

THE YEAR IN CHEMISTRY

2019'S BIGGEST CHEMISTRY STORIES

INTERNATIONAL YEAR OF THE PERIODIC TABLE



2019 saw celebrations to mark the 150th anniversary of Dmitri Mendeleev's periodic table. The year saw the oldest classroom periodic table uncovered, and the smallest and largest ever tables assembled.

EBOLA VACCINE APPROVED AND IN PRODUCTION



A new vaccine for Ebola was approved in Europe after successfully undergoing clinical trials. A ruling on the vaccine's US approval is expected in March, with the vaccine available from late 2020.

LITHIUM-ION BATTERIES WIN NOBEL PRIZE



The Nobel Prize in chemistry was awarded to the development of lithium-ion batteries that power phones, computers, and more. One winner, John B Goodenough, became the oldest ever Nobel Prize winner at 97.

FURTHER EVIDENCE FOR PERIODICITY BREAKDOWN



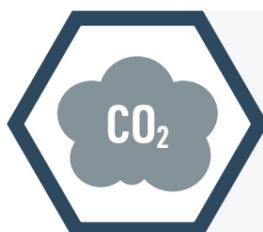
New calculations show that copernicium is a highly volatile 'noble liquid', and oganesson is a metallic semiconductor. It's further evidence for the breakdown of periodicity for the superheavy elements.

A NEW RING FORM OF ELEMENTAL CARBON



Chemists created a new form of elemental carbon: a ring consisting solely of 18 carbon atoms. Meanwhile, a new algorithm suggests there could be 43 different forms of carbon yet to be discovered.

REDUCING & CONVERTING CO₂ EMISSIONS



Chemists trialed ways to reduce carbon dioxide emissions. A battery-like device can capture CO₂ emissions in car exhausts, while a copper catalyst converts CO₂ from the atmosphere into useful chemicals.

STIR BAR CONTAMINATION CATALYSES REACTIONS



The magnetic stir bars used in many laboratories are coated in an inert polymer. However, new research shows that scratches and cracks could trap metal particles, which could then interfere with reactions.

ALZHEIMER'S DRUG TRIALS UNSUCCESSFUL



Clinical trials on Alzheimer's drug elenbecestat were halted, making it the sixth Alzheimer's drug of its type to enter but fail clinical trials. Results of trials for other drugs are expected in the coming years.

STRANGE BONDS IDENTIFIED IN SPACE



The helium hydride ion was detected for the first time in a nebula, while calculations suggest that reactions between ammonia and hydrogen could produce nitrogen heptahydride on Neptune and Uranus.

CONVERTING PLASTICS INTO NEW MATERIALS



One new process converts a plastic used in food and drinks packaging into jet fuel, while another transformed polyethylene into lubricants. A new family of recyclable polymers was also discovered.

FLUORINATED COMPOUNDS UNDER SCRUTINY



Concerns relating to polyfluorinated compounds hit the news regularly in 2019. Denmark banned their use in food packaging, while chemists worked on ways to remove them from contaminated water.

LUNG INJURIES HEIGHTEN VAPING CONCERNS



Over 2,500 people were hospitalised in the U.S. with lung injuries associated with vaping, with 54 deaths. The cause of the issues was attributed to vitamin E acetate in THC-containing vaping products.

For links to articles and studies, visit: bit.ly/TYIC2019. Follow @Chemunicate or #ChemMonthly on Twitter to keep up with the latest chemistry news!