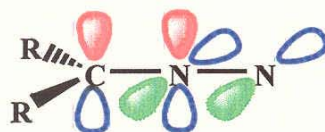


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ELECTRON-IMPACT-INDUCED FRAGMENTATION OF DIAZODIARYLMETHANES

J. Kuruc^a, E. Kardošová^a, L. L. Rodina^b

^a *Department of Nuclear Chemistry, Comenius University, 842 15 Bratislava, Slovak Republic*

^b *Department of Organic Chemistry, Saint-Petersburg State University, 198904 Saint-Petersburg, Russian Federation*

The electron-impact-induced fragmentation (the mass spectra, 15-70 eV) of diazodiarylmethanes (diazodiphenylmethane, **Ia**; phenyl-*para*-methoxyphenyldiazomethane, **Ib**; phenyl-*para*-biphenyldiazomethane, **Ic**; 10-diazonaphthoquinone, **Id**; and 9-diazothiioxanthene **Ie**), was studied.^{1,2} Used diazodiarylmethanes were synthesised by conventional methods.³

The mass spectra were measured using Varian MAT 111 instrument with direct introduction of samples, with a source temperature of 120°C, energy of ionising electrons in the range 17-70 eV and 150 μA and sample reservoir laboratory temperature.

The elimination of diazogroup is typical reaction for fragmentation of diazocompounds after ionisation of molecules with electron impact.⁴ All investigated diazodiarylmethanes show the molecular ion with 1.6-30.4 % of relative abundance. Besides formation of typical ions $[M-N_2]^+$ we registered formation of non-conventional typical fragments $[M-C]^+$, $[M-N]^+$, $[M-C-N]^+$ and $[M-C-N_2]^+$. Doubly-charged ions were observed. For all investigated diazocompounds fragmentational schemes were proposed. At the energy of ionising electrons ~20 eV the dominating ions are $[M-N_2]^+$ fragments.

The dependence of abundance of molecular ions as well as of ionic fragments are presented in the Table 1.

Table 1. The per cent from total ionic current (numerator) and relative abundance (% , denominator) of molecular ions and ionic fragments of diazodiarylmethanes at 70 eV and 20 eV

No	eV	$[M]^+$	$[M-C]^+$	$[M-N]^+$	$[M-N_2]^+$	$[M-C-N]^+$	$[M-C-N_2]^+$
Ia	70	0,73/4,7	1,14/7,4	0,65/4,2	11,79/76,3	0,98/6,3	1,06/6,8
	20	2,82/6,6	1,25/2,9	0,63/1,5	13,58/31,7	2,93/6,8	0,94/2,2
Ib	70	0,28/3,1	0,99/10,77	0,2/2,1	9,2/100	0,92/10	0,39/4,3
	20	0,44/1,8	1,8/7,4	0,44/1,8	24,19/100	1,45/6,0	0,48/2,0
Ic	70	0,21/1,9	1,31/11,4	0,3/2,6	11,48/100	1,52/13,3	0,52/4,6
	20	0,56/1,6	0,67/1,9	0,78/2,2	35,18/100	3,46/9,8	1,12/3,2
Id	70	3,67/30,4	3,14/26,1	0,73/6,1	9,43/78,3	4,45/37	2,38/19,8
	20	5,87/24,1	1,43/5,9	-	24,34/100	8,73/35,9	0,64/2,7
Ie	70	0,93/13,6	0,66/9,8	0,68/10	5,87/86,4	0,65/9,6	0,46/6,8
	20	1,71/11,5	6,94/47	1,02/6,9	14,8/100	3,98/26,9	-

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