purins, results by a spontaneous change. By the use of ethyl alcohol in place of methyl alcohol, or by lowering the temperature, the unstable chlorins became the sole products: quick saponification at an elevated temperature produces chlorin *e* and no unstable chlorins.

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NOTES

Attempted Use of Activated Silica Gel in the Esterification of Salicylic Acid and β-Naphthol.[1]—Korolev,[2] using an especially prepared silica gel suspended in the liquids, obtained 75–80% yields of methyl salicylate, and a 50% yield of methyl naphthyl ether.

Although the use of silica gel in the liquid phase seems to offer a simple method of preparing esters, the preparation of the silica gel as described by Korolev is far from a convenient process. It seemed worth while, therefore, to study the esterification of salicylic acid and β-naphthol using silica gel which had been activated by passing dry air over the gel at a temperature of 150°, according to the commercial process as devised by Patrick (U. S. Patent 1,297,724) and which has been adapted to small-scale production by Holmes.[3]

Since silica gel activated in this way is known to be a good absorber of water, the presence of the gel should favor production of ester, not only by its catalytic powers, but also by removing the water formed.

The general method used was to place two samples of the mixture to be esterified in flasks fitted with reflux condensers and to heat them in a water-bath. Silica gel was added to one flask and, after refluxing for at least eight hours, the acid was then determined by titration with a standard base.

It was found that a number of different samples of silica gel activated by the method of Patrick do *not* catalyze the esterification of salicyclic acid or β-naphthol with methyl alcohol.

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Estimation of Organic Halogen.—In their paper "A General Method for the Determination of Halogens in Organic Compounds" [THIS JOURNAL, **52,** 1195 (1930)] the authors, J. J. Thompson and U. O. Oakdale, make no mention in their references to a similar method

[1] The experimental work was done by R. Chelberg, teacher of chemistry at Tracy, Minnesota.

[2] Korolev, *J. Chem. Ind.* (Moscow), **4,** 547 (1927); *C. A.*, **22,** 944 (1928).

[3] Holmes, "Laboratory Manual of Colloid Chemistry," **1922,** p. 76.