

TEMPERATURE DEPENDENCE OF THE IR
SPECTRA OF THE SYSTEM LC - AEROSIL

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IR spectra of the suspension of aerosil A300 in a nematic liquid crystal (LC) 5CB are studied in the temperature interval corresponding to the nematic and isotropic state of 5CB. The most considerable changes under heating from the nematic to isotropic state were observed for IR absorption bands sensitive to the interactions between aerosil particles (OH...O bonds) as well as between aerosil particles and LC molecules (OH... π bonds). Crucial decrease of the intensities of some mentioned absorption bands at the transition point T_{NI} could be interpreted as an essential weakening of the LC - aerosil interaction and a strong destruction of the aerosil structure. These results are in good agreement with the earlier proposed mechanism of 'memory' effect observed in the system studied.