

Supporting Information:

QD/SnO₂ Photoactivated Chemoresistive Sensor for Selective Detection of Primary Alcohols at Room Temperature

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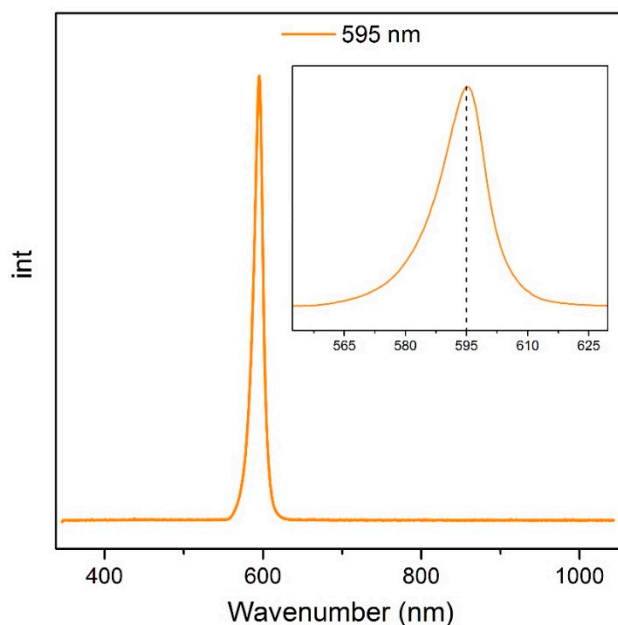


Figure S1. The emission spectrum of the yellow LED.

LED characteristics:

Flux Characteristics, $T_J = 25^\circ\text{C}$

Radiation Pattern: Lambertian. Luminous Flux - 137 lm (typical), 114 (minimum).

Electrical Characteristics, $T_J = 25^\circ\text{C}$

Forward Voltage - 2-3.25 V (700 mA).

Parameters used in the work: voltage - 3 V, current - 40 mA.

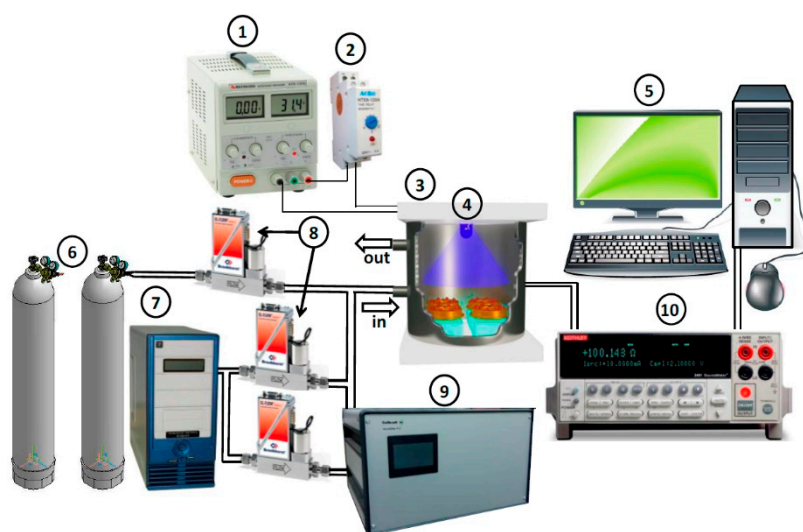


Figure S2. Schematization of the experimental setup. (1) QJ2002C DC Power Supply (Ningbo JiuYuan Electronic, China); (2) REV-114 Time Relay (Novatek-Electro, Russia); (3) Teflon sealed light-proof chamber; (4) LED (Epileds Co. China); (5) Personal computer; (6) Attested gas mixtures (Monitoring, Russia); (7) Pure Air Generator (Khimelectronics, Russia); (8) Electronic gas flow controllers (RRG-12, Eltochpribor, Russia); (9) Humidifier; (10) electronic module providing sensor heating control and high-precision measurement of the resistance of the sensitive layer.

