

THIS WEEK IN CHEMISTRY

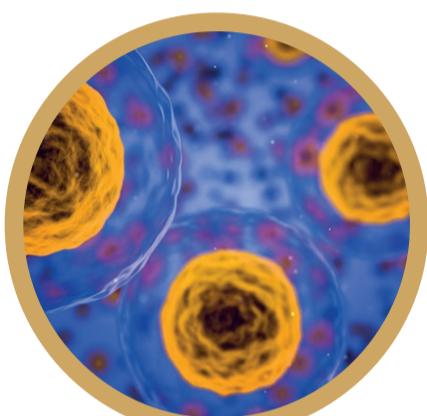
27TH AUGUST 2017 – 2ND SEPTEMBER 2017

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



FIRES AT TEXAS CHEMICAL PLANT DUE TO FLOODING

A plant owned by Arkema in Crosby, Texas, has experienced fires as a result of flooding after Hurricane Harvey. Organic peroxides stored at the site, which are usually kept refrigerated, are decomposing due to the failure of refrigeration systems, causing the fires.



MOLECULAR MOTORS DRILL HOLES IN CELL MEMBRANES

A molecular motor can drill holes in cells when activated by UV light. In tests they were used to destroy human prostate cancer cells. They may also be useful in delivering drugs to cells. The next step is making motors that spin in response to visible and IR light.



DYSPROSIUM-BASED SINGLE MOLECULE MAGNET BREAKS RECORD

A new dysprosium complex acts as a single molecule magnet (SMM) with the ability to store a single bit of data. The new molecule displays magnetic switchability up to -213°C , a temperature record which is close to being commercially practical for use in data servers.



GOLD NANOPROBES HELP DETECT ULTRA-SMALL AMOUNTS OF DNA

The polymerase chain reaction (PCR) is used to detect small amounts of DNA, but requires expensive reagents and complex equipment. A new method uses a combination of gold nanoparticles and dark-field microscopy, and can detect amounts of DNA that PCR struggles with.



A NEW ABSOLUTE ACIDITY SCALE FOR SOLVENTS

The pH scale gives chemists a way of measuring how acidic a solution is. However, it only applies to solutions in water, and chemists often use other solvents in acid-catalysed reactions. A new wide-ranging solvent acidity scale addresses this and spans 28 pH units.

