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## **Supplementary Information**

## Plasmon-Enhanced Hydrogen Evolution Reaction on a Ag-Branched-Nanowire/Pt Nanoparticle/AgCl Nanocomposite

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## 1. EDS analyses

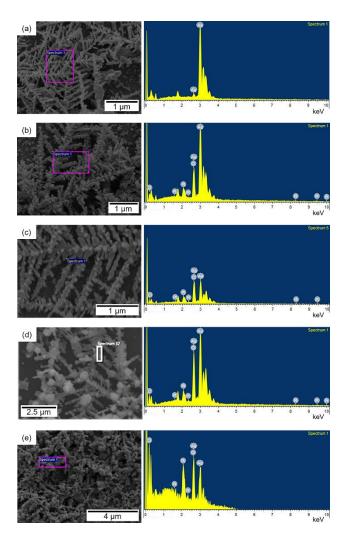


Figure S1. SEM images (left) and EDS (right) of (a) AgBNWs and (b-e) AgBNW/PtNP/AgCl nanocomposites prepared from solutions of (b) 1, (c) 2, (d) 3, and (e) 5 mM, respectively.

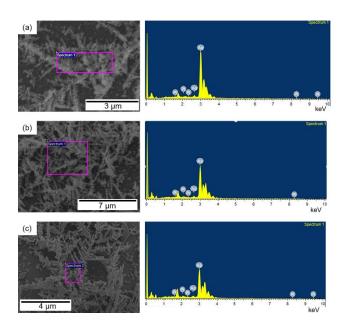


Figure S2. SEM images (left) and EDS (right) of AgBNW/PtNP bimetals prepared from solutions of (a) 1, (b) 2, and (c) 3 mM, respectively.

Table S1. EDS elemental analysis for AgBNW/Pt/AgCl and AgBNW/PtNP nanocomposites prepared at different concentration of Pt precursor

Electrodes	Atomic weight (%)		
	Ag	Pt	Cl
AgBNW/Pt/AgCl (1 mM)	68.46	4.17	27.38
AgBNW/Pt/AgCl (2 mM)	61.23	4.81	33.95
AgBNW/Pt/AgCl (3 mM)	61.23	4.24	34.63
AgBNW/Pt/AgCl (5 mM)	55.55	4.23	40.21
AgBNW/Pt (1 mM)	88.70	11.30	-
AgBNW/Pt (2 mM)	87.71	12.29	-
AgBNW/Pt (3 mM)	86.79	13.21	-

## 2. TEM observation

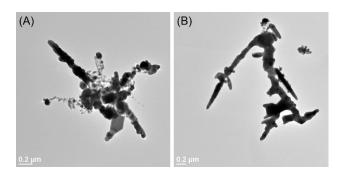


Figure S3. Low-resolution TEM images of AgBNW/PtNP/AgCl nanocomposite (A) and AgBNW/PtNP bimetal (B) prepared from the 2 mM Pt precursor solutions, respectively.