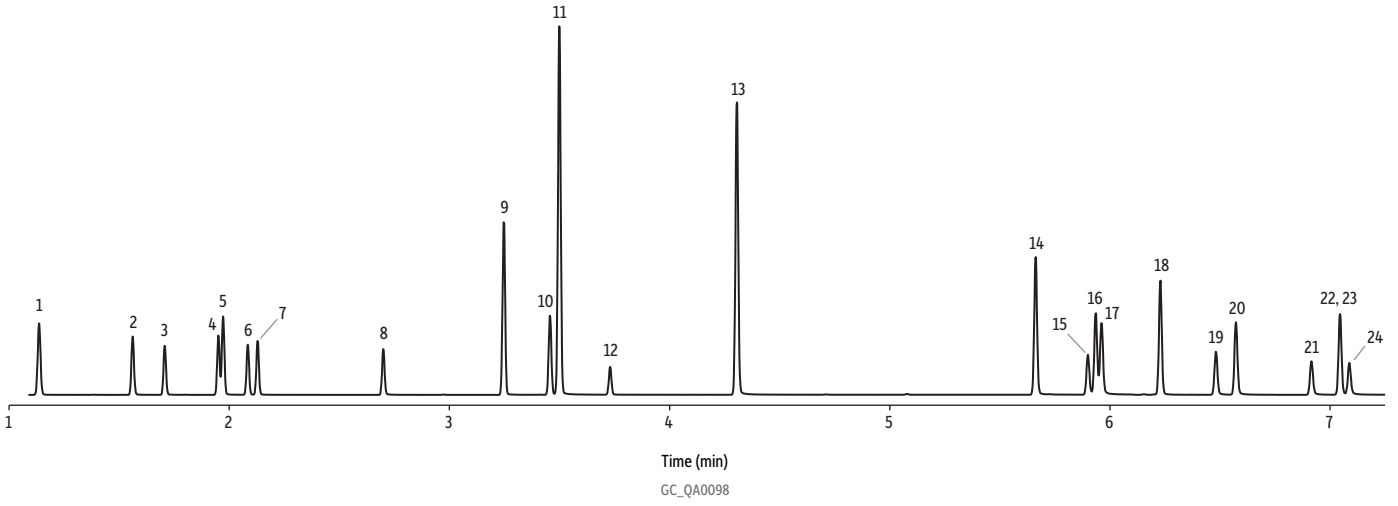
High Speed GC-MS-SIM of Carcinogenic Aryl Amines Resulting From Reductive Cleavage of Azo Dyes on Rxi®-35Sil MS (SIM Mode)

Fast <8 min analysis of 1 ng on-column.



GC_QA0098

	Peaks	t_R (min)	Quant. Ion (m/z)	Qual. Ion #1 (m/z)	Qual. Ion #2 (m/z)
1.	*o*-Toluidine	1.14	106	107	89
2.	*o*-Anisidine	1.56	108	123	80
3.	4-Chloroaniline	1.71	127	129	100
4.	*p*-Cresidine	1.95	122	137	94
5.	2,4,5-Trimethylaniline	1.97	120	135	134
6.	3-Chloro-*o*-toluidine	2.08	141	106	140
7.	4-Chloro-*o*-toluidine	2.13	141	106	140
8.	2,4-Diaminotoluene	2.70	121	122	94
9.	2,4,5-Trichloroaniline (IS)	3.25	195	197	199
10.	2-Naphthylamine	3.46	143	115	116
11.	2-Aminobiphenyl	3.50	169	168	167
12.	2-Amino-4-nitrotoluene	3.73	152	106	79
13.	4-Aminobiphenyl	4.31	169	168	167
14.	*p*-Aminoazobenzene	5.66	92	197	120
15.	4,4'-Oxydianiline	5.90	200	171	108
16.	4,4'-Diaminodiphenylmethane	5.94	198	197	180
17.	Benzidine	5.96	184	185	92
18.	*o*-Aminoazotoluene	6.23	106	225	134
19.	3,3'-Dimethyl-4,4'-diaminodiphenylmethane	6.48	226	120	211
20.	3,3'-Dimethylbenzidine	6.57	212	213	106
21.	4,4'-Thiodianiline	6.92	216	184	183
22.	3,3'-Dichlorobenzidine	7.05	252	254	256
23.	4,4'-Methylenebis(2-chloroaniline)	7.05	231	266	195
24.	3,3'-Dimethoxybenzidine	7.09	244	201	186

Column	Rxi®-35Sil MS, 15 m, 0.25 mm ID, 0.25 µm (cat.# 13820)
Sample	AccuStandard carcinogenic aryl amine mix (cat.# AE-000-49-R1)
Diluent:	Ethyl acetate
Conc.:	10 µg/mL
Injection	
Inj. Vol.:	1 µL split (split ratio 10:1)
Liner:	Premium 4 mm Precision® liner w/wool (cat.# 23305.1)
Inj. Temp.:	275 °C
Oven	
Oven Temp.:	100 °C to 320 °C at 27 °C/min (hold 1.75 min)
Carrier Gas	He, constant flow
Flow Rate:	2.0 mL/min
Detector	MS
Mode:	SIM

Scan Program:

Group	Start Time (min)	Ion(s) (m/z)	Dwell (ms)
1	1.00	89, 106, 107, 123, 80, 108, 127, 129, 100	5
2	1.82	122, 137, 94, 120, 135, 134, 141, 106, 140	5
3	2.40	121, 122, 94, 195, 197, 199	7
4	3.35	143, 115, 116, 169, 168, 167, 152, 106, 79,	3
5	5.00	92, 197, 120, 200, 171, 108, 197, 198, 180, 184, 185, 92	3
6	6.10	106, 225, 134, 226, 120, 211, 212, 213, 106	5
7	6.75	216, 184, 183, 252, 254, 256, 231, 266, 195, 244, 201, 186	3

Transfer Line Temp.:	330 °C
Analyzer Type:	Quadrupole
Source Type:	Inert
Drawout Plate:	3 mm ID
Source Temp.:	250 °C
Quad Temp.:	180 °C
Solvent Delay Time:	1.0 min
Tune Type:	PFTBA
Ionization Mode:	EI
Instrument	Agilent 7890A GC & 5975C MSD

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