Electronic Supplementary Material (ESI) for Analytical Methods.

Electronic supplementary information

Rapid Pre-filtering of Amphetamine and Derivatives by Direct Analysis in Real Time (DART)-Differential Mobility Spectrometry (DMS)

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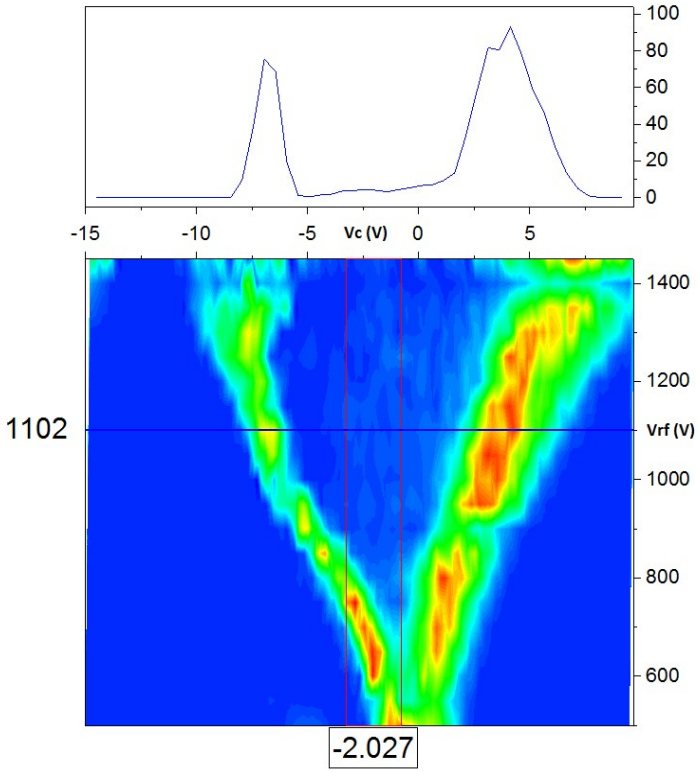

Figure S-1: Dispersion plot of neat caffeine (bottom). The chronogram obtained at V_{rf} 1100 V (top) filtered out caffeine at V_c -7 V

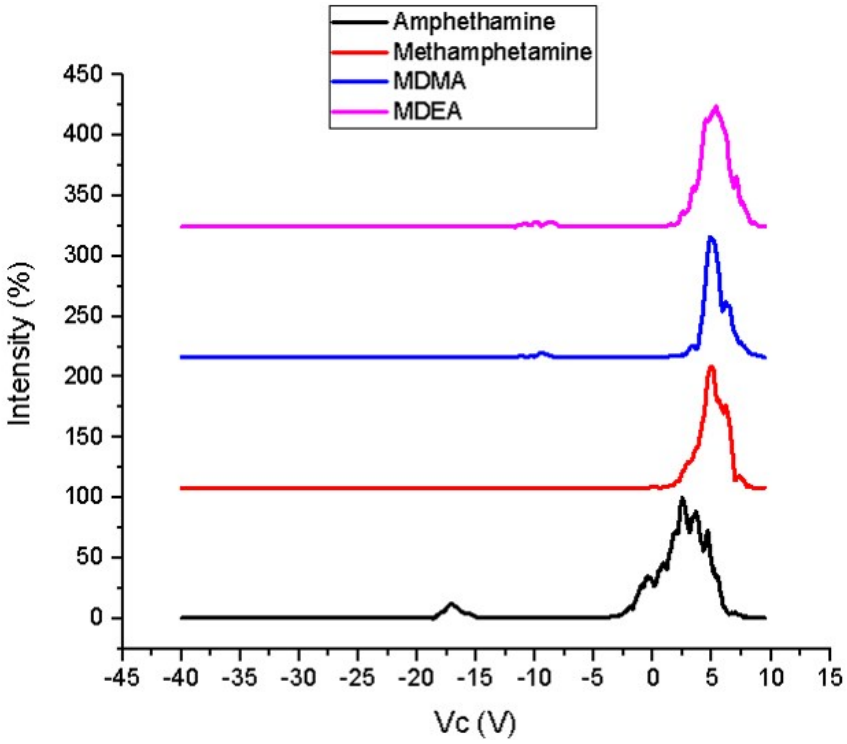

Figure S-2. Extracted V_c chronograms of neat drug samples at 1500V_{rf}.

