

THIS WEEK IN CHEMISTRY

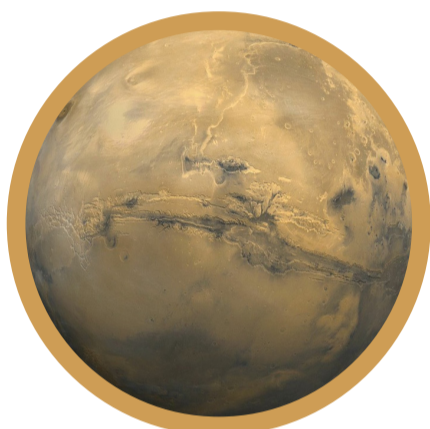
1ST MAY 2016 — 7TH MAY 2016

Links to articles & studies for the featured stories are provided at: <http://goo.gl/3a2kbh>



MESSAGE IN A MOLECULE — HIDING MESSAGES WITH CHEMISTRY

Israeli scientists have developed an encryption method that involves the use of fluorescent molecules to conceal a message. Measures of the wavelength of light given off by the molecules in contact with certain chemicals yields a code that allows message decryption.



BOILING WATER COULD CAUSE MARTIAN SURFACE STREAKS

New research suggests the seasonal streaks seen on the surface of Mars could be caused by boiling liquid water causing soil particles to tumble down hillsides. In the low pressure Martian atmosphere, ice turns into water then almost immediately boils.



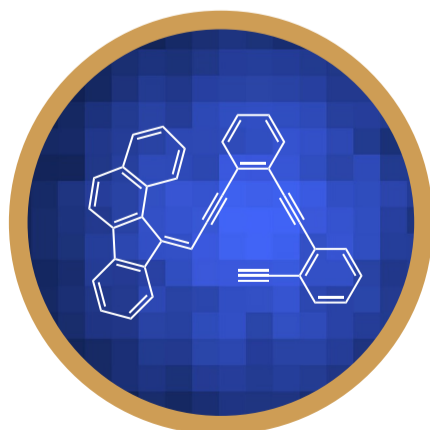
SILK PROTEIN CAN KEEP FRUIT FRESH WITHOUT REFRIGERATION

Fruits dipped in a solution of 1% fibroin, a protein found in silk, and then treated with water vapour under vacuum to create crystalline sheets, remained juicy and firm after seven days without refrigeration. The texture of the fruit wasn't affected, though taste wasn't studied.



SODIUM-CARBON DIOXIDE BATTERIES COULD FUEL MARS VEHICLES

Chinese scientists successfully created the world's first rechargeable sodium-carbon dioxide battery. The batteries can store ten times as much energy per weight as lithium ion batteries, and could in future be used to power rovers in the CO₂-rich atmosphere of Mars.



IMAGED SINGLE MOLECULE INTERMEDIATES DON'T MATCH THEORY

Using atomic force microscopy, scientists have imaged single-molecule reaction intermediates generated during a surface-catalysed reaction. However, the molecules don't match those predicted by theory, and so could trigger a rethink of how stable intermediates are predicted.

