EXPERIMENTAL CHARACTERIZATION OF THE STABILIZATION OF THE LINEAR AND T-SHAPED He-ICl(X) ISOMERS

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The results from experiments aimed at characterizing the stabilization of different isomers of a weakly-bound complex within a supersonic expansion are presented. Specifically, the change in the relative populations of the linear and T-shaped He-ICl(X) ground-state isomers as a function of the distance from the expansion nozzle as well as backing pressure have been determined. The laser-induced fluorescence signals in the ICl B $^3\Pi_{0+}$-X $^1\Sigma^+$ 3-0 spectral region that are attributed to transitions from the different ground state isomers serve as the probe for the relative populations. The observed results are in accord with the mechanisms and the theoretical predictions recently published for the stabilization of the isomers of Ar-I_2(X).[a]

[a] A. Bastida, J. Zúñiga, A. Requena, B. Miguel, J. A. Beswick, J. Vigué, and N. Halberstadt, J. Chem. Phys. 116, 1944 (2002).