

Supporting Information for:

Synthesis of Silver Nanocubes with Controlled Size Using Water-soluble Poly(amic acid) salt as the Intermediate via a Novel Ion-exchange Self-assembly Technique

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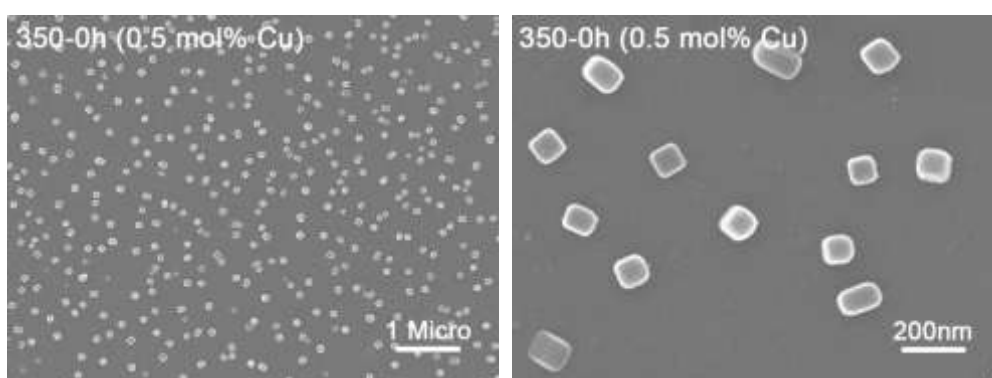


Fig. S1 SEM images of the copper oxide (CuO) nanocubes prepared using cupric chloride (CuCl_2) as the metal precursor and PMDA/ODA-based water-soluble poly(amic acid) salt as the intermediate at a Cu(II) loading of 0.5 mol% upon heating to 350 °C.

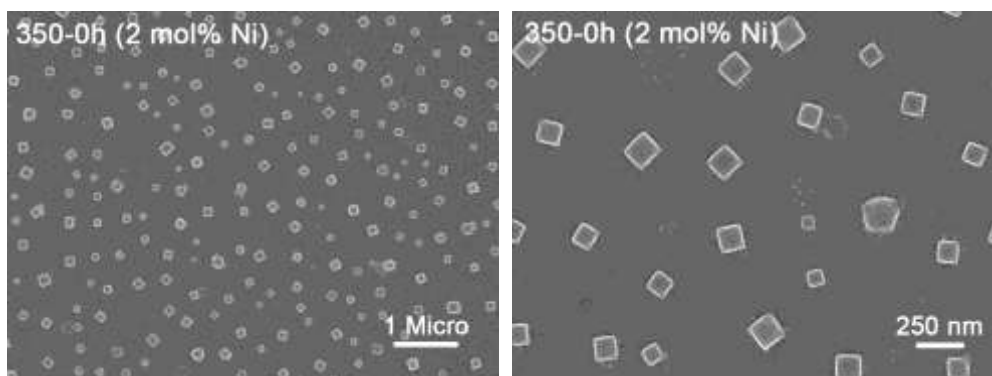


Fig. S2 SEM images of the nickel oxide (NiO) nanocubes prepared using nickel sulfate (NiSO_4) as the metal precursor and PMDA/ODA-based water-soluble poly(amic acid) salt as the intermediate at a Ni(II) loading of 2 mol% upon heating to 350 °C.

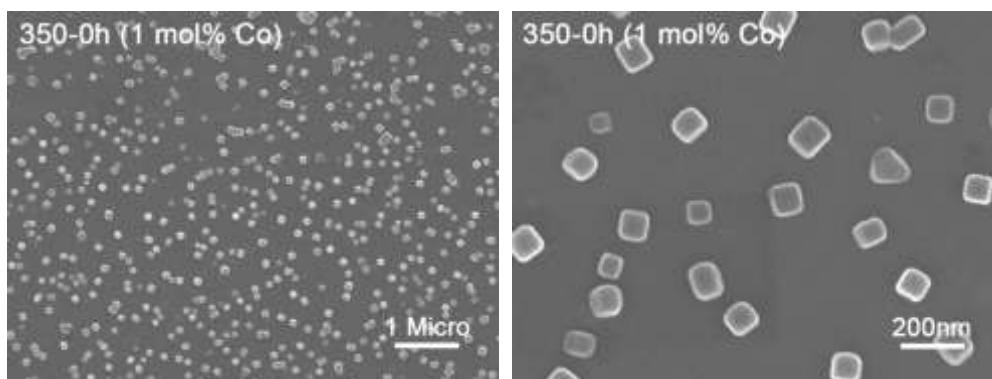


Fig. S3 SEM images of the cobalt oxide (Co_3O_4) nanocubes prepared using cobalt nitrate ($\text{Co}(\text{NO}_3)_2$) as the metal precursor and PMDA/ODA-based water-soluble poly(amic acid) salt as the intermediate at a Ni(II) loading of 1 mol% upon heating to 350 °C.

