

BCREC

PUBLISHING GROUP

3.0

CiteScore²⁰²⁵

43rd percentile

Powered by Scopus

Bulletin of Chemical
Reaction Engineering and...

Q3

Catalysis

best quartile

SJIR 2025
0.33

powered by scimagojr.com



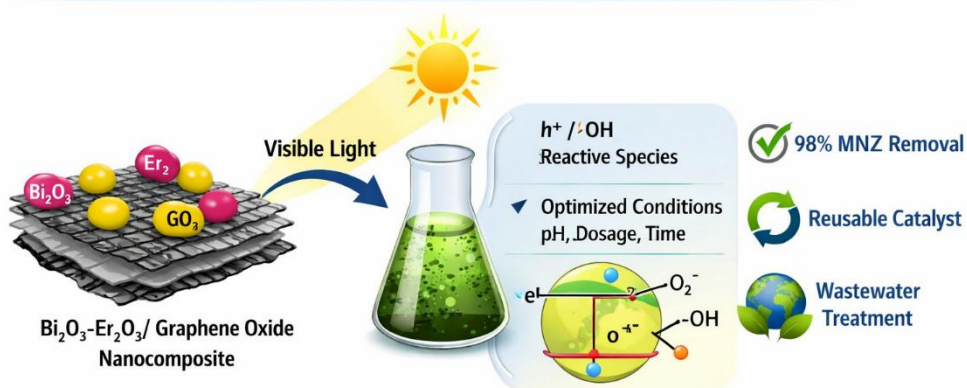
e-ISSN: 1978-2993

Bulletin of Chemical Reaction Engineering & Catalysis

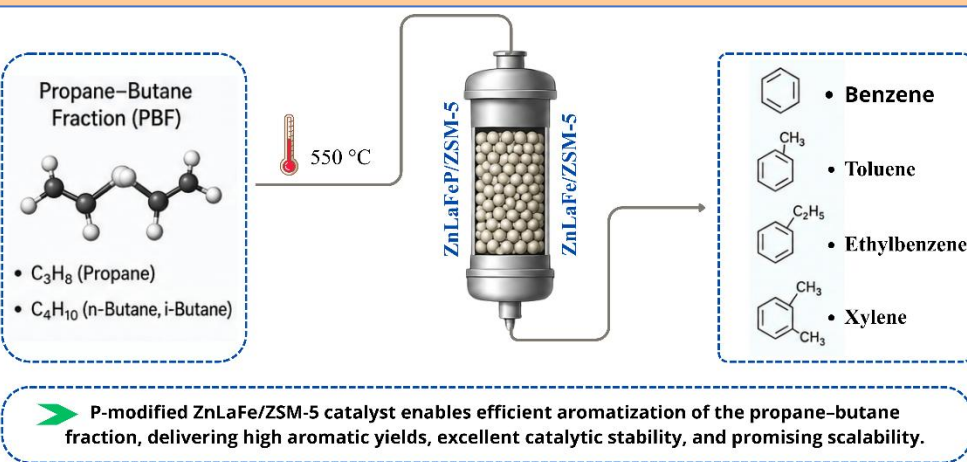
Volume 21, Issue 3, Year 2026 (Regular Issue: October 2026)

This issue has been published online since 15th July 2026 at: <https://journal.bcrec.id/index.php/bcrec>

Visible-Light Photocatalytic Degradation of Metronidazole Using Bi₂O₃-Er₂O₃/Graphene Oxide Nanocomposite



Efficient Visible-Light Driven Antibiotic Degradation

Bull. Chem. React. Eng.
Catal.

Vol. 21

No. 3

Pages:
500 - 759Semarang,
October 2026e-ISSN:
1978-2993

Published by:

Masyarakat Katalis Indonesia – Indonesian Catalyst Society (MKICS)

<https://mkics.bcrec.id>The technical management of this journal is supported by **BCREC Publishing Group** jointly with **Department of Chemical Engineering, Universitas Diponegoro**.

