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

Electronic Supplementary Information

Visible–light–driven Ag/AgCl plasmonic photocatalysts via a surfactant–assisted protocol: enhanced catalytic performance by morphology evolution from near–spherical to 1D structures

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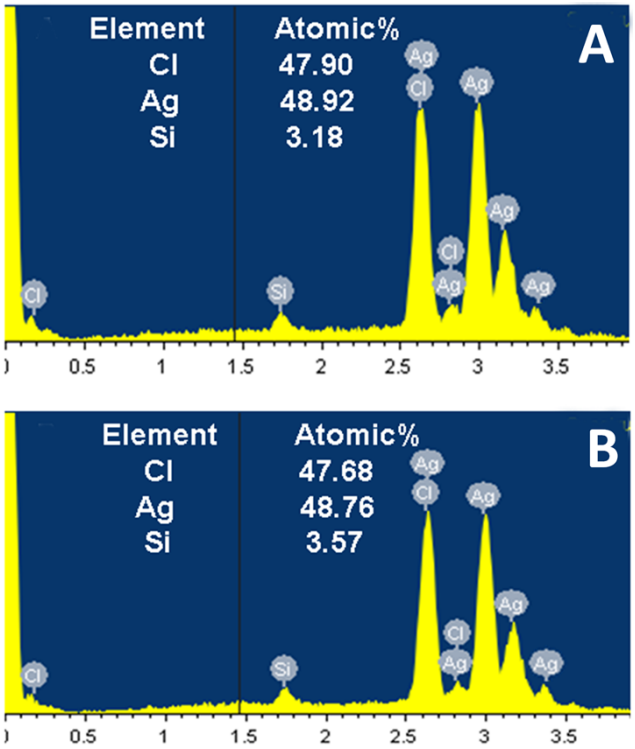

Fig. S1 EDX elemental analysis of the as–fabricated near–spherical (A) and 1D (B) structures. The semiquantitative elemental analysis results for each sample are listed in the corresponding panels. Besides those attributed to Ag and Cl elements, EDX signals ascribing to Si element could also be detected, since Si plates were used as the solid support for the measurements.

