Supporting Information

Composition-Controlled Synthesis of Ni2-xCoxP Nanocrystals as Bifunctional Catalysts for Water Splitting

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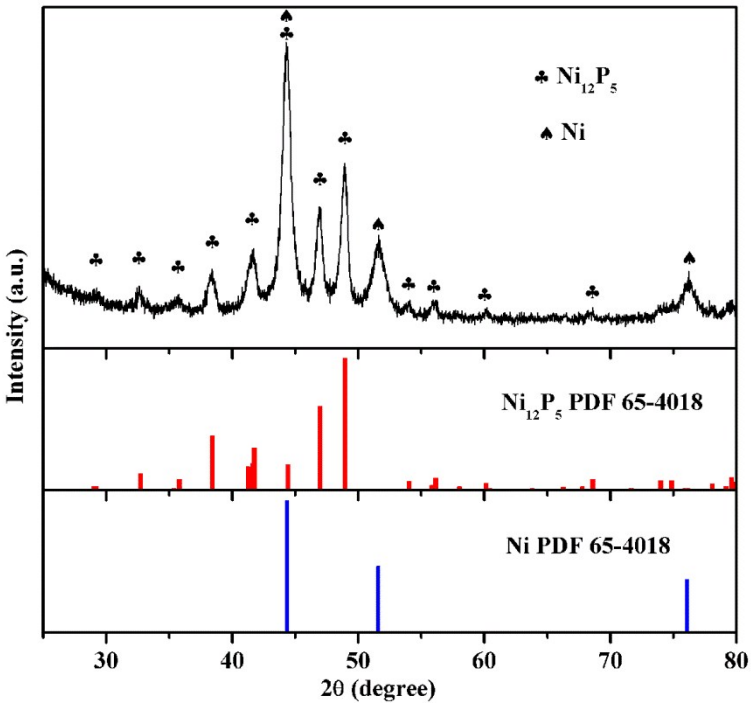
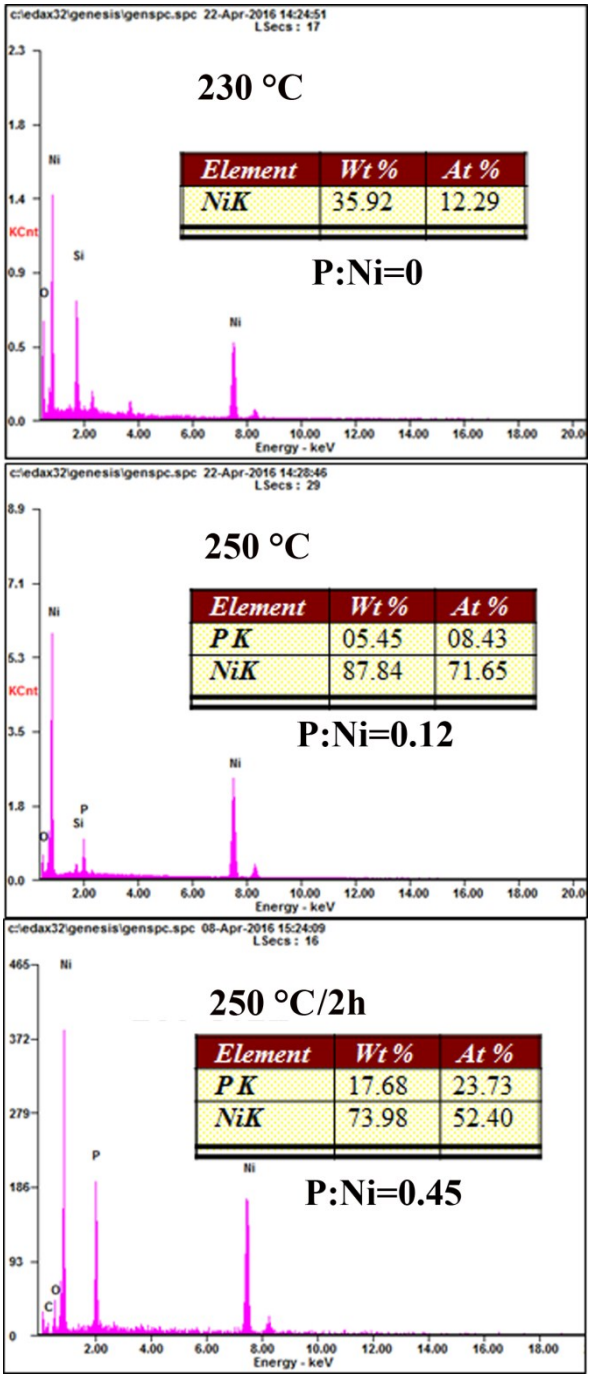
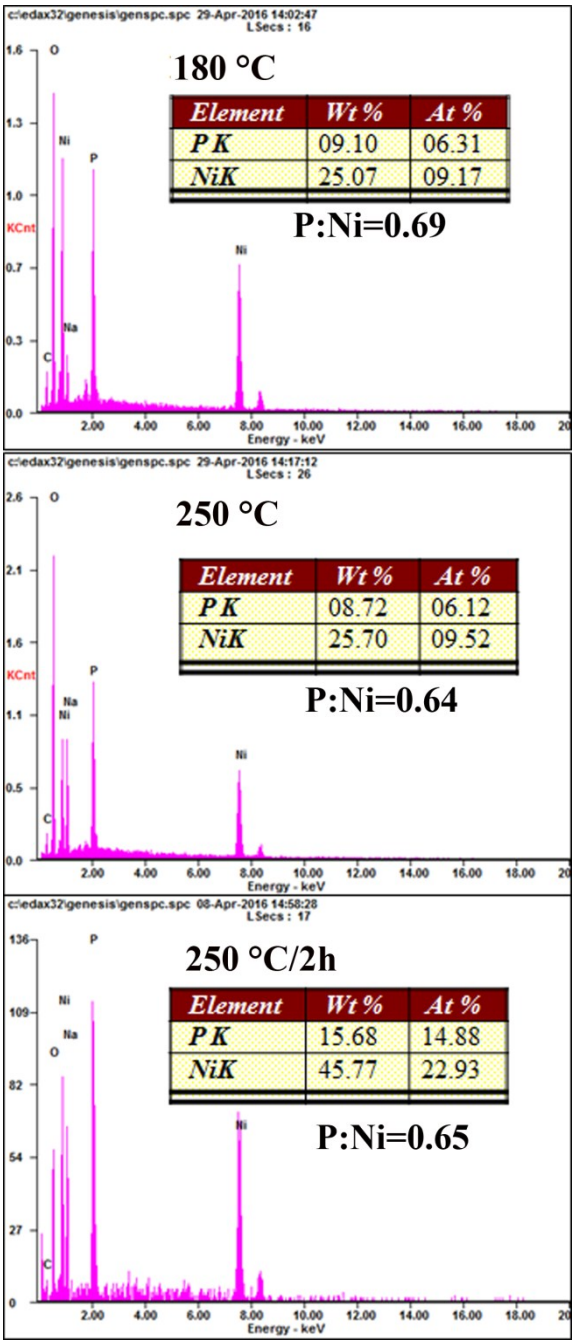


