# Article information:

LiDFOB Initiated In Situ Polymerization of Novel Eutectic Solution Enables Room‐Temperature Solid Lithium Metal Batteries - Wu - 2020 - Advanced Science - Wiley Online Library
<https://onlinelibrary.wiley.com/doi/full/10.1002/advs.202003370>

# Article summary:

1. A novel eutectic solution composed of 1,3,5-trioxane (TXE) and succinonitrile (SN) can be converted into a solid-state polymer electrolyte (SPE) via in situ polymerization triggered by lithium difluoro(oxalato)borate (LiDFOB).

2. LiDFOB acts as both a lithium salt and an initiator for the polymerization process.

3. The SPE produced is nonvolatile at room temperature, enabling the development of room-temperature solid lithium metal batteries.

# Article rating:

Appears well balanced: The article presents the information in a reliable and balanced way, without biases and prejudices. The claims made in the article are well supported and, where applicable, all sides of the argument are given opportunity to present their point of view. The article appears trustworthy and reliable.

# Article analysis:

The article is generally reliable and trustworthy, providing evidence to support its claims and exploring potential risks associated with the development of room-temperature solid lithium metal batteries. The authors provide detailed information on the components of the novel eutectic solution used to create the SPE, as well as how LiDFOB acts as both a lithium salt and an initiator for the polymerization process. Furthermore, they discuss potential risks associated with this technology, such as safety concerns due to high reactivity of lithium metal and possible leakage of electrolytes from the battery cells.

The article does not appear to be biased or one-sided in its reporting; it presents both sides equally by discussing potential benefits and risks associated with this technology. It also does not contain any promotional content or partiality towards any particular point of view. All claims made are supported by evidence provided in the article, and all points of consideration are explored thoroughly. There do not appear to be any missing points or counterarguments that have been overlooked by the authors.

# Topics for further research:

* Lithium metal battery safety
* Room temperature battery technology
* Lithium-ion battery performance
* Eutectic solution properties
* LiDFOB applications
* Polymerization process optimization

# Report location:

<https://www.fullpicture.app/item/fdb15b3cfb171d33e16d8ba3c90413ff>