Below is the comparison of SPAMS mass spectra acquired in DC and DE modes are presented. The spectra were obtained using PSL (Polystyrene latex particles), with 266 nm laser.

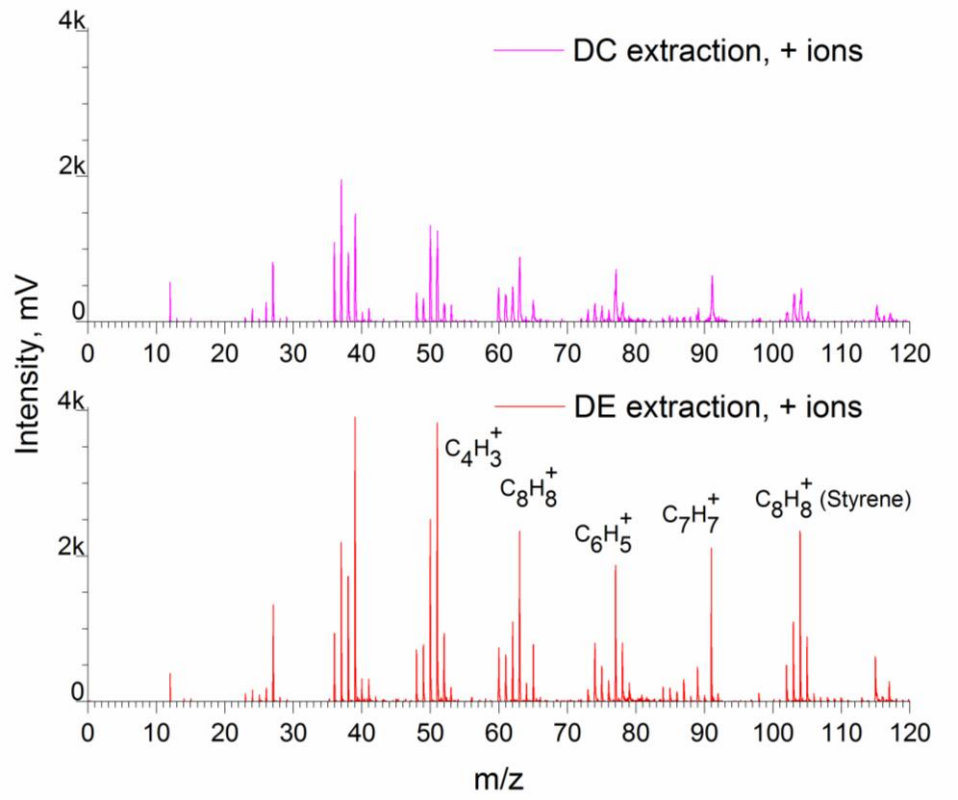

Fig. 1. Comparison of positive ions mass spectra obtained from PSL particles using SPAMS instrument with DC and DE extraction modes, in the mass range 0<m/z<120.

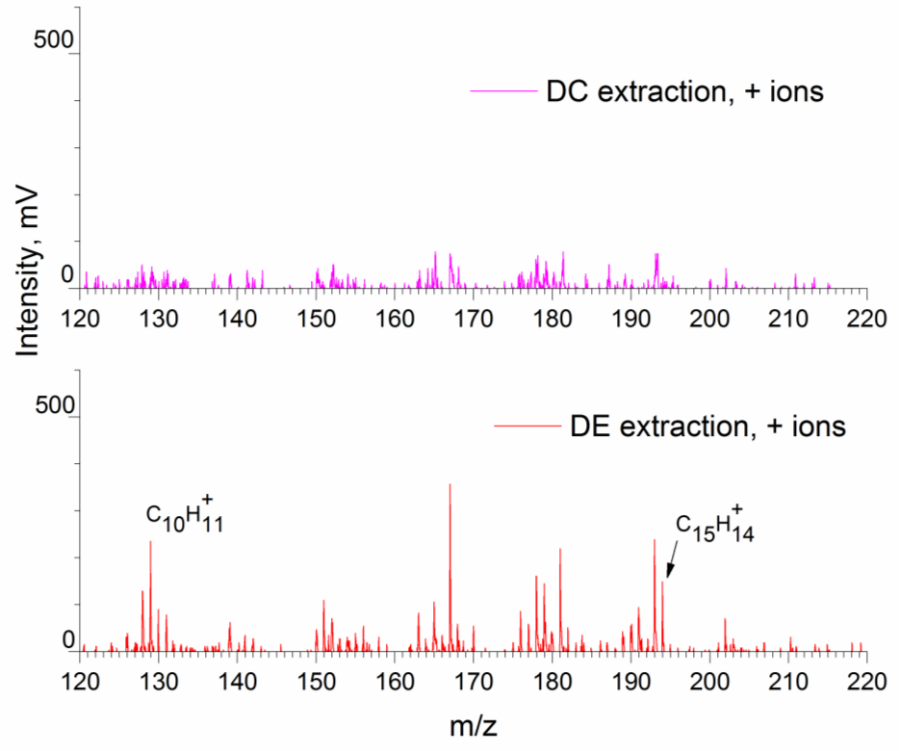

Fig. 2. Comparison of positive ions mass spectra obtained from PSL particles using SPAMS instrument with DC and DE extraction modes, in the mass range 120<m/z<220.

