

## Supplementary File

### **SrMnO<sub>3</sub>/functionalized h-BN composite modified disposable sensor for the voltammetric determination of furaltadone antibiotic drug**

Krishnan Venkatesh<sup>1</sup>, Ramachandran Rajakumaran<sup>2</sup>, Shen-Ming Chen<sup>2</sup>, Periyakaruppan Karuppasamy<sup>3</sup>, Artur Banach<sup>4</sup>, Wedad A. Al-onazi<sup>5</sup>, Selvam Sonadevi<sup>6</sup>, Nattamai Perumal Krishnan<sup>7,\*</sup>, Chun-Chen Yang<sup>8,9,\*</sup> and Chelladurai Karuppiah<sup>8,\*</sup> Sayee Kannan Ramaraj<sup>1,\*</sup>

<sup>1</sup>PG and Research Department of Chemistry, Thiagarajar College, Madurai-625009, Tamil Nadu, India.

<sup>2</sup>Department of Chemical Engineering and Biotechnology, National Taipei University of Technology, No. 1, Section 3, Chung-Hsiao East Road, Taipei 106, Taiwan

<sup>3</sup>Department of Chemistry, Dayananda Sagar College of Engineering, Bangalore- 760058, Karnataka, India.

<sup>4</sup>Department of Biology and Biotechnology of Microorganisms, Institute of Biological Sciences, Faculty of Nanosciences and Health, The Jhon Paul II Catholic University of Lublin, Konstantynow 11 str., 20-708 Lublin, Poland.

<sup>5</sup>Department of Chemistry, College of Science, King Saud University, P.O. Box 22452, Riyadh 11495, Saudi Arabia.

<sup>6</sup>Department of Chemistry, Vyasa arts and science college for women, Vasudevanallur-627758, Ti-runelveli, Tamil Nadu, India

<sup>7</sup>Department of Chemistry, Sourashtra College, Pasumalai-625004, Madurai, Tamil Nadu, India.

<sup>8</sup>Battery Research center of Green Energy, Ming Chi University of Technology, New Taipei City 24301, Taiwan

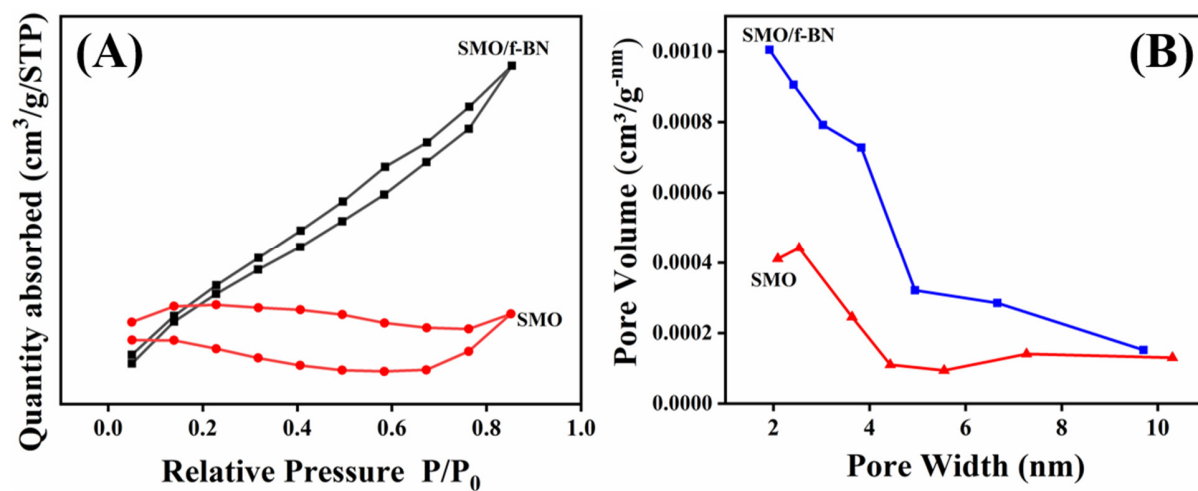
<sup>9</sup>Department of Chemical Engineering, Ming Chi University of Technology, New Taipei City 24301, Taiwan

