

Electronic Supplementary Information

Electrospun Pd-doped mesoporous Carbon Nano Fibres as catalysts for rechargeable Li-O₂ Batteries

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Relative atomic concentration (wt. %)*	Pd2.5	Pd2.5A	Pd5
C	90.0	84.8	86.6
O	6.7	9.0	7.8
N	3.0	4.0	4.1
Pd	0.4	0.3	1.4
Si	-	2.0	-

*Surface functional components obtained by XPS

Table. S1 Surface functional component obtained from the survey XPS spectra reported in Fig. 3, for samples Pd2.5, Pd2.5A, Pd5.

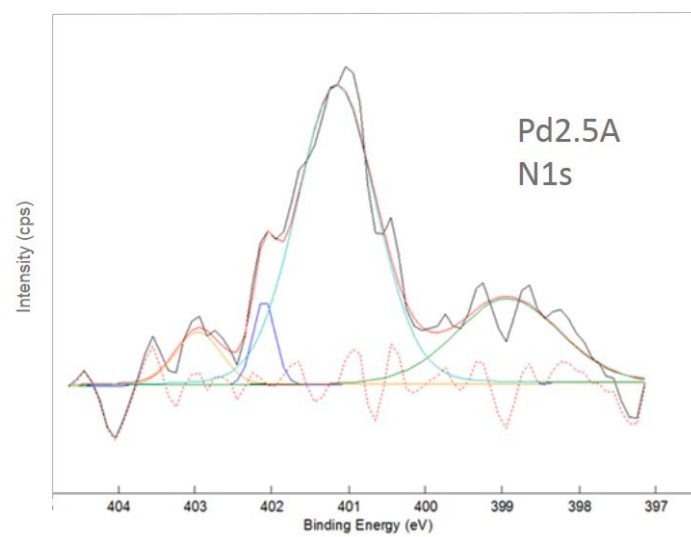


Fig. S1 De-convoluted N 1s spectra for sample Pd2.5A.

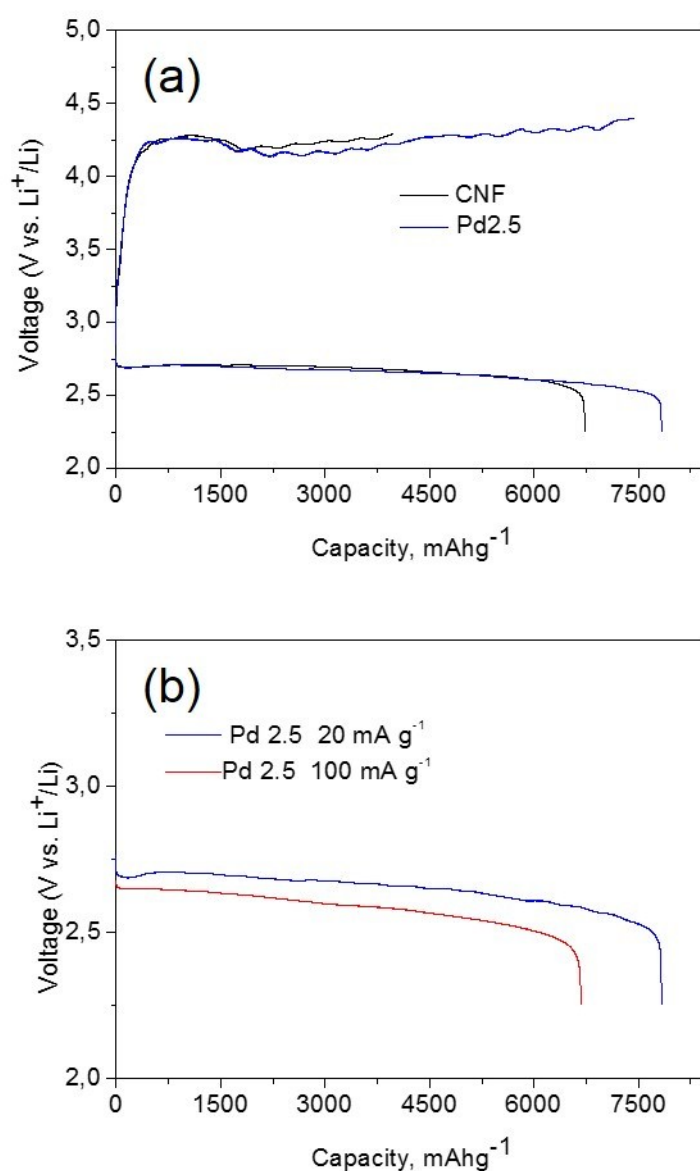


Fig. S2 Gravimetric capacity vs. cell voltage plots of the CNFs and Pd2.5 cathodes between OCV and 2.25V at a current density of 20 mA g⁻¹_{catalyst} in TEGDME-based electrolyte: (a) full discharge and recharge to 4.4 V vs. Li⁺/Li; (b) discharge plots at two different applied currents (20 mA g⁻¹_{catalyst} and 100 mA g⁻¹_{catalyst}) for Pd2.5 cathodes.

