Volume 2026

Conference collection

2nd International Conference on Chemistry, Chemical Process and Engineering (IC3PE)

Yogyakarta, Indonesia
14 August 2018

Editors
Is Fatimah, Hideya Kawasaki, Azlan Kamari, Laemthong Chuenchom, M. Arsyik Kurniawan S., Imam Sahroni and Miqdam Musawwa

AIP | Conference Proceedings

proceedings.aip.org

COMMITTEES

Chairperson
Dr. Is Fatimah (Universitas Islam Indonesia, Indonesia)

Editorial and Advisory Board
Dr. Is Fatimah (Universitas Islam Indonesia, Indonesia)
Prof. Dr. Parvez Haris (De Monfort University, UK)
Prof. Fethi Kooli (Taibah University, Madinah, SA)
Assoc. Prof. Oki Muraza (King Fahd University of Petroleum and Minerals, SA)
Assoc. Prof. Laemmthong Chuenchom (Prince Songkla University, Thailand)
Prof. Ponnadurai Ramasami (University of Mauritius)
Assoc. Prof. Sim Yoke Leng (Universiti Tunku Abdul Rahman, Malaysia)
Assoc. Prof. Azlan Kamari (Universiti Pendidikan Sultan Idris, Malaysia)
Prof. Dr. Nuryono (Universitas Gadjah Mada, Indonesia)
Prof. Hideya Kawasaki (Kansai University, Japan)
Prof. Riyanto (Universitas Islam Indonesia, Indonesia)
Dr. Dwiarso Rubiyanto (Universitas Islam Indonesia, Indonesia)

Technical Editor:
M.Arsyik Kurniawan S., M.Sc.
Iman Sahroni, M.Sc.
Miqdam Musawwa, M.Sc.

Organizing Committees
M.Arsyik Kurniawan S., M.Sc.
Wiyogo Prio Wicaksono, M.Si.
Gani Purwiandono, M.Sc.
Habibi Hidayat, M.Si.
Dhina Fitriastuti, M.Sc.
Argo Khoirul Anas, M.Sc.
Mai Anugrahwati, M.Sc.
Amri Setyawati, M.Sc.
Nurcahyo Iman Prakoso, M.Sc.
Miqdam Musawwa, M.Sc.
Iman Sahroni, M.Sc.
Ika Yanti, M.Sc.
Febi Indah Fajarwati, M.Sc.
Cecep Sa'bana Rahmatillah, S.Si.
Dedy Sugiarto, S.Si.

2nd International Conference on Chemistry, Chemical Process and Engineering (IC3PE)
AIP Conf. Proc. 2026, 010002-1–010002-1; https://doi.org/10.1063/1.5064960
Published by AIP Publishing. 978-0-7354-1746-5/$30.00

Table of Contents

2ND INTERNATIONAL CONFERENCE ON CHEMISTRY, CHEMICAL PROCESS AND ENGINEERING (IC3PE)

PREV NEXT

Conference date: 14 August 2018
Location: Yogyakarta, Indonesia
ISBN: 978-0-7354-1746-5
Editors:
Is Fatimah, Hideya Kawasaki, Azlan Kamari, Laemthong Chuenchom, M. Arsyik Kurniawan S., Imam Sahroni and Miqdam Musawwa
Volume number: 2026
Published: Oct 29, 2018

DISPLAY :

- 20
- 50
- 100
- all

PRELIMINARY

No AccessOctober 2018

Preface: 2nd International Conference on Chemistry, Chemical Process and Engineering 2018

AIP Conference Proceedings **2026**, 010001 (2018); https://doi.org/10.1063/1.5064959

- PDF
- E-READER
- ADD TO FAVORITES
- SHARE
- EXPORT CITATION

No AccessOctober 2018

Committees: 2nd International Conference on Chemistry, Chemical Process and Engineering 2018

AIP Conference Proceedings **2026**, 010002 (2018); https://doi.org/10.1063/1.5064960

- PDF
- E-READER
- ADD TO FAVORITES
- SHARE
- EXPORT CITATION

ARTICLES

No AccessOctober 2018

Release kinetics performance of ibuprofen molecule from ordered mesoporous carbon with deferent concentration of drug loading

Maria Ulfa, Rufaida M. Hasanah and Didik Prasetyoko
AIP Conference Proceedings **2026**, 020001 (2018); https://doi.org/10.1063/1.5064961

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

Influence of NH_4OH concentration in synthesis of bismuth oxide to physicochemical properties and photocatalytic activity in methyl orange degradation

Yayuk Astuti, Hartina Ningsih, Arneli and Adi Darmawan
AIP Conference Proceedings **2026**, 020002 (2018); https://doi.org/10.1063/1.5064962

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

Rapid analysis of adulterated sildenafil citrate in marketed herbal aphrodisiacs using infrared spectroscopy

Ardi Nugroho, Yoga Febriana, Maes Septiwi and Denox Asih Pratiwi
AIP Conference Proceedings **2026**, 020003 (2018); https://doi.org/10.1063/1.5064963

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

Advance oxidation treatment of dye waste using ZnO/activated carbon under UV illumination

Is Fatimah
AIP Conference Proceedings **2026**, 020004 (2018); https://doi.org/10.1063/1.5064964

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

In vitro antioxidant and α-glucosidase inhibitory assay of *Zingiber cassumunar* roxb.

Anastasia Wheni Indrianingsih and Amalia Indah Prihantini
AIP Conference Proceedings **2026**, 020005 (2018); https://doi.org/10.1063/1.5064965

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

Combined chemical, physical and biological treatment using *Chlorella vulgaris sp.* on landfill leachate

Subramaniam-Swarna Kamala, Lai-Hock Tey and Yoke-Leng Sim
AIP Conference Proceedings **2026**, 020006 (2018); https://doi.org/10.1063/1.5064966

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

Toxicity of copper (Cu) on the growth and chlorophyll-*a* contents of marine microalgae *Isochrysis* sp.

Triyoni Purbonegoro, Rachma Puspitasari, Suratno Suratno and Azki Syaifi Aji
AIP Conference Proceedings **2026**, 020007 (2018); https://doi.org/10.1063/1.5064967

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

Preparation of silica nanoparticles from geothermal sludge *via* sol-gel method

S. N. Aisyiyah Jenie, Almira Ghaisani, Yudia P. Ningrum, Anis Kristiani, Fauzan Aulia and Himawan T. M. B. Petrus
AIP Conference Proceedings **2026**, 020008 (2018); https://doi.org/10.1063/1.5064968

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

Different style of Langmuir isotherm model of non-competitive sorption Zn(II) and Cd(II) onto horse dung humic acid (HD-HA)

Rahmat Basuki, Yusnaidar Yusnaidar and Bambang Rusdiarso
AIP Conference Proceedings **2026**, 020009 (2018); https://doi.org/10.1063/1.5064969

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

An insight into the adsorption behavior of malachite green on DABCO (1,4-diazabicyclo[2.2.2]octane) modified bentonite

Tarmizi Taher, Lavini Indwi Saputri, Riza Antini, Afifah Rahma Dian, Risfidian Mohadi and Aldes Lesbani
AIP Conference Proceedings **2026**, 020010 (2018); https://doi.org/10.1063/1.5064970

- SHOW ABSTRACT
-
  - PDF

- E-READER
- ADD TO FAVORITES
- SHARE
- EXPORT CITATION

No AccessOctober 2018

Intercalation of Zn/Al layered double hydroxides with Keggin ion as adsorbent of cadmium(II)

