

Supporting Information

Facile Synthesis, Characterization, and Photocatalytic

Performance of BiOF/BiFeO₃ Hybrid Heterojunction for

Benzylamine Coupling under Simulated Light Irradiation

Abdalla S. Abdelhamid ^{1,2}, Reem H. Alzard ¹, Lamia A. Siddig ¹, Aya Elbahnasy ¹, Duha Aljazmati ¹, Zaina Kadoura ¹, Hind Zeidane ¹, Rufaida Elshikh ¹ and Ahmed Alzamly ^{1,*}

¹ Department of Chemistry, United Arab Emirates University, Al-Ain P.O. Box 15551, United Arab Emirates;

² Department of Chemical Engineering, United Arab Emirates University, Al-Ain P.O. Box 15551, United Arab Emirates

* Correspondence: ahmed.alzamly@uaeu.ac.ae

TABLE OF CONTENTS

Section I: Matched X-ray spectroscopy of the photocatalysts.....	S3
Section II: Energy-dispersive X-ray spectroscopy of the photocatalysts.....	S5
Section III: NMR spectra	S7
Section IV: FTIR spectra	S8

Section I: Matched X-ray spectroscopy of the photocatalysts

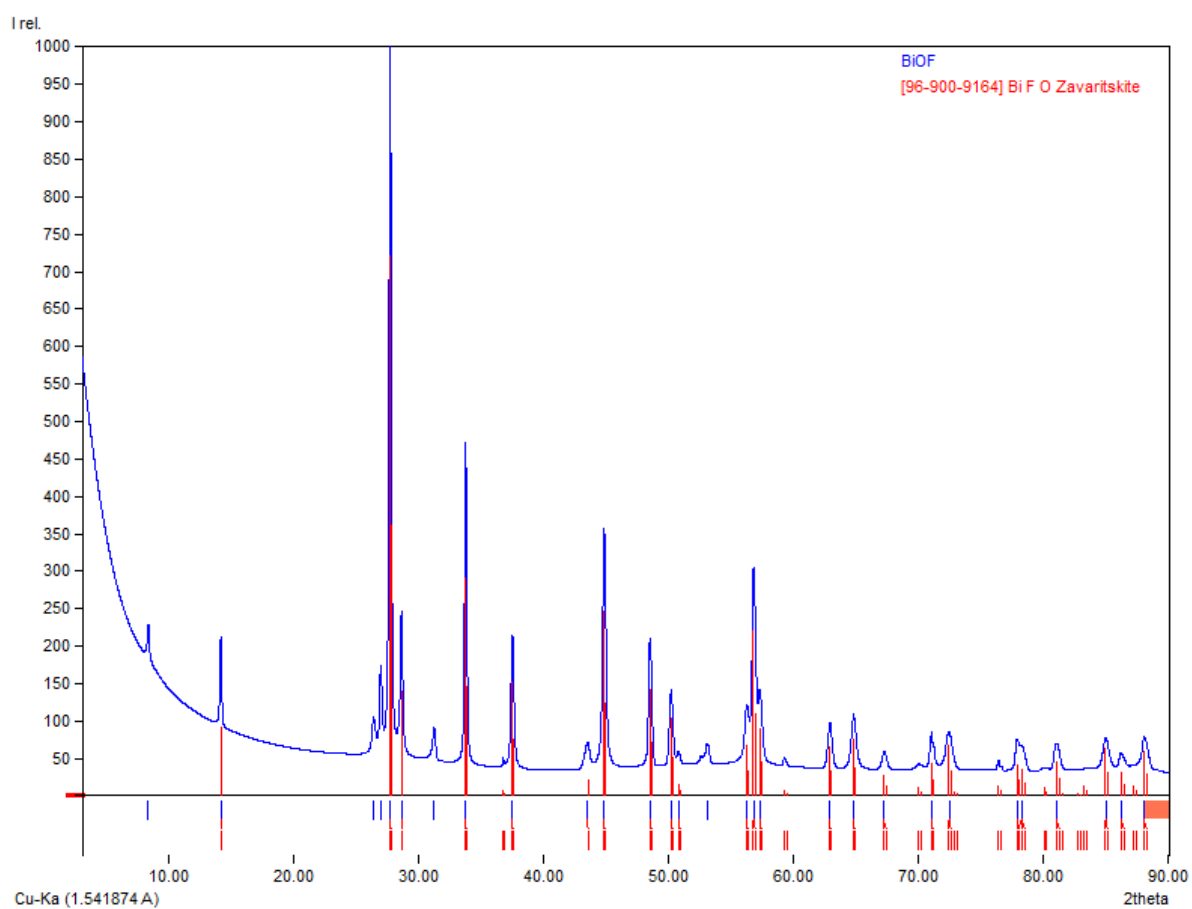


Figure S1. Matched X-ray spectroscopy of the BiOF using Match!3 software (version 3.0).

