

Supporting Figures

A (μ -Oxo) Dicopper Complex Anchored Graphitized Mesoporous Carbon Surface Prepared by In-Situ Electrochemical Method for Bioinspired Electrocatalytic Reduction of Nitrite to Ammonia and Sensing

Sairaman Saikrithika,^{a,b} Natarajan Saravanan^{a,b,#}, Gabriela Almeida^{c,d} and Annamalai Senthil Kumar^{a,b}*

^aNano and Bioelectrochemistry Research Laboratory. Carbon dioxide and Green Technology Research Centre, Vellore Institute of Technology University, Vellore – 632 014, Tamil Nadu, India

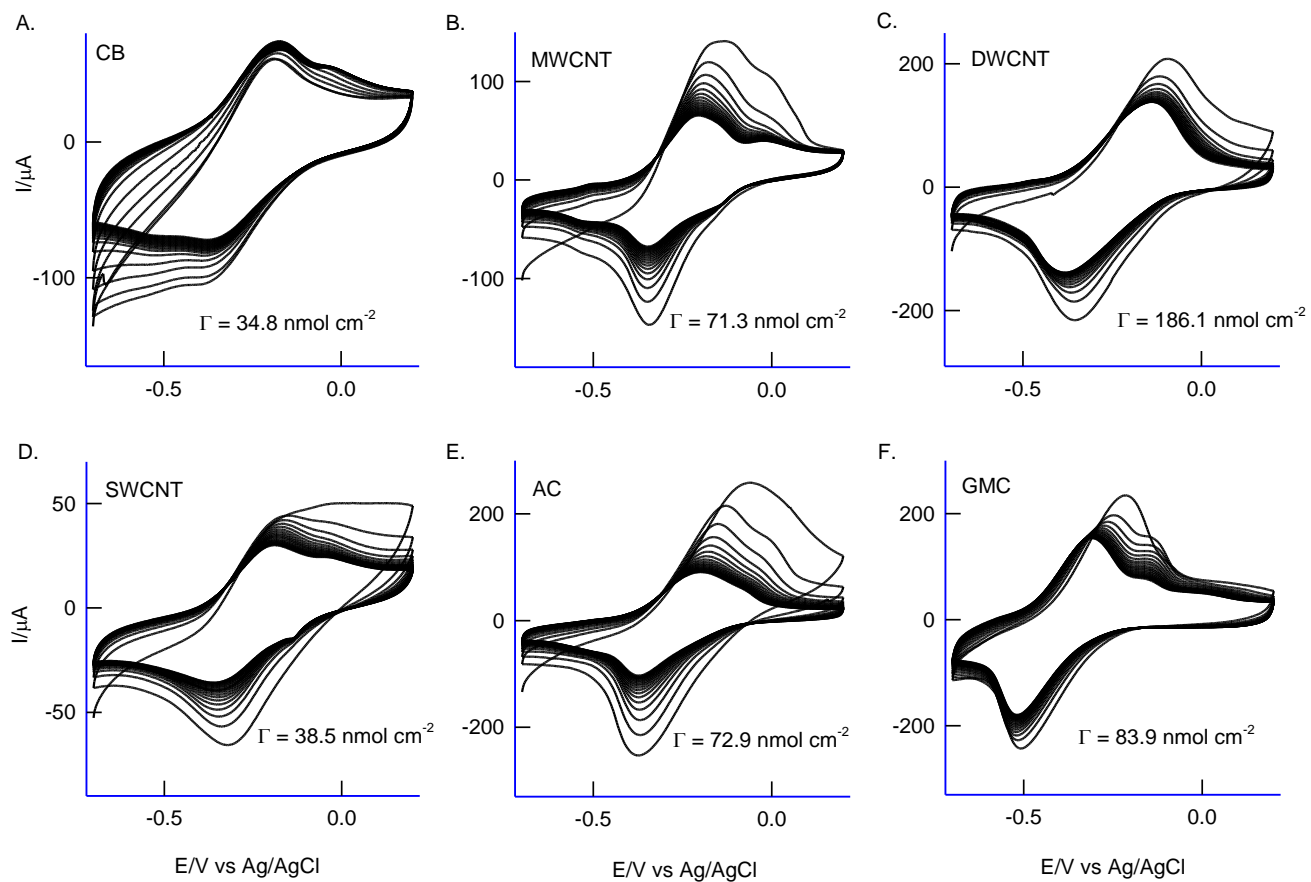
^bDepartment of Chemistry, School of Advanced Sciences, Vellore Institute of Technology University, Vellore – 632 014, Tamil Nadu, India

