

Supporting Information

A Bran-new Catalytic System: Pd-based Catalyst Directly Attached on the Inner Walls Of The Reactor and Independently Catalyzed Heck Reaction



Figure S1. Digital photos of the reactor: the entire of reactor

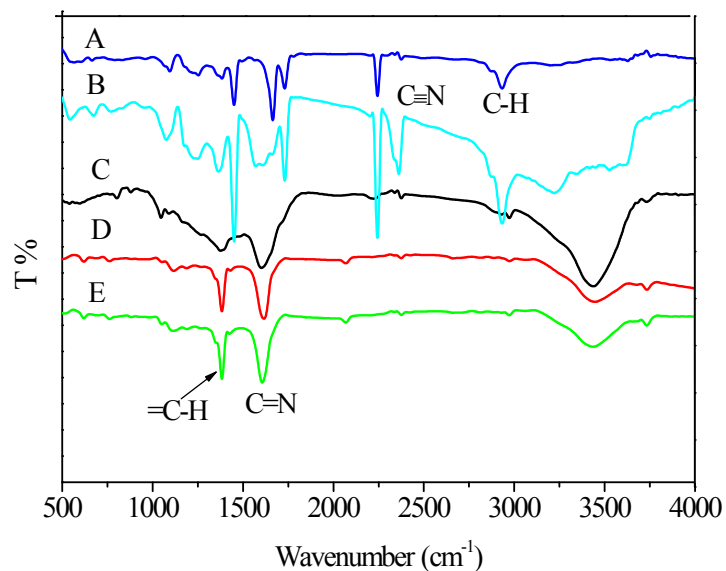


Figure S2. FTIR spectra of PAN/PdCl₂ fiber (A), Pd/PAN fibers after the hydrazine hydrate solution treatment (B), Pd/PANOF (C), together with Pd/LTCF-350 (D) and Pd/LTCF-450 (E).

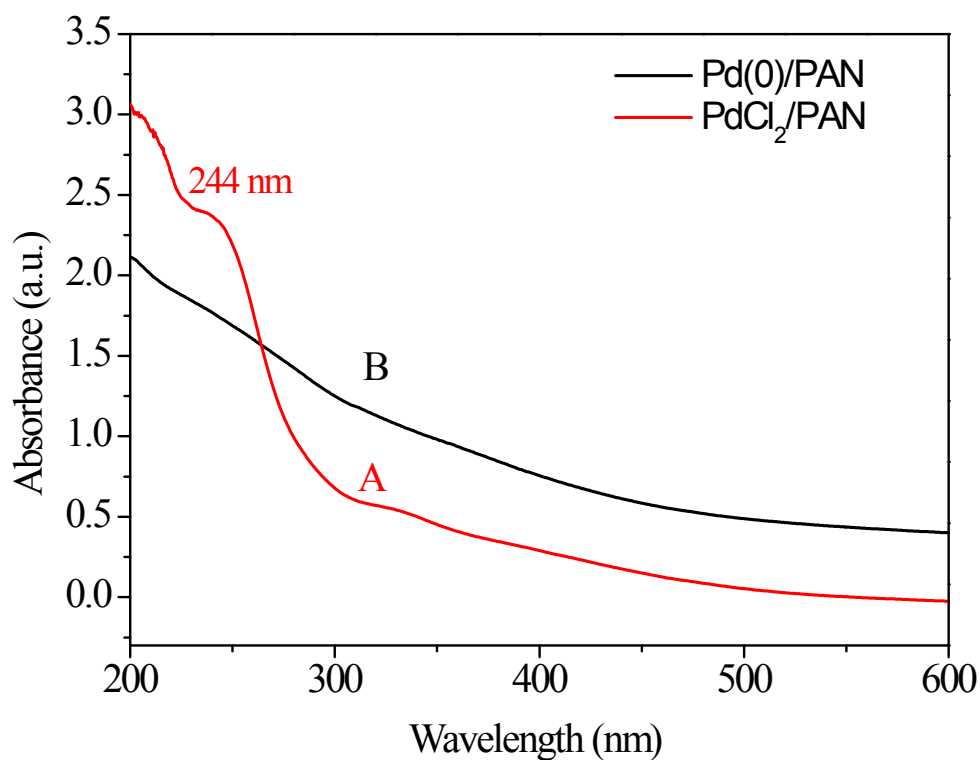
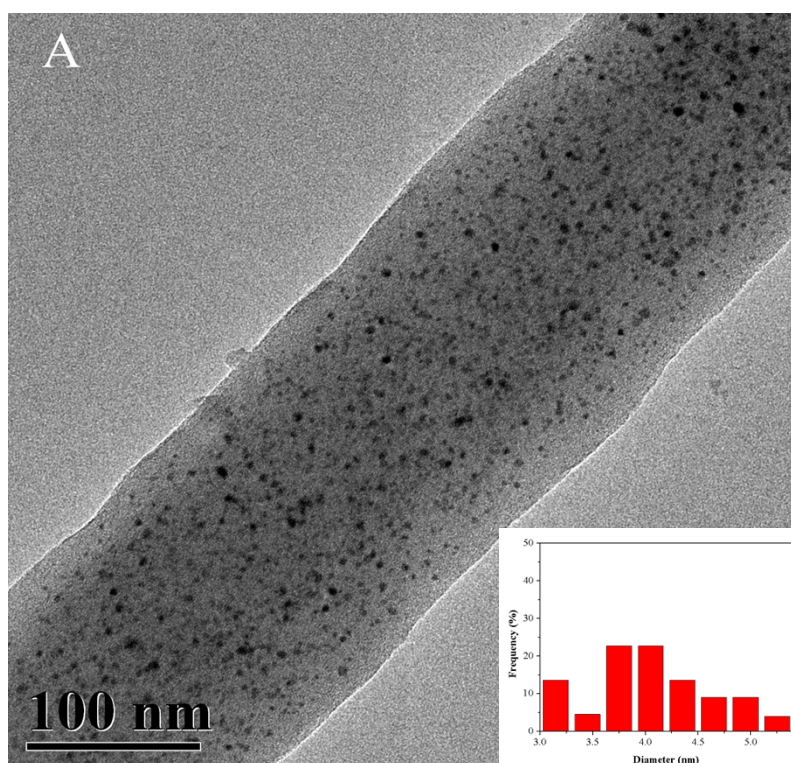


