
mass spectrometric study of ionization and fragment of ethylamine: diethylamine and triethylamine using electron impact technique

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A mass spectrometer of the type Atlas CH-4 is used in combination with deconvoluted first differential (DFD) technique in order to investigate the ionization efficiency (IE) curves for molecular ions $[C_2H_5N]$, $[C_4H_{11}N]$ and $[C_6H_{15}N]$ as well as $[CH_4N]$, $[C_2H_6N]$ and $[C_3H_8N]$ fragment ions produced from the three molecules, namely ethylamine, diethylamine and triethylamine. All the studied IE curves are measured for about 3.5 eV above threshold. The relative intensities of the prominent ions in the mass spectra of the three amine molecules are reported at 70 and 14 eV. The effect of branching groups on the intensity of different fragment ions is discussed. Metastable peaks associated with formation and fragmentation of the studied fragment ions are also reported, and the kinetic energy released ($t_{0.5}$) values associated with these processes are determined.