FigureS1. The XRD pattern of as-prepared nanoparticles obtained after the reaction at 250 °C for 2h without adding of $NaBH_4$.



FigureS2. EDS results of nanoparticles isolated from the reaction at different temperatures without adding of $NaBH_4$.



FigureS3. EDS results of nanoparticles isolated from the reaction at different temperatures with the adding of $NaBH_4$.

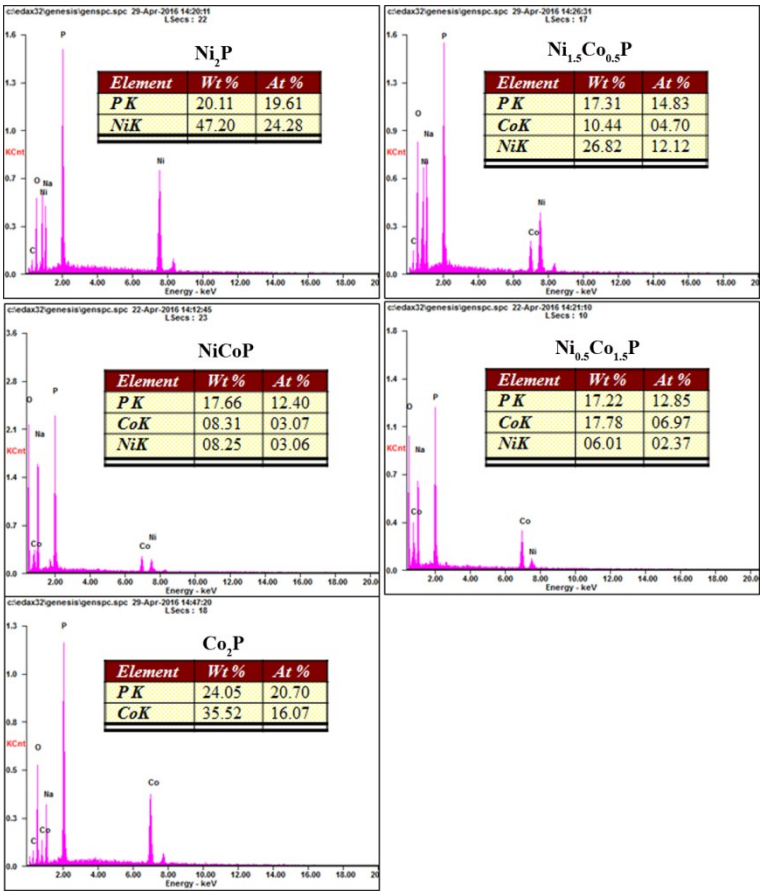
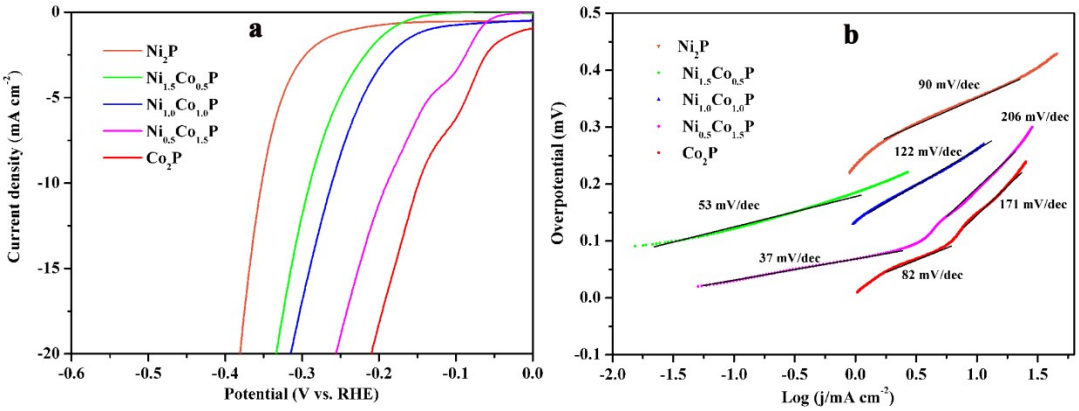


Figure S4 EDS spectra of as-prepared $Ni_{2-x}Co_xP$ NCs with different compositions.



FigureS5. (a)The polarization curves of $Ni_{2-x}Co_xP$ NCs with different Co/Ni ratios in 1.0 M KOH for HER. (b) Corresponding Tafel plots.

Table S1: Surface compositions for $Ni_{2-x}Co_xP$ nanoparticle compositions as assessed from XPS data.

Nominal Bulk Composition	Surface Composition	Surface Co/Ni Mole Ratio	Surface P/(Ni+Co) Mole Ratio
Ni_2P	$Ni_{0.27}P$	--	3.7
$Ni_{1.5}Co_{0.5}P$	$Ni_{0.23}Co_{0.12}P$	0.52	2.9
NiCoP	$Ni_{0.17}Co_{0.33}P$	1.94	2
$Ni_{0.5}Co_{1.5}P$	$Ni_{0.05}Co_{0.2}P$	4	4
Co_2P	$Co_{0.3}P$	--	3.3