

# Unveiling the capability of graphitic carbon nitride-rhenium disulfide nanocomposite as an electrochemical sensing platform for the detection of dimetridazole from human serum samples

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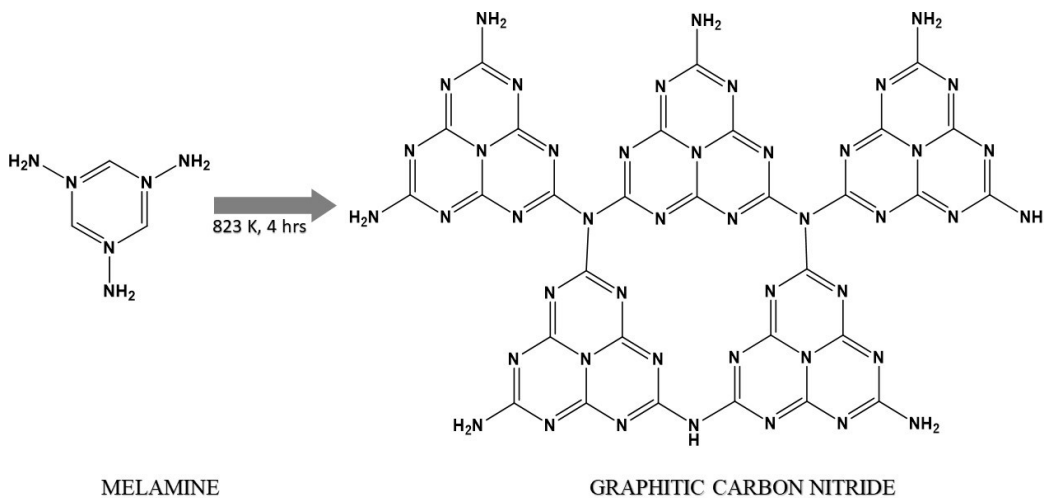
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## SUPPORTING INFORMATION

