

Electroless Deposition of RuO₂-based Nanoparticles for Energy Conversion Applications

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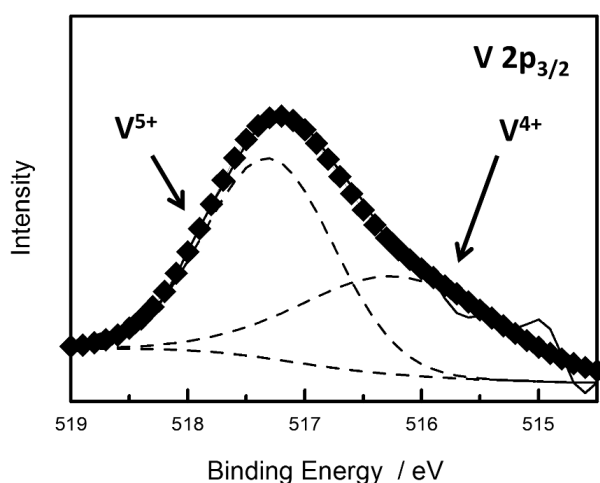


Figure S1. XPS spectra of VO_x electrodeposited at 0.4 V.

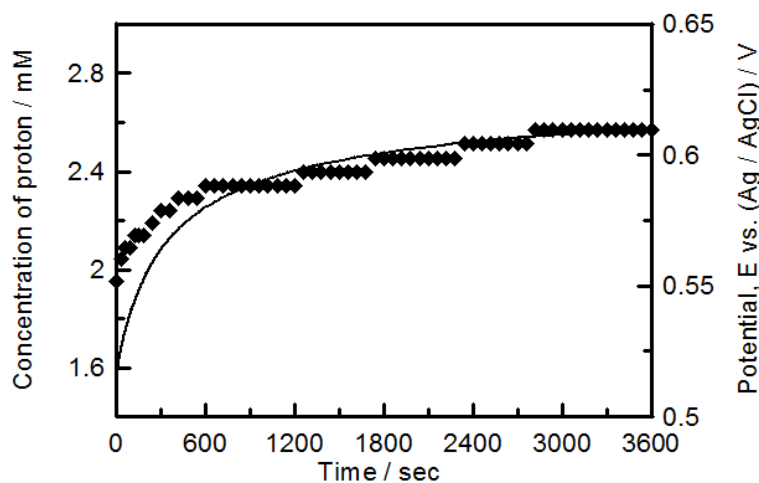


Figure S2 Concentration of proton at the surface of VO_x·mH₂O without potential bias and open-circuit potential record with time.

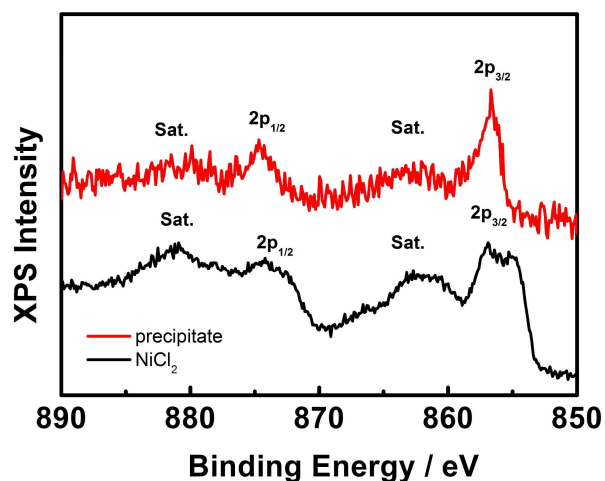


Figure S3. Ni XPS spectra of precursor NiCl_2 and the precipitate from the solution containing VOSO_4 and NiCl_2 . In comparison with the precursor NiCl_2 , the precipitate displayed different Ni 2p spectrum. This result demonstrates the oxidation of NiCl_2 to form the nickel oxyhydroxide, generalized the application of this unique deposition method.

