

Enzymatic reactions in the production of biomethane from organic waste

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Abstract

Enzymatic reactions refer to organic reactions catalyzed by enzymes. This review aims to enrich the documentation relative to enzymatic reactions occurring during the anaerobic degradation of residual organic substances with emphasis on the structures of organic compounds and reaction mechanisms. This allows to understand the displacement of the electron between electron-rich and electron-poor entities to form new bonds in products. The detailed mechanisms of enzymatic reactions relative to the production of biomethane have not yet been reviewed in the scientific literature. Hence, this review is novel and timely as it discusses the chemical behavior or the reactivity of different functional groups, thereby allowing to better understand the enzymatic catalysis in the transformations of residual proteins, carbohydrates, and lipids into biomethane and fertilizers. Such understanding allows to improve the overall biomethanation efficiency in industrial factors.



Biography:

Topwe Milongwe MWENE-MBEJA, Ph. D., Organic chemistry, University of Laval, Quebec, Canada. He is a professor of organic chemistry at the Department of chemistry, Faculty of Science, University of Lubumbashi, DR Congo. Research interest: Organic chemistry: Our group is interested in the discovery of pharmaceutical organic naturally occurring products possessing properties against cancer. Our group is also interested in green chemistry projects related to the prevention of pollution of the environment and sustainable development.

Speaker Publications:

1. Biotechnology and Educational Awareness as Ecological Means to Handle Organic Residues
Jan 2020 DOI: 10.32474/CTBM.2019.01.000120
2. Evaluation of Anticancer Activities of Clerodendrum formicarum Gurke (Lamiaceae) and Syzygium Cordatum Hochst ex Krauss (Myrtaceae) Harvested in the City of Lubumbashi and its Surroundings in the Democratic Republic of The Congo
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