Aldes Lesbani, Hensen Hensen, Tarmizi Taher, Nurlisa Hidayati, Risfidian Mohadi and Roy Andreas
AIP Conference Proceedings **2026**, 020011 (2018); https://doi.org/10.1063/1.5064971

- SHOW ABSTRACT
-
- PDF
- E-READER
- ADD TO FAVORITES
- SHARE
- EXPORT CITATION

No AccessOctober 2018

Validation of HPLC-UV method for the phenytoin determination in spiked-saliva for TDM application

Vitarani D. A. Ningrum, Ari Wibowo, Annisa Aninditya and Bibit C. Karunia
AIP Conference Proceedings **2026**, 020012 (2018); https://doi.org/10.1063/1.5064972

- SHOW ABSTRACT
-
- PDF
- E-READER
- ADD TO FAVORITES
- SHARE
- EXPORT CITATION

No AccessOctober 2018

Enhanced photocatalytic activity of WO_3 nanoparticles loaded with carbon

Ikrimah Aggita Basthiani, Hideya Kawasaki and Is Fatimah
AIP Conference Proceedings **2026**, 020013 (2018); https://doi.org/10.1063/1.5064973

- SHOW ABSTRACT
-
- PDF
- E-READER
- ADD TO FAVORITES
- SHARE
- EXPORT CITATION

No AccessOctober 2018

Determination of total and organic mercury in *Pinna muricata* by dispersive liquid-liquid extraction combined with mercury analyzer

Suratno Suratno and D. P. Jumas
AIP Conference Proceedings **2026**, 020014 (2018); https://doi.org/10.1063/1.5064974

- SHOW ABSTRACT
-
- PDF
- E-READER
- ADD TO FAVORITES
- SHARE
- EXPORT CITATION

No AccessOctober 2018

Short time effect of cadmium and copper on java medaka (*Oryzias javanicus*) as bioindicator for ecotoxicological studies

Rachma Puspitasari, Triyoni Purbonegoro and Dine Ika Putri

AIP Conference Proceedings **2026**, 020015 (2018); https://doi.org/10.1063/1.5064975

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

Optimization of simultaneous enzymatic inactivation and extraction of linamarin from cassava leaf by UV-assisted photobioextraction

Ivan Lukman Nur Rizki, Mohamad Endy Yulianto, Indah Hartati, Vita Paramita, Zainal Abidin, Qurrotun A'yuni Khoirun Nisa' and Indra Waspada

AIP Conference Proceedings **2026**, 020016 (2018); https://doi.org/10.1063/1.5064976

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

Exploitation of malonyl and succinyl chlorides in the dimerisation of ortho amino stilbenes

Maryam Sadat Alehashem, Azhar Ariffin and Noel F. Thomas

AIP Conference Proceedings **2026**, 020017 (2018); https://doi.org/10.1063/1.5064977

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

Adsorption of direct yellow dye from aqueous solution by Ni/Al and Zn/Al layered double hydroxides

Neza Rahayu Palapa, Risfidian Mohadi and Aldes Lesbani

AIP Conference Proceedings **2026**, 020018 (2018); https://doi.org/10.1063/1.5064978

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

Ecological changes over a century in the western coastal area of Jakarta Bay: Based on a short core sample

Ricky Rositasari, Rachma Puspitasari, Fitri Budiyanto and Lestari Lestari

AIP Conference Proceedings **2026**, 020019 (2018); https://doi.org/10.1063/1.5064979

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

Micro- and ultrafiltration technique in separating folic acid in corn (*Zea mays* var. *indentata*) hydrolyzate and identification of its monomer as fortificant of natural folic acid

Agustine Susilowati, Aspiyanto Aspiyanto, Yati Maryati and Puspa D. Lotulung
AIP Conference Proceedings **2026**, 020020 (2018); https://doi.org/10.1063/1.5064980

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

VLE of carbon dioxide loaded aqueous potassium lysinate with separate blends of piperazine and 2-amino-2-methyl-1-propanol

Afaf Syalsabila, Abdulhalim Shah Maulud, Nik Abdul Hadi Md Nordin and Humbul Suleman
AIP Conference Proceedings **2026**, 020021 (2018); https://doi.org/10.1063/1.5064981

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

Stability test of metformin hydrochloride in human plasma using HPLC-UV for the protocol of therapeutic drug monitoring of metformin

Ari Wibowo, Vitarani D. A. Ningrum and Nailatul Izzah
AIP Conference Proceedings **2026**, 020022 (2018); https://doi.org/10.1063/1.5064982

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

Congo red and direct yellow dye removal from aqueous solution by Zn/Cr layered double hydroxides

Bakri Rio Rahayu, Tarmizi Taher, Poedji Loekitowati Hariani and Aldes Lesbani
AIP Conference Proceedings **2026**, 020023 (2018); https://doi.org/10.1063/1.5064983

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

FTIR spectroscopy and color change of wood for assessment and monitoring of softwood degradation by white-rot fungus *Porodaedalea pini*

Sunardi Sunardi, Wiwin Tyas Istikowati, Futoshi Ishiguri and Shinso Yokota
AIP Conference Proceedings **2026**, 020024 (2018); https://doi.org/10.1063/1.5064984

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

Investigation of fast hot compressed water pretreatment of oil palm fronds for fermentable sugar production

Asma Nadia, Rodiansono Rodiansono and Sunardi Sunardi
AIP Conference Proceedings **2026**, 020025 (2018); https://doi.org/10.1063/1.5064985

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

Antihyperglycemia activity of self-nano emulsifying drug-delivery systems (SNEDDS) of *Ipomoea reptans*, Poir leaf ethanolic extract in zebrafish (*Danio rerio*)

Farida Hayati, Lutfi Chabib and Diah Dwi Darma
AIP Conference Proceedings **2026**, 020026 (2018); https://doi.org/10.1063/1.5064986

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

Development of desalination technology using reverse osmosis membrane for the provision of clean water in DKI Jakarta

Diana Mutia Pratiwi and Herdis Herdiansyah
AIP Conference Proceedings **2026**, 020027 (2018); https://doi.org/10.1063/1.5064987

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

Development of bioremediation in Indonesia: Laboratory scale theory and facts

Magfira Rilaningrum, Tri Edhi Budhi Soesilo and Herdis Herdiansyah
AIP Conference Proceedings **2026**, 020028 (2018); https://doi.org/10.1063/1.5064988

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

Study of geothermal direct use for coffee drying at Wayang Windu geothermal field

Rizqi Mahfudz Prasetyo, Arifin Wicaksono, Muhammad Kunta Biddinika and Fumitake Takahashi
AIP Conference Proceedings **2026**, 020029 (2018); https://doi.org/10.1063/1.5064989

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

Exploratory study on thermal microwave-assisted decomposition of *Eucheuma cottonii* carrageenan to 5-hydroxymethylfurfural and levulinic acid in aqueous medium

Boy Arief Fachri
AIP Conference Proceedings **2026**, 020030 (2018); https://doi.org/10.1063/1.5064990

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

Comparison study of crude oil price forecasting using generalized regression neural network and feed forward neural network

Kariyam Kariyam and Febby Anggraita Yuwinda P.
AIP Conference Proceedings **2026**, 020031 (2018); https://doi.org/10.1063/1.5064991

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

The effect of temperature and biomass pre-treatment on non-catalytic gasification of Indonesian sugarcane bagasse