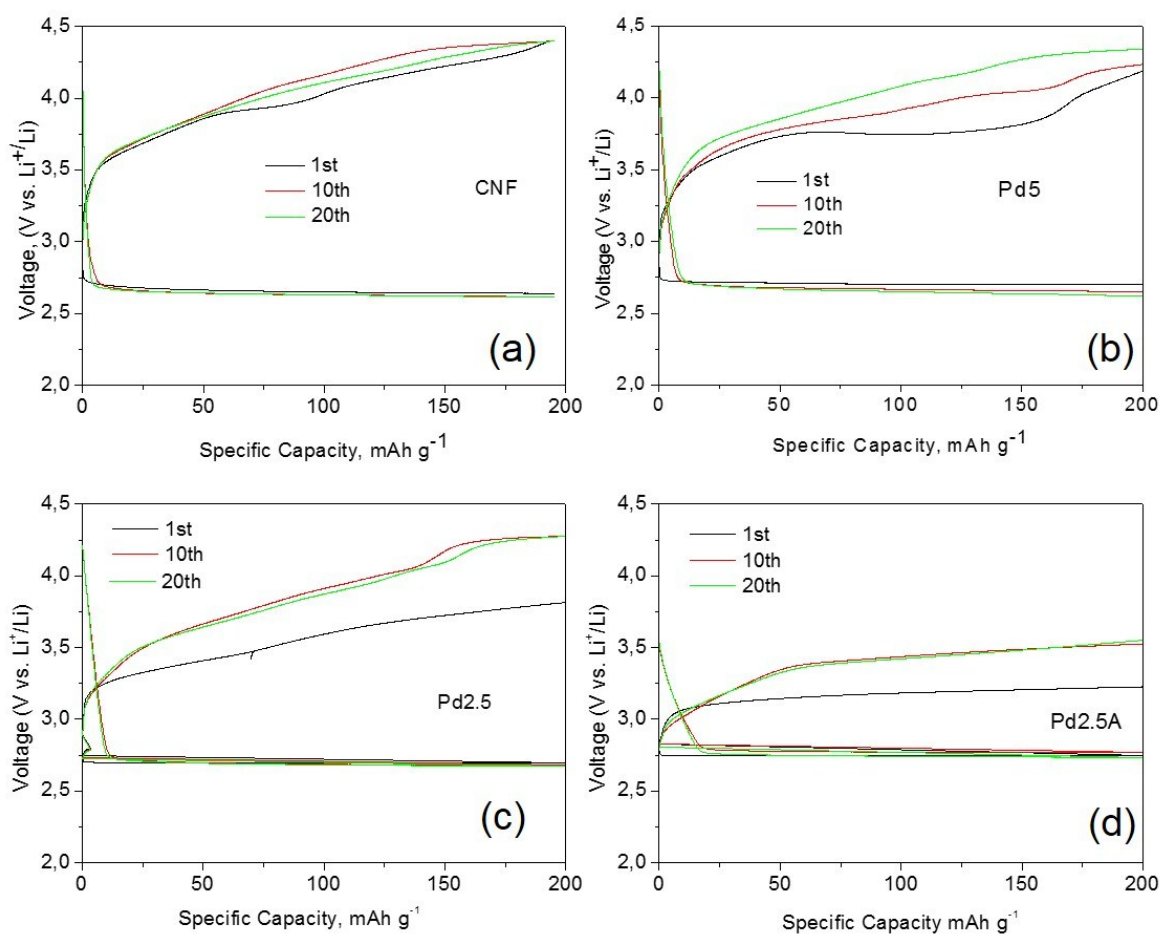


Fig. S3 Cell voltage profiles vs. capacity of the first 20 cycles of Li-O_2 cells in TEGDME-based electrolyte with: (a) CNF-based cathode; (b) Pd5-based cathode; (c) Pd2.5-based cathode and (d) Pd2.5A-based cathode. Limited discharge capacity: 200 mAh g^{-1} . Current rate: 20 mA g^{-1} . Complete cell cycling are reported in Fig. 9.