

#CHEMMONTHLY MAY 2019



CONVERTING PLASTIC BOTTLES INTO JET FUEL COMPONENTS

A new process transforms polyethylene terephthalate, a plastic used in drinks bottles and food packaging, into cyclic and aromatic hydrocarbons which be used as components of diesel and jet fuel. The process has potential to be easily implemented industrially.



NORTH-EAST CHINA IDENTIFIED AS SOURCE OF BANNED CFCs

Last year, it was reported that an increase in ozone-destroying CFC emissions had been observed in east Asia. The source of the emissions has now been pinpointed to north-east China by atmospheric monitoring. It's hoped it will help identify the company responsible.



POLYPSEUDOHALOGENS DISSOLVE GOLD AT ROOM TEMPERATURE

Polypseudohalogens are compounds which resemble the halogens in their chemistry. Room temperature ionic liquids based on two new polypseudohalides dissolved gold. They could make the gold leaching process simpler, though they're likely harmful to the environment.



CHILDREN'S BABY TEETH REVEAL THEIR PAST LEAD EXPOSURE

Blood tests can only show if someone has been exposed to lead in the past 4 weeks. A new study has shown that lost baby teeth can be used to measure children's lead exposure over longer time periods. The method also allowed exposure to arsenic to be measured.



STUDIES DISAGREE ON SOURCE OF ACTINIDE ELEMENTS

Two groups of scientists have published two different claims regarding the source of most actinide elements in the universe. One group claim they're made by hypernovae (a rare type of supernova) while the other group suggest a neutron star collision as the source.



RECORD FOR LONGEST HALF-LIFE DIRECTLY MEASURED

Researchers have directly measured the half-life of xenon-124 - at roughly 1 trillion times the age of the universe, it's the longest half-life ever directly measured. The radioactive decay of the rare Xe-124 isotope were detected in 3.2 metric tons of liquid xenon.



CHEMICAL SIGNATURE OF DARK CHOCOLATE PINPOINTED

30 volatile chemicals that determine the smell of two different types of dark chocolate have been identified by researchers. Having identified these, the researchers were then able to generate the aromas of the chocolate using a mix of the chemicals involved.



NEW CANDIDATE FOR OLDEST CLASSROOM PERIODIC TABLE

A hand-painted periodic table at St Petersburg State University in Russia has laid claim to the title of oldest classroom periodic table, dethroning the table at The University of St Andrews in Scotland. The table dates to 1876, only 7 years after Mendeleev published his table.

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