

Supplementary information

In-situ Controllable Construction of Ni@NiO Schottky Heterojunctions for Electrochemical Hydrogen Evolution

Rui Li, Ziyi Pu, Rongxiu Zhou, Yuanzhi Li, Yexiong Huang, Shuaiqi Li, Jie Yang*,
Dingke Zhang*, Mingyu Pi*

School of Physics and Electronic Engineering, Chongqing Normal University,
Chongqing 401331, China

*Corresponding author: Jie Yang, email: jieyang611@cqu.edu.cn, Dingke Zhang,
email: zhangdk@cqu.edu.cn, Mingyu Pi, email: mingyupi@cqu.edu.cn

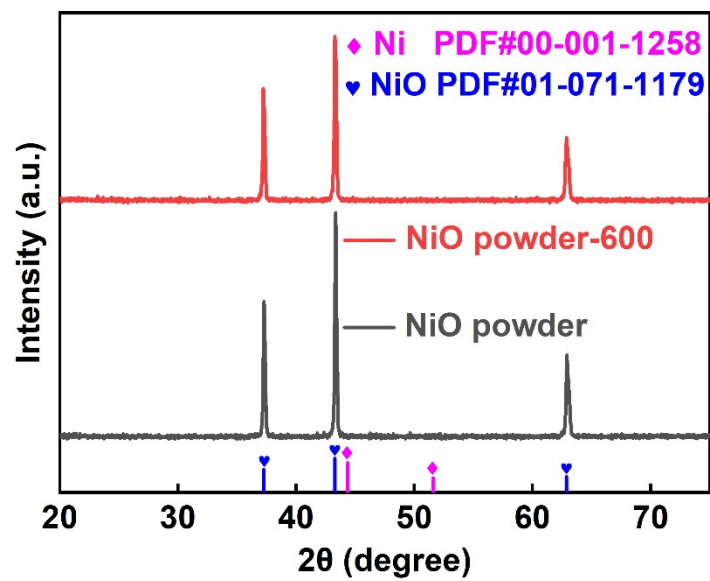


Fig. S1. XRD patterns for NiO powder without CFP before and after vacuum annealing under 600 °C.

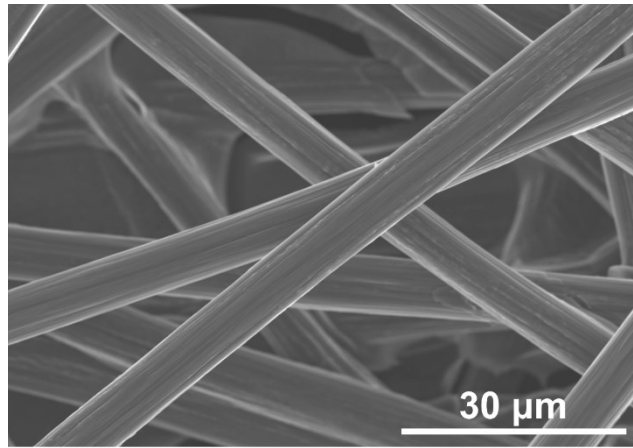


Fig. S2. Low-magnification SEM image of the bare CFP substrate.

