

## **Lipophilic aminophosphonates and their calix[4]arene derivatives: synthesis and membrane transport of biorelevant species**

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### **Abstract**

Many new lipophilic  $\alpha$ -aminophosphonates including macrocyclic (on calix[4]arene platform) and chiral ones were synthesized by the Kabachnik-Fields reaction. Some of them were examined as carriers for membrane transport of biorelevant species such as hydroxy, amino acids, and amino alcohols. Transport measurements showed that these compounds exhibited remarkable efficiency and selectivity of the transport of very hydrophilic substances across lipophilic membranes. The structures of  $\alpha$ -amino-phosphonate-substrate complexes were investigated by spectral and theoretical methods.

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