

## Membrane extraction of organic compounds 3. A new receptor fragment for carboxylate groups based of the calix[4]arene platform

Antipin I., Stoikov I., Khrustalev A., Konovalov A.  
*Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia*

---

### Abstract

A new type of macrocyclic receptor able to bind organic substrates containing carboxy and carboxylate groups was designed on the basis of 1,3-disubstituted calix[4]arenes. A series of disubstituted calix[4]arenes were prepared in 60-80% yields by selective 1,3-alkylation of p-ter-butylcalix[4]arene. The compounds obtained were tested as carriers for DL-tartaric, glycolic, DL-amygdaic, and DL-glutamic acids through liquid membranes immobilized on a polymer matrix. The structural factors favorable for the transport of these hydrophilic substrates through lipophilic membranes were established.

<http://dx.doi.org/10.1023/A:1015005502810>

---

### Keywords

$\alpha$ -amino acids,  $\alpha$ -hydroxy acids, Alkylation, Calix[4]arene, Membrane transport