EDITORIAL TEAM**EDITOR-IN-CHIEF**

Prof. Dr. I. Istadi, Department of Chemical Engineering, Universitas Diponegoro, Indonesia; E-mail: istadi@che.undip.ac.id; (Scopus ID: [57192183616](#), WoS ID: [1581844](#))

ASSOCIATE / REGIONAL / HANDLING EDITOR FOR EUROPE AND AFRICA

Prof. Dr. Dmitry Yu. Murzin, Laboratory of Industrial Chemistry and Reaction Engineering, Abo Akademi University; Turku/Åbo, Finland (Scopus ID: [18037974700](#), WoS ID: [1716137](#))

ASSOCIATE / REGIONAL / HANDLING EDITOR FOR ASIA-PACIFIC AND AMERICA

Prof. Dr. Bunjerd Jongsomjit, Department of Chemical Engineering, Chulalongkorn University, Bangkok, Thailand, Thailand (Scopus ID: [6603065177](#))

Prof. Dr. R. Rodiansono, Department of Chemistry, Lambung Mangkurat University, Indonesia (Scopus ID: [55785853800](#), WoS ID: [397246](#))

INTERNATIONAL ADVISORY EDITORIAL BOARDS

Prof. Dr. Sebastien Leveneur, INSA Rouen Normandie, UNIROUEN, Normandie Univ, LSPC, UR4704, Rouen, F-76000, France (Scopus ID: [18836607200](#))

Prof. Dr. Joongjai Panpranot, Department of Chemical Engineering, Faculty of Engineering, Chulalongkorn University, Bangkok, Thailand (Scopus ID: [6602147398](#))

Prof. Dr. Ho-Shing Wu, Dept. of Chemical Engineering & Material Science, Yuan-Ze University, Taiwan, (Scopus ID: [7405581723](#), WoS ID: [1320968](#))

Prof. Dr. Suresh Sagadevan, Nanotechnology & Catalysis Research Centre, University of Malaya, Kuala Lumpur, 50603, Malaysia (Scopus ID: [57215091647](#))

Prof. Dr. Hadi Nur, Head of Integrated Laboratory, Universitas Negeri Malang (UM) E-mail: hadi.nur@gmail.com, Indonesia (Scopus ID: [6602169746](#); WoS ID: [1243523](#))

Prof. Dr. Y.H. Taufiq-Yap, Centre of Excellence for Catalysis Science and Technology, Faculty of Science, Universiti Putra Malaysia, Malaysia (Scopus ID: [56272773200](#))

Prof. Dr. Valeria Di Sarli, Institute for Research on Combustion - National Research Council of Italy (CNR), Italy (Scopus ID: [16021366800](#))

Prof. Dr. Didik Prasetyoko, Department of Chemistry, Faculty of Mathematics and Natural Sciences, Institut Teknologi Sepuluh Nopember, Surabaya, Indonesia (Scopus ID: [6507890461](#))

Prof. Dr. Is Fatimah, Department of Chemistry, Islamic University of Indonesia, Kampus Terpadu UII, Yogyakarta, Indonesia (Scopus ID: [35104706400](#))

Prof. Dr. Nor Aishah Saidina Amin, Faculty of Chemical and Natural Resources Engineering, Universiti Teknologi Malaysia, Malaysia, (Scopus ID: [35489910900](#), WoS ID: [1094527](#))

Prof. Dr. Rafael Luque, Universidad ECOTEC, Km. 13.5 Samborondón, Samborondón EC092302, Ecuador (Scopus ID: [26643003700](#))

Prof. Dr. Jose E. Castanheiro, Dept. of Chemistry, University of Evora, Portugal (Scopus ID: [6506163997](#))

Prof. Dr. Sibudjing Kawi, Dept. of Chemical and Biochemical Engineering, National University of Singapore, Singapore, (Scopus ID: [7006257898](#))

Prof. Dr. Rafael Molina, Estado Sólido Catálisis Ambiental, Departamento de Química, Facultad de Ciencias, Universidad Nacional de Colombia, Colombia, (Scopus ID: [7202381846](#))

Prof. Dr. Arief Widjaja, Dept. of Chemical Engineering, Institut Teknologi Sepuluh Nopember, Surabaya, Indonesia (Scopus ID: [13003143800](#))

Prof. Dr. Mostafa Barigou, School of Chemical Engineering, University of Birmingham, United Kingdom, (Scopus ID: [7003356054](#))

Prof. Dr. Anh-Tuan Vu, School of Chemical Engineering, Hanoi University of Science and Technology, Hanoi, Viet Nam (Scopus ID: [16240229300](#))

Assoc. Prof. Dr. Jinhang Dai, College of Environment and Resources, Chongqing Technology and Business University Chongqing, 400067, China (Scopus ID: [57145739300](#))

