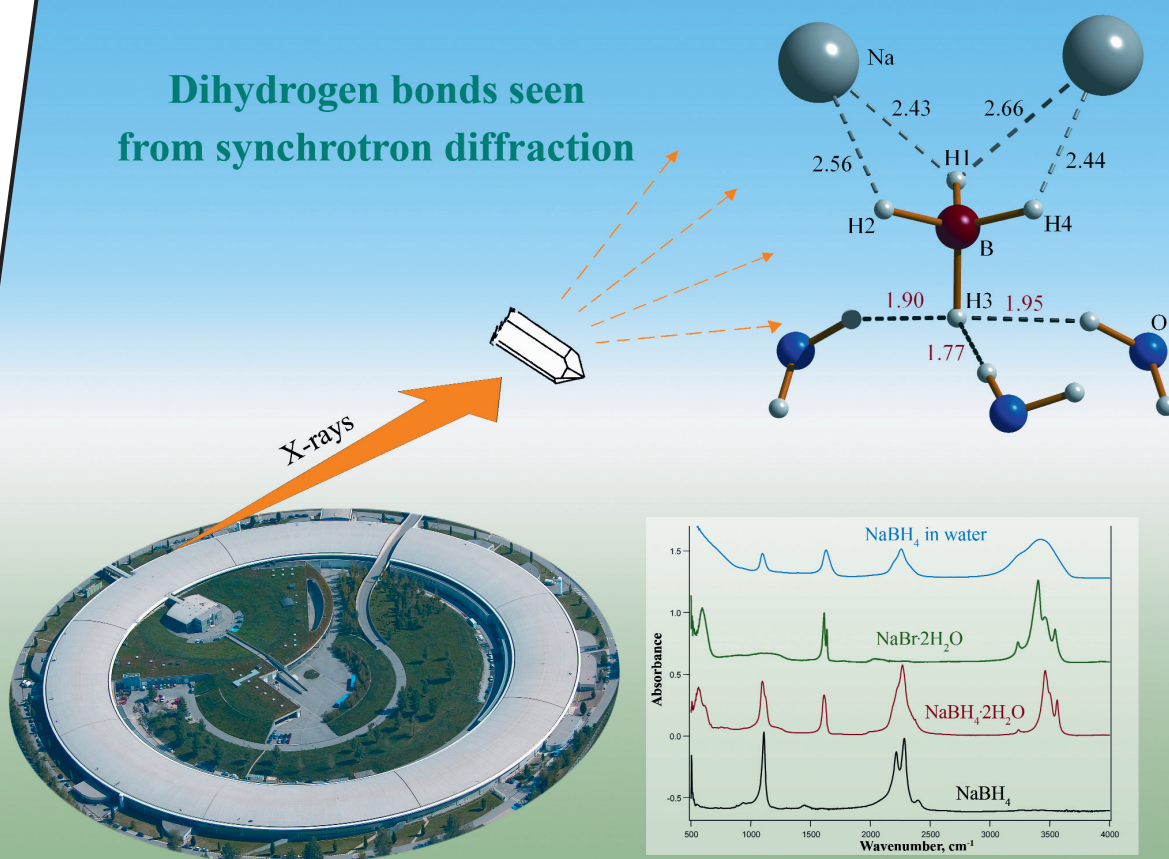


Dihydrogen bonds seen
from synchrotron diffraction



Cover Picture

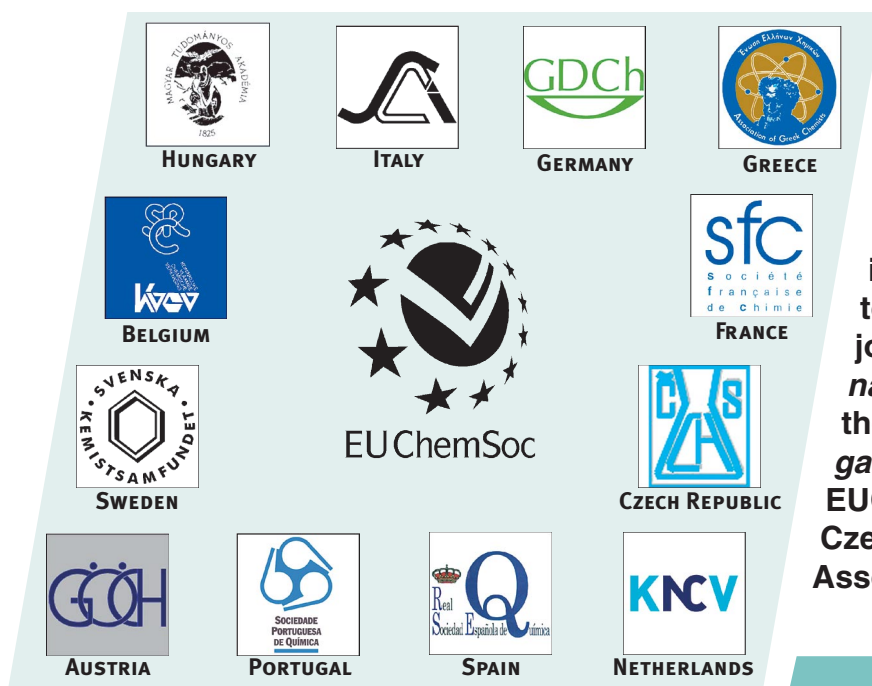
Yaroslav Filinchuk and Hans Hagemann

Structure and Properties of NaBH₄·2H₂O and NaBH₄

Microreview

Keith S. Murray

Polynuclear Iron(II), Iron(III) and Cobalt(II) Spin-Crossover Compounds



The EUChemSoc Societies have taken the significant step into the future by merging their traditional journals, to form two leading chemistry journals, the *European Journal of Inorganic Chemistry* and the *European Journal of Organic Chemistry*. Three further EUChemSoc Societies (Austria, Czech Republic and Sweden) are Associates of the two journals.

COVER PICTURE

The cover picture shows the crystal structure of sodium borohydride dihydrate, $\text{NaBH}_4 \cdot 2\text{H}_2\text{O}$, determined from synchrotron diffraction on a single crystal. The European Synchrotron Radiation Facility (ESRF), shown in the lower left corner, provided the source of X-rays. The BH_4^- anion has a nearly ideal tetrahedral geometry. By applying the systematic correction to the positions of hydrogen atoms seen by X-rays, the geometry of the dihydrogen $\text{O}-\text{H}^{\delta+} \cdots \delta^- \text{H}-\text{B}$ bonding was accurately characterized. The structure of anhydrous NaBH_4 was also investigated by X-ray diffraction on a single crystal. Vibrational properties of $\text{NaBH}_4 \cdot 2\text{H}_2\text{O}$ and related substances were studied by IR and Raman spectroscopy. Details are discussed in the article by Y. Filinchuk and H. Hagemann on p. 3127ff.

