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

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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

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Hydrogen Bond on Conformational Change during the Movement of Lid lipMNK

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Manuk lipase (lipMNK) is an enzyme from Geobacillus uzunensis indigenous to Manuk Crater, Garut, West Java. The catalytic activity of lipMNK is highly dependent on conformational change from closed lid (c-lipMNK) to open lid (o-lipMNK). LipMNK is a lipase that has double lids in segments 175 - 195 and 221- 230. One of the interactions involved in this conformational change is the hydrogen bond. Observation of hydrogen bond at the movement of lid was carried out by molecular dynamics simulation with AMBER software and structural analysis using VMD 1.9.3. In this conformational change of lipMNK, there are 54 hydrogen bonds that are conserved; while 26 pairs of hydrogen bond interactions in c-lipMNK are lost and 34 new hydrogen bond interactions are formed in the o-lipMNK in the lid opening movement. Out of the interactions above, only 6 pairs of interactions involve residues in the lid segment. The residues are Arg179, Lys229, Phe225, Phe267 as hydrogen bond donors and residues Asp175, Asp182, Glu226, Phe221, and Thr160 as hydrogen bond acceptors. These residues are thought to have an important role in maintaining stability and activity of lipMNK.

Keywords: lipase, lipMNK, conformational change, hydrogen bond

CERTIFICATE

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This certificate is hereby awarded to:

DIAN HERASARI

Our sincerest gratitude for your contribution as

Poster Presenter

during the conduct of

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