

The Acetolysis of 2,4,8,10-Tetroxaspiro-[5,5] Hendecane

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Acetolysis (2, 3) of 2, 4, 8, 10-tetroxaspiro[5, 5]hendecane (I) (the diformal of pentaerythritol) gave 5, 5-bis(acetoxymethyl)-1, 3-dioxane, the monoformal diacetate, but none of the expected 5-acetoxymethyl-5-acetoxymethoxymethyl-1, 3-dioxane was isolated. Sixteen grams (0.10 mole) of I, 11.5 gm. (0.11 mole) of acetic anhydride, and 0.3 gm. of concentrated sulfuric acid catalyst were heated at 100° for 3.5 hours and allowed to stand overnight. A little sodium acetate was added to destroy the sulfuric acid, the precipitated sodium sulfate was filtered out, and the liquid was fractionated with a Todd column at 33 mm. pressure. The principal fraction, boiling at 194° and having n_D^{20} 1.4521, was evidently slightly impure.

ANAL. CALCD. FOR $C_{10}H_{16}O_6$: C, 51.7; H, 6.90; saponification equivalent, 116. Found: C, 50.6; H, 6.90; saponification equivalent, 118.

This compound has been previously obtained by the acetylation of the monoformal, 5, 5-bis(hydroxymethyl)-1, 3-dioxane. (1)

LITERATURE CITED

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