

It is known that the presence of sulfur is characteristic for oils of plants of the family Cruciferae [1]. From the epigeal part and the seeds of *Dyptychocarpus strictus* (of the same family) one of us has isolated several sulfur-containing compounds. This induced us to undertake an investigation of the phospholipids of the seeds of this plant in order to seek sulfur-containing phospholipids. The phospholipids of the seeds of *D. strictus* collected in the Chimkent region of the Kazakh SSR in the region of the Kirk-Kuduk well, after being defatted with acetone, were extracted by Folch's method [2]. The solvents were distilled off in vacuum under a current of nitrogen. The phospholipid complex was freed from water-soluble impurities (mainly carbohydrates and amino acids) by filtration after the chloroform solution had been kept at + 5°C and also by the dialysis of this solution against water. The yield was 0.6-0.7% of the weight of the dry seeds. The results of one-dimensional and two-dimensional chromatography in a thin layer of silica gel showed that the main components of the material were phosphatidylcholines, phosphatidylinositols, phosphatidylethanolamines, and lysophosphatidylcholines, which were identified by specific reagents. We also established the presence of sulfur in the combined phospholipids of the seeds of *D. strictus* by qualitative reactions [6].

By column chromatography of the total material on neutral alumina [4], silica gel, and DEAE-cellulose [5] with subsequent purification by preparative TLC in the CHCl<sub>3</sub>-CH<sub>3</sub>OH-25% NH<sub>3</sub> (65:35:5) system we isolated homogeneous fractions of the phosphatidylcholines and a small amount of phosphatidylinositols and phosphatidylethanolamines. The absorption bands in the IR spectrum of the phosphatidylcholines were similar to those described in the literature for glycerophospholipids [6].

On alkaline hydrolysis (0.1 N KOH/CH<sub>3</sub>OH, 37°C, 2 h) of the combined phospholipids and phosphatidylcholines, a mixture of acids was obtained which consisted, according to GLC, of seven components. Among the saturated acids palmitic predominated, and among the unsaturated acids oleic. On the acid hydrolysis of the phosphatidylcholines (3 N HCl, in a sealed tube, 100°C, 24 h), glycerol and choline were found in the water-soluble hydrolysis products by TLC.

## LITERATURE CITED

1. Handbook on Methods of Investigation, Technical and Chemical Control, and the Accounting of Production in the Oils and Fats Industry [in Russian], Vol. 1, Book II, Leningrad (1967), p. 780.
2. J. Folch, M. Lees, and J. H. Sloane-Stanley, *J. Biol. Chem.*, **226**, 497 (1957).
3. Houben-Weyl, *Methoden der organischen Chemie*, Georg Thieme Verlag, Stuttgart.
4. C. H. Lea, D. N. Rhodes, and R. D. Stoll, *Biochem. J.*, **60**, 353 (1955).
5. G. Rouser, G. Kritchevsky, D. Heller, and E. Lieber, *J. Amer. Oil Chemists' Soc.*, **40**, 425 (1963).
6. G. J. Nelson, *Lipids*, **3**, 104 (1968).

---

Institute of the Chemistry of Plant Substances, Academy of Sciences of the Uzbek SSR.  
Translated from *Khimiya Prirodnykh Soedinenii*, No. 1, pp. 85-86, January-February, 1975.  
Original article submitted June 25, 1974.

© 1976 Plenum Publishing Corporation, 227 West 17th Street, New York, N.Y. 10011. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, microfilming, recording or otherwise, without written permission of the publisher. A copy of this article is available from the publisher for \$15.00.