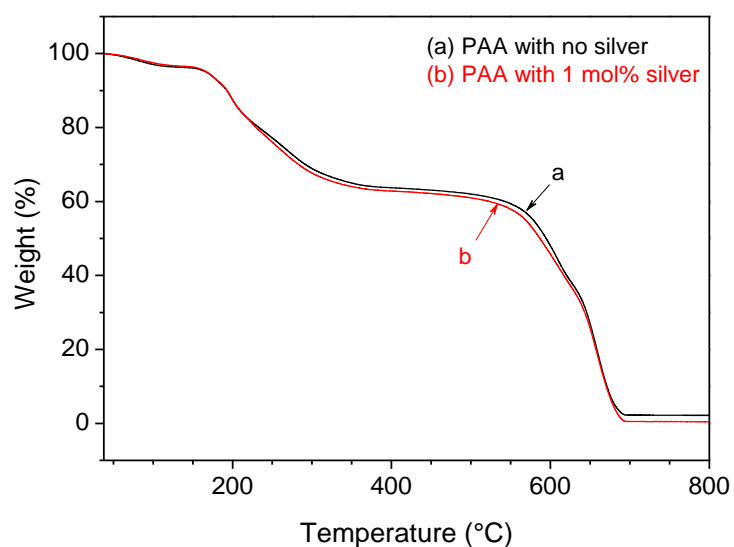


Fig. S4 TGA curves for the poly(amic acid)-TEA salt with no silver and that with 1 mol% silver loading measured under air condition at a heating rate of 10 °C min⁻¹. The silver content was calculated as relative to the total carboxylate groups in poly(amic acid).

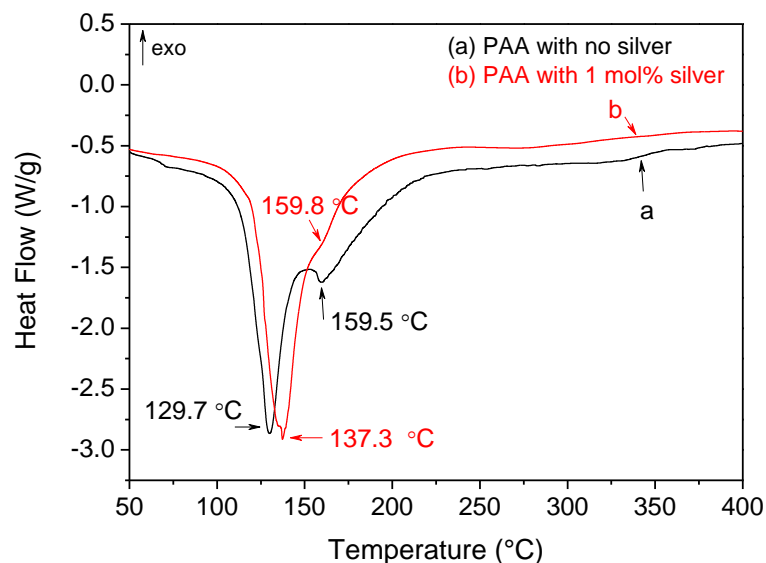


Fig. S5 DSC curves for the pure poly(amic acid)-TEA salt and the poly(amic acid)-TEA salt with 1 mol% silver loading measured under nitrogen environment at a heating rate of $10\text{ }^{\circ}\text{C min}^{-1}$. The silver content was calculated as relative to the total carboxylate groups in poly(amic acid).

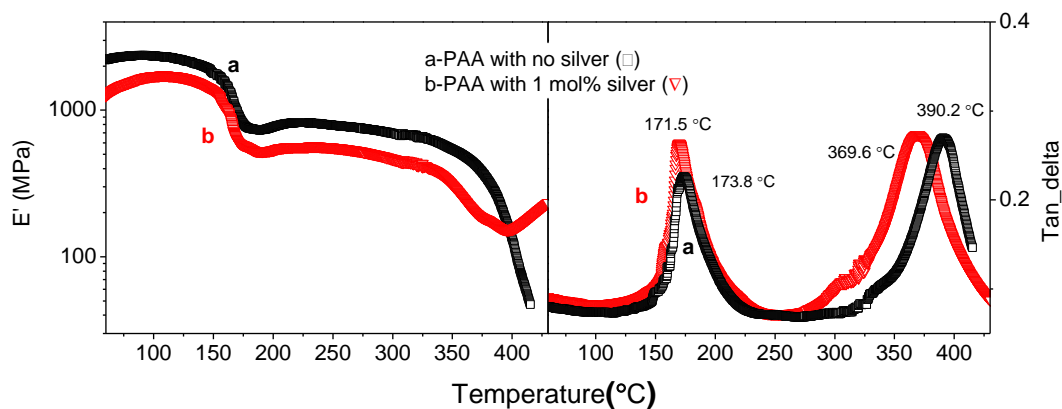


Fig. S6 DMTA thermal spectra for the pure poly(amic acid)-TEA salt and the poly(amic acid)-TEA salt with 1 mol% silver loading measured at a heating rate of $5\text{ }^{\circ}\text{C min}^{-1}$ and a frequency of 1 Hz. The silver content was calculated as relative to the total carboxylate groups in poly(amic acid).