

# THIS WEEK IN CHEMISTRY

24<sup>TH</sup> APRIL 2016 – 30<sup>TH</sup> APRIL 2016

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



## MAKING THE WORLD'S SMALLEST THERMOMETER USING DNA

By creating DNA structures that can fold and unfold at specific temperatures, scientists have been able to make the world's smallest 'thermometer' – 20,000 times smaller than a human hair. It will be possible for it to be used to measure temperature at the nanoscale.



## PROGRESS TOWARD UNDERSTANDING GLOWING MUSHROOMS

*Mycena chlorophos*, a mushroom found in South-East Asia, emits a green light. A Japanese study found that the green fluorescent compounds are riboflavin, riboflavin 5'-monophosphate and flavin adenine dinucleotide. The enzymes involved are yet to be identified.



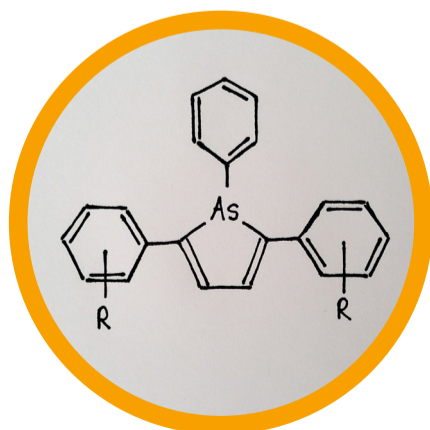
## NMR TECHNIQUE APPLIED TO LIVING ORGANISM FOR FIRST TIME

NMR (nuclear magnetic resonance) can help determine molecular structures. A technique that allows solid, gel, and solution chemicals to be analysed at the same time was successfully tested by US scientists using live shrimp. It may allow real-time views of biological processes.



## STUDY CLAIMS DISCOVERY OF 'NEW STATE' OF WATER

By squeezing it between beryl crystals, researchers claim to have seen a new state of water. The molecules underwent 'quantum tunnelling' – moving through usually insurmountable energy barriers – to form structures with delocalised protons around central oxygen atoms.



## ARSOLES SHOWN TO CHANGE COLOUR UNDER PRESSURE

A study shows arsoles, a type of organoarsenic compound, change colour from orange to yellow when crushed. Though the investigation of arsoles has always been limited by their toxic volatile byproducts, they could have interesting optical and electronic applications.