^cAssociate Laboratory i4HB – Institute for Health and Bioeconomy; and UCIBIO – Applied Molecular Biosciences Unit, Departamento de Química, Faculdade de Ciências e Tecnologia, Universidade NOVA de Lisboa, 2829-516 Caparica, Portugal

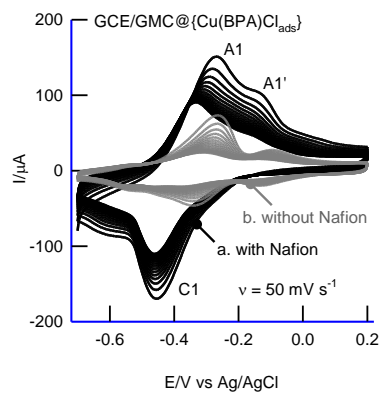
^dCentro de investigação interdisciplinar Egas Moniz (CiiEM), Egas Moniz School of Health and Science, Campus Universitário, Quinta da Granja, 2829-511, Caparica, Portugal

Corresponding Author's E-mail: askumarchem@yahoo.com and phone number; +91-416-2202754

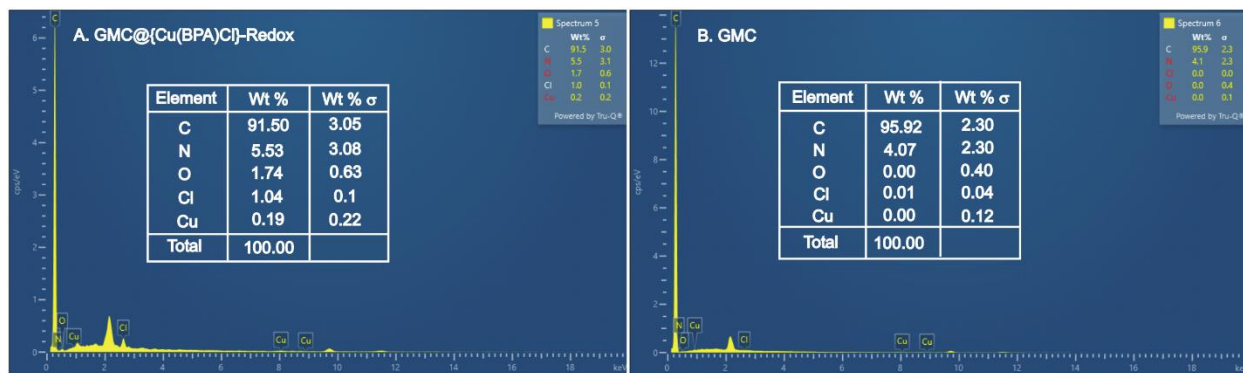
[#]Present address: Department of Chemistry, Aringnar Anna Govt. Arts & Science College, Karaikal-609603, India.



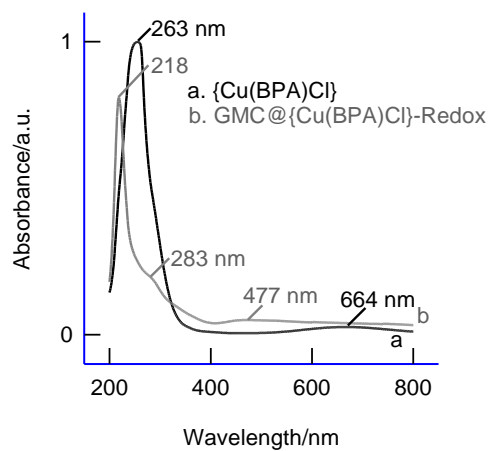
Supporting Figure S1. CV responses of different carbon nanomaterials (A) CB, (B) MWCNT, (C) DWCNT, (D) SWCNT, (E) AC and (F) GMC towards the formation of {Cu(BPA)Cl}-Redox in N₂ purged pH 7 PBS at a scan rate of 50 mV s⁻¹.