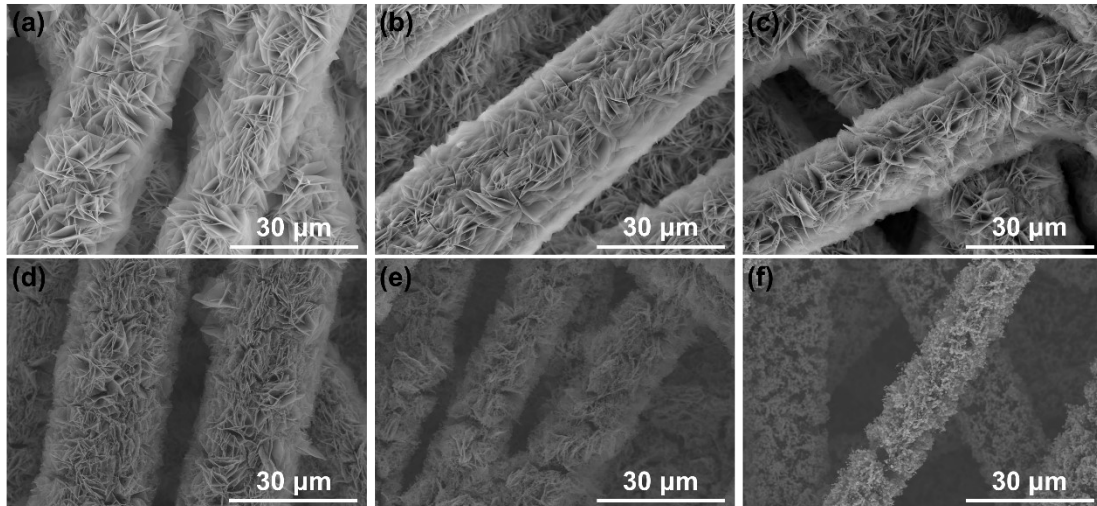


Fig. S3. Low-magnification SEM images of (a) NiO, (b) Ni@NiO-400, (c) Ni@NiO-500, (d) Ni@NiO-600V, (e) Ni@NiO-700 and (f) Ni@NiO-800 samples.