Assoc. Prof. Dr. Ghalia A. Gaber, Chemistry Department, Faculty Of Science (GIRLS), Al-azhar University, P.O. BOX: 11754, Yousef Abbas Str., Nasr City, Cairo, Egypt (Scopus ID: [57215186835](#))

Dr. Samuel Eshorame Sanni, Department of Chemical Engineering, Covenant University, P.M.B 1023, Ogun State, Ota, Nigeria (Scopus ID: [57211047073](#))

Dr. Aydin Hassani, Department of Materials Science and Nanotechnology Engineering, Faculty of Engineering, Near East University, 99138 Nicosia, TRNC, Mersin 10, Turkey (Scopus ID: [37047239400](#))

Prof. Dr. Yayuk Astuti, Department of Chemistry, Faculty of Natural Sciences and Mathematics, Universitas Diponegoro, Indonesia (Scopus ID: [57100033100](#))

ASSISTANT EDITORS

Teguh Riyanto, Department of Chemical Engineering, Universitas Diponegoro, Indonesia (Scopus ID: [57208816811](#); WoS ID: [659132](#))

Raka Sindu Wardoyo, Rumah Jurnal LPPM, Universitas Diponegoro, Indonesia

Wahyu Setiadi, Universitas Diponegoro, Indonesia

International Diversity of Editors/Editorial Board: 27 Editors in 17 countries/Regions. Indonesia (11); Malaysia (5); Finland (1); Thailand (2); French (1); Italy (1); Portugal (1); Colombia (1); United Kingdom (1); Singapore (1); Egypt (1); Turkey (1); Nigeria (1); China (1) / Taiwan (1), Ecuador (1). Gender Diversity Distribution of the Editors: 23% woman; 77% man.

FOCUS AND SCOPE

Bulletin of Chemical Reaction Engineering & Catalysis, an international journal, provides a forum for publishing the novel technologies related to the catalyst, catalysis, chemical reactor, kinetics, and chemical reaction engineering. Scientific articles dealing with the following topics in chemical reaction engineering, catalysis science, and engineering, catalyst preparation method and characterization, novel innovation of chemical reactor, kinetic studies, etc. are particularly welcome. However, articles concerned on the general chemical engineering process development are not covered and out of the scope of this journal.

This journal encompasses *Original Research Articles*, *Review Articles* (only selected/invited authors), and *Short Communications*, including: fundamentals of catalyst and catalysis; fundamentals of chemical reaction engineering; kinetics studies of chemical reaction engineering; materials and nano-materials for catalyst; photocatalyst and photocatalysis; chemistry of catalyst and catalysis; applied chemical reaction engineering; applied catalysis; applied bio-catalysis; applied bio-reactor; membrane bioreactor; chemical reactor design (not process parameter optimization); catalyst regeneration; catalyst deactivation; surface chemistry of catalyst; bio-catalysis; enzymatic catalytic reaction (not process parameter optimization); kinetic studies of enzymatic reaction (not process parameter optimization); the industrial practice of catalyst; the industrial practice of chemical reactor engineering; application of plasma technology in catalysis and chemical reactor; and advanced technology for chemical reactors.

The manuscript articles should be submitted by online in MS Word / Open Office / PDF file format to Editorial Office through **Online Submission interface** at: <https://journal.bcrec.id/index.php/bcrec>. The Author must read the author guidelines of this journal first before submitting a manuscript.

PUBLICATION INFORMATION

Bulletin of Chemical Reaction Engineering & Catalysis (e-ISSN: 1978-2993).

Short journal title (abbreviation): ***Bull. Chem. React. Eng. Catal.***

Commencement of publication: January 2008.

For year 2026, 4 issues are scheduled for publication with 15-20 articles per issue (Volume 21, Issue 1 (April), Issue 2 (August), Issue 3 (October), and Issue 4 (December)).

Bulletin of Chemical Reaction Engineering & Catalysis, initialized as BCREC, is published freely open access of fulltext PDF articles via journal website (<https://journal.bcrec.id/index.php/bcrec>).