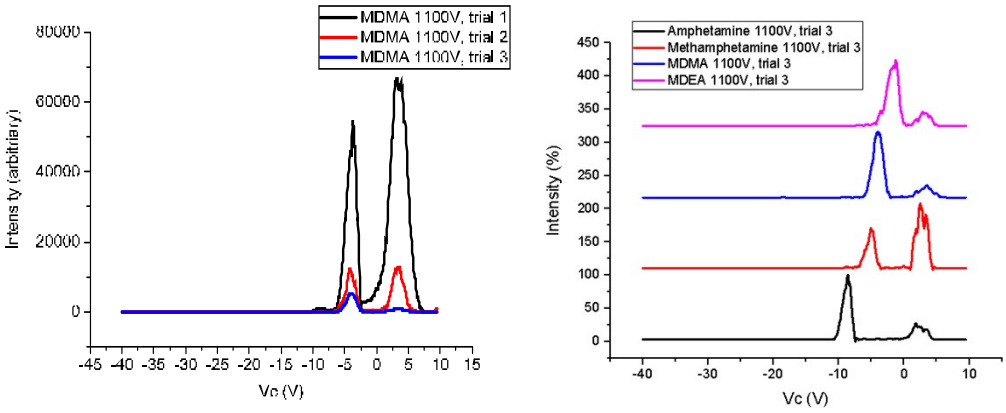

Figure S-3: a) Chronogram at 1100 V_{rf} of three successive trials showing absolute signal intensities for MDMA sample consumption across a single mesh. b) The third trial of the four-component drug mixture separated at 1100 V_{rf} after modification to sample preparation and inlet hardware. The samples are normalized to the most intense peak.

