

THIS WEEK IN CHEMISTRY

13TH MARCH 2016 – 19TH MARCH 2016

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



COMPOUNDS BEHIND PARMESAN'S SIGNATURE TASTE UNCOVERED

Chemists determined almost 50 different chemicals are responsible for the characteristic taste of parmesan cheese. The cheese's saltiness comes from sodium, potassium, and chloride ions, whilst a number of amines are responsible for the 'burning' element.



SQUID BEAKS INSPIRE A RIGID & BENDY POLYMER MATERIAL

Scientists used chitosan, from the chitin found in crustacean shells and squid beaks, to create a polymer that can be rigid at one end and bendy at the other. This is done by varying the amount of an oxidising agent, changing the level of cross-linking between polymer chains.



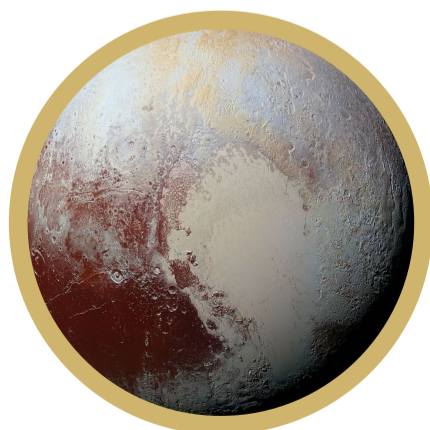
TOMATO WASTE CAN BE USED TO GENERATE ELECTRICITY

Damaged tomatoes can help generate electricity. Scientists produced a microbial electrochemical cell that uses bacteria to break down organic compounds in tomatoes, releasing electrons. The compound lycopene, which gives tomatoes their colour, encourages the process.



UNDERSTANDING SEA SHELL CALCITE MINERAL FORMATION

New work reveals the mechanism behind the formation the calcite biomineral found in seashells. Proteins selectively bind to the edges of calcite crystals. The proteins become trapped as the calcite builds up, creating a compressive force that gives the shells their strength.



INSIGHTS INTO PLUTO'S ATMOSPHERE & SURFACE COMPOSITION

Data from NASA's New Horizons shows Pluto's surface is composed of volatile nitrogen and water ices, and red patches caused by tholins, organic polymers. Its atmosphere is mainly nitrogen, with other organic compounds such as methane and acetylene causing a haze.

