

LETTERS TO THE EDITOR

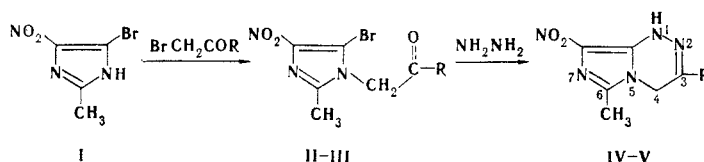
SYNTHESIS OF A NEW HETEROCYCLIC SYSTEM — IMIDAZO[3,4-c]- 1,2,4-TRIAZINE

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1-Acylmethyl-2-methyl-4-nitro-5-bromoimidazoles (II, III) were obtained by reaction of 2-methyl-4(5)-bromo-5(4)-nitroimidazole (I) with α -halo ketones in an organic solvent and in the presence of alkaline agents.

Derivatives of a new heterocyclic system — imidazo[3,4-c]-1,2,4-triazine (IV, V) — are formed when II and III are heated with hydrazine hydrate.



II-III R = C₆H₅; C₆H₄Cl-*p*

The structure of II and V was established on the basis of the IR and PMR spectra; the individuality of the compounds was confirmed by thin-layer chromatography on a fixed layer of silica gel. The results of elementary analysis coincide satisfactorily with the calculated values.

TABLE 1. Characteristics of Derivatives II-V

Compound	R	mp, °C *	IR spectrum, cm ⁻¹ (mineral oil)			PMR spectrum, δ , ppm (CF ₃ COOH)			Yield, %
			CO	NO ₂	NH	CH ₂	CH ₃	C ₆ H ₅	
II	C ₆ H ₅	190—191	1700	1530, 1350	—	5.05	2.54	7.15—7.30	63
III	<i>p</i> -ClC ₆ H ₄	203—204	1695	1525, 1340	—	5.08	2.58	7.24—7.60	50
IV	C ₆ H ₅	273—275	—	1520, 1340	3215 3290	4.95	2.49	7.10—7.28	93
V	<i>p</i> -ClC ₆ H ₄	268—270	—	1520, 1345	3180 3300	4.98	2.50	7.20—7.58	94

*Acetone-water was used to crystallize I, whereas acetic acid was used to crystallize II-IV.

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