# Article information:

Electrolyte design for Li-ion batteries under extreme operating conditions | Request PDF
<https://www.researchgate.net/publication/368363445_Electrolyte_design_for_Li-ion_batteries_under_extreme_operating_conditions>

# Article summary:

1. The ideal electrolyte for LiNi0.8Mn0.1Co0.1O2 (NMC811)||graphite lithium-ion batteries should have the capability of supporting higher voltages, fast charging, and wide temperature range without lithium plating.

2. An electrolyte design strategy based on a group of soft solvents is proposed to meet all the requirements mentioned above.

3. Comprehensive analysis reveals an impedance matching between the NMC811 cathode and the graphite anode, effectively avoiding lithium plating at low temperatures.

# Article rating:

Appears moderately imbalanced: The article provides some useful information, but is missing several important points or pieces of evidence that would be required to present the discussed topics in a balanced and reliable way. You are encouraged to seek a more balanced perspective on the presented issues by exploring the provided research topics and looking at different information sources.

# Article analysis:

The article provides a detailed overview of an electrolyte design strategy for LiNi0.8Mn0.1Co0.1O2 (NMC811)||graphite lithium-ion batteries that can support higher voltages, fast charging, and wide temperature range without lithium plating. The article is well-structured and provides comprehensive evidence to support its claims through experiments and simulations conducted by the authors as well as references to other studies in the field. The authors also provide a detailed explanation of their methodology and results which makes it easy to follow their reasoning and conclusions.

However, there are some potential biases in the article that should be noted such as one-sided reporting, unsupported claims, missing points of consideration, missing evidence for the claims made, unexplored counterarguments, promotional content, partiality etc.. For example, while the authors provide evidence for their claims regarding the efficacy of their proposed electrolyte design strategy they do not explore any potential risks or drawbacks associated with it which could lead to a biased view of their findings if not addressed properly in future research or applications of this technology. Additionally, while they provide references to other studies in the field they do not present both sides equally which could lead to a skewed understanding of their findings if readers are not aware of alternative perspectives on this topic from other sources outside this article.

In conclusion, while this article provides a comprehensive overview of an electrolyte design strategy for LiNi0.8Mn0.1Co0.1O2 (NMC811)||graphite lithium-ion batteries that can support higher voltages, fast charging and wide temperature range without lithium plating it should be read with caution due to potential biases such as one-sided reporting, unsupported claims etc..

# Topics for further research:

* LiNi0.8Mn0.1Co0.1O2 (NMC811)
* graphite lithium-ion battery risks
* LiNi0.8Mn0.1Co0.1O2 (NMC811)
* graphite lithium-ion battery drawbacks
* Alternative perspectives on LiNi0.8Mn0.1Co0.1O2 (NMC811)
* graphite lithium-ion battery
* LiNi0.8Mn0.1Co0.1O2 (NMC811)
* graphite lithium-ion battery safety
* LiNi0.8Mn0.1Co0.1O2 (NMC811)
* graphite lithium-ion battery applications
* LiNi0.8Mn0.1Co0.1O2 (NMC811)
* graphite lithium-ion battery performance

# Report location:

<https://www.fullpicture.app/item/94c2ef4dc346a64cabf31034cb4a6b49>