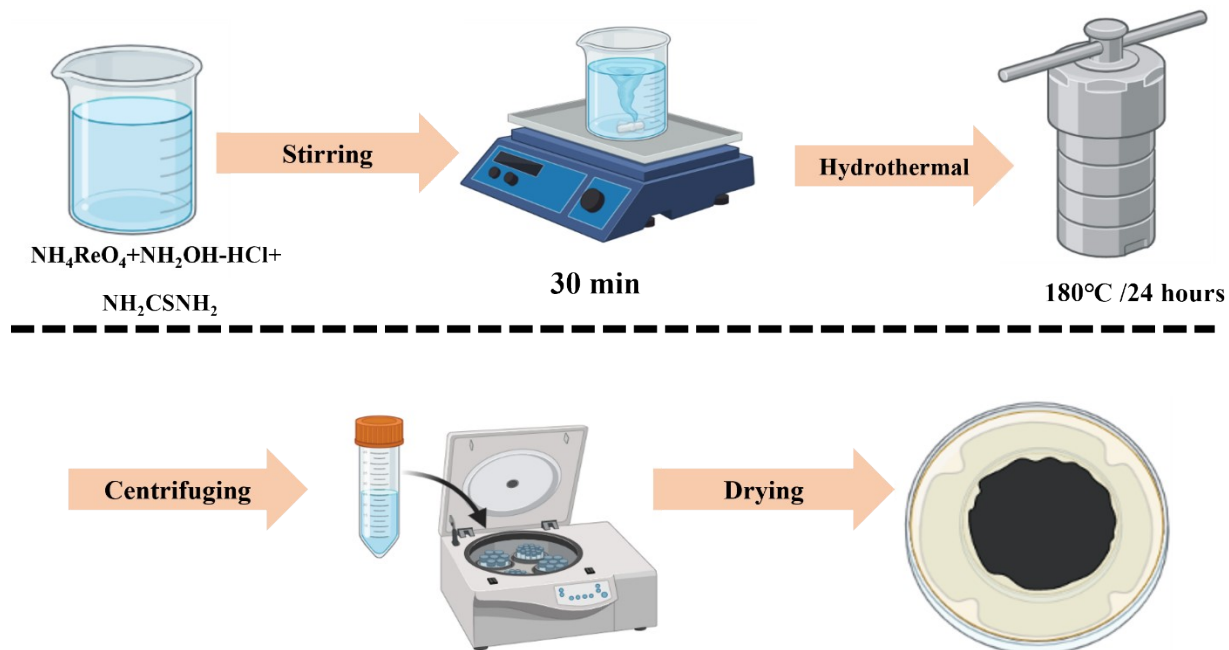
### Chemicals and Reagents

Ascorbic acid (AA), glucose (Glu), Dopamine (DA), Uric acid (UA) ammonium perrhenate, sodium chloride, thioacetamide, thiourea, sodium dihydrogen phosphate, and disodium hydrogen phosphate, serotonin, melamine as well as human serum, were purchased from Sigma-Aldrich. Likewise, hydroxyl ammonium chloride was purchased from Avra Chemicals. Metronidazole and Tinidazole were purchased from JB Chemicals and Pharmaceuticals Ltd and Zydus

healthcare Ltd respectively. Carbon cloth (CC) was purchased from Sainergy fuel cell India Pvt. Ltd.



Scheme S1: Schematic diagram of synthesis of CN from melamine. The authors have drawn this figure using Chemdraw software.



Scheme S2. Schematic diagram of hydrothermal synthesis of  $\text{ReS}_2$ .