Aldillah Herlambang, Shafwan Amrullah, Daniyanto Daniyanto, Yano Surya Pradana, Rochmadi and Arief Budiman
AIP Conference Proceedings **2026**, 020032 (2018); https://doi.org/10.1063/1.5064992

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

Synthesis of Ni/Al layered double hydroxides (LDHs) for adsorption of malachite green and direct yellow dyes from solutions: Kinetic and thermodynamic

Neza Rahayu Palapa, Tarmizi Taher, Risfidian Mohadi, Muhammad Said and Aldes Lesbani

AIP Conference Proceedings **2026**, 020033 (2018); https://doi.org/10.1063/1.5064993

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

Student's perception on case based learning implementation and foreign lecturer participation in medium classroom

Suci Hanifah, Yosi Febrianti and Che Suraya
AIP Conference Proceedings **2026**, 020034 (2018); https://doi.org/10.1063/1.5064994

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

Uncovering the geo-sites as geo-heritage potential to increase educational and socio-cultural value in Parangtritis, Yogyakarta, Indonesia

Istifari Husna Rekinagara, Alwin Mugiyantoro, Bellawan Kusuma Aji, Muhammad Kunta Biddinika and Fumitake Takahashi
AIP Conference Proceedings **2026**, 020035 (2018); https://doi.org/10.1063/1.5064995

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

The kinetic model and temperature effect of *Caulerpa Lentillifera* drying process

Amata Anantpinijwatna, Sitanan Nuntamongkol, Benjamaporn Tudkesorn, Orawan Sukchoy and Pawinee Deetae
AIP Conference Proceedings **2026**, 020036 (2018); https://doi.org/10.1063/1.5064996

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

Skill development on designing chemistry learning

Krisna Merdekawati
AIP Conference Proceedings **2026**, 020037 (2018); https://doi.org/10.1063/1.5064997

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

Inhibitory kinetics study of limonene and eugenol towards mixed culture of dark fermentative biohydrogen production

Khamdan Cahyari, Siti Syamsiah, Muslikhin Hidayat and Sarto Sarto
AIP Conference Proceedings **2026**, 020038 (2018); https://doi.org/10.1063/1.5064998

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

Evaluation of potential raw material for industrial scale bioethanol production in Indonesia

Laurentius Damar Parthasiwi, Dhimas Agung Kurniawan, Natali Gupita Abhirama, Hanifrahmawan Sudibyo and Yano Surya Pradana
AIP Conference Proceedings **2026**, 020039 (2018); https://doi.org/10.1063/1.5064999

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

Thermodynamic study on ligno-cellulosic pyrolysis on wood materials

Mohammad Wijaya, Erliza Noor, Tun Tedja Irawadi and Gustan Pari
AIP Conference Proceedings **2026**, 020040 (2018); https://doi.org/10.1063/1.5065000

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

Antimicrobial and antioxidant evaluation of Artocarpus altilis extract as potential preservatives for food

Khoirun Nisa, Vita Taufika Rosyida, Septi Nurhayati, Wuri Apriyana, Anastasia Wheni Indrianingsih and Dwi Ratih
AIP Conference Proceedings **2026**, 020041 (2018); https://doi.org/10.1063/1.5065001

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

Characterization of acid sites on modified kaolinite by FTIR spectra of pyridine adsorbed

Nelly Wahyuni, Georges Zissis and Zéphirin Mouloungui
AIP Conference Proceedings **2026**, 020042 (2018); https://doi.org/10.1063/1.5065002

- SHOW ABSTRACT
-
  - PDF

- E-READER
- ADD TO FAVORITES
- SHARE
- EXPORT CITATION

No AccessOctober 2018

Synthesis of Zn/Al layered double hydroxides as adsorbent for congo red and direct violet removal from aqueous solution

Yosi Saria, Tarmizi Taher, Poedji Loekitowati Hariani and Aldes Lesbani
AIP Conference Proceedings **2026**, 020043 (2018); https://doi.org/10.1063/1.5065003

- SHOW ABSTRACT
-
- PDF
- E-READER
- ADD TO FAVORITES
- SHARE
- EXPORT CITATION

No AccessOctober 2018

Comparison method of calcium analysis on filter layer water from Borobudur temple using automatic titration and atomic absorption spectrophotometer

Bayu Wiyantoko, Maya Fitria and Iskandar M. Siregar
AIP Conference Proceedings **2026**, 020044 (2018); https://doi.org/10.1063/1.5065004

- SHOW ABSTRACT
-
- PDF
- E-READER
- ADD TO FAVORITES
- SHARE
- EXPORT CITATION

No AccessOctober 2018

Validation on analysis method for phosphorus in solid inorganic fertilizer using UV-visible spectrophotometry

Bayu Wiyantoko, Muzdalifah Muzdalifah, Puji Kurniawati and Tri Esti Purbaningtias
AIP Conference Proceedings **2026**, 020045 (2018); https://doi.org/10.1063/1.5065005

- SHOW ABSTRACT
-
- PDF
- E-READER
- ADD TO FAVORITES
- SHARE
- EXPORT CITATION

No AccessOctober 2018

The hybridization of bed layer and electrodegradation to remove the chemical oxygen demand and total solid solution from the batik dye waste water

Siti Fatimah and Nur Hidayati
AIP Conference Proceedings **2026**, 020046 (2018); https://doi.org/10.1063/1.5065006

- SHOW ABSTRACT
-
- PDF
- E-READER
- ADD TO FAVORITES
- SHARE
- EXPORT CITATION

No AccessOctober 2018

Green one-step synthesis of 1-monoolein from Kabate Larva Oil

Febri Odel Nitbani, Hermania Em Wogo, Reinner Ishaq Lerrick and Dhina Fitriastuti

AIP Conference Proceedings **2026**, 020047 (2018); https://doi.org/10.1063/1.5065007

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

Potassium recovery from banana peels by hydrothermal treatment

Mustaqim Mustaqim, Chandra Wahyu Purnomo and Rochim Bakti Cahyono
AIP Conference Proceedings **2026**, 020048 (2018); https://doi.org/10.1063/1.5065008

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

Hydro-char production from press-mud wastes of the sugarcane industry by hydrothermal treatment with natural zeolite addition

Asroful Abidin, Chandra Wahyu Purnomo and Rochim Bakti Cahyono
AIP Conference Proceedings **2026**, 020049 (2018); https://doi.org/10.1063/1.5065009

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

Determination of order reaction on hydrolysis reaction of pineapple leaf

Muhaimin Muhaimin, Bayu Wiyantoko, Rahma Novia Putri and Rika Rusitasari
AIP Conference Proceedings **2026**, 020050 (2018); https://doi.org/10.1063/1.5065010

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

Implementation of cooperative learning through collaboration with foreign lecturer to improve students' understanding and soft skills in the course of drug delivery system

Yandi Syukri and Bambang Hernawan Nugroho
AIP Conference Proceedings **2026**, 020051 (2018); https://doi.org/10.1063/1.5065011

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

Recrystallization of sodium chloride as the candidate of in-house reference material

Yuli Rohyami, Ade Irma Yuliani and Hezna Intan Firdiyanti
AIP Conference Proceedings **2026**, 020052 (2018); https://doi.org/10.1063/1.5065012

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

A preliminary study on Ru/TiO_2 as heterogeneous catalyst for the depolymerization of empty fruit bunch-derived organosolv lignin

