

THIS WEEK IN CHEMISTRY

15TH NOVEMBER - 21ST NOVEMBER 2015

USING LIGHT TO DISTIL ALCOHOL FROM WATER

A new method adds gold-silica nanoparticles to water and ethanol mixtures, then shines laser light on the surface. This leads to localised heating, removing the ethanol. A 99% concentration of alcohol is achievable, higher than with conventional distillation.



NEONICOTINOIDS MAKE BEES LESS EFFICIENT POLLINATORS

A new study has found that apple trees pollinated by bees exposed to a neonicotinoid pesticide yielded apples with 36% fewer seeds than those pollinated by unexposed bees. A lower number of seeds indicated less pollination.



EARLY LEAD EXPOSURE COULD LEAD TO SLEEP PROBLEMS

A ten-year study of 1400 Chinese children has concluded that lead exposure in early years is correlated with increasing risk of sleep problems in later life. Previous research has linked exposure to lead with increased violent crime and brain damage.



MAGNETIC PROTEIN COULD EXPLAIN ANIMAL NAVIGATION

A protein identified in fruit flies may help explain how some animals navigate using the Earth's magnetic field. The protein is able to form a complex with other light-sensitive proteins, and also aligns with a magnetic field.



MOLECULAR 'NANOSUBMARINES' POWERED BY UV LIGHT

Scientists have created single molecule 'nanosubmarines', powered by UV light, which pass through water at a rate of 2.5 cm per second. Though they can't yet be steered or controlled, they could in future help deliver medicines to specific locations in the body.



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