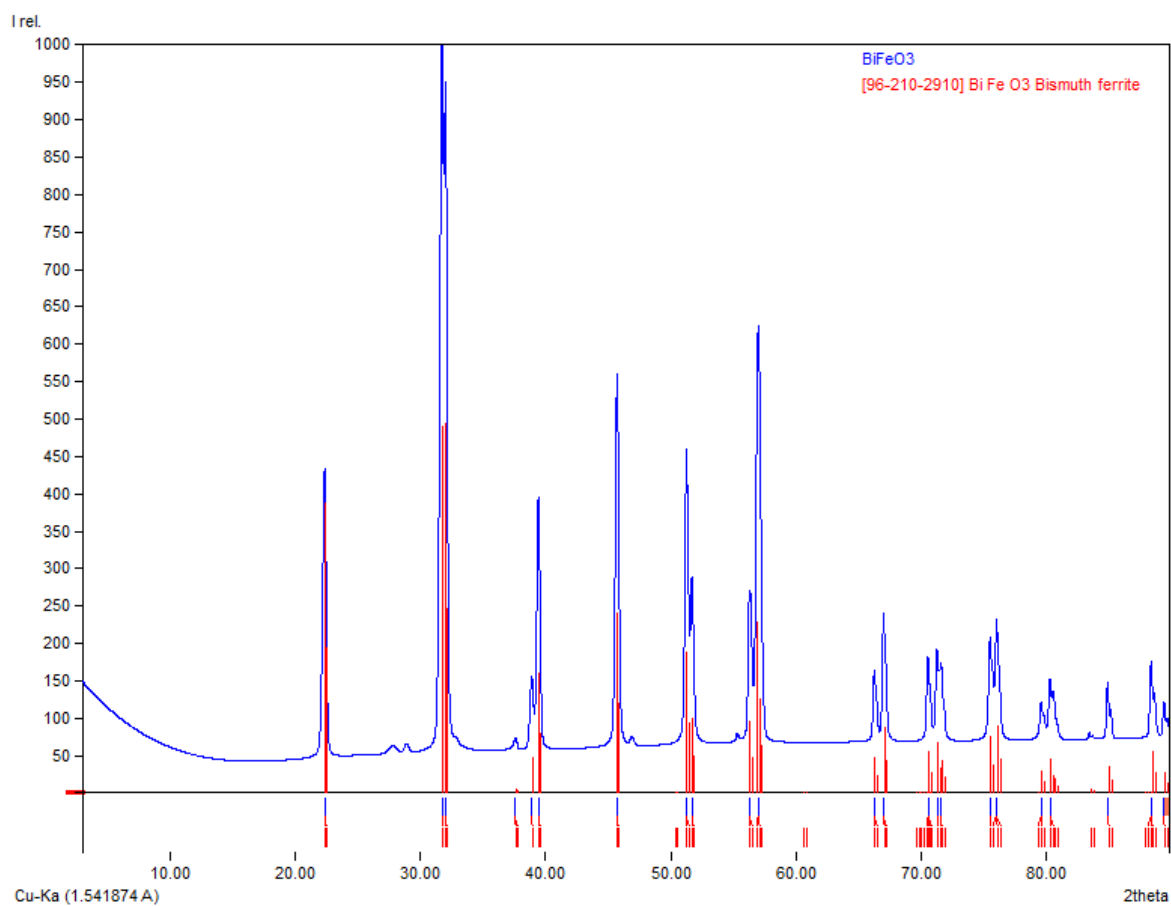


Figure S2. Matched X-ray spectroscopy of the BiFeO₃ using Match!3 software (version 3.0).