Nurita Sari, Adid Adep Dwiatmoko, Sudiyarmanto Sudiyarmanto, Nanda Saridewi, Fauzan Aulia and Nino Rinaldi
AIP Conference Proceedings **2026**, 020053 (2018); https://doi.org/10.1063/1.5065013

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

Preparation of TiO_2 nanorods as a coating material on Pt electrode for electrodegradation of methyl orange

Ganjar Fadillah, Sayekti Wahyuningsih and Ari Handono Ramelan
AIP Conference Proceedings **2026**, 020054 (2018); https://doi.org/10.1063/1.5065014

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

Comparative analysis method of C-organic in fertilizers by gravimetry and spectrophotometry

Tri Esti Purbaningtias, Nursi Biwi Qayyumah, Puji Kurniawati, Bayu Wiyantoko and Alfa Akustia Widati
AIP Conference Proceedings **2026**, 020055 (2018); https://doi.org/10.1063/1.5065015

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

Implementation of laboratory-based active knowledge sharing

Beta Wulan Febriana, Widinda Normalia Arlianty, Artina Diniaty and Lina Fauzi'ah
AIP Conference Proceedings **2026**, 020056 (2018); https://doi.org/10.1063/1.5065016

- SHOW ABSTRACT
-
  - PDF
  - E-READER

- ADD TO FAVORITES
- SHARE
- EXPORT CITATION

No AccessOctober 2018

Analysis of students learning style preference as initial steps in determining strategy of learning

Artina Diniaty, Lina Fauzi'ah, Beta Wulan Febriana and Widinda Normalia Arlianty
AIP Conference Proceedings **2026**, 020057 (2018); https://doi.org/10.1063/1.5065017

- SHOW ABSTRACT
-
- PDF
- E-READER
- ADD TO FAVORITES
- SHARE
- EXPORT CITATION

No AccessOctober 2018

Application of Taguchi optimization for nickel electrowinning using batch recycle methods

Sudibyo Sudibyo, A. Junaedi, M. Amin, A. S. Handoko, S. Sumardi, F. Nurjaman, B. B. Aji, Y. I. Supriyatna and L. Hermida
AIP Conference Proceedings **2026**, 020058 (2018); https://doi.org/10.1063/1.5065018

- SHOW ABSTRACT
-
- PDF
- E-READER
- ADD TO FAVORITES
- SHARE
- EXPORT CITATION

No AccessOctober 2018

Separating target components in corn (*Zea mays v*ar. *indentata*) hydrolyzed by *Rhizopus oligosporus strain* C_1 through ultrafiltration membrane for fortificant of natural folic acid

Aspiyanto Aspiyanto, Agustine Susilowati and Yati Maryati
AIP Conference Proceedings **2026**, 020059 (2018); https://doi.org/10.1063/1.5065019

- SHOW ABSTRACT
-
- PDF
- E-READER
- ADD TO FAVORITES
- SHARE
- EXPORT CITATION

No AccessOctober 2018

Pattern analysis on staff of work accident handling using Chi-squared automatic interaction detection and log linear models

Jaka Nugraha
AIP Conference Proceedings **2026**, 020060 (2018); https://doi.org/10.1063/1.5065020

- SHOW ABSTRACT
-
- PDF
- E-READER
- ADD TO FAVORITES
- SHARE
- EXPORT CITATION

No AccessOctober 2018

Cyclization reaction of 4-nitro-3'-4'-dimethoxychalcone and phenylhydrazine as antibacterial candidate

Lina Fauzi'ah and Tutik Dwi Wahyuningsih
AIP Conference Proceedings **2026**, 020061 (2018); https://doi.org/10.1063/1.5065021

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

Utilization of bamboo leaves wastes for methylene blue dye adsorption

Kuntari Kuntari and Febi Indah Fajarwati
AIP Conference Proceedings **2026**, 020062 (2018); https://doi.org/10.1063/1.5065022

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

Student profile in completing questions based on cognitive level of bloom's taxonomy by Anderson and Krathwohl

Widinda Normalia Arlianty, Beta Wulan Febriana, Artina Diniaty and Lina Fauzi'ah
AIP Conference Proceedings **2026**, 020063 (2018); https://doi.org/10.1063/1.5065023

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

Fermentation of pitaya (*Hylocereus polyrhizus*) juice by *L. acidophilus* in metabolism of sugars for cholesterol removal

Yati Maryati and Agustine Susilowati
AIP Conference Proceedings **2026**, 020064 (2018); https://doi.org/10.1063/1.5065024

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

Comparison of volumetric and FT-NIR method on iodine value of RBDPO and stearin

Puji Kurniawati, Gita Anggelina, Dadan Hamdani, Tri Esti Purbaningtias and Bayu Wiyantoko
AIP Conference Proceedings **2026**, 020065 (2018); https://doi.org/10.1063/1.5065025

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

Determination of ash content in coal using in-house reference materials

Bayu Wiyantoko, Tri Esti Purbaningtias and Puji Kurniawati
AIP Conference Proceedings **2026**, 020066 (2018); https://doi.org/10.1063/1.5065026

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

Characterization of solid product from bamboo waste (Gigantochloa apus) by hydrothermal treatment

Rizka Lestari, Agus Prasetya, Hary Sulistyo and Ahmad T. Yuliansyah
AIP Conference Proceedings **2026**, 020067 (2018); https://doi.org/10.1063/1.5065027

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

High-yield co-solvent free electrochemical production of biodiesel from waste cooking oil using waste concrete as heterogeneous catalyst

Wiyogo P. Wicaksono, Ardhika L. Marcharis, Yerika P. Sari, Putwi W. Citradewi and Grandprix T. M. Kadja
AIP Conference Proceedings **2026**, 020068 (2018); https://doi.org/10.1063/1.5065028

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

Potential identification of landfill mining result in zone 1 Piyungan landfill using composition analysis, waste characteristic analysis and soil stability analysis

Sheilla Nandya Parimita, Fatimah Nurul Tzaty, Hijrah Purnama, Arif Hidayat, Baskoro Lokahita and Fumitake Takahashi
AIP Conference Proceedings **2026**, 020069 (2018); https://doi.org/10.1063/1.5065029

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

The influence of papain concentration on deacetyllation degree of chitin

Yuli Rohyami, Reni Banowati Istiningrum and Ifa Puspasari
AIP Conference Proceedings **2026**, 020070 (2018); https://doi.org/10.1063/1.5065030

- SHOW ABSTRACT
-
  - PDF

- E-READER
- ADD TO FAVORITES
- SHARE
- EXPORT CITATION

No AccessOctober 2018

The effect of bromo chalcone [1-(4'-bromophenyl)-3-(4-hydroxy-3-methoxyphenyl)-2-propene-1-on] on T47D breast cancer cells

Retno Arianingrum and Indyah Sulistyo Arty
AIP Conference Proceedings **2026**, 020071 (2018); https://doi.org/10.1063/1.5065031

- SHOW ABSTRACT
-
- PDF
- E-READER
- ADD TO FAVORITES
- SHARE
- EXPORT CITATION

No AccessOctober 2018

Hydroxyapatite prepared from snail (*Pilla ampulacea*) and scallop (*Anadara granosa*) shells as low cost-renewable catalyst in biodiesel conversion

Is Fatimah, Rico Nurillahi, Della Fahrani, Tia Harmawantika, Greef Rose Aulia and Wellyana Puspitasari
AIP Conference Proceedings **2026**, 020072 (2018); https://doi.org/10.1063/1.5065032

