THIS WEEK IN CHEMISTRY

8TH JANUARY 2017 – 14TH JANUARY 2017

Links to articles & studies for the featured stories are provided at: https://goo.gl/sxp0od

THE MOST TIGHTLY-KNOTTED PHYSICAL STRUCTURE KNOWN

Chemists constructed the first molecular braided knot from a triple helicate (a type of metal complex). Iron atoms are used to aid the knot's formation and are then removed. Each crossing point is just 24 atoms apart. Knotted structures could have useful properties.

SENSORS MEASURE BLOOD DRUG LEVELS IN REAL TIME

New sensors use molecules called aptamers, which can bind to target molecules, with an electrochemical 'reporting' molecule to detect blood drug levels in real time. The sensors can be inserted into veins, and produce electrical signals to indicate drug levels.

METAL-ABSORBING PLANTS USED TO MAKE NANOMATERIALS

Some types of plant are good at absorbing toxic metals from soil. Chinese scientists collected such plants from a copper-zinc mine, and used a series of steps to produce nanotubes and nanoparticles from them. The process is large-yielding and cost-effective.

ISOTOPE ANALYSIS SHOWS MOON IS OLDER THAN THOUGHT

Using samples from the Apollo 14 mission, scientists compared the ratios of hafnium isotopes present in moon minerals to those around the time of the solar system's formation. They show the moon is 4.51 billion years old, older than previously thought by some scientists.

NO EVIDENCE THAT CURCUMIN HAS SPECIFIC BENEFITS AS A DRUG

A review examining the medicinal potential of curcumin, a constituent of turmeric, concludes that instability and nonbioavailability preclude its chances of being a successful drug candidate. It notes the lack of successful double-blinded, placebo-controlled trials of the compound.