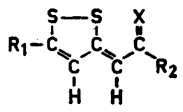

R_1, R_2 = H or CH_3
X = O or S

VII

A direct comparison of these spectra with those obtained by us is not possible since different solvents have been used.
Under the conditions used by us the proton frequencies relative to tetramethylsilane should be τ 3.5—4. As no model studies have been carried out on type II disulphides no choice can be made between the formulae V and VI. As soon as further material becomes available the investigation will be continued with the aim of settling the problem of the structural formula.

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A $D8_8$-Type Phase in the Yttrium-Tin System

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The existence of intermediate phases at the compositions $YSn_{0,5}$ and $YSn_{1,5}$ in the yttrium-tin system has been reported by Terekhova *et al.*[1] No structural data about the phases were given.

In the present study, mixtures of yttrium (99.9 %) and tin ("Baker's analyzed") were melted under helium (0.5 atm.) in an electric arc furnace. The samples were then annealed for 50 days at 850°C in evacuated sealed silica tubes. Tantalum foils protected the samples from reacting with the silica. The heat treatment was abruptly discontinued by quenching the capsules in cold water.

X-Ray powder patterns were registered in a Guinier focusing camera with Cu$K\alpha$ radiation. The samples of compositions around $YSn_{0,6}$ gave patterns which could be indexed assuming a hexagonal unit cell with the dimensions

$$a = 8.902 \text{ Å}, c = 6.536 \text{ Å}, c/a = 0.734$$

These parameters are comparable with those of several $D8_8$-type compounds of the formula A_5B_3. Intensities calculated with atomic parameters of Y_5Sn_3 taken as $x_Y = 0.25$ and $x_{Sn} = 0.61$ were found to be in good agreement with the observed powder data. The Y_5Sn_3 phase seems to have a rather narrow homogeneity range. The phase is noticeably attacked by air even at room temperature. It is therefore not known so far if the material has a content of non-metal. Further studies on the Y—Sn system are in progress.

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