THIS WEEK IN CHEMISTRY

17TH APRIL 2016 – 23RD APRIL 2016

Graphene ‘microbots’, consisting of a graphene oxide coating, nickel core, and platinum inner coating, could help recover lead from water. The graphene oxide exterior absorbs lead from water, with the nickel core allowing movement to be controlled by a magnetic field.

Scientists at Stanford University created a polymer that they were able to stretch from a one inch film to over 100 inches. The polymer is also self-repairing, and ‘twitches’ when exposed to an electric field, meaning it could have future applications as an artificial muscle.

A device that consists of gold nanowires coated in manganese oxide, in an electrolyte gel, can endure 200,000 recharge cycles without a significant drop in performance. It could help improve current batteries, though the gold used would make them expensive to manufacture.

A culture of metal-absorbing bacteria can help separate the chemically similar rare earth elements. A mixture of 14 rare earths were separated by scientists by washing the bacteria in solutions of increasing acidity, with the lightest lanthanides stripped off earlier than the heavier ones.

A new carbon-carbon bond-forming reaction uses dialkyl zinc reagents and active esters to bolt together two sp³ carbons (that each have three other single bonds), at room temperature and pressure. The reaction is already being used by pharmaceutical companies.

Links to articles & studies for the featured stories are provided at: http://goo.gl/ZSV2wH