

Table S1 Crystallite size (t) was obtained using equation 1 and the (111) diffraction peak for all synthesized catalysts.

Catalyst	Crystallite size (t, nm)
Pd/C	3.6
Pd _{0.7} Ni _{0.30} /C	2.2
Pd _{0.7} B _{0.30} /C	2.7
Pd _{0.7} Ni _{0.20} B _{0.10} /C	2.8
Pd _{0.7} Ni _{0.15} B _{0.15} /C	3.3
Pd _{0.7} Ni _{0.10} B _{0.20} /C	3.6

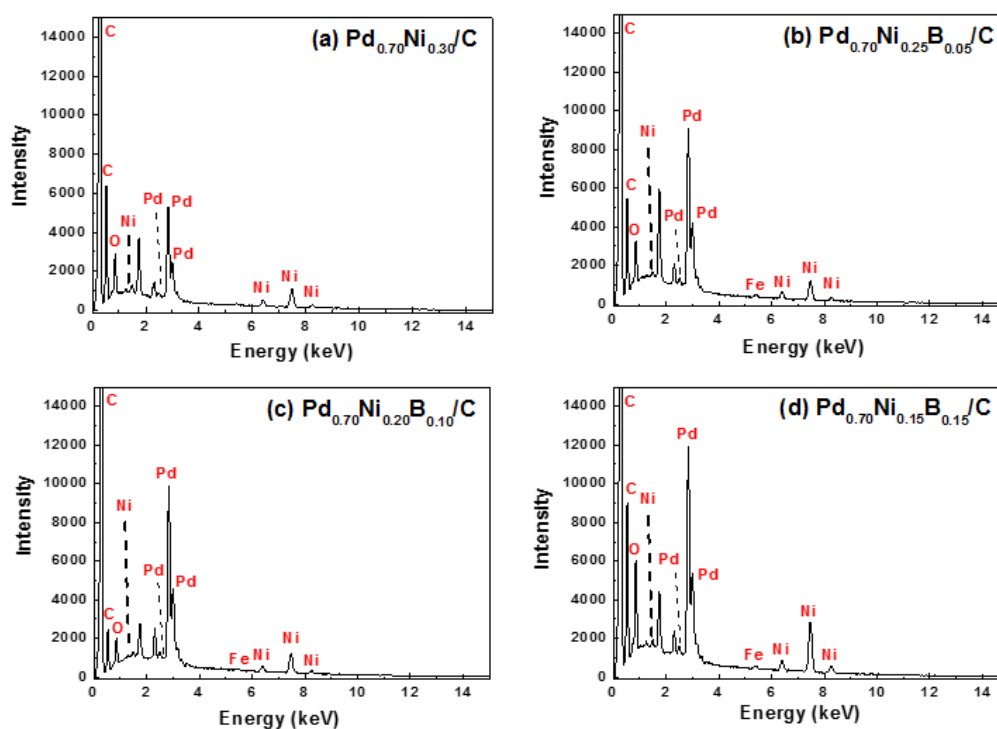


Figure S1 EDX spectra of (a) Pd_{0.7}Ni_{0.3}/C, (b) Pd_{0.7}Ni_{0.25}B_{0.05}/C, (c) Pd_{0.7}Ni_{0.2}B_{0.1}/C, and (d) Pd_{0.7}Ni_{0.15}B_{0.15}/C catalysts.

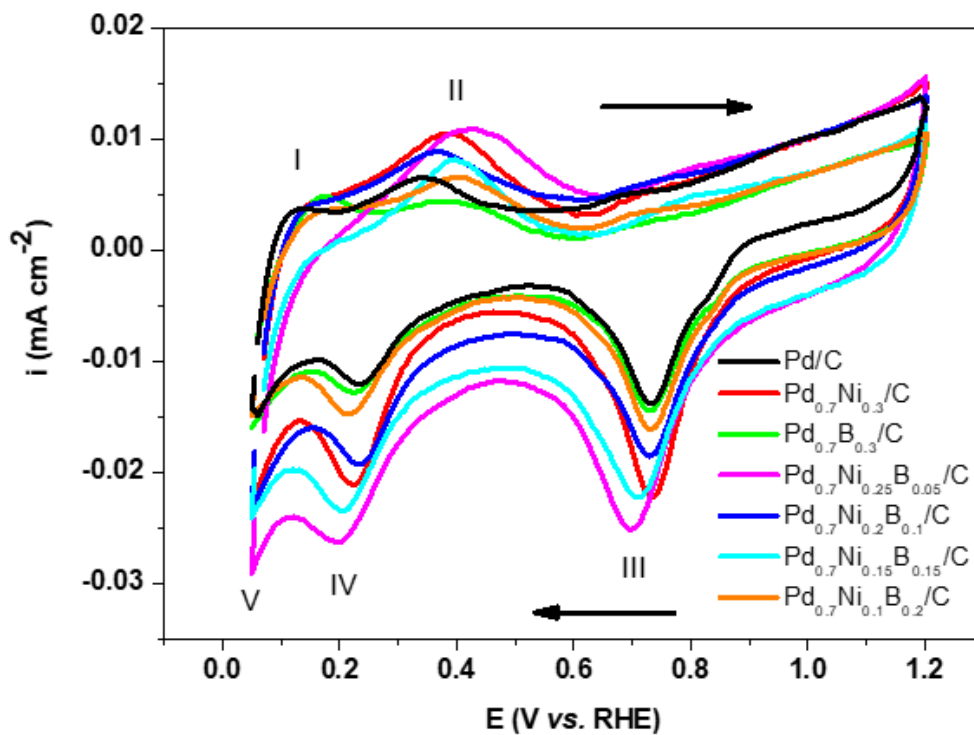


Figure S2 Cyclic voltammograms (second cycle) obtained on Pd/C, Pd_{0.7}Ni_{0.3}/C, Pd_{0.7}B_{0.3}/C, Pd_{0.7}Ni_{0.25}B_{0.05}/C, Pd_{0.7}Ni_{0.2}B_{0.1}/C, Pd_{0.7}Ni_{0.15}B_{0.15}/C, and Pd_{0.7}Ni_{0.1}B_{0.2}/C catalysts in a 1.0 mol L⁻¹ KOH solution; $\nu = 20 \text{ mV s}^{-1}$; $T = 25^\circ\text{C}$, (\rightarrow) anodic scan, (\leftarrow) cathodic scan.