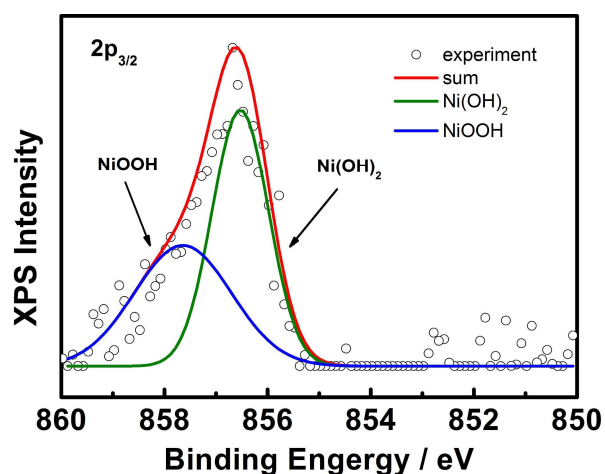


Figure S4. Ni $2p_{3/2}$ XPS spectrum of the precipitate from the solution containing VOSO_4 and NiCl_2 . This result demonstrates the oxidation of NiCl_2 to form the nickel oxyhydroxide, generalized the application of this unique deposition method.

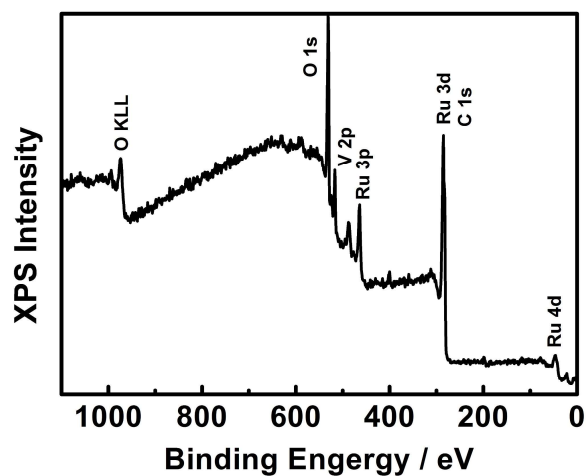


Figure S5 XPS survey spectrum of RuO₂-based nanoparticle suspensions

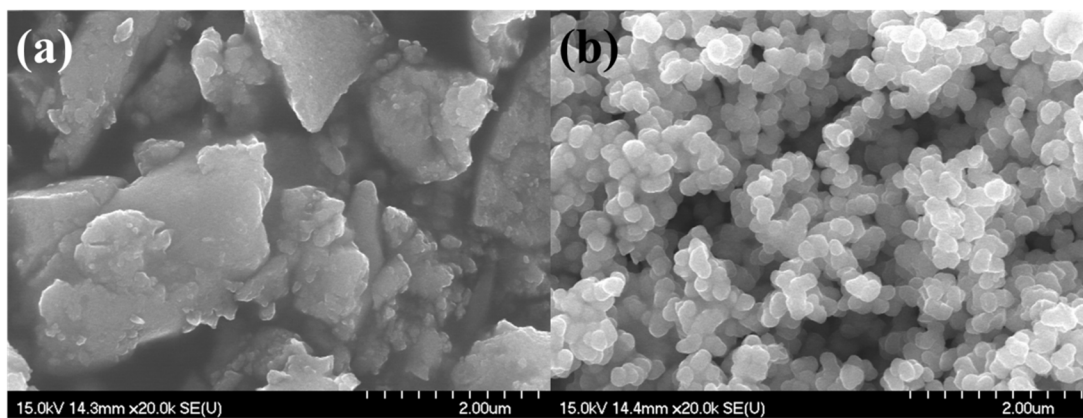


Figure S6 SEM images of (a) RuO₂·nH₂O prepared by adjusting pH value of the 5 mM RuCl₃·xH₂O + 5 mM CH₃COONa solution to 12 and (b) Ru_wV_yO_x·pH₂O.