$H_2C_2O_4$: C, 60.73; H, 6.02; N, 10.12. Found: C, 60.58; H, 5.98; N, 10.18.

Taken by themselves these formulas would seem to support Kharasch and Legault's contention, but all other available evidence points to the identity of the substances. It is therefore probable that the apparent difference in elementary composition is not real, and that further analyses of ergotocin and its salts may yet lead to the establishment of its complete identity with ergometrine.

NATIONAL INSTITUTE FOR MEDICAL RESEARCH
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ENGLAND

RECEIVED JULY 22, 1935

THE SYNTHESIS OF BIS-2,2'-(1,3-DIPHENYL-INDENOL-3)

Sir:

In connection with attempts to synthesize rubrene we have prepared bis-2,2'-(1,3-diphenyl-indenol-3) by the following series of reactions

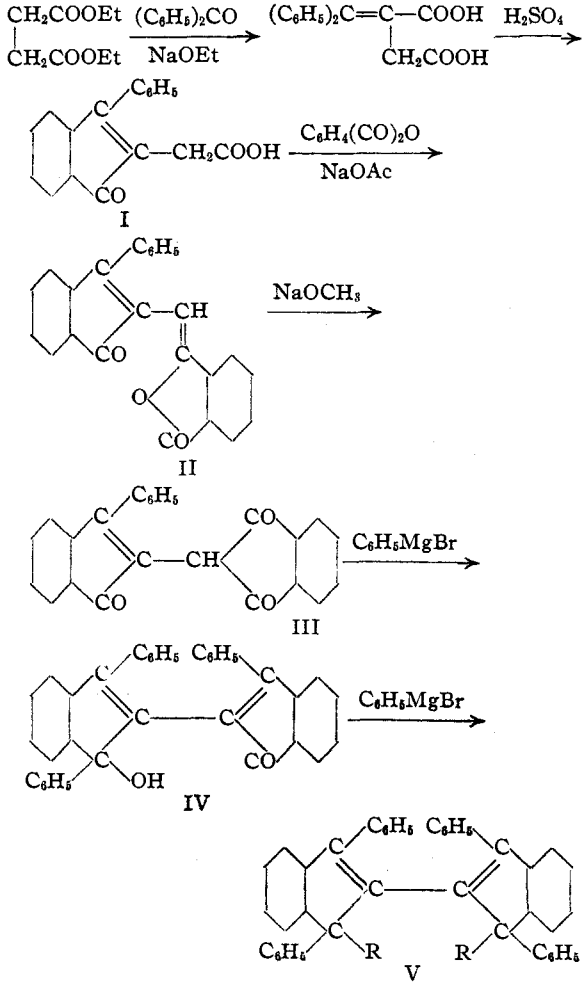

TABLE I

PROPERTIES OF COMPOUNDS INVOLVED

Compound	M. p., °C.	Formula	Analyses, % Calcd. C	Calcd. H	Found C	Found H
I	166–167	$C_{17}H_{12}O_3$	[a]			
II	173.5–174	$C_{24}H_{14}O_3$	82.2	4.0	81.9	4.3
III	190.5–191.5	$C_{24}H_{14}O_3$	82.2	4.0	82.0	3.9
IV	244–245	$C_{36}H_{24}O_2$	88.5	4.9	88.0	4.8
V, R = OH	292	$C_{42}H_{30}O_2$	89.0	5.3	89.0	5.5
V, R = Cl	237–242	$C_{42}H_{28}Cl_2$	83.6	4.6	83.6	4.6

[a] Stobbe and Vieweg, *Ber.*, **35**, 1728 (1902).

The product is identical with the one obtained by a different method by Eck and Marvel [THIS JOURNAL **57**, 1898 (1935)].

TABLE II

PROPERTIES OF BIS-2,2'-(1,3-DIPHENYLINDENE) DERIVATIVES

Compound	Source	M. p., °C.[c]	Mixed m. p., °C.[d]
V, R = OH	[a]	293	
			291
	[b]	292	
V, R = Cl	[a]	240–245	
			237–242
	[b]	237–242	

[a] Eck and Marvel. [b] Koelsch and Richter. [c] Melting involves decomposition, and the temperature at which it occurs depends to some extent on the stage of subdivision of the compound and on the rate of heating. [d] We are indebted to Professor Marvel for the melting points reported here.

Like these authors we have found the derived dichloride to be unreactive toward metals (zinc or mercury). The dichloride, however, appears to give an alkali derivative with 40% sodium amalgam and we hope to make use of this reaction in converting it into the di-radical.

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RECEIVED SEPTEMBER 18, 1935

FORMATION OF PORPHYRINS FROM PYRROLE AND ALDEHYDES

Sir:

Porphyrin formation was observed under the following conditions: pyrrole, C. P., was dissolved in a solution of gaseous acetaldehyde (I) or formaldehyde (II) in methanol (saturated in the cold), and the reaction mixture was either (a) kept at room temperature for several weeks, or (b) heated under reflux for fifteen to twenty-five hours, or (c) heated in a sealed tube to 85–90° for ten to twenty hours in a water-bath.