The Slayton A. Evans, Jr.
Lecture in Chemistry

Recent Studies in Alkaloid Total Synthesis

Natural products having unusual architectures have long served to inspire research in the Overman laboratories. These wonderful structures can highlight limitations in the currently available methods in organic synthesis, thereby stimulating the development of new organic transformations. Moreover, total synthesis programs targeting novel structures can reveal, often quite unexpectedly, new aspects of organic reactivity. This fertile arena for discovery will be illustrated by discussing aspects of several recent natural product total synthesis programs in the Overman labs.

Larry E. Overman
Distinguished Professor, Department of Chemistry, University of California, Irvine

Larry Overman was born in Chicago, Illinois in 1943 and raised in Hammond, Indiana. He obtained a B.A. degree from Earlham College in 1965 and completed his doctoral dissertation in 1969 with Professor Howard W. Whitlock, Jr. at the University of Wisconsin. After a NIH postdoctoral fellowship with Professor Ronald Breslow at Columbia University, he joined the faculty at the University of California, Irvine in 1971 where he is now Distinguished Professor of Chemistry. Professor Overman was Chair of the UC Irvine Department of Chemistry from 1990-1993.

Professor Overman's research interests center on the invention of new transformations and strategies in organic synthesis and the total synthesis of natural products and their congeners. Early in his career, Professor Overman invented a broadly useful method for preparing allylic nitrogen compounds from readily available allylic alcohols. Professor Overman and his co-workers have developed a suite of cyclization reactions that create new heterocyclic and carbocyclic rings while controlling stereochemistry to an exceptional degree. One of these, the aza-Cope–Mannich rearrangement, has served as the cornerstone of total syntheses of more than a dozen alkaloids, highlighted by the first asymmetric total synthesis of strychnine. Professor Overman pioneered in the use of intramolecular insertion reactions of organopalladium intermediates for assembling complex polycyclic molecules, particularly those containing congested quaternary carbon centers. Using synthesis strategies developed largely in his laboratory, Professor Overman’s group has completed total syntheses of more than 90 structurally complex natural products.

Slayton A. Evans, Jr.

Slayton Evans was the kind of person professors ought to be; a genial mentor and advisor to his students, a first-rate researcher, and a special friend to his colleagues. Born in Mississippi in 1943, Evans’ studies started at Tougaloo College and included graduate work at Case Western Reserve, and postdoctoral work at University of Texas at Arlington and Notre Dame, before he joined the faculty at Carolina in 1974. He became the chemistry department’s first African-American professor.

Evans’ commitment to improve science education for future generations was as significant as his being a successful academic scientist in one of the nation’s top universities. Locally, as a member of the Pogue Undergraduate Scholarship Committee, he persuaded the chancellor to augment both the number and value of scholarships substantially and to direct them to the promotion of diversity in the undergraduate student body. Nationally, he was a valued policy advisor to both the National Science Foundation and the National Institutes of Health.

In addition to his contributions within his own specialty of organophosphorus chemistry, Evans used his intellect and integrity to make sure other minorities also found their place in Carolina’s chemistry program. His colleagues and students repeatedly praised Evans for having as much insight about how to treat people as he did about conducting his science. This ability to teach his students about science as well as how to excel professionally garnered Evans the respect of many who found his pedagogical approach inspiring and worthy of numerous awards and accolades. A man of true merit, Slayton Evans died on March 24, 2001, and left behind a legacy of excellence in teaching, research, service, and mentoring.

April 24, 2009, 12:00 pm
Max C. Chapman, Jr., Hall, room 125