

males have been sporadically reported, and consist of studies on various tissues.³⁻⁶ Freedland *et al.*⁷ have recently shown a sex difference in liver phenylalanine hydroxylase activity in the rat. This difference is also age dependent, that is, the female activity decreases more rapidly than that of the male after an activity peak at 40–50 days. In our report we only take into consideration two rather long periods of life: 50–100 and 200–300 days age. The enzymes studied have no plain connection with sex functions. All the same three of the five enzymes studied shown significant differences in activity in males compared with females during the earlier period but not during the later. In accord with earlier reports by others this observation strongly indicates that sex differences as to enzyme activity may be a rather common phenomenon at least during certain stages of life.

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- Schmidt, E. and Schmidt, F. W. *Enzymol. Biol. Clin.* **2** (1962/63) 201.
- Cleland, K. W. and Slater, E. C. *Biochem. J.* **53** (1953) 547.
- Fitch, C. D. *Proc. Soc. Exptl. Biol. Med.* **112** (1963) 636.
- Kiessling, K.-H. and Tilander, K. *Exptl. Cell Res.* **30** (1963) 476.
- Lacuara, J. L., Gerschenson, L., Moguilevsky, H. C. and Malinow, M. R. *J. Atheroscler. Res.* **2** (1962) 496.
- Westling, H. and Wetterqvist, H. *Brit. J. Pharmacol.* **19** (1962) 64.
- Freedland, R. A., Krakowski, M. C. and Walsman, H. A. *Am. J. Physiol.* **202** (1962) 145.

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Silver Alkylmercaptides

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In previous papers¹ the author has reported some monovalent copper, silver, gold, and thallium N,N-dialkyldithio- and N,N-dialkylthiocarbamates. All these compounds have proved to be polymeric and most of them preferably dimeric, tetrameric, and hexameric.

In order to throw further light on these properties, the investigation has been extended to include mercaptides as well.

Table 1 shows a summary of data describing the silver salts of some alkylthiols.

The salts of the tertiary alkylthiols seem to be octameric. An X-ray investigation in progress by Hesse² supports these results. Thus the number of molecules in the unit cell of one of these compounds is sixteen.

Of the silver salts of the secondary alkylthiols, two seem to be dodecameric. Some, however, still under investigation, are indicated to possess a higher polymerity, others a lower one.

It seems reasonable to postulate that the structure of the silver alkyl mercaptides is partly depending on the arrangement of the alkyl groups around the silver atom.

- Åkerström, S. *Arkiv Kemi* **14** (1959) 387; *Acta Chem. Scand.* **17** (1963) 1187; **18** (1964) 824.
- Hesse, R. *To be published*.

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Table 1. Silver salts of alkylthiols (RSAg)_n

Alkylthiols	m.p. °C	n	Ag calc.	Ag found
2-Methyl-2-propanethiol	267(decomp.)		55.02	54.92
2-Methyl-2-butanethiol	203–205	8 ^a	51.14	51.05
2-Methyl-2-pentanethiol	67–69	8 ^{a,b}	47.92	47.60
3-Methyl-3-pentanethiol	147–148	8 ^{a,b}	„	47.87
2,3-Dimethyl-2-butanethiol	196–197	8 ^a	„	48.07
2-Hexanethiol	64–65	12 ^{a,b}	„	47.85
4-Methyl-2-pentanethiol	114–116	12 ^a	„	47.81

The molecular weight determinations are made ebullioscopically (a) and cryoscopically (b) in benzene.