Electronic Supplementary Information

V_2O_3-Ordered Mesoporous Carbon Composite with Novel Peroxidase-Like Activity towards Glucose Colorimetric Assay†

Lei Han,[‡ab] Lingxing Zeng,[‡c] Mingdeng Wei,*[d] Chang Ming Li,[e] and Aihua Liu*[ab]

[a]*Laboratory for Biosensing, Key Laboratory of Biofuels, and Shandong Provinicial Key Laboratory of Energy Genetics*, *Qingdao Institute of Bioenergy & Bioprocess Technology, Chinese Academy of Sciences, 189 Songling Road, Qingdao 266101, China*

[b]*University of Chinese Academy of Sciences, 19A Yuquan Road, Beijing 100049, China*

[c]*Engineering Research Center of Polymer Green Recycling of Ministry of Education, Fujian Normal University, Fuzhou, Fujian 350007, China*

[d]*Institute of Advanced Energy Materials, Fuzhou University, Fuzhou, Fujian 350002, China*

[e]*Institute for Clean Energy & Advanced Materials, Southwest University, Chongqing 400715, China*

‡ Authors of equal contribution

† Electronic supplementary information (ESI) available

*Corresponding Authors.

E-mail addresses: liuah@qibebt.ac.cn (A. Liu); wei-mingdeng@fzu.edu.cn (M.Wei).

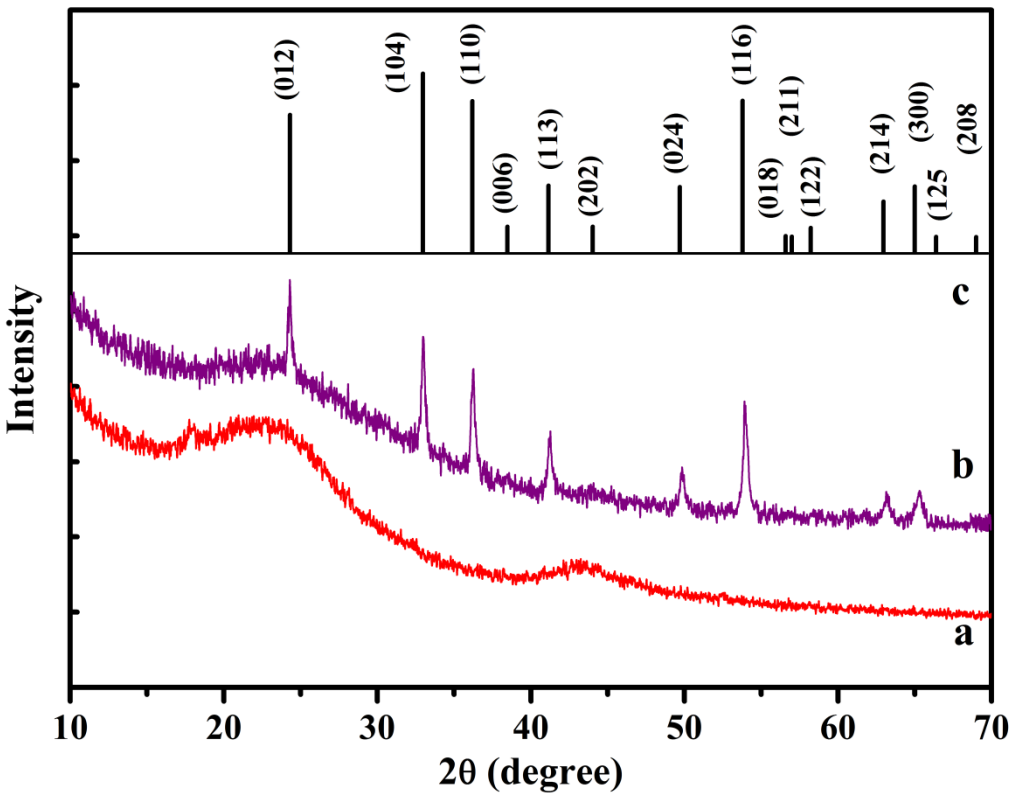

Fig. S1. The XRD patterns of (a) OMC, (b) V_2O_3–OMC and (c) the standard values of V_2O_3 (JCPDS 074-0325).

