

*Anal.* Calcd. for  $C_{10}H_{17}O_4N_2S$ : N, 15.28. Found: N, 15.25, 15.24.

RESEARCH AND BIOCHEMICAL LABORATORIES  
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### Ethyl *p*-Aminobenzenesulfonate

Unsuccessful attempts to prepare this compound were described recently.<sup>1</sup> It has been prepared by hydrogenating 5 g. of ethyl *p*-nitrobenzenesulfonate in 150 cc. of absolute ethanol containing 0.8 g. of hydrogen chloride with 0.2 g. of previously reduced Adams  $PtO_2$  catalyst. The reduction, at 30–40 lb. pressure, was complete in ten to thirty minutes. The solution was concentrated *in vacuo* to a volume of 30–50 cc., filtered, and diluted with absolute ether. A crystalline hydrochloride separated. This

(1) Crossen, Jenkins and Rogers, *Pharm. Arch.*, **12**, 21 (1941).

material was analyzed before it was discovered that the compound was unstable and lost hydrogen chloride spontaneously when dry.

*Anal.* Calcd. for  $C_8H_{12}O_2NSCl$ : Cl, 14.92. Found: Cl, 14.33.

The above salt was stirred with ice water and treated with an excess of ice-cold sodium bicarbonate solution.

The oil which separated crystallized on scratching and was triturated with ice water and dried on a porous plate. The yield was 2–3 g. of white crystals, m. p. 78–80°.

*Anal.* Calcd. for  $C_8H_{11}O_2NS$ : N, 6.95. Found: N, 7.00.

The compound was unstable and after one week contained only 17.10% ethoxyl, calcd. for 22.39%. A sample three years old decomposed from 160–210° and gave only traces of ethoxyl.

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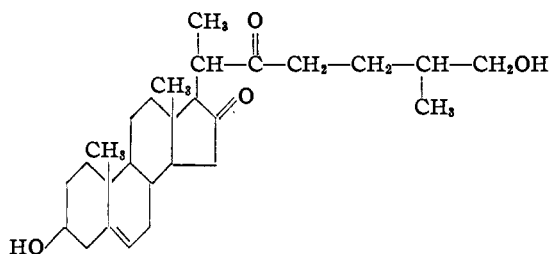
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## COMMUNICATIONS TO THE EDITOR

### STEROLS. CLIII. SAPOGENINS. LXV. KRYPTOGENIN, A NEW TYPE OF SAPOGENIN FROM *BETH* ROOT

*Sir:*

In the course of our plant studies we have isolated from *Beth* root a new steroid having the composition  $C_{27}H_{42}O_4$ , m. p. 187–189°, which we have named kryptogenin. *Anal.* Calcd. for  $C_{27}H_{42}O_4$ : C, 75.3; H, 9.8. Found: C, 75.1; H, 9.8. Sodium-isopropyl alcohol reduction of this product gave diosgenin isolated as its acetate, m. p. and mixed m. p., 202°. *Anal.* Calcd. for  $C_{29}H_{44}O_4$ : C, 76.3; H, 9.7. Found: C, 76.2; H, 9.7. Catalytic hydrogenation (Adams catalyst) of kryptogenin in ether containing several drops of acetic acid gave 5,6-dihydrokryptogenin, m. p. 169–171°. *Anal.* Calcd. for  $C_{27}H_{44}O_4$ : C, 74.9; H, 10.3. Found: C, 74.7; H, 10.1. The latter upon mild oxidation with chromic anhydride in acetic acid gave a good yield of 3-dehydrotigogenoic acid [Marker, Turner and Ulshafer, *THIS JOURNAL*, **63**, 763 (1941)], m. p. and mixed m. p., 185–187°. *Anal.* Calcd. for  $C_{27}H_{40}O_5$ : C, 72.9; H, 9.1. Found: C, 73.0; H, 9.1. We have found it to have the following structure:



It is noteworthy that the side chain is distinctly different from but definitely related to the spiroketal structure characteristic of the other steroidal sapogenins. The amounts of the new steroid and of diosgenin [Marker, Turner and Ulshafer, *THIS JOURNAL*, **62**, 2542, (1940)] in *Beth* root (*Trillium erectum*) are about equal. The details of the work will be published in a forthcoming issue of *THIS JOURNAL*.

We wish to thank Parke, Davis and Company for their generous help.

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