

Palladium Phthalocyanine Nanowire-Based Highly Sensitive Sensors for NO_{2(g)} Detection

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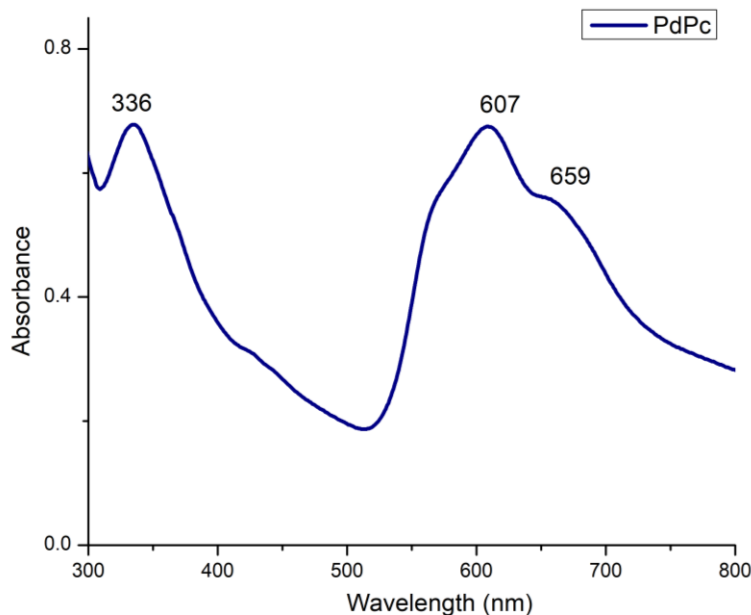


Figure S1 *Uv-vis spectroscopy of palladium phthalocyanine powder in dimethylformamide (DMF)*

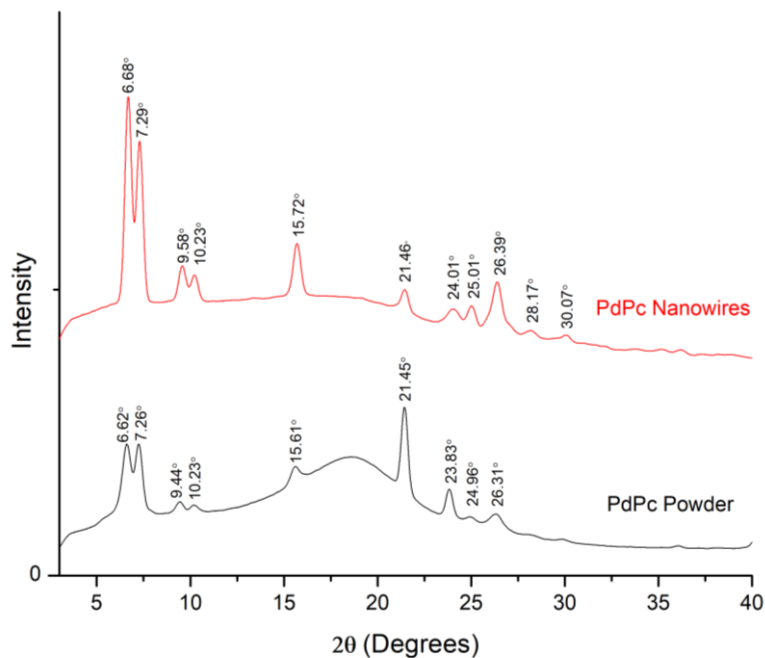


Figure S2 X-Ray Diffraction (XRD) patterns of palladium phthalocyanine nanowires (top) and powder (bottom)

