STATE-TO-FIELD VIBRATIONAL ENERGY TRANSFER FROM S1 PARA-DIFLUOROBENZENE IN COLLISIONS WITH SEVERAL INERT GAS PARTNERS.

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State-to-field vibrational energy transfer (VET) from several levels within the S_1 ($^1B_{2u}$) manifold of para-Difluorobenzene (pDFB) vapor at 300 K in collisions with a series of gases is currently being examined. Vibrational relaxation by collisions with H_2, He^1, Ne, Ar^1, Kr, and Xe from five initial levels with vibrational energies ranging to 1634 cm^{-1} is probed. The resulting fluorescence spectra allow for the determination of absolute rate constants and cross sections for the collisional transfer of vibrational energy from the prepared single vibronic level into the surrounding S_1 vibronic field of states.

1 D. L. Catlett and C. S. Parmenter, J. Phys. Chem., 95, 2864 (1991).