

## Supporting Information

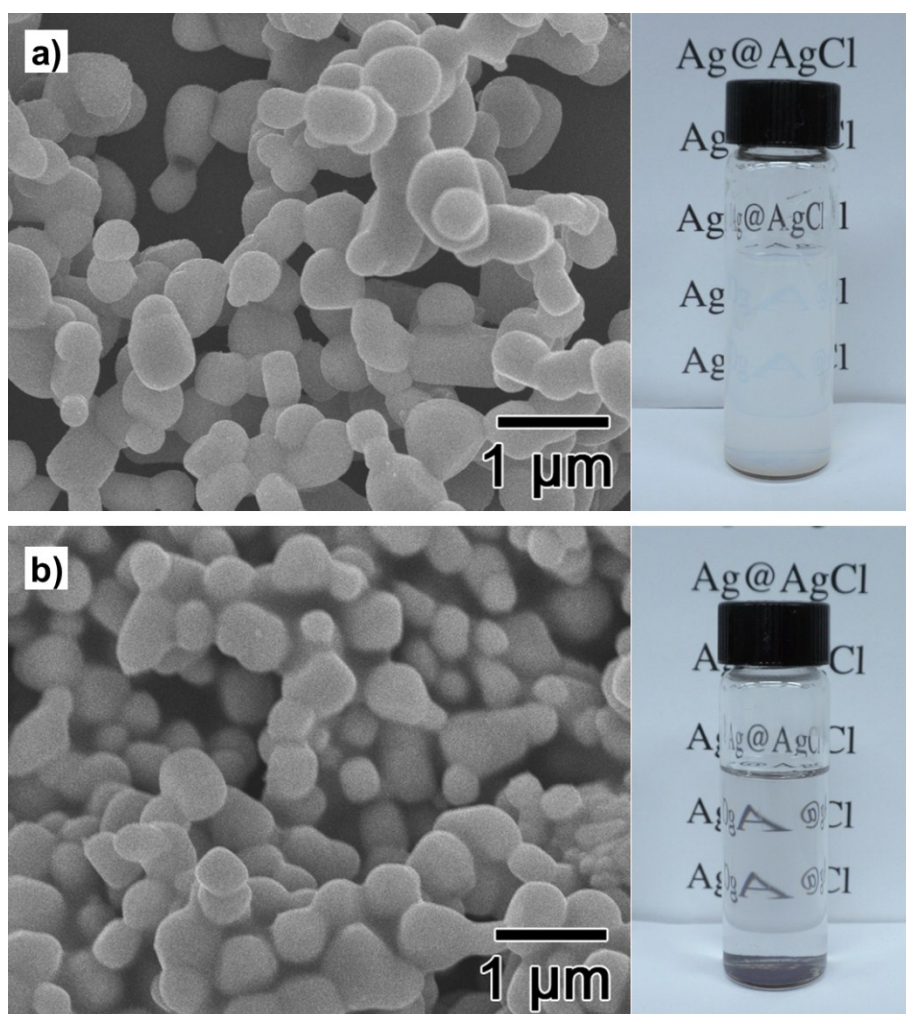
# Low temperature aqueous phase synthesis of silver/silver chloride plasmonic nanoparticles as visible light photocatalyst

Jooyoung Song, Jongmin Roh, Inkyu Lee, and Jyongsik Jang\*

WCU program of Chemical Convergence for Energy and Environment (C2E2),  
School of Chemical and Biological Engineering, College of Engineering, Seoul National University,  
599 Gwanak-ro, Gwanak-gu, Seoul 151-742, Korea

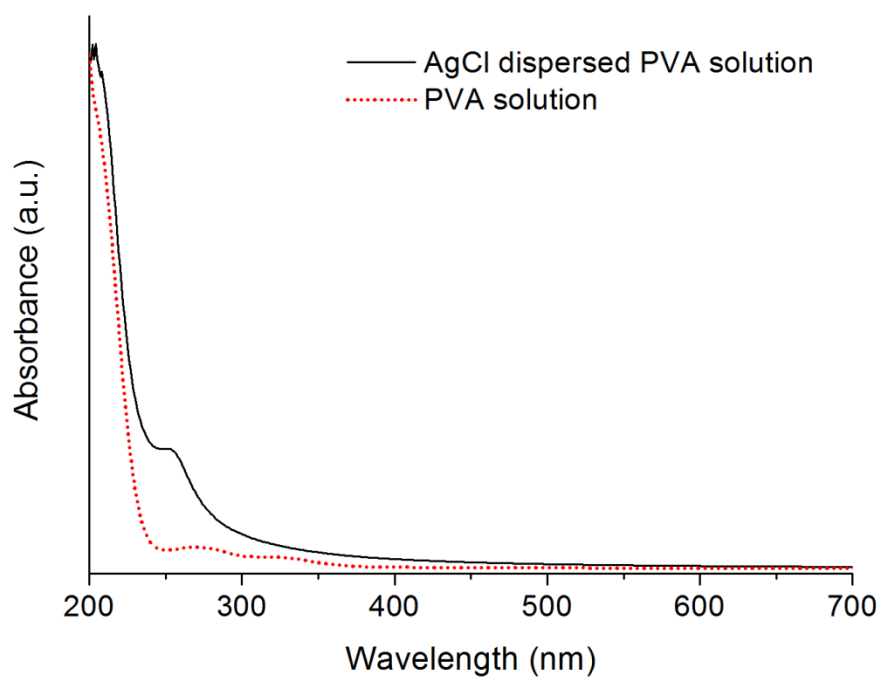
<b>Bulk AgCl and Ag@AgCl prepared without PVA stabilizer.....</b>	<b>2</b>
<b>UV-vis spectra of the AgCl and PVA solution .....</b>	<b>3</b>
<b>Photographs of the as-prepared Ag@AgCl solutions .....</b>	<b>4</b>
<b>FE-SEM images of the as-prepared Ag@AgCl before and after photocatalytic test ...</b>	<b>5</b>