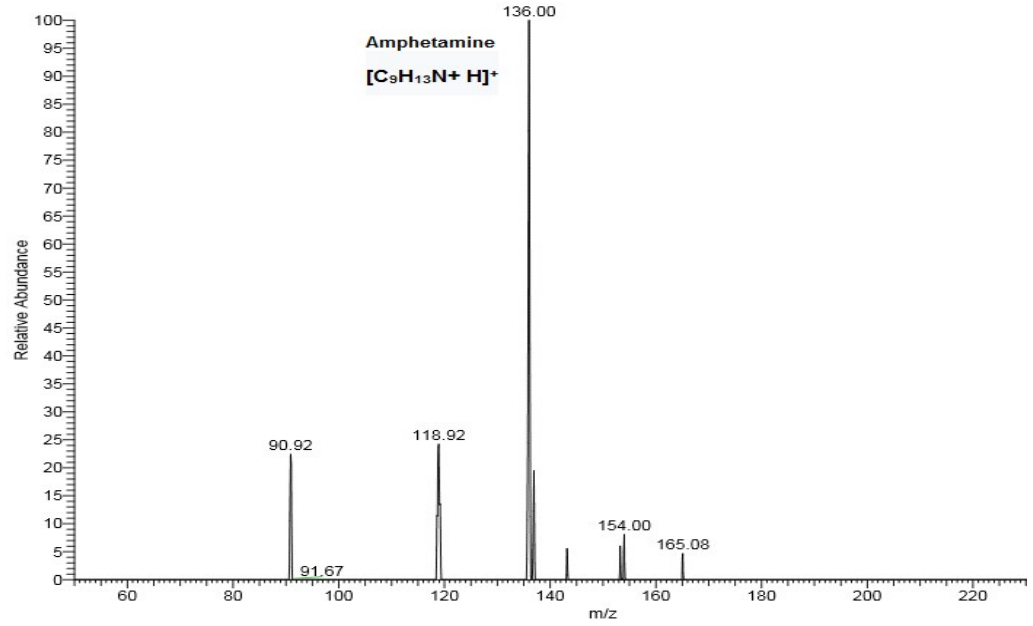

Figure S-4. Mass spectrum of Amphetamine in drug mixture obtained at V_c -9.0 V

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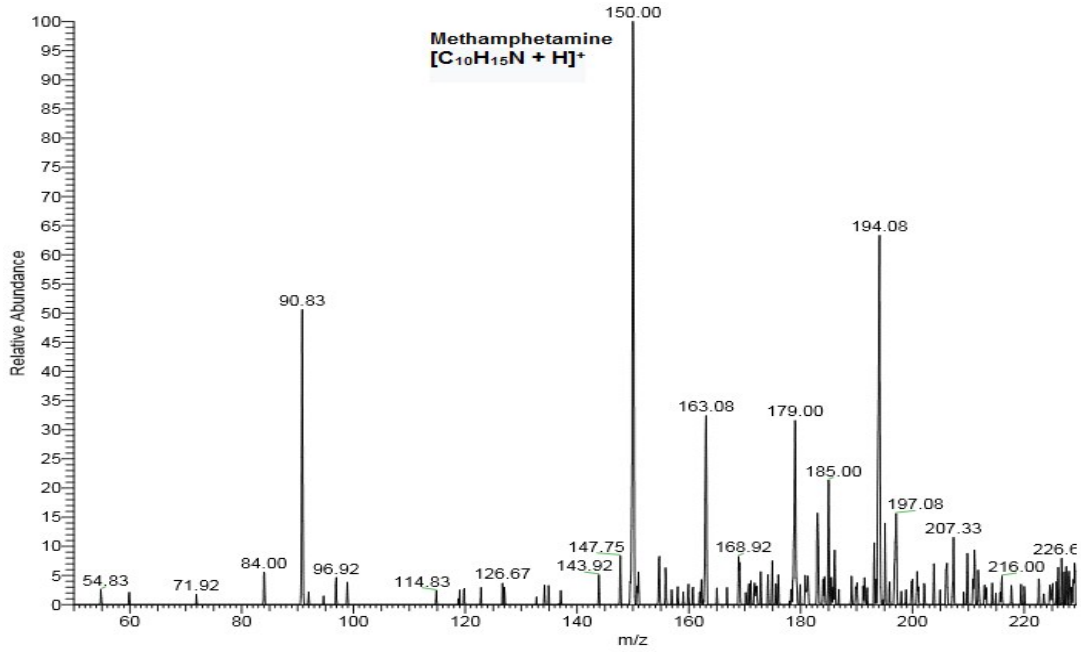

Figure S-5. Mass spectrum of Methamphetamine in drug mixture obtained at V_c -5.0 V