**\*Corresponding Authors:**

**SK Ramaraj**, E-mail: sayeekannanramaraj@gmail.com; **NP Krishnan**, E-mail:

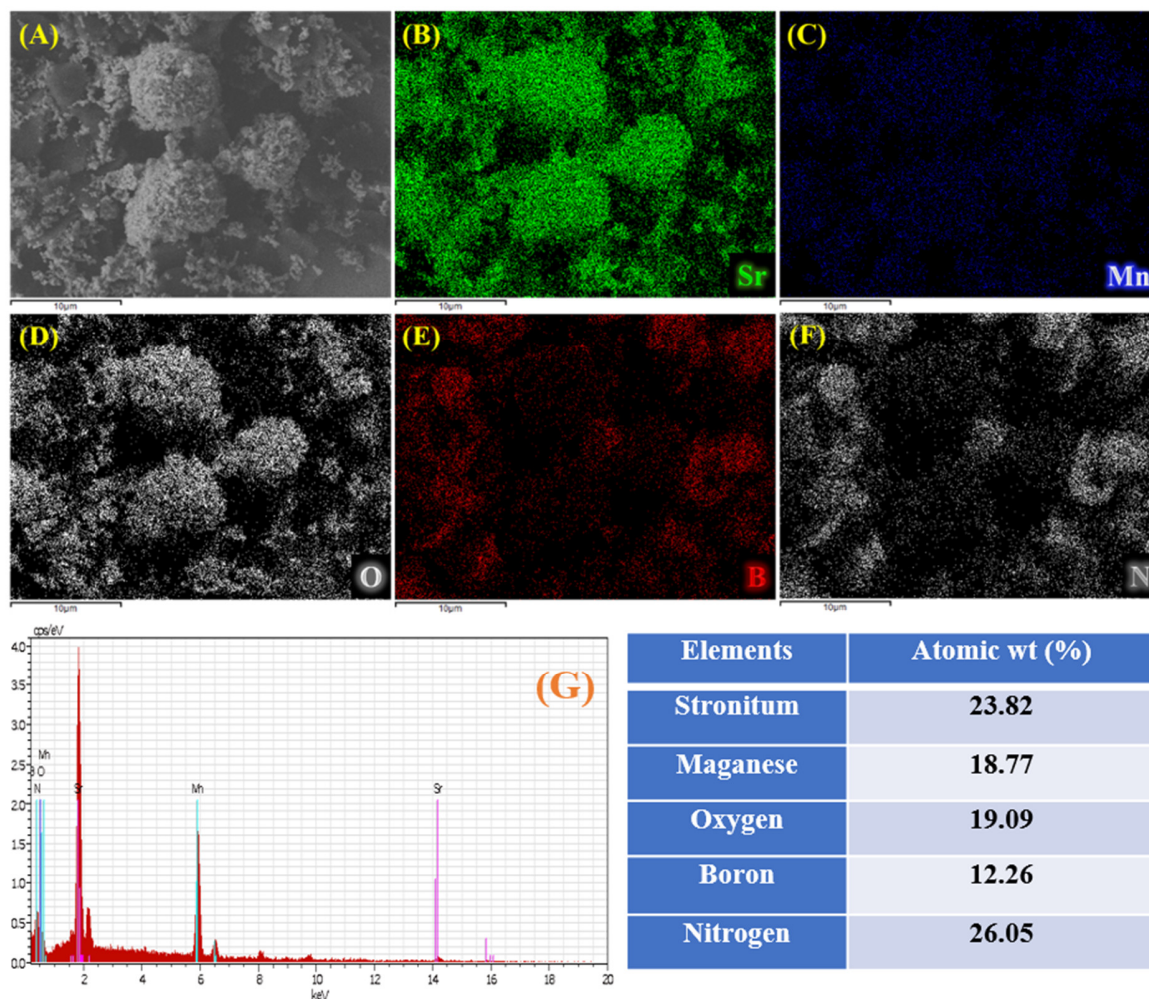
krishyaas@gmail.com

### BET isotherm



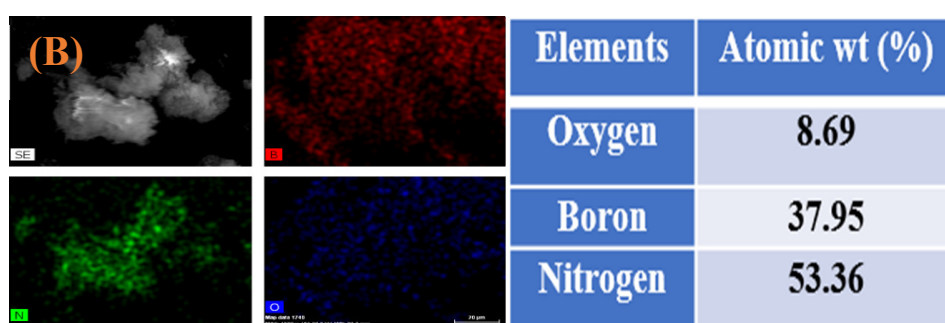
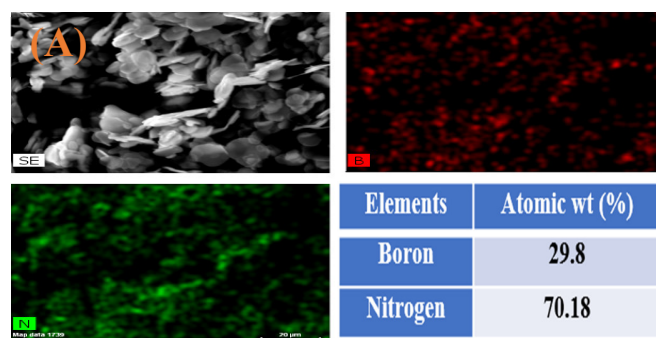
**Figure S1.** (A) BET surface area, nitrogen adsorption-desorption isotherm and (B) pore size distribution of of  $\text{SrMnO}_3$  (SMO, Red line),  $f\text{-BN}$  (blue line) and SMO/ $f\text{-BN}$  nanocomposite (black line).

