# Article information:

Efficient and stable blue quantum dot light-emitting diode | Nature
<https://www.nature.com/articles/s41586-020-2791-x>

# Article summary:

1. The external quantum efficiencies (EQEs) of state-of-the-art red, green and blue QD-LEDs are 20.5%, 23.9% and 19.8%, respectively.

2. ZnTeSe/ZnSe/ZnS QDs were prepared to tune the emission wavelength in the blue region (457 nm). The photoluminescence quantum yield was improved by up to 100%.

3. The resulting device showed an EQE of up to 20.2% with a brightness of 88,900 cd m−2, and T50 = 15,850 h at 100 cd m−2, which are the highest values reported so far for blue QD-LEDs.

# 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:

This article is generally reliable and trustworthy as it provides detailed information on the research conducted on efficient and stable blue quantum dot light-emitting diode (QD-LED). It presents a comprehensive overview of the current state of research in this field, including the external quantum efficiencies (EQEs) of state-of-the-art red, green and blue QD-LEDs, as well as their operational lifetimes. It also provides a detailed description of the method used to prepare ZnTeSe/ZnSe/ZnS QDs for tuning the emission wavelength in the blue region (457 nm), along with information on how photoluminescence quantum yield was improved by up to 100%. Finally, it reports that the resulting device showed an EQE of up to 20.2% with a brightness of 88,900 cd m−2, and T50 = 15,850 h at 100 cd m−2 - which are the highest values reported so far for blue QD-LEDs.

The article does not appear to be biased or one sided as it presents both sides equally - providing details on both current state of research in this field as well as potential improvements that can be made through further research efforts. Furthermore, it does not appear to contain any promotional content or partiality towards any particular point of view or opinion regarding this topic. Additionally, possible risks associated with cadmium toxicity are noted throughout the article - making it clear that further research is needed in order to develop environmentally friendly alternatives for commercialization purposes.

In conclusion, this article appears to be reliable and trustworthy due its comprehensive coverage on efficient and stable blue quantum dot light emitting diodes (QD-LEDs).

# Topics for further research:

* Cadmium toxicity in QD-LEDs
* External quantum efficiency of QD-LEDs
* ZnTeSe/ZnSe/ZnS QDs
* Photoluminescence quantum yield
* Blue QD-LEDs commercialization
* Environmentally friendly QD-LEDs

# Report location:

<https://www.fullpicture.app/item/50bdabf5486487fa3b10691bac6e9af1>