



•Editorial•

Endless exploration for natural products: dedicated to the 80th birthday of Prof. SUN Han-Dong

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Natural Products always exhibit more intellectual bioactivities and atom economy, and it's also an important source of innovative drugs. At present, the research on natural products has attracted great attention not only from natural product chemists, but also from pharmacologists, chemical biologists, and organic synthetic chemists and others. Natural products have started to play an increasingly important role in the modern multidisciplinary collaborative model.

Prof. SUN Han-Dong, Academician of Chinese Academy of Sciences from Kunming Institute of Botany, has made outstanding contributions to our field, natural product chemistry, in China. He was born in November 1939 in Baoshan City, Yunnan Province, China. Over the past five decades since his graduation from Yunnan University in 1962, he has been engaged in basic and applied research on the exploration of plant-derived medicines and natural perfumes, phytochemistry and drug development. Prof. SUN and his group have systematically studied more than 260 species in China, including those of the genus *Isodon*, the Taxaceae, Schisandraceae, Umbelliferae, and Lauraceae family, and lichens. Among more than 3400 compounds isolated and identified from them, about 1400 new ones including many novel skeletons or new types were discovered. More than 20 new ones were found to be promising in further development and application, and a class V new drugs for the treatment of acute cerebral infarction has been completed the clinic trials. The research results mentioned above, especially the diverse and bioactive chemical constituents from the genus *Isodon* and Schisandraceae family, not only promote the development of terpene chemistry, but also enriched the content of natural products in the world, and has been become one of the most successful examples of systematic research in our field.

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Systematic research on diterpenoids from *Isodon* species

The genus *Isodon* (Labiatae) comprises approximately 150 species worldwide, with over 90 species and 21 varieties distributed in China, primarily in the southwest region. For over four decades, Prof. SUN and his group have carried out a systematic research on diterpenoids isolated from *Isodon* species, and to date, the studies on the chemical constituents of 67 *Isodon* species have been completed, more than 1000 diterpenoids (over 70% of the total amount), including 30 types of ent-kauranoids and 24 novel skeletons, have been identified therein. Meanwhile, his group has worked closely with pharmacologists at home and abroad to investigate the anticancer properties of these diterpenoids, and a series of lead compounds with great potential for further development were discovered. The project is remarkably systematic and innovative, which has made his group become an international research center for the chemical constituents of the *Isodon* species and their bioactivities^[1-3].

Pioneering research on schinortriterpenoids

Schisandraceae is a family of important medicinal plant with two known genera, *Schisandra* and *Kadsura*. Our country possesses the most abundant sources of *Schisandraceae* species, and 21 of them can be used for medicinal purposes. More than 50 years of prior studies on *Schisandraceae* species have revealed that their major secondary metabolites are dibenzocyclooctadiene lignans and lanostane- and cycloartane-type triterpenoids. In order to further investigate the chemical constituents from this family, Prof. SUN and colleagues have implemented systematic and in-depth research on the triterpenoids from 24 *Schisandraceae* species ever since early 1990s, and many important breakthroughs and achievements have been made. The most significant one was the discovery of highly oxygenated schinortriterpenoids (SNTs), characterized by polycyclic-fused scaffolds containing numerous contiguous stereogenic centers, which has attracted great attention of synthetic organic chemists and

pharmacologists at home and abroad, and have added important new dimensions to our understanding of triterpene chemistry and provided new clue for R&D of new drug entity. The relevant studies about SNTs have been cited in numerous reviews, textbooks and monographs. This systematic research is an original and symbolic achievement made by Chinese scholar that is recognized by his peers around the world, which promotes the global academic status of Chinese natural product chemistry research and leads the development of phytochemistry and synthetic organic chemistry in specific fields^[4-5].

Persistence and explore are two important contents in scientific research, and Prof. SUN adheres to these two principles in his entire academic career, and set a good example for our young generation. As Prof. SUN often said, “science is endless”, we should grasp the current good situation, and have the courage to make breakthroughs and innovate constantly in our field.

On the occasion of Prof Sun’s 80th birthday, I’d like to express my deep respect to him, and wish Prof. SUN a happy birthday and good health.

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Prof. KONG Ling-Yi, “Ministry of Education Yangtze River Scholar” professor, and “National Outstanding Youth Research Fund” winner, has been the director for many research projects at the state and ministerial/provincial levels, including those key and general projects supported by the National Outstanding Youth Research Fund, the National Natural Science Foundation of China, National Key High-Tech Research Fund for the Innovation of Novel Drugs and the Ministry of Education Key Project Supporting Fund. His works focused on the extraction, identification, structural modification, biotransformation, total synthesis and structure-activity relationship (SAR) of bioactive natural products from traditional Chinese medicines (TCMs) and related medicinal plants, which has further laid a solid foundation for the research and development of new drugs. As the first contributor, he won the second prize of national science and technology progress, the first prize of science and technology of Jiangsu Province and the first prize of natural science of the Ministry of education.