

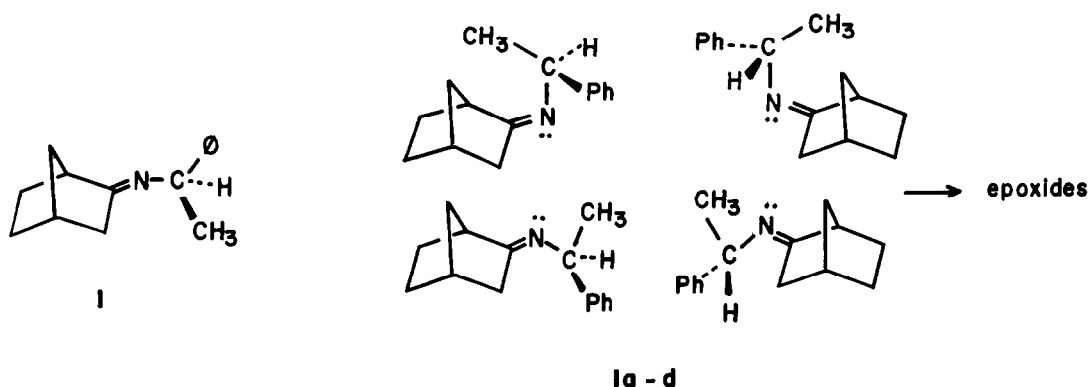
REGARDING ASYMMETRIC INDUCTION ON THE SCHIFF BASES: A CORRECTION

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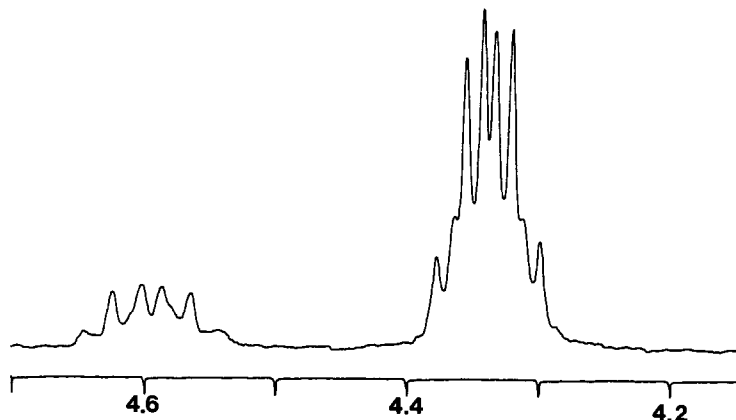
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Summary: The condensation of racemic 2-norbornanone and chiral α -phenylethylamine has been shown to produce four diastereomeric Schiff bases rather than only one as previously reported.

In a recent publication of this Journal, Bérubé and Jankowski¹ reported that the condensation of R- α -phenylethylamine with racemic 2-norbornanone "produced only one compound", a Schiff base formulated as 1. Subsequent oxidation with *m*-chloroperbenzoic acid was reported to give four diastereomeric oxaziranes. Since no explanation was provided for this stereochemical multiplication, we re-examined this reaction sequence and here report our findings.



In our hands the condensation of 2-norbornanone with (S)- α -phenylethylamine in refluxing benzene afforded not one, but all four of the *expected* diastereomers (1a-d). Two major components (80%) were obtained in an approximately 1:1 ratio. The 300 MHz ¹H nmr spectrum of the product mixture shows methine quartets at δ 4.33 and 4.32 and methyl doublets at δ 1.42 and 1.45. The minor isomers (also in about a 1:1 ratio) showed methine quartet resonances at δ 4.57 and 4.61. The relevant part of the spectrum is reproduced in the Figure.



We assume that the major and minor products represent the E and Z isomers, respectively. Oxidation of our product mixture gave the four oxaziranes with nmr spectral properties identical to those reported by Bérubé and Jankowski.¹ It is true that a 90 MHz spectrum of 1 does show a single quartet at δ 4.3, but two methyl doublets are clearly discernable. Accordingly, the explanations concerning subsequent asymmetric induction and the structural assignments made by these authors must be regarded with suspicion.

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Reference

1. G. Bérubé and K. Jankowski, Tetrahedron Letters, 2857 (1982).

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