## Bulk AgCl and Ag@AgCl prepared without PVA stabilizer



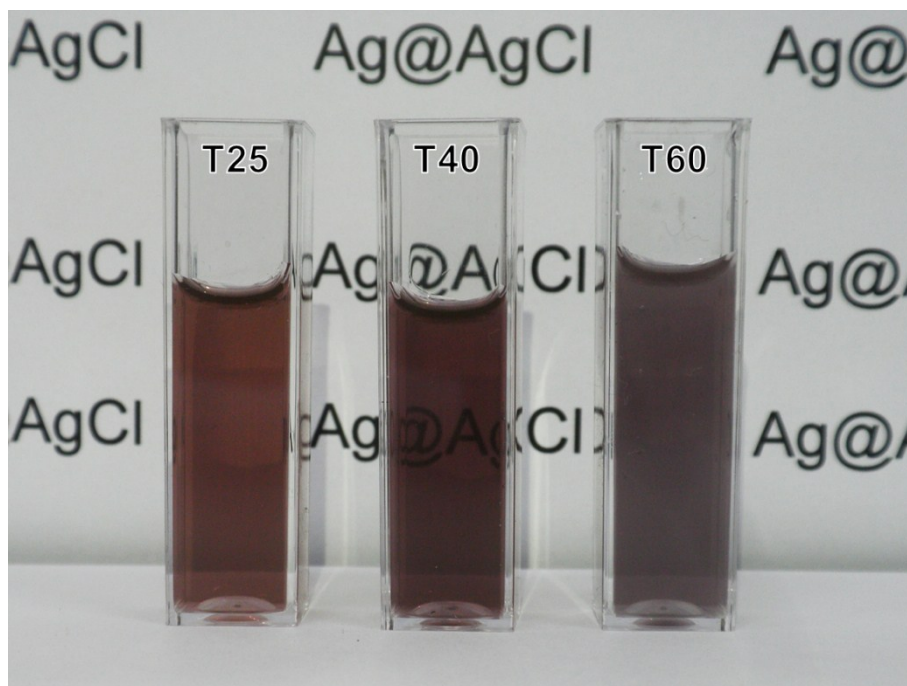
**Figure S1.** FE-SEM images of the (a) bulk AgCl and (b) bulk Ag@AgCl prepared under the same condition as in Figure 1b except for the addition of PVA stabilizer. The inserted photographs show the as-prepared solution of bulk AgCl (upper right) and bulk Ag@AgCl (bottom right). The bulk Ag@AgCl was prepared *via* reduction of bulk AgCl with L-arginine for 1 h.

## UV-vis spectra of the AgCl and PVA solution



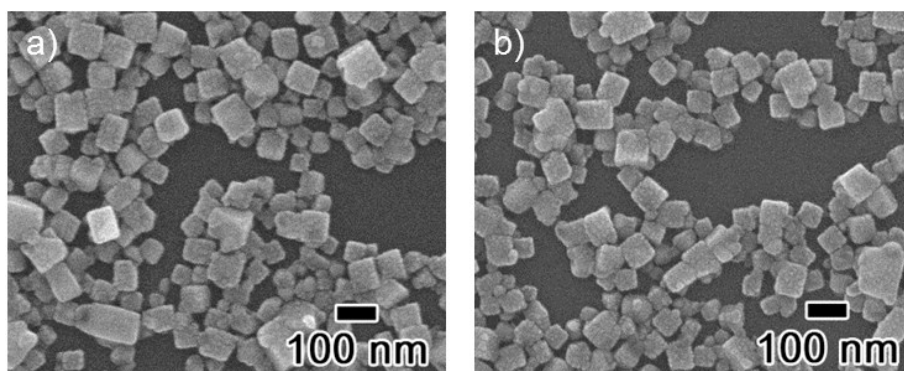
**Figure S2.** UV-vis spectra of the as-prepared AgCl dispersed PVA solution (black solid line) and the as-prepared PVA solution (red dot line).

### Photographs of the as-prepared Ag@AgCl solutions



**Figure S3.** Photographs of the Ag@AgCl suspensions prepared via the partial reduction of the as-prepared AgCl nanocubes. The AgCl nanocubes with edge length of ~57 (T25), ~61(T40), and ~87 nm (T60) were synthesized at 25, 40, and 60 °C, respectively and reduced to Ag@AgCl nanocomposites using L-arginine at 25 °C.

**FE-SEM images of the as-prepared Ag@AgCl before and after photocatalytic test**



**Figure S4.** SEM images of Ag@AgCl before (a) and after (b) photocatalytic test. For more clear image, the test was conducted with Ag@AgCl T40 samples which has bigger size than the Ag@AgCl T25.