P-68

THE COMPLEXES OF 1,3-BIS(2-HYDROXYHEXAFLUORO-2-PROPYL)BENZENE AND 1,4-BIS(2-HYDROXYHEXAFLUORO-2-PROPYL)BENZENE WITH 1,4-BENZODIOXANE, 1,4-DIOXANE, DIMETHYL SULFOXIDE AND PYRIDINE

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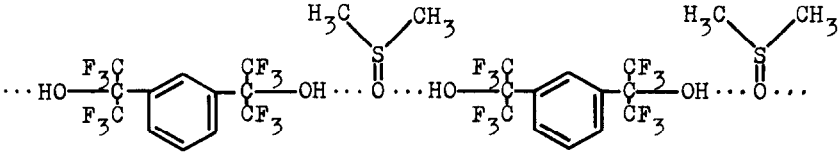
Chelating properties of 1,3-bis(2-hydroxyhexafluoro-2-propyl)benzene (1,3-BHPB) and 1,4-bis(2-hydroxyhexafluoro-2-propyl)benzene (1,4-BHPB) have been investigated. We reported previously on the synthesis of dimethyl sulfoxide complexes with 1,3-BHPB and 5-perfluoroalkyl-substituted-1,3-BHPB [1]. Their structure was presented as 1:1 complexes involving chelation of one molecule of Me_2SO by two hydroxy groups of a molecule of 1,3-BHPB. On the basis of X-ray investigation of 1,3-BHPB-Me_2SO complex a revised linear structure is assigned to this compound.



Both oxygen atoms of 1,4-dioxane and 1,4-benzodioxane are chelated in similar manner by 1,3-BHPB to afford stable complexes with m.p. 65-66° and 44-46°, respectively. The ratio of 1,3-BHPB and dioxanes in these compounds (2:1) is estimated from ^{1}H-NMR spectra. In contrast with these complexes, 1,4-BHPB and 1,4-dioxane form a compound in 1:1 ratio (m.p. 98-99°). Pyridine and 1,3- or 1,4-BHPB furnishes 1:1 complexes with m.p. 60° and 65-66°, respectively. The BHPB-pyridine complexes are recrystallized from petroleum ether and afford well formed colorless crystals which sublime in vacuo. 1,4-BHPB and Me_2SO afford a 1:1 complex with m.p. 104°.

1 J. Sepiol, R. L. Soulen, J. Fluorine Chem., 24 (1984) 61.