Figure S3. UV-vis spectra of PdCl₂/PAN nanofiber films (A) and Pd /PAN nanofiber films (B).



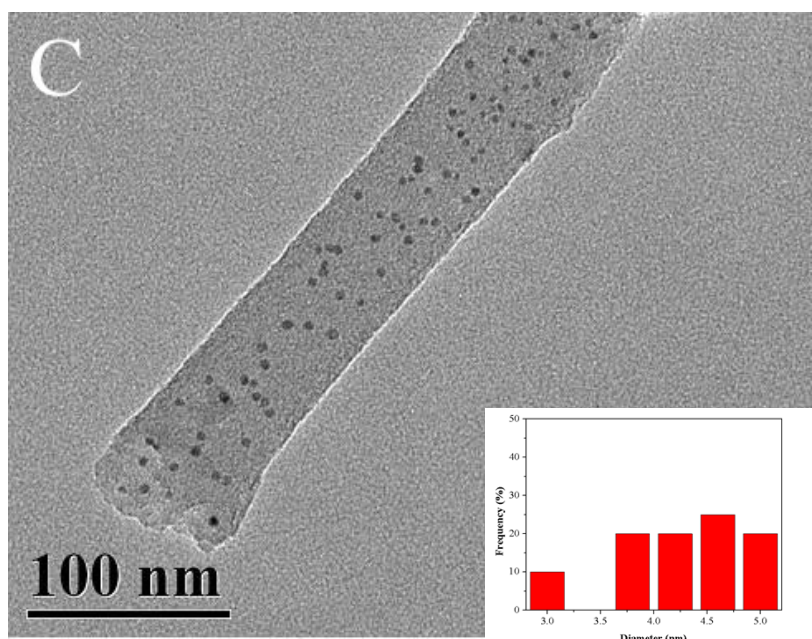
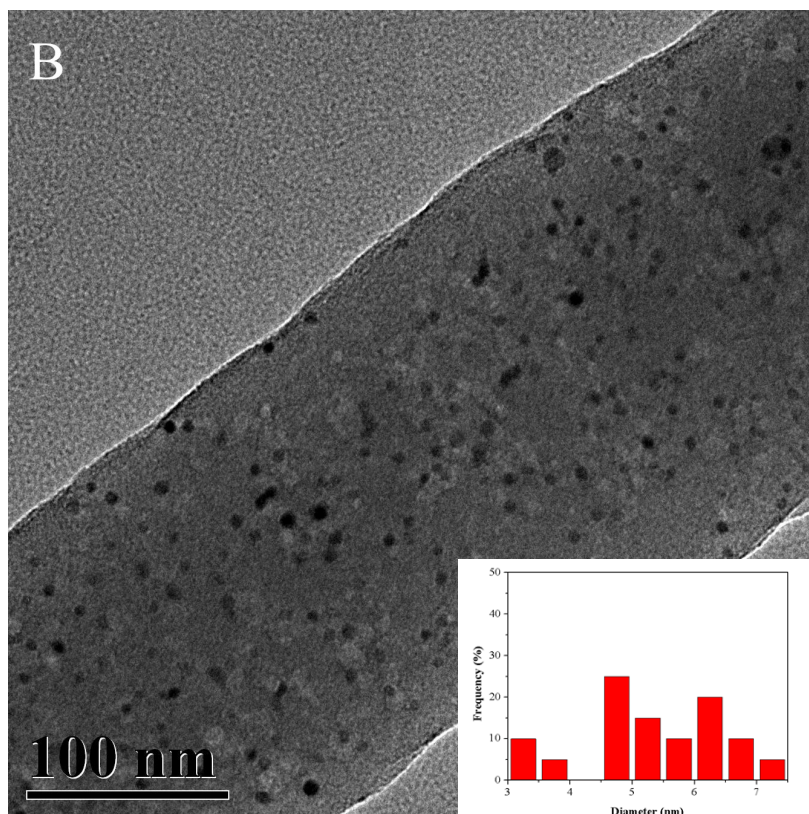