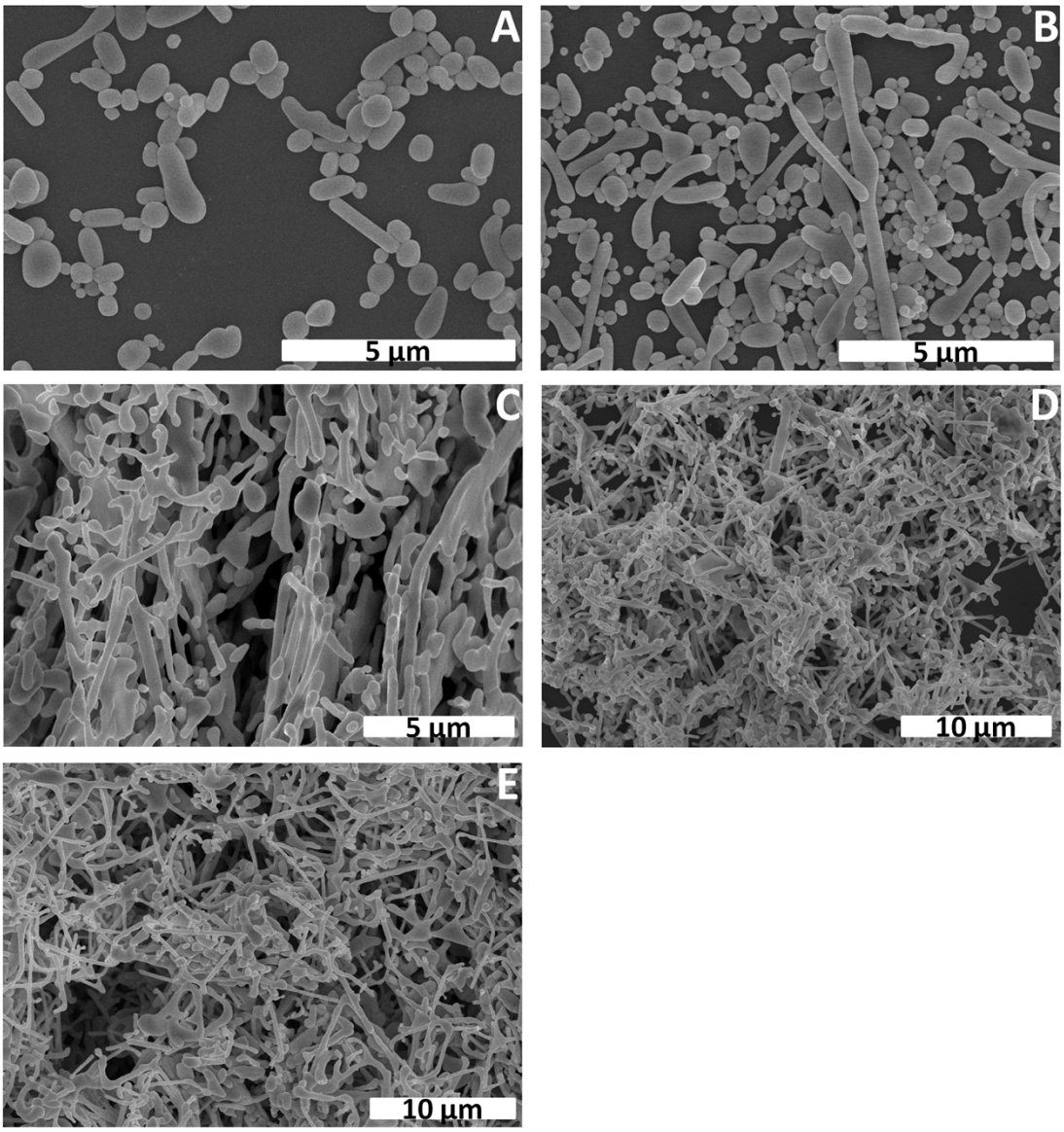

Fig. S2 The SEM images of the as-manufactured structures as a function of the stirring time, wherein a CTAC dispersion of a concentration of 4×10^{-2} M is used as the host solution. The stirring time is 1, 12, 24, 48 and 72 hours for panel A, B, C, D and E, respectively.

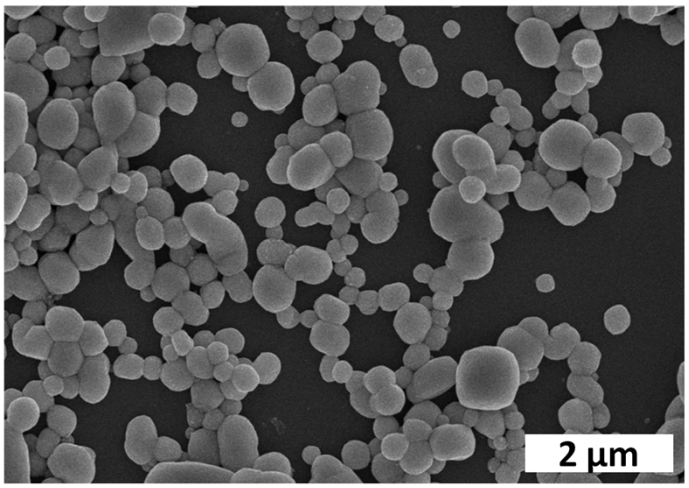

Fig. S3 The SEM image of the originally produced near−spherical Ag/AgCl structures, which were treated by stirring in pure Milli−Q water under ambient conditions for 36 hours.

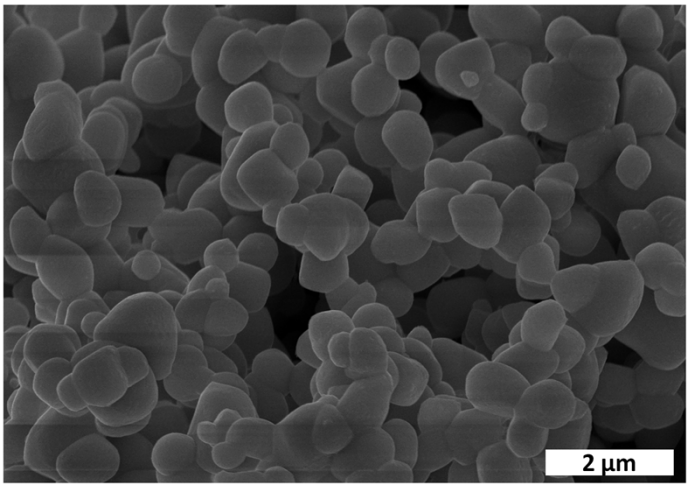

Fig. S4 The SEM image of the originally produced near−spherical Ag/AgCl structures, which were treated by stirring in a CTAC aqueous solution of a low–concentration (4×10^{-3} mol L^{-1}) under ambient conditions for 36 hours.

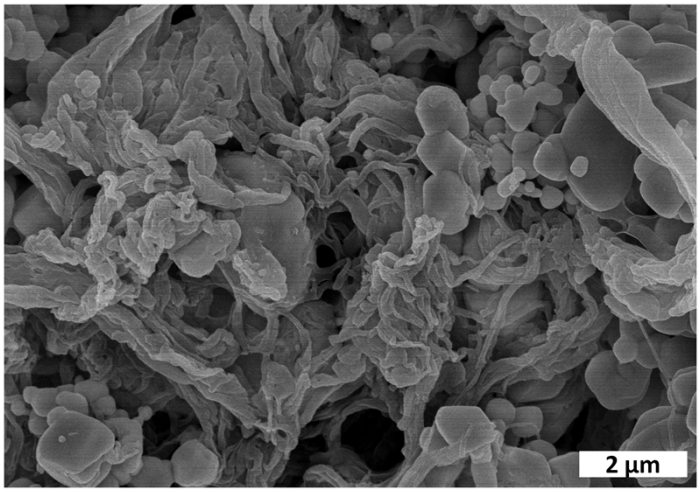

Fig. S5 The SEM image of the originally produced near−spherical Ag/AgCl structures, which were treated by stirring in a CTAC aqueous solution of a high–concentration (4×10^{-2} mol L^{-1}) under ambient conditions for 36 hours.

