plasma mediated VG techniques have been added to the already existing techniques of chemical and electrochemical derivatization. The VGTs which are until now available, allow the derivatization to volatile species of a significant number of elements:

Be, N, F, Si, P, S, Cl, Sc, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Ga, Ge, As, Se, Br, Y, Mo, Ru, Rh, Pd, Ag, Cd, In, Sn, Sb, Te, I, Lanthanoids (except Pm), W, Os, Ir, Pt, Au, Hg, Tl, Pb and Bi.

In spite of numerous applications, very few efforts have focused on understanding the fundamental processes governing the derivatization reactions associated with the various VGTs. Sources of information unfortunately remain mostly