# Article information:

Nanocellulose-based polymeric nanozyme as bioinspired spray coating for fruit preservation - ScienceDirect
[http://cwres.ncu.edu.cn/s/com/sciencedirect/www/G.https/science/article/pii/S0268005X22006580?via%3Dihub;x-chain-id=85g2kjvj2tc0](http://cwres.ncu.edu.cn/s/com/sciencedirect/www/G.https/science/article/pii/S0268005X22006580?via%3Dihub&;x-chain-id=85g2kjvj2tc0)

# Article summary:

1. A biopolymeric nanozyme was created by biomineralizing in situ metal-organic frameworks (MOF) on nanocellulose.

2. The biohybrid nanofibers were verified to possess dual enzyme biomimicry, antibacterial performance, UV resistance, and biocompatibility.

3. The nanozyme coating improved the quality and extended the shelf life of bananas and mangos when sprayed onto them.

# 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:

The article “Nanocellulose-based polymeric nanozyme as bioinspired spray coating for fruit preservation” is a well-written piece that provides an overview of the potential applications of nanozymes in food packaging and preservation. The authors provide a comprehensive review of the research conducted on this topic, including the synthesis of carboxymethyl cellulose nanofibers grafting enzyme-like metal-organic frameworks (CNF@Ce-MOF), their characterization, and their application in active packaging for fruit preservation. The article is written in a clear and concise manner, making it easy to understand for readers with varying levels of knowledge about the subject matter.

The article does not appear to be biased or one-sided; rather, it presents both sides of the argument fairly and objectively. It also provides evidence to support its claims, such as data from experiments conducted on model fruits (bananas and mangos). Additionally, it acknowledges potential risks associated with using nanozymes in food packaging, such as toxicity concerns due to their nanoscale size.

In terms of trustworthiness and reliability, this article appears to be reliable as it cites relevant sources throughout its text and provides evidence for its claims. However, there are some areas where more information could have been provided; for example, while the authors discuss potential risks associated with using nanozymes in food packaging, they do not provide any further details or explore counterarguments regarding these risks. Additionally, while the authors discuss possible mechanisms causing nonspecific bacteria death due to CNF@Ce-MOF coating (i.e., •O2− generation and adenosine triphosphate depletion), they do not provide any further evidence or explanation for these mechanisms.

In conclusion, this article is generally trustworthy and reliable; however, there are some areas where more information could have been provided in order to make it even more comprehensive and informative.

# Topics for further research:

* Nanocellulose-based polymeric nanozyme
* Enzyme-like metal-organic frameworks
* Active packaging for fruit preservation
* Nanoscale toxicity concerns
* •O2− generation mechanism
* Adenosine triphosphate depletion mechanism

# Report location:

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