Supporting Information

Nitrogen-Doped Coal-based Porous Carbon and Reduced Graphene Oxide Composites for High-Performance Symmetrical Supercapacitor

Hongze Zhu[a,b,e], Fuyang Ren[a,b,e], Haoran Pan[a,b,e], Lu Tian[b,e],Tao Wang[c], Jianglong Yu[b,d,e], Jinxiao Dou[b,e,*], Dongling Wu[c,*], Xingxing Chen [a,b,e,*]

[a] *Research Group of Functional Materials for Electrochemical Energy Conversion, School of Chemical Engineering, University of Science and Technology Liaoning, Qianshan Middle Road 185, Anshan, Liaoning, China*

[b] *Research Institute of Clean Energy and Fuel Chemistry, School of Chemical Engineering, University of Science and Technology Liaoning, Qianshan Middle Road 185, Anshan, China*

[c] *State Key Laboratory of Chemistry and Utilization of Carbon Based Energy Resources, College of Chemistry, Xinjiang University, Urumqi, Xinjiang, China*

[d] *Suzhou Industrial Park Monash Research Institute of Science and Technology, Suzhou, China*

[e] *Key Laboratory for Advanced Coal and Coking Technology of Liaoning Province, School of Chemical Engineering, University of Science and Technology Liaoning, Qianshan Middle Road 185, Anshan, China*

** Corresponding authors*

E-mail addresses: xingchenstar79@163.com (X.X. Chen), doujx123@163.com (J. X. Dou), wudl@xju.edu.cn (D.L. Wu)

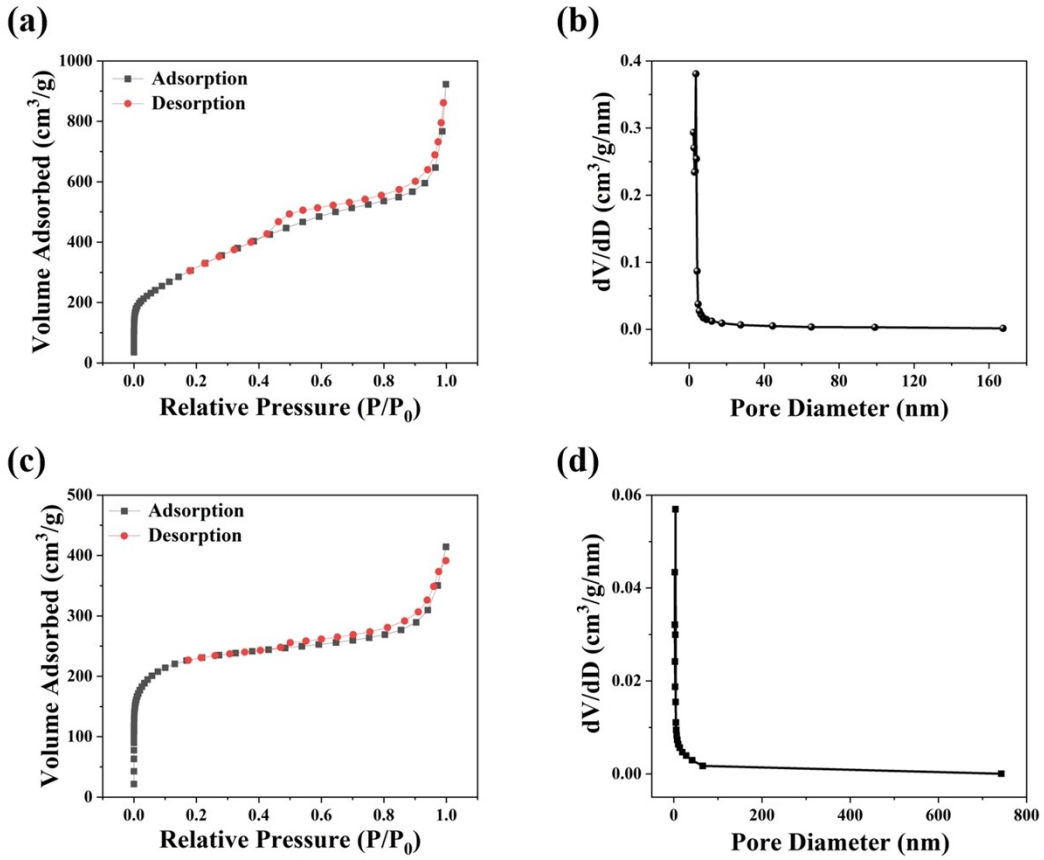

Figure S1. (a) N_2 adsorption-desorption isotherm, and (b) pore size distribution of N-C/rGO-700. (c) N_2 adsorption-desorption isotherm, and (d) pore size distribution of N-C/rGO-900.

