

Supplementary Materials

for

Effect of Copper-Modification of g-C₃N₄ on the Visible-Light-Driven Photocatalytic Oxidation of Nitrophenols

Truong Nguyen Xuan ¹, Dien Nguyen Thi ², Quang Tran Thuong ¹, Tue Nguyen Ngoc ¹, Khanh Dang Quoc ³, Zsombor Molnár ⁴, Shoaib Mukhtar ⁵, Erzsébet Szabó-Bárdos ⁵, and Ottó Horváth ^{5,*}

¹ School of Chemistry and Life Sciences, Hanoi University of Science and Technology, No.1 Dai Co Viet street, Hai Ba Trung distric, Hanoi 100000, Vietnam; truong.nguyensexuan@hust.edu.vn (T.N.X.); quang.tranthuong@hust.edu.vn (Q.T.T.); tue.nguyenngoc@hust.edu.vn (T.N.N.)

² Viettel Aerospace Institute, Viettel Group, Hoa Lac high-tech park, Thach That distric, Hanoi 10000, Vietnam; dienn15@viettel.com.vn (D.N.T.)

³ School of Materials Science and Engineering, Hanoi University of Science and Technology, No.1 Dai Co Viet street, Hai Ba Trung distric, Hanoi 100000, Vietnam; khanh.dangquoc@hust.edu.vn

⁴ Environmental Mineralogy Research Group, Research Institute of Biomolecular and Chemical Engineering, University of Pannonia, H-8210 Veszprém, POB. 1158, Hungary; molnar.zsombor@mk.uni-pannon.hu (Z.M.)

⁵ Research Group of Environmental and Inorganic Photochemistry, Center for Natural Sciences, Faculty of Engineering, University of Pannonia, P.O.B. 1158, Veszprém H-8210, Hungary

* Correspondence: horvath.otto@mk.uni-pannon.hu; Tel+36-88-624-000 / 6049 ext

Table of content

Figures S1 and S2, Table S1.....	2
Figures S3 and S4.....	3
Figures S5 and S6.....	4
Figures S7 and S8.....	5

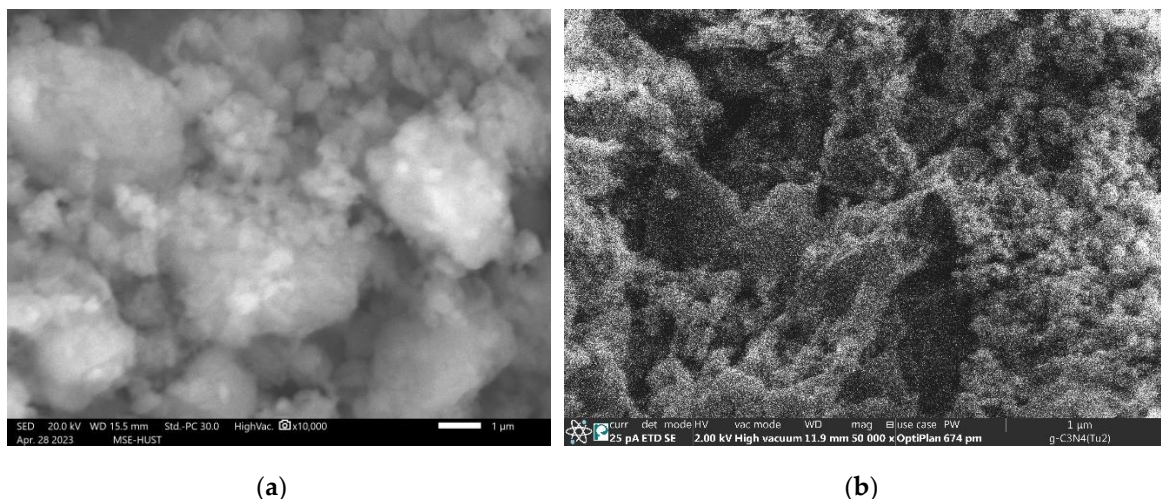


Figure S1. SEM images of catalyst materials 3% Cu/g-C₃N₄ (a) and g-C₃N₄ (b) at 10 000× magnification.

