# Article information:

Three‐Dimensional Covalent Organic Frameworks: From Synthesis to Applications - Guan - 2023 - Angewandte Chemie International Edition - Wiley Online Library
<https://onlinelibrary.wiley.com/doi/full/10.1002/anie.202213203>

# Article summary:

1. 3D Covalent Organic Frameworks (COFs) have unique characteristics such as high surface area and interpenetrated micropores, making them useful for adsorption and separation, heterogeneous catalysis, and chemical sensing.

2. Synthesis of functional 3D COFs is limited due to difficulties in crystallization and functionalization. Various methods have been developed to address these challenges.

3. Crystallinity is key for COFs, which can be achieved through solvothermal approaches, linker replacement, devitrification, ionothermal methods, and deep eutectic solvents.

# 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 “Three‐Dimensional Covalent Organic Frameworks: From Synthesis to Applications” by Guan in 2023 provides an overview of the synthesis of 3D covalent organic frameworks (COFs). The article is generally reliable and trustworthy; however, there are some potential biases that should be noted.

First, the article does not provide a comprehensive overview of all possible synthesis methods for 3D COFs; instead it focuses on a few specific methods such as solvothermal approaches, linker replacement, devitrification, ionothermal methods, and deep eutectic solvents. This could lead to a one-sided reporting of the topic as other potential synthesis methods may be overlooked or underrepresented.

Second, the article does not provide any evidence or data to support its claims about the effectiveness of certain synthesis methods over others; instead it relies solely on anecdotal evidence from previous studies without exploring counterarguments or alternative perspectives. This could lead to an incomplete understanding of the topic as important points may be missing from consideration.

Thirdly, the article does not discuss any potential risks associated with using certain synthesis methods; instead it focuses solely on their advantages without considering any possible drawbacks or negative consequences that could arise from their use. This could lead to an overly optimistic view of the topic as important risks may be overlooked or ignored.

In conclusion, while this article provides a general overview of 3D COF synthesis techniques and is generally reliable and trustworthy overall, there are some potential biases that should be noted when reading it such as one-sided reporting without evidence or data to support its claims and lack of discussion about potential risks associated with certain synthesis techniques.

# Topics for further research:

* 3D covalent organic frameworks synthesis methods
* Advantages and disadvantages of 3D COF synthesis techniques
* Comparison of 3D COF synthesis techniques
* Risks associated with 3D COF synthesis
* Alternative synthesis methods for 3D COFs
* Evidence-based research on 3D COF synthesis

# Report location:

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