Investigation of the ionization processes of *p*-chloroaniline, *p*-bromoaniline and *p*-fluoroanilinel

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The ion mobility spectrometry (IMS) technique is based on ionization of the substance at the atmospheric pressure. Reactant ions are formed in the discharge chamber; their concentration significantly exceeds concentration of the substances to be determined. Then reactant ions transfer charge to the target substance by the chemical ionization mechanism at the atmospheric pressure. In the course of work at the Kerber-T IMS, technique registration was developed for the determining characteristic values of the ion mobility. Ion mobility spectra were obtained at the atmospheric pressure, ambient air purified by molecular sieves was used as the drift gas. When studying ionization processes by ion mobility spectrometry on the Kerber-T IMS the ion mobility spectra of halogenated aromatic amines were obtained and analyzed: *p*-chloroaniline, *p*-bromoaniline and *p*-fluoroaniline. For mathematical data processing, a program has been developed in the Python programming language version 3.3, which allows you to explore and analyze a large number of ion mobility spectra. During the study, it was found that the selected halogenated aromatic amines are detected only in positive ionization. It was previously found that the presence of a halogen atom in the structure affects the value of ionic mobility in the region of negative ionization.