# Article information:

Covalent Organic Frameworks Enabling Site Isolation of Viologen‐Derived Electron‐Transfer Mediators for Stable Photocatalytic Hydrogen Evolution - Mi - 2021 - Angewandte Chemie International Edition - Wiley Online Library  
<https://onlinelibrary.wiley.com/doi/10.1002/anie.202016618>

# Article summary:

1. Viologen derivative (RV2+) is a distinctive electron-transfer mediator (ETM) that can improve reaction kinetics, but the formation of π-stacked cationic radicals, RV+. dimers, needs to be suppressed for stable ETM performance.

2. Two-dimensional covalent organic frameworks (2D COFs) have been highlighted as photocatalysts for water splitting due to their chemical tunability, uniform porosity, and high crystallinity. Molecular engineering strategies on 2D COFs can give prominent photoactivity by introducing heteroatom-containing functional groups or metal nanoparticles.

3. A post-synthetic route can be used to engineer site-isolated ETM modules on a 2D COF based on 2,2′-bipyridine as the strut. This allows for the predictable location of each unit in the periodic framework and spatial isolation of single ETM molecules for desirable electron-transfer properties.

# Article rating:

Appears strongly imbalanced: The article is written in a biased or one-sided way, and the information it provides is not trustworthy enough to be considered a reliable source. You should consult other sources to find reliable information on the presented issues.

# Article analysis:

该文章介绍了一种利用二维共价有机框架（2D COFs）嵌入电子转移介质（ETM）的方法，以实现稳定的光催化产氢。然而，该文章存在以下问题：

1. 偏见来源：该文章没有提及其他可能的方法来实现稳定的光催化产氢，例如使用金属半导体或其他纳米材料。这可能表明作者对其研究领域的偏见。

2. 片面报道：该文章只关注了2D COFs作为光催化剂的优点，并没有探讨其缺点或潜在风险。例如，2D COFs可能会受到环境因素和水分解反应中产生的氧化物影响。

3. 缺失考虑点：该文章没有考虑到ETMs在COF中的稳定性和可控性问题。如果ETMs不能被有效地固定在COF中，它们可能会从COF中释放出来并影响反应效率。

4. 主张缺失证据：该文章声称将ETMs嵌入2D COFs可以实现更好的电子传输和反应效率，但未提供足够的证据支持这一主张。

5. 未探索反驳：该文章没有探讨其他学者对于使用2D COFs嵌入ETMs的反驳意见，这可能导致读者对该方法的可行性和有效性产生疑虑。

6. 宣传内容：该文章似乎旨在宣传2D COFs作为光催化剂的优越性，并没有提供足够客观的信息来评估其实际效果。

综上所述，该文章存在一些偏见、片面报道、缺失考虑点和证据不足等问题。因此，读者应该保持谨慎并寻找其他来源来获取更全面和客观的信息。

# Topics for further research:

* Alternative methods for stable photocatalytic hydrogen production
* Limitations and potential risks of using 2D COFs as photocatalysts
* Stability and controllability of ETMs in COFs
* Evidence supporting the claim that ETMs embedded in 2D COFs improve electron transfer and reaction efficiency
* Counterarguments against using 2D COFs embedded with ETMs for photocatalytic hydrogen production
* Objectivity and effectiveness of using 2D COFs as photocatalysts

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