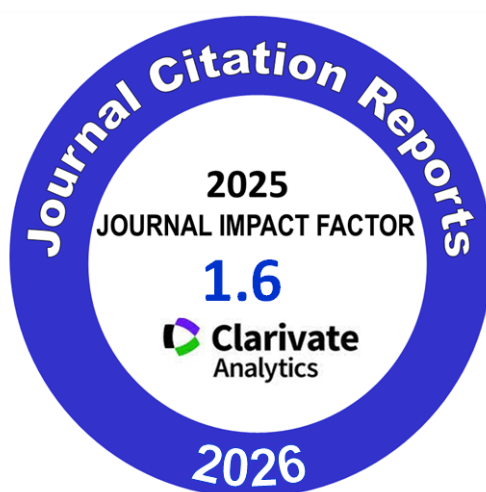
The BCREC journal is published by *Masyarakat Katalis Indonesia* - Indonesian Catalyst Society (MKICS) (<https://mkics.bcrec.id>). The technical management of this journal is supported by BCREC Publishing Group (<https://bcrec.id>) and jointly with Department of Chemical Engineering, Universitas Diponegoro.

The BCREC journal has been indexed and abstracted by: Elsevier Products (Scopus, Compendex / Engineering Village), Web of Science (Emerging Source Citation Index) by Clarivate Analytics with Journal Impact Factor (JIF), Chemical Abstract Services (CAS), CABI, ASEAN Citation Index (ACI), DOAJ, Digital Dimensions, and other reputable indexers.

Fulltext PDFs of this journal have been distributed around the world by EBSCO Publishing (Academic Search Complete, Academic Search Premiere, and Academic Search R&D packages) and ProQuest Databases started from Volume 4 Number 1 Year 2009 to present.

JOURNAL METRIC ANALYSIS (2026)

- * Scopus ID : 19900191860
- * SJR 2025 : 0.333 (increased from 0.300)
- * Quartile SJR 2025 : Q3
- * CiteScore 2025 : 3.0
- * Percentile CiteScore 2025 : 43th
- * Quartile CiteScore 2025 : Q3
- * Journal Impact Factor 2025 (JIF-WoS) : 1.6 (increased from 1.3)
- * Number of Citations 2025 (WoS) : 937 citations (increased from 780 citations)
- * Quartile JIF-WoS 2025 : Q3
- * SNIP 2025 : 0.400
- * Journal Citation Indicator 2025 (JCI-WoS) : 0.23 (increased from 0.21)
- * Quartile JCI-WoS 2025 : Q3



INDEXING AND ABSTRACTING

Bulletin of Chemical Reaction Engineering & Catalysis (e-ISSN: 1978-2993) has been covered (indexed and abstracted) by following indexing services:

1. [Scopus - \(Elsevier\)](#)
2. [EI-Compendex - Engineering Village](#)
3. [Scimago Journal Ranking \(SJR\)](#)
4. [Emerging Source Citation Index \(ESCI\) \(by Web of Science - Clarivate Analytics\)](#)
5. [Dimensions - Digital Science](#)
6. [ASEAN Citation Index \(ACI\)](#)
7. [SINTA 1 \(Accredited Grade S1\)](#)
8. ProQuest (Fulltext) Databases
9. EBSCO (Fulltext) Databases
10. [Chemical Abstract Service](#)
11. [Google Scholar](#)
12. [Directory of Open Access Journal \(DOAJ\)](#)
13. [ResearchGate](#)
14. [ROAD ISSN \(1978-2993\)](#)
15. WorldCat OCLC
16. CiteULike
17. Mendeley
18. SHERPA/RoMEO -
19. CrossRef Member
21. CABI Direct
22. SCIRUS - for scientific information
23. ULRICHSWEB Global Serial Directory
24. [Garuda, Kemendiktisainteks, Republic of Indonesia](#)

For detail please visit here: <https://journal.bcrec.id/index.php/bcrec/pages/view/indexing>.

TABLE OF CONTENTS, Vol. 21 Issue 3 Year 2026

This issue (Bulletin of Chemical Reaction Engineering & Catalysis, Volume 21 Issue 3 Year 2026) has been finalized and launched officially at 15th July 2026 and available online for the regular issue of 30th October 2026. This issue include 20 original research articles, 101 Authors from 14 countries/regions of origin (China (4), Viet Nam (12), Iraq (9), United States (1), Egypt (1), Algeria (8), Turkey (1), Indonesia (21), Kazakhstan (4), Morocco (1), Malaysia (40), Russian Federation (7), France (3), Canada (1)):