Figure S4. TEM images of the Pd/PANOF (A), Pd/LTCF-350 (B) and Pd/LTCF-450

(C) recovered from the fourth run of test reaction.

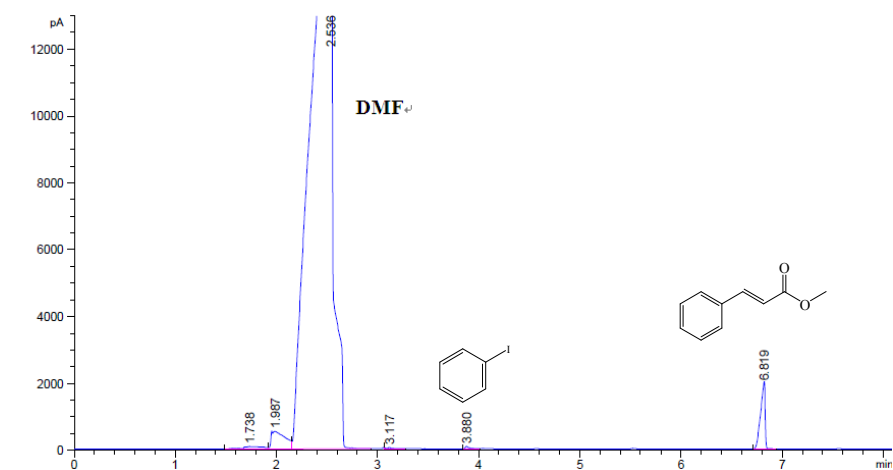


Figure S5. GC chromatogram of entry 1 reaction, Table 3.

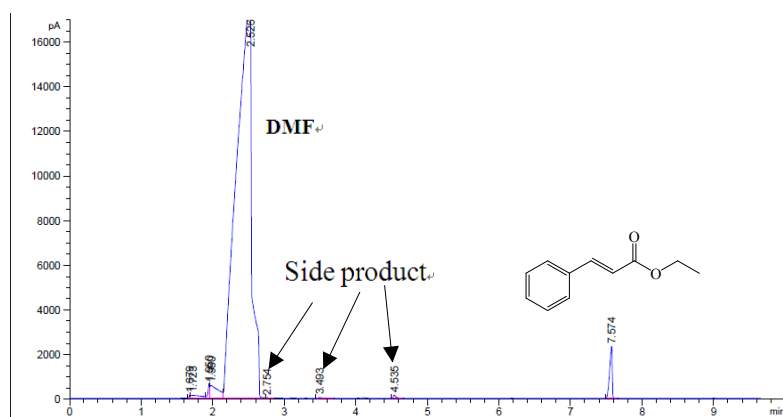


Figure S6. GC chromatogram of entry 2 reaction, Table 3.