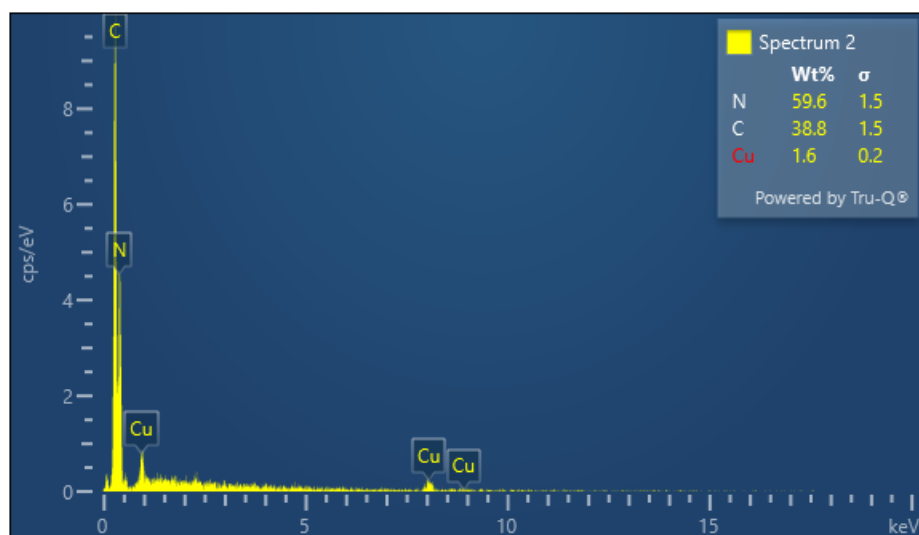


Figure S2. EDS spectrum of the 3% Cu/g-C₃N₄ sample (SEM).

Table S1. XPS surface composition (at.%) of the 3% Cu/g-C₃N₄ sample.

Element	Surface ratios (at.%)
O 1s	39.9
N 1s	51.8
C 1s	39.9
Cu 2p	3.7
N/Cu	14.0

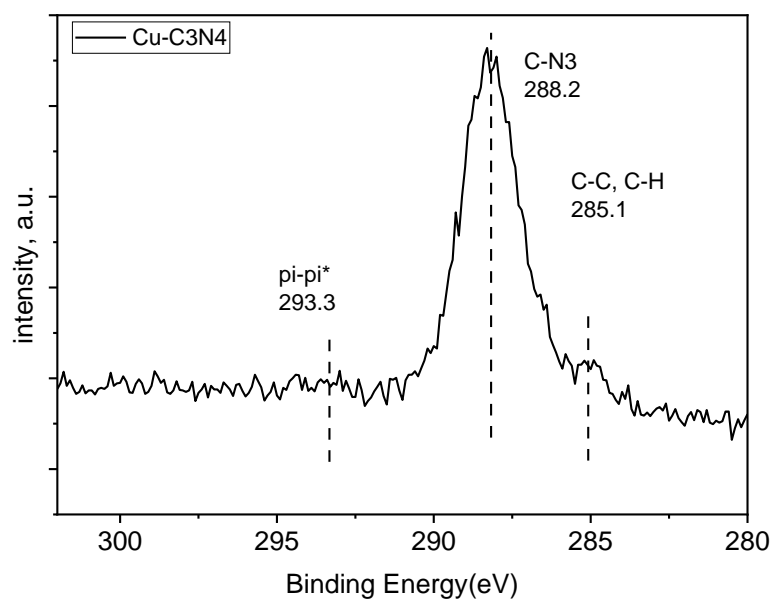


Figure S3. The C 1s binding energy region in the XPS of the 3% Cu/g-C₃N₄ sample.

