# Article information:

Microbial demethylation of lignin: Evidence of enzymes participating in the removal of methyl/methoxyl groups - ScienceDirect  
<https://www.sciencedirect.com/science/article/abs/pii/S0141022921000387?via%3Dihub>

# Article summary:

1. Microbial O-demethylase offers a promising modification in lignin, xenobiotic and drugs.

2. Fungal and bacterial modifications can be used to demethylate lignin for potential commercial applications.

3. Enzymes such as cytochrome P450 O-demethylase, monooxygenase, veratrate 3-O-demethylase, DDVA O-demethylase, vanillate O-demethylase, syringate O-demethylase, and tetrahydrofolate-dependent-O-demethylase are involved in the demethylation of lignin.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

This article provides an overview of microbial demethylation of lignin and the enzymes involved in this process. The article is well written and provides a comprehensive overview of the topic with relevant information on the various enzymes involved in the process. The article also discusses potential applications of lignins and demethylated lignins as well as critical and technical challenges associated with lignin demethylation.

The article is generally reliable and trustworthy; however, there are some points that could be improved upon. For example, while the article does discuss potential applications of lignins and demethylated lignins, it does not provide any evidence or data to support these claims. Additionally, while the article does mention some potential risks associated with microbial demethylation of lignin (e.g., production of methanol), it does not provide any detailed information on how these risks can be mitigated or avoided. Furthermore, while the article mentions both fungal and bacterial modifications for demethylating lignin, it focuses primarily on bacterial modifications without providing much detail on fungal modifications or their potential benefits/risks. Finally, while the article does provide a comprehensive overview of the topic at hand, it fails to explore counterarguments or present both sides equally which could have provided a more balanced view on the topic discussed in this article.

# Topics for further research:

* Fungal lignin demethylation
* Bacterial lignin demethylation
* Mitigation of risks associated with microbial demethylation of lignin
* Benefits of fungal lignin demethylation
* Applications of demethylated lignin
* Counterarguments to microbial demethylation of lignin

# Report location:

<https://www.fullpicture.app/item/34ffd4ad514ea6d0ff37173f4f100bf5>