Synthesis of unsymmetrical derivates of azaphthalocyanines I.

Veronika Loukotová

Department of Pharmaceutical Chemistry and Drug Control, Faculty of Pharmacy in Hradec Kralove, Charles University in Prague, Heyrovskeho 1203, Hradec Kralove, 50005, Czech Republic.

Abstract:

New metal free azaphthalocyanines (AzaPc) with unsymmetrical distribution of alkylamino substituents on periphery were prepared using a statistical approach of two different precursors, followed by chromatographic separation. Presence of bulky diethylamine substituents on periphery ensures very good monomerization in organic solvents and enabled simple separation of target AzaPc from statistical mixture. Diethylamine substitution was used therefore for precursor which formed ¾ of final AzaPc. An unsymmetrical part of macrocycle was then formed by precursors with 2-hydroxyethylamine- and 2-(2-hydroxyethoxy)ethylamine groups. Better yields were obtained from cyclization of AzaPc with long substituents on periphery compared to AzaPc with short peripheral substituents where many side products were observed on TLC. The reaction of free alcoholic group of prepared AzaPc with carboxylic group of similar molecule of AzaPc to form ester bond was undertaken but was not successful.