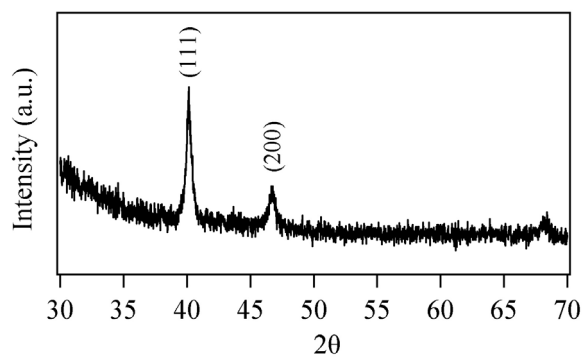**Supporting Informations**

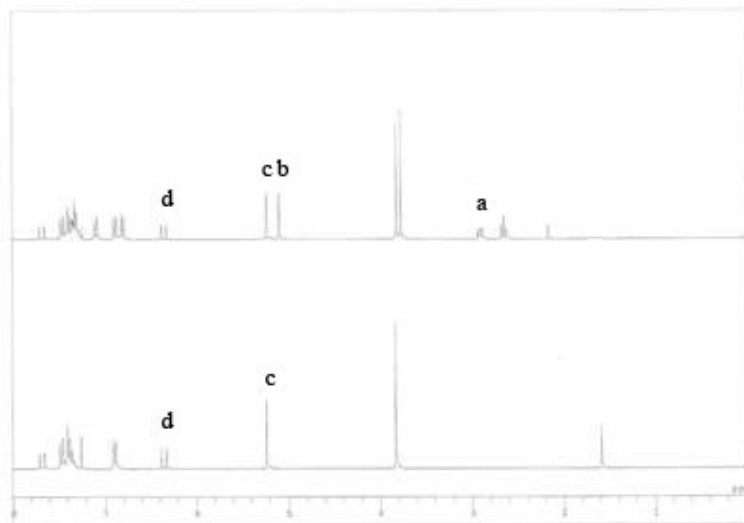Figure S1. Wide angle XRD pattern of Pd/SBA-15

Figure S2. NMR spectra of the samples before (bottom) and after (top) hydrogenation reaction of 4-methoxycinnamic acid benzyl ester in the supercritical CO_2. The calculation method is described as follows (a, b, c, and d are designated for integration values of peaks. a: integration value for peaks of product A and B, b: integration value for peak of product A only, c and d: integration value for peak of starting material):

Total conversion: $[a/(a+2d)] \times 100\%$

Molar ratio of product A : $(b/a) \times 100\%$
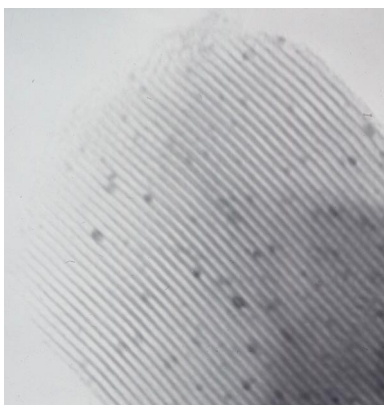
Molar ratio of product B : $(1-b/a) \times 100\%$

Figure S3. TEM image of the used Pd/SBA-15 catalyst.