# Article information:

Enhanced ion conduction by enforcing structural disorder in Li-deficient argyrodites Li6−xPS5−xCl1+x - ScienceDirect  
<https://www.sciencedirect.com/science/article/abs/pii/S2405829720301707>

# Article summary:

1. Argyrodites, Li6PS5X (X = Cl, Br, orI), have attracted attention due to their high ionic conductivities on the order of mS/cm.

2. This work reports a record ionic conductivity of Cl-containing argyrodites-type fast Li-ion conductors with an activation energy for Li-ion transport decreasing and the conductivity increasing to 17 mS/cm at 25°C when x equals 0.7 (Li5.3PS4.3Cl1.7).

3. This work provides new insights into anion disorder-induced ion transport which has a wide and universal appeal in the development of fast ion conductors and mixed-anion functional materials.

# 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 “Enhanced Ion Conduction by Enforcing Structural Disorder in Li-Deficient Argyrodites Li6−xPS5−xCl1+x” is generally reliable and trustworthy as it provides evidence from both experimental and computational approaches to support its claims. The article is well written and clearly explains the research findings in detail, providing readers with a comprehensive understanding of the topic. Furthermore, the authors provide references to back up their claims throughout the article, demonstrating that they have conducted thorough research on this topic before writing this paper.

However, there are some potential biases in this article that should be noted. For example, while the authors do mention other types of solid electrolytes with high ionic conductivity such as Ge doping in Li6PS5I (Li6+xGexP1−xI), they focus mainly on argyrodites (Li6PS5X) which could lead to one-sided reporting of information regarding other types of solid electrolytes with high ionic conductivity. Additionally, while the authors provide evidence from both experimental and computational approaches to support their claims, they do not explore any counterarguments or present any opposing views which could lead to partiality in their reporting of information regarding this topic.

In conclusion, while this article is generally reliable and trustworthy due to its evidence from both experimental and computational approaches as well as its references throughout the paper, there are some potential biases that should be noted such as one-sided reporting and partiality which could lead to missing points of consideration or unexplored counterarguments regarding this topic.

# Topics for further research:

* Li6PS5X ionic conductivity
* Ge doping in Li6PS5I
* Structural disorder in solid electrolytes
* Counterarguments to Li6PS5X
* Alternative solid electrolytes with high ionic conductivity
* Partiality in reporting ionic conductivity

# Report location:

<https://www.fullpicture.app/item/a52bde8377386d455bb10ccbcb9aa711>