

#CHEMMONTHLY AUGUST 2019

CHEMISTS CREATE RING CONSISTING SOLELY OF 18 CARBONS



Chemists have created a new form of elemental carbon by manipulating atoms with atomic force microscopy to create a ring consisting solely of 18 carbon atoms. The structure of the ring consists of alternating single and triple bonds between the carbon atoms.

DIVING BELL SPIDER INSPIRES CO₂ CONVERSION CATALYST



A copper catalyst with structures inspired by a diving bell spider's air-trapping hairs helps conversion of carbon dioxide from the atmosphere into useful chemicals. The structures increase the CO₂ concentration near the catalyst and reduce the formation of hydrogen gas waste.

OGANESSON PREDICTED TO BE A METALLIC SEMICONDUCTOR



Models predict that oganesson, the 118th element in the periodic table, should be a metallic semiconductor. This would break the trend of the noble gases group to which oganesson belongs, and suggests periodicity breaks down at this point in the periodic table.

GRAPHENE OXIDE LAYER DETERS MOSQUITOS



Researchers have found that a 1 micrometre layer of graphene oxide can physically and chemically deter mosquitos from biting humans. As well as blocking the mosquitos, it's thought that the layer doesn't let chemical attractants released by our skin through.

DRINKING WATER MICROPLASTICS POSE LITTLE RISK TO HUMANS



A World Health Organisation report states that microplastics in drinking water don't appear to pose a risk to human health. It identifies that most microplastics pass straight through the body, and that health risks from chemicals the plastics may release are minimal.

NEW FAMILY OF FLUORESCENT MOLECULES FOUND IN SHARK SKIN



A new family of fluorescent molecules have been discovered in the skin of some species of sharks. These molecules absorb blue light and give the sharks' skin a green glow which can only be seen by other sharks. The molecules may also have antimicrobial effects.

CARBON NANOTUBES DETECT MARIJUANA IN BREATH



A new handheld breathalyser-type instrument uses a sensor made of carbon nanotubes to detect marijuana on human breath. The nanotubes' electrical resistance changes when molecules of tetrahydrocannabinol in cannabis bind to them then get released.

POLYMER NANOPARTICLES HELP FIGHT UNDERARM ODOUR



Underarm odour is produced by bacteria that live on our skin. Molecularly imprinted polymers (MIPs) can be used to capture the molecules that bacteria use to produce underarm odour, stopping the smell. Tests suggest they're safe for both our skin and our skin bacteria.

For links to articles and studies, visit: bit.ly/chemmonthlyaug19. Follow @Chemunicate or #ChemMonthly on Twitter to keep up with the latest chemistry news!



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