- SHOW ABSTRACT
-
- PDF
- E-READER
- ADD TO FAVORITES
- SHARE
- EXPORT CITATION

No AccessOctober 2018

Project-based learning in chemical cosmetics course

Widinda Normalia Arlianty
AIP Conference Proceedings **2026**, 020073 (2018); https://doi.org/10.1063/1.5065033

- SHOW ABSTRACT
-
- PDF
- E-READER
- ADD TO FAVORITES
- SHARE
- EXPORT CITATION

No AccessOctober 2018

Essential oils from rhizhomes of five Zingiberaceae species in Meru Betiri National Park

Ika Oktavianawati, Hani Indah Kurniati, Khozinatul Maghfiroh, Nadhirotul Hanifah, Wuryanti Handayani and I. Nyoman Adi Winata
AIP Conference Proceedings **2026**, 020074 (2018); https://doi.org/10.1063/1.5065034

- SHOW ABSTRACT
-
- PDF
- E-READER
- ADD TO FAVORITES
- SHARE
- EXPORT CITATION

No AccessOctober 2018

The Cu-doped cryptomelane-type octahedral molecular sieve manganese oxide synthesized by sol-gel for the degradation of methylene blue

Amir Awaluddin, Lia Astuti, Amilia Linggawati, Siti Saidah Siregar, Prasetya Prasetya and Leo Saputra
AIP Conference Proceedings **2026**, 020075 (2018); https://doi.org/10.1063/1.5065035

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

Preparation and characterization of gold nanoparticles Lamtoro extract (*Leucaena leucocephala* (Lam.) de Wit) with eco-friendly biosynthesis process

Bambang Hernawan Nugroho, Suparmi Suparmi and Muhammad Rizal Syifaudin
AIP Conference Proceedings **2026**, 020076 (2018); https://doi.org/10.1063/1.5065036

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

Superhydrophobic coatings and self-cleaning through the use of geothermal scaling silica in improvement of material resistance

Ari Purnomo, Febio Dalanta, Adelia Dian Oktaviani and Silviana Silviana
AIP Conference Proceedings **2026**, 020077 (2018); https://doi.org/10.1063/1.5065037

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

Extraction of yttrium from yttrium concentrate (YPO_4) using aliquat 336 (tryoctylmethylammonium chloride)

Mila Tria Nita, Tri Handini and Nurcahyo Iman Prakoso
AIP Conference Proceedings **2026**, 020078 (2018); https://doi.org/10.1063/1.5065038

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

Modified student teams-achievement divisions (STAD) with case-based learning to improve the quality of respiratory and gastrointestinal pharmacotherapy course

Chynthia Pradiftha Sari
AIP Conference Proceedings **2026**, 020079 (2018); https://doi.org/10.1063/1.5065039

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES

- SHARE
- EXPORT CITATION

No AccessOctober 2018

Heavy metals (Fe and Cd) adsorption by natural zeolite from laboratory liquid waste of Institut Pertanian (INTAN) Yogyakarta

Nia Silvia Sukma and Muhammad Arsyik Kurniawan
AIP Conference Proceedings **2026**, 020080 (2018); https://doi.org/10.1063/1.5065040

- SHOW ABSTRACT
- PDF
- E-READER
- ADD TO FAVORITES
- SHARE
- EXPORT CITATION

No AccessOctober 2018

Mechanical properties of bioplastic from jackfruit seed (*Artocarpus heterophyllus*) plasticized by 1.4-butanediol and polyethylene glycol (PEG) 1000

Argo Khoirul Anas, Nanang Rudianto Ariefta, Yuni Nurfiana and Eli Rohaeti
AIP Conference Proceedings **2026**, 020081 (2018); https://doi.org/10.1063/1.5065041

- SHOW ABSTRACT
- PDF
- E-READER
- ADD TO FAVORITES
- SHARE
- EXPORT CITATION

No AccessOctober 2018

Validation method on sulfate determination of mortar sample from Mendut temple

Thorikul Huda, Destiana Murtiyani, Iskandar Mulia Siregar and Nahar Cahyandaru
AIP Conference Proceedings **2026**, 020082 (2018); https://doi.org/10.1063/1.5065042

- SHOW ABSTRACT
- PDF
- E-READER
- ADD TO FAVORITES
- SHARE
- EXPORT CITATION

No AccessOctober 2018

Effect of hydrogen peroxide on edible film from cassava starch

Dewi Sondari and Imad Iltizam
AIP Conference Proceedings **2026**, 020083 (2018); https://doi.org/10.1063/1.5065043

- SHOW ABSTRACT
- PDF
- E-READER
- ADD TO FAVORITES
- SHARE
- EXPORT CITATION

No AccessOctober 2018

Isolation and identification of probiotics bacteria as a producer of protease enzyme from fermentation of papaya seeds

Habibi Hidayat, Muhammad A. Auliya and Revita Anggreyani
AIP Conference Proceedings **2026**, 020084 (2018); https://doi.org/10.1063/1.5065044

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

Preparation and characterization of cao catalyst - polyethersulfone (PES) membrane for biodiesel production and purification

Misbahudin Alhanif, Ari Purnomo, Ummi Az Zuhra and Andri Cahyo Kumoro
AIP Conference Proceedings **2026**, 020085 (2018); https://doi.org/10.1063/1.5065045

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

Effect of slurry level error in flotation area against concentrate in process department Pt. Amman Mineral Nusa Tenggara

Tuti Purwaningsih and Johan Saputra
AIP Conference Proceedings **2026**, 020086 (2018); https://doi.org/10.1063/1.5065046

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

Cervical cancer model in Indonesia using geographically weighted regression (GWR)

Tuti Purwaningsih and Karina Noraprilia
AIP Conference Proceedings **2026**, 020087 (2018); https://doi.org/10.1063/1.5065047

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

Composites films conductivity of polyvinyl alcohol/graphene oxide with electrical properties

Muhammad Arsyik Kurniawan, Nadjib Mubarog, Sulis Nuke T., Yanti Apriani and M. Saleh Zamzamie
AIP Conference Proceedings **2026**, 020088 (2018); https://doi.org/10.1063/1.5065048

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

No AccessOctober 2018

Physicochemical character of nanoencapsulated *Kencur (Kaempferia galanga L.)* dreg extracts

Amri Setyawati, Nadha Yuliningtyas, Aulia Asyura Zamar and Muhammad Shaleh Zamzamie
AIP Conference Proceedings **2026**, 020089 (2018); https://doi.org/10.1063/1.5065049

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

Problem based learning (PBL) method as a synchronization approach of chromatography course and chromatography laboratory work

Dwiarso Rubiyanto, Mai Anugrahwati and Nurcahyo Iman Prakoso
AIP Conference Proceedings **2026**, 020090 (2018); https://doi.org/10.1063/1.5065050

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

Interaction study between 3,4,5-trihydroxy benzoic acid-modified Mg/Al-hydrotalcite with Au ions on the adsorption process of $AuCl_4^-$

Ika Yanti, Sri Juari Santosa and Indriana Kartini
AIP Conference Proceedings **2026**, 020091 (2018); https://doi.org/10.1063/1.5065051

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

The effect of material electrode for removal of COD and ammonia in hospital liquid waste water using batch electrolysis

