NOTES

SYNTHESIS OF ^{35}S-5-HYDROXY-6-N-PROPYL-2-THIOURACIL

Received on March 5, 1974.

During an investigation concerning the metabolism of the antithyroid drug 6-n-propyl-2-thiouracil (I), the title compound was synthesized as a possible metabolite for the purpose of identification in rats and human urine, as well as other related studies.

The chemical synthesis (Figure 1) was accomplished in two steps: 1) Brominatron of the commercially available ^{35}S-6-n-propyl-2-thiouracil (Amersham-Searle Corp., Arlington Heights, Illinois), with bromine in glacial acetic acid, according to a modified procedure described by Baker and Kawazu (1) for the synthesis of 5-bromo-6-n-propyluracil, to yield

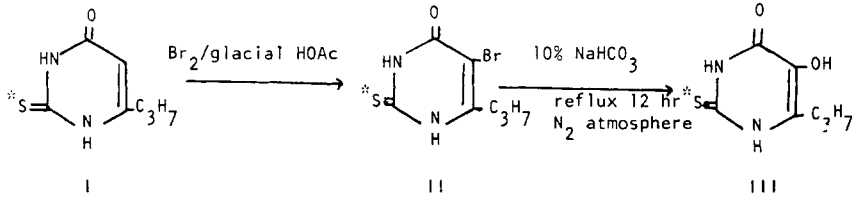

Figure 1

^{35}S-5-bromo-6-n-propyl-2-thiouracil (II); 2) Hydrolysis of II, according to a method described by Wang (2) for the conversion of 5-bromouracil to 5-hydroxyuracil, with 10% sodium bicarbonate solution, under nitrogen, followed by acidification to about pH2 to yield ^{35}S-5-hydroxy-6-n-propyl-2-thiouracil (III).

The purity of the product (III) was confirmed by thin layer chromatography, using authentic unlabeled III as a standard.

The author thanks Dr. Raymond H. Lindsay, Director of Pharmacology Research Unit, for his valuable discussions.

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2. Wang, S.Y., J. Amer. Chem. Soc., 81, 3786 (1959).