

Synthesis, structure, and antibacterial activity of aminobenzofuroxan and aminobenzofurazan

Galkina I., Takhautdinova G., Tudrii E., Yusupova L., Falyakhov I., Pozdeev O., Shulaeva M., Kipenskaya L., Sakhibullina V., Krivolapov D., Litvinov I., Galkin V., Cherkasov R.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

The amination of 4,6-dichloro-5,7-dinitrobenzofuroxan and 4,6-dichloro-5,7-dinitrobenzofurazan with dibenzylamine followed the aromatic nucleophilic substitution pattern (S_NAr) and gave products of replacement of both chlorine atoms in the six-membered ring with elimination of hydrogen chloride. Regardless of the reactant ratio, 4,6-dichloro-5,7-dinitrobenzofuroxan was converted into 4,6-bis(dibenzylamino)-5,7-dinitrobenzofuroxan, whereas 4,6-dichloro-5,7-dinitrobenzofurazan under analogous conditions gave rise to unusual bisammonium derivative which lost proton from the amino group on C4 and benzyl group from the amino group on C6; as a result, the corresponding diamine with secondary and tertiary nitrogen atoms was obtained. The structure of the isolated compounds was determined by IR and NMR spectroscopy, elemental analysis, and X-ray analysis; their thermal stability was studied by simultaneous thermogravimetry and differential scanning calorimetry. © 2013 Pleiades Publishing, Ltd.

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