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Natural Products Chemistry: The Emerging Trends and Prospective Goals

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The role and contributions of natural products chemistry in advancements of the physical and biological sciences, interdisciplinary domains, and emerging of new avenues by providing novel applications, constructive inputs, thrust, comprehensive understanding, broad perspective, and a new vision for future is outlined. The developmental prospects in bio-medical, health, nutrition, and other interrelated sciences along with some of the emerging trends in the subject area are discussed as part of the current review of basic and core developments, techniques, and advances in methodology, and possible applications with their effects on the sciences in general and natural products chemistry in particular. The overview of the progress and ongoing developments in broader areas of the natural products chemistry discipline, its role and concurrent economic and scientific implications, contemporary objectives, future prospects as well as impending goals are also outlined. A look at the natural products chemistry in providing scientific progress in various disciplines is also deliberated upon.

Keywords: Emerging trends, Natural products chemistry, Perspective, Prospects.

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1. Introduction: Sources, Impacts, Scope, and Outreach

An unprecedented revitalization has been taking place in the interest for natural products, and natural product's chemistry with their impact on various fields of scientific knowledge, technical advancements, and the economic activity. The thrust has been through a revival after the near loss of appeal for the subject. The decline of interests due to lack of prioritization, non-availability of precise tools and techniques with resulting inhibition, lack of interest, unavailability of upgraded analytical tools, and lack of wider academic and industrial programs along with the poor financial resources for advancements and research and developmental opportunities for new discoveries and applications impacted the (i) advancement of knowledge in understanding of physical and biological science avenues and its interrelation of wider disciplines with economic impacts, (ii) progression of technological advancements, especially in analytical, biotechnical, and pharmaceutical domains, (iii) importance, outreach, and the discipline's role as a tool of modern research into chemical sciences for its broader applications, and (iv) later advances in mechanistic of natural world's biotic and abiotic processes, environment and ecosystems with their natural products, metabolites, and the involved chemistries impacted the discipline. The natural products and its chemistries understanding led approaches and analyses in purifications, characterization, structure determination, functions, inter-relational chemical and metabolic dynamics as well as

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