

G. S. Krishna Rao (1926–2008)

Gummadithala Krishna Rao, affectionately called as GSK by his students and colleagues, passed away on 16 December 2008 at Bangalore. Rao was born at Rajahmundry, Andhra Pradesh, on 26 October 1926. He obtained B Sc (Hons) degree in Chemistry (1947) and M Sc (Research) in Organic Chemistry (1948), from Andhra University, Visakhapatnam. He joined the Indian Institute of Science, Bangalore and obtained AIISc & DIISc (1953) and Ph D (Bombay) (1956) degrees in Organic Chemistry, working on the chemistry of terpenoids, under the supervision of Sukh Dev. His Ph D thesis entitled 'Studies in terpenoids' dealt with the total synthesis of 3,8- and 4,8-dimethyleudalenes, α -cyperone, (\pm)-cryptone and (\pm)-cadinene and earned him the Guha Research Medal for the best thesis. After a two-year stay at the Indian Agricultural Research Institute, New Delhi, as a Scientific Officer, he went to the National Research Council, Ottawa, Canada as an NRC Post-doctoral fellow and continued his work on terpenoid synthesis. In 1960, he joined the Department of Organic Chemistry, Indian Institute of Science as a Lecturer, promoted to Assistant Professor (1967), Associate Professor (1970) and Professor (1973). He was the Chairman of the Department of Organic Chemistry during 1974–77 and Dean, Faculty of Science of the Institute during the period 1977–78. He retired from the Institute in July 1987 and continued his work as a CSIR Emeritus Scientist until 1992.

Rao has made extensive and significant contributions to the area of organic synthesis, in particular sesquiterpenoids,

with the main focus on (i) Natural products of biogenetic interest; (ii) synthesis of several intermediates of biologically active compounds and (iii) reaction mechanisms. Several new and innovative synthesis of natural products were accomplished by him. These include desmethoxyencecalin, elvirol methyl ether, espeleton, emmotin G, 8-methoxy calamenene, curcuphenol methyl ether, occidol, nidorellaurenal, sesquirin D, emmotin H, himaphenolone, ar- α -amorphenic acid, 7-methoxyoccidol, emmotin G analogues



and ar- γ -muurolen-15-oic acid. The first total synthesis of ar-juvabione, a potent insect juvenile hormone was reported by him, which paved the way for the synthesis of many other aromatic analogues of juvabione. The structures of several natural products were revised based on their total synthesis. By employing a modified Vilsmeier–Haack reaction, he

has synthesized several synthetic intermediates which appeared to be the biogenetic precursors. He has demonstrated the convenient use of several reagents, DDQ, iodoxybenzene and benzyl triethylammonium permanganate for the oxidation of organic substrates, which will serve as intermediates for a variety of natural product synthesis. He discovered a novel inclusion complex of sodium santalabate dimethyl sulphate which exhibited significant detergent properties.

Rao has published 150 research papers besides publishing an excellent review on the chemistry of vetivalenes. About 23 students worked under his supervision for their Ph D.

Rao was elected to the Fellowship of the Indian Academy of Sciences, Bangalore, in 1987 and to the Fellowship of the Indian National Science Academy, New Delhi in 1988.

Rao was an extremely modest individual and detested opulence. His students and colleagues adored him as he was extremely witty with a fine sense of humour. He was honest with impeccable character and devoid of any controversy.

Krishna Rao passed away in Bangalore on 16 December 2008, leaving behind his wife, Thimmabayamma, two daughters and a son besides a host of friends and admirers.

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