

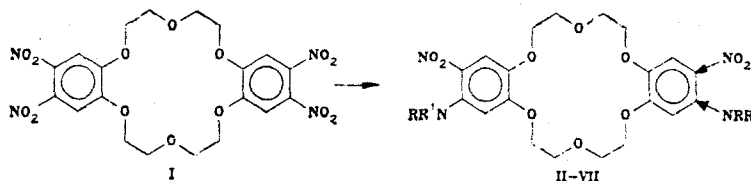
NEW SYNTHESIS OF DIAMINODINITRODIBENZO-18-CROWN-6 DERIVATIVES

É. I. Ivanov, A. A. Polishchuk,
and R. Yu. Ivanova

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We have previously reported [1] that the reaction of tetranitrodibenzo-18-crown-6 (I) with sodium alcoholates in DMSO at room temperature formed a mixture of dialkoxydinitro- and trialkoxynitrobenzene, i.e., the macroheterocycle undergoes scission.

It has been shown that when crown ether I reacts with ammonia or amines in DMSO, compounds II-VII form easily. The previously known synthesis of diamine derivatives like II ($R = R^1 = H$) consists of several steps [2]. A mixture of syn- and anti-isomers of compounds II-VII was synthesized in good yield by heating a solution of the reagents in a boiling water bath for 2-4 h.



II-V $R=H$, VI $R=Me$; II $R^1=H$, III, VI $R^1=Me$, IV $R^1=CH_2Ph$; VII $R-R^1=$
 $-(CH_2)_5-$

Compound II: yield 76%, mp 270°. IR spectrum (KBr): 3470, 3360 (NH), 1505 (NO_2), 1130 cm^{-1} (C-O-C). UV spectrum (EtOH): 235, 270, 308, 425 nm. Mass spectrum, m/z : 480 (M^+).

Compound III: yield 78%, mp 240°. IR spectrum (KBr): 3350 (NH), 1505 (NO_2), 1120 cm^{-1} (C-O-C). UV spectrum (EtOH): 238, 274, 315, 428 nm. Mass spectrum, m/z : 508 (M^+).

Compound IV: yield 75%, mp 120°. IR spectrum (KBr): 3320 (NH), 1505 (NO_2), 1115 cm^{-1} (C-O-C). UV spectrum (EtOH): 236, 275, 312, 430 nm. Mass spectrum, m/z : 660 (M^+).

Compound V: yield 72%, mp 112°. IR spectrum (KBr): 3340 (NH), 1505 (NO_2), 1120 cm^{-1} (C-O-C). UV spectrum (EtOH): 245, 274, 316, 430 nm. Mass Spectrum, m/z : 632 (M^+).

Compound VI: yield 82%, mp. 132°. IR spectrum (KBr): 1110 (C-O-C), 1505 cm^{-1} (NO_2). UV spectrum (EtOH): 254, 278, 324, 438 nm. Mass spectrum, m/z : 536 (M^+).

Compound VII: yield 80%, mp 148°. IR spectrum (KBr): 1505 (NO_2), 1120 cm^{-1} (C-O-C). UV spectrum (EtOH): 250, 276, 320, 432 nm. Mass spectrum, m/z : 616 (M^+).

The elemental composition of the synthesized compounds agreed with the calculated values.

LITERATURE CITED

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2. H. J. Forster, H. J. Niclas, and N. G. Lukyanenko, *Z. Chem.*, 25, 17 (1985).

A. V. Bogatskii Physicochemical Institute, Academy of Sciences of the Ukrainian SSR, Odessa 270080. Translated from *Khimiya Geterotsiklicheskich Soedinenii*, No. 6, p. 853, June, 1987. Original article submitted July 24, 1986.