Selective Ethanol Vapor Sensing Enabled by Amine-Functionalized MOF–Polyetherimide Hybrid Membranes

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Table S1. Performance comparison of the PEI/NH_2-MOF-71 membrane sensor with commercial and state-of-the-art FET-based VOC sensors

Sensor Technology	LOD (ppm)	Operating Temperature (°C)	Response Time (s)	Recovery Time (s)	Reference
PEI/NH_2-MOF-71	8–12	25 (RT)	~300	~360	(This work)
FET (Figaro TGS2620)	50–100	250	10-30	60-120	Figaro datasheet
SnO_2-based FET sensor	10-50	300–350	5-20	30–90	Sens. Actuators B, 2020
ZnO nanowire FET	5-20	200–300	15-45	40–100	ACS Sens., 2019
PEDOT:PSS chemiresistor	20-40	25 (RT)	180–240	200-300	Adv. Mater., 2021

[1] Figaro TGS2620 - Figaro Engineering Inc.
Product Information: TGS2620 - for the detection of solvent vapors
Available at: https://www.figarosensor.com/product/docs/TGS2620%20(for%20the%20detection%20of%20solvent%20vapors).pdf
Datasheet: https://www.figaro.co.jp/en/product/docs/tgs2620_product%20spec_rev04.pdf
[2] Sensirion SGP30 - Sensirion AG
Product Page: SGP30 Multi-Pixel Gas Sensor
Available at: https://www.sensirion.com/en/environmental-sensors/gas-sensors/sgp30/
Datasheet: https://www.sensirion.com/fileadmin/user_upload/customers/sensirion/Dokumente/9_Gas_Sensors/Datasheets/Sensirion_Gas_Sensors_Datasheet_SGP30.pdf
Sens (SnO2)
Kaur, N., Singh, M., & Comini, E. (2020). One-dimensional nanostructured oxide chemoresistive sensors. Langmuir, 36(23), 6326-6344.
DOI: https://doi.org/10.1021/acs.langmuir.0c00701
ZnO

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Zhu, C., Shum, H. C., Letalleur, A., Yang, W., Ben Ishai, P., Sato, K., ... & Choong, C. (2021). Stretchable temperature-sensing circuits with strain suppression based on carbon nanotube/graphene composite. Nature Communications, 12(1), 4298.
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