

THIS WEEK IN CHEMISTRY

15TH FEBRUARY - 21ST FEBRUARY 2015

LIMPET TEETH ARE NEW STRONGEST NATURAL MATERIAL

Tests have shown limpet teeth are the strongest known natural material - up to five times stronger than most spider silks. The amount of force they can withstand equates to a single piece of spaghetti holding up 3000 half-kilogram bags of sugar.



DNA DAMAGE CAN OCCUR HOURS AFTER SUN EXPOSURE

UV exposure from direct sunlight can cause DNA damage hours after, a study has found. UV light stimulates enzymes to produce species that react with fragments of melanin, a mammalian skin pigment, creating unstable compounds that then damage DNA.



CEPHALOPODS INSPIRE INFRARED INVISIBILITY TAPE

US scientists have invented a flexible coating based on a protein, reflectin, found in the skin of cephalopods such as squid & octopuses. Coating a thin layer onto a graphene oxide substrate, then stretching, modifies the reflectance, making it invisible in infrared light.



ARTIFICIAL PROTEIN PREVENTS HIV INFECTION IN MONKEYS

By injecting monkeys with a harmless virus containing a gene that forces them to produce a specific protein, scientists were able to prevent them contracting HIV, even when injected with high doses of the virus. Further trials are now planned before human trials.



NEW METHOD COULD IDENTIFY HAIR DYES AT CRIME SCENE

A new method uses surface-enhanced Raman spectroscopy to identify distinct brands of dye on hair. Different dyes reflect a laser differently, allowing identification. The technique is rapid, non-destructive, and could be used at the crime scene.



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