

# Green Treatment Process for the Decolorization and Biodegradation of Synthetic Azo Dyes †

Faridha Begum. I<sup>1</sup>, Manikandan. K<sup>1</sup>, Hemalatha.S<sup>1,\*</sup>

<sup>1</sup> School of Life Sciences, B.S. Abdur Rahman Crescent Institute of Science and Technology, Vandalur, Chennai-48, India

\* Correspondence: [hemalatha.sls@crecident.education](mailto:hemalatha.sls@crecident.education);

† Presented at Virtual symposium to observe World Antimicrobial Awareness week “Applications of biotechnology and microbiology with special emphasis on Antimicrobial resistance”, 18-24 November 2020, Chennai, India

**Received: 10.11.2020; Revised: 15.11.2020; Accepted: 17.11.2020; Published: 10.01.2021**

**Abstract:** Textile, leather, and dyeing industries largely produce effluents contaminated with dyes. The textile dye industries consume a substantial amount of water and produce an extensive amount of waste that is contaminated with dyes such as reactive dyes, azo dyes, and much more non-degradable waste materials. Hence there is a pressing need to treat the tannery effluent since it contains hazardous chemicals and microorganisms and can pose a huge threat to the environment. This current work is focused on isolating the novel azo dye degrading bacterial species present in the tannery effluent that can degrade the azo black dye, which is used in textile, tannery, and paper industries. The current results suggested that one bacterial isolate from tanneries can be utilized to degrade the dye from textile industries, which can be further utilized for agriculture.

**Keywords:** tannery effluent; azo black dye; dye degradation; bacterial isolate.

---

© 2021 by the authors. This article is an open-access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

## Funding

This research received no external funding.

## Acknowledgments

The authors thankful to B. S. Abdur Rahman Crescent Institute of Science and Technology, Vandalur for providing research facilities in School of Life Sciences.

## Conflicts of Interest

The authors have no conflict of interest.