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Fangshuai Chen, Hui Wang, Shan Ji, Vladimir Linkov, Rongfang Wang

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Fangshuai Chen [a], Hui Wang [a], Shan Ji [b*], Vladimir Linkov [c] and Rongfang Wang [a**]

[a] Institute of Chemical Engineering, Qingdao University of Science and Technology, Qingdao, 266042, China

[b] College of Biological, Chemical Science and Chemical Engineering, Jiaxing University, Jiaxing, 314001, China

[c] South African Institute for Advanced Materials Chemistry, University of the Western Cape, Cape Town, 7535, South Africa

Corresponding authors:

Shan Ji (*): jissshan@126.com, Tel./fax: +86 (0)15024355548

Rongfang Wang (**): wrf38745779@126.com, Tel./fax: +86-931-7971533

Abstract: Core-shell structured Ni_3S_2@$Co(OH)_2$ nano-wires directly grown on Ni foam as a binder-free electrode for asymmetric supercapacitors are synthesized though a facile two-step process. This unique core-shell architecture consisting of ultrathin $Co(OH)_2$ nano-sheets and Ni_3S_2 nano-wires exhibits significantly enhanced electrochemical capacitive performance. The Ni_3S_2@$Co(OH)_2$ electrode demonstrates high specific capacitance of 2139.4 F g^{-1} at the current density of 2 mA cm^{-2}, and retains capacitance of 1139.4 F g^{-1} at a much higher current density of 40 mA cm^{-2}. An asymmetric supercapacitor using Ni_3S_2@$Co(OH)_2$ as cathode and active carbon as