**Book Review**

**Phytochemical Reference Standards of Selected Indian Medicinal Plants, Volume 4** edited by Neeraj Tandon and Parul Sharma (published by Medicinal Plants Division, Indian Council of Medicinal Research, New Delhi), 2016, pp. xiv+415, price ₹ 1750 (US $ 78)

There has been a proliferation of plant based drugs all over the world in the last few years. The efficacy of these drugs depends largely on their authenticity and quality. In the process of standardization of these drugs, genuine Phytochemical Reference Standards (PRS) are required. The present publication “Phytochemical Reference Standards of Selected Indian Medicinal Plants” is a tremendous effort in this direction by ICMR to collect all the information and generate PRS for some frequently used Indian medicinal plants.

The book is divided into three sections 1) Monographs, 2) Appendices, and 3) Indices. The monograph section includes a brief description of 30 compounds as PRS. The other plant sources yielding the same PRS are also described. The generic name and IUPAC name of the PRS, chemical structure of the PRS, plant species along with family and its parts used for the isolation are elaborated. Detailed procedure for the isolation of PRS including extraction of the compounds with different solvents, column chromatography, etc is provided. Characterization of the PRS showed the nature of PRS, m.p. / b.p., optical rotation, molecular formula, molecular weight, and elemental composition. The structural identification of these compounds by UV-Vis, Infra-Red (IR), $^1$H NMR, and $^{13}$C NMR spectral data along with original spectra and detailed interpretation are given. In some cases, mass spectra are also given. Chromatographic finger printing of plants include major and other chemical components. Analytical methods like thin layer chromatography (TLC) with solvent system, visualization, HPLC assay with chromatographic conditions, estimation and calibration curves with reference to the PRS are described. References are included at the end of each PRS compound description.

The end of the volume contains appendices. In Appendix I, under the title Material and methods details of UV, IR, NMR spectrometers are given. The column chromatography details with preparation of spray reagents are included. Extraction methods (Appendix II), Separation techniques used (Appendix III), and indices on Chemical constituents (Index I) and Botanical names (Index II) are given at the end.

Quality of the paper, printing, and beautiful cover design make the volume very attractive. The book is extremely useful for researchers, drug industry, health professionals and regulatory authorities. The book will help in standardization of crude drugs using phytochemical reference standards. The present volume is a noteworthy achievement of the Indian Council of Medicinal Research (ICMR) and the editors have done a commendable job in compiling the useful information regarding the PRS.

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