

Electron energy loss spectra of benzene

Reference: Michael Allan, Université de Fribourg 1995 (unpublished).

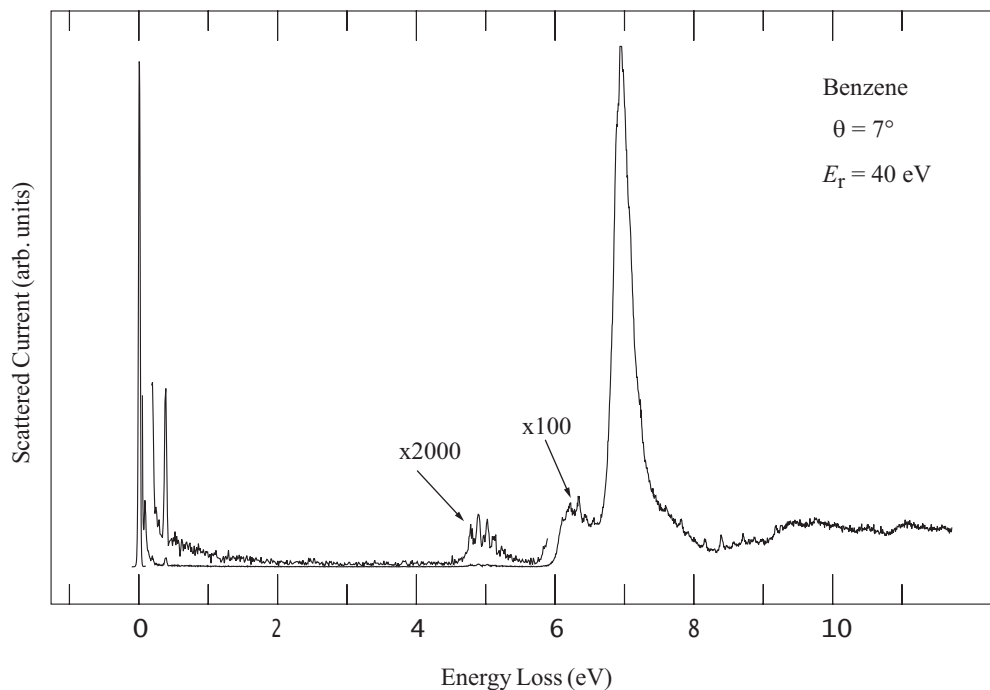


Fig. 1: Energy loss spectrum of benzene emphasizing dipole allowed transitions.

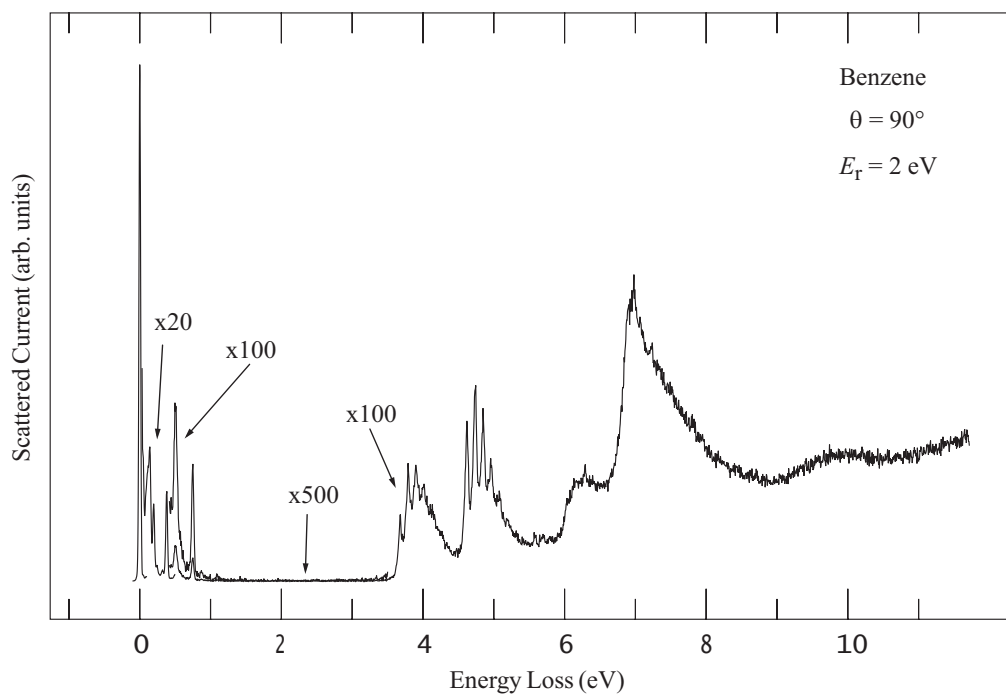


Fig. 2: Energy loss spectrum of benzene emphasizing spin-forbidden transitions.

