

# THIS WEEK IN CHEMISTRY

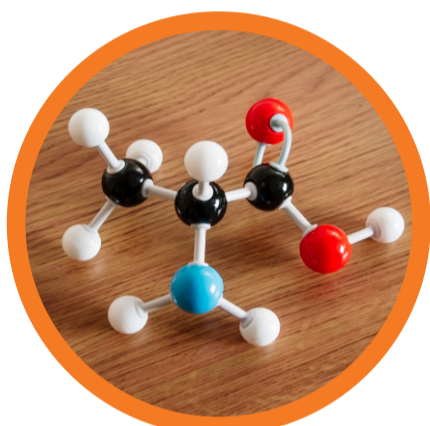
17<sup>TH</sup> JANUARY 2016 – 23<sup>RD</sup> JANUARY 2016

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



## SPRUCE CONES: AN UNLIKELY CARBON DIOXIDE CAPTURE MATERIAL

Carbonised spruce cones can be ground into particles and activated with potassium hydroxide, then used to absorb carbon dioxide. They absorbed 21% CO<sub>2</sub> by weight, outperforming some metal organic framework sorbents, and would also be cheaper to produce.



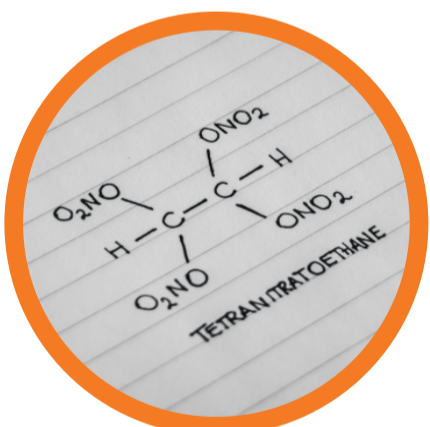
## COLOUR-CHANGE IDENTIFIES RIGHT-HANDED AMINO ACIDS

Amino acids occur in two mirror image forms, but until now there has been no way to easily discriminate between them. A newly developed method uses l-tartaric acid-capped gold nanoparticles, which change colour from red to blue when bound to right-handed amino acids.



## BETLE-INSPIRED MICROPATTERNS KEEP SURFACES FROST-FREE

The Namib Desert Beetle's shell inspired the creation of a new frost-preventing coating. The coating mimics the beetle's shell, consisting of hydrophilic patterns on top of a hydrophobic surface. So far it has only been attempted on small surfaces, but it is hoped it can be scaled up.



## OXIDISER WITH A 70.1% OXYGEN CONTENT SYNTHESISED

German scientists have synthesised tetranitroethane, a compound with one of the highest known oxygen contents. It was developed as a potential replacement for the toxic ammonium perchlorate, though its lack of stability and high sensitivity means its current uses are limited.



## CHEMICAL FINGERPRINTS REVEAL FRAUDULENT SAFFRON

Spanish saffron is considered to be superior to most other varieties, but many products labelled as originating in Spain are actually from elsewhere. Scientists using liquid chromatography and mass spectrometry found 26 of 44 commercial samples were mislabelled.