Supporting Figure S2. Comparative CV responses of GCE/GMC@{Cu(BPA)Cl_{ads}} with (a) and without Nafion (b) in N₂ purged pH 7 PBS at a scan rate of 50 mV s⁻¹.

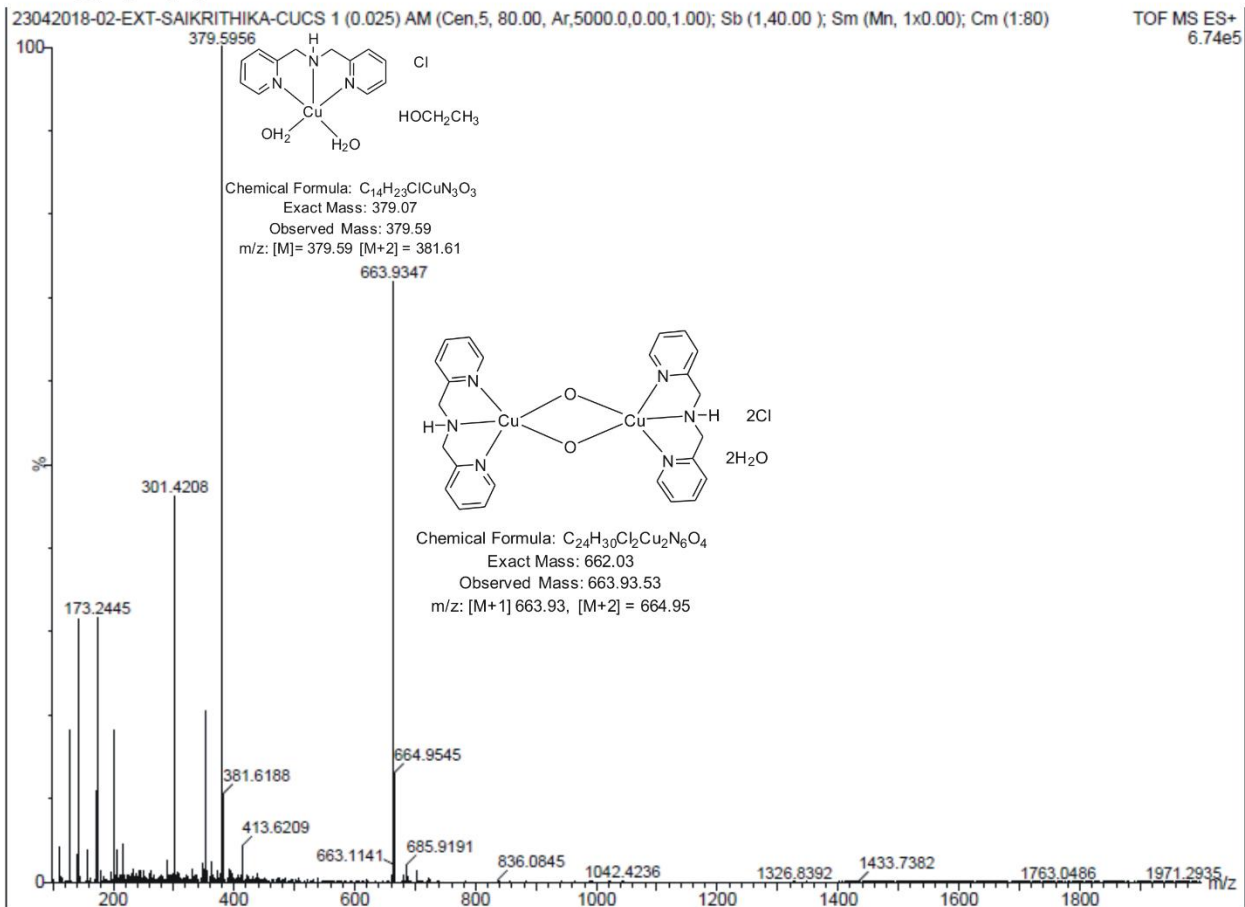


Supporting Figure S3.FESEM-EDAX reports of (A) GMC@Cu(BPA)Cl-Redox and (B) GMC.