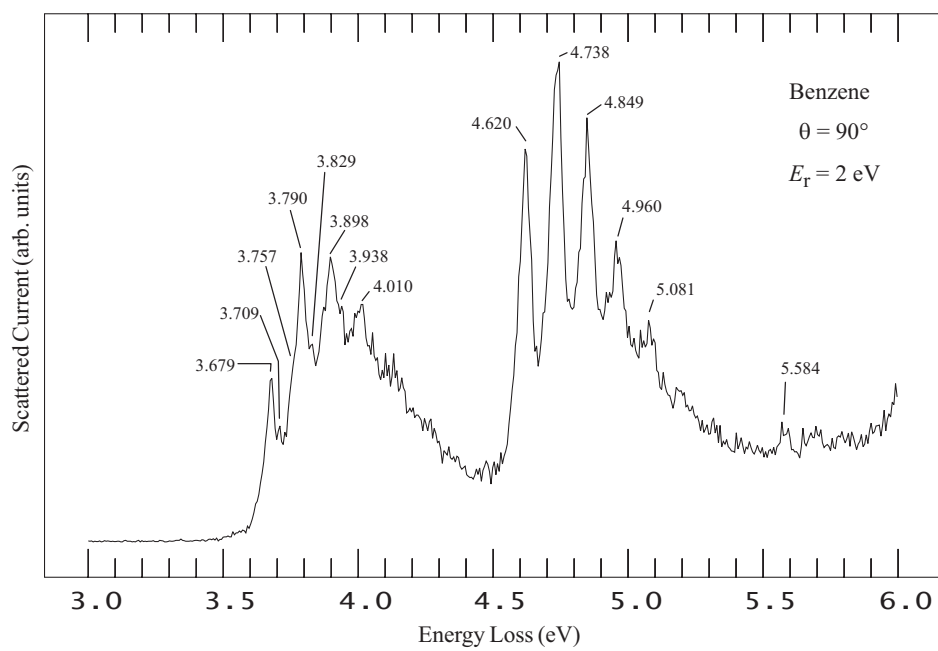


Fig. 3: Detail of the spectrum of Fig.2.

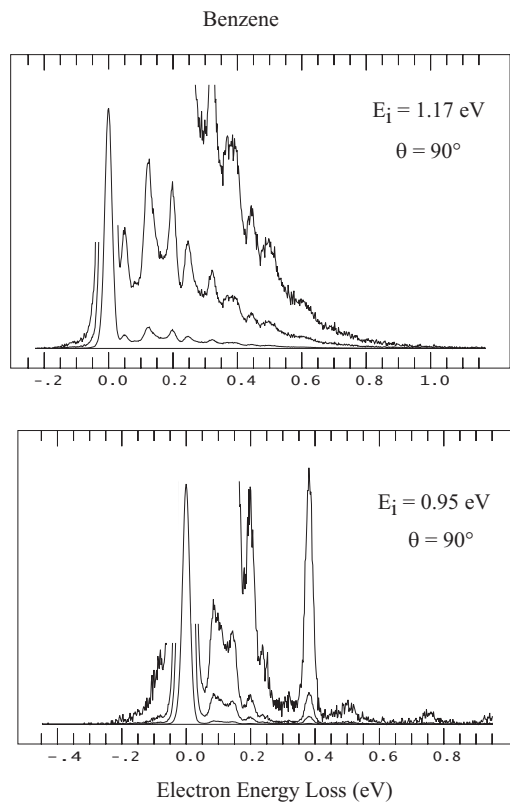


Fig. 4: Vibrational energy loss spectra of benzene recorded with constant incident energies just below (bottom) and within (top) the lowest π^* resonance.

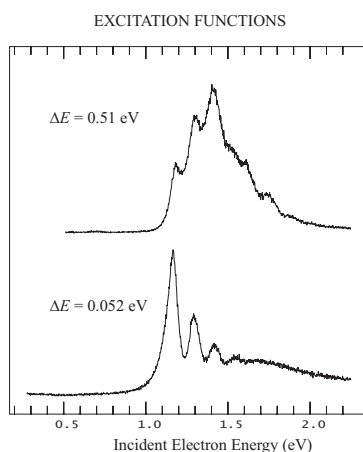


Fig. 5: Excitation functions of two specific vibrational energy losses, within the range of the lowest π^* resonance. The spectra emphasize how different a resonance may appear when viewed through different vibrational excitation channels.

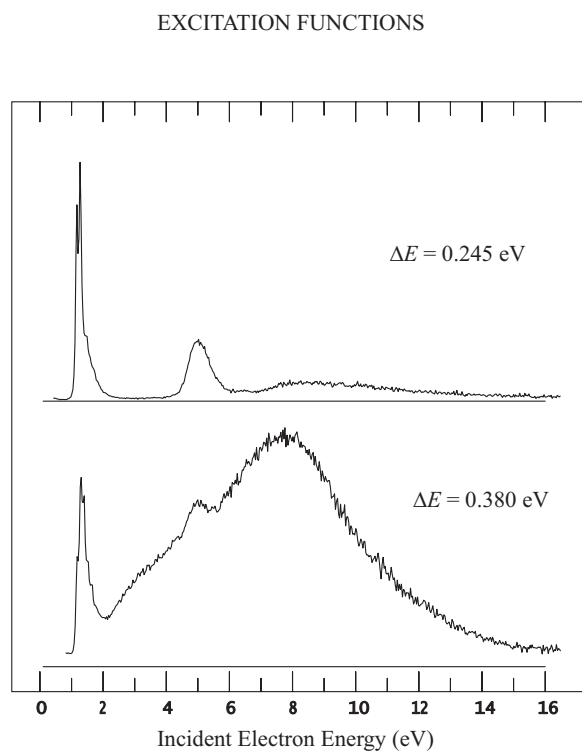


Fig. 6: Excitation functions of a ring breathing (top) and a C-H stretch (bottom) vibrational energy losses measured over a large energy range. The spectra show the substantial overlap of the π^* and the σ^* resonances and thus indicate that vibrational excitation in benzene can not be understood without taking vibronic coupling into account.