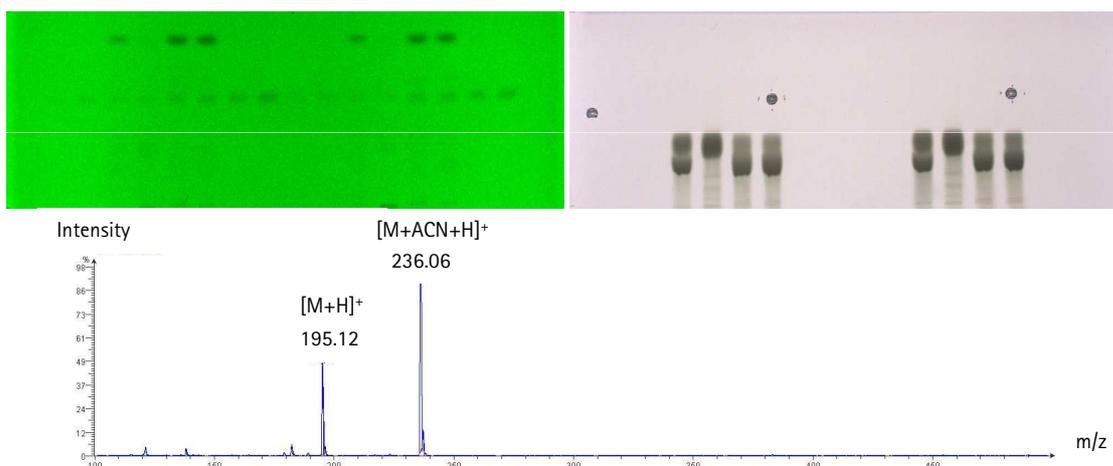




Determination of Caffeine in energy drinks on HPTLC Silica gel 60 F₂₅₄ MS-grade

Chromatographic Conditions

Plate:	HPTLC Silica gel 60 F ₂₅₄ MS-grade 20x10 cm
Article number:	1.00934.0001
Mobile Phase (v/v):	2-Propanol (1.01040) / n-Heptane (1.04390) / Water 7:3:1
Migration distance:	Migration distance 5 cm (migration time 50 min)
Chamber:	Normal chamber without chamber saturation
Derivatisation:	Anisaldehyde-sulphuric-acid-reagent
Detection:	UV 254 nm
Mass spectrometry:	Identification by coupling the TLC – MS Interface (CAMAG) with the Advion expression CMS mass spectrometer (+)-ESI mode. Eluent: Acetonitrile / Water 95:5 + 0.1 % TFA
Sample preparation:	Direct application by spraying 6 mm bands with CAMAG ATS4



Chromatographic Data

Track No.	Compounds	Concentration (mg/ml)	Solvent	Application volume μ l	hRf
1, 9	Caffeine Standard 1	0.10	Methanol	0.5	55 / 56
2, 10	Caffeine Standard 2	0.10	Methanol	1.0	55 / 55
3, 11	Caffeine Standard 3	0.10	Methanol	2.0	56 / 55
4, 12	Caffeine Standard 4	0.10	Methanol	3.0	55 / 55
5, 13	Energy drink A	0.17	-	0.5	56 / 55
6, 14	Energy drink B	0.13	-	0.5	56 / 55
7, 15	Energy drink C	0.41	-	0.5	56 / 56
8, 16	Energy drink D	0.40	-	0.5	56 / 57