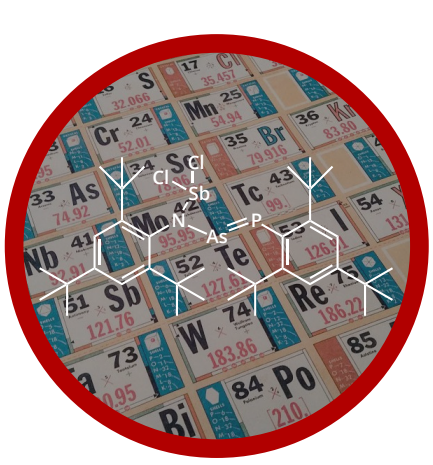
THIS WEEK IN CHEMISTRY

17TH JULY 2016 – 23RD JULY 2016

Links to articles & studies for the featured stories are provided at: http://goo.gl/z3scTb

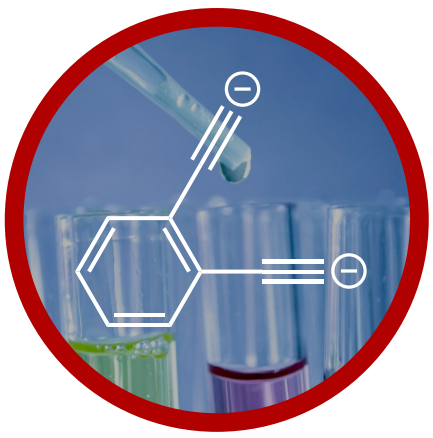
TITANIUM-GOLD ALLOY FOUR TIMES STRONGER THAN TITANIUM

By melting together titanium and gold during research on magnets, researchers have created an alloy four times harder than titanium and most steel alloys. It is also biocompatible, meaning that it could be used for longer lasting medical implants and prosthetics.



FOUR DIFFERENT GROUP 15 ELEMENTS IN A SINGLE MOLECULE

Chemists have created the first molecule featuring four different group 15 molecules connected in a chain. The researchers hope to eventually include bismuth, to complete the group 15 set. It's thought that only groups 13 to 15 are likely to be able to complete this feat.



CHEMISTS SYNTHESISE THE STRONGEST BASE EVER

Australian scientists have created the *ortho*-diethynylbenzene anion, a compound with the highest known basicity. It's such a strong base that it is even capable of plucking hydrogen atoms from benzene. Such superbases are important tools in organic chemistry synthesis.

PARTIAL LEAD PIPE REPLACEMENT ELEVATES WATER LEAD LEVELS

Only partially replacing lead water pipes may be worse than not replacing them at all. Lead levels in 61 Canadian homes more than doubled when portions of lead pipes supplying their water were replaced, suggesting that partial replacement is not an option.

A REWRITABLE, KILOBYTE-SIZED ATOMIC MEMORY

An atomic storage system using chlorine atoms uses changes in the atom positions in a single layer to write binary code, with an information density 500 times higher than a conventional hard drive. Disadvantages are slow data writing speeds and the need for low temperatures.