

DIMENSIONAL EFFECT ON IR ABSORPTION BAND CONTOUR OF BENZENE

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IR absorption 673 cm^{-1} band contour for gaseous and liquid benzene was studied. For gaseous benzene the contour involves narrow Q-branch and two side P and R-branches. Distance between P and R-branch is ($\Delta y_{PR} = 26\text{ cm}^{-1}$).

Absorption band of liquid benzene at 3-5 mkm layer thick involves central Q-branch. With increasing of layer thick the band contour deformation and the disappearing of Q-branch has been found. At layer thick more 15 mkm the band contour involves two side branches the distance between which is approximately agrees with those for gas phase. As a result of phase correlation and selforganization in liquid the superimposed oscillating wave packets are formed. They form lateral components in absorption spectrum. At small layer thicks due to the disturbance of phase correlation takes place the nonsymmetric transitions of energy. They form the Q-branches. With the increase of layer thick due to realization of phase correlation takes place the disappearing of Q-branch.