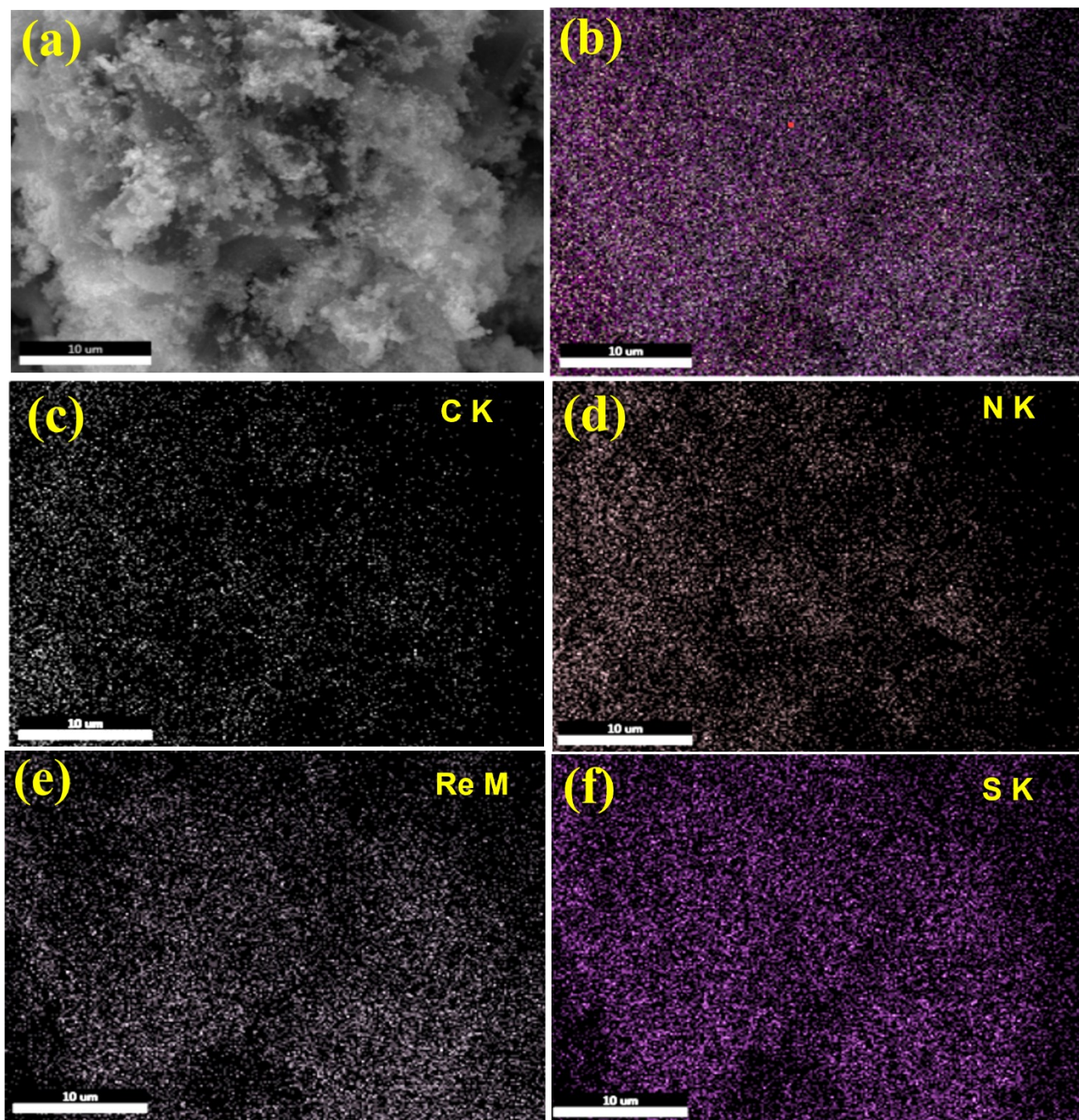


Figure S1. (a) SEM image of CN-ReS<sub>2</sub>, (b-f) elemental mapping image of CN-ReS<sub>2</sub>.

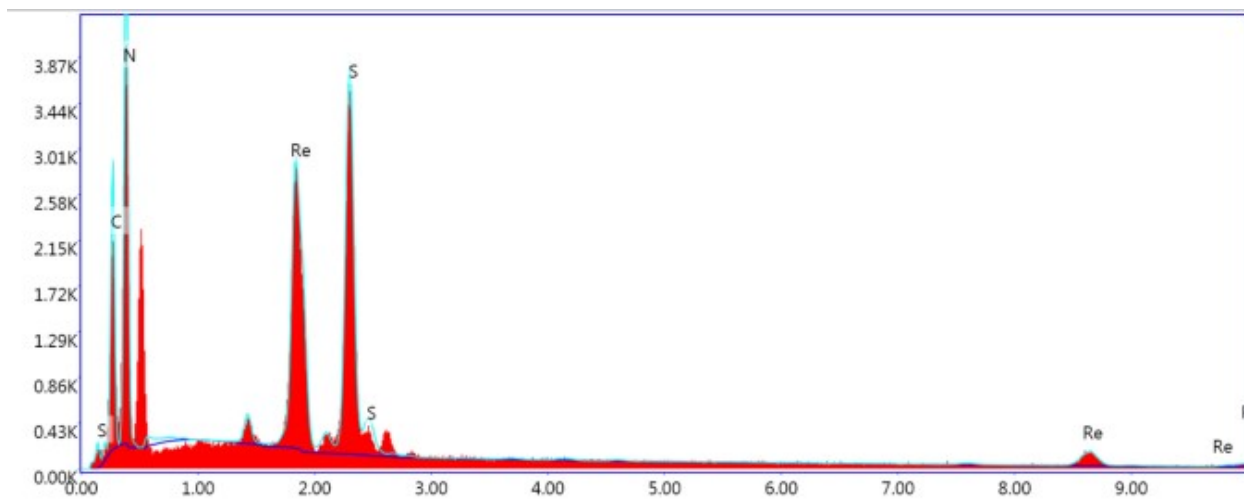


Figure S2. EDS spectra of CN-ReS<sub>2</sub>.

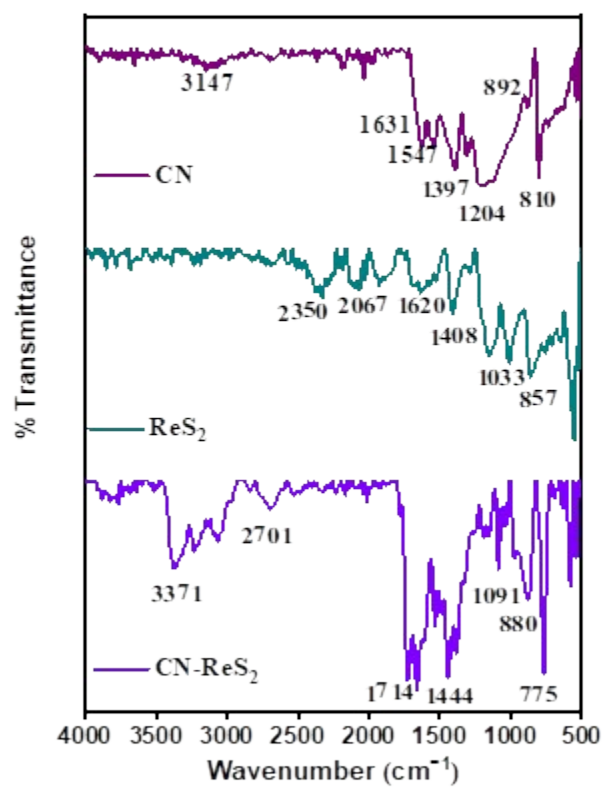


Figure S3. FTIR spectra of CN, ReS<sub>2</sub> and CN-ReS<sub>2</sub>.