Riyanto Riyanto, Wardani Suryaningrum, Asjeni Putri, Putri Apriliani Suhartyna, Indah Setia Ningrum, Herliyana Herliyana, Meyta Zahrahyanti and Riasari Ayu Nurfatimah
AIP Conference Proceedings **2026**, 020092 (2018); https://doi.org/10.1063/1.5065052

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

The properties of alginate/zeolite composite for Fe(III), Zn(II), and Fe-Zn storage

Muhammad Arsyik Kurniawan, Nia Silvia Sukma, Indah Rohmah W. and Dela Anggraini
AIP Conference Proceedings **2026**, 020093 (2018); https://doi.org/10.1063/1.5065053

- SHOW ABSTRACT
-

- PDF
- E-READER
- ADD TO FAVORITES
- SHARE
- EXPORT CITATION

No AccessOctober 2018

Synthesis and characterization of composite of Al_2O_3/activated carbon from palm oil shell by hydrothermal method

Allwar Allwar and Meidita Kemala Sari
AIP Conference Proceedings **2026**, 020094 (2018); https://doi.org/10.1063/1.5065054

- SHOW ABSTRACT
- PDF
- E-READER
- ADD TO FAVORITES
- SHARE
- EXPORT CITATION

No AccessOctober 2018

Impact of early clinical exposure on learning achievement of pharmacy students

Yosi Febrianti
AIP Conference Proceedings **2026**, 020095 (2018); https://doi.org/10.1063/1.5065055

- SHOW ABSTRACT
- PDF
- E-READER
- ADD TO FAVORITES
- SHARE
- EXPORT CITATION

No AccessOctober 2018

Project based learning model integrated with lesson study to increase student's learning outcome on buffer solution topic

Retno Dwi Suyanti and Yovy Ardianti Sinuraya
AIP Conference Proceedings **2026**, 020096 (2018); https://doi.org/10.1063/1.5065056

- SHOW ABSTRACT
- PDF
- E-READER
- ADD TO FAVORITES
- SHARE
- EXPORT CITATION

No AccessOctober 2018

Validation method of cis and trans fatty acids determination in vegetable oils using gas chromatography for food products

Yus Maria Novelina and Sumi Hudiyono
AIP Conference Proceedings **2026**, 020097 (2018); https://doi.org/10.1063/1.5065057

- SHOW ABSTRACT
- PDF
- E-READER
- ADD TO FAVORITES
- SHARE
- EXPORT CITATION

No AccessOctober 2018

Removal of Ni (II) and Cu (II) ions from aqueous solution using rambutan fruit peels (*Nephelium lappaceum L.)* as adsorbent

Rinaldi Rinaldi, Yasdi Yasdi and Winny Laura Christina Hutagalung
AIP Conference Proceedings **2026**, 020098 (2018); https://doi.org/10.1063/1.5065058

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

Utilization of floc from Tilapia (*Oreochromis niloticus*) farming with biofloc technology as substrate in the culture medium of *Daphnia magna*

Muhammad Hanif Azhar, Mohammad F. Ulkhaq, Suciyono Suciyono, Prayogo Prayogo, Dewi Fatmawati, Novi Nurlatiffah, Abi Dewantoro and Mai Anugrahwati
AIP Conference Proceedings **2026**, 020099 (2018); https://doi.org/10.1063/1.5065059

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

Modelling on human immunodeficiency virus case using Poisson bivariate regression

Jaka Nugraha and Welly Nur Armawati
AIP Conference Proceedings **2026**, 020100 (2018); https://doi.org/10.1063/1.5065060

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

Preparation and arachnicide of polyvinyl alcohol/starch/ginger oils composite films

Yeni Yeni, Anisa Selfiana, Wiwit Nurjanah and Muhammad Arsyik Kurniawan
AIP Conference Proceedings **2026**, 020101 (2018); https://doi.org/10.1063/1.5065061

- SHOW ABSTRACT
-
  - PDF
  - E-READER
  - ADD TO FAVORITES
  - SHARE
  - EXPORT CITATION

Adsorption of Fe(III) on the biosorbent from polymerization process of nephelium fruit peel extract

Ika Yanti, Atika Dewi Rahmawati, Megawati Putri Setyaningrum, Wahyu Fajar Winata, Mai Anugrahwati and Febi Indah Fajarwati
AIP Conference Proceedings **2026**, 020102 (2018); https://doi.org/10.1063/1.5065062

- SHOW ABSTRACT

- PDF
- E-READER
- ADD TO FAVORITES
- SHARE
- EXPORT CITATION

No AccessOctober 2018

The molecular identification of pathogenic bacteria from pineapple fruit *(Ananas comosus* Merr.*)*

Habibi Hidayat
AIP Conference Proceedings **2026**, 020103 (2018); https://doi.org/10.1063/1.5065063

- SHOW ABSTRACT

- PDF
- E-READER
- ADD TO FAVORITES
- SHARE
- EXPORT CITATION

No AccessOctober 2018

Synthesis and heme polymerization inhibitory assay of a new arylamino alcohol derivative compound from methyl eugenol and aniline

Tatang Shabur Julianto, Jumina Jumina, Hardjono Sastrohamidjojo and Mustofa Mustofa
AIP Conference Proceedings **2026**, 020104 (2018); https://doi.org/10.1063/1.5065064

- SHOW ABSTRACT

- PDF
- E-READER
- ADD TO FAVORITES
- SHARE
- EXPORT CITATION

No AccessOctober 2018

In vitro antiplasmodial activity of extract and fraction of temu mangga (*Curcuma mangga*) against Plasmodium falciparum 3D7

Dhina Fitriastuti, Annisa Wahyu Nur Iman, Dea Alvine Lutfiani and Dian Yuliyanti
AIP Conference Proceedings **2026**, 020105 (2018); https://doi.org/10.1063/1.5065065

- SHOW ABSTRACT

- PDF
- E-READER
- ADD TO FAVORITES
- SHARE
- EXPORT CITATION

No AccessOctober 2018

Reducer of glycemic index in rice (ROGER): A novel device to reduce the glycemic index in rice for diabetic patient

Nurul Hidayah, David Arohman, Istnaini 'Ainur Rohmah, Damas Reza Pramuditya, Desi Nasriyanti and Dhina Fitriastuti
AIP Conference Proceedings **2026**, 020106 (2018); https://doi.org/10.1063/1.5065066

- SHOW ABSTRACT

- PDF
- E-READER
- ADD TO FAVORITES
- SHARE
- EXPORT CITATION

Reducer of glycemic index in rice (ROGER): A novel device to reduce the glycemic index in rice for diabetic patient

Cite as: AIP Conference Proceedings **2026**, 020106 (2018); https://doi.org/10.1063/1.5065066
Published Online: 29 October 2018

Nurul Hidayah, David Arohman, Istnaini 'Ainur Rohmah, Damas Reza Pramuditya, Desi Nasriyanti, and Dhina Fitriastuti

Reducer of Glycemic Index in Rice (ROGER) : A Novel Device to Reduce The Glycemic Index in Rice for Diabetic Patient

Nurul Hidayah[1, a)], David Arohman[2)], Istnaini 'Ainur Rohmah[3)], Damas Reza Pramuditya[2)], Desi Nasriyanti[4)] and Dhina Fitriastuti[4)]

[1] *Medical Education Department, Faculty of Medicine, Universitas Islam Indonesia*
[2] *Industrial Engineering Department, Faculty of Industrial Engineering, Universitas Islam Indonesia*
[3]*Communication Department, Faculty of Psychology and Socio-Cultural Sciences, Universitas Islam Indonesia*
[4]*Chemistry Department, Faculty of Mathematic and Natural Science, Universitas Islam Indonesia*