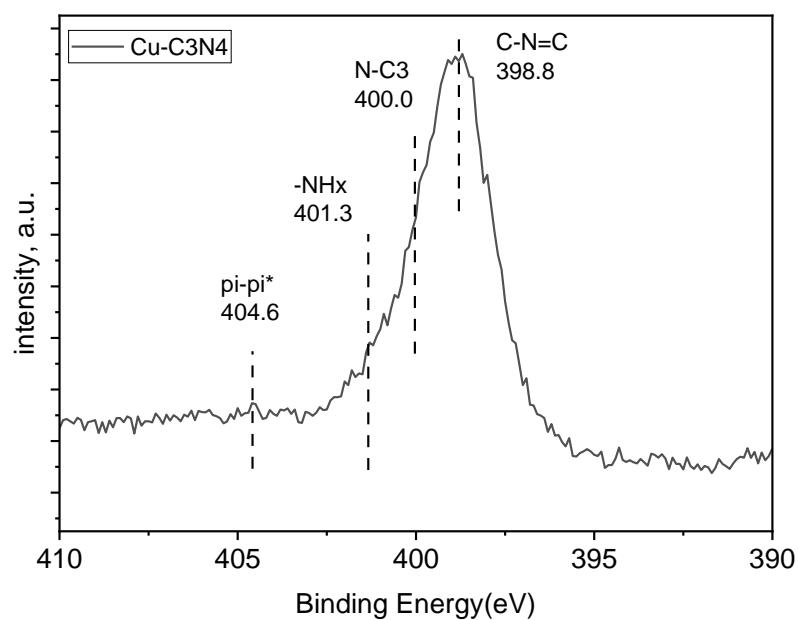


Figure S4. The N 1s binding energy region in the XPS of the 3% Cu/g-C₃N₄ sample.

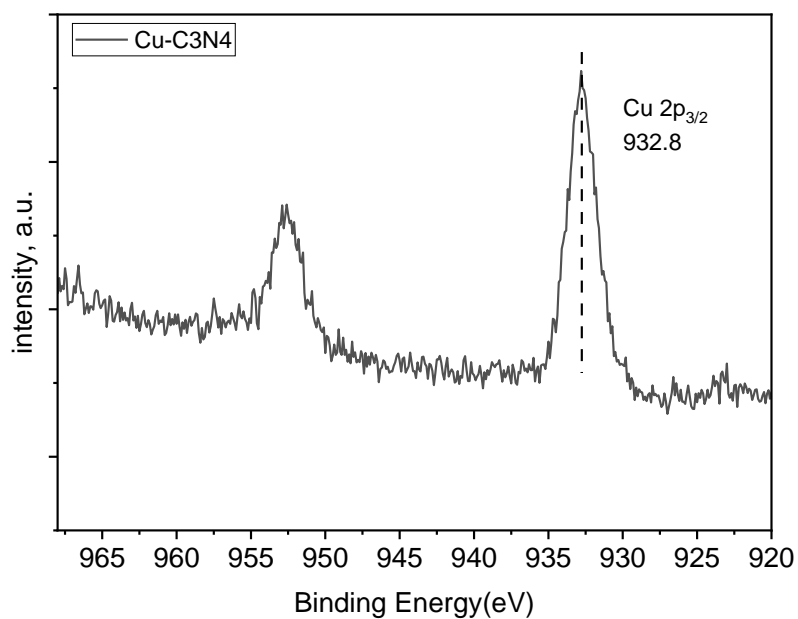


Figure S5. The Cu 2p binding energy region in the XPS of the 3% Cu/g-C₃N₄ sample.