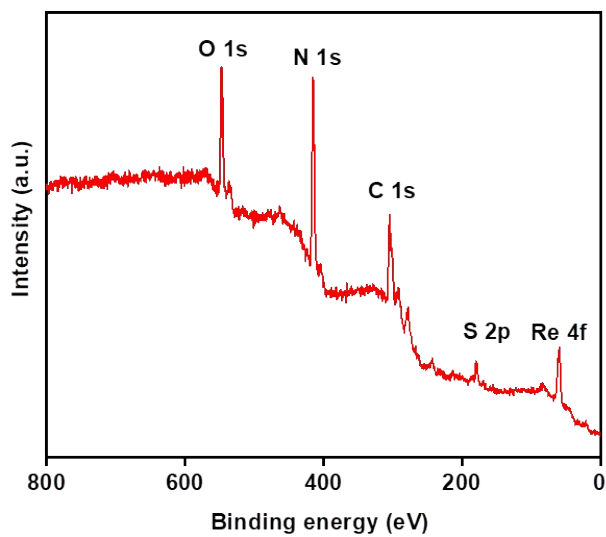


Figure S4. XPS survey spectrum of CN-ReS<sub>2</sub>.

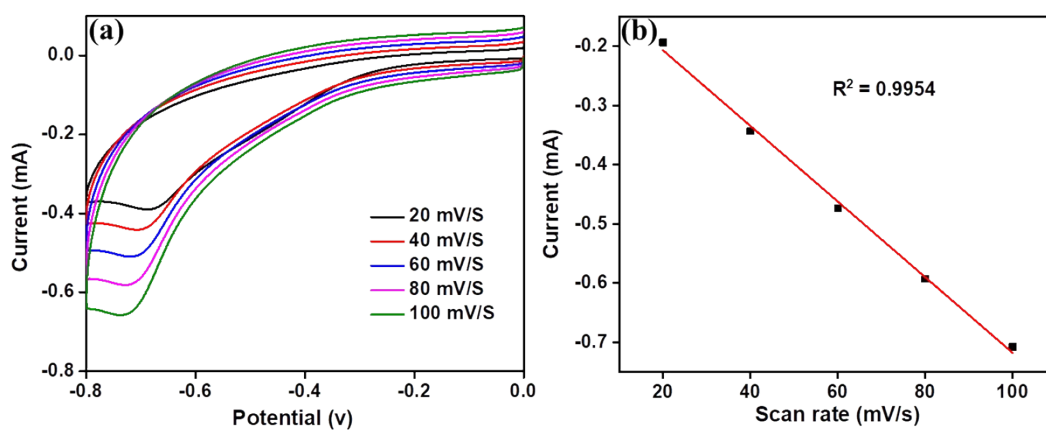


Figure S5. (a) CV curves of CN-ReS<sub>2</sub>-3/CC at different scan rates from 20 to 100 mV/s. (b) Calibration plot of scan rate vs current obtained from CN-ReS<sub>2</sub>-3 showing linear relationship.

