Supporting Information

Effect of oxygen functional groups in reduced graphene oxide-coated silk electronic textiles for enhancement of NO_2 gas sensing performance

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Table S1. The response of the rGO-based e-textile NO_2 sensors.

Sample	Temp. (°C)	Condition	NO_2 (ppm)	Response (%)	References
rGO/Silk	**25**	**Dry**	**1.0**	**15.5**	**This work**
rGO/Nylon-6	100	Dry	1.2	14.0	*Nanoscale 2014, 6, 6511-6514*
rGO/Cotton Yarn	RT	Dry	1.25	12.0	*Sci. Rep. 2015, 5, 10904*
rGO/Polyester Yarn	RT	Dry	1.25	12.0	
rGO/CT/ET Fiber	RT	Dry	1.0	7.0	*ACS Sens. 2019, 4, 10, 2809–2818*
rGO/Cotton Yarn	RT	Dry	2.5	< 10.0	*Sens. Actuators B-Chem. 2017, 248, 829-835*
rGO/Nylon Mesh Fiber	RT	RH 80%	1.0	13.6	*Sens. Actuators B-Chem. 2018, 257, 846-852*
rGO/polyester sheet	RT	Dry	1.0	2.75	*Sens. Actuators B-Chem. 2021, 345, 130361*
rGO coated yarn	RT	RH 25%	1.5	15.0	*RSC. Adv. 2018, 8, 11991-11996*
rGO/polyester, spandex yarn	RT	Dry	5.0	> 15	*RSC Adv. 2018, 8, 7615-7621*
planar rGO sheet	RT	Dry	1.0	3.7	*ACS Appl. Mater. Interfaces 2019, 11, 9309-9316*
rGO thin film	90	Dry	1.0	~4	*Appl.Surf. Sci. 2018, 456, 7-12*

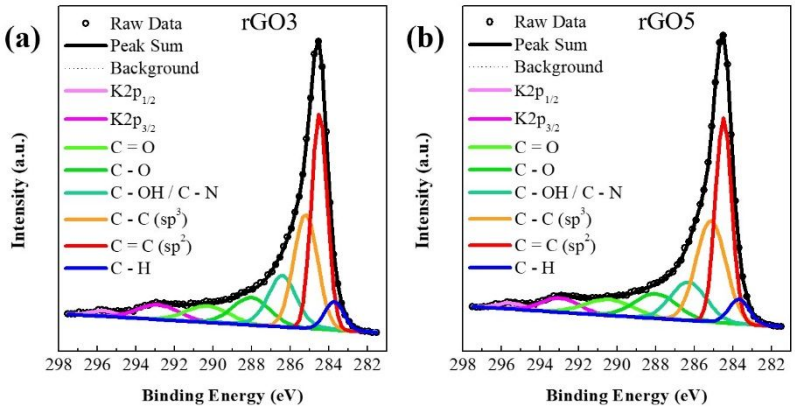

Figure S1. XPS C1s spectra of (a) rGO3 and (b) rGO5.

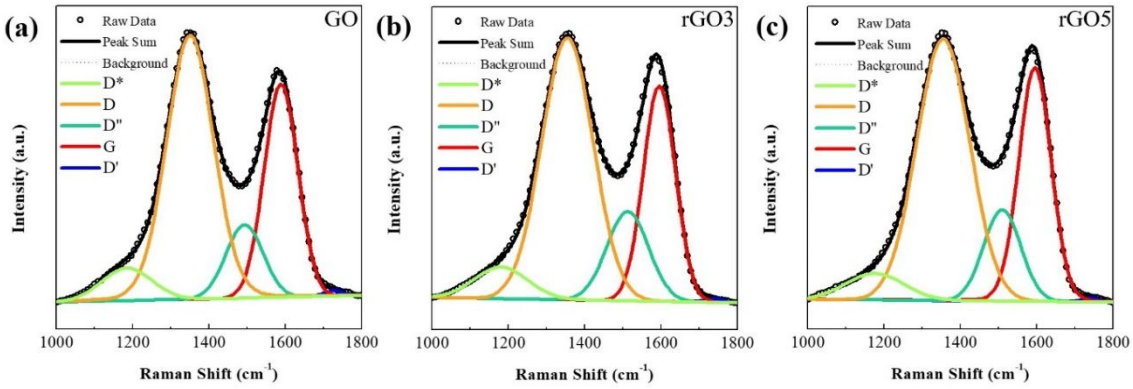

Figure S2. The fitted Raman spectra of (a) GO, (b) rGO3, and (c) rGO5.

