

# DIOL LIPIDS

L. D. BERGELSON

Institute for Chemistry of Natural Compounds,  
Academy of Science of the U.S.S.R.,  
Moscow, U.S.S.R.

## CONTENTS

|  | <i>Page</i> |
|--|-------------|
| INTRODUCTION   | 241         |
| II. STATUS OF DIOLS IN LIPIDS                                      | 242         |
| III. NOMENCLATURE  | 245         |
| IV. ASSAY OF DIOLS IN LIPIDS                                       | 247         |
| A. Isolation of the alcoholic components                           | 247         |
| 1. From "triglycerides"  | 247         |
| 2. From "cephalin" fractions                                       | 251         |
| B. Gas chromatographic analysis of diol-glycerol mixtures          | 252         |
| 1. Analysis of free alcohols                                       | 252         |
| 2. Analysis of acetates  | 254         |
| 3. Analysis of trimethylsilyl ethers                               | 258         |
| 4. Preparative gas-liquid chromatography of diol acetates          | 258         |
| C. Mass-spectrometric identification of diols and their diacetates | 260         |
| D. Danger of experimental errors and artefacts                     | 261         |
| V. SYNTHESIS OF DIOL LIPIDS  | 264         |
| A. Neutral diol lipids   | 264         |
| B. Diol phospholipids  | 266         |
| VI. PHYSICAL PROPERTIES OF SYNTHETIC DIOL LIPIDS                   | 275         |
| A. Melting points  | 275         |
| B. Solubility  | 275         |
| 1. Neutral diol lipids   | 275         |
| 2. Diol phospholipids  | 276         |
| C. Infrared spectra  | 276         |
| VII. CHROMATOGRAPHIC BEHAVIOR OF DIOL LIPIDS                       | 277         |
| A. Neutral diol lipids   | 277         |
| B. Diol phospholipids  | 279         |

|  |     |
|--|-----|
| VIII. COUNTER-CURRENT DISTRIBUTION OF NEUTRAL DIOL<br>LIPIDS AND TRIGLYCERIDES | 280 |
| IX. BIOCHEMICAL ASPECTS  | 282 |
| X. REFERENCES  | 284 |