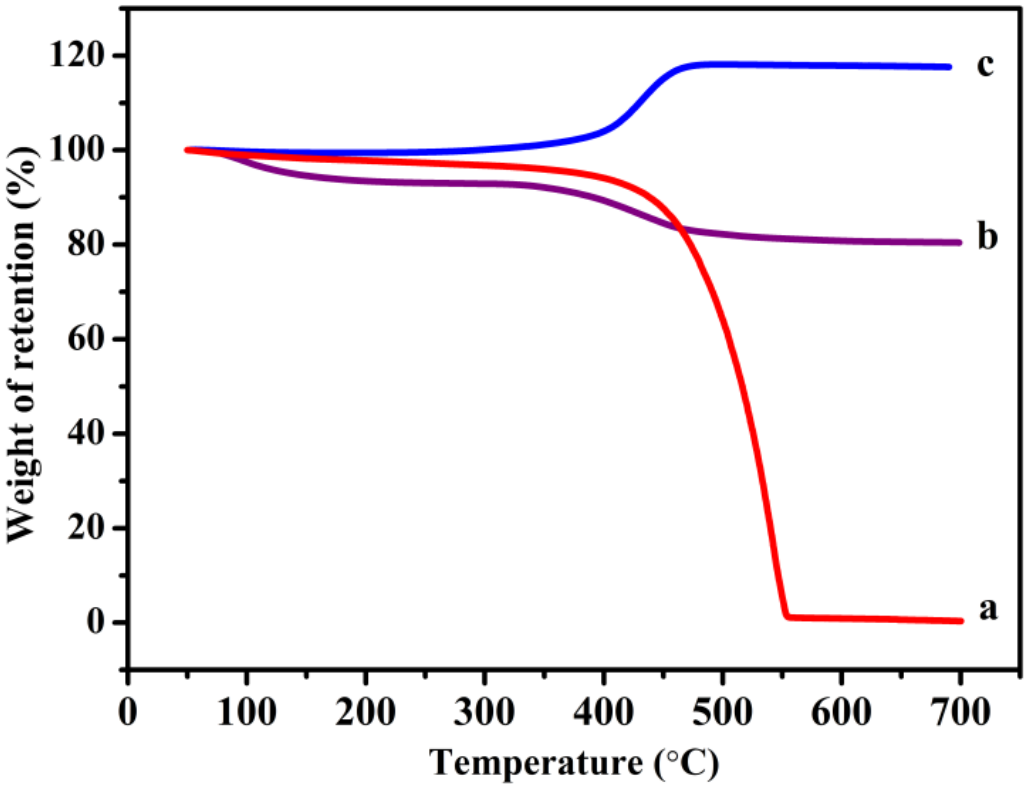

Fig. S2. TGA curves of OMC (a), V_2O_3-OMC (b) and V_2O_3 (c).

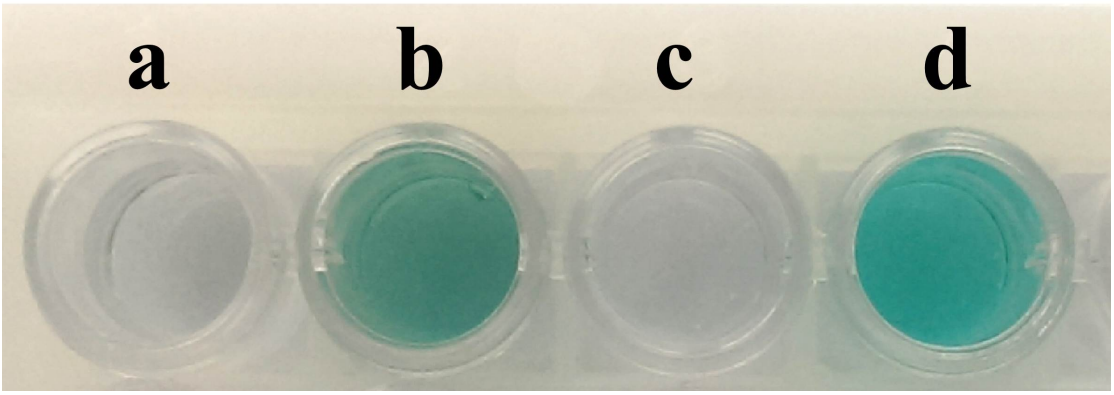

Fig. S3. Photographs of reaction solutions in microplates. The oxidation of various typical chromogenic substrates of ABTS (a,b) and TMB (c,d) without V_2O_3-OMC (a,c) or with V_2O_3-OMC (b, d) in the present of H_2O_2.

