OBSERVATION AND ANALYSIS THE SIMULTANEOUS VIBRATION TRANSITIONS IN ABSORPTION SPECTRA OF SOME BINARY AND TERNARY SYSTEMS

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Studies of simultaneous transitions in IR absorption spectra provide valuable information on the interaction potentials or on the electro optical constant of interacting species. We have investigated simultaneous vibration transitions of the gas and liquid mixtures of CDCl3, C6H6, and halogens with CO2, N2O and CS2. Kihara intermolecular interaction potential agrees rather well with the experimental data of the integral binary absorption coefficients of the simultaneous transition bands for the studied mixtures. For the determination of the nature of the interaction (binary or multiunit, free-free or specific) with the formation of molecular complexes, we have diluted several binary systems with a neutral solvent of carbon chloride of four. In all cases the integral binary absorption coefficients were within the limits of the experimental errors that are the convincing argument of the binary character of the interactions. The widths and shapes of studied bands have been discussed.