# Article information:

Acid/alkali pretreatment enhances the formation of vivianite during anaerobic fermentation of waste activated sludge - ScienceDirect  
<https://www.sciencedirect.com/science/article/pii/S0301479722013330>

# Article summary:

1. Acid/alkali pretreatment effectively promoted Fe2+ release and vivianite formation.

2. pH3 pretreatment was more conducive to increase iron reduction and the ratio of Fe–P.

3. The size of vivianite crystal was increased by pH3 pretreatment.

# 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 “Acid/alkali Pretreatment Enhances the Formation of Vivianite During Anaerobic Fermentation of Waste Activated Sludge” is a well-researched and comprehensive study on the effects of acid/alkali pretreatment on the formation of vivianite during anaerobic fermentation (AF) of waste activated sludge (WAS). The authors have provided detailed information about the WAS sample, inoculum, sludge pretreatment, preparation of external iron source, batch fermentation, and analytical methods used in their study. The results showed that acid/alkali pretreatment effectively promoted Fe2+ release and vivianite formation, with pH3 being more conducive to increase iron reduction and the ratio of Fe–P as well as increasing the size of vivianite crystal after AF.

The article is generally reliable and trustworthy due to its comprehensive research methodology and detailed analysis. However, there are some potential biases that should be noted. Firstly, the authors did not explore any counterarguments or alternative solutions for improving iron reduction and phosphorus release rates during AF of WAS other than acid/alkali pretreatment. Secondly, they did not provide any evidence for their claims regarding the effectiveness of acid/alkali pretreatment in promoting Fe2+ release and vivianite formation during AF. Thirdly, they did not discuss any possible risks associated with using acid/alkali pretreatments such as corrosion or environmental pollution caused by chemical residues from these treatments. Finally, they did not present both sides equally when discussing the advantages and disadvantages of using acid/alkali pretreatments for improving iron reduction and phosphorus release rates during AF of WAS.

In conclusion, this article is generally reliable but there are some potential biases that should be noted when assessing its trustworthiness and reliability.

# Topics for further research:

* Alternative solutions for improving iron reduction and phosphorus release rates during AF of WAS
* Risks associated with acid/alkali pretreatments
* Corrosion caused by acid/alkali pretreatments
* Environmental pollution caused by chemical residues from acid/alkali pretreatments
* Advantages and disadvantages of using acid/alkali pretreatments
* Fe2+ release and vivianite formation during AF of WAS

# Report location:

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