Section II: Energy-dispersive X-ray spectroscopy of the photocatalysts

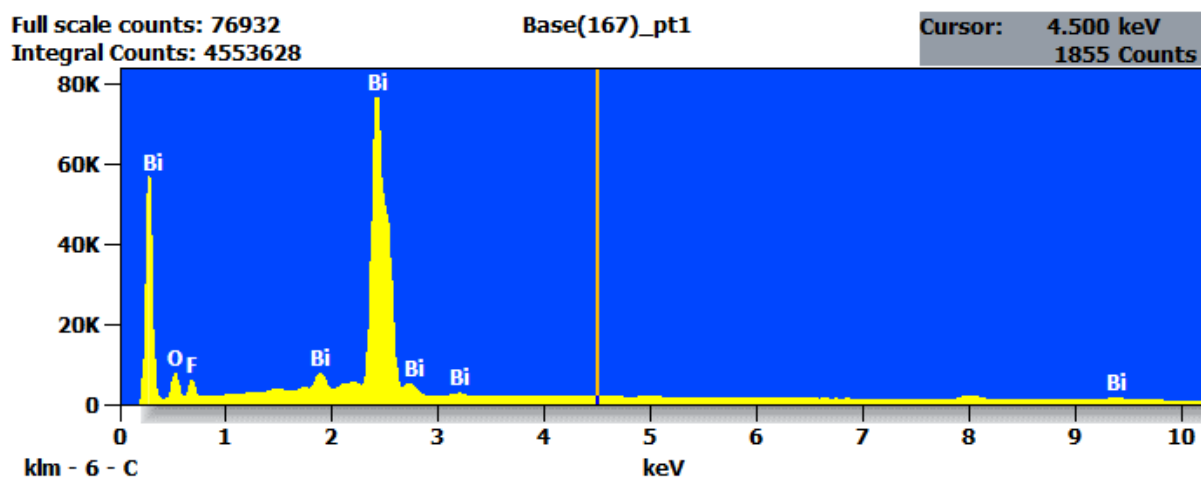


Figure S3. EDX elemental analysis of BiOF.

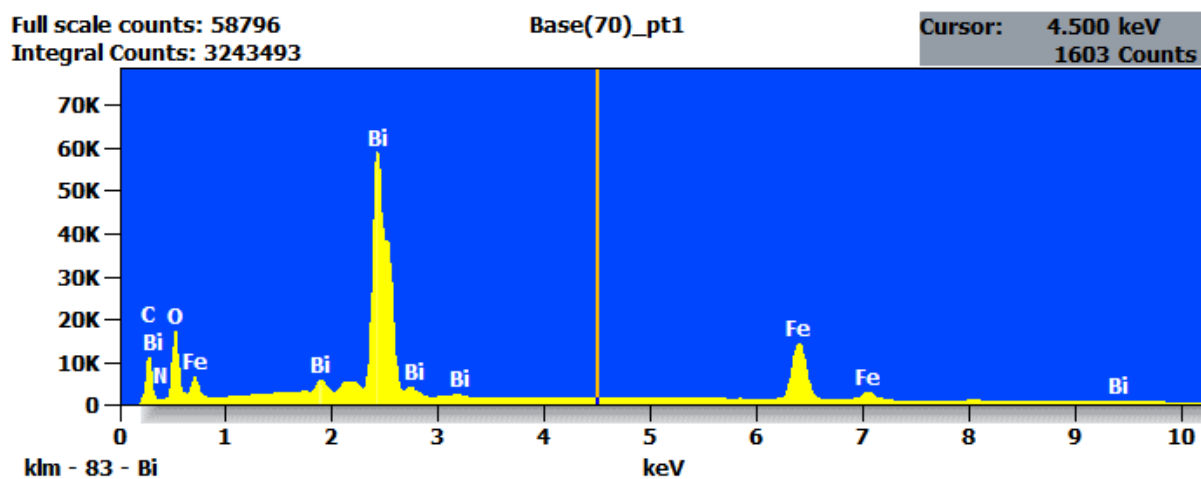


Figure S4. EDX elemental analysis of BiFeO₃.

