Supporting Information

UV-light Aided Photoelectrochemical Synthesis of Au/TiO_2 NTs for Photoelectrocatalytic Degradation of HPAM

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1. Degradation rate of HPAM using Au/TiO_2 NTs with different conditions

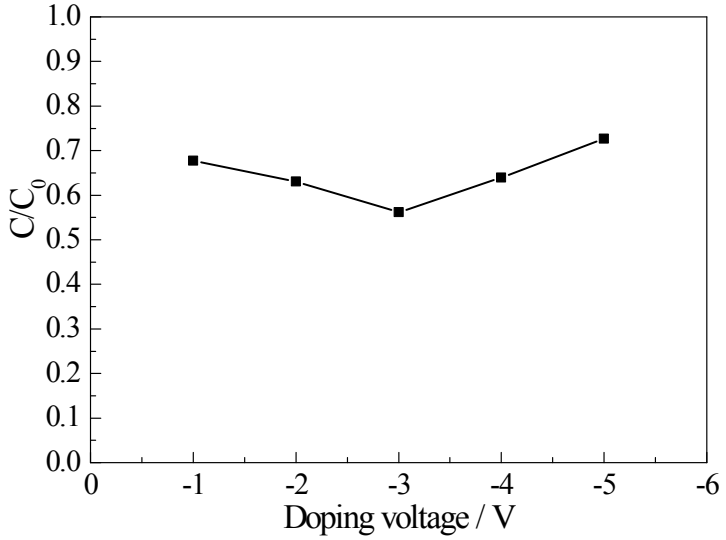


Fig. S1 Degradation rate of HPAM using Au/TiO_2 NTs with different doping voltage

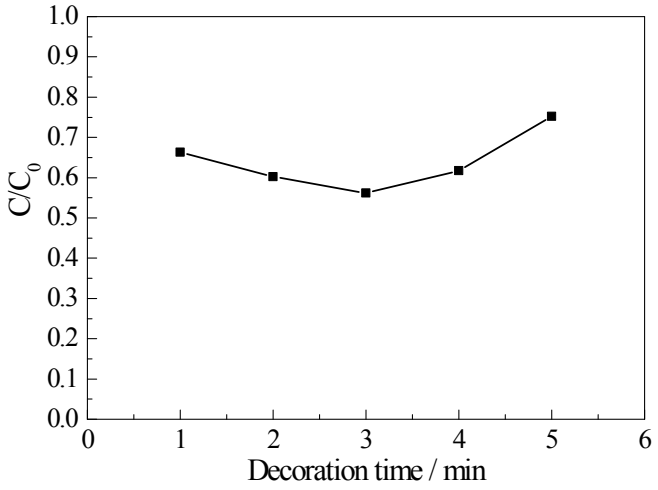


Fig. S2 Degradation rate of HPAM using Au/TiO_2 NTs with different decoration time

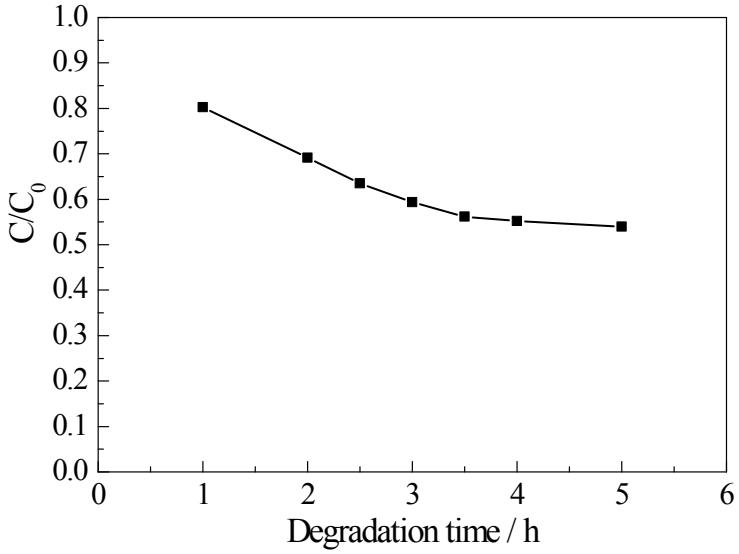


Fig. S3 Degradation rate of HPAM using Au/TiO_2 NTs with different degradation time

2. XPS of Au/TiO_2 NTs immersed with different concentrations of $HAuCl_4$

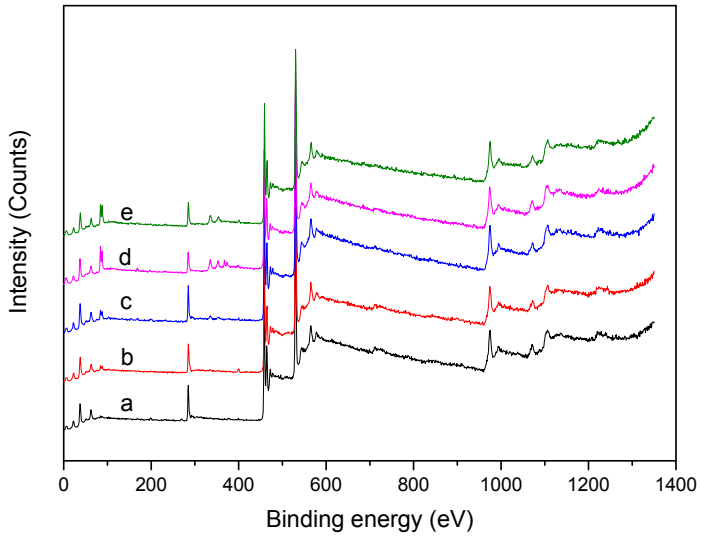


Fig. S4 XPS of Au/TiO_2 NTs immersed with different concentrations of $HAuCl_4$: curve a to e response to the concentrations of $HAuCl_4$ 0.005 g L^{-1} to 0.025 g L^{-1}.