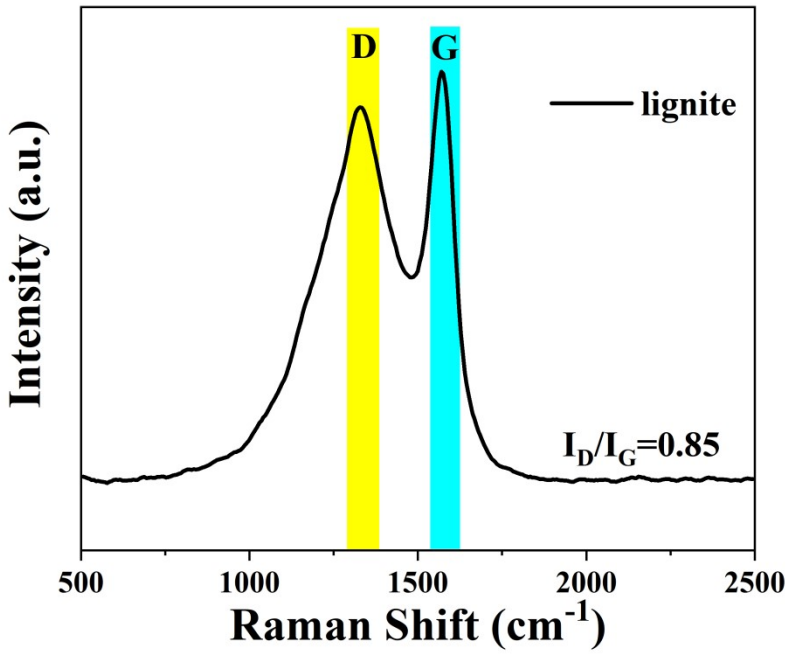

Figure S2. Raman spectrum of original lignite.

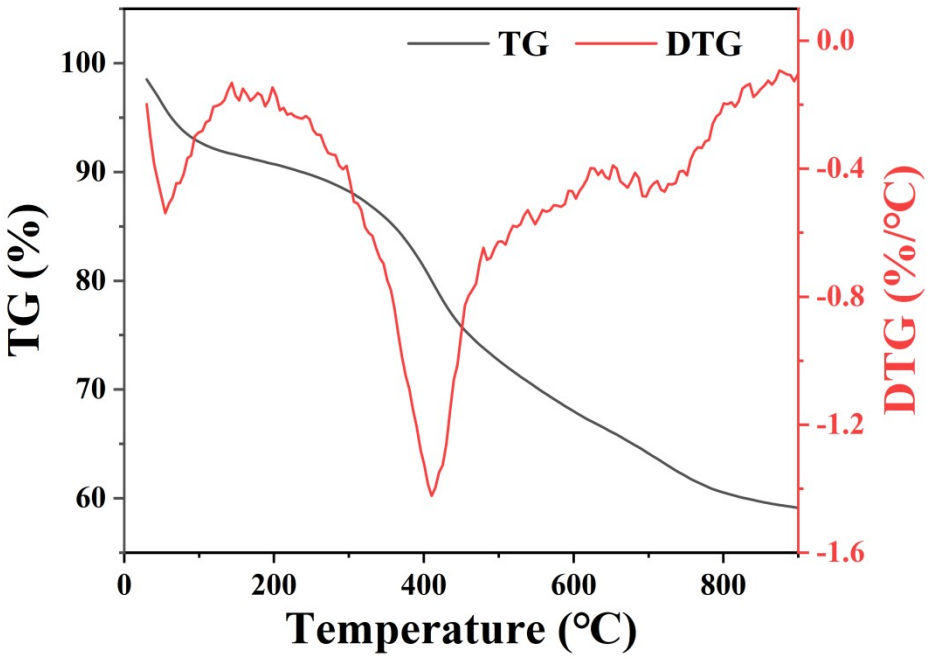

Figure S3. Thermogravimetric analysis of lignite samples.

