

## Supplementary Information

“Gold Nanostructure Enhanced Photocurrent Generation System from Ultraviolet to Near-Infrared Wavelength”

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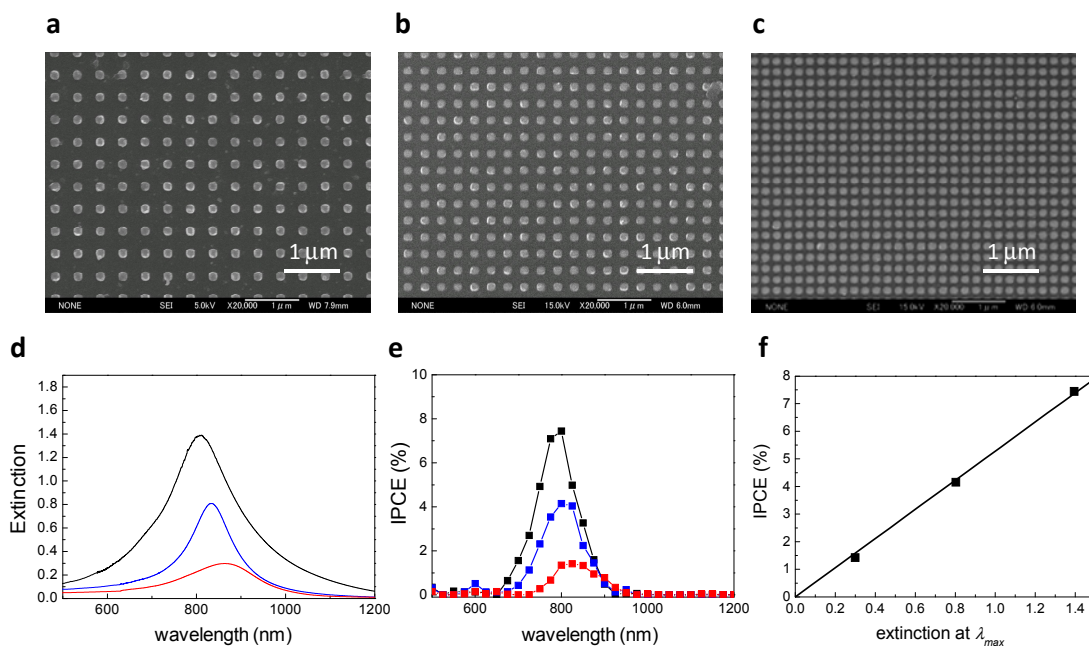


Figure S1: SEM images of Au-NRs fabricated on TiO<sub>2</sub> single crystal (block size: 125 x 125 x 40 nm<sup>3</sup>, and inter block distance: 75 nm (a), 175 nm (b), and 275 nm (c), respectively). Extinction spectra of gold nanoblocks (inter block distance : 75 nm black line; 175 nm blue line; x=175 nm red line, respectively), (d). Photoelectric conversion efficiency of the action spectrum measured at each wavelength with monochromatic light (wavelength interval: 10 nm) irradiated with a monochromator (black: 75 nm; blue: 175 nm; red: 275 nm) (e). The relationship between IPCE value and extinction value at the peak wavelength of plasmon resonance band.

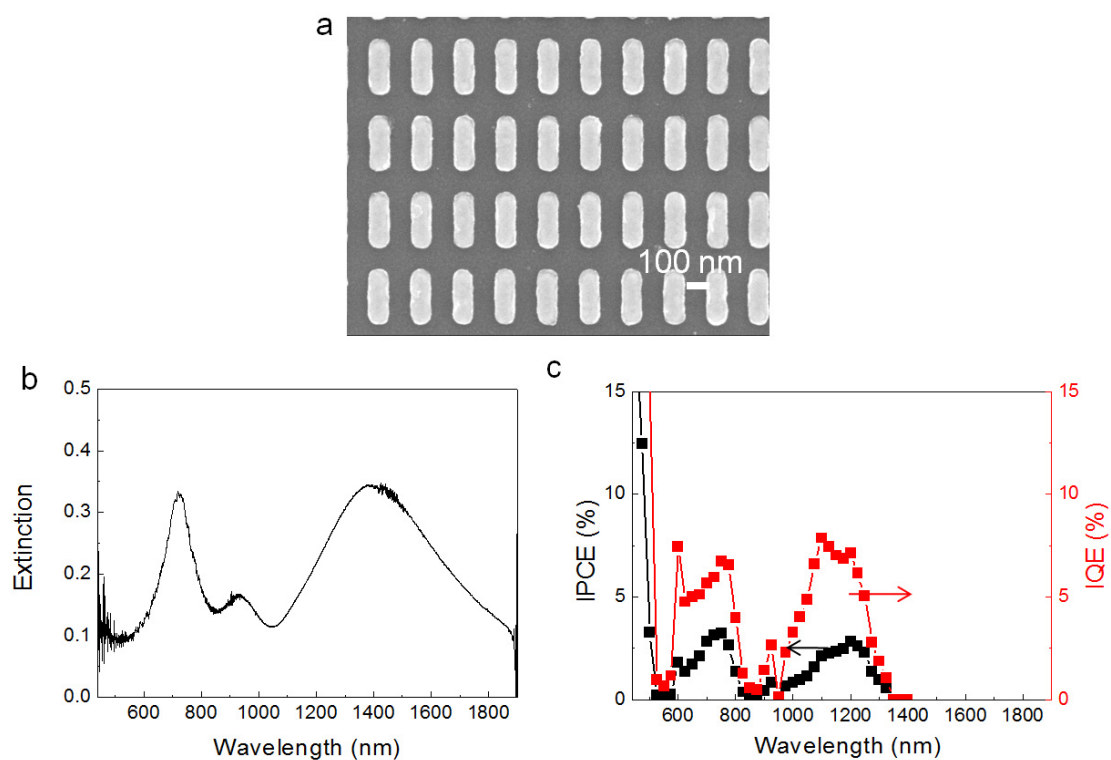


Figure S2: SEM image of Au-NRs ( $95 \times 260 \times 40 \text{ nm}^3$ ) (a), the extinction spectrum of Au-NRs whose plasmon resonance bands are 750 nm (T-mode) and 1400 nm (L-mode) in water, respectively (b), and photoelectric conversion efficiency of the action spectrum measured at each wavelength with monochromatic light (wavelength interval: 10 nm) irradiated with a monochromator. Black: Photoelectric conversion efficiency and Red: Internal quantum efficiency obtained by standardizing the photoelectric conversion efficiency (c).