

ADDENDUM

to article entitled "Thioureas" in Volume **55**, pp. 181-228

Unintentionally omitted from the review were a group of therapeutically active thioureas of the stibanilic series (71a, 78a). These compounds have found use in the preparation of sterile therapeutic solutions for injections and as intermediates. In general these compounds are of the type



in which R = COOH, OH, SO₃H, and SbO₃H₂.

REFERENCES

- (71a) DYSON, G. M.: *Rev. trav. chim.* **57**, 1016-28 (1938); *Chem. Abstracts* **33**, 1289 (1939).
 (78a) DYSON, G. M., AND RENSHAW, A.: U. S. patent 2,195,885; *Chem. Abstracts* **34**, 5252 (1940).

ERRATA

Volume 54, Number 5, October, 1954

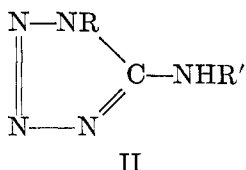
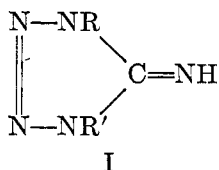
Page 828: Reference 119 should read as follows:

- (119) MURPHY, C. M., RAVNER, H., AND SMITH, N. L.: *Ind. Eng. Chem.* **42**, 2479 (1950).

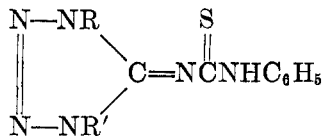
Volume 55, Number 1, February, 1955

Page 195: In lines 7 and 8 the statement "The method was also found to fail with naphthyl compounds (48)." is incorrect. Reference 48 describes the formation of certain aromatic isothiocyanates from the amine hydrochloride and thiocarbonyl tetrachloride, CSCL₄, in the presence of aqueous stannous chloride. This method is not suitable for obtaining isothiocyanates from semi-aliphatic amines, nitroamines, and naphthylamines. α-Naphthylamine, however, reacts readily with thiophosgene, CSCL₂, to give excellent yields of the isothiocyanate (G. M. Dyson and R. F. Hunter: *Chem. News* **134**, 4-5 (1927); *Chem. Abstracts* **21**, 1457 (1927)).

Pages 214 and 215: In table 3 the structures of the thioureas reported by Herbst, Roberts, and Harvill (16) are in error. It has since been shown (R. A. Henry, W. G. Finnigan, and E. Lieber: *J. Am. Chem. Soc.* **76**, 2894 (1954). R. M. Herbst and D. F. Percival: *J. Org. Chem.* **19**, 439 (1954)) that the tetrazoles used in these preparations were 1,4-dialkyl-5-imino-4,5-dihydro-tetrazoles (I) rather than 1-alkyl-5-alkylaminotetrazoles (II), as previously supposed.



Thus, the thioureas prepared by reacting these compounds with phenyl isothiocyanate are of the general formula



It should also be noted that, in view of this correction, certain apparent positional isomers from table 3 are actually the same compound, e.g.,

	Positional isomers	
Structures as given in table 3	$ \begin{array}{c} \text{CH}_3 \\ \\ \text{N-N} \\ \parallel \quad \diagdown \\ \text{C}=\text{N}-\text{N}(\text{C}_2\text{H}_5)-\text{CSNHC}_6\text{H}_5 \\ \diagup \quad \\ \text{N-N} \quad \text{C}_2\text{H}_5 \end{array} $	$ \begin{array}{c} \text{C}_2\text{H}_5 \\ \\ \text{N-N} \\ \parallel \quad \diagdown \\ \text{C}=\text{N}-\text{N}(\text{CH}_3)-\text{CSNHC}_6\text{H}_5 \\ \diagup \quad \\ \text{N-N} \quad \text{CH}_3 \end{array} $
Correct structures	Identical compounds	
	$ \begin{array}{c} \text{CH}_3 \\ \\ \text{N-N} \\ \parallel \quad \diagdown \\ \text{C}=\text{N}-\text{N}(\text{C}_2\text{H}_5)-\text{CSNHC}_6\text{H}_5 \\ \diagup \quad \\ \text{N-N} \quad \text{C}_2\text{H}_5 \end{array} $	$ \begin{array}{c} \text{C}_2\text{H}_5 \\ \\ \text{N-N} \\ \parallel \quad \diagdown \\ \text{C}=\text{N}-\text{N}(\text{CH}_3)-\text{CSNHC}_6\text{H}_5 \\ \diagup \quad \\ \text{N-N} \quad \text{CH}_3 \end{array} $