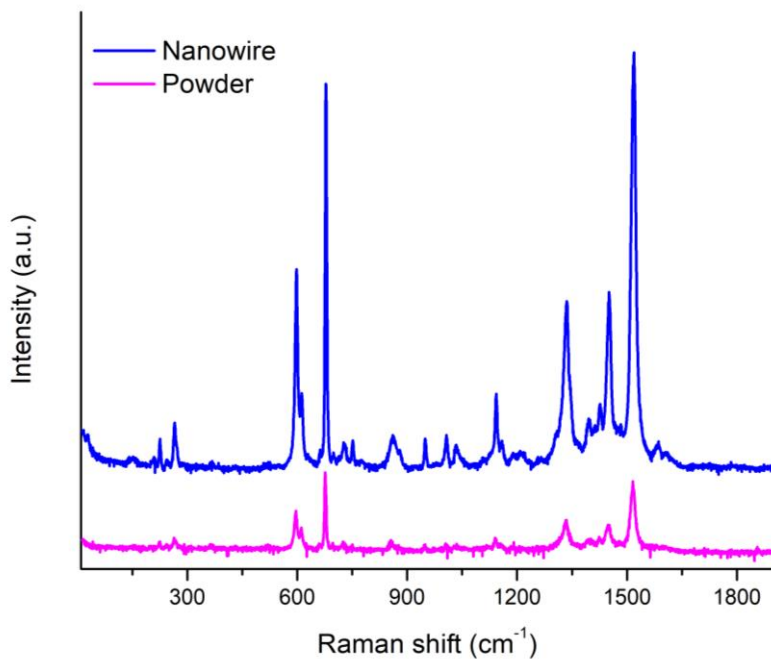
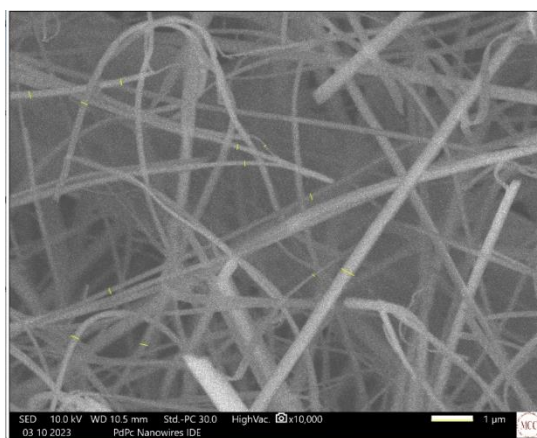


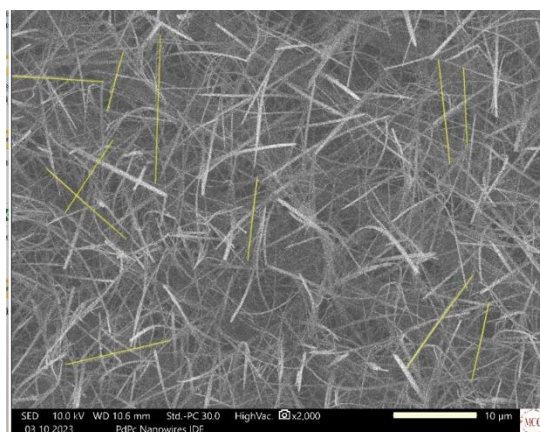
Figure S3 Raman Shifts (cm^{-1}) of PdPc Nanowires (blue), powder (pink)



	Length (μm)
1	0.15
2	0.17
3	0.18
4	0.36
5	0.07
6	0.14
7	0.12
8	0.11
9	0.04
10	0.13
11	0.19
12	0.18
13	1

Scale Measurement

Figure S4 Thickness measurements of PdPc NWs.



	Length (μm)
1	9.1
2	12.3
3	10.1
4	7.3
5	10.8
6	17.7
7	10.3
8	12.8
9	12.7
10	13.6
11	9.4
12	10

Scale Measurement

Figure S5 Length measurements of PdPc NWs.

