

# Supporting Information

## Ammonia sensing performance of polyaniline coated polyamide-6 nanofibers

Zengyuan Pang,<sup>a</sup> Erol Yildirim,<sup>b</sup> Melissa A. Pasquinelli\*<sup>c</sup> and Qufu Wei\*<sup>a,d</sup>

a. Key Laboratory of Eco-Textiles, Ministry of Education, Jiangnan University, Wuxi 214122, Jiangsu, China.

b. Department of Chemistry, Middle East Technical University, 06800 Ankara, Turkey.

c. College of Natural Resources, North Carolina State University, 2820 Faucette Drive, Raleigh, North Carolina 27695, United States.

d. Minjiang University, Fuzhou 350108, Fujian, China

E-mail of corresponding authors: melissa\_pasquinelli@ncsu.edu; qfwei@jiangnan.edu.cn

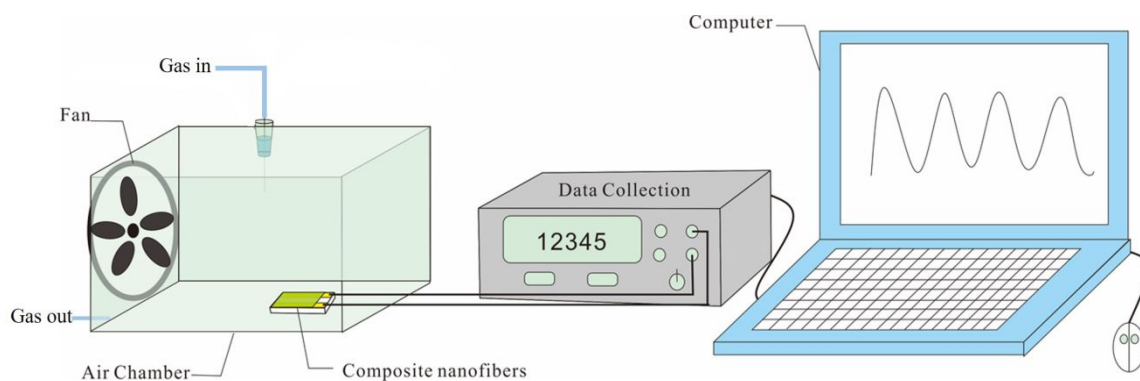


Figure S1. Schematic illustration of the home-made gas sensing test system

Table S1. Response time to ammonia in this work and those reported in the literatures

Device	Ammonia concentration / ppm	Response time / s	Working temperature	Reference
PANI film deposited on PET substrate	200	191	RT	1
Carbon nanotubes and HCSA doped-polyaniline composite films	1000	167±12	RT	2
p-type 0.75 wt% rGO-SnO <sub>2</sub>	50	60	RT	3
MoS <sub>2</sub> /graphene	100	300	100 °C	4
Pt/GaOx/GaN	200	~150	523 K	5
PA6/PANI composite nanofibers	100	28	RT	this work
	200	27		
	50	40		

RT stands for room temperature

#### References

1. Kumar, L.; Rawal, I.; Kaur, A.; Annapoorni, S. Flexible room temperature ammonia sensor based on polyaniline. *Sensor. Actuat. B-Chem.* **2017**, *240*, 408-416.
2. Eising, M.; Cavab, C. E.; Salvatierra, R. V.; Zarbin, A. J. G.; Roman, L. S. Doping effect on self-assembled films of polyaniline and carbonnanotube applied as ammonia gas sensor. *Sensor. Actuat. B-Chem.* **2017**, *245*, 25-33.
3. Feng, Q. X.; Li, X. G.; Wang, J. Percolation effect of reduced graphene oxide (rGO) on ammonia sensing of rGO-SnO<sub>2</sub> composite based sensor. *Sensor. Actuat. B-Chem.* **2017**, *243*, 1115-1126.
4. Cho, B.; Yoon, J.; Lim, S. K.; Kim, A. R.; Kim, D. H.; Park, S. G.; Kwon, J. D.; Lee, Y. J.; Lee, K. H.; Lee, B. H.; Ko, H. C.; Hahm, M. G. Chemical sensing of 2D gaphene/MoS<sub>2</sub> heterostructure device. *ACS Appl. Mater. Inter.* **2015**, *77*, 16775-16780.
5. Liu, I. P.; Chang, C. H.; Ke, B. Y.; Lin, K. W. Ammonia sensing performance of a GaN-based Schottky diode incorporating a platinum thin film and a GaOx dielectric. *IEEE Sens. J.* **2019**, *19*, 10207-10213.