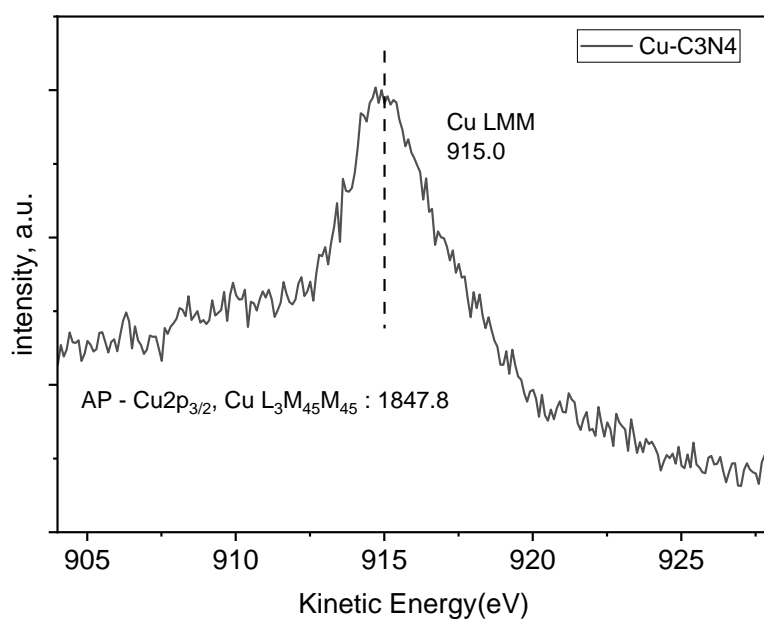


Figure S6. Cu LMM Auger peak and modified Auger parameter of the 3% Cu/g-C₃N₄ sample.

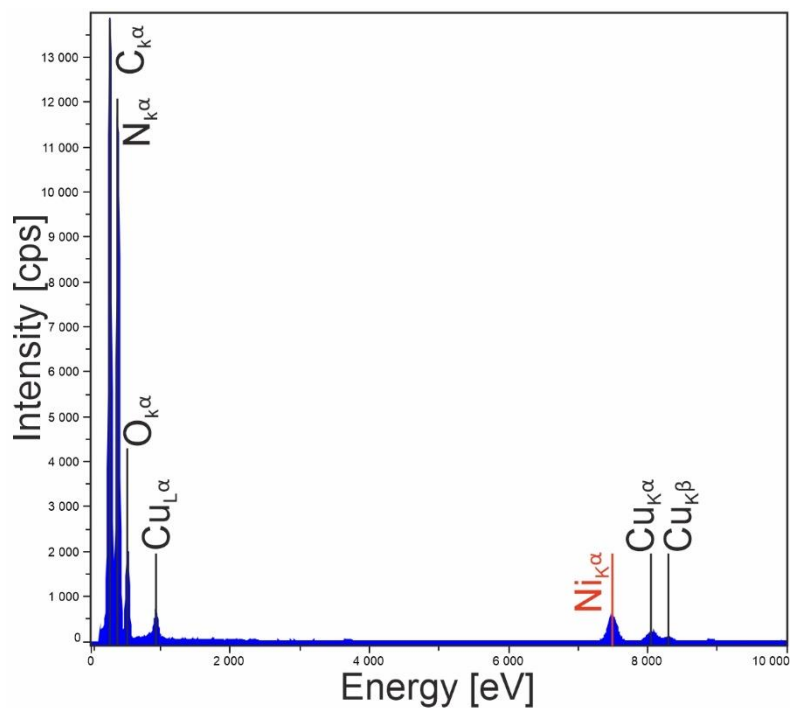


Figure S7. EDS spectrum of the 3% Cu/g-C₃N₄ sample (TEM).

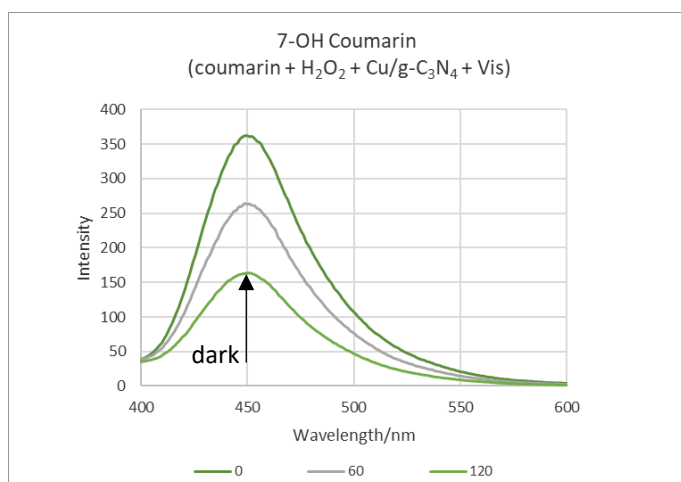


Figure S8. Formation of 7-hydroxy-coumarin upon visible-light irradiation (for 120 min) in the presence of 3% Cu/g-C₃N₄ catalyst. Before starting the irradiation, the reaction mixture was kept in dark for 5 hours.