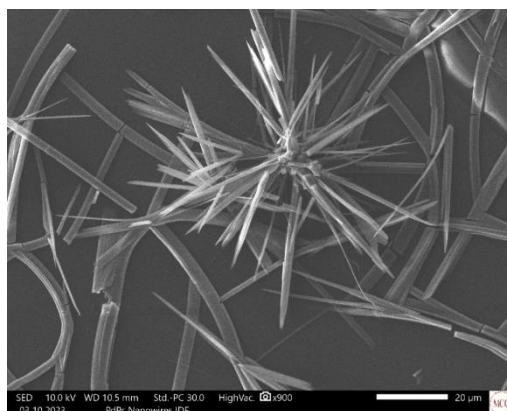
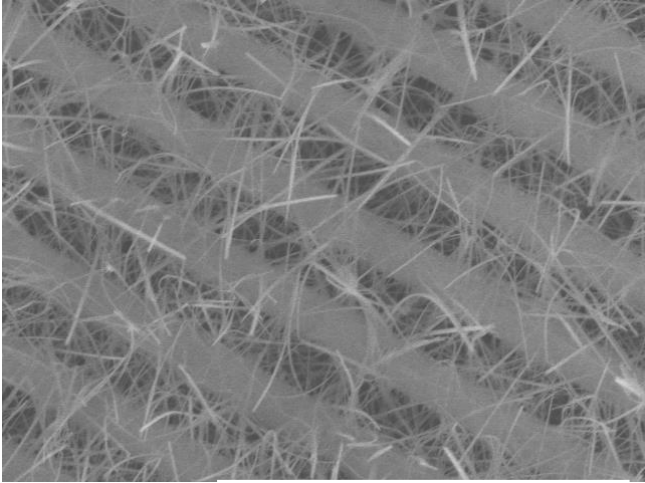


Figure S6 Scanning electron microscopy (SEM) of palladium phthalocyanine nanoflower

PdPc Nanowires IDE



10 μ m

Element	Line	Mass%	Atom%
C	K	51.78 \pm 0.05	70.00 \pm 0.07
N	K	14.64 \pm 0.13	16.97 \pm 0.15
O	K	7.73 \pm 0.06	7.84 \pm 0.06
Si	K	5.67 \pm 0.02	3.28 \pm 0.01
Pd	L	3.54 \pm 0.02	0.54 \pm 0.00
Au	M	16.64 \pm 0.05	1.37 \pm 0.00
Total		100.00	100.00
PdPc Nanowires IDE		Fitting ratio 0.0754	

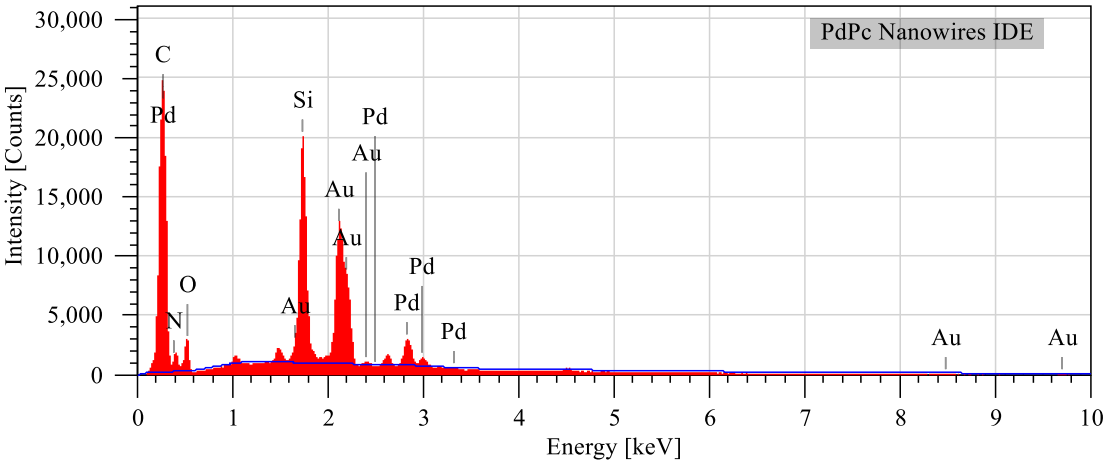
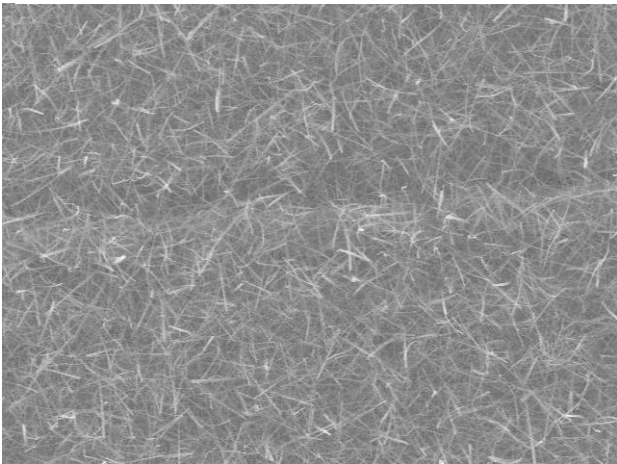


