Supporting Information

Detection of medically relevant volatile organic compounds by graphene field-effect transistors and separated by low-frequency spectral and time signatures.
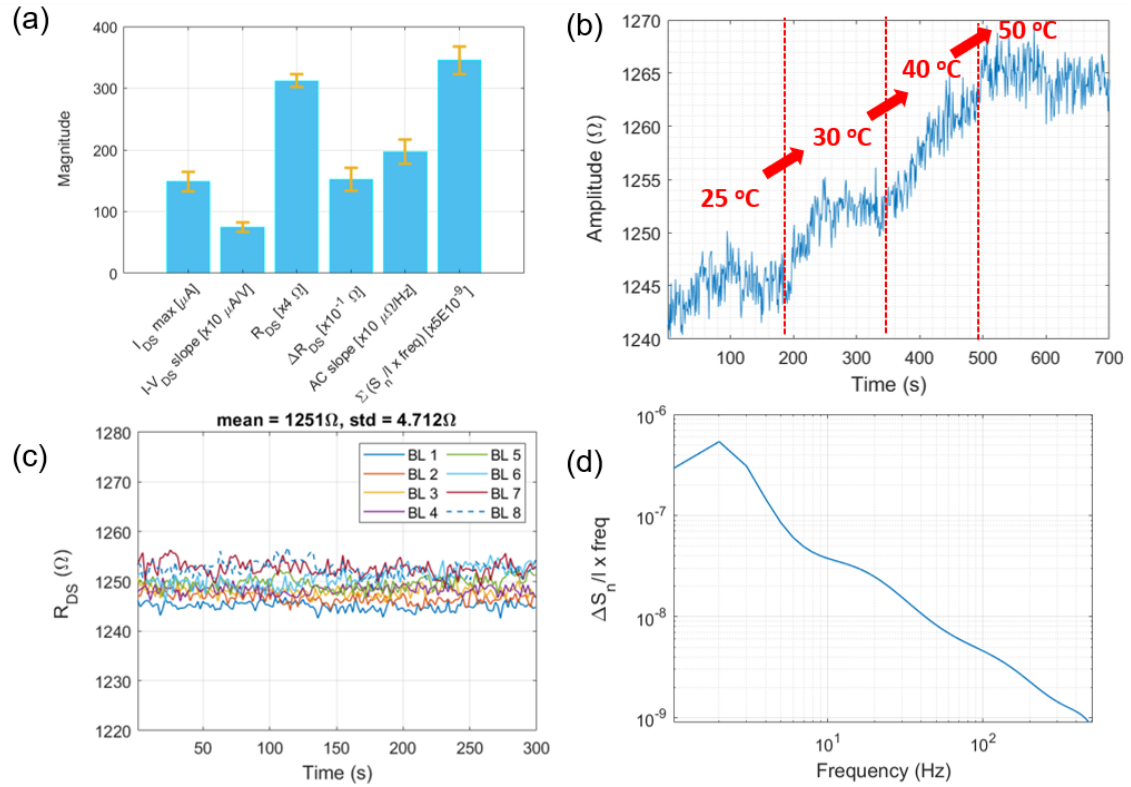
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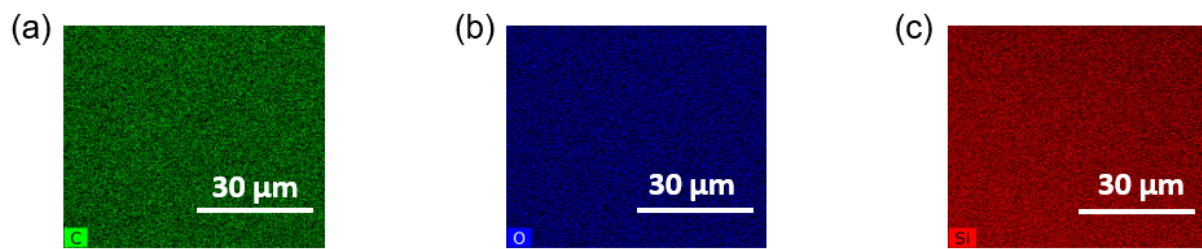
Figure S1 – EDX mapping of the elements composing the graphene channel. **(a)** Carbon (C). **(b)** Oxygen (O). **(c)** Silicon (Si).

Figure S2 – (a) Statistical metrics – average and standard deviation – calculated amongst the 12 graphene channels available on the system, with different electrical signal modalities measured: maximum current amplitude (I_{DS} max) and linear slope (I_{DS} -V_{DS} slope) for the DC measurements, resistance value (R_{DS}), resistance variation (ΔR_{DS}) and slope for the AC measurements, and statistical power ($\Sigma S_n/I$ x freq) for the band-limited spectral noise measurements. **(b)** Variation of the graphene resistance (R_{DS}) due to increasing chamber temperature (hotplate) and without flow of gas passing through the GFET chip array. **(c)** Exemplary baseline curves (BL1 to BL8) recorded for pure nitrogen flow during the cyclic time measurements of R_{DS} and associated statistical metrics (average and standard deviation). **(d)** Baseline spectral noise measured for nitrogen and used as a template for signal subtraction from the noise curves obtained for the individual VOCs.