- [1] Cheng, Z., Liu, D., Fan, L., Shen, Y. (2026). Enhanced Photocatalytic Activity of Bi₃NbO₇ by Fabrication of CuBi₂O₄/Bi₃NbO₇ Heterojunction Photocatalyst. *Bulletin of Chemical Reaction Engineering & Catalysis*, 21(3), 526-538. DOI: <https://doi.org/10.9767/bcrec.20670>
- [2] Thanh, N. D., Thi, N. T., Nguyen, V. C., Pham, H. A. L. (2026). Facile Fabrication of Alginate–BiBDC Composite Beads for Efficient Removal of Methylene Blue from Aqueous Solutions. *Bulletin of Chemical Reaction Engineering & Catalysis*, 21(3), 539-552. DOI: <https://doi.org/10.9767/bcrec.20680>
- [3] Ali, N. D., Saed, U. A., Abdulnabi, W. A., Zeitoun, Z. (2026). Visible-Light Photocatalytic Degradation of Metronidazole Using Bismuth Oxide-Doped Erbium Oxide Anchored Graphene Oxide Nanocomposites: Kinetics and Mechanism. *Bulletin of Chemical Reaction Engineering & Catalysis*, 21(3), 553-568. DOI: <https://doi.org/10.9767/bcrec.20651>
- [4] Mahrez, N., Belkacem, F. Z., Amar, A., Khelifa, M., Çoruh, A., Boucif, F., Bessaha, F., Marouf-Khelifa, K., Khelifa, A. (2026). Enhanced Acid Orange 7 Adsorption by a Novel Organophosphorus-Modified Bentonite: Performance and Mechanistic Insights. *Bulletin of Chemical Reaction Engineering & Catalysis*, 21(3), 569-585. DOI: <https://doi.org/10.9767/bcrec.20675>
- [5] Wulanawati, A., Yulizar, Y., Mulijani, S., Rohman, F. (2026). The Incorporation of Hemin Catalysts and Alumina Nanoparticles in a Medium of Spondias mombin Leaf Extract of A Sulfonated Polysulfone-Polyaniline_Alumina Membrane Electrode Assembly for Fuel Cell Technologies. *Bulletin of Chemical Reaction Engineering & Catalysis*, 21(3), 586-599. DOI: <https://doi.org/10.9767/bcrec.20630>
- [6] Dao Duy, N., Vu Minh, T., Huynh Trung, H., Thu Vu, H. T. (2026). Effect of Calcination Temperature on Structural Properties and Photocatalytic Activity of TiO₂/Vermiculite Composite for Methylene Blue Degradation. *Bulletin of Chemical Reaction Engineering & Catalysis*, 21(3), 600-610. DOI: <https://doi.org/10.9767/bcrec.20736>
- [7] Ali, S. M., Alwared, A. I. (2026). Improvements in Photocatalytic Activity in Visible Light Destruction of Chlorpyrifos in a Batch Reactor Applying the Z-Scheme g-C₃N₄/Fe₃O₄/CuWO₄/CuO Heterojunction, Including Fabrication, Characterization, and Recycling. *Bulletin of Chemical Reaction Engineering & Catalysis*, 21(3), 617-637. DOI: <https://doi.org/10.9767/bcrec.20698>
- [8] Ulfa, M., Lestari, S. (2026). Role of Ni and Zn Dopants in Modulating the Structure and Photocatalytic Activity of Mesoporous Silica–Cu Catalysts for Methylene Blue Degradation. *Bulletin of Chemical Reaction Engineering & Catalysis*, 21(3), 657-670. DOI: <https://doi.org/10.9767/bcrec.20679>
- [9] Nurgaliyev, N., Mussa, N., Azat, S., Amrousse, R., Toshtay, K. (2026). Catalytic Aromatization of Propane-Butane Fractions over Polyfunctional Zeolite Catalysts: Effect of Process Parameters. *Bulletin of Chemical Reaction Engineering & Catalysis*, 21(3), 683-696. DOI: <https://doi.org/10.9767/bcrec.20667>
- [10] Hassan, A. F., Abdulsahib, H. T., Al-Doghachi, F. A. J., Yun Hin, T. (2026). Efficient Deoxygenation of Palm Oil to Green Diesel Using a Metal Oxide Catalysts Supported on ZrO₂-Enhanced Graphene Oxide. *Bulletin of Chemical Reaction Engineering & Catalysis*, 21(3), 697-709. DOI: <https://doi.org/10.9767/bcrec.20693>
- [11] Kubanova, M., Yureva, T., Yatsenko, E., Kataria, Y. V., Kuriganova, A., Lipkin, M., Smirnova, N. (2026). Cation-dependent Behavior of Aluminium under Pulsed Electrolysis. *Bulletin of Chemical Reaction Engineering & Catalysis*, 21(3), 710-716. DOI: <https://doi.org/10.9767/bcrec.20728>

