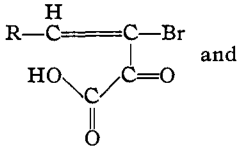
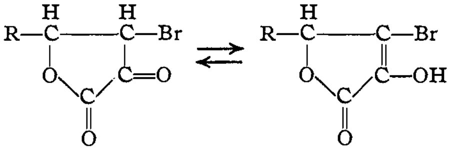
between the two forms—it seems highly improbable that so great a barrier could be involved in the mere formation or breaking of a bond as weak as that of a hydrogen bridge. At any rate, it appears undesirable to resort to such a novel explanation for the isomers in question until all other interpretations more in harmony with the classical theories of organic chemistry have been examined and excluded.

The authors of the above-mentioned papers have considered and rejected one other possible explanation, *cis* and *trans* isomerism. However, they do not mention a third interpretation which appears more probable than either of the two they discuss, namely, structural isomerism involving lactone formation. This may be illustrated as follows



(B)



(C)

This interpretation furnishes a logical explanation of the experimental facts: (1) the yellow compound (B) is moderately soluble in water, but only slightly soluble in benzene; on the other hand, the white compound (C) is insoluble in water and is soluble in benzene. (2) The yellow isomer is rapidly esterified in the cold by methyl alcohol and hydrogen chloride to form a yellow ester; the white compound does not react with this reagent, but may be "esterified" by treatment with diazomethane to yield a white methyl derivative (the enol group is probably methylated) isomeric with that obtained from the yellow acid. (3) Treatment of the yellow isomer with dilute alkali forms a yellow salt which is soluble in water and insoluble in alcohol and from which the original acid may be regenerated by acidification; the white isomer forms a white salt (probably involving the enol group) which is soluble in alcohol but insoluble in water. (4) Extended treatment of this white salt with alkali transforms it into the yellow salt; treatment of the yellow acid with dilute hydrochloric acid for extended periods of time, as well as keeping it at its melting point for a short time, transforms it into the white derivative.

Regardless of how further study may deal with this interpretation, it appears to be fairly certain that the type of isomerism which has been proposed, based upon the formation of hydrogen bridges, cannot be accepted without more conclusive evidence.

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RECEIVED JANUARY 20, 1941

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## ELECTROPHILES AND ELECTRODOTES

*Sir:*

The term *electrodomic* by which it is proposed[1] to describe molecules (bases and reductants) which share their electron pairs with acids (in G. N. Lewis' sense) or yield electrons to oxidants, seems ill-chosen. English offers few adjectives derived from διδωμι to serve as guides, but such a form as *electrodotic* (or electrodotal (*cf.* anecdotic, anecdotal, epidotic) is surely preferable. The "m" is merely personal in function and the combination "dom" by its suggestion of *domicile* or *dominance* makes an impression quite contrary to that intended.

Professor Luder has expressed agreement with this suggestion.

Since the idea expressed by this word is likely to grow in importance, a stitch of pedantry now may save nine later.

[1] W. F. Luder, *Chem. Rev.*, **27**, 579 (1940).

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RECEIVED JANUARY 23, 1941

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## A NEW SPONGE STEROL

*Sir:*

During the chemical investigation of a series of rudimentary organisms, a mixture of sterols from a fresh-water sponge[1] was acetylated and subjected to repeated chromatographic adsorption analyses, using activated alumina. The fraction most strongly adsorbed displayed a strong Rosenheim reaction and showed absorption maxima at 272.5, 282.5 and 294.5 mμ, which correspond to those obtained with ergosterol and 7-dehydrocholesterol.[2] The maximum at 282.5 mμ had an extinction coefficient of 7200, as compared

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[1] *Spongilla lacustris*, collected and stored under acetone at Trout Lake, Vilas County, Wisconsin.

[2] Windaus, Lettré and Schenck, *Ann.*, **520**, 98 (1935).