Figure S7 Energy dispersive spectroscopy (EDS) analysis of PdPc nanowires on interdigitated gold electrode (IDE)

PdPc Nanowires



10 μm

Element	Line	Mass%	Atom%
C	K	43.10±0.11	61.21±0.15
N	K	5.40±0.09	6.58±0.11
O	K	0.56±0.02	0.60±0.02
Al	K	49.67±0.06	31.41±0.04
Pd	L	1.27±0.02	0.20±0.00
Total		100.00	100.00
PdPc Nanowires		Fitting ratio 0.0063	

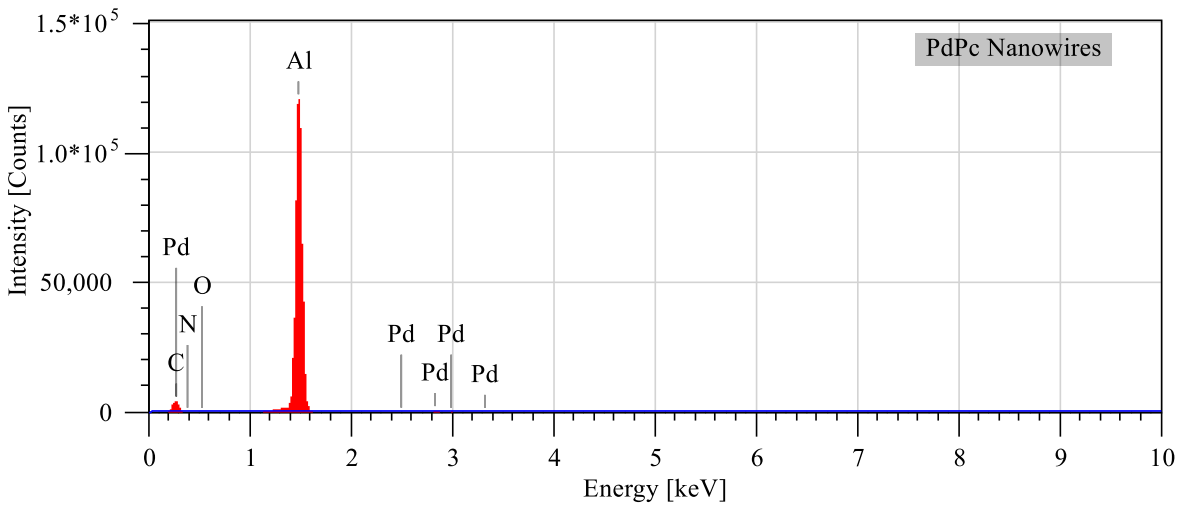
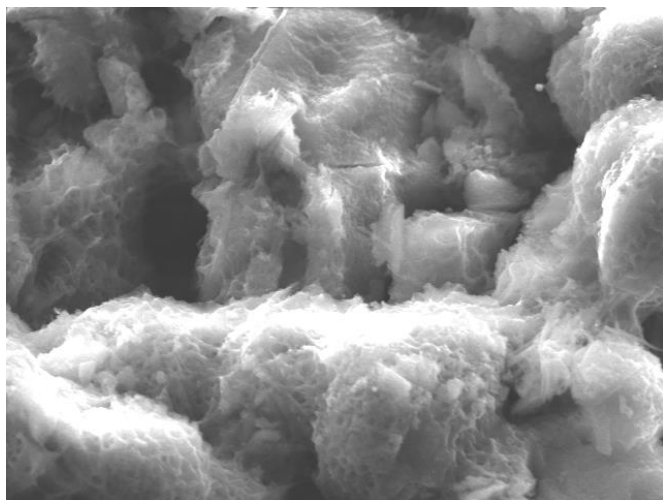