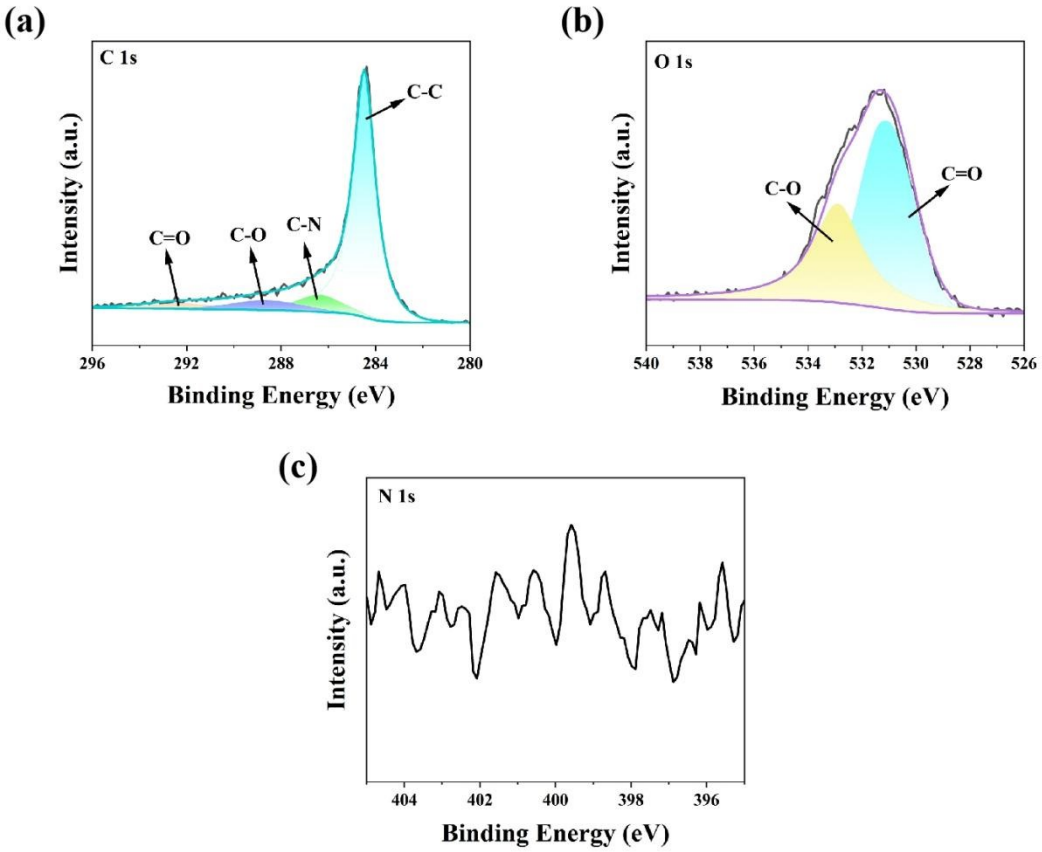

Figure S4. XPS spectra of (a) C 1s, (b) O 1s, and (c) N 1s for N-C/rGO-700.

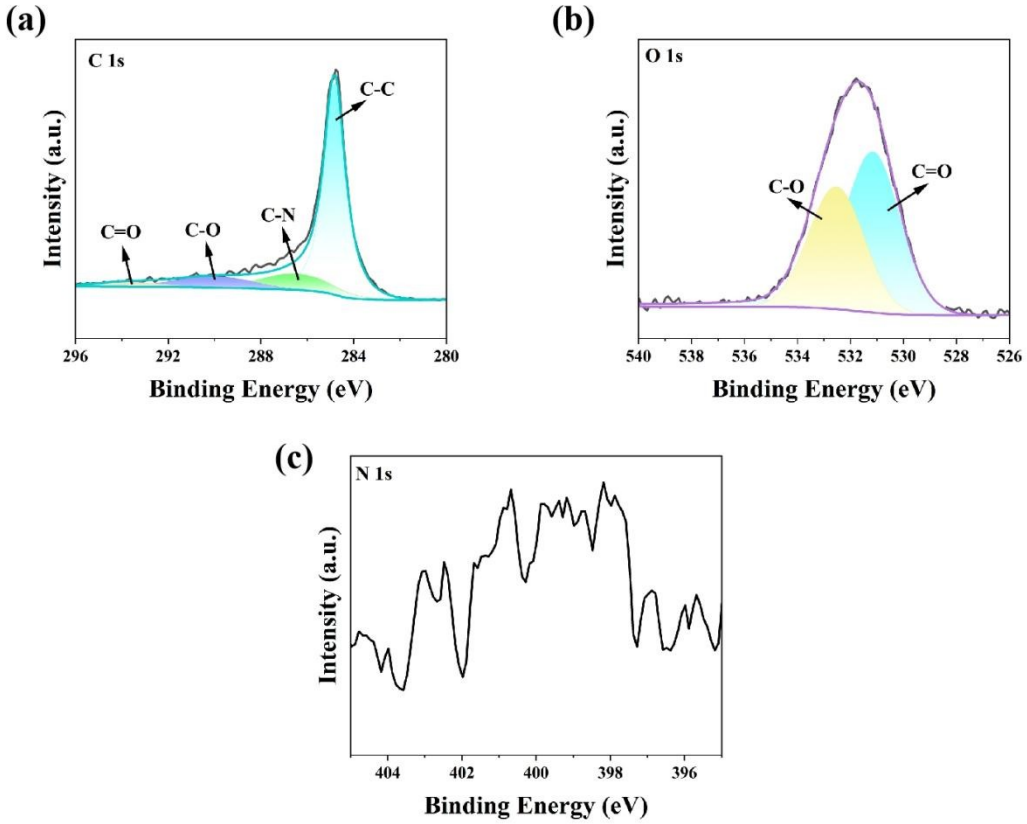

Figure S5. XPS spectra of (a) C 1s, (b) O 1s, and (c) N 1s for N-C/rGO-900.

Table S1 Comparison of the representative N-C/rGO-800 composite with carbon-based materials reported in literature.

Material	Specific Capacitance (F/g) at 1 A/g	Preparation Method	Electrolyte Type	Reference
AC-AC	126.88	Pyrolysis	Liquid	57
DP-900	167.7	Pyrolysis	Liquid	58
KOH-800	178.8	Pyrolysis	Liquid	59
AC-700	202	Pyrolysis	Gel	60
HC	118	Pyrolysis	Liquid	61
RC	135.5	Pyrolysis	Liquid	62
EDMCT	90	Hydrothermal method	Liquid	63
N-C/rGO-800	207	Pyrolysis	Liquid	This work