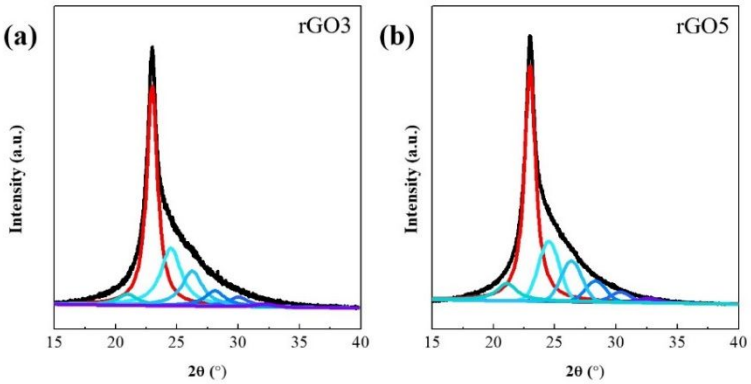

Figure S3. The amorphous structure overlapped (002) lattice plane of (a) rGO3 and (b) rGO5.

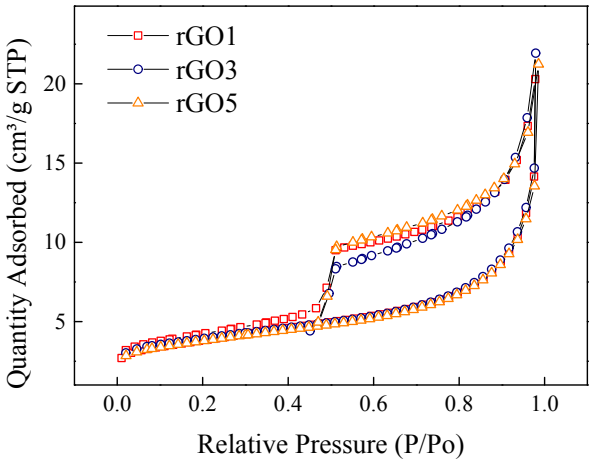

Figure S4. N_2 sorption isothermals of rGOn at 77 K.

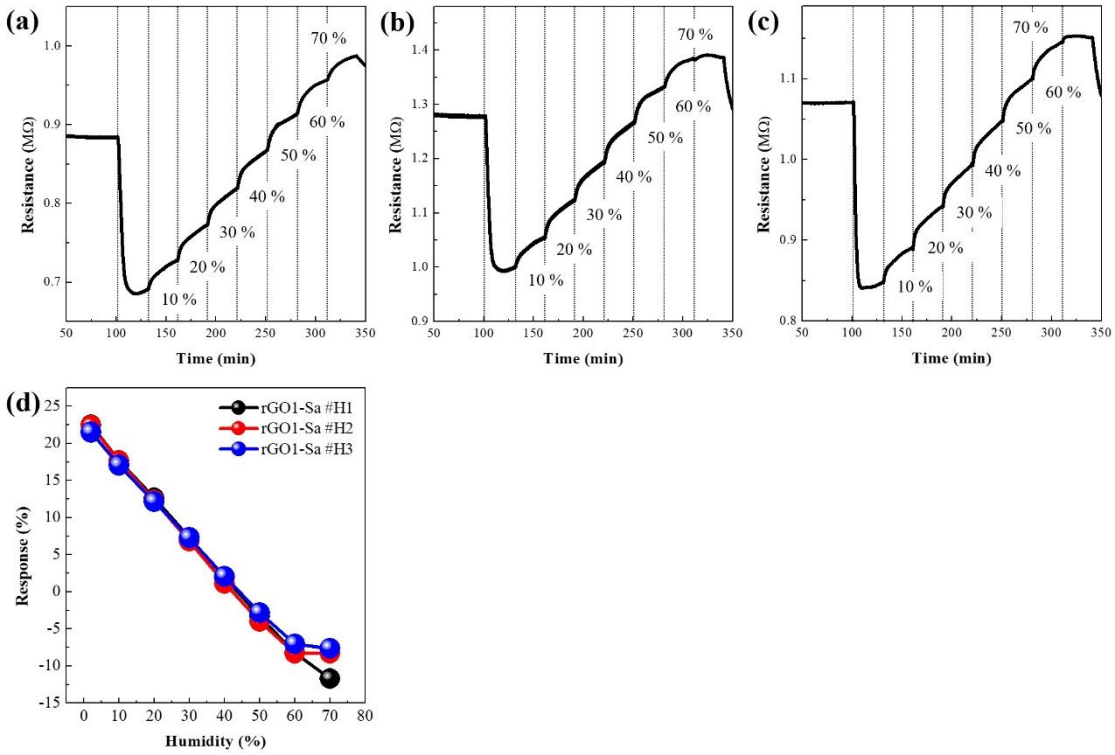

Figure S5. The resistance variance of (a) rGO1-Sa #H1, (b) rGO1-Sa #H2, and (c) rGO1-Sa #H3 reduced heating rate 1℃/min. (d) The sensing response of the three rGO1-Sa samples as a function of humidity.

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