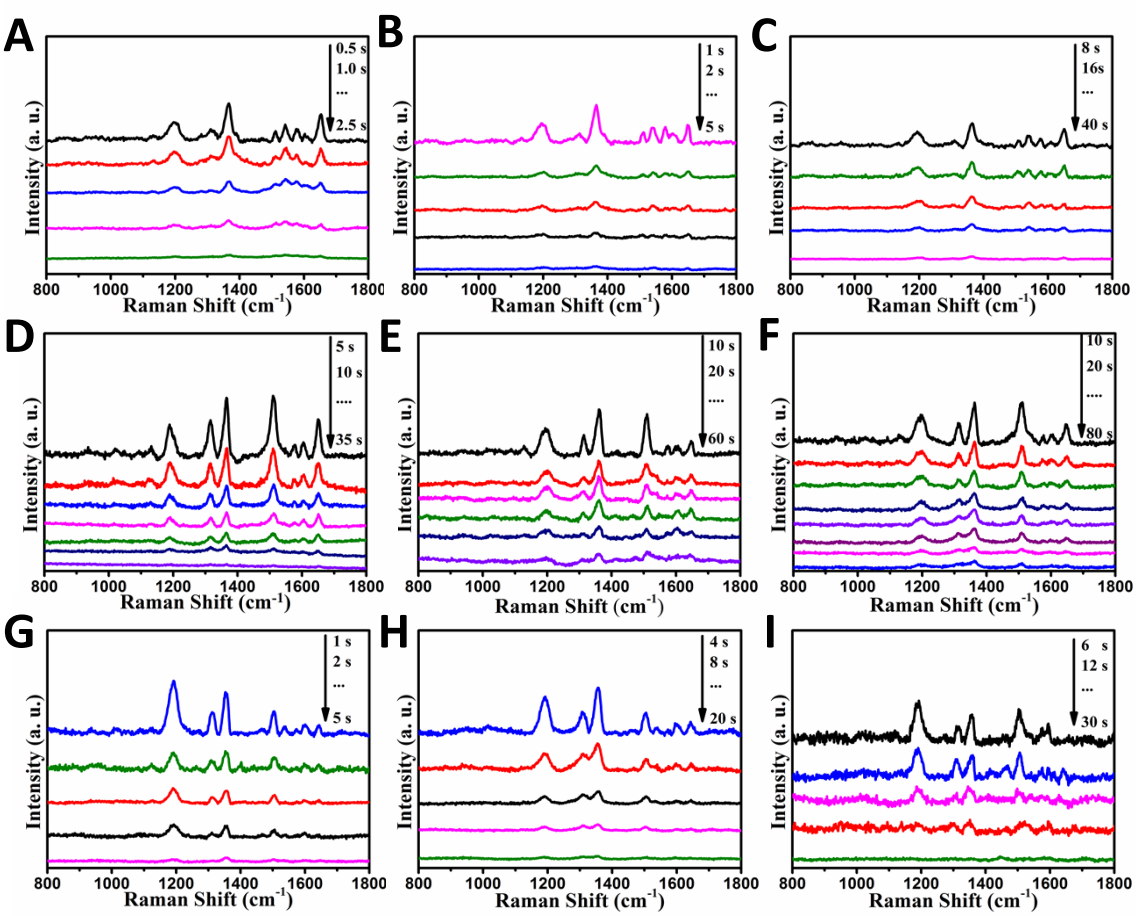

Fig. S11 SERS spectra of R 6G under uninterrupted measurement with different laser power and laser wavelength. A) 514 nm, 10 mW; B) 514 nm, 5 mW; C) 514 nm, 2.5 mW; D) 633 nm, 1.5 mW; E) 633 nm, 0.8 mW; F) 633 nm, 0.4 mW; G) 647 nm, 10 mW; H) 647 nm, 5 mW; I) 647 nm, 2.5 mW.