PERMANENT ELECTRIC DIPOLE MOMENTS OF 2-AMINOBENZONITRILE AND 3-AMINOBENZONITRILE IN THE GAS PHASE[a]

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Recently, Dugourd and coworkers investigated the dipole moments of the three structural isomers of aminobenzonitrile in the gas phase using an electric deflection technique. Due to the asymmetry of 2-aminobenzonitrile (2-ABN) and 3-aminobenzonitrile (3-ABN), their simulations did not match the experimentally obtained beam deflection profiles.[b] These results have prompted our own study of 2-ABN and 3-ABN. The gas phase structures of 2-ABN and 3-ABN in their S_0 and S_1 states have been determined using rotationally resolved electronic spectra. Additionally, spectra were taken while applying an electric field in order to obtain dipole moment measurements for these molecules, in both their ground and excited electronic states. The results will be discussed.

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[b]M. A. E. Rahim, R. Antoine, M. Broyer, D. Rayane and Ph. Dugourd, *J. Phys. Chem. A.* **109**, 8507 (2005).