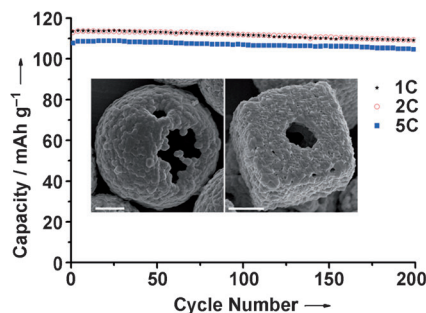


Nanotechnology

L. Zhou, D. Y. Zhao,
X. W. Lou* — 239–241



LiNi_{0.5}Mn_{1.5}O₄ Hollow Structures as High-Performance Cathodes for Lithium-Ion Batteries



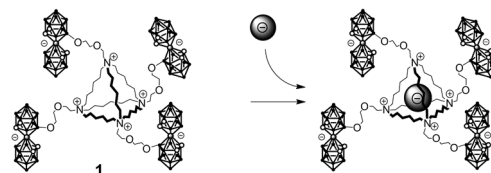
Built to last: Uniform LiNi_{0.5}Mn_{1.5}O₄ hollow microspheres and microcubes (see picture; scale bars: 1 μ m) with nanosized building blocks have been synthesized by a facile impregnation method followed by a simple solid-state reaction. The resultant LiNi_{0.5}Mn_{1.5}O₄ hollow structures deliver a discharge capacity of about 120 mAh g⁻¹ over prolonged cycling and exhibit excellent rate capability.

Supramolecular Interactions

A. Ursu, F. P. Schmidtchen* — 242–246



Selective Host–Guest Binding of Anions without Auxiliary Hydrogen Bonds: Entropy as an Aid to Design



Entropy matters! In contrast to classic host–guest design, which employs dedicated enthalpic interactions of the binding partners, the novel electroneutral host **1** binds its anionic guests by virtue of an overwhelmingly positive entropy of asso-

ciation. The prime driving force is guest desolvation. Despite the total omission of hydrogen bonding, host **1** is one of the best electroneutral receptors known for binding anions in polar solution.

DOI: 10.1002/anie.201108448

50 Years Ago ...

Angewandte Chemie International Edition was first published in 1962, the mother journal first in 1888. In this monthly flashback, we feature some of the articles that appeared 50 years ago. This look back can open our eyes, stimulate discussion, or even raise a smile.

In 1962, *Angewandte Chemie International Edition* appeared 12 times per year but already published both Communications and Reviews across all areas of chemistry. The first issue of 1962 contains original contributions by some of today's best-known names who had already made enormous contributions to their fields.

The Ugi reaction is often the first that springs to mind if we are asked to name a multicomponent reaction today. This reaction was pioneered more than 50 years ago and in a Review, Ivar Ugi discussed his latest results in the one-stage synthesis of organic nitrogen compounds. The reactions, which started with two to five different components,

proceed by the α -addition of immonium ions and anions to isonitriles, accompanied by secondary reactions.

Another highly exploited reaction in modern organic chemistry is the 1,3-dipolar cycloaddition. This reaction was already being explored 50 years ago and the Communications section contains three contributions by Rolf Huisgen on the cycloaddition reaction of syndones with alkynes and alkenes, and 1,3-dipolar additions with nitrile ylides.

The name of Georg Wittig (Nobel Prize in Chemistry 1979) is synonymous with organophosphorus chemistry, and he reported the synthesis of penta-aryl derivatives of Group 5 elements in a

Communication that contained only 12 lines of text. This procedure was an improvement on the synthesis of phosphorane derivatives that could not be extended to the arsenic series.

“A highly refractive red oil” was the product from the reaction of solid BaCS₃ with ice-cold 10 % hydrochloric acid that was reported by Gerhard Gattow and Bernt Krebs. Characterization of this product by using the techniques available at the time, including cryoscopic molecular weight determination, IR spectroscopy, and decomposition analysis, showed it to be trithiocarbonic acid H₂CS₃.

[Read more in Issue 1/1962](#)