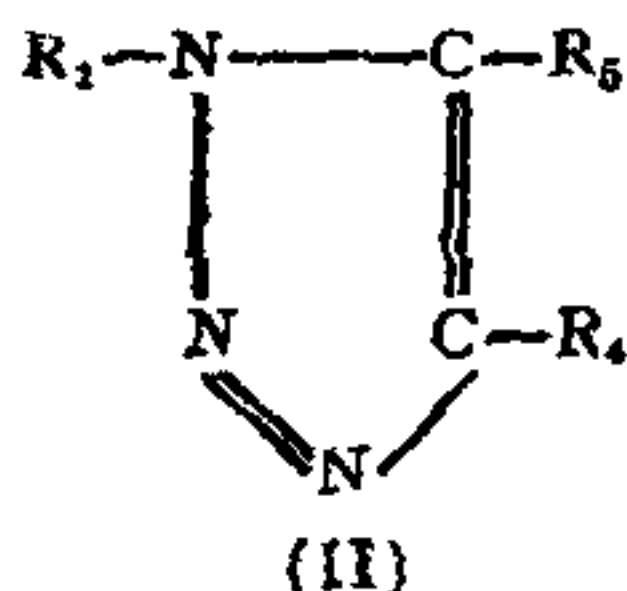
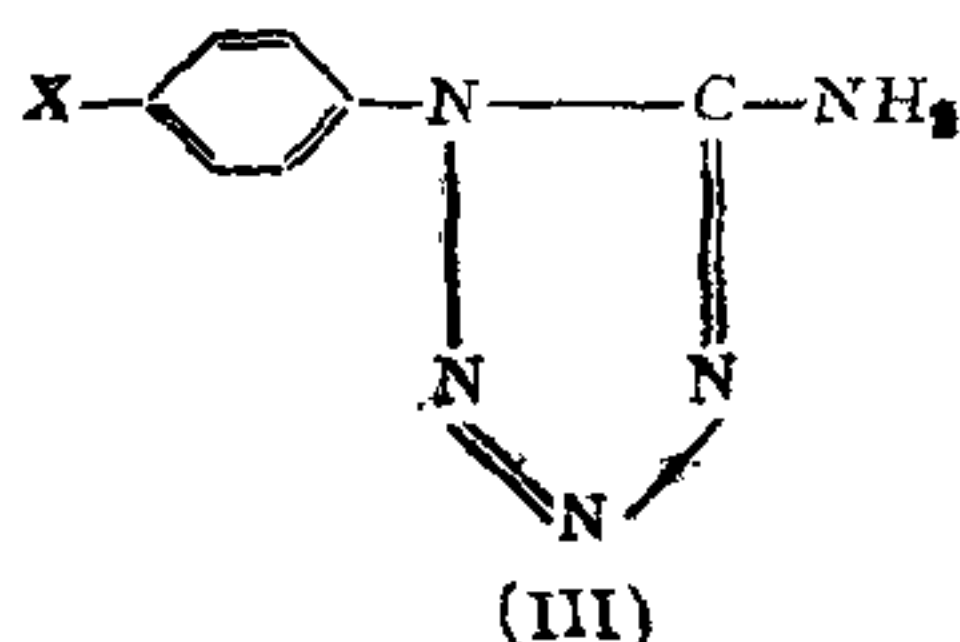


electrons from the 5-amino group in substituted 5-aminotetrazoles.<sup>9</sup> From the spectra of the isomeric compounds 6 (I,  $R_1 = C_6H_5$ ,  $R_5 = NH_2$ ) and 7 (I,  $R_1 = H$ ,  $R_5 = NHC_6H_5$ ) as well as 8 (I,  $R_1 = 4-CH_3C_6H_4$ ,  $R_5 = NH_2$ ) and 9 (I,  $R_1 = H$ ,  $R_5 = NH(4-CH_3C_6H_4)$ ), we see that there is an increase in the  $\lambda_{max}$  and  $\epsilon_{max}$  of the absorption band when the resonating group is shifted from position-1 to position-5. Similar observations have been made in the case of the isomeric substituted 5-amino-1, 2, 3-triazoles<sup>10</sup> (II):



However, in substituted 5-amino-1, 2, 3-triazoles, in addition to the substituents at 1- and 5-positions, the substituent in position-4 also influences the ultraviolet absorption characteristics. In general it appears that in tetrazole derivatives, I, there is a greater bathochromic effect when  $R_1$  is a resonating group than  $R_5$ . Schueler et al.<sup>2</sup> have drawn a similar conclusion from their results.

The 1-substituted phenyl-5-aminotetrazoles can be regarded as substituted benzenes:



The intensity and the position of the absorption bands of the compounds of Type III depend markedly on the nature of the substituent, X, on the phenyl group. A strongly interacting group like the nitro group as in compound 15 (I,  $R_1 = 4-NO_2C_6H_4$ ,  $R_5 = NH_2$ ) shifts the absorption maximum to a very large extent. When the substituents are electron-donating groups, the  $\lambda_{max}$  of Type III compounds increases approximately in proportion to the increase in the electron-donating power of the substituent, X. This proportionality indicates that the 1-(5-aminotetrazoyl) group is an electron-withdrawing group capable of strong resonance interaction.<sup>11</sup>

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#### LADY TATA MEMORIAL TRUST—SCHOLARSHIPS AND GRANTS FOR 1957-58

THE Trustees of the Lady Tata Memorial Trust announce on the death anniversary of Lady Meherbai Dorabji Tata, 18th June 1957, the awards of scholarships and grants for the year 1957-58.

International awards of varying amounts (totalling £ 4,990) for research in diseases of the blood with special reference to Leucæmias are made to Doctors J. F. Kieler (Denmark), G. Marinone (Italy), M. Simensen (Denmark), B. G. Thorell (Sweden), A. J. Therkelsen (Denmark), M. Seligmann (France), G. Klein (Swe-

den), G. V. Seaman (England), M. Bessis (France).

Indian Scholarships of Rs. 250 per month each for one year for scientific investigations having a bearing on the alleviation of human suffering from disease are awarded to Mr. U. W. Kenkare (Bombay), Doctors (Miss) Satwant Kaur Sokhi (Madras), (Mrs.) Avalokita Bhadramukh Desai (Bombay), Goodwin Benjamin Newton (Lucknow), Bimalendu Das (Patna), (Miss) Habib Bano (Lucknow).