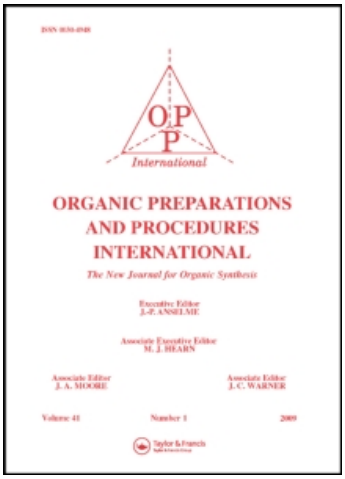

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7-SUBSTITUTED-2,4-DIPHENYL-3H-1,5-BENZODIAZEPINES

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7-SUBSTITUTED-2,4-DIPHENYL-3H-1,5-BENZODIAZEPINES

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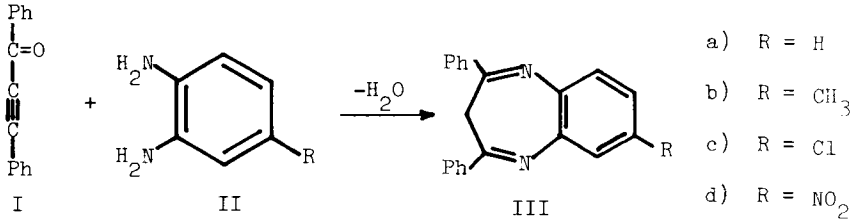
The Ried-Korshunov condensation[1,2] of three substituted o-phenylenediamines (II) with 1,3-diphenyl-2-propyn-1-one (I) in an alcohol-acetic acid medium gives III.



I II III

EXPERIMENTAL

General Procedure.- A heterogeneous mixture was prepared from 5.0 mmoles each of I and II in 10 ml of ethanol containing 2 ml of acetic acid. The mixture was stirred at reflux for 3 hrs, chilled to room temperature and filtered. A single recrystallization from ethanol yielded analytical material.

IIIa, 74% yield, mp. 139-141°, lit.[1] mp. 140-141°.

IIIb, 25% yield, mp. 117-118°, lit.[4] mp. 111°; pmr ($CDCl_3$) δ 2.4 (s, 3, CH_3), 3.6 (s, 2, CH_2), and 7.0-8.1 (m, 13, ArH).

Anal. Calcd. for $C_{22}H_{18}N_2$: C, 85.13; H, 5.84; N, 9.03.
Found: C, 85.15; H, 6.03; N, 8.89.

IIIc, 37% yield, mp. 165-167°; pmr ($CDCl_3$) δ 3.7 (s, 2, CH_2), and 7.3-8.0 (m, 13, ArH).

Anal. Calcd. for $C_{21}H_{15}ClN_2$: C, 76.24; H, 4.57; N, 8.46.
Found: C, 76.21; H, 4.77; N, 8.34.

For IIId, 50% yield, mp. 243-244°; the general procedure was altered as follows: 60 ml of ethanol containing 5 ml of acetic acid were employed as solvent and a reflux time of 12 hrs was utilized. pmr (DMSO-d_6) δ 4.32 (s, 2, C$\underline{H}_2$) and 7.4-8.4 (m, 13, Ar$\underline{H}$).

Anal. Calcd. for $C_{21}H_{15}N_3O_2$: C, 73.89; H, 4.43; N, 12.30.

Found: C, 73.62; H, 4.72; N, 12.19.

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3. Biological data may be obtained from R. L. A.

4. This compound was originally isolated as a rearrangement product of an isoxazolone which was itself prepared in a multi-step synthesis, W. Muller, U. Kraatz and F. Korte, Chem. Ber., 106, 332 (1973).