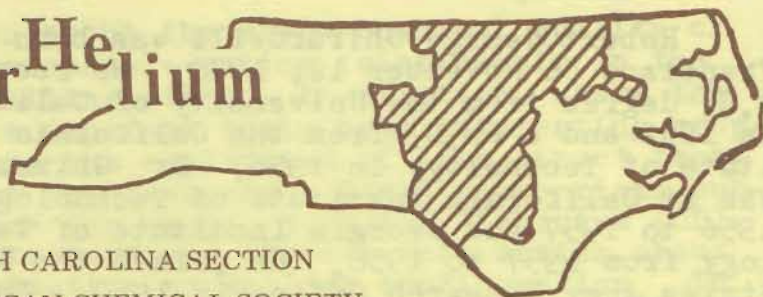


Tar^{He}lium



NORTH CAROLINA SECTION
AMERICAN CHEMICAL SOCIETY

Vol. 7, No. 4 Raleigh, N.C. December, 1976

"CIRCULAR DICHROISM STUDIES WITH
MACROCYCLIC POLYETHERS;
HOW DO CROWNS SHAPE UP?"

Speaker: Dr. Robert G. Ghirardelli
 U.S. Army Research Office

Date: Tuesday, December 7, 1976

Place: University of North Carolina
 Chapel Hill, North Carolina

Time: 5:30 Happy Hour
 Ranch House
 Airport Road, Chapel Hill

6:30 Dinner
 Ranch House (\$6.90 including tip)

8:00 Lecture
 UNC-CH, 207 Venable

Robert George Ghirardelli was born in San Francisco on November 12, 1930. He received a B.S. degree from the University of California in 1952 and a Ph.D. from the California Institute of Technology in 1956. Dr. Ghirardelli was at California Institute of Technology from 1956 to 1957 and Georgia Institute of Technology from 1957 to 1958. He joined the United States Army Research Office in 1960. From 1967 to 1974 he was the Associate Director of the Chemistry Division. Presently, he is the Associate Director of the Chemistry and Biological Science Division. In addition, since 1962, Dr. Ghirardelli has been associated with Duke University, and currently, is Adjunct Associate Professor of Chemistry at Duke. His research interests include stereochemistry, reaction mechanisms, macrocyclic polyethers and circular dichroism.

"CIRCULAR DICHROISM STUDIES WITH
MACROCYCLIC POLYETHERS;
HOW DO CROWNS SHAPE UP?"

Since their serendipitous discovery by C. J. Pederson a decade ago, the macrocyclic polyethers (which he termed "crowns") have intrigued many chemists by their ability to reduce the normal inhospitality of nonpolar media toward cations. The crowns can thereby effect significant increases in the solubility of salts in solvents of low dielectric, in the reactivity of anions released from ion-pair and cluster relationships, and in the transport of ions across membranes. In this last property they mimic the natural ionophores. X-ray studies have provided much infor-

mation about the stereochemical quality of the macrocycle-cation relationship in the crystalline state. In solution, where the crowns manifest their most interesting properties, the employment of less direct techniques is necessary. Given appropriate substrates for study, circular dichroism (CD) spectroscopy can provide information about conformation as well as configuration. To this purpose a number of optically active crowns have been prepared, their CD spectrum measured, the response to complexation with various cations determined, and certain quantitative conclusions drawn. A tentative unifying interpretation of the data will be offered.

ELECTION RESULTS

The response to the local Section mail ballot election of officers was overwhelming compared to previous years. Over 260 ballots were returned to Howard Clark at Duke. At the final tabulation the winners were: Richard Palmer, Chairman-Elect; Kathy MacLeod, Secretary; Forrest Getzen, Treasurer; Marcus Hobbs, Councilor; Robert Ghirardelli, Alternate Councilor. The following totals were reported by Howard Clark at the Executive Committee Meeting just prior to the local Section meeting on November 17, 1976.

CHAIRMAN-ELECT:	Richard Gilbert	115
	Richard Palmer	141
SECRETARY:	Robert Izydore	79
	Kathy MacLeod	175
TREASURER:	Forrest Getzen	131
	Eric Wiechert	120
COUNCILOR:	Marcus Hobbs	unopposed
ALTERNATE COUNCILOR:	Robert Ghirardelli	unop' sed

EXECUTIVE COMMITTEE

Monica R. Nees (*NC STRC*), Chairman
Suzanne T. Purrington (*Peace*), Chairman-Elect
Howard G. Clark (*Duke*), Secretary-Treasurer
Marcus Hobbs (*Duke*), Councilor
Maurice M. Bursey (*UNC*), Councilor
Ernest L. Eliel (*UNC*), Councilor
Keith Lawson (*Monsanto*), Alternate Councilor
Sally M. Horner (*Meredith*), Alternate Councilor
Maurice M. Bursey (*UNC*), Past Chairman
Richard J. Thompson (*EPA*), Alternate Councilor
and Past Chairman
Halbert Carmichael (*NCSU*), Past Chairman

COMMITTEE CHAIRMEN

Awards - Forrest Getzen (*NCSU*)
Centennial - Marcus Hobbs (*Duke*)
Certification - Richard J. Thompson (*EPA*)
Education - Maurice M. Bursey (*UNC*)
Hospitality - William Gutknecht (*Duke*)
Membership - Lawrence Bowen (*NCSU*)
Program - Suzanne T. Purrington (*Peace*)
Publication - Halbert Carmichael (*NCSU*)
Public Relations - Arthur Diesing (*L&M*)
Safety - Nash Collier (*UNC*)
Scholarship - Robert G. Lewis (*EPA*)

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