[a)]Corresponding author: 15711227@students.uii.ac.id

Abstract. Globally in 2010, the prevalence of patient with diabetes mellitus (DM) in 20-79 years old is 6.4% (285 million) and will increase until 7.7% (439 million) in 2030. DM is a disease characterized by hyperglycemia due to abnormality insulin secretion, insulin action, or both. If it uncontrolled can causes complications such as retinopathy, nephropathy, and neuropathy. The one of prevention for DM complication is lifestyle modification, such as setting the amount of glucose intake. Carbohydrate is thought as the highest glucose content, it's about 74% of the total composition. Carbohydrate contains SR (starch resistant) that include amylose lipid 1, the substance which can melt at <100ºC and amylose lipid 2, the substance which can melt at >100ºC. Therefore, we made an innovation of making carbohydrate in a low level of glucose and we called it ROGER (Reducer Glycemic Index in Rice). The process of making ROGER starts from March until July 2018 in the laboratory of mechanical engineering faculty, chemical laboratory, and hospital of PKU Muhammadiyah. The method used in this process is Kaizen, Usability method, LuffScholer method, and quasi-experiments. Basically, ROGER was made from two kinds of instruments there are centrifuge and heater. The result was 5 minutes to reached the appropriate rice, while the centrifuge speeds were 9000 rpm. To know the result, we have to do the identification test of glucose level by using Luff-Scholer method. The result of conventional rice were water content (65.48%) and glucose levels (1.22%). While in the treatment group using ROGER rice obtained water content (66.04%) and glucose levels (0.03%). After that, we did the test in uncomplicated diabetes mellitus type-2 patients. The comparison of in-time blood glucose and two-hour post-prandial on patient 1 (P1), P2, P3, P4, and P5 used ROGER's rice are 116 to 108, 172 to 79, 221 to 215, 173 to 167, and 93 to 91 ($P>0.05$; $n = 5$).

INTRODUCTION

Patient of Diabetes Mellitus (DM) per year has increased. The prevalence of DM at the age of 20 until 79 years in the world in 2010 is 6.4% (285 million), and will increase to 7.7% (439 million) by 2030. In 1995, Indonesia ranked 7th out of 10 countries which suffered from DM that is 4.5 million people. It is estimated by 2050 Indonesia will occupy the number 5 with total sufferer as much as 12.4 million people [1]. When viewed in every area, it brings that in 2013 the sufferer DM encountered in special region of Yogyakarta (2.6%). Sufferers of DM in DKI Jakarta area i.e. amounting to (2.5%), North Sulawesi (2.4%), and East Kalimantan (2.3%) [2].

Diabetes Mellitus is a metabolic disease characterized by the increased of blood glucose level on the body. DM occurs due to the lack of insulin production or failure of the use of insulin by body's cells [3]. There are 2 types of DM i.e. DM type 1 and type 2. DM type 1 is a autoimmune reaction that caused damage to pancreatic beta cells, while the DM type 2 occurs due to the inability of the body to use insulin to the maximum quantity [4].

Uncontrolled diabetes can lead to the occurrence of complications of DM. According to [5], complication of DM were divided into 2 groups of disease (micro vascular disease and macro vascular disease). Micro vascular disease such as decreased vision (retinopathy), kidney damage (nephropathy), and nerve damage (neuropathy). While macro vascular disease include stroke, heart failure, dementia, and atherosclerosis.

2nd International Conference on Chemistry, Chemical Process and Engineering (IC3PE)
AIP Conf. Proc. 2026, 020106-1–020106-5; https://doi.org/10.1063/1.5065066
Published by AIP Publishing. 978-0-7354-1746-5/$30.00

The main key to prevent complication is to prevent the progressivity of the disease. This is mainly achieved by way of regulating sugar levels stabilized. Lifestyle modification is one of simple actions that can be performed by sufferers to prevent possible complications. One of the lifestyle modification efforts in people with DM is by setting the amount of glucose that enters the body. Carbohydrate is the main source and the most contributor to the high level of blood glucose in people. Generally, people in Indonesia always use carbohydrate from white rice as an energy source. According to [6], rice is thought to be a food that has a high glycemic index. Glycemic index is the level of foodstuffs according to the influence ability at blood sugar in human body. A diabetes mellitus patient can have elevated blood glucose level rapidly when they consume it with a high of glycemic index.

Rice obtained from conventional process. This process can trigger an increase in blood glucose due to the conventional cooking that result the increasing of fluid and glucose content as much as 74% [7]. Therefore, in-depth research needs to be done to create a modern rice processing technology that can lowering the glycemic index in rice. This research aim to create a modern rice processing tool that is capable of lowering the glycemic index of rice, which we call with ROGER (Reducer of Glycemic Index in Rice) is expected to help in producing rice with low glucose levels so as to expand the marketing target.

EXPERIMENTAL SECTION

Research Design

The design of this research are Kaizen and Usability method for making the ROGER device, Luff-Scholer method for glucose level examination, and quasi-experiments with Pretest-Posttest Only Control Group Design for checking blood glucose in patient.

Tools and Materials

The ROGER's tools are acrylic, aluminum plate, bolt, nut, aluminum wire, cable, male cable, female cable, gear, heater, temperature sensor, LCD, resistor, capacitor, DC motor, Arduino Uno, LED, glue and switch. The glucose level examination is Fehling solution. Further, for blood glucose examination are glucometer, ethanol, glucose strips, tissue, mask, and gloves.

Variable identify

This research contain two kind of variables there are independent variable include patient DM type 2 non-complicated and the ROGER. Then, dependent variable include blood glucose level, blood glucose 2 hour post prandial in patients with non-complicated DM, and glucose levels in the rice

Time and Place of Research

This research start from March – July 2018 in several place:

1) UII Mechanical Laboratory for the manufacture and trial of ROGER's device.
2) Chemistry Laboratory to examine the glucose level on rice by analysis of glucose level by Luff-scholer test and double beam UV-Vis spectrophotometer.
3) PKU Muhammadiyah hospital to get sample of DM type 2 patient

Research Subject

This study is a pilot study or a preliminary study so that the total respondents for the quasi-experimental are 10 people who will be divided randomly into 2 groups (groups with conventional rice processing and processing rice with BG trole).

Respondent referred to in this research is patient of type 2 diabetes non complication. Exclusion criteria are patients obtained from medical record data experiencing complications such as liver, eye, and kidney disorders. While, the inclusion criteria are all patients of Diabetes Mellitus Type 2 in PKU Muhammadiyah Hospital Yogyakarta.

The way to recruit research subjects is to conduct patient medical record analysis in RS PKU Muhammadiyah, then do random sampling of Diabetes Mellitus Type 2 patient, then done eksklusi on patient who have complication caused by DM Type 2. During the research process, the researcher undertakes the effort in maintaining patient's safety by performing the whole patient's history data collection, if there is dangerous

risk factor then the patient will be excluded and if the result is hypoglycemic or hyperglycemic in the patient then the intervention is stopped and then cooperate with the hospital to treat the patient. The intervention process carried out on the patient is by giving conventional rice as the control group and ROGER's rice as the experimental group. After the intervention of rice, then the patient will check the blood sugar level by Glucometer. The examination allows the pain to occur in the patient, to overcome this problem, the researcher attempts to do the best possible, not to do repetition in peripheral blood taking, and provide the act of handling pain as quickly as possible.

