



Blueberries' blue depends on their structure

Slide by Neil Goalby. Available from rsc.li/3wZdiWB

Surprisingly, blueberries and similar fruits do not contain blue pigments. Instead, their protective waxy coating, known as bloom, gives them a blue appearance while also safeguarding against predators and maintaining waterproofing. The fruits actually contain red pigments.

Research using scanning electron microscopy has shown randomly arranged, non-spherical nanostructures in the bloom, which interact with light to create the blue colour. Research into the bloom could inspire new self-cleaning and self-repairing optical materials.



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Is the nanostructure behind blueberries' blue only skin deep?

Questions

1. What is meant by a 'nanoparticle'?
2. Which properties depend on the nanostructure in the bloom?
3. Suggest why the research might be useful.