4-ol-5-one (73). Continued elution with increasingly polar solvents afforded no additional products. Infrared analysis of 73 revealed absorption bands at 3400 cm\(^{-1}\) (O-H) and 1690 cm\(^{-1}\) (C=O). The sample of 73 was rechromatographed on a column of activity I Woelm neutral alumina in order to obtain a pure sample for characterization. After washing the column with solvents through ether, a small amount of pure 73 was eluted from the column with methanol. The residue from the methanol eluate (about 100 mg.) was converted to the p-nitrobenzoate derivative 74. A pure sample of 74 m.p. 140-141°C. was obtained by recrystallization of the crude material from acetone-water and two sublimations at 179°C./0.4 mm.

**Anal. Calcd. for C\(_{18}\)H\(_{21}\)NO\(_5\): C, 65.24; H, 6.39; N, 4.23. Found: C, 65.40; H, 6.32; N, 4.26.**

cis-Bicyclo[6.2.1]undecan-4,5-dione (75).—The cis-acyloin 73 was oxidized to the cis-diketone 75 by the method of Bowden and co-workers. A solution of 0.6 g. (0.006 mole) of chromium trioxide in 2 ml. of water and 0.8 g. of concentrated sulfuric acid was added dropwise to a cold, stirred solution (0°C.) of 0.9 g. (0.005 mole) of 73 in 2 ml. of acetone. The addition was completed in 1.5 hours, and stirring was continued for 30 minutes longer. Water (20 ml.) was added to the reaction