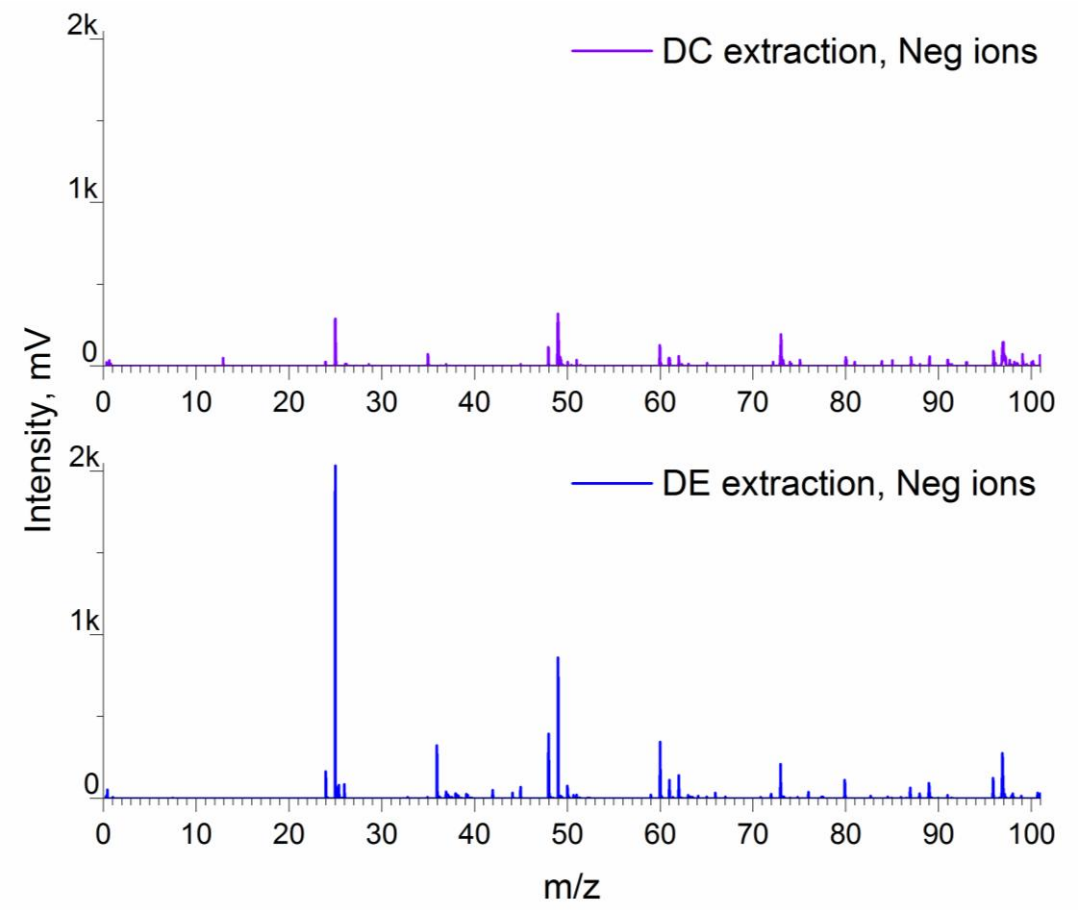

Fig. 3. Comparison of negative ions mass spectra obtained from PSL particles using SPAMS instrument with DC and DE extraction modes, in the mass range 0<m/z<120.

We can see from these mass spectra, that mass spectra are similar by their peaks sets. There is some discrepancy in the relative intensity of peaks, but more significant is the difference between the peaks intensity in DC and DE modes. We suppose that this difference is caused mainly by higher mass resolution in case of DE. The relative intensity of some peaks differs in DE and DC cases, presumably by collision energy increase in case of DC extraction. For instance (Fig. 2), we observe $C_{10}H_{11}+$ and $C_{15}H_{14}^{+}$ ions in DE mode, but these dimer fragments of Polystyrene are at the noise level in DC mass spectra. The differences in negative ions mass spectra (Fig. 3) can be explained by the different mechanism of the negative ion formation and a particular features of the electron capture cross-section dependencies.