

CHARACTERISATION OF INDOLES

DURING the course of synthetic work, it became necessary to characterise some of the indole derivatives. Although some indoles give dark-red or brown crystalline picrates,¹ the latter are sometimes not readily formed and are often difficult to purify. A convenient reagent² for the purpose has been found to be sym-trinitrobenzene, which gives well-defined crystalline derivatives. The general method for the preparation of the trinitrobenzene adducts is the addition of hot alcoholic solution of the reagent to the indole dissolved in the same solvent. The crystalline derivatives usually separate out on cooling and can be crystallised from alcohol.

The derivatives listed in Table I have been prepared.

TABLE I

No.	Indoles	m.p. of adducts	Colour	Crystalline form	Molecular formula	% N	
						Found	Required
1	Indole ..	188-189	Orange	Fine needles	$C_{14}H_{10}O_4N_4$	17.5	17.37
2	2-Methylindole ..	183-184	Brick-red	Flakes	$C_{15}H_{12}O_6N_4$	16.3	17.28
3	2-Phenylindole ..	145	Red	Fine needles	$C_{20}H_{14}O_6N_4$	14.0	13.79
4	5, 6-Methylene-dioxyindole	142	Brownish red	„	$C_{15}H_{10}O_8N_4$	15.0	14.97
5	5, 6-Methylenedioxy-2-methylindole	160	Brownish red	„	$C_{16}H_{12}O_8N_4$	15.00	14.77
6	4, 5-Benzindole ..	205	red	„	$C_{18}H_{12}O_6N_4$	14.9	14.73
7	2-(<i>p</i> -Methoxyphenyl)-indole ..	160	Red	„	$C_{21}H_{15}O_7N_4$	13.0	12.87

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