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Structure and stability of p-cresol – xenon clathrate : Raman spectroscopy study.

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Streszczenie

Interaction between *p*-cresol and xenon was studied by Raman spectroscopy. The main questions are crystal structure of resulting clathrate and its stability. The most informative regions of our spectra are those related to the O-H stretching vibrations, the aromatic ring vibrations between 900 and 800 cm^{-1} and the lattice vibrations of the host. From obtained data and their analysis we confirmed formation of hexagonal rings of $[\cdots O\text{-}H\cdots O\text{-}]_6$ hydrogen bonds as the main structural motif of the clathrate cages and we estimated length of the O⋯O bridges of these bonds. We found evidence that the last factor is responsible for low stability of studied complex and for higher stability of similar clathrates formed by hydroquinone.

Słowa kluczowe

p-Cresol, Xenon, Raman, Clathrate, Hydrogen bond

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