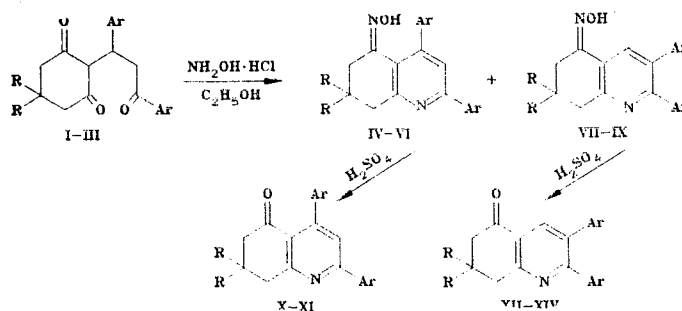


NOVEL TRIKETONE CONVERSION — REACTION OF
2-(1,3-DIARYL-3-OXOPROPYL) CYCLOHEXAN-1,3-
DIONES WITH HYDROXYLAMINEV. G. Kharcheko, L. I. Markova,
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It is known that when triketone I reacts with excess hydroxylamine hydrochloride it is converted to the oxime of 2,4-diphenyl-5-oxo-5,6,7,8-tetrahydroquinoline [1].

We have found that when triketones I-III are heated with excess hydroxylamine hydrochloride in ethanol, they each form two isomeric oximes: the oximes of 2,4-diaryl- (IV-VI, 30% yield except VI) and of 2,3-diaryl-5-oxo-5,6,7,8-tetrahydroquinoline (VII-IX, yield ~70%); mp 216-217 (IV), 193-194 (V), 258-259 (VII), 256-257 (VIII), 233-235° (IX).



I, IV, VII, X, XII R=H, Ar=C₆H₅; II, V, VIII, XI, XIII R=CH₃, Ar=C₆H₅;
III, VI, IX, XIV R=CH₃, Ar=C₆H₄OCH₃-4

It should be noted that the reaction of III with hydroxylamine hydrochloride forms predominantly IX. Oxime VI could not be isolated in pure form; it was characterized by its PMR spectrum.

Hydrolysis of IV-IX with 25% sulfuric acid gives the 5-oxo-5,6,7,8-tetrahydroquinolines X-XIV in 70-100% yields; mp 110-111 (X), 127-128 (XI), 134-135 (XII), 132-133 (XIII), 149-150° (XIV).

The elemental composition of IV-XIV and the IR, PMR, and ¹³C NMR spectra agree with the assumed structures.

For confirmation we present the principal characteristics of the PMR spectra of isomers VI and IX, in which it is easy to distinguish the 3-H proton singlets for VI and the 4-H for IX. PMR spectra (CDCl₃): VI — 7.36 (s, 1H, 3-H), 2.87 (s, 2H, 6-H), 1.07 (s, 6H, R), 2.59 ppm (s, 2H, 8-H); IX — 8.04 (s, 1H, 4-H), 2.87 (s, 2H, 6-H), 1.07 (s, 6H, R), 2.59 ppm (s, 2H, 8-H). In the case of IV and V, the 3-H singlet overlaps the multiplet of the phenyl substituents. The data agree with those published [2].

Thus the formation of two isomeric oximes in the reaction of triketones of the 2-(1,3-diaryl-3-oxopropyl)cyclohexan-1,3-dione series with hydroxylamine hydrochloride has been discovered. The reaction mechanism is being studied.

LITERATURE CITED

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