of the samples. It was found that distillation of the neutral condensation residue at reduced pressure (micro-Hickman still) afforded a sample of material which, by infrared analysis, was identical to that obtained from the benzene eluate; however, the recovery was low. The remainder of the crude reaction product (4.5 g.) was placed on a 2.2 x 25 cm. column of florex. The column was washed with 200 ml. of petroleum ether then eluted with 400 ml. of benzene and 300 ml. of ether. The benzene eluate, acyloin fraction A, gave 1.0 g. (11 per cent total yield) of crude cis-bicyclo[6.2.1]undecan-4-ol-5-one (73) upon removal of the solvent. Removal of the solvent from the ether eluate, acyloin fraction B, gave 1.6 g. (total yield 18 per cent based on the trans-dipropanol 79) of material.

Oxidation of the cis-acyloin 73 with chromium trioxide-pyridine. -The crude cis-acyloin 73 was oxidized with chromium trioxide-pyridine according to the procedure of Cope and co-workers.83 Acyloin fraction A (180 mg.) was dissolved in 4 ml. of dry pyridine and added to a solution of 0.8 g. of the preformed chromium trioxide-pyridine complex (Eastman bis(pyridine)chromium oxide) in 8 ml. of dry pyridine. After stirring for 4 hours, the reaction mixture was poured into 100 ml. of water and extracted with