

## Electronic Supplementary Information (ESI)

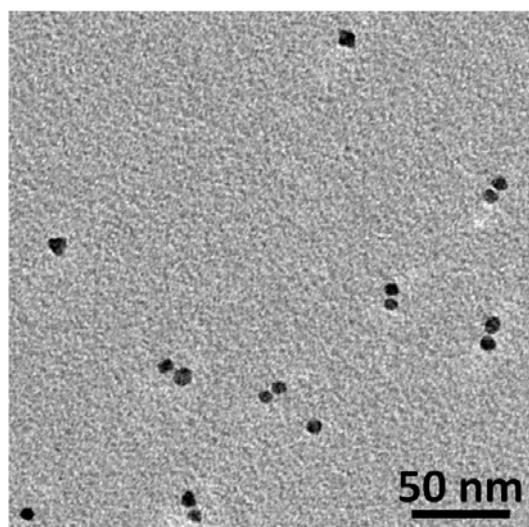
# Stepwise assembly of cross-linked free-standing nanoparticle sheet with controllable shape

*Hui Zhang,<sup>‡a</sup> Mei Liu,<sup>‡a</sup> Tian Zhou,<sup>b</sup> Bin Dong,<sup>\*a</sup> Christopher Li<sup>\*b</sup>*

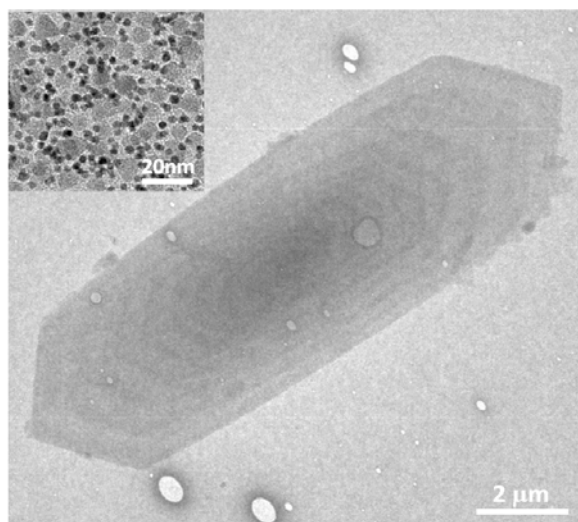
<sup>a</sup>Institute of Functional Nano & Soft Materials (FUNSOM) and Collaborative Innovation Center (CIC) of Suzhou Nano Science and Technology, Soochow University, Suzhou 215123 (P. R. China), E-mail: bdong@suda.edu.cn

<sup>b</sup>Department of Materials Science and Engineering, Drexel University, Philadelphia, PA 19104 (USA), E-mail: chrisli@drexel.edu

<sup>‡</sup>These authors contributed equally to this work.



**Fig. S1** TEM image of the  $\text{Fe}_3\text{O}_4\text{NP}$  dimer structures obtained by dissolving the  $\text{Fe}_3\text{O}_4\text{NP}$  decorated PCL single crystal in chloroform without further purification process. The sample preparation procedure is as follows: First, dissolve  $\text{Fe}_3\text{O}_4\text{NP}$  decorated PCL single crystal in chloroform; Then, the chloroform solution containing dissolved PCL,  $\text{Fe}_3\text{O}_4\text{NP}$  and  $\text{Fe}_3\text{O}_4\text{NP}$  dimer is drop cast on carbon-coated nickel grid. TEM examination is performed after the solvent is dried.



**Fig. S2** Low magnification and the enlarged TEM images (inset) showing the  $\text{Fe}_3\text{O}_4\text{-PCL-Pt}$  structure after 8 cycles.