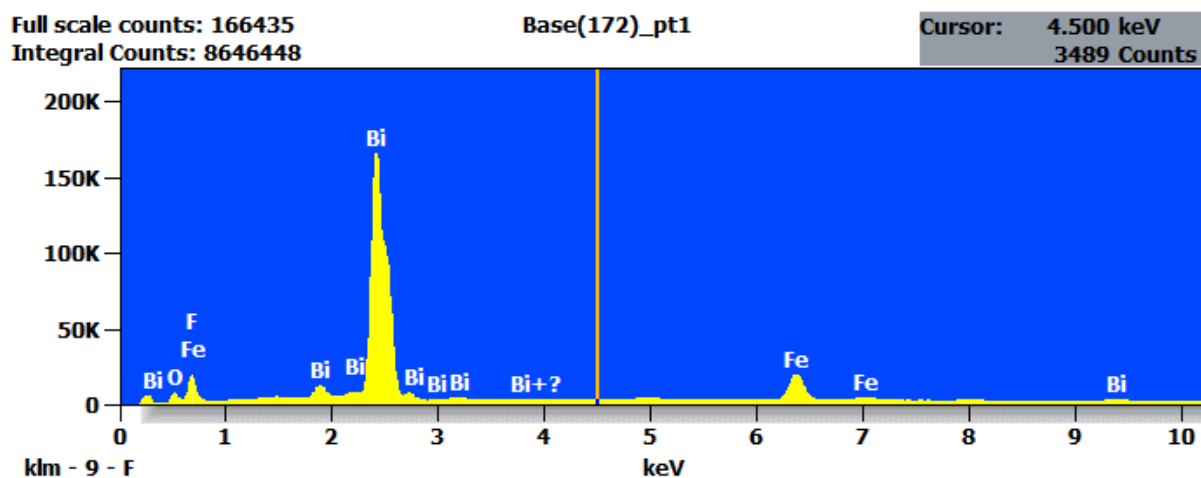


Figure S5. EDX elemental analysis of BiOF/ BiFeO₃ composite.

Table S1. Weight and atomic percentages of BiOF.

	Bismuth	Oxygen	Fluorine
Weight %	79.89	11.23	8.88
Atom %	24.64	45.25	30.11

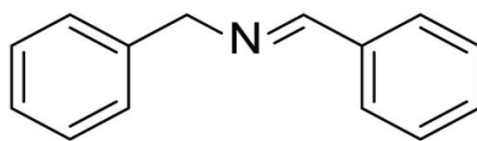
Table S2. Weight and atomic percentages of BiFeO₃.

	Bismuth	Oxygen	Iron
Weight %	65.83	13.22	20.95
Atom %	34.19	45.26	20.55

Table S3. Weight and atomic percentages of BiOF/ BiFeO₃ composite.

	Bismuth	Oxygen	Iron	Fluorine
Weight %	81.04	4.97	8.14	5.84
Atom %	33.66	26.97	12.66	26.71

