28. Preparation of Organo-mercurisulfides. (II)

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For the purpose of obtaining germicidal substances, we prepared some phenylmercurisulfides, which have the formula of R_1SHgR_2. Phenylmercurichloride was suspended in alcohol and under cooling, alcoholic solution of thiophenol was added little by little. At first solution became clear and then white precipitate gradually appeared. Recrystallizing from alcohol, colourless fine needles were obtained. This is phenylmercuriphenylsulfide. Usually, in this case, it was inevitable that a little amount of mercaptide of corresponding thiophenol (R_1SHgSR_1) were produced. By the same procedure, the following thirteen compounds were obtained.

	m. p.
Phenylmercuri-phenylsulfide	103.5°
Phenylmercuri-o-tolylsulfide	168°–169°
Phenylmercuri-p-tolylsulfide	104°
Phenylmercuri-p-chlorophenylsulfide	150°
Phenylmercuri-α-naphtylsulfide	154.5°
Phenylmercuri-benzylsulfide	134°–135°
p-Chlorophenylmercuri-phenylsulfide	139°–140°
p-Chlorophenylmercuri-o-tolylsulfide	141°
p-Chlorophenylmercuri-p-tolylsulfide	145°
p-Chlorophenylmercuri-p-chlorophenylsulfide	161°–162°
p-Chlorophenylmercuri-benzylsulfide	128°–130°
m-Nitrophenylmercuri-phenylsulfide	237°–239°
m-Nitrophenylmercuri-p-tolylsulfide	244°–246°

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29. Chromatography of Fatty Acids. (Preliminary Report)

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(Goto Laboratory)

It was reported that fatty acids mixtures of lower molecular weight (C_1~C_{10}) could easily be separated by the partition chromatography (M.H. Peterson and M.J. Johonson; J. Biol. Chem. **174**, 775 (1948), L.L. Ramsey and M.J. Patterson; J. Assoc. Official Agr. Chem. **31**, 139 (1948), but those of higher molecular weight could hardly be done by this method. Recently the separation of the latter was attempted

by the indicator method (C_{12}~C_{18}) (Asahara at all; Ind. Chem. Japan, **54**, 70 (1950) and the displacement method (C_1~C_{22}) (R.H. Holman and L. Hagdahl; J. Biol. Chem. **182**, 421 (1950). We tried to separate chromatographically each component from mixtures of higher (stearic and oleic acids) by a new indicator method, using iodine as an indicator and alumina as an adsorbent. The results obtained were as follows. 1 mg of iodine was dissolved in 10cc. of petroleum-ether and adsorbed to alumina activated at 500°C. Below 500°C., alumina was never coloured with iodine. When 25cc. of petroleumether solution of stearic and oleic acids were added to the top of the column at the rate of 5 min. per cc., a yellow line appeared at about 5cm. from the upper end of the column and below this line no solute was adsorbed, but the separation was incomplete. Under similar conditions separation was enhanced by using 120cc. of the mixture of petroleumether and benzene as developer and reducing the rate of flow to 15min. per cc., but the upper layer contained 33% of unseparable oleic acid.

Furthermore, if the petroleumether-benzene-ethanol was added with the rate of 35 min. per cc., two yellow lines were formed and the first layer coloured white, the second light yellow, the third light white brown and the fourth light brown. From their melting points and iodine values, the first layer was considered to contain pure stearic acid, the second a mixture of two acids, and the third pure oleic acid.

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30. Studies on the Optimum Temperature of Catalase-activity

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(Kondo Laboratory)

We have already found the distinct difference between the optimum temperature of catalase-activity of the summer- and winter-crops and -vegetables.

On this discovery, it was concluded that the phyto-catalase was variable according to the kind of plants and the planting season.

The present paper deals with the experimental results on the zoo-catalase. The optimum temperature of the catalase-activity of various animals was found as follows.

Cow, rabbit and cat :	about 40°C
Cook :	about 50°C
Toad (October) :	about 10°C
Snake (September) :	about 25°C
Tunny and oyster :	about 20°C