

Pd/C-based Sensor for Gas Sensing in Transformer Oil

Haidan Lin¹, Jiachang Guo¹, Daiyong Yang³, Shouxue Li¹, Dan Liu³, Changyan Liu¹, Zilong Zhang², Bolin Wang^{2,*}, Haifeng Zhang^{2,*}

1 Electric Power Research Institute, State Grid Jilin Electric Power Co., Ltd., Changchun, 130012, China; a125790709@163.com (H.L.); 1325377991@163.com (J.G.); X13629890704@163.com (S.L.); W8551191546@163.com (C.L.);

2 School of Chemical Engineering, Northeast Electric Power University, Jilin 132012, China; zilongzhang_neepu@163.com (Z.Z.);

3 Jilin Electric Power Research Institute Co., Ltd., Changchun, 130012, China; SR17662744213@163.com (D.Y.); a1772681@163.com (D.L.);

* Correspondence: bolinwang@neepu.edu.cn (B.W.); zhfeepu@163.com(H.Z.)

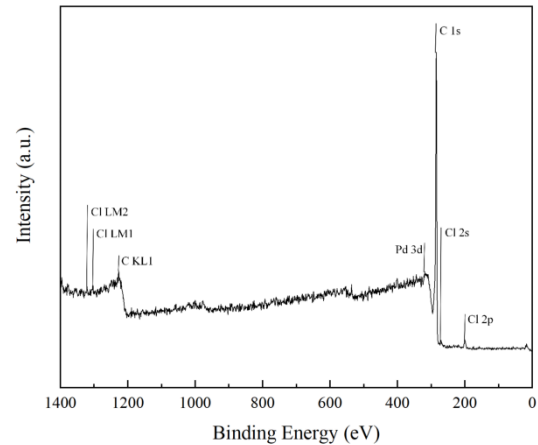


Figure S1 The survey XPS spectra of Pd-C.

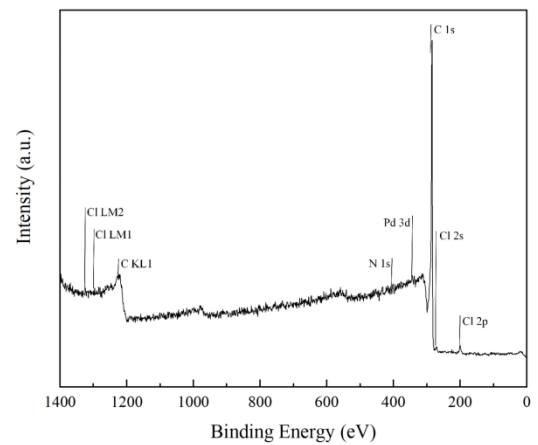


Figure S2 The survey XPS spectra of Pd-NC.

Table S1 The split peaks processing information of Pd/C.

Peak	Position BE	FWHM	RSF	Atomic	<i>Atomic</i>	<i>Mass</i>
------	-------------	------	-----	--------	---------------	-------------

	(eV)	(eV)		Mass	<u>Conc%</u>	<u>Conc%</u>
C 1s	284.500	1.394	0.278	12.011	<u>98.9</u>	<u>95.9</u>
Cl 2p	199.700	1.579	0.891	35.460	<u>1.0</u>	<u>2.9</u>
Pd 3d	336.800	0.889	5.356	106.534	<u>0.1</u>	<u>1.2</u>

Table S2 The split peaks processing information of Pd/NC.

Peak	Position BE	FWHM	RSF	Atomic	<u>Atomic</u>	<u>Mass</u>
	(eV)	(eV)		Mass	<u>Conc%</u>	<u>Conc%</u>
C 1s	284.550	1.613	0.278	12.011	<u>97.4</u>	<u>94.0</u>
Cl 2p	200.500	2.030	0.891	35.460	<u>1.3</u>	<u>3.8</u>
N 1s	400.750	0.677	0.477	14.007	<u>1.2</u>	<u>1.3</u>
Pd 3d	337.400	0.784	5.356	106.534	<u>0.1</u>	<u>0.9</u>

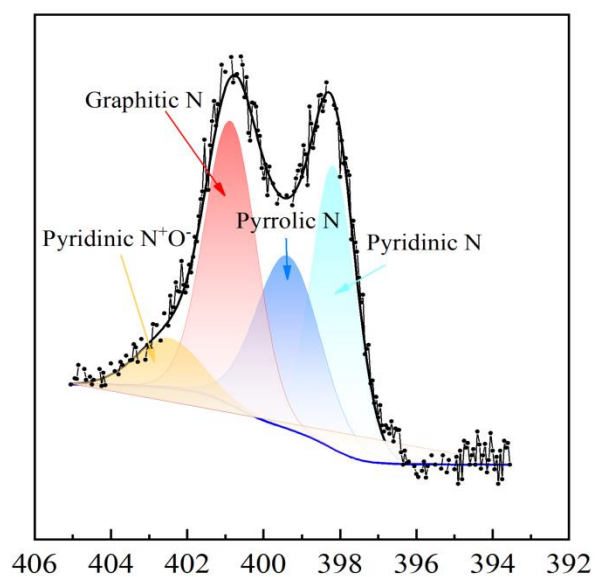


Figure S3 The N1s spectrum for Pb/NC.