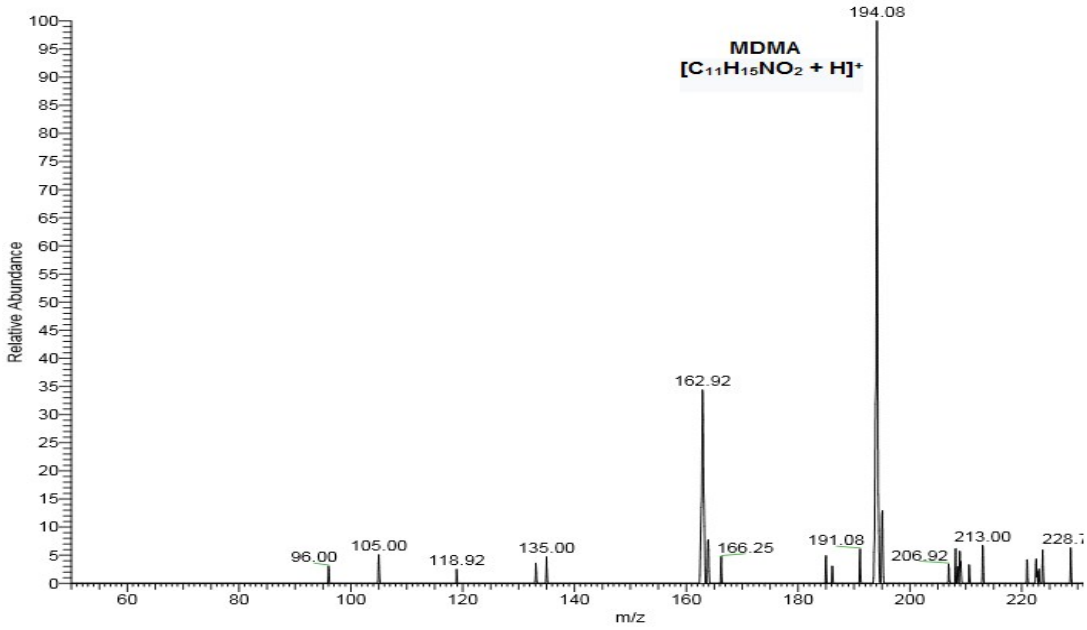

Figure S-6. Mass spectra of MDMA in drug mixture obtained at V_c -4.0 V

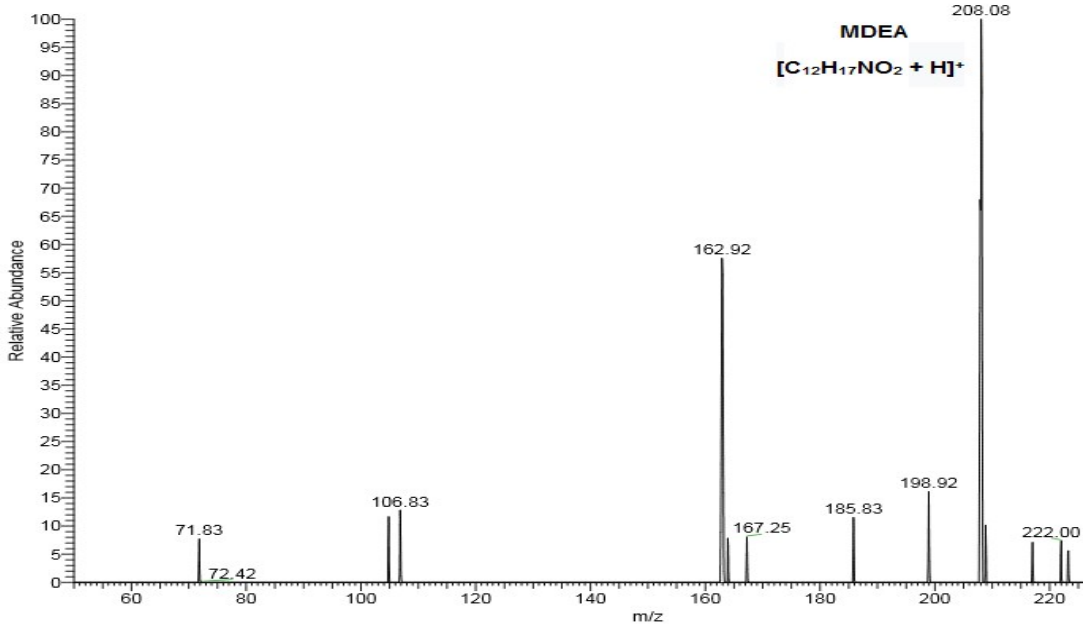

Figure S-7. Mass spectra of MDEA in drug mixture obtained at V_c -2.5 V

Table S-1. DIP/RIP ratio comparison of four-component drug mixture separated at 1100 V_{rf} at first trial sample mesh in Figure 6.

	DIP Intensity	RIP Intensity	DIP/RIP ratio
Amphetamine	3.27E+04	1.39E+05	0.2343
Methamphetamine	1.34E+04	2.28E+04	0.5872
MDMA	2.03E+05	4.13E+05	0.4921
MDEA	1.52E+05	2.39E+05	0.6370