

In view of the high extinction coefficient, this property of absorption can be employed for the estimation of the drug in very small quantities, occurring in body fluids after the administration of the drug.

The authors' thanks are due to Dr. M. D. Chakravarti, Director of the Laboratory, for his kind interest in the work.

Central Drugs Laboratory,  
Calcutta-12,  
November 7, 1952.

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### ESTIMATION OF THIOSEMICARBAZONES USED IN THE CHEMOTHERAPY OF TUBERCULOSIS

THIOSEMICARBAZONES of some aromatic aldehydes have been shown to be highly active *in vitro* and *in vivo* against tuberculosis by Domagk *et al.*,<sup>1</sup> Domagk<sup>2</sup> and Hoggarth *et al.*<sup>3</sup> An attempt has been made in this paper to identify and estimate this group of drugs in pharmaceutical preparations. One of these compounds, P. succinyl-amino-benzaldehyde thiosemicarbazone sodium hydrate was sent to this laboratory for identification and estimation. Heilborn, *et al.*,<sup>4</sup> have shown that these compounds have the characteristic property of absorbing ultra-violet light. The region in which there is maximum absorption by these drugs is approximately the same as for vitamin A (320 m $\mu$ ). Employing a special combined filter of liquid and glass which has been used in this laboratory for the estimation of vitamin A with the Lumetron Photometer 402 E.F., the absorption was found to be very much more than for the other thiosemicarbazones. On account of this very high absorption, extremely high dilutions of the drug have to be used for its estimation.

A graph connecting the concentrations with the corresponding optical densities was drawn after measuring the percentage transmissions of varying concentrations of the drug. This was found to be a straight line in the range of concentrations studied (i.e., 1 mg. in 10,000 c.c. to 10 mg. in 10,000 c.c.). The extinction coefficient is given by the following equation.

$$E_{320\text{ m}\mu}^{1\%} = 2,000.$$

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\* Deputed by the Bhopal Government for training.