Supporting information

Preparation of Nickel Nanoparticles by Arc Discharge Method and Their Catalytic Application in Hybrid Na-Air Battery

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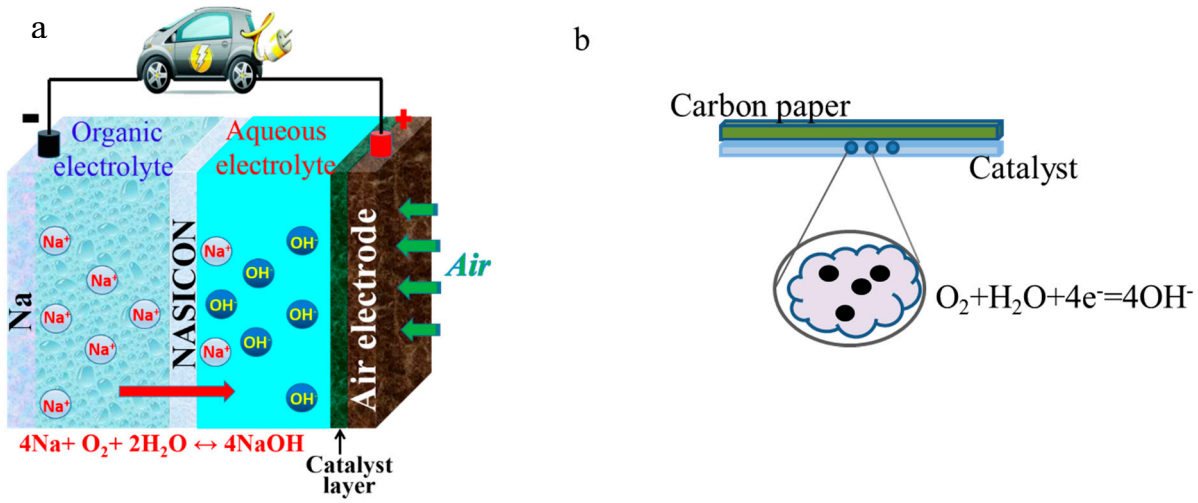

Fig.s1(a) Schematic of a typical hybrid Na-air battery, (b) structure of the catalyst layer .

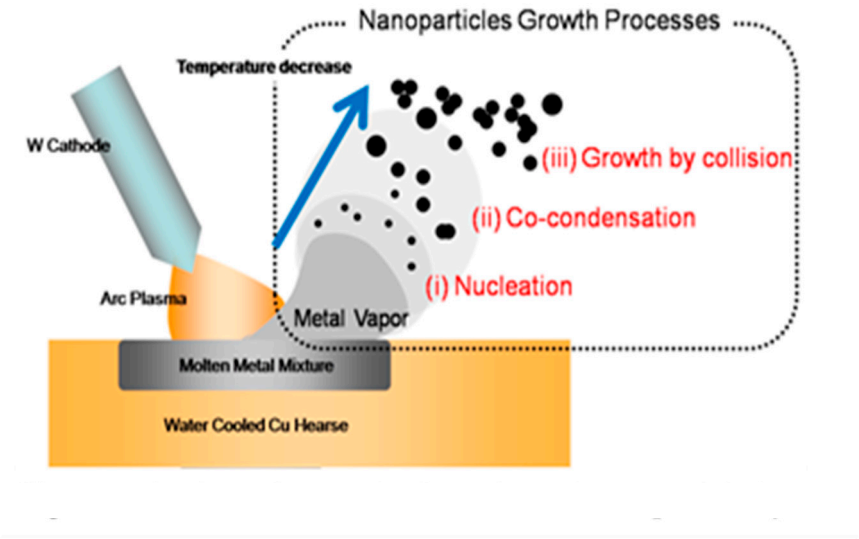

Fig. s2 The formation mechanism of metal nanoparticle by arc discharge method.