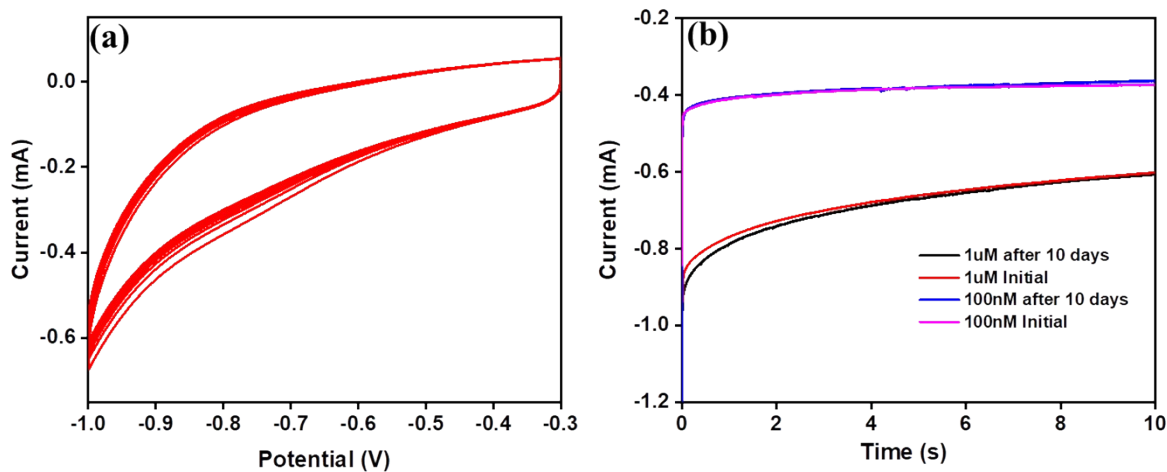


Figure S6.(a) CV plot showing operational stability of CN-ReS<sub>2</sub>-3 for 10 segments in 0.1M PB. (b) Chronoamperometric curves corresponding to the storage stability of the sensor.

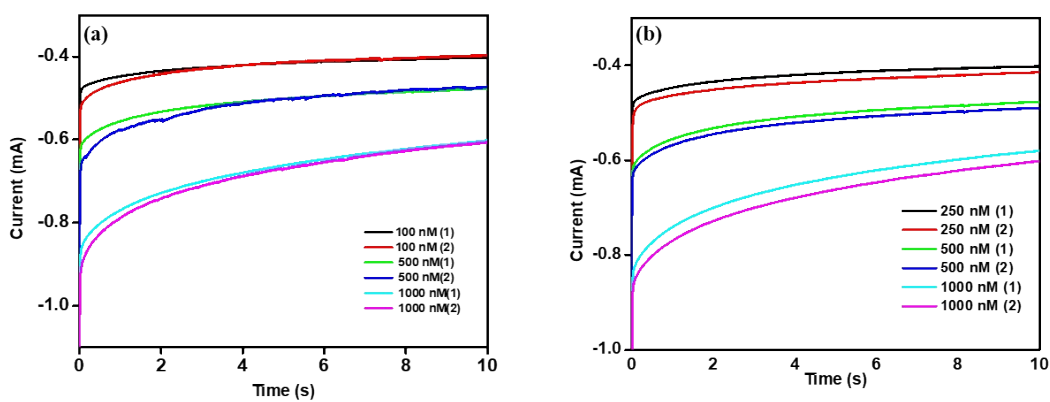


Figure S7 (a) Chronoamperometric plot of reproducibility of sensor. (b) Chronoamperometric plots showing repeatability of sensor

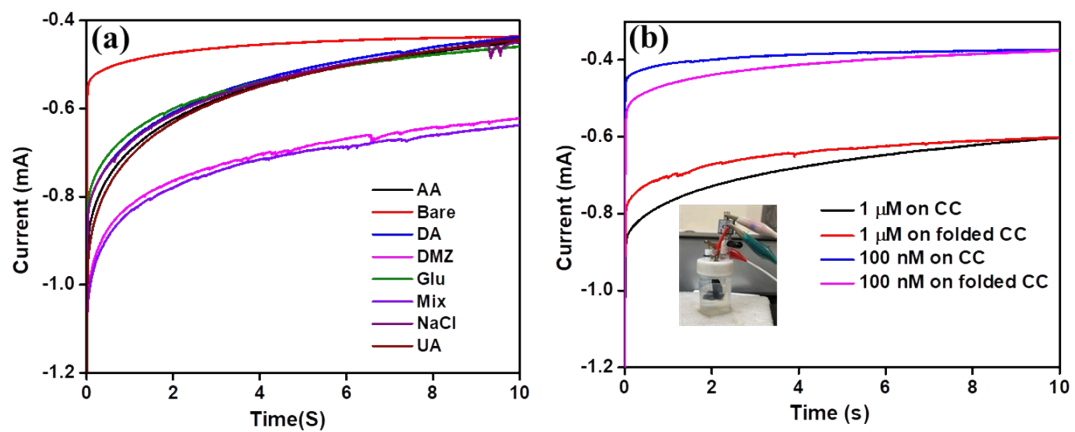


Figure S8. (a) Chronoamperometric response showing selectivity of the CN-ReS<sub>2</sub>-3/CC towards DMZ detection (b) Chronoamperometric response of the sensor in bend form showing its flexible nature.