

## Multiphase manganese oxides with micron cage structure as high-performance cathode material for AZIBs

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## Introduction



### Results

Preparation and microstructure of the materials



**P2** 

#### Characterization of structure and properties of materials



#### **Electrochemical performance**



#### **Energy Storage Mechanism**



#### References

[1] P. He, Q. Chen, M. Yan, etc., Building better zinc-ion batteries: A materials perspective, EnergyChem. 1 (2019) 100022.

[2] D. Selvakumaran, A. Pan, S. Liang, G. Cao, A review on recent developments and challenges of cathode materials for rechargeable aqueous Zn-ion batteries, J. Mater. Chem. A 7 (2019) 1829-18236.

[3] C. Zhu, G. Fang, S. Liang, etc., Zhou, Electrochemically induced cationic defect in MnO intercalation cathode for aqueous zinc-ion battery, Energy Stor. Mater. 24 (2020) 394-401.
[4] J. Ji, H. Wan, B. Zhang, etc., H. Wang, Co<sup>2+/3+/4+</sup>-Regulated Electron State of Mn-O for Superb Aqueous Zinc-Manganese Oxide Batteries, Adv. Energy Mater. 11 (2021) 2003203.

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# Thank you !

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