Homochromanone.[1,2]—Since phenoxyacetic and β-phenoxypropionic acids can be converted by loss of water into coumaranone[3] and chromanone,[4] respectively, it seemed likely that homochromanone could be obtained in a similar manner from γ-phenoxybutyric acid. It was found in this investigation that γ-phenoxybutyric acid did yield homochromanone, although, as might have been expected, the formation of the 7-membered ring did not take place as smoothly as that of the 6-membered ring in chromanone. In fact, the yields were so poor that proper purification of the product was impossible due to the small quantity obtained.

Attempts to dehydrate γ-phenoxybutyric acid with phosphorus pentachloride and with thionyl chloride were unsuccessful. Treatment of the acid with thionyl chloride and then with anhydrous aluminum chloride yielded no homochromanone. It was found that the best results were obtained by dehydrating the acid in small portions (1 g.) with phosphorus pentoxide.

Although no pure homochromanone was obtained, the semicarbazone and oxime were prepared and purified.

Homochromanone.—One gram of γ-phenoxybutyric acid dissolved in 15 cc. of benzene was treated with 1 g. of phosphorus pentoxide following the method described by one of us[4a] for the preparation of chromanone. On evaporation of the benzene a few drops of a lemon-yellow, highly refracting oil remained. Attempts to induce crystallization were unsuccessful, and even after combining the product from several runs, not enough was obtained to carry out a distillation. The oil was readily soluble in ether, benzene, petroleum ether and alcohol. A drop dissolved in concd. sulfuric acid gave a red solution on warming.

Semicarbazone.—This was prepared in the same manner as chromanone semicarbazone. It crystallizes from alcohol in white needles, m.p. 228–229° (uncorr.).

Anal. (Kjeldahl). Subs., 0.0980, 0.2231: HCl (0.0969 *N*), 14, 31.04 cc. Calcd. for $C_{11}H_{13}O_2N_3$: N, 19.2. Found: 19.4, 18.9.

Oxime.—This was prepared in the same manner as chromanone oxime. It crystallizes from petroleum ether in white plates, m. p. 99°.

CONTRIBUTION FROM THE
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RECEIVED DECEMBER 22, 1930
PUBLISHED FEBRUARY 9, 1931

[1] Presented at the Cincinnati meeting of the American Chemical Society, September, 1930.

[2] This paper is taken from a portion of a thesis submitted by Lucile Anderson in partial fulfilment of the requirements for the degree of Master of Science.

[3] Stoermer and Bartsch, *Ber.*, **33**, 3175 (1900).

[4] (a) Powell, THIS JOURNAL, **45**, 2708 (1923); (b) Arndt and Källner, *Ber.*, **57B**, 202 (1924).