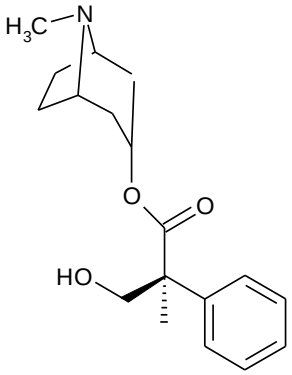
ENANTIOSEPARATION OF TROPA ALKALOIDS BY CYCLODEXTRINS IN CAPILLARY ELECTROPHORESIS

Monika Asztemborska
Institute of Physical Chemistry of the Polish Academy of Sciences, Kasprzaka 44/52, 01-224 Warsaw, Poland, e-mail: masztemborska@ichf.edu.pl

The enantiomers of a chiral drug often show different pharmacological properties. It is well known that l-hyoscyamine – the enantiomer of atropine has antispasmodic properties while d-enantiomer is pharmacologically inactive. In Nature atropine is biosynthesized in an active l- form but during the isolation and purification steps the racemization process occurs.



l-hyoscyamine

Cyclodextrins and their derivatives are widely known from their ability to form inclusion complexes with a variety of compounds. Since they are built from d-glucose units they are homochiral and thus they are useful for enantiomers recognition. These properties were applied in separation analytical techniques, like chromatography and electrophoresis, mainly for chiral separations.

Native and derivatives of cyclodextrins as additives to the running buffer were applied in the capillary electrophoresis technique for enantioseparation of some tropa alkaloids. It has been found that β-cyclodextrin forms the most stable complexes with tropa alkaloids. The stability constants of complexes of β-cyclodextrin with investigated alkaloids were estimated.

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