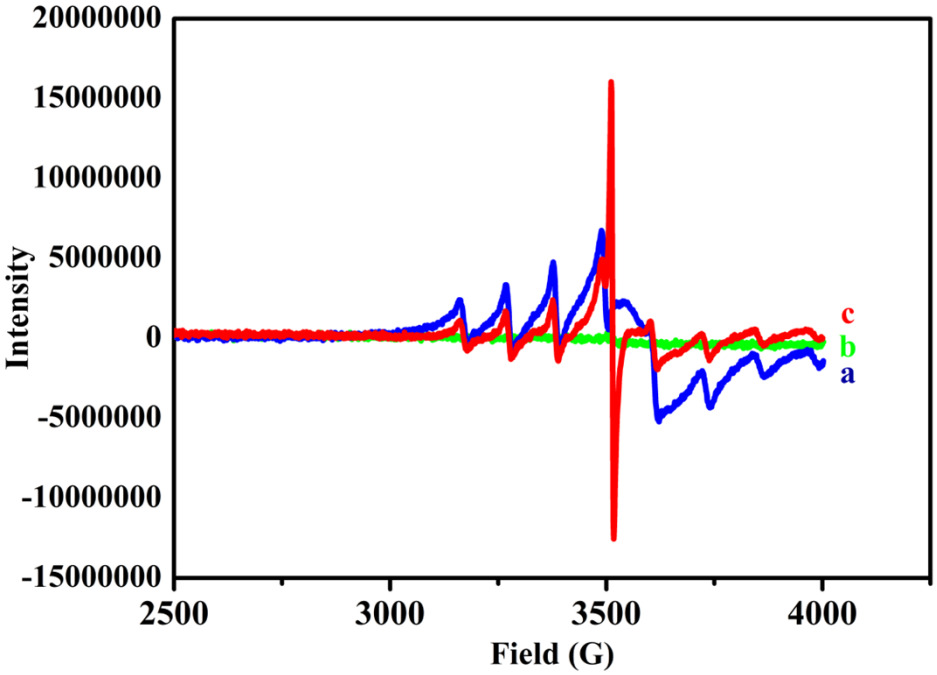

Fig. S4. EPR spectra of (a) H_2O_2; (b) V_2O_3 + H_2O; (c) V_2O_3 + H_2O_2.

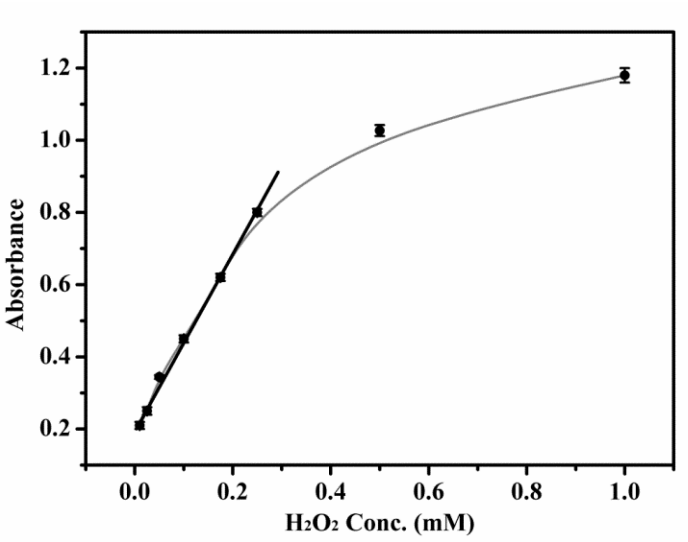

Fig. S5. The calibration curve for H_2O_2.

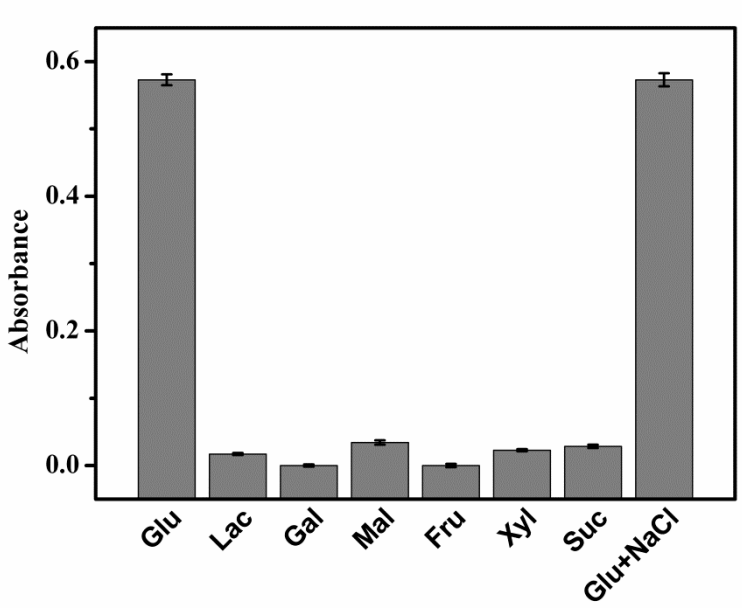

Fig. S6. Specificity analysis of spectrophotometric detection of glucose for each 2 mM of glucose (Glu), lactose (Lac), galactose (Gal), maltose (Mal), fructose (Fru), xylose (Xyl), and sucrose (Suc), and 2 mM of Glu in 0.15 M NaCl.