water-acetic acid, had a neutralization equivalent of 200 (theory: 198).

**Anal.** Calcd. for $\text{C}_{11}\text{H}_{18}\text{O}_3$: C, 66.64; H, 9.15.
Found: C, 66.06; H, 9.01.

cis-Bicyclo[6.2.1]undecano(4,5-b)quinoxaline (132).—
The quinoxaline derivative 132 of the cis-diketone 75 was prepared by a modification of the procedure of Leonard and Mader. A sample of pure 75 (180 mg., 1.0 mmole) was refluxed for 45 minutes with 162 mg. (1.5 mmole) of o-phenylenediamine in 3 ml. of glacial acetic acid. The product was poured into 15 ml. of water and extracted with several portions of ether. The combined ethereal extracts were washed with dilute sodium bicarbonate solution and dried over anhydrous magnesium sulfate. Removal of the solvent left a solid residue which was extracted with several portions of hot hexane. Evaporation of the hexane gave 120 mg. (48 per cent yield) of the crude quinoxaline derivative 132. An analytical sample of cis-bicyclo [6.2.1]undecano(4,5-b)quinoxaline (132), m.p. 106-107°C., was obtained by recrystallization of the crude material from acetonitrile several times.

**Anal.** Calcd. for $\text{C}_{17}\text{H}_{20}\text{N}_2$: C, 80.91; H, 7.99;
N, 11.10. Found: C, 81.08; H, 7.99; N, 10.99.