Section III: NMR spectra



N-benzylidenebenzylamine

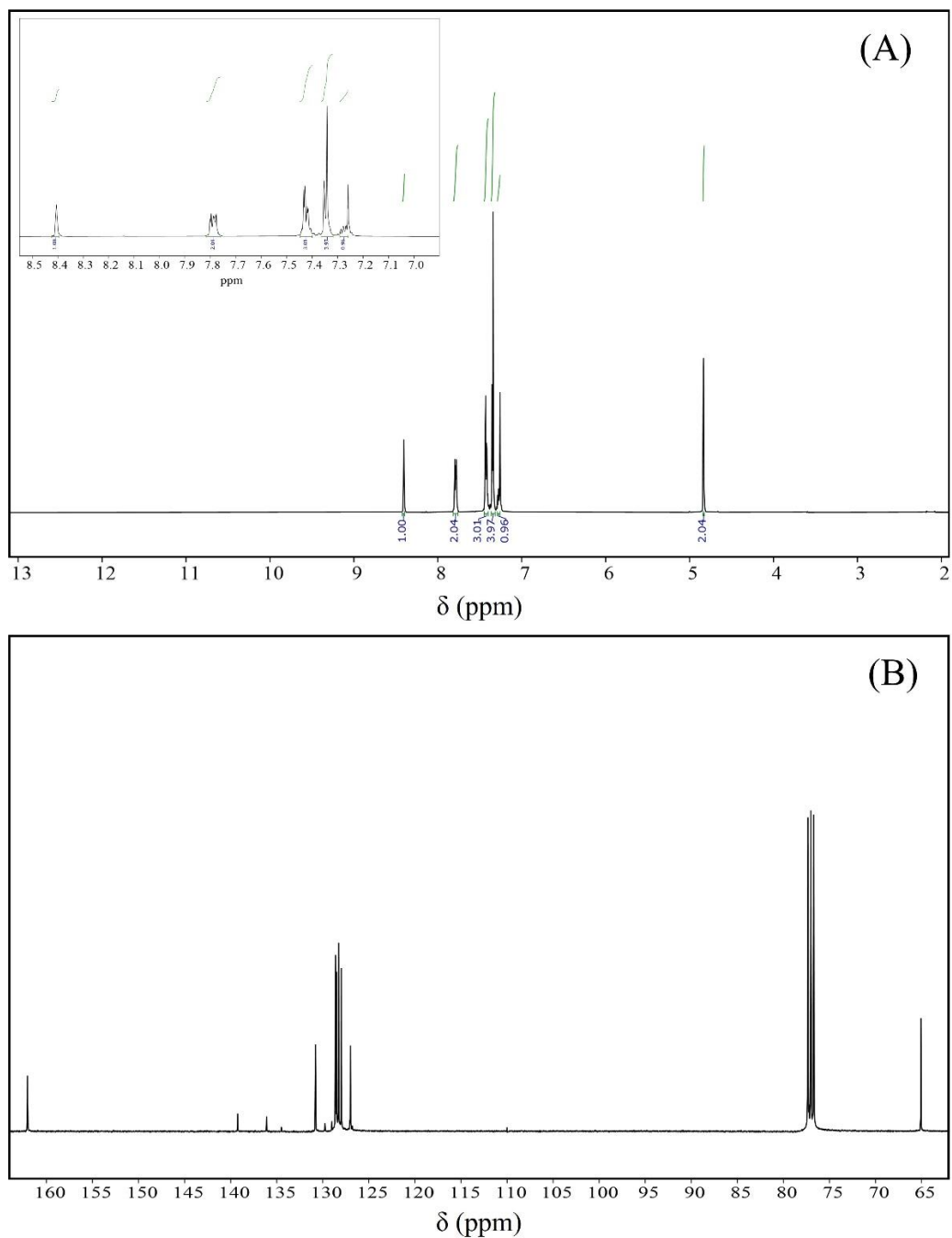


Figure S6. Spectra of *N*-benzylidenebenzylamine product using ^1H -NMR (A) and ^{13}C -NMR

(B).

Section IV: FTIR spectra

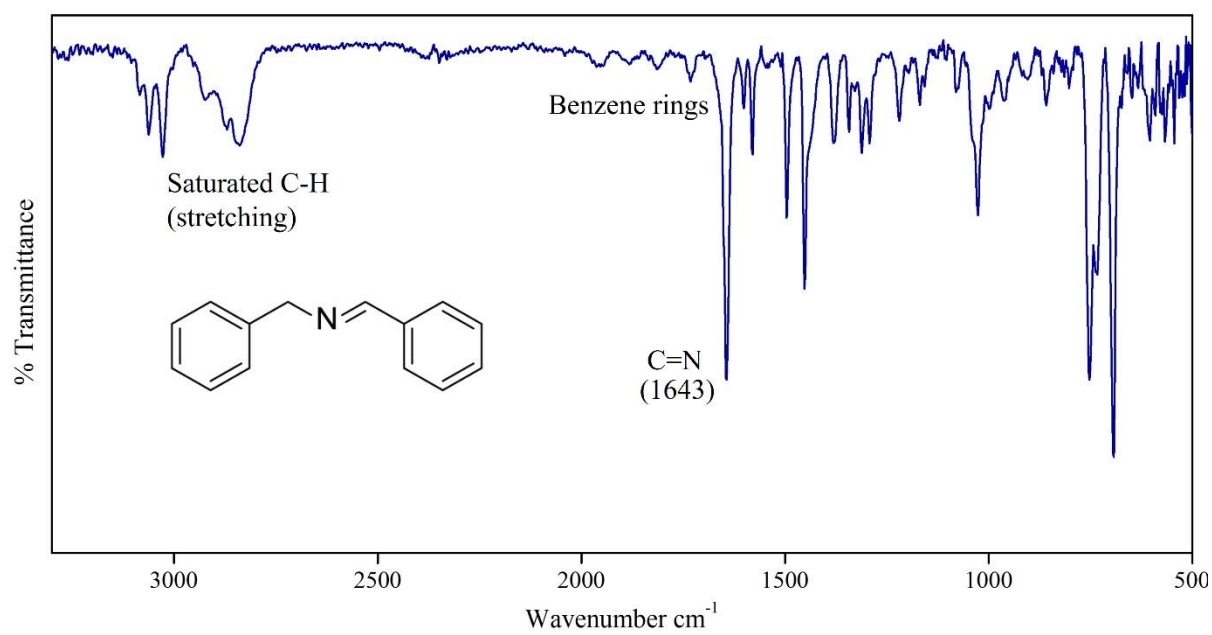


Figure S7. FTIR spectrum of *N*-benzylidenebenzylamine.