

INDUCED ABSORPTION SPECTRA OF THE FUNDAMENTAL BAND OF D₂ IN D₂-CO AND D₂-N₂

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The collision-induced infrared fundamental band of D₂ in D₂-CO and D₂-N₂ binary mixtures were recorded at 298 K with a sample pathlength of 105.2 cm at various densities of the binary mixtures up to 115 amagat for several base densities of D₂. Binary and ternary absorption coefficients were obtained from the measured integrated absorption coefficients. The spectra have been interpreted in terms of the overlap transitions Q_{ov}(J), J=0 to 5 and by the following quadrupolar double transitions of D₂+CO and D₂+N₂: O₁(J)(D₂)+Q₀(J)(CO/N₂), Q₁(J)(D₂)+Q₀(J)(CO/N₂), S₁(J)(D₂)+Q₀(J)(CO/N₂), and Q₁(J)(D₂)+S₀(J)(CO/N₂). Analysis of the absorption profiles was performed by assuming appropriate line-shape functions and characteristic half-width parameters δ_d and δ_c of the overlap transitions and δ_q of the quadrupolar transitions^a

^aSee S. P. Reddy, "Phenomena Induced by Intermolecular Interactions" edited by G. Birnbaum, Plenum, New York, 1985.