**COVER LETTER**

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Dear Editor of Indonesian Journal of Chemistry,

We wish to submit an original research article entitled “**Decolorization and Transformation of Synthetic Dye Methylene Blue by Brown-rot Fungus *Fomitopsis pinicola*”** for consideration by Indonesian Journal of Chemistry.

We confirm that the written manuscript is original, and no part of it has been published before, nor is any part of it currently under consideration for publication elsewhere.

Methylene blue (MB) is often used as a dye in the textile industry worldwide, due to easy accessibility and relatively cheap price. However, the stability is substantial to eliminate the challenges of nature degradation process and eliminate damage to the environment at large concentrations. In addition, MB also affect humans and animals in the form of gastrointestinal and skin irritations, as well as cyanosis inhalation. Hence, some treatment methods have been developed to reduce and minimize the adverse impacts through decolorization and degradation procedures.

Brown-rot fungi (BRF) are one of the microorganisms that can be used in the biodegradation which due to its capability on producing hydroxyl radicals from the Fenton reaction, which one of them is *Fomitopsis pinicola*. This fungus be an appropriate alternative in degrading MB via biological Fenton reaction.

Novelty: The MB decolorization in liquid PDB medium showed the highest percentage of decolorization of 92.56% at MB concentration of 100 mg/L after 14-days incubation. The analysis results using LC-TOF/MS showed that detected metabolites from MB biodecolorization, namely 3-amino-7-(methylaminophenothiazin-5-ium (Azure C), 3-(dimethylamino)-7-(methylamino) phenothiazin-5-ium (Azure B), and 3,7-Bis(dimethylamino)-4aH-phenothiazin-5-one. Based on the detected product metabolites, the MB degradation pathway was proposed through demethylation and oxidation reactions. In our best knowledge, this study is the first report of decolorization and biotransformation of MB by *F. pinicola*.

Please find below a list of potential reviewers for this work.

1. Hirofumi Hirai, Department of Forest Resources Science, Faculty of Agriculture, Shizuoka University, Japan. [afhhirai@agr.shizuoka.ac.jp](mailto:afhhirai@agr.shizuoka.ac.jp). Expert on fungal transformation.
2. Tony Hadibarata, Associate Professor, Environmental Engineering Program, Department Civil and Construction Engineering, Faculty of Engineering and Science, Curtin University, Malaysia. hadibarata@curtin.edu.my. Expert on biodegradation of organic pollutants.
3. Shree Nath Singh, Plant Ecology & Environmental Science Division, CSIR-National Botanical Research Institute, Lucknow, India. [drsn06@gmail.com](mailto:drsn06@gmail.com). Expert on bioremediation of organic pollutants.

We have no conflicts of interest to disclose.

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Your consideration is very much appreciated. We are looking forward to your favorable reply.

Sincerely,

On behalf of all authors

Adi Setyo Purnomo