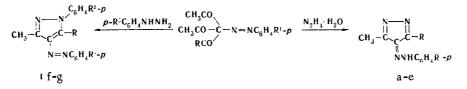
CONDENSATION OF ARYLAZOTRIACYLMETHANES TO PYRAZOLE

DERIVATIVES

V. N. Neplyuev and T. A. Sinenko

UDC 547.772.2:542.953

We have found that 3,5-dimethyl(phenyl)pyrazolenin-4-one 4-arylhydrazones (Ia-e) are formed instead of the expected geminal 4-acyl-4-arylazo derivatives of pyrazolenine when stoichiometric amounts of azo derivatives of diacetylbenzoyl- and triacetylmethanes are refluxed with hydrazine hydrate for 3-4 h in ethanol or higher alcohols.



The types of R, R^1 , and R^2 substituents are presented in Table 1. The reaction takes place with splitting out of one acetyl group. Splitting out of a benzoyl group is not observed in the arylazodiacetylbenzoylmethane series.

The condensation of arylazotriacetylmethanes with arylhydrazines occurs similarly by heating in chlorobenzene (at 100-110° for 2 h) and gives 1-ary1-3,5-dimethyl-4-arylazopyrazoles (If, g). The individuality of Ia-g was confirmed by thin-layer chromatography on silica gel (Silufol UV-254) in n-butanol-acetic acid-water (3:1:2), the IR spectra, and identification with samples obtained by an independent method.

Com- pound	R	RI		mp, ;	Empirical formula	N, %		- Viold
						found	calc.	- Yield, %
Ia Ib Ic	CH₃ CH₃ C₅H₅	SO ₂ CF ₃ NO ₂ 2-CH ₃ 4-NO ₂		206 187 251	$\begin{array}{c} C_{12}H_{11}N_4F_3O_2S\\ C_{11}H_{11}N_5O_2\\ C_{17}H_{15}N_5O_2 \end{array}$	16,7 28,3 21,9	16,9 28.6 21,8	70 65 90
Id Ie If Ig	$\begin{array}{c} C_6H_5\\ C_6H_5\\ CH_3\\ CH_3\\ CH_3\end{array}$	4-NO2 Br NO2 NO2 NO2	H NO ₂	211 192 143 235	C ₁₆ H ₁₃ BrN ₄ C ₁₆ H ₁₃ N ₅ O ₂ C ₁₇ H ₁₅ N ₅ O ₂ C ₁₇ H ₁₄ N ₆ O ₄	16,2 22,7 21,5 22,5	16,4 22,8 21,8 22,9	82 73 92 90

TABLE 1. Characteristics of the Compounds Obtained

Institute of Organic Chemistry, Academy of Sciences of the Ukrainian SSR, Kiev. Translated from Khimiya Geterotsiklicheskikh Soedinenii, No. 3, pp. 424-425, March, 1975. Original article submitted July 22, 1974.

© 1976 Plenum Publishing Corporation, 227 West 17th Street, New York, N.Y. 10011. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, microfilming, recording or otherwise, without written permission of the publisher. A copy of this article is available from the publisher for \$15.00.