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Poster Presentation

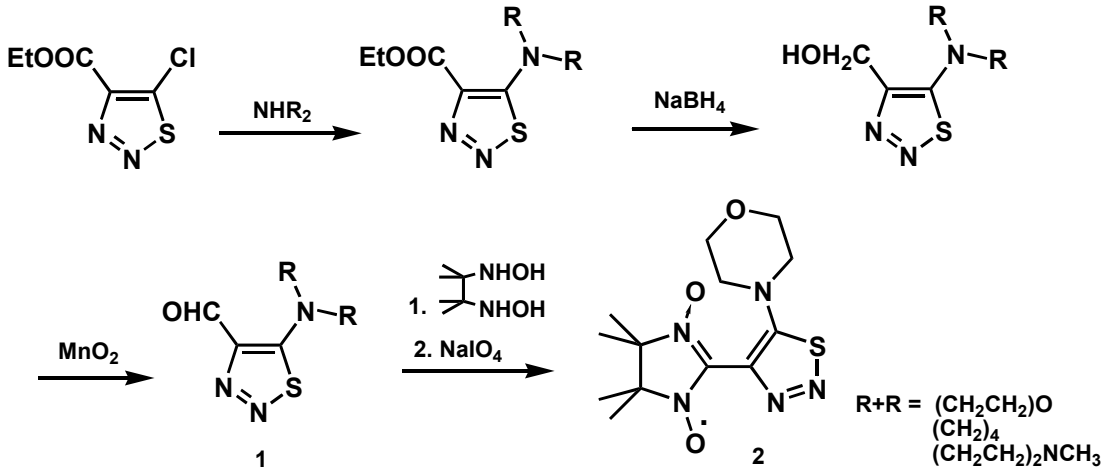
2-Thiadiazolylnitronylnitroxide – Synthesis, Magnetic Properties and X-ray Structure

Vadim K. Khlestkin[a], Lyudmila V. Dyudya[b], Kseniya V. Malisheva[b], Yurii Yu. Morzherin[b], Yurii G. Shvedenkov[c], Galina V. Romanenko[c], Vladimir N. Ikorsky[c]

[a]*Novosibirsk Institute of Organic Chemistry, Lavrent'ev Ave., 9, 630090, Novosibirsk, Russia*
Fax:+7(3832)344752. E-mail: vadim@nioch.nsc.ru
[b] *Department of Technology for Organic Synthesis, Urals State Technical University UPI, 620002 Ekaterinburg, 19Mira str., Russia*
[c]*International Tomography Center, Institutskaya str., 3a, 630090, Novosibirsk, Russia*

Synthesis of novel molecules with interference of different useful physical properties is an interesting and challenging goal. We suppose nitronylnitroxides with strong donor-acceptor interaction to be a strong candidates to combine non-linear optic and magnetic properties.

Several aldehydes (**1**) of thiadiazole series with donor groups were prepared according to multi-step procedure that includes nucleophilic substitution, reduction and oxidation. Condensation of **1a** (R+R = $(CH_2CH_2)_2O$) with 3,4-bishydroxylamino-3,4-dimethylbutane followed with oxidation led to nitronylnitroxide **2**.



It was found that solid phase of nitronylnitroxide **2** demonstrates magnetic behaviour of exchange-coupled dimers with J(Rad-Rad) = - 60 cm^{-1} (strong anti-ferromagnetic interaction). Magnetic properties and X-ray structure of **2** will be discussed in details.

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