Figure S8 Energy dispersive spectroscopy (EDS) analysis of PdPc nanowires on aluminum substrate.

PdPc Powder



Element	Line	Mass%	Atom%
C	K	51.08±0.04	63.39±0.05
N	K	32.20±0.18	34.27±0.19
Pd	L	16.72±0.05	2.34±0.01
Total		100.00	100.00
PdPc Powder		Fitting ratio 0.1914	

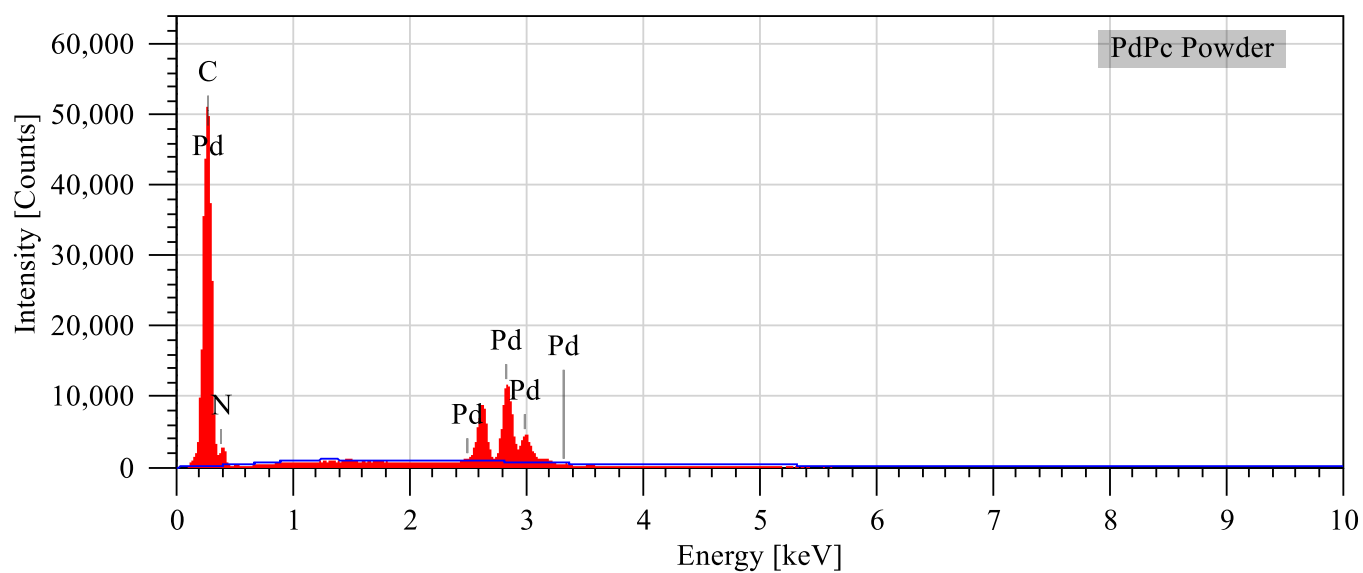


Figure S9 Energy dispersive spectroscopy (EDS) analysis of PdPc powder.

Table S1. Gas Sensing Experiments

Material	# of Repetitions	Tested Gas	Gas Concentration
PdPc Nanowires	8	NO ₂	0.5 ppm
PdPc Nanowires	3	NO ₂	1 ppm
PdPc Nanowires	4	NO ₂	4 ppm
PdPc Nanowires	2	NO ₂	10 ppm