

A NOVEL CHIRAL POROUS POLYMER NETWORKS – POSSIBLE SORPTION OF CHIRAL SUBSTANCES

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A novel chiral porous polymer networks of the hyper-cross-linked polyacetylene type were prepared via copolymerization of monoethynylated chiral monomer with achiral networking agent (triethynylbenzene). Material (A/LH122) was prepared by copolymerization of chiral (S)-(-)-3-butyn-2-ol ($S_{\text{BET}}=400 \text{ m}^2/\text{g}$, 8.32 mmol of OH groups per 1 g). Material (B/BB46) was prepared by copolymerization of the Schiff base type monomer bearing the chiral (S)-(-)-1-Amino-2-(methoxymethyl)pyrrolidine segment ($S_{\text{BET}}=360 \text{ m}^2/\text{g}$). The sorption of different mostly chiral active substances was tested using materials LH122 and BB46. Both chemisorption and physisorption approach was tested. Physisorption of 2-phenylpropanal, α -phenylethanol, 2-(4-(2-methylpropyl)phenyl)propanoic acid and acetylsalicylic acid was tested. Chemisorption was carried out using 2-phenylpropanal and 2-(4-(2-methylpropyl)phenyl)propanoic acid.

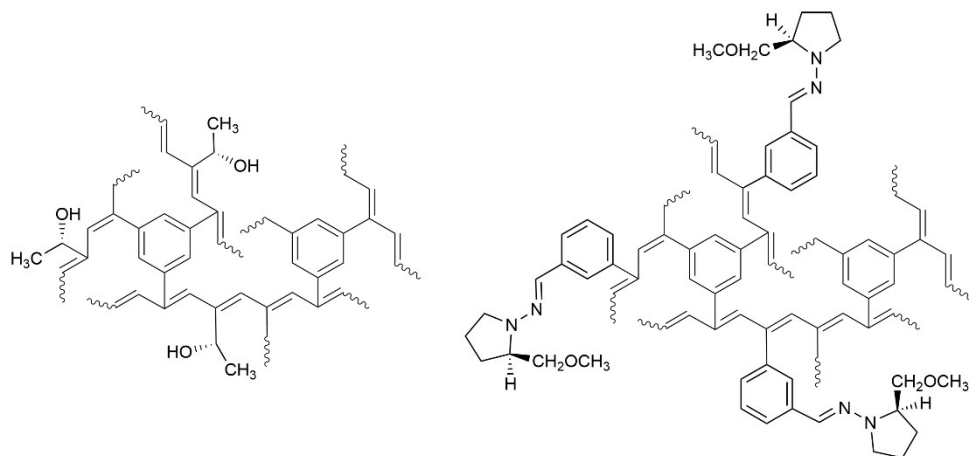


Fig. 1 Structures of materials A/LH122 (left) and B/BB46 (right)