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A pulsed field gradient NMR diffusion investigation of water-soluble *p-tert*-butyl-thiacalix[4]arene derivatives

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Abstract

Micellization process of 5,11,17,23-tetra-*tert*-butyl-25,26,27,28-tetrakis[(*N*-(3',3'-dimethyl-3'-{(ethoxy-carbonylmethyl)amidocarbonylmethyl}ammoniumpropyl)carbamoylmethoxy]-2,8,14,20-tetrathiacalix[4]arene tetrabromide in *cone* and *1,3-alternate* conformations by pulsed field gradient NMR diffusion was investigated. Self diffusion coefficient dependency from concentration was explained by phenomenological approach. Thiacalix[4]arene in *cone* conformation have shown canonical micelle formation with clear monomer-micelle transition. Critical micellization concentration of micelle formation for this compound has been calculated. Micelle transition was absent for thiacalix[4]arene in *1,3-alternat* conformation when concentration was increased. Only slow increasing of aggregation degree was observed.