

m28.p13

**Supramolecular architectures of the boron and aluminium complexes with Schiff bases**Edyta Kołodziejczyk<sup>a</sup>, Janusz Lipkowski<sup>a</sup>, Janusz Lewiński<sup>b</sup>, Janusz Zachara<sup>b</sup>, Maciej Dranka<sup>b</sup><sup>a</sup> *Institute of Physical Chemistry Polish Academy of Sciences, Kasprzaka 44/52, 01-224 Warsaw, Poland*<sup>b</sup> *Department of Chemistry, Warsaw University of Technology, Noakowskiego 3, 00-664 Warsaw, Poland***Keywords: X-ray crystallography of organic compounds, supramolecular chemistry, hydrogen bonding**

In Schiff base metal complexes, the environment at the coordination center can be modified by attaching different substituents to the ligand, which provides a useful range of steric and electronic properties essential for the fine-tuning of structure and reactivity. Mononuclear complexes containing Schiff base ligands can be assembled into various supramolecular architectures by means of intermolecular non-covalent forces.

Two structurally characterized complexes of type based on N-methyl salicylideneimine (HsaldMe) and N-phenyl-salicylideneimine (HsaldPh) have been described, namely Et<sub>2</sub>B(saldMe), Et<sub>2</sub>B(saldPh) and ClAl(saldPh).

The crystal structure analysis of these compounds provides interesting data concerning the effect of the nature of coordination center and both the M-alkyl and the N-alkyl substituents on the molecular assembly of the tetrahedral Schiff base complexes. The molecular structure of the complexes of boron consists of monomeric four-coordinate chelates and their primary arrangement in the crystal structure is determined by the C-H...Oaryloxy hydrogen bonds. An extended crystal structure analysis reveals that the adjacent monomeric moieties of Et<sub>2</sub>B(saldMe) are interconnected by C-Himino...O hydrogen bridges resulting in a 1-D motif infinite H-bonded chain, whereas the crystalline complex Et<sub>2</sub>B(saldPh) comprises dimeric molecules linked through a pair of intermolecular C-Harom...O interactions.

The supramolecular arrangement of both compounds is discussed with relation to the structure of analogous aluminium complexes, and the role played by the coordination centre on the molecular assembly is analyzed.