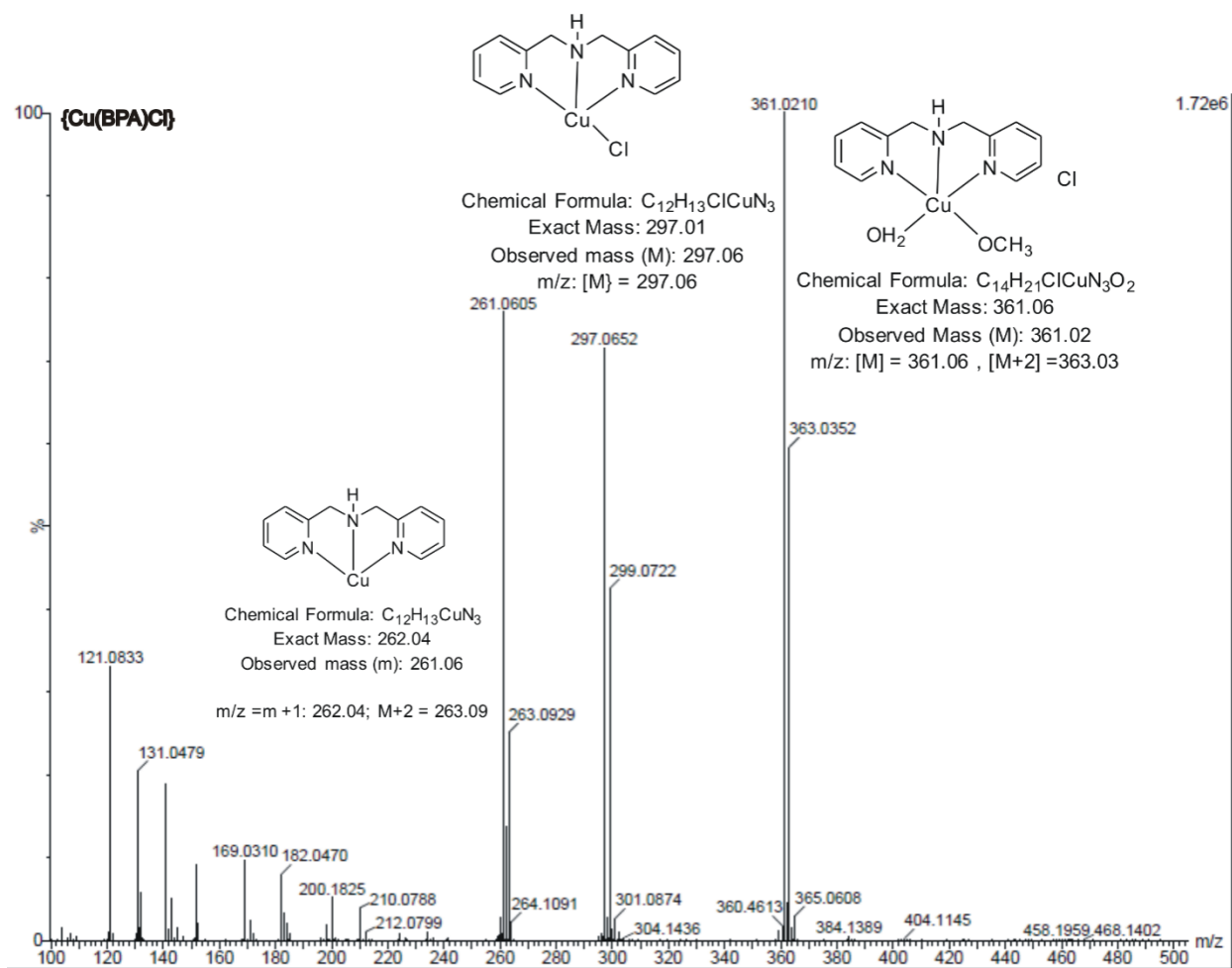


Supporting Figure S4. UV-vis spectral data for the {Cu(BPA)Cl} complex (curve a) and GMC@{Cu(BPA)Cl}-Redox (curve b)