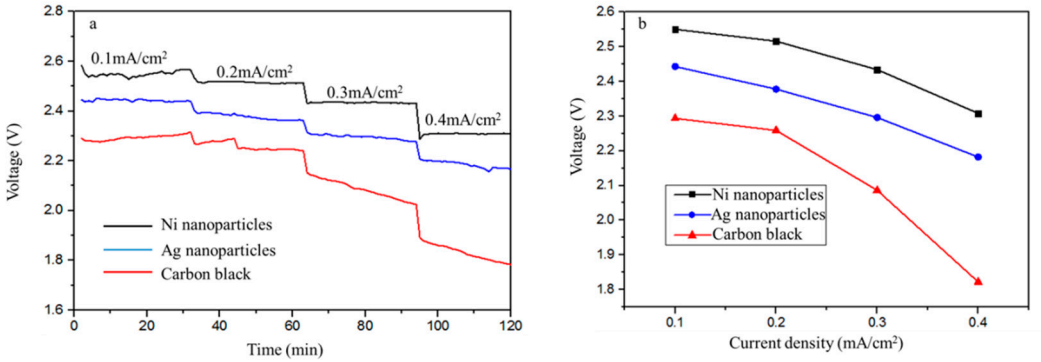

Fig. s3 (a) Discharge voltage profiles of hybrid Na-air batteries with Ni nanoparticles, Ag nanoparticles and carbon black as catalyst at different current densities. (b) Current density dependence of discharge voltage for batteries with different catalysts. The plots correspond to the measured data, and the solid lines indicate the fitted spectra.

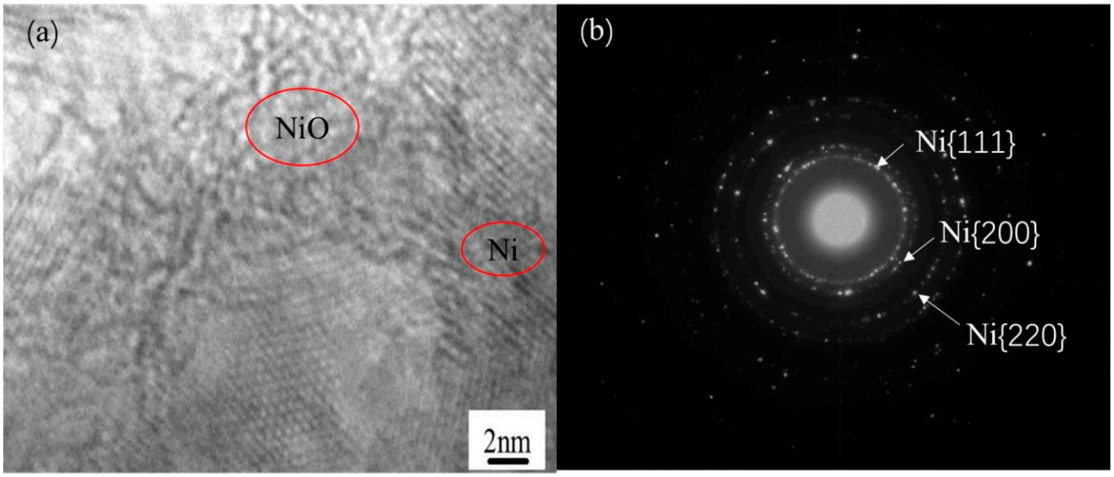

Fig. s4. (a) TEM image of the Ni nanoparticles. (b) SAED pattern for the Ni nanoparticles.

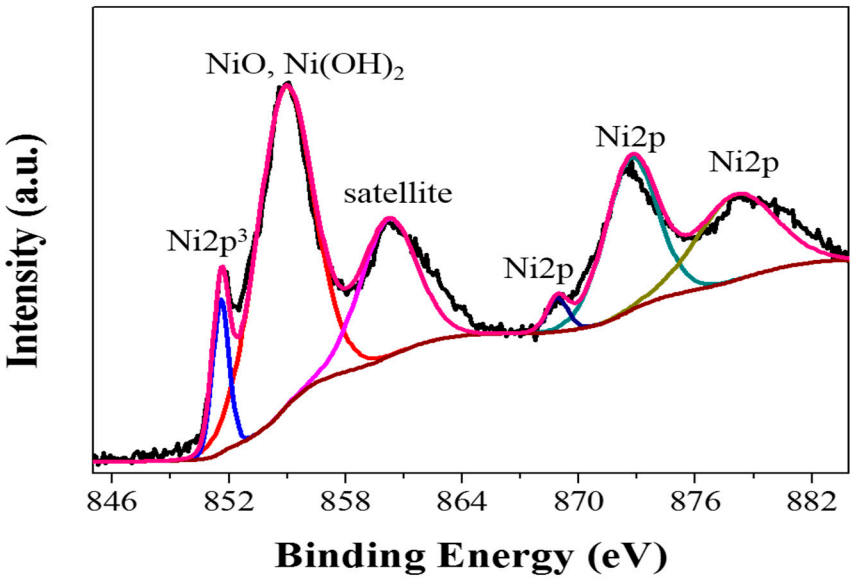

Fig.s5 XPS spectra of Ni nanoparticles presented by arc discharge method.