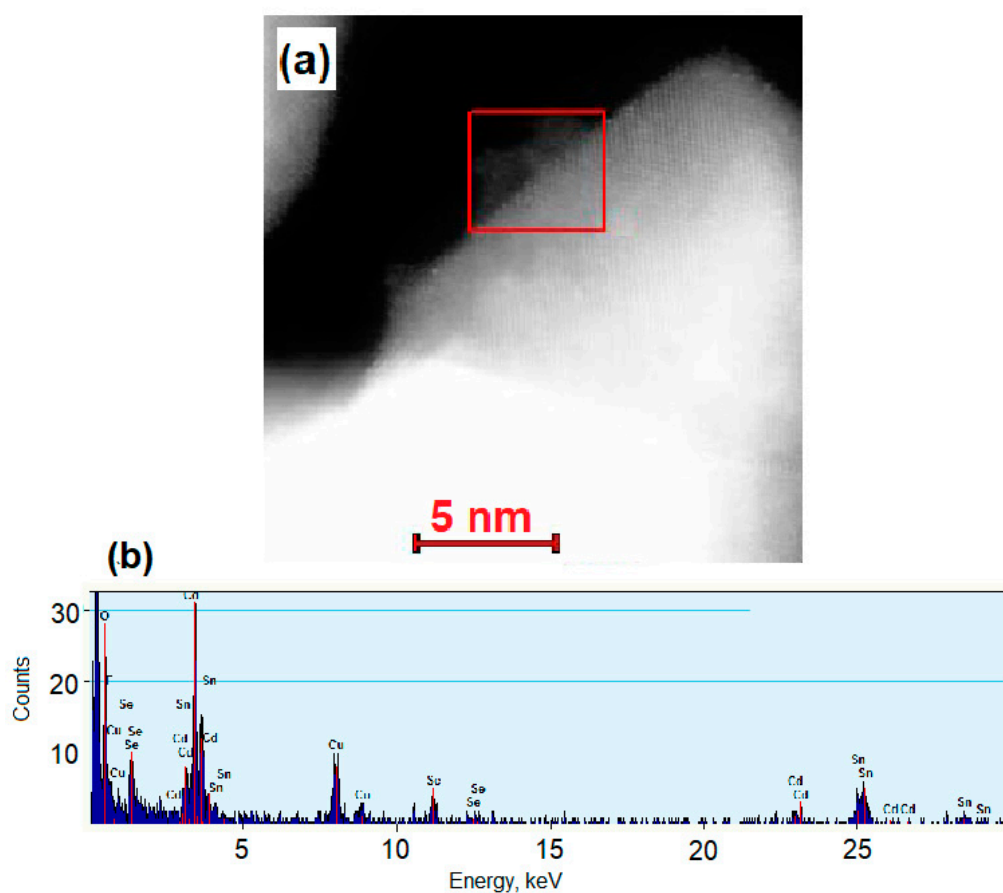


Figure S3. (a) HAADF-STEM image of the SnO₂ matrix with attached CdSe QDs and the (b) EDX spectrum from the selected area confirming a presence of Cd and Se.

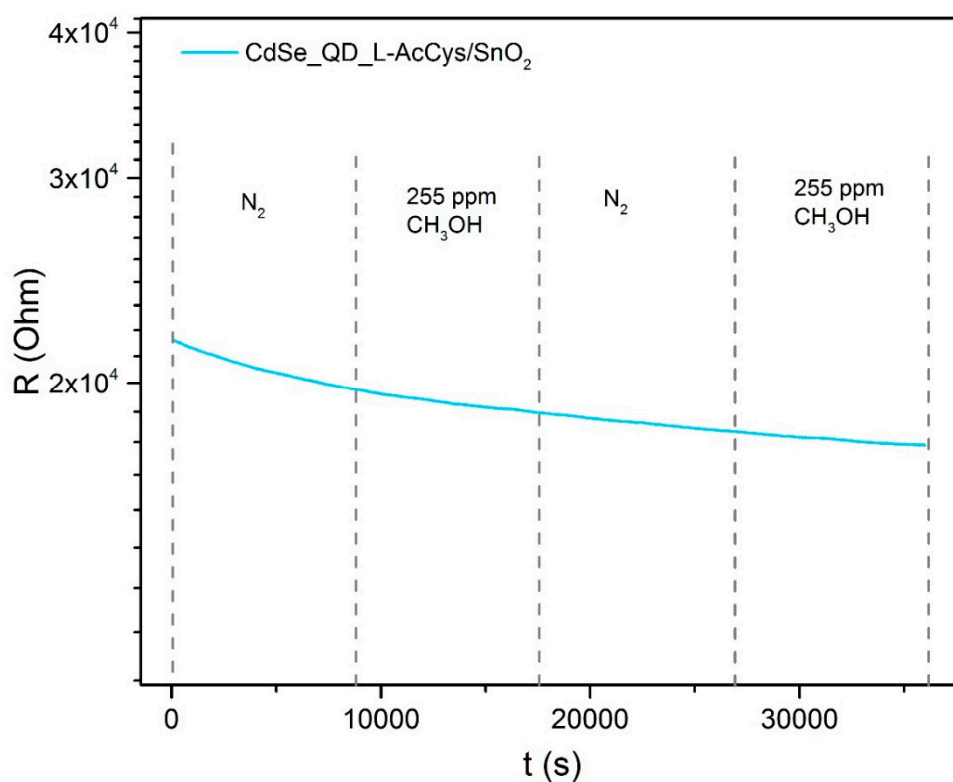


Figure S4. Typical sensor response of CdSe_QD_L-AcCys/SnO₂ nanocomposite to 100 ppm CH₃OH without irradiation of the LED.