

# Palladium supported on carbon nanotubes as a high-performance catalyst for the dehydrogenation of dodecahydro-N-ethylcarbazole

Mengyan Zhu<sup>a,b</sup>, Lixin Xu<sup>a,b</sup>, Lin Du<sup>c</sup>, Yue An<sup>d</sup> and Chao Wan<sup>a,b,d,\*</sup>

<sup>a</sup> Hexian Chemical Industrial Development Institute, School of Chemistry and Chemical Engineering,

Anhui University of Technology, Ma'anshan 243002, China

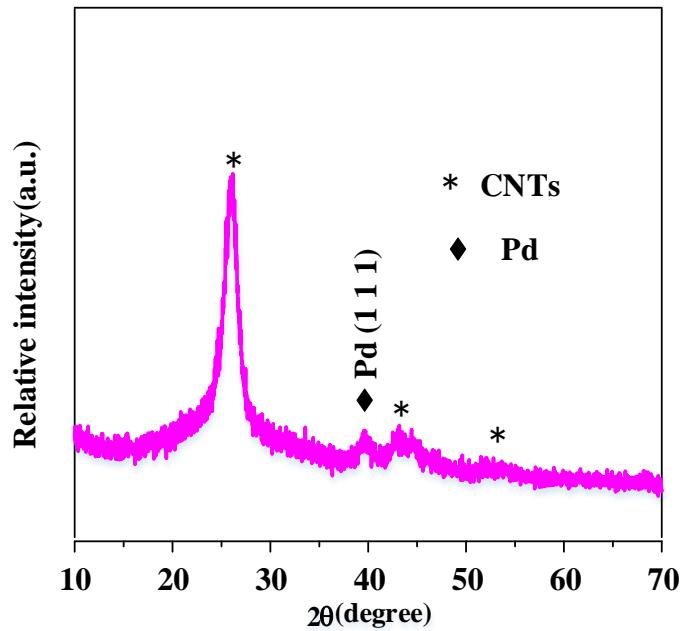
<sup>b</sup> Ahut Chemical Science & Technology Co., Ltd., Ma'anshan 243002, China

<sup>c</sup> Anhui Haide Chemical Technology Co., Ltd., Ma'anshan 243002, China

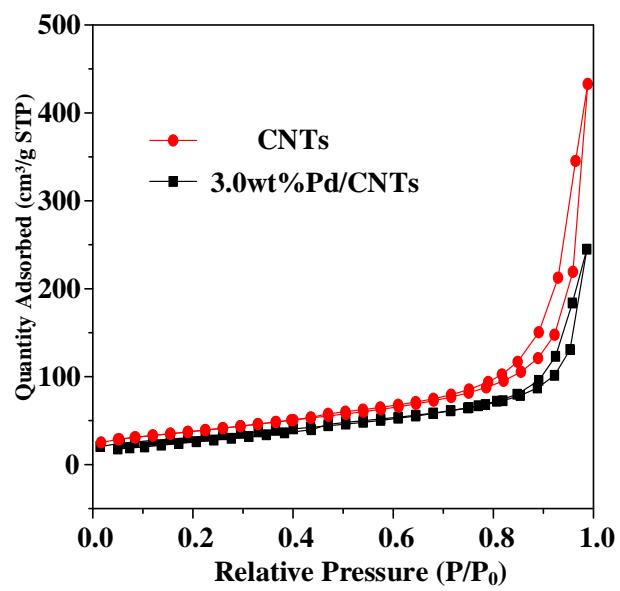
<sup>d</sup> College of Chemical and Biological Engineering, Zhejiang University, Hangzhou 310027, China

\* Corresponding author. Tel.: +86 555 2311807; Fax: +86 555 2311822.

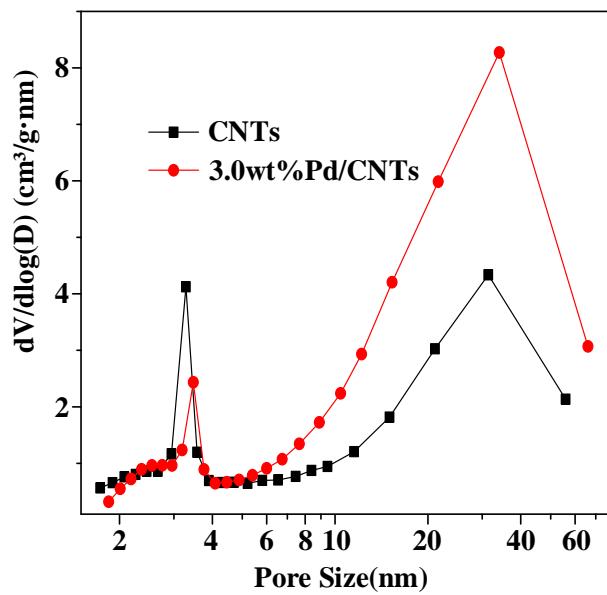
E-mail address: wanchao1219@hotmail.com (Chao Wan)



**Figure S1.** XRD patterns for the synthesized Pd/CNTs with 20 wt% Pd loading.



**Figure S2.** Nitrogen adsorption-desorption isotherms for CNTs and 3.0wt% Pd/CNTs



**Figure S3.** Pore size distribution for CNTs and 3.0wt% Pd/CNTs

**Table S1.** Content of Pd in Pd/CNTs with different loadings based on ICP-AES analysis

Sample	Pd content(wt %)	
	Practical	Theoretical
1.0 wt% Pd/CNTs	0.9	1.0
2.0 wt%Pd/CNTs	2.1	2.0
3.0 wt%Pd/CNTs	3.0	3.0
4.0 wt%Pd/CNTs	4.1	4.0