3. The photocurrent response of TiO_2 NTs

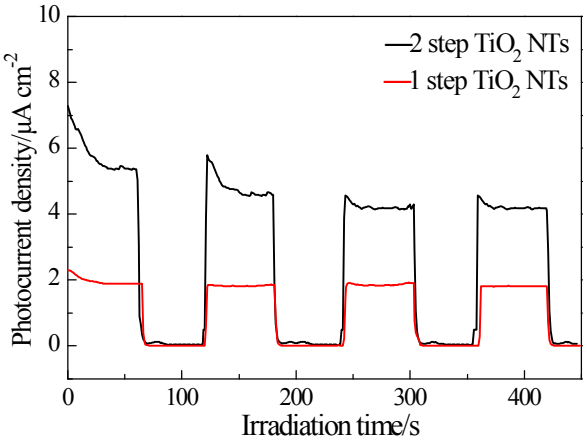
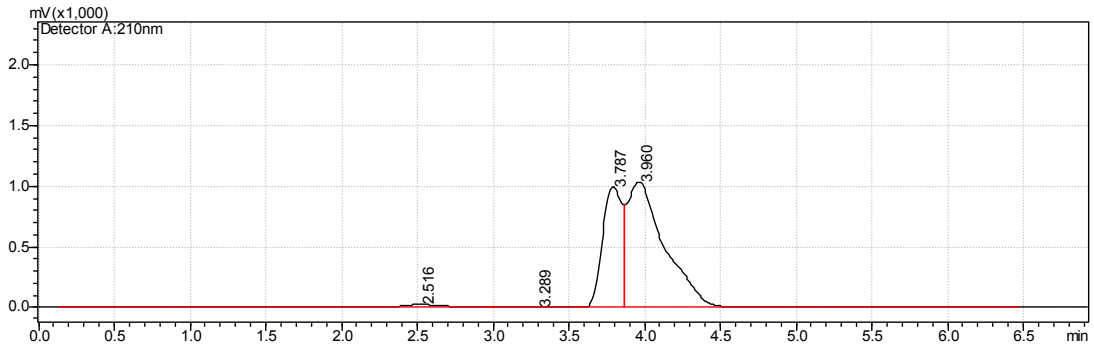


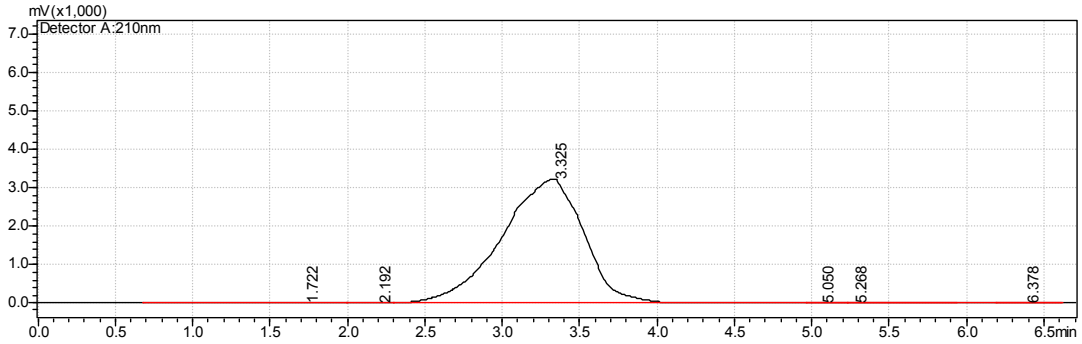
Fig. S5 Amperometric I–t curves at an applied potential of 0.5V under illumination of 300 W high pressure mercury lamp with 60 s light on/off cycles.

4. Product analysis of the HPAM degradation



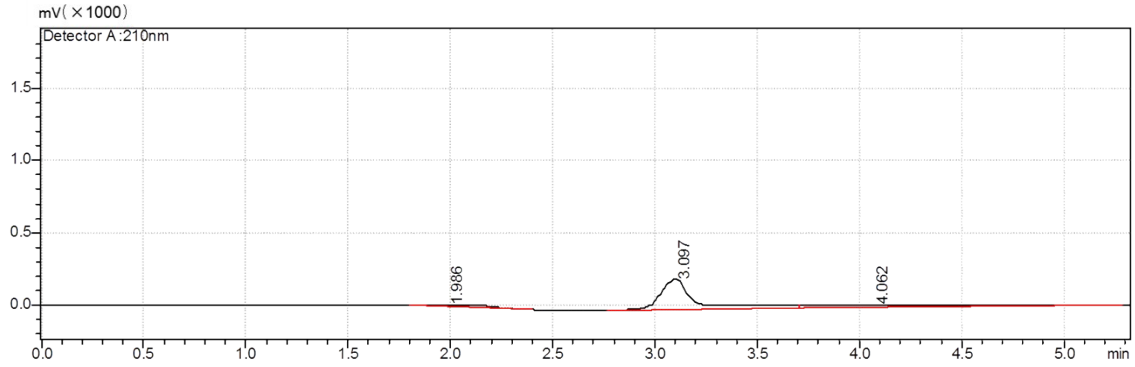
Time / min

Fig. S6 HPLC of acrylamide standard sample



Time / min

Fig. S7 HPLC of acrylic acid standard sample



Time / min

Fig. S8 HPLC of HPAM degradation after 3.5h irradiation