O-1 Ken Rinehart (1929-2005): Some Reflections from a Graduate of the Rinehart Group

Dr. Kenneth L. Rinehart, Jr. (1929-2005) was a Professor of Chemistry and Senior University Scholar at the University of Illinois at Urbana-Champaign. During his distinguished and productive career of over 40 years, Professor Rinehart's research focused on all aspects of natural products chemistry, including isolation, structure elucidation, biological analysis, biosynthesis, and chemical synthesis of a wide range of natural products from various sources. Many of these compounds, which include different classes of antibiotics and marine natural products, display biological activities with potential medicinal importance. Approximately 390 scientific papers, 35 patents, and one book resulted from these studies. Some of his early investigations led to the development of a procedure utilizing mutasynthesis to prepare new antibiotics, while his more recent work had a major impact in the field of marine natural products chemistry. Most notably, his marine program produced two important classes of antitumor candidates (didemnins and ecteinascidins), members of which are currently undergoing clinical trials. Ecteinascidin 743, for example, is in Phase III clinical trials and has demonstrated effectiveness against soft-tissue sarcomas and against lung, breast, and ovarian cancers. In the course of their research, Dr. Rinehart's group contributed to the development of an array of new techniques in such diverse areas as tissue culture, bioautography, high-speed countercurrent chromatography, mass spectrometry, and NMR. A hallmark of Professor Rinehart's research was his pioneering application of mass spectrometry to the structure elucidation of natural products. His accomplishments were recognized by many prestigious awards and fellowships. He received the Ernest Guenther Award in the Chemistry of Natural Products from the American Chemical Society (ACS) in 1997, and the Research Achievement Award from the American Society of Pharmacognosy (ASP) in 1989. He was a Sloan Foundation Fellow, a Guggenheim Fellow, and a Fellow of the American Association for the Advancement of Science.

Professor Rinehart received a B.S. with High Honors in chemistry from Yale University in 1950, and earned his Ph.D. in chemistry from the University of California, Berkeley, in 1954. He joined the faculty at the University of Illinois that same year, when he was appointed Instructor in Organic Chemistry, and rose through the ranks to become Professor of Chemistry in 1964. During his long and successful career at Illinois, he supervised the research of approximately 124 postdoctoral research associates and visiting senior scientists, 139 graduate students, and 67 undergraduates. He served as a member of the Executive Committee of the ACS National Division of Organic Chemistry, the Chemistry Advisory Committee of the Walter Reed Army Institute of Research, and the Chemical & Biological Information Handling Panel of the National Institutes of Health. In 1995-96, he served as President of the ASP. He was editor and co-editor of a number of scientific publications, and served on the Editorial Boards of the *Journal of Natural Products*, *Journal of Organic Chemistry*, *Journal of Antibiotics*, *Journal of Medicinal Chemistry*, *Biomedical Mass Spectrometry*, *Antibiotic Reviews*, *Chemical Research in Toxicology*, and *Current Medicinal Chemistry.*