*Supporting information*

# Self-supported ultrathin ultrafast plasmonic optical switching

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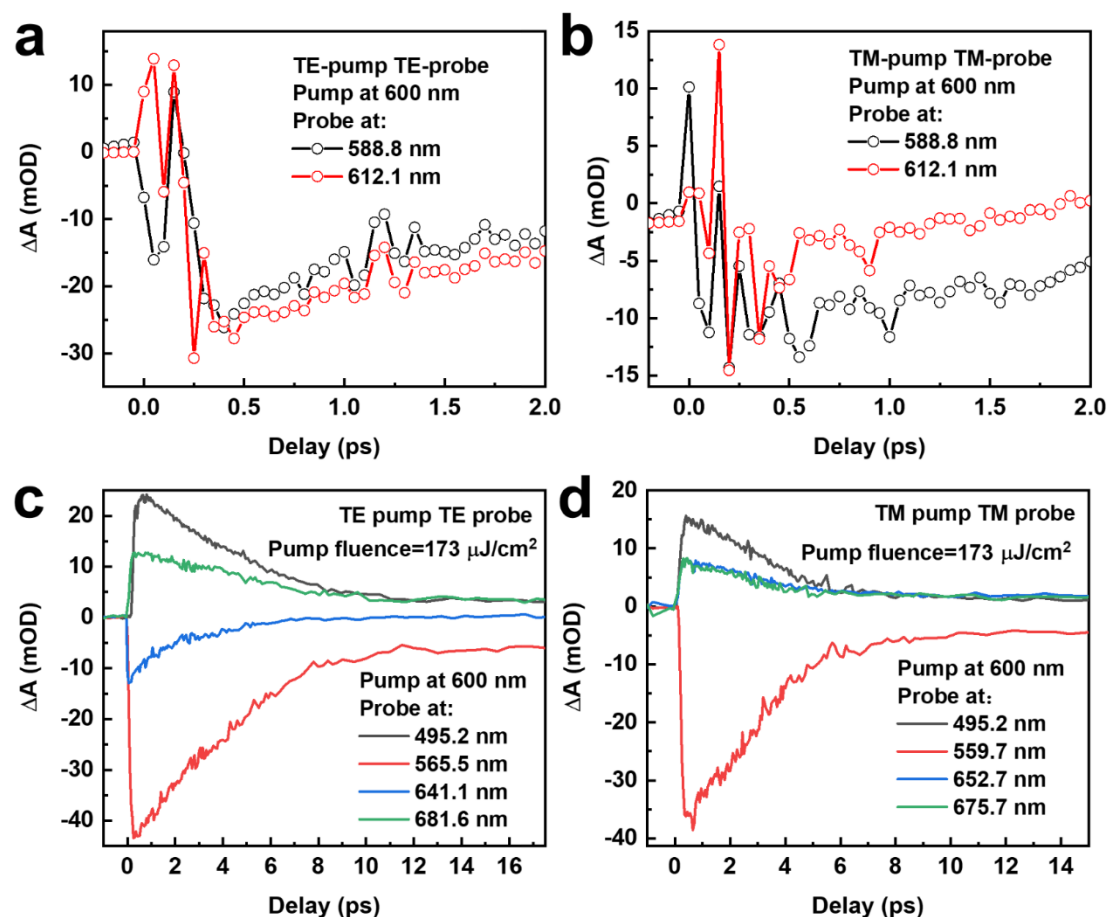
Figure S1 (a) TA dynamics at TE-probe wavelengths of 588.8 and 612.1 nm for TE-pumping at 600 nm. (b) TA dynamics at TM-probe wavelengths of 588.8 and 612.1 nm for TM-pumping at 600 nm. (c) TA dynamics at TE-probing at 495.2, 565.6, 641.1, and 681.6 nm for TE-pumping at 600 nm with a pump fluence of 173 $\mu J/cm^2$. (d) TA dynamics at TM-probing at 495.2, 559.7, 652.7, and 675.7 nm for TM-pumping at 600
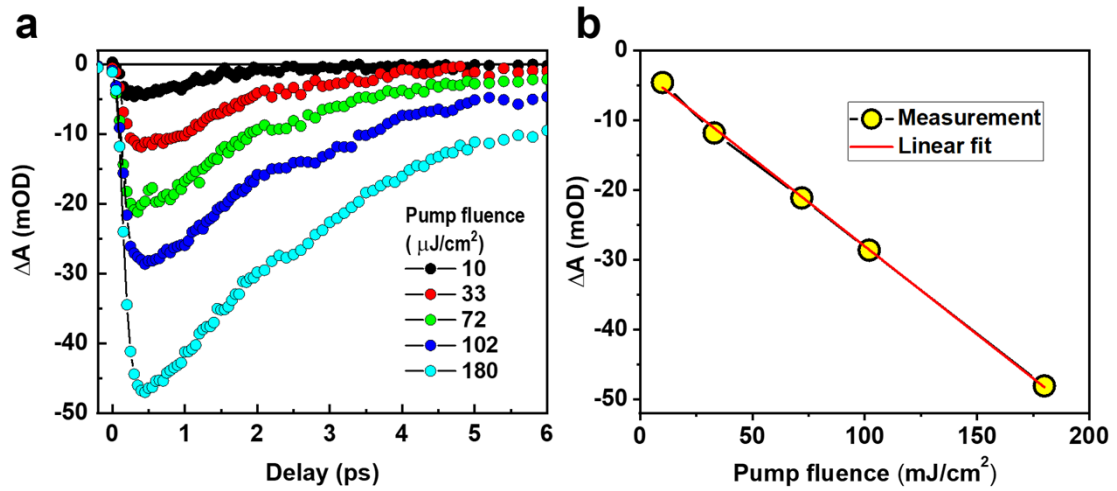
nm with a pump fluence of 173 $\mu$J/cm$^2$.

Figure S2 (a) TA dynamics for TM-pump at 600 nm and TM-probe at 553.8 nm as the pump fluence was increased from 10 to 33, 72, 102, and 180 μJ/cm2. (b) Plot of the pump-fluence dependence of the optical switching signal for the peak amplitude of the TA-dynamics signals in (a).