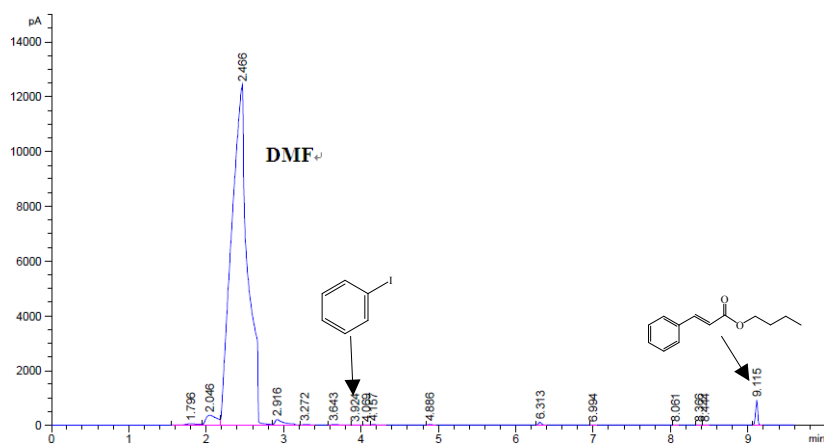


Figure S7. GC chromatogram of entry 3 reaction, Table 3.

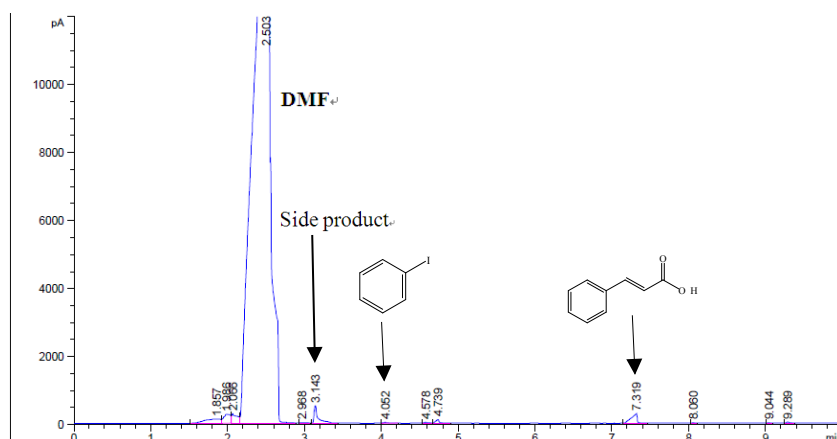


Figure S8. GC chromatogram of entry 4 reaction, Table 3.

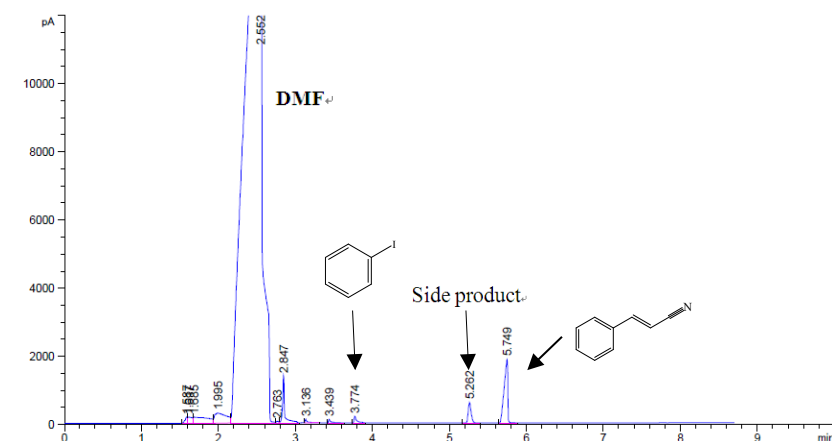


Figure S9. GC chromatogram of entry 5 reaction, Table 3

Table S1. Heck reaction with different bases.^a

Entry	Base	Conversion (%)	Selective (%)
1	K ₂ CO ₃	8.5	22.5
2	Cs ₂ CO ₃	11.3	82.68
3	KOH	28.3	10.9
4	TEA	99.34	69.86

^a Reaction conditions: iodobenzene (1 mmol); n-butyl acrylate (1.5 mmol); Base (3mmol); catalyst: Pd/ LTCF-450 in 10 ml DMF; temperature: 100 °C; reaction time: 24 h.

^b Determined from the GC analysis.