Monodispersed Pd clusters generated in situ by their own reductive support for high activity and stability in cross-coupling reactions

Ping Li, Pei-Pei Huang, Fang-Fang Wei, Yong-Bin Sun, Chang-Yan Cao and Wei-Guo Song*

Beijing National Laboratory for Molecular Sciences (BNLMS), CAS Key Laboratory of Molecular Nanostructures and Nanotechnology, Institute of Chemistry, Chinese Academy of Sciences, Beijing, 100190, P. R. China. E-mail: wsong@iccas.ac.cn; Fax: (+86) 10-62557908
**Figure S1.** SEM images of (a) CoAl-LDH and (b) CoAl-LDH/Pd nanocomposite.

**Figure S2.** The EDS spectrum of the CoAl-LDH sample.

**Figure S3.** The EDS spectrum of the CoAl-LDH/Pd nanocomposite.
Figure S4. The high magnification TEM image of CoAl-LDH/Pd catalyst after being used repetitively for 6 times.

Figure S5. Photo of about 200 g of CoAl-LDH material from a scale up process.
**Figure S6.** Photo of CoAl-LDH/Pd material (without the drying process) from a scale up process.