Electronic Supplementary Material (ESI) for RSC Advances.

Supporting information

Supporting figures

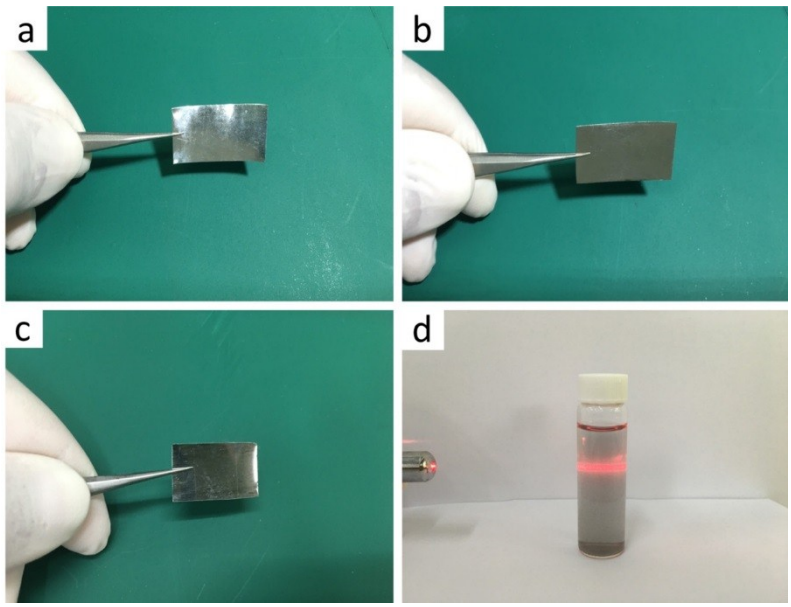

Fig. S1 Photograph of metallic foils and nanosheets suspension during fabrication procedure: (a) Al foil as raw material; (b) Ni foil; (c) Stacked metallic foils after repeated size reduction; (d) Suspension of NiO/Ni nanosheets.

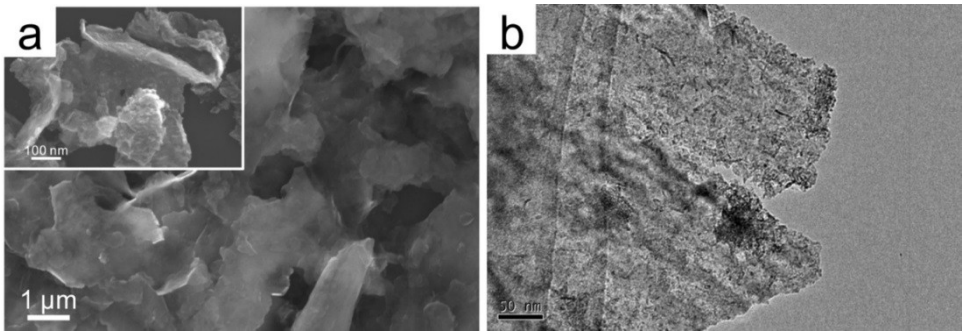

Fig. S2 Morphology illustration of NiO/Ni nanosheets at 350 °C by 30min: (a) SEM image; (b) TEM image.

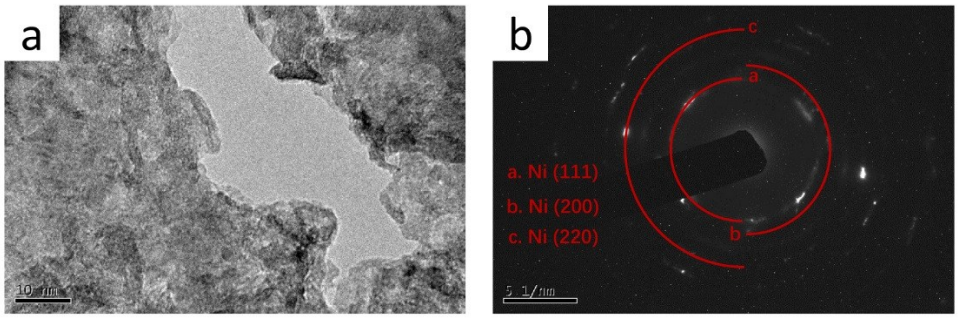

Fig. S3 TEM analysis of Ni nanosheets: (a) TEM image of Ni nanosheets. (b) Selected-area electron diffraction (SAED) pattern of Ni nanosheets without thermal treatment.

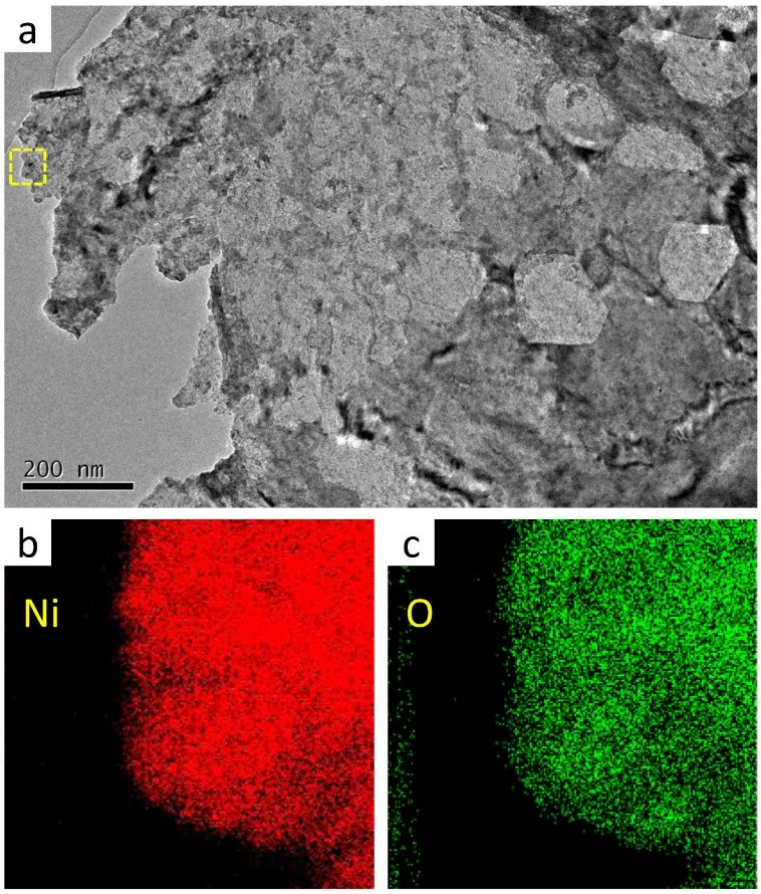

Fig. S4 TEM morphology illustration and element mapping of a selective area of the nanosheets of NiO/Ni at 250 °C by 30 min: (a) TEM image; (b) The distribution of element Ni; (c) O element.

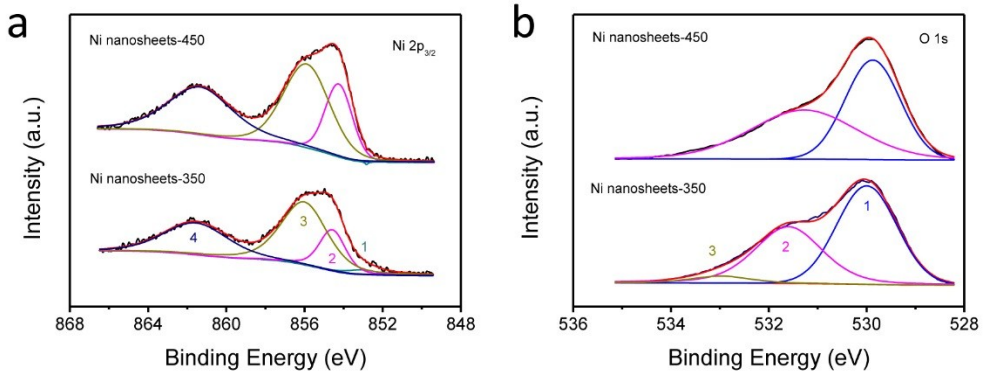

Fig. S5 XPS analysis of Ni nanosheets-350 and Ni nanosheets-450: (a) Ni 2p3/2, peak 1 refers to metal Ni; peak 2 refers to NiO*x*. (b) O 1s, peak 1 refer to O in NiO*x*.

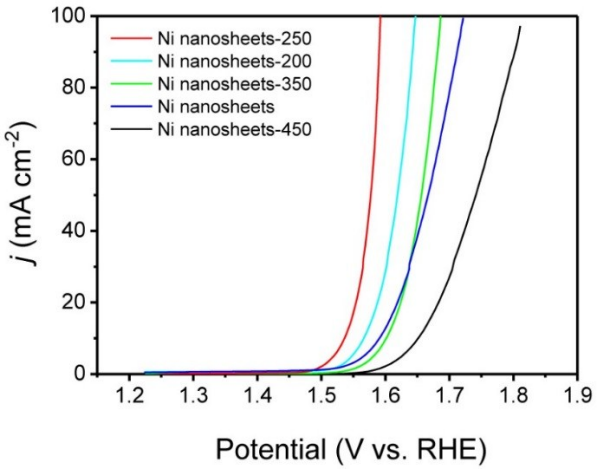

Fig. S6 Polarization curves of NiO/Ni nanosheets prepared at different temperatures maintained a certain period of time in 1 M KOH.

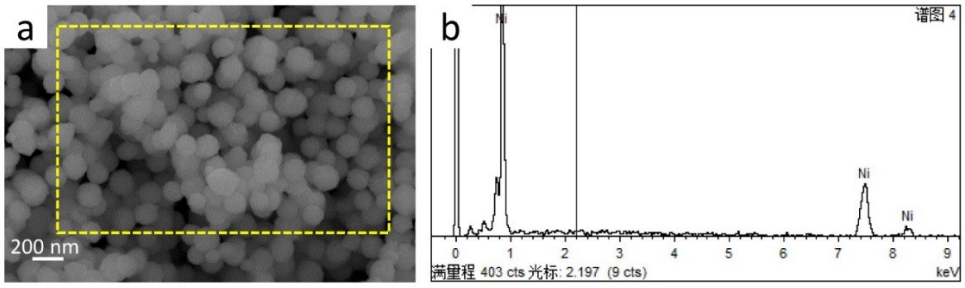

Fig. S7 Characterization of Ni nanopowders: (a) SEM image; (b) EDS spectrum of the specific area.

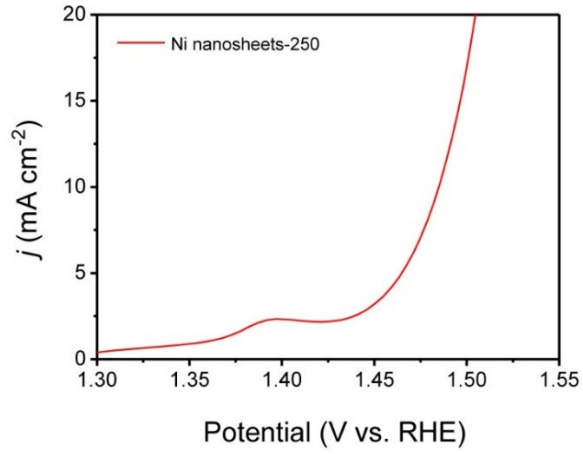

Fig. S8 Polarization curves of NiO/Ni nanosheets prepared at 250 °C for 30 min in 6 M KOH.

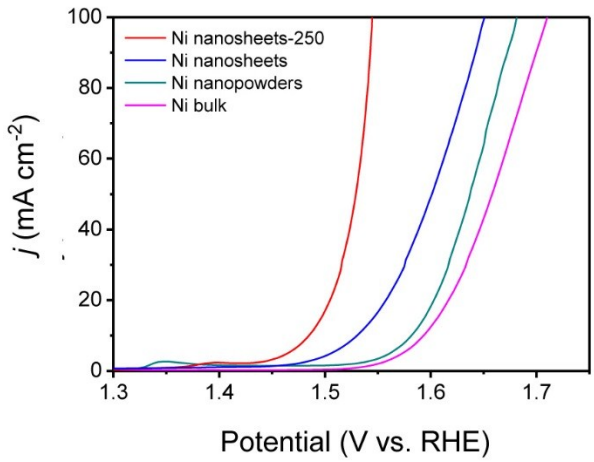

Fig. S9 Polarization curves tested in 6 M KOH.