The conjugated double bonds of these rearranged peroxides would explain the appearance of the absorption at 232 μ and they would on hydrogenation yield 9- and 13-hydroxystearic acid.

The ketonic entity absorbing at 277 μ that was formed during the chromatographic separation was probably the doubly unsaturated ketone formed from any of these peroxides by dehydration on the alumina, for example, V.

The peroxides in fraction *c* yielded on hydrogenation high proportion of α -glycolic hydroxy-acids. This might either indicate that the oxygen was to a minor extent directly added to a double bond (cf. Atherton and Hilditch⁶) or that secondary oxidation of the conjugated double bonds had occurred. The point cannot be decided until further work has been carried out on this fraction.

Furthermore, the potassium salt of linoleic acid has been oxidized in aqueous solution with soybean lipoxidase at 37°. Under these conditions one mole of oxygen can be absorbed per mole of acid in a few minutes. From the hydrogenated reaction product 9- and 13-hydroxystearic acids have also been isolated.

The enzymatic oxidation of linoleic acid with lipoxidase thus seems to follow the same course as ordinary autoxidation.

A full report is being published in *Arkiv för Kemi*, Stockholm.

SUNE BERGSTRÖM.

Medical Nobel Institute,
Department of Biochemistry,
Stockholm.
July 25.

¹ Theorell, Bergström and Akeson, *Arkiv Kemi, Min. Geol.*, 19 A, No. 6 (1944).

² Tomecko and Adams, *J. Amer. Chem. Soc.*, 49, 522 (1927).

³ Hock, et al., *Naturwiss.*, 24, 159 (1936); *Ber. deut. chem. Ges.*, 66, 61 (1933); 71, 1430 (1938); 72, 1562 (1939); 76, 169, 1130 (1943).

⁴ Criegee, *Ann. Chem.*, 522, 75 (1936); *Ber. deut. chem. Ges.*, 72, 1799 (1939).

⁵ Farmer, et al., *Trans. Faraday Soc.*, 38, 340 (1942); *J. Chem. Soc.*, 119, 122, 541 (1943).

⁶ Atherton and Hilditch, *J. Chem. Soc.*, 105 (1944).

Primary Degradation Products of Mepacrine in Human Urines

IN a previous note¹ it has been reported that 2-chloro-5-amino-7-hydroxyacridine is to be found in the urines of mepacrine-taking subjects. We have now subjected such urines to a separation technique based on that applied by Seudi and Jellinek² to the urines of dogs.

After chromatographic purification on alumina and elution with water or dilute acid, we have obtained solutions in which we have been able to demonstrate the presence of the compounds 2-chloro-5-amino-7-methoxyacridine (II) and 2-chloro-5-(8-diethylamino- α -methylbutylamino)-7-hydroxyacridine (I), as well as 2-chloro-5-amino-7-hydroxyacridine (III). These compounds have been identified by measurements of their half-wave (reduction) potentials, in buffered solutions, by means of the Cambridge polarograph and comparison with the potentials of authentic specimens determined under similar conditions.

Fuller details of the work will be published elsewhere; in the meantime, we select data sufficient to establish the correctness of our conclusions. It will be noticed that the diagnostic value of the half-wave potential is considerably enhanced by the fact

that acridines show two stages in polarographic reduction, each of which, at a particular pH, is characteristic of the particular derivative.

Below we give, as E_1 and E_2 , the half-wave potentials of the respective acridine derivatives, the first being mepacrine itself. E_1^A , E_2^A , $E_1^{B_1}$, etc., refer to the potentials of the urinary products obtained from the fractions *A*, *B*, *B*, and *C* of the Seudi and Jellinek procedure (*loc. cit.*).

Compound	Buffer pH	Half-wave potential
Mepacrine		E_1 -1.12v.
		E_2 -1.41v.
	pH 7.3	E_1^A -1.12v.
		E_2^A -1.41v.
I		E_1 -1.02v.
		E_2 -1.27v.
	pH 7.3	$E_1^{B_1}$ -1.02v.
		$E_2^{B_1}$ -1.28v.
II		E_1 -1.20v.
		E_2 -1.43v.
	pH 7.3	$E_1^{B_2}$ -1.20v.
		$E_2^{B_2}$ -1.43v.
III		E_1 -1.20v.
		E_2 <i>p</i>
	pH 9	E_1^C -1.20v.
		E_2^C <i>p</i>

(*p* = prior discharge of buffer ions)

D. LL. HAMMICK.
S. F. MASON.

The Dyson Perrins Laboratory,
University of Oxford.
Aug. 25.

¹ *Nature*, 154, 461 (1944).

² *J. Biol. Chem.*, 152, 27 (1944).

Instability of Dienoestrol and Stilboestrol Solutions

WHILE investigating the metabolism of synthetic oestrogens, we encountered anomalous results during assays of oestrogenic potency which led us to believe that dienestrol was unstable in solution. Serial assays carried out on standard solutions of dienestrol and stilboestrol have shown the supposition to be correct.