## SEM Mapping & EDX analysis

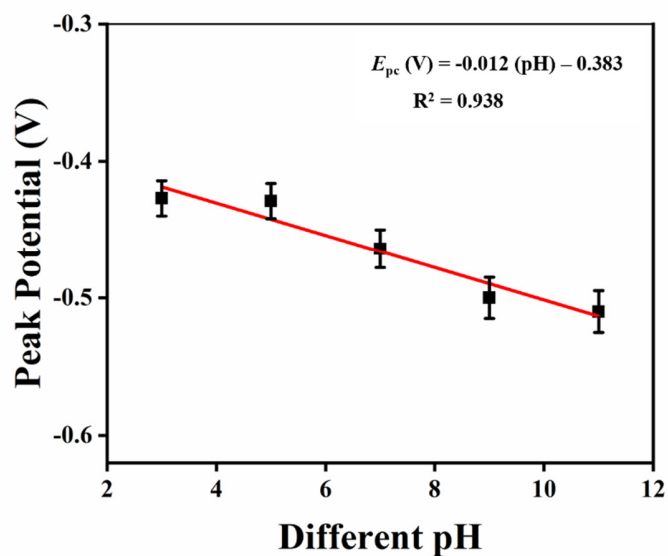


**Figure S2.** (A) FE-SEM mapping of SrMnO<sub>3</sub>/f-BN nanocomposite, (B) Strontium (Sr), (C) Manganese (Mn), (D) Oxygen (O), (E) Boron (B), (F) Nitrogen (N). (G) represents of EDX spectrum of SrMnO<sub>3</sub>/f-BN nanocomposite.

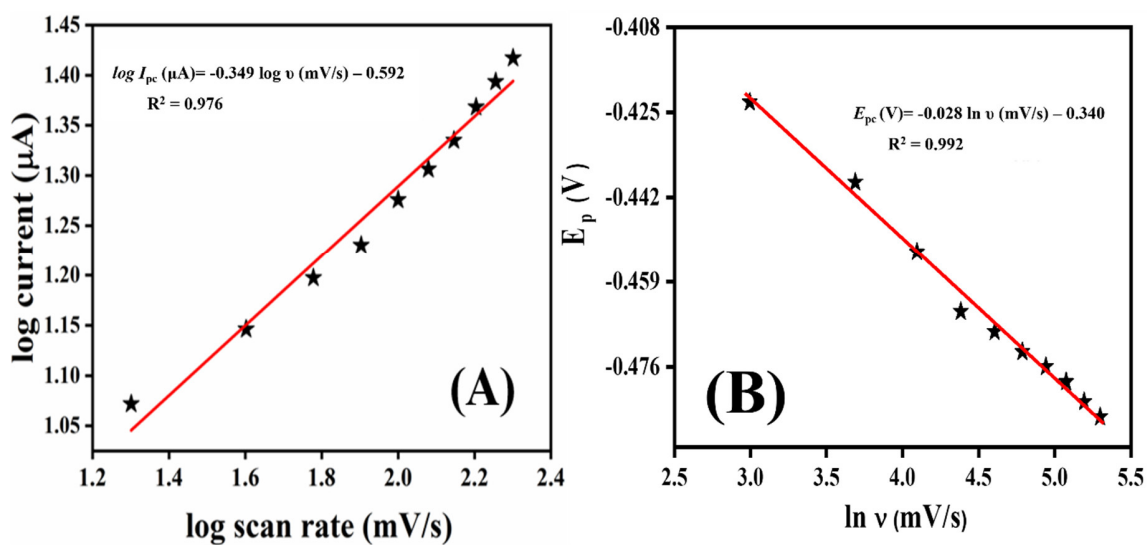
## EDX & Mapping analysis



**Figure. S3.** (A&B) FE-SEM elemental mapping and EDX of BN, *f*-BN.



**Figure S4.** The linear relation between cathodic peak potential ( $E_p$ ) and various pH.



**Figure S5.** (A) The linear relation between  $\log$  scan rate ( $\log v (\text{mV/s})$ ) and  $\log$  current ( $\log I (\mu A)$ ). (B) The linear relation between  $E_p$  and  $\ln v$ .