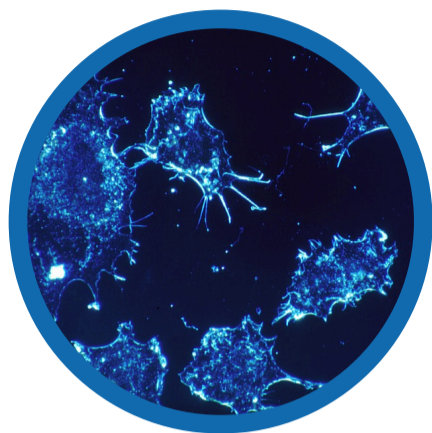


# THIS WEEK IN CHEMISTRY

19<sup>TH</sup> MARCH 2017 – 25<sup>TH</sup> MARCH 2017

Links to articles & studies for the featured stories are provided at: <https://goo.gl/F2oA48>



## DNA COPYING ERRORS LEAD TO TWO-THIRDS OF CANCERS

A mathematical model suggests that 66% of mutations leading to cancers are caused by DNA copying errors in cells. Cancer-causing potential of some chemicals is still a factor, with environmental factors accounting for 29% of cancer-driving mutations.



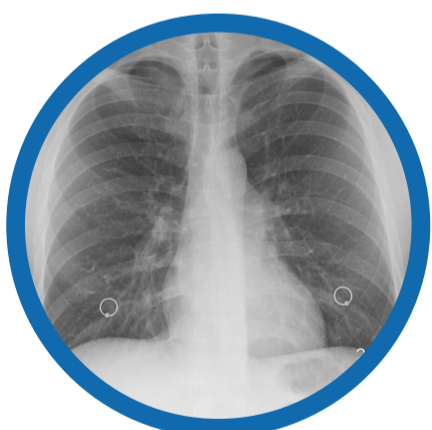
## COPPER NANOPARTICLES COMBAT CIGARETTE SMOKE COMPOUNDS

A cigarette filter containing copper (II) hydroxide nanoparticles can remove some reactive oxygen species in cigarette smoke. The nanoparticles mimic the effect of an enzyme, superoxide dismutase, but are more efficient, reducing reactive oxygen species by 15%.



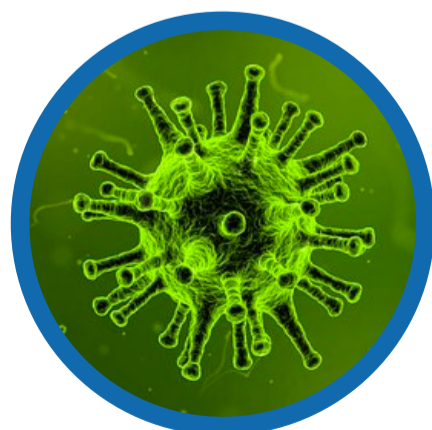
## CLEANING WATER WITH ABSORBENT MATERIAL FROM FRUIT PEELS

Packing an absorbent material made from the peels of oranges and grapefruits into fixed bed columns allows metals and organic pollutants to be removed from water. It provides a possible future use for the 38.2 million tons of fruit peel waste produced worldwide.



## MOLECULE COUNTERS RESISTANCE TO TUBERCULOSIS ANTIBIOTIC

A new molecule counters resistance to ethionamide in tuberculosis-causing bacteria. The antibiotic needs chemical modification by the bacteria to be effective; the new molecule, SMART-420, triggers a new pathway that activates it, circumventing resistance.



## HANDHELD GLUCOSE METER HELPS DETECT FLU VIRUS

Current rapid flu tests can give results in 15 minutes, but also return a high rate of false negatives. A new test uses a handheld glucose meter to detect viruses; enzymes in viruses break up a molecule, releasing a sugar which can then be detected in around 15 minutes.