RESULT AND DISCUSSION

Carbohydrate levels in rice can be modified in various ways. It is known that the rice undergoing the heating process can increase the starch resistant (SR) [8]. SR is one component in carbohydrates that can function as dietary fiber, it can inhibit the absorption process in digestive and inhibit the release of glucose from the food. SR contains amylose lipid 1, the substance which can melt at <100°C and amylose lipid 2, the substance which can melt at >100°C. Based on [9] ratio of carbohydrate test results between dry rice and normal rice is 8.31% and 10.72%.

In this research, we designed a tool called ROGER that can reduce the glycemic index of rice, based on existing theories, which in turn modify the workings of this tool with centrifuges. First, conventional rice is regularly tested glucose levels, and then compared with rice glucose levels that have been processed with our tools. Based on the analysis and results of our research, it was found that ROGER has an advantage in lowering glucose levels in rice, which has been proven by using Luff-scholer chemical test.

In this study also discusses the role of rice that has been lowered glucose levels to prevent the increase in blood glucose levels on diabetes mellitus patients. The result is appropriate with our hypothesis that we have proposed, the ROGER influential in lowering glucose levels in rice, and rice that has been dried by using ROGER proven effective in lowering blood glucose levels DM non-complicated patients.

ROGER's Device

The ROGER's device were made using Kaizen method and continued by processing white rice by boiling it, then the main process was decreasing the glycemic index by centrifuge it and the results is in five minute it can produce a white rice with the main characteristic is dry properly (Table 1).

TABLE 1. The time needed to centrifuge the white rice after boiled process.

No.	Time	Rice condition
1	30 second	Still Wet
2	1 minute	Still Wet
3	2 minute	Still Wet
4	3 minute	A small portion is dry
5	4 minute	A small portion is dry
6	5 minute	Dry properly
7	6 minute	Dry properly
8	7 minute	Dry properly
9	8 minute	Rice become darken

The result that suitable with theory is on the 5 minute with the appropriate rice structure, that is neither too dry nor wet. After that, we did the usability test using usability method. For about 31 respondents give the positive respond to ROGER's device. It shows in the result of usability test that 100% of respondent can use ROGER easily and they want to have the ROGER's device.

Glucose Level in Rice

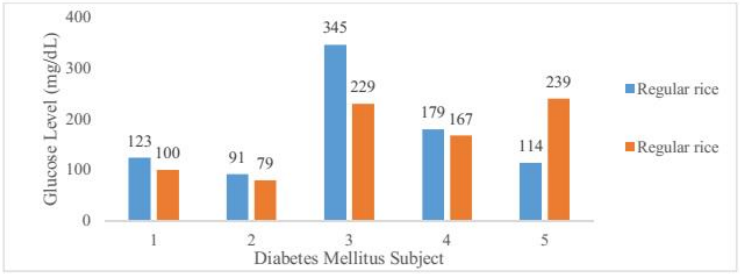
The next analysis is glucose test by Luff-scholer method to find out the decrease of glucose level in each rice. The result of glucose and water level in regular and ROGER rice are showed on Table 2. It shows that the water level of ROGER rice is increase for 0.56% than regular rice. The sugar level of ROGER rice is decrease for 1.19% from regular rice.

TABLE 2. Glucose and Water Level of Regular and ROGER Rice

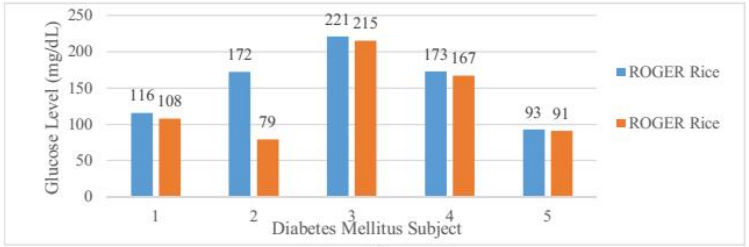
Sample	Analysis	
	Water level (%)	Sugar level (%)
Regular rice	65.48	1.22
ROGER Rice	66.04	0.03

Clinical Test

After ROGER's rice proved to decrease glucose level, the rice was then tested to DM patient, with minimum sample 10 persons, there are 5 persons as a control group that is given by conventional rice and 5 persons as a treatment group that is given by ROGER rice. The result obtained after testing on 10 subjects showed in Fig 1.



(a)



(b)

FIGURE 1. Clinical test result of Diabetes mellitus subject with (a) Regular rice and (b) ROGER rice.

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1 GDSK - GD2PP	7.600	86.037	38.477	-99.229	114.429	.198	4	.853

(a)

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	GDSK - GD2PP	23.000	39.192	17.527	-25.663	71.663	1.312	4	.260

(b)

FIGURE 2. Paired Sample of (a) Regular rice test and (b) ROGER rice test

From the results of the test, then we make a statistical test by IBM SPSS Statistic 2.0 program. In regular rice, the result shows that P value of the test is 0.853 (P > 0,05). It can be refer that there is no different result between pre and posttest. While the ROGER's rice the P value is 0.260 (P>0.05). It is also shows that there is no significant differentiation between pre and post-test after ROGER's rice intervention.

CONCLUSION

Based on the results of our research on mechatronic laboratory, chemical laboratory, and PKU Muhammadiyah Yogyakarta Hospital, we found that ROGER rice has lower glycaemic index than conventional rice, and besides that ROGER rice was proved can inhibit the increase of blood glucose DM patients.

ACKNOWLEDGMENT

This research was funded by Student Creativity Program-Technology from Ministry of Research, Technology and Higher Education, Indonesian Government

REFERENCES

1. World Health Organization, World Health Statistics 2012 (WHO Press, Geneva; 2012).
2. Kementrian Kesehatan RI. Infodatin-Situasi Dan Analisis Diabetes, (Kementrian Kesehatan RI, Jakarta, 2014).
3. A. K. Abbas, J. C. Aster and V. Kumar, Buku Ajar Patologi Robbins (Elsevier Saunders, Singapura, 2015).
4. V. Kumar, Basic Pathology (Elsevier, Singapura, 2012).
5. J. M. Forbes and M. E. Cooper, Physiol Rev. 93 137–188 (2013).
6. A. Rohman, A. Helmiyanti, M. Hapsari and D. L. Setyaningrum, Int Food Res J. 21, 13-24 (2013).
7. R. Villegas, Y. T. Gao and Q. Dai, Am. J. Clin Nutr. 89, 1059-67 (2009).
8. P. Haryanti, R. Setyawati and R. Wicaksono, Agritech. 34 (2014).
9. T. Ariyadi and H. Anggraini, "Penetapan kadar karbohidrat pada nasi aking yang dikonsumsi masyarakat desa Singorojo Kabupaten Kendal", Prosiding Seminar Nasional, ISBN: 978.979.704.883.9, 2010).

IC3PE

UNIVERSITAS ISLAM INDONESIA

Certificate

Presented to

Dhina Fitriastuti

as PRESENTER

The 2nd International Conference on Chemistry, Chemical Process and Engineering

14th August 2018 | Yogyakarta

Prof. Riyanto, S.Pd., M.Si., Ph.D.
Dean of Faculty of Mathematics and Natural Sciences

Dr. Is Fatimah, S.Si., M.Si.
Organizing Chairperson of IC3PE