

# THIS WEEK IN CHEMISTRY

5<sup>TH</sup> FEBRUARY 2017 – 11<sup>TH</sup> FEBRUARY 2017

Links to articles & studies for the featured stories are provided at: <https://goo.gl/Wc5LPo>



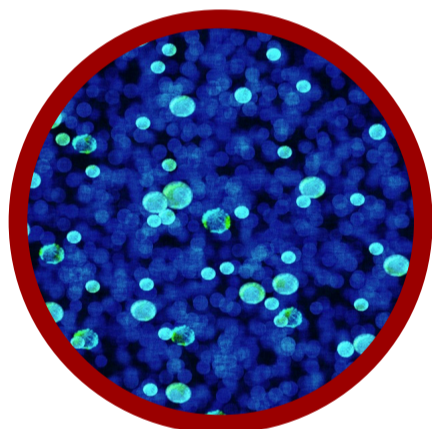
## HELIUM FORMS A STABLE COMPOUND AT HIGH PRESSURE

Helium has long been thought to be chemically inert, not forming compounds with other elements. A new study has challenged this by creating a helium-sodium compound at a pressure one million times higher than the atmospheric pressure on Earth.



## HYDROGEL INJECTION COULD OFFER VASECTOMY ALTERNATIVE

Injecting a hydrogel into the duct through which sperm travel from the testicles to the urethra, blocking their passage, could eventually provide a reversible alternative to vasectomy. It has been shown to be effective in macaque monkeys. Trials in humans will follow.



## ARTIFICIAL CELLS COMMUNICATE CHEMICALLY WITH BACTERIA

Two-way chemical communication between synthetic and natural cells has been achieved for the first time. Artificial cells which could sense and signalling molecules used by bioluminescent bacteria could elicit a bioluminescent response from natural cells.



## DISTINGUISHING NATURAL AND ENGINEERED NANOPARTICLES

Effects of nanoparticles in consumer products on the environment and health have generated concern, but it's hard to distinguish them from naturally-occurring nanoparticles in samples. A new method accomplishes this using differences including elemental ratios.



## IRON MOLECULES TURN BACTERIA INTO ELECTRICAL GENERATORS

Some bacteria naturally generate small electric currents as part of their metabolism. By introducing an iron-containing molecule to bacteria unable to do so, they gain the ability. While the amount of electricity generated is small, it could offset costs of wastewater treatment.