- [12] Nhung, N. T. H., Nhu, P. T. H., Pham, H. A. L., Nguyen, T. H. A. (2026). ZIF-67 Incorporated Sodium Alginate/Polyvinyl Alcohol Composite Beads for Efficient Adsorptive Removal of Reactive Blue 19 from Aqueous Solution. *Bulletin of Chemical Reaction Engineering & Catalysis*, 21(3), 737-748. DOI: <https://doi.org/10.9767/bcrec.20747>
- [13] Suprihatin, I. E., Sukmaningsih, A. A. S. A., Dwipayanti, N. M. U., Widihati, I. A. G., Diantariani, N. P., Suastuti, N. G. A. D. A., Dewi, I. G. A. K. S. P. (2026). Green Synthesis of Silver Nanoparticles Using Soursop Leaf Extract for Photocatalytic Degradation of Textile Wastewater. *Bulletin of Chemical Reaction Engineering & Catalysis*, 21(3), 749-759. DOI: <https://doi.org/10.9767/bcrec.20726>
- [14] Roslan, M. I., Zubaidi, N. H., Derek, C. J. C., van Hullebusch, E. D., Chang, S. H. (2026). Recovery of Gold Nanoparticles from Aqueous Solutions via Hydrogen Peroxide Reduction using Self-Propelled Palm Shell-Supported Manganese Dioxide Composites. *Bulletin of Chemical Reaction Engineering & Catalysis*, 21(3), 500-506. DOI: <https://doi.org/10.9767/bcrec.20628>
- [15] Nordin, M. I., Ideris, A., Azim Razat, M. S., Jamilatun, S., Pitoyo, J., Linarti, U., Ainirazali, N. (2026). Optimized Cobalt-Loaded Palm Oil Fuel Ash (Co/POFA) Catalyst for Syngas Production via Ethanol Dry Reforming. *Bulletin of Chemical Reaction Engineering & Catalysis*, 21(3), 507-515. DOI: <https://doi.org/10.9767/bcrec.20662>
- [16] Nayeem, A., Ali, M. F., Narayanan, A., Shariffuddin, J. H. (2026). Sustainable Removal of Methylene Blue Using an Inverse-Vulcanized Polysulfide Derived from Waste Cooking Palm Oil. *Bulletin of Chemical Reaction Engineering & Catalysis*, 21(3), 516-525. DOI: <https://doi.org/10.9767/bcrec.20623>
- [17] Wan Ranizang, W. N. A. A., Jusoh, M., Asmadi, M., Zakaria, Z. Y. (2026). Influence of Ni/CeO₂ on Pyrolytic Conversion of FOBS to Hydrogen Formation. *Bulletin of Chemical Reaction Engineering & Catalysis*, 21(3), 604-616. DOI: <https://doi.org/10.9767/bcrec.20677>
- [18] Hari, Z. K. U., Rasad, N. S., Mahmud, M. S. (2026). Apparent Reaction Kinetics of Crude Palm Oil Dechlorination Using Sodium Silicate Solution. *Bulletin of Chemical Reaction Engineering & Catalysis*, 21(3), 638-645. DOI: <https://doi.org/10.9767/bcrec.20687>
- [19] Hanafi, N. S. S., Ideris, A., Rahayu, A., Setyawan, M., Aktawan, A., Setiabudi, H. D., Ainirazali, N. (2026). Tailoring the Structural Evolution of Co-Supported Fibrous ZSM-5 via Hydrothermal Aging for Syngas Production in Ethanol Dry Reforming. *Bulletin of Chemical Reaction Engineering & Catalysis*, 21(3), 646-656. DOI: <https://doi.org/10.9767/bcrec.20686>
- [20] Abd Majid, N. Z., Shamjuddin, A., Asmadi, M., Asli, U. A., Hussain, S. N., Yulianti, R. T., Zainan, N. H., Jaafar, N. R., Masri, A. N., Christophe, G., Michaud, P. (2026). Optimization and Kinetic Studies of Enzymatic Saccharification of Double-Stage Ozonolysis Pretreated Oil Palm Empty Fruit Bunch for Enhanced Sugar Production. *Bulletin of Chemical Reaction Engineering & Catalysis*, 21(3), 717-736. DOI: <https://doi.org/10.9767/bcrec.20721>