

18-Krone-6 und kleine Carbonsäuren. Bildung und Struktur binärer Addukte mit Ameisen- und Essigsäure sowie ternärer mit Essigsäure und Wasser

18-Crown-6 and Small Carboxylic Acids. Formation and Structure of Binary Adducts with Formic and Acetic Acid, as well as Ternary Ones with Acetic Acid and Water

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Acetic Acid, Crown Ether, Formic Acid, Hydrate, Melting Diagram

The melting diagrams of the binary systems 18-crown-6/formic acid and 18-crown-6/acetic acid have been set up and the crystal structures of the adducts $18C6 \cdot 2 HCOOH$ (**1**, space group $P2_1/c$ with $Z = 2$ formula units per unit cell) and $18C6 \cdot 2 CH_3COOH$ (**2**, $C2/m$, $Z = 2$) determined. Furthermore three ternary phases, $18C6 \cdot CH_3COOH \cdot H_2O$ (**3**, $P2_1/c$, $Z = 4$) and dimorphic $18C6 \cdot 2 CH_3COOH \cdot 4 H_2O$ (high temperature form **4**, $P2_1/n$, $Z = 2$; low temperature form **5**, $P2_1/n$, $Z = 2$) have been characterized in the same way. In each structure the crown ether molecule has the (pseudo) D_{3d} conformation common for many of its complexes. Various aspects of the intermolecular hydrogen bonding are described.

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