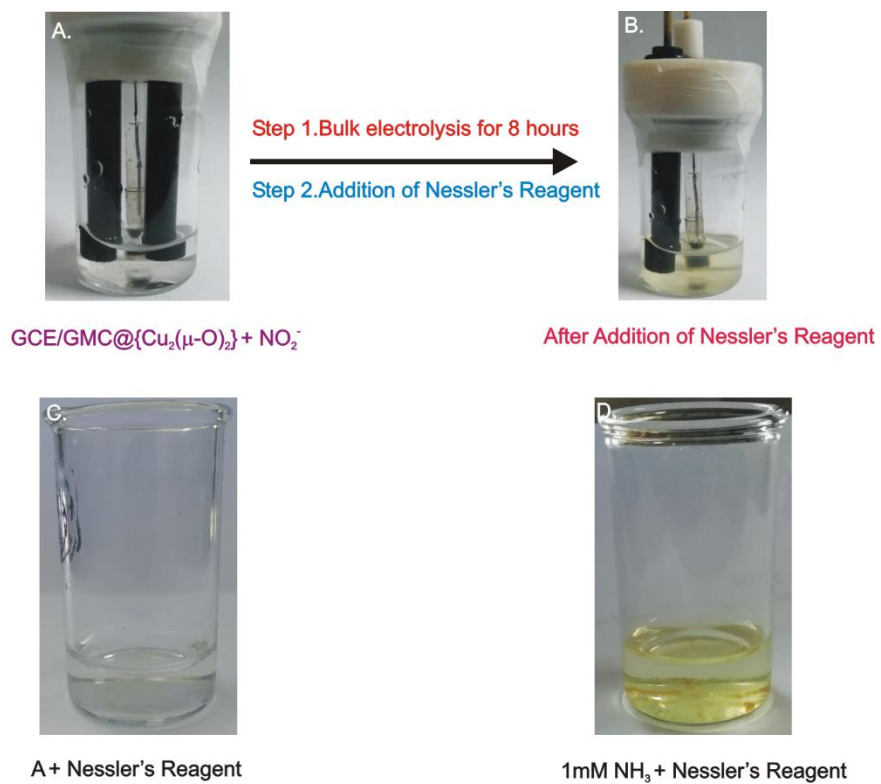
GMC@{Cu(BPA)Cl}-Redox



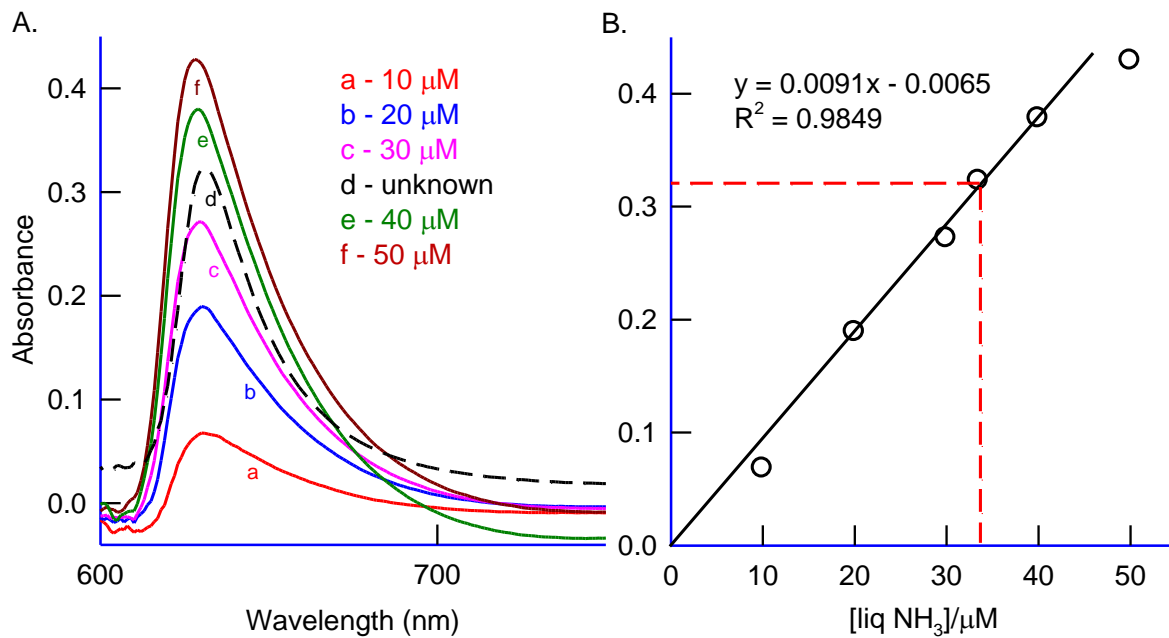
Supporting Figure S5. ESI-MS data of the ethanolic extract of GCE/GMC@{Cu(BPA)Cl}-Redox.



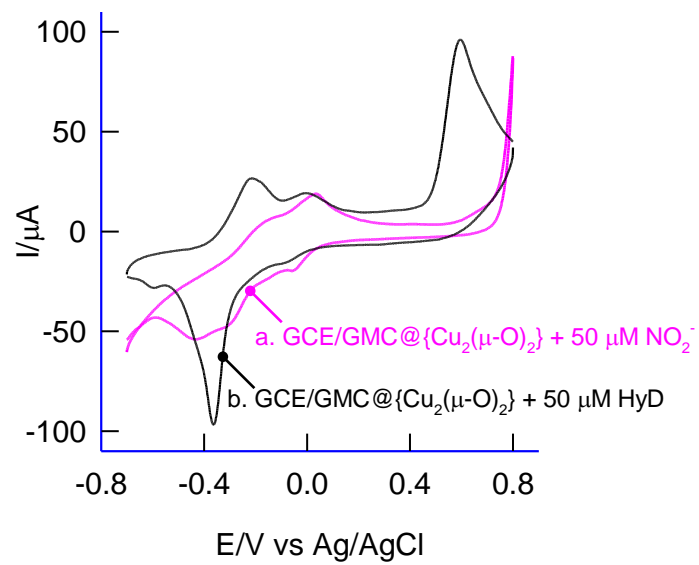
Supporting Figure S6. ESI-MS data of the ethanolic extract of {Cu(BPA)Cl}



Supporting Figure S7. Pictures of $\text{GCE/GMC}@{\text{Cu}_2(\text{BPA})_2(\text{NO}_2)_2(\mu\text{-O})}^{2+}$ before (A) and after (B) the addition of Nessler's reagent. Pictures of addition of Nessler's reagent to (C) before bulk electrolysis (to be added) and (D) to 1mM NH_3 solution.



Supporting Figure S8. (A) Comparative UV-vis spectra of bulk electrolysis sample (unknown, curve d) and other standard NH₃ samples (curves a, b, c, e, f) and (B) its corresponding calibration curve for NH₃ quantification.



Supporting Figure S9. Cyclic Voltammetric responses of GCE/GMC@{Cu₂(μ-O)₂} with (a) 50 μM NO₂⁻ and (b) 50 μM HyD at a scan rate of 10 mV s⁻¹ in N₂ purged pH 7 PBS.