

New Polynuclear Heterosystem Based on Pyrrolo[2',3',3,4]pyrimido[4,5-*c*]pyridazine

Olga V. Serduke, Anna V. Gulevskaya, Alexander F. Pozharskii

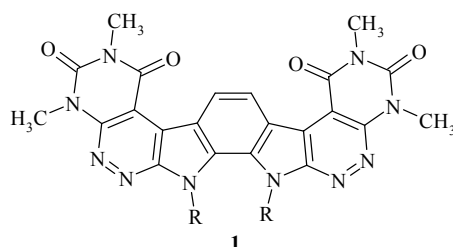
Department of Chemistry, Rostov State University

344090 Rostov-on-Don, Russian Federation

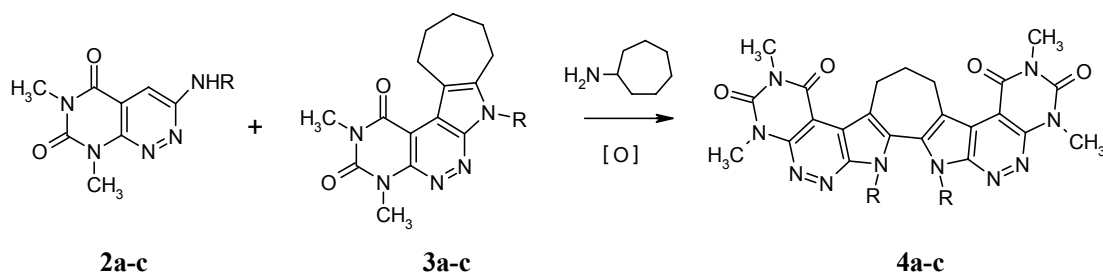
tel./fax: +7-8632-223958

e-mail: AGulevskaya@chimfak.rsu.ru

Recently we have found the cascade process of heterocyclisation resulted in benzo[1,2;3,4-*a,a'*]di(pyrrolo[2',3';3,4]pyrimido[4,5-*c*]pyridazines **1** [1].



We have also interested in preparation of other cycloalkane-based analogues of compounds **1**. A number of them, **4a-c**, have been obtained in 12-24% yield on treatment the cycloheptano[*b*]pyrroles **3a-c** with the corresponding 3-alkylaminopyridazinouracils **2a-c** in cycloheptylamine media. They are yellow-coloured (λ_{max} ~450 nm) high-melted substances, NMR ^1H spectra of which demonstrate an equivalence of the two uracil moieties but non-equivalence of the methylene protons attached to pyrrole rings. The latter circumstance seems to be originated from helicene-like structure of the polycyclic system **4**. The assignment of all signals in NMR ^1H spectra followed from analysis of COSY spectra. Currently we are studying synthesis of the similar cyclooctane-based multinuclear compounds.



1-4: R= Pr (**a**), R= Bu (**b**), R= CH₂Ph (**c**)

[1] A.V. Gulevskaya, O.V. Serduke, A.F. Pozharskii, D. V. Besedin, *Tetrahedron*, **2003**, 59,7669-7679.

