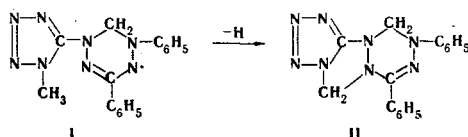


SYNTHESIS OF TETRAZOLO[1',5':4,5]TETRAHYDROTRIAZOLO-
[1,2-a]-1,2,5,6-TETRAHYDRO-sym-TETRAZINE

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UDC 547.791'796.1'883

We have observed that when the 1-(1-methyl-5-tetrazolyl)-3,5-diphenylverdazyl radical (I) is heated in the crystalline state or in solution it undergoes cyclization to give a derivative of the previously undescribed tetralolo[1',5':4,5]tetrahydrotriazolo[1,2-a]-1,2,5,6-tetrahydro-sym-tetrazine system (II):



A 0.6-g sample of I was refluxed in 35 ml of acetone, after which the mixture was concentrated, and the resulting precipitate was recrystallized from ethanol to give 0.4 g (66%) of colorless needles of II with mp 194–195°. UV spectrum (in ethanol): λ_{\max} 290 nm ($\log \epsilon$ 4.41). IR spectrum (KBr): 1632 (C = N), 1550, 1500, 1465 (CH₂), 1410 (CH₂), 1150, 970, 765, 695 cm⁻¹. PMR spectrum (in CF₃COOH), δ : 7.23 (10H, m, C₆H₅) and 3.59 ppm (4H, s, CH₂). The results of elementary analysis of II were in agreement with the calculated values. Found: M (cryoscopically in camphor) 337.0. Calculated M 318.3. The product had R_f 0.52 [on Silufol in an acetone–chloroform system (1:20)], was readily soluble in chloroform, moderately soluble in ethanol and acetone, and insoluble in water.

Tyumen Industrial Institute, Tyumen 625036. Translated from *Khimiya Geterotsiklicheskikh Soedinenii*, No. 4, p. 557, April, 1977. Original article submitted November 12, 1976.

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