ride (1 g.), sodium acetate (1.5 g.) and some alcohol was refluxed for four hours. The product gave colorless prisms from alcohol, m. p. 184°; yield, 2 g.

Anal. Calcd. for $C_{16}H_{18}O_2N_2$: N, 10.37. Found: N, 10.21.

Beckmann Change with the Oxime.—Thionyl chloride (11 g.) was added dropwise into the ice cold suspension of the oxime (1 g.) in chloroform (50 cc.). The resulting solution, after standing, was shaken with ice water. Subsequent to removal of chloroform the residual yellow oil (1 g.) was dissolved in ether and treated with concd. sodium bisulfite. After being dried with potassium carbonate, and removal of ether, 0.5 g. of oil which soon turned to colorless prisms was obtained. It was pressed on a tone plate and crystallized from ether, m. p. 75–76°. Folin found the same m. p. for his specimen of *p*-dimethylaminobenzonitrile.[2]

(2) Folin, *Am. Chem. J.*, **19**, 333 (1897).

Anal. Calcd. for $C_9H_{10}N_2$: C, 73.97; H, 6.85; N, 19.18 Found: C, 74.23; H, 6.78; N, 19.26.

On working up the bisulfite solution, 0.4 g. of benzaldehyde was obtained. It was identified by converting it into phenylhydrazone which alone or mixed with a known specimen melted at 155–156°.

Anal. Calcd. for $C_{13}H_{12}N_2$: N, 14.29. Found: N, 14.28.

***p*-Dimethylaminobenzoic Acid.**—A solution of the nitrile (0.2 g.) and potassium hydroxide (1 g.) in alcohol (9 cc.) and water (1 cc.) was refluxed for eight hours until liberation of ammonia had ceased. The product gave colorless prismatic needles from alcohol, m. p. 235° (dec.).

Anal. Calcd. for $C_9H_{11}O_2N$: N, 8.48. Found: N, 8.64.

CHEMICAL LABORATORY OF
KITASATO INSTITUTE
TOKYO, JAPAN

RECEIVED SEPTEMBER 17, 1934

COMMUNICATIONS TO THE EDITOR

THE ISOMERIZATION OF NORMAL HEPTANE

Sir:

C. D. Nenitzescu and A. Dragan have reported [*Ber.*, **66**, 1892 (1933)] that *n*-hexane and *n*-heptane heated on a water-bath in the presence of aluminum chloride yield a large amount of isohexane and isoheptane, respectively. The data presented by these authors do not substantiate these statements with great certainty: the starting materials were not very pure, the products obtained boiled over wide ranges, and the assertion regarding the compounds formed is based only on these boiling ranges, without the corroborating evidence of other physical properties. A. D. Petrow, A. P. Meschtscherjakow and D. N. Andrejew [*ibid.*, **68**, 1 (1935)] state that *n*-heptane is isomerized in 25% yield by heating for six hours at 300–400° in the presence of zinc chloride. In this case the density of the fractions obtained is obviously too high to correspond to any of the branched-chain heptanes. We have repeated the work of Nenitzescu and Dragan, using 2650 g. of pure *n*-heptane from Jeffrey pine. The product boiling from 50 to 98.4° was carefully fractionated, and the following properties determined for the fractions: $n^{20}D$, average molecular weight (by vapor density), and critical temperature of solution in aniline. A comparison of these data with the properties of *n*-hexane and all the heptanes indicates the presence of *n*-hexane and 2-methylhexane, and of no other isomeric heptane.

We estimate that the *n*-hexane found represents about 1% and the 2-methylhexane about 4% of the *n*-heptane consumed in the reaction.

A further investigation of this reaction is in progress.

RESEARCH LABORATORIES
ETHYL GASOLINE CORPORATION
DETROIT, MICHIGAN
GEORGE CALINGAERT
DONAL T. FLOOD

RECEIVED JANUARY 18, 1935

ERGOTOCIN: THE ACTIVE PRINCIPLE OF ERGOT RESPONSIBLE FOR THE ORAL EFFECTIVENESS OF SOME ERGOT PREPARATIONS ON HUMAN UTERI

Sir:

It has been found by the authors, working in conjunction with Drs. Davis, Adair and Rogers of the Department of Obstetrics and Gynecology of The University of Chicago, that the alkaloids ergotoxine, ergotamine and sensibamine are uniformly ineffective when administered orally to human mothers in doses of 2 mg. Larger doses (2–4 mg.) often induce unpleasant side reactions such as nausea, vomiting, increase in blood pressure, diarrhea, etc. However, even