# Article information:

Rapid Synthesis of Si-Rich SSZ-13 Zeolite under Fluoride-Free Conditions | Inorganic Chemistry
<https://pubs.acs.org/doi/10.1021/acs.inorgchem.2c03749?ref=PDF>

# Article summary:

1. Zeolites are an important class of silica-based porous materials, widely used as catalysts and adsorbents in the chemical industry.

2. SSZ-13 zeolite has a 3-dimensional 8-membered rings (8-MRs) micropore structure with a large ellipsoidal cavity.

3. This article presents a rapid synthesis of Si-rich SSZ-13 zeolite under fluoride-free conditions, which could be completed at 160 °C for 4 h when aging of the starting gel is 3 h at room temperature after the addition of a zeolite seed.

# 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 provides an overview of the synthesis of Si-rich SSZ-13 zeolite under fluoride-free conditions, and presents a method for its rapid synthesis at 160 °C for 4 h when aging of the starting gel is 3 h at room temperature after the addition of a zeolite seed. The article appears to be well researched and reliable, providing evidence from previous studies to support its claims. The authors have also provided detailed information on the experimental section, which adds to the trustworthiness and reliability of the article.

However, there are some potential biases that should be noted in this article. For example, while it mentions some potential applications for Si-rich SSZ-13 zeolite such as methanol to olefin reaction and adsorption of volatile organic compounds, it does not provide any evidence or data to support these claims. Additionally, while it mentions that Al-rich SSZ-13 zeolite was initially synthesized from alkali solution under hydrothermal conditions over several days, it does not explore other methods or techniques that could potentially be used for its synthesis. Furthermore, while it mentions advances in improved preparation of Si-rich SSZ-13 zeolite achieved by using rapid or fluoride free synthesis, it does not provide any details on these advances or their implications for practical application.

In conclusion, while this article provides an overview on the synthesis of Si-rich SSZ 13 zeolite under fluoride free conditions and presents a method for its rapid synthesis at 160 °C for 4 h when aging of the starting gel is 3 h at room temperature after the addition of a zeolite seed, there are some potential biases that should be noted such as lack of evidence or data to support certain claims made in the article and lack of exploration into other methods or techniques that could potentially be used for its synthesis.

# Topics for further research:

* Synthesis of Si-rich SSZ-13 zeolite under hydrothermal conditions
* Alternative methods for synthesis of Al-rich SSZ-13 zeolite
* Practical applications of Si-rich SSZ-13 zeolite
* Evidence for methanol to olefin reaction using Si-rich SSZ-13 zeolite
* Adsorption of volatile organic compounds using Si-rich SSZ-13 zeolite
* Implications of rapid or fluoride free synthesis of Si-rich SSZ-13 zeolite

# Report location:

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