Nitrogen-doped graphene-activated metallic nanoparticles-incorporated ordered mesoporous carbon nanocomposites for hydrogenation of nitroarenes

Haigen Huang, Xueguang Wang, Yao Sheng, Chenju Chen, Xiujing Zou, Xingfu Shang, and Xionggang Lu

Fig. S1 (a) Low-angle XRD patterns, and (b) Wide-angle XRD pattern of the Co/NGr@OMC–800 catalyst.

Fig. S2 (a) Low-angle XRD patterns, and (b) Wide-angle XRD pattern of the Fe/NGr@OMC–800 catalyst.
**Fig. S3** Raman spectrum of the Co/NGr@OMC‒800 and Fe/NGr@OMC‒800 catalysts.

**Fig. S4** TGA curve of the Co/NGr@OMC‒800 and Fe/NGr@OMC‒800 catalysts.
Fig. S5 (a) N₂ sorption isotherms, and (b) BJH pore size distributions of the Co/NGr@OMC–800 and Fe/NGr@OMC–800 catalysts.

Fig. S6 TEM images of the (a) Co/NGr@OMC–800, and (b) Fe/NGr@OMC–800 catalysts.
Fig. S7 XPS spectra of the Co/NGr@OMC–800 catalyst: (a) the survey scan, (b) Co 2p, (c) C 1s, and (d) N 1s.
**Figure S8** XPS spectra of the Fe/NGr@OMC–800 catalyst: (a) the survey scan, (b) Fe 2p, (c) C 1s, and (d) N 1s.