100-101°C., and the absorption band at 1240 cm.\(^{-1}\), characteristic of the cis-dipropionic acid 52, was absent.

VI. Acyloin reaction of dimethyl trans-1,3-cyclopentanedicarboxylate (70) at 50°C.

Apparatus and experimental procedure. The reaction was carried out in the apparatus described for acyloin reaction V with some modification of the experimental procedure. The \textit{trans}-dimethyl ester 70 (19.0 g., 0.078 mole), prepared from purified \textit{trans}-dipropionic acid, was dissolved in 175 ml. of pure, dry dioxane and placed over 4 Å molecular sieve. A dispersion of 7.2 g. (0.31 g. at.) of sodium in 400 ml. of dioxane was prepared as before by stirring at 8,000-9,000 RPM for 15 minutes. The dioxane solution of 70 was added slowly to the refluxing dispersion for 1 hour. The heating was then stopped, and the rate of stirring was decreased somewhat. Addition of the solution of 70 was completed in 40 hours, and stirring was continued for an additional 48 hours. After this time the sodium was decomposed at 0°C. by the addition of 20.0 g. (0.34 mole) of glacial acetic acid, and the crude product (13.8 g.) was isolated in the usual manner. Chromatography of the crude product on florex, as described in acyloin reaction V, afforded a petroleum ether fraction (7.2 g.), a benzene fraction (2.6 g., acyloin