

THIS WEEK IN CHEMISTRY

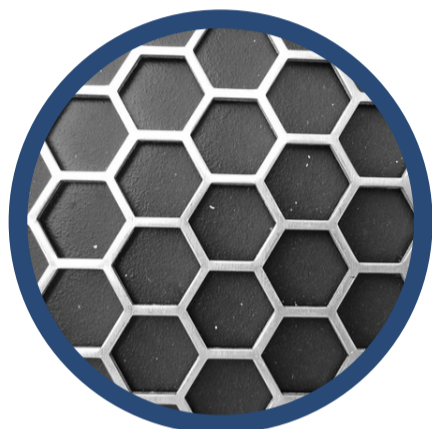
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Links to articles & studies for the featured stories are provided at: <https://goo.gl/h1v3kf>



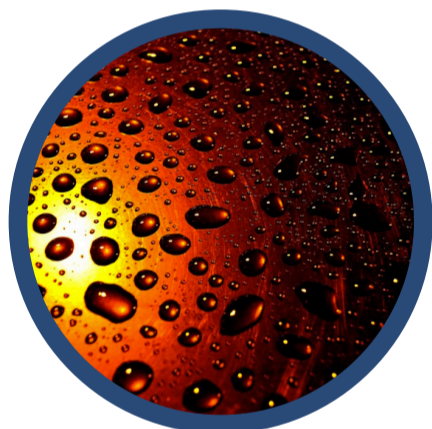
DESCRIBING THE PROCESS THAT MAKES FUNGI GLOW IN THE DARK

In some fungi, a molecule called luciferin mixes with an enzyme, luciferase, making an excited molecule which releases light. A new study examined this process and found fungal luciferase interacts with derivatives of luciferin to produce different colours.



PEROVSKITES & GRAPHENE BOOST ARTIFICIAL PHOTOSYNTHESIS

Chinese researchers developed a material made from graphene oxide and perovskite quantum dots. It can convert carbon dioxide into carbon monoxide and methane when stimulated with light, with an efficiency 26% higher than quantum dots alone.



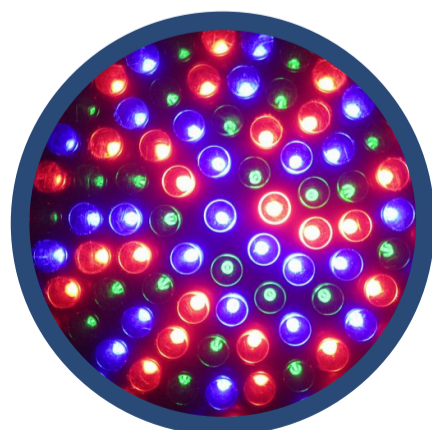
SURPRISE AMMONIA ROLE IN ACID RAIN FORMATION

Ammonia is a surprising catalyst for the conversion of sulfur trioxide to sulfuric acid in the atmosphere. Ammonia, an alkaline gas, outperforms water and other catalysts. However, the conversion is fast even with water, so the role is unlikely to be significant.



KEY CAUSE OF LITHIUM BATTERY "CAPACITY FADE" IDENTIFIED

Lithium-ion battery capacity is tied to the number of lithium ions that can travel between the battery's terminals. New research shows that manganese ions from the battery's cathode can get trapped at the anode, trapping lithium ions and contributing to battery fade.



SPRAY-ON PROCESS MAKES LIGHT-EMITTING DIODES

A new process makes quantum dot light-emitting diodes (QLEDs) by spraying quantum dots onto a glass substrate. The method is less expensive and complicated than current methods, though organic polymer-based QLEDs are twice as efficient and last ten times longer.

