

Supplementary Information

Polarization-dependent plasmonic heating in epitaxially-grown multilayered metal–organic framework thin films embedded with Ag nanoparticles

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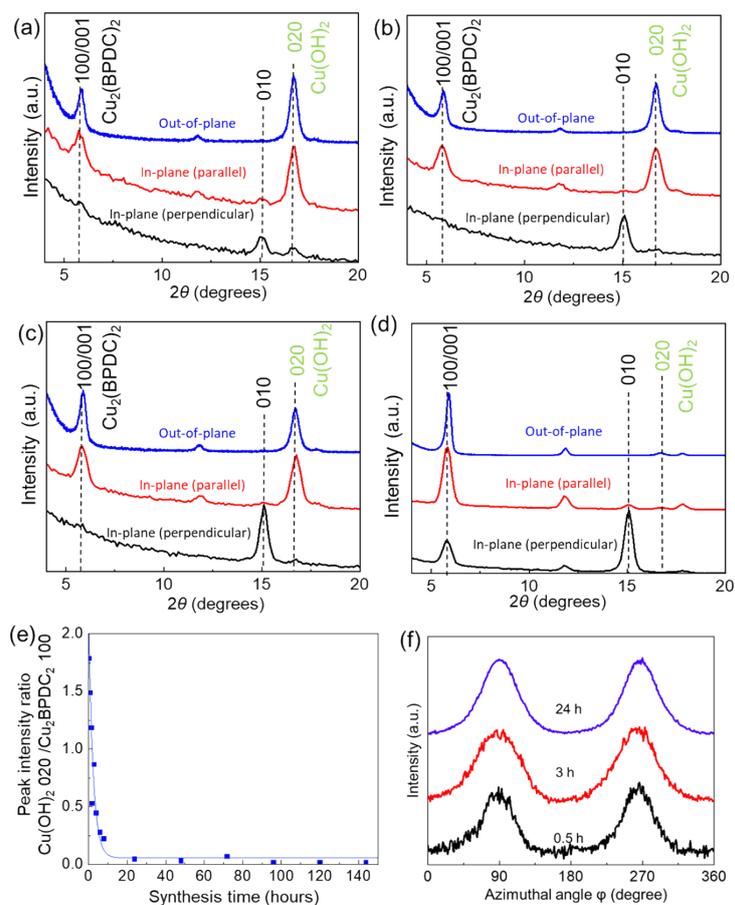


Fig. S1 XRD patterns of the $\text{Cu}_2(\text{BPDC})_2$ oriented films synthesized in (a) 30 minutes, (b) 1 hour, (c) 3 hours, and (d) 24 hours; out-of-plane (blue line), in-plane (red and black line, X-ray incident angle is parallel and perpendicular to longitudinal direction of nanobelts at $\varphi = 0^\circ$, respectively). hkl in the figures indicates diffraction from $\text{Cu}_2(\text{BPDC})_2$ (black), (e) Peak intensity ratio 020 reflection of $\text{Cu}(\text{OH})_2$ to 100 reflection of $\text{Cu}_2(\text{BPDC})_2$ as a function of reaction time. (f) Azimuthal angle dependence of intensity profiles of the 010 and reflection of $\text{Cu}_2(\text{BPDC})_2$ synthesized at different reaction times. X-ray incident angle was parallel to longitudinal direction (a axis) of $\text{Cu}(\text{OH})_2$ nanobelts at $\varphi = 0^\circ$.

