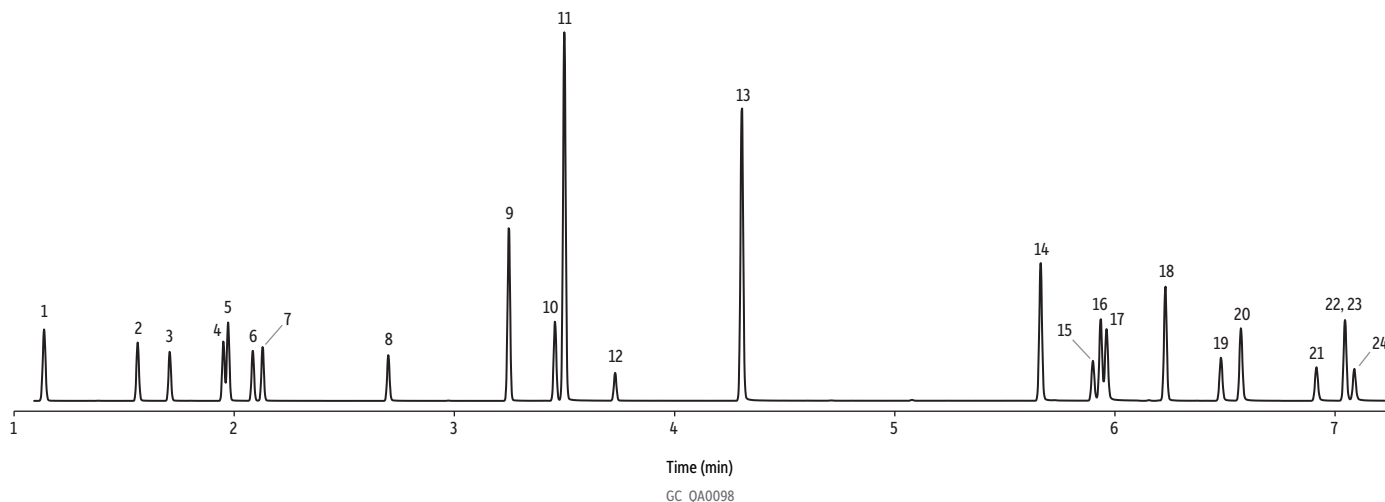


# High Speed GC-MS-SIM of Carcinogenic Aryl Amines Resulting From Reductive Cleavage of Azo Dyes on Rxi-35Sil MS (SIM Mode)

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



Time (min)

GC\_QA0098

Peaks	t <sub>R</sub> (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 (15)	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)  
**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