**COVER LETTER**

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Dear Editor of Indonesian Journal of Chemistry,

We wish to submit an original research article entitled “**The Biotransformation and Biodecolorization of Methylene Blue by Xenobiotic Bacterium *Ralstonia pickettii*”** 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.

*Ralstonia pickettii* is a xenobiotic bacterium with potential application in the biodegradation of dyes and has not been previously reported. The metabolic complexity of this species is responsible for the lengthy history of degradation processes in various xenobiotic wastes. Furthermore, the approximately 98% of MB have been successfully decolorized after 18 hours of incubation, while azure A (AA), thionin, leuco-, and Glucose-MB were detected as metabolic products. Based on identification on metabolites, the MB degradation pathway was also proposed which MB degradation was initiated through a reductase attack on the heterocyclic central chromophore group present in the structure, which produced leuco-MB and glucose-MB. Moreover, azure A and thionin fragments resulted from the attacks on the auxochrome group by N-demethylase enzyme. This research is providing evidence for the potential to use *R. pickettii* in the biodecolorization and biotransformation of dye waste, particularly MB.

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.

Please address all correspondence concerning this manuscript to me at [adi\_setyo@chem.its.ac.id](mailto:adi_setyo@chem.its.ac.id) or [adi.spurnomo@yahoo.com](mailto:adi.spurnomo@yahoo.com).

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

Sincerely,

On behalf of all authors

Adi Setyo Purnomo

**List of Potential Reviewers**

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