

## **Pillar[5]arenes with morpholide and pyrrolidide substituents: Synthesis and complex formation with alkali metal ions**

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### **Abstract**

© ISUCT Publishing. Novel pillar[5]arenes containing morpholide and pyrrolidide were synthesized by step-by-step functionalization of the perhydroxylated pillar[5]arene. Binding properties of the compounds toward alkali metal cations ( $\text{Li}^+$ ,  $\text{Na}^+$ ,  $\text{K}^+$ , and  $\text{Cs}^+$ ) were investigated. The 102-103 M<sup>-1</sup> association constants were determined for the complexes obtained by derivatives of the pillar[5]arenes with alkali metal cations with 1:1 stoichiometry by electron spectroscopy. It was shown, that the  $\text{Li}^+$  binding was most effective.

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### **Keywords**

Heterocycle, Macrocyclic, Molecular recognition, Pillar[5]arene, Synthesis