

**Chemistry.** — “*The optically active components of chlorosulphoacetic acid*”. By H. J. BACKER and W. G. BURGERS. (Communicated by Prof. F. M. JAEGER.)

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The failure of various attempts to resolve racemic chlorosulphoacetic acid  $\text{SO}_3\text{H} \cdot \text{CHCl} \cdot \text{CO}_2\text{H}$  by the usual methods suggested some doubt as to the applicability of the theory of asymmetric carbon to simple compounds<sup>1)</sup>.

Preliminary observations on its resolution<sup>2)</sup> were not confirmed by POPE and READ, who then succeeded in the resolution of another simple compound, namely chloriodomethanesulphonic acid<sup>1)</sup>.

Supposing that the failures might be caused by racemisation, we have attempted the resolution by “cold crystallisation” of alkaloidal salts. This method indeed succeeded.

The ammonium or sodium salt of chlorosulphoacetic acid was treated in aqueous solution with two molecules of the acetate or phosphate of strychnine.

The dilution was chosen so, that only a small part of the strychnine salt, about one fifth, crystallised. Decomposed by ammonia at 0°, it gave an active, dextrorotatory ammonium salt.

For purification of the strychnine salt, the same “cold crystallisation” was applied. Accordingly it was decomposed by ammonia and in a suitable dilution again treated with the acetate of strychnine. In this way it could be ascertained when the maximum value of the rotation was attained.

Decomposition of the ammonium salt by sulphuric acid gave the dextrorotatory acid.

The laevo-component was obtained in the same way by means of cinchonine.

The following values of the molecular rotatory power were found :

Wavelength $\lambda$ ( $\mu\mu$ )	589	533	494
Chlorosulphoacetic acid [M]	39°	50°	62°
Neutral ammonium salt [M]	20°	26°	34°

The active acids and salts racemise slowly at room temperature. On evaporation on a water-bath the solutions lose their activity completely. In alkaline solution the salts are quickly racemised.

A detailed account of this research will appear in the „Journal of the chemical Society of London”.

*Organic Chemical Laboratory of the University.*

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<sup>1)</sup> POPE and READ, Journ. chem. Soc. **93**, 794 (1908); **105**, 811 (1914).

<sup>2)</sup> PORCHER, Bull. Soc. chim. (3) **27**, 438 (1902).