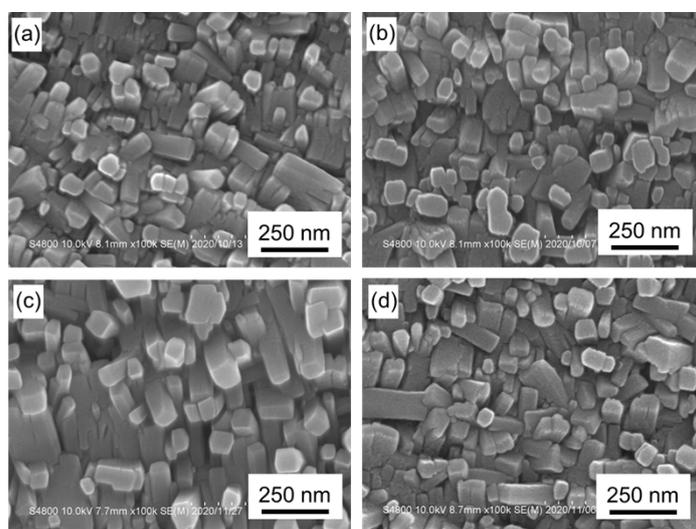


Fig. S2 SEM images of $\text{Cu}_2(\text{BPDC})_2$ oriented films synthesized at different reaction times: (a) 48 hours, (b) 72 hours, (c) 96 hours, and (d) 144 hours.

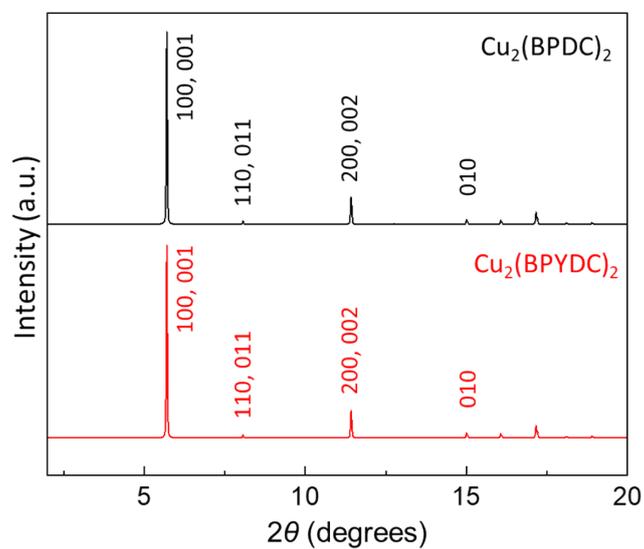


Fig. S3 Simulated powder XRD patterns of $\text{Cu}_2(\text{BPDC})_2$ and $\text{Cu}_2(\text{BPYDC})_2$.

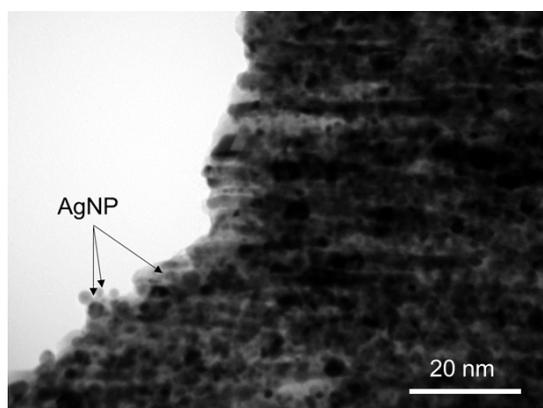


Fig. S4 A TEM image of the AgNPs@Cu₂(BPYDC)₂-on-Cu₂(BPDC)₂ thin film.

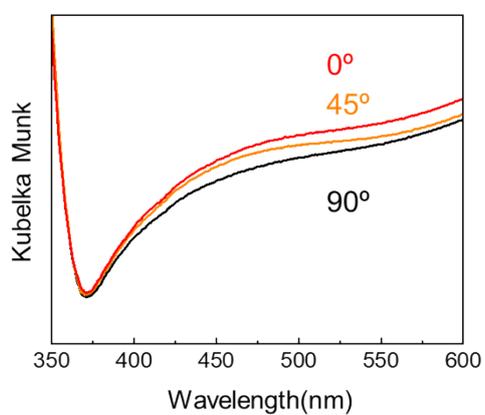


Fig. S5 Polarization-dependent UV/Vis reflection spectra of randomly-oriented AgNPs@Cu₂(BPYDC)₂-on-Cu₂(BPDC)₂ film.