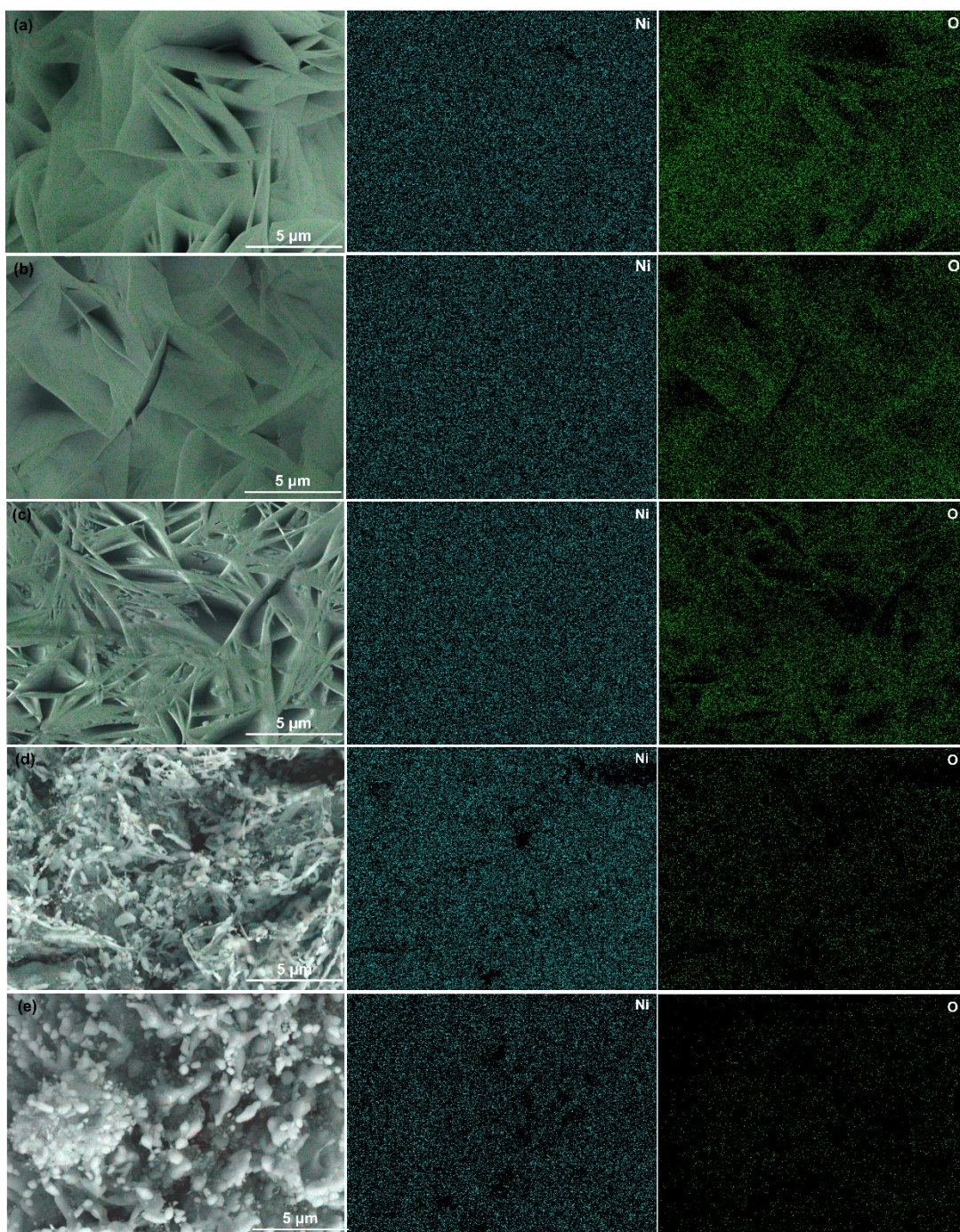


Fig. S4. EDX mapping of Ni and O in (a) NiO, (b) Ni@NiO-400, (c) Ni@NiO-500, (d) Ni@NiO-700 and (e) Ni@NiO-800 samples.

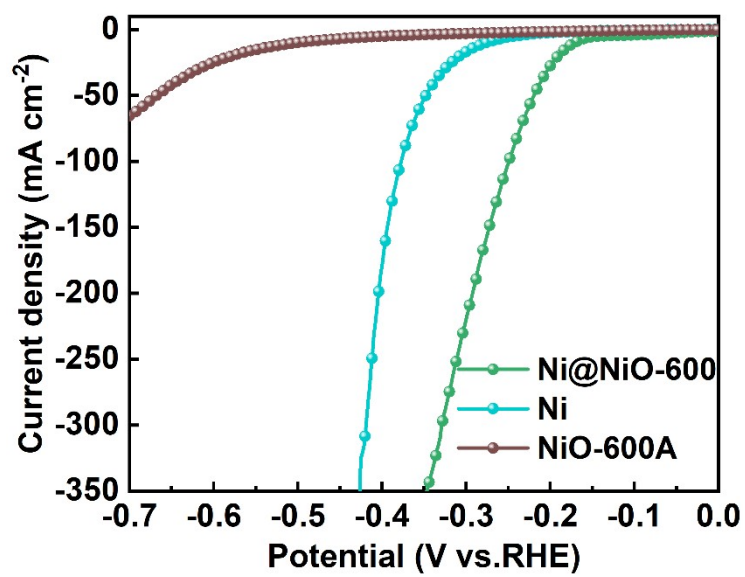


Fig. S5. LSVs of Ni, Ni@NiO-600, NiO-600A for HER in 1 M KOH.

