



**The Chemistry of the *p*-Block Elements: Syntheses, Reactions and Applications.** Anil J. Elias. Universities Press (India) Pvt. Ltd, 3-6-747/1/A and 3-6-754/1, Himayatnagar, Hyderabad 500 029. 2019. xxiii + 624 pages. Price: Rs 1095.

The ever burgeoning 'old' field of main group chemistry which developed primarily as exploratory synthetic and reactivity chemistry of the main group elements has seen innumerable applications in a variety of fields during the past few decades. In recent years, the developments in this field have been quite rapid. The painstaking efforts made by Anil J. Elias over a 5+ year period culminated in a textbook on the chemistry of elements of the main group, in particular those belonging to groups 13–18.

Most traditional textbooks on main group elements provide an exhaustive amount of information on the chemistry of main group elements and their compounds. Almost always, chemistry of the main group elements is treated in several texts in a very 'descriptive' manner. Additionally, these texts have not kept pace with major developments that have taken place in main group chemistry in recent years, perhaps due to the rapidity with which applications have emerged for their compounds. One notable example where main group chemistry has made a big resurgence by way of 'modern' applications is in the field of materials science in recent years. Due to these issues, most texts on main group chemistry fail to attract and/or retain the interest of the reader/student for a long time. Elias' book is somewhat of a shift from this tradition. It grabs the attention of the reader/student while going through the pages by way of short anecdotes, industrial significance of the elements/com-

pounds, interesting pertinent applications without compromising on the essence of the chemistry of the main group elements. Additionally, I found that this text makes the reader more and more inquisitive to learn more about the chemistry since it is treated in a very apt and concise manner. Several applications of the main group elements and their compounds have also been included which makes reading very interesting. Some of the special features of this book include discussions on a rather controversial topic, i.e. d-orbital participation in main group compounds, anecdotes from a historical perspective, stories of Nobel Laureates, solved concept-based questions at the end of each chapter, several recent findings such as halogen bonds and applications of main group element compounds in the field of materials science. At the end of each chapter, for those interested in knowing more, supplementary reading material in the form of literature references have been included. Citations as recent as 2017 have been included which means that this text is the most updated in terms of the developments that have taken place in this field.

The book is comprised of 15 chapters, an appendix on solutions to end of chapter problems and exercises, and an index. Chapter one provides an overview of the significance of compounds of the *p*-block elements and major discoveries made in this field. Structure and bonding aspects of compounds of *p*-block elements have been collected in chapter two. Chapters 3 through 15 describe the chemistry of the elements of groups 13 to 18. At the end of each chapter, few multiple choice questions with answers, problems and exercises and references for supplementary reading have been included. Each chapter is quite nicely organized with just about the required amount of information on the chemistry of these elements.

The occurrence of a few 'typos' here and there in the text detracted somewhat from my first impression. While annoying, these 'typos' and also non-inclusion of illustrations in boxes, which I found in a few other texts to be especially attractive, catching the attention of the reader, and also useful, did not present any unresolvable ambiguities, and were for most part obvious.

This book demands a place in every library of a university offering science courses. Based on the material covered,

readability, and interest value to a wider cross section of chemists, this textbook is a worthy addition to the personal library of any undergraduate or postgraduate student and teachers teaching chemistry courses.

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