GreenTech

2019
Book of Abstracts

10th International Conference on Green Technology 2019

Empowering the 4.0 Industrial Revolution Through Green Science and Technology

Malang, October 2nd- 3rd, 2019

Organized by :

IOP Conference Series Materials Science and Engineering

ALCHEMY Journal of Chemistry

CAUCHY Jurnal Matematika Murni dan Aplikasi

JURNAL NEUTRINO Jurnal Fisika dan Aplikasinya

MATICS Jurnal Ilmu Komputer dan Teknologi Informasi

Sponsored by :

PT. Dharma Karya Makmur Sentosa

Ruko Surya Inti Permata Jl. Jemur Andayani 50 Blok D 8-9 Surabaya- Indonesia

Phone. 62 (31) 8418284, 8476971 Fax. 62 (31) 8418476

thermoscientific

GeneCraft Labs

PREFACE

THE DEAN OF FACULTY OF SCIENCE AND TECHNOLOGY

UNIVERSITAS ISLAM NEGERI MAULANA MALIK IBRAHIM MALANG

It is our pleasure to very warm welcome all participant to the 2019 10th International Conference on Green Technology (ICGT 2019) in Faculty of Science and Technology, Universitas Islam Negeri Maulana Malik Ibrahim Malang. The ICGT have started ten years ago and this year, the theme of the conference is "*Empowering the Fourth Industrial Revolution through Green Science and Technology*". Now, we are entering the fourth industrial revolution which will influence all aspect in the civilization of humankind. Thus, we hope through this conference we can contribute by the result of green science and technology in Empowering the Fourth Industrial Revolution through Green Science and Technology. And also, we hope this conference can bring academic scientists, engineers, industry researchers together to discuss, exchange and share their experiences and research results about green technology.

We would like to thank:

1. Rector and Vice-Rector of Universitas Islam Negeri Maulana Malik Ibrahim for their assistance and support for 10th International Conference on Green Technology.
2. Academic board committee for work in abstract and paper review.
3. The event organizing committee for managing this conference.
4. All the keynote speaker who willingly attended this conference.
5. Special Thanks to IOP Conference Proceeding Series, Journal of Islamic Architecture, ALCHEMY Journal of Chemistry, NUTRINO Journal, CAUCHY, and MATICS.

We wish all participants of 10th ICGT an enjoyable scientific meeting in Malang, Indonesia. We look forward to seeing all of you next year at 11th ICGT

Dean of Faculty of Science and Technology
UIN Maulana Malik Ibrahim Malang

Dr. Sri Harini

ORGANIZED BY

FACULTY OF SCIENCE AND TECHNOLOGY

UNIVERSITAS ISLAM NEGERI MAULANA MALIK IBRAHIM MALANG

SPONSORED BY

TABLE OF CONTENT

ID ABSTRACT: ABS-123

Preparation of ZSM-5 from Rice Husk Silica and Aluminum Foil Using Tetrapropylammonium Bromide (TPABr) as a Template

K D Pandiangan[1]*, W Simanjuntak[1], Ilim[1], D Herasari[1], D I Alista[1]

[1]Department of Chemistry, University of Lampung, Bandar Lampung, Indonesia

*e-mail: kamisah.delilawati@fmipa.unila.ac.id

Zeolite of the type ZSM-5 is an interesting material with various applications, one of them as a catalyst. In this research, ZSM-5 was prepared from rice husk silica and food-grade aluminum foil using tetrapropylammonium bromide (TPABr) as a template or structure-directing agent. The main purpose of the study is to investigate the effect of crystallization time on structure, microstructure, and the activity of zeolites as catalyst for rubber seed oil transesterification. The preparation of zeolites was conducted with hydrothermal process at fix temperature of 180℃ with varied crystallization time of 24, 48, 72, 96, and 120 h. The samples were calcined at 600 °C for 6 h and then characterized using XRD and SEM technique. The XRD and SEM characterization confirmed that ZSM-5 was successfully produced from raw materials and preparation procedures applied. The zeolites also exhibited catalytic activity in transesterification to convert fatty acids in rubber seed oil into corresponding methyl esters.

Keywords: ZSM-5, rice husk silica, aluminum foil, catalyst, transesterification, rubber seed oil

CERTIFICATE

NO: 2821/FST/PP.09/10/2019

This certificate is hereby awarded to:

KAMISAH DELILAWATI PANDIANGAN

Our sincerest gratitude for your contribution as

Poster Presenter

during the conduct of

INTERNATIONAL CONFERENCE ON GREEN TECHNOLOGY

"Empowering the 4.0 Industrial Revolution through Green Science and Technology"

Held on October 2th - 3rd, 2019 at Savana Hotel & Convention Malang, East Java, Indonesia

Chairperson

Rachmawati Ningsih, M.Si

Dean,
Faculty of Science and Technology

Dr. Sri Harini, M.Si

IOP Conference Series
Earth and Environmental Science

GeneCraft Labs

thermoscientific

PT. Dharma Karya Makmur Sentosa