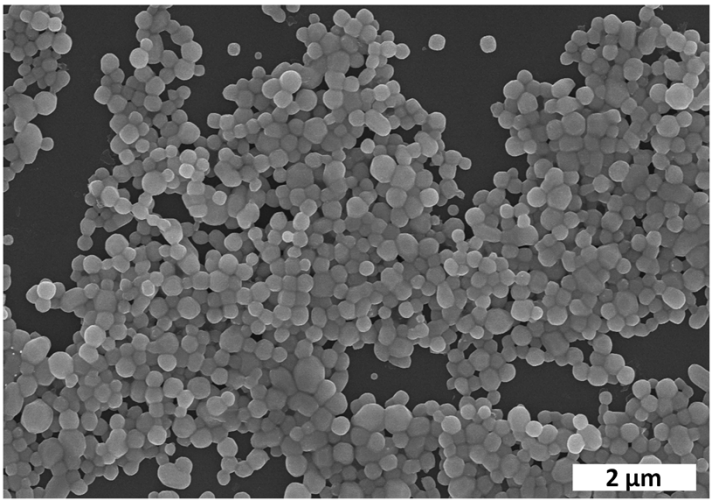

Fig. S6 The SEM image of the samples fabricated by dropping an aqueous solution of $AgNO_3$ into a low−concentration CTAC aqueous solution (4×10^{-3} mol L^{-1}), wherein the as−produced dispersion was stirred under ambient conditions for 36 hours.

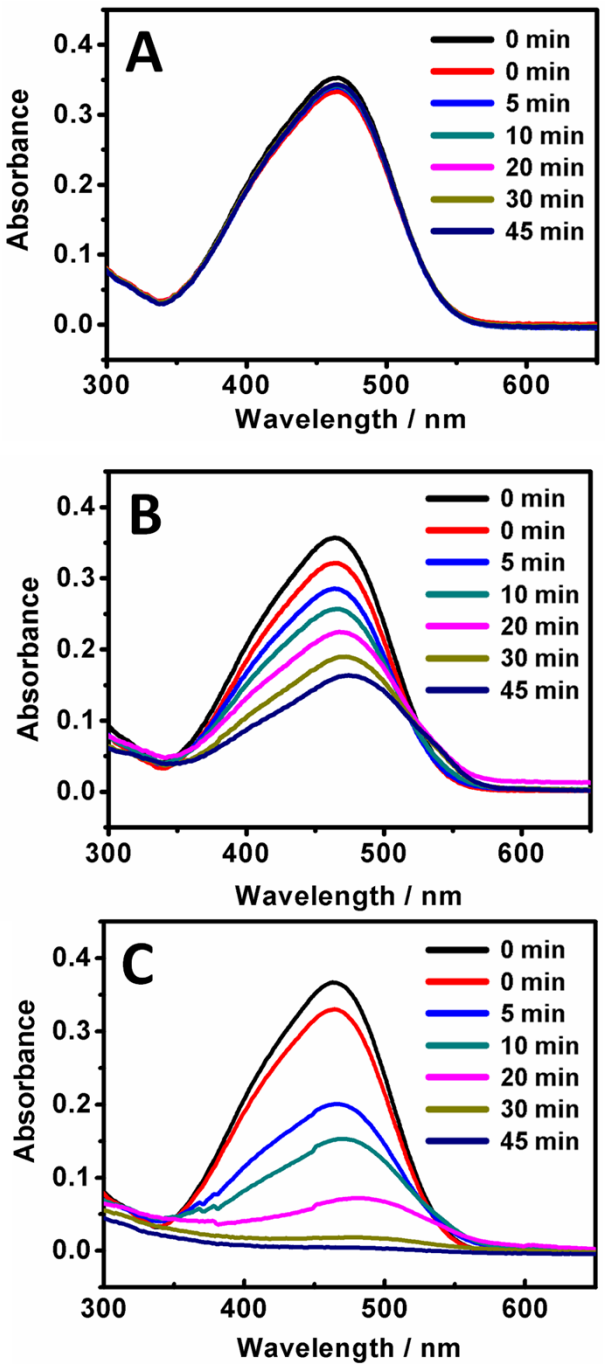

Fig. S7 The real−time absorption spectra of MO molecules measured during the photocatalytic performances. A): The result obtained from a blank experiment, wherein no photocatalysts are involved. B) and C): The employed photocatalysts are the near−spherical (B) and fibrous (C) Ag/AgCl structures. The black and red curves marked as 0 minute are the absorption spectra detected from the original MO solution before (black) and after (red) the dark adsorption experiments, respectively.