

Dedication

Professor José Elguero

José-Luis M. Abboud

Instituto de Química Física 'Rocasolano', CSIC, E-28006 Madrid, Spain

Professor José Elguero was born in Madrid, Spain, in 1934. He chose chemistry partly because of the economic situation in Spain in the early fifties and also because, at that time, chemistry appeared as a discipline having some adventurous character. He received his Bachelor of Science degree in chemistry from the University of Madrid in 1957 and then moved to Montpellier (France), where he took his Doctorate in 1961, after working under the direction of Professor Robert Jacquier.

He remained in France for over twenty years, first in Montpellier and later on in Marseilles. During all these years he was a member of the French Centre National de la Recherche Scientifique. He returned to Spain in 1980 and took a position at the Spanish Consejo Superior de Investigaciones Científicas. Later, he became President of CSIC over the period 1983–1984 and has remained there, at the Institute of Medicinal Chemistry, ever since.

Professor Elguero was awarded the Schutzenberger Prize by the French Chemical Society in 1968 and the Gold Medal of the Spanish Royal Society of Chemistry (Real Sociedad Española de Química) in 1984. He also won the Solvay Prize (Madrid) in 1988 and the Santiago Ramón y Cajal Prize in 1993. In 1988 he became a member of the Royal Academy of Pharmacy (Madrid) and between 1990 and 1995 he was President of the Scientific Council of the Autonomous Community of Madrid. He is a knight of the Alfonso X el Sabio Civilian Order.

At first sight, Professor Elguero's scientific career can not be dissociated from pyrazole and its derivatives. These were subjects of his Doctoral Thesis. Although pyrazole has less biological relevance than its isomer, imidazole, it offers many interesting possibilities in general physical chemistry, NMR, crystallography, and as a ligand in coordination chemistry.

Other formally related topics he has dealt with over the years include work on azapentalenes, azolides and propellanes.

Heterocyclic chemistry is closely related to two important topics, namely tautomerism and aromaticity. The book *The Tautomerism of Heterocycles* he co-authored in 1976 has played an important role in the development of the field and is widely quoted in the

literature. His contributions to the study of aromaticity and to fullerene chemistry, while somewhat less extensive, involve both experimental and computational studies.

Professor Elguero's contributions to physical organic chemistry are very important. They originated in the study of tautomerism, this leading him to use a whole array of physical techniques, notably NMR spectroscopy. In fact, he has used for this purpose almost every spectroscopic technique available. The study of tautomerism owes a great deal to LFER and to quantitative empirical models of reactivity. This led him to extensive collaborative work with the late Professor Robert W. Taft, Jr. Quite naturally, he also devoted a great deal of attention to the study of gas phase reactivity.

Of late, crystal structures of organic and organometallic compounds have been the subject of a large number of studies by Professor Elguero. He is presently carrying out this work with Professor Concepción Foces-Foces, a leading (CSIC) Spanish specialist in the field of X-ray crystallography. So far, they have obtained about one hundred new structures and are deeply involved in large research projects of crystal engineering.

Intra- and inter-molecular prototropies are key processes in tautomerism. These reactions are mediated by hydrogen bonding interactions. For a number of years Professor Elguero has been involved in the quantitative theoretical study of the latter. This has led him to a sustained collaboration with Professors Manuel Yáñez and Otilia Mó of the Universidad Autónoma de Madrid. More recently, these studies were extended to a group of bright and enthusiastic young scientists working at the Institute of Medicinal Chemistry of CSIC.

Being attached to the Institute of Medicinal Chemistry (CSIC) upon his return to Spain in 1980, Professor Elguero has since carries out several research projects in this field. At this moment he and his group are involved in the study of Non-conventional Analgesics. Here they must compete head-on with powerful multinational corporations. However tall the task might be he believes the human and scientific rewards of the potential results are worth the effort.

Professor Elguero has produced, so far, some 900 papers. While this is an impressive number by any

standard, one should not overlook other aspects of his activity, all the way from his 'speculative' works to his collaboration with foreign scientists (particularly with Professor Hans-Heinrich Limbach, Freie Universität, Berlin) and with Spanish colleagues (notably at the Organic Chemistry Chair of the Universidad Nacional de Educación a Distancia, UNED).

Not surprisingly, he has contributed greatly to the development of chemistry in Spain through his appear-

ences on radio and TV and articles in newspapers and the like.

All the above notwithstanding, Professor Elguero is, as a person, friendly and surprisingly humble. Witnesses to this pleasant human side of his character include not only his colleagues but also the approximately sixty doctoral students and thirty post-doctoral co-workers he has advised over the years.