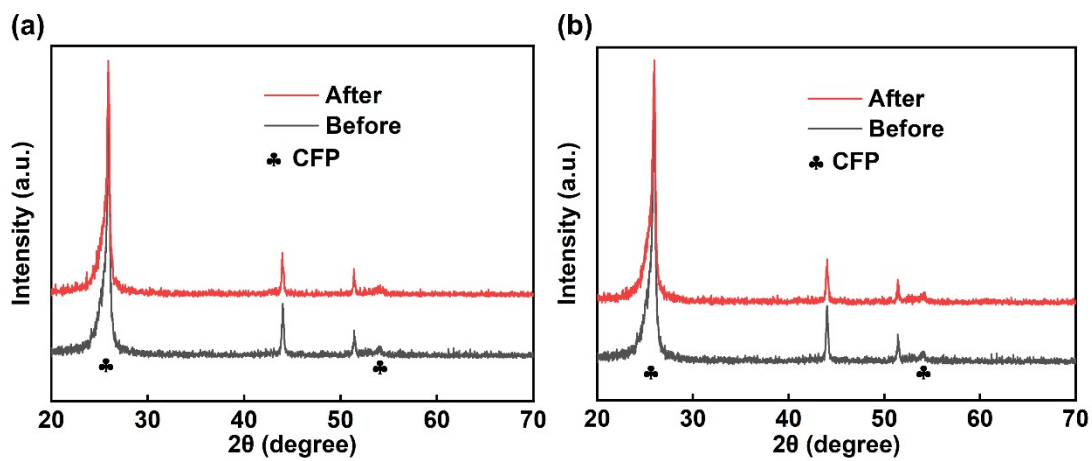


Fig. S6. XRD patterns before and after CV (a) and chronopotentiometry (b) tests for the Ni@NiO-600 sample.

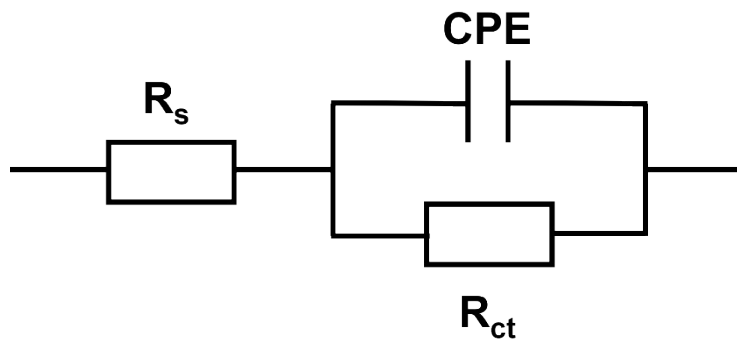


Fig. S7. The equivalent circuit diagram of the samples.

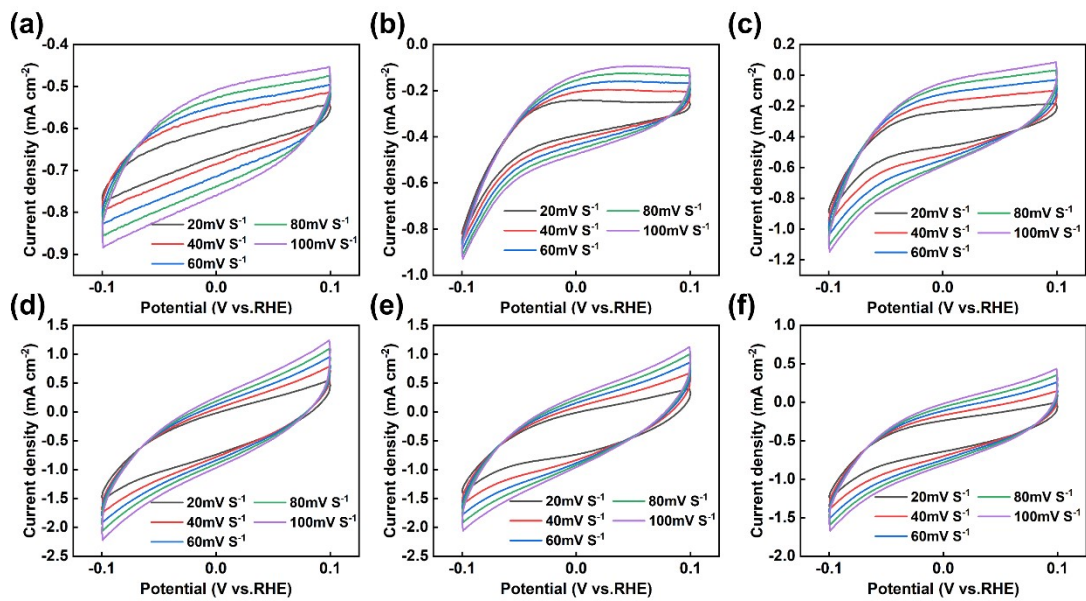


Fig. S8. Cyclic voltammograms collected in the region of -0.10 V to 0.10 V at various scan rates for the (a) NiO, (b) Ni@NiO-400, (c) Ni@NiO-500, (d) Ni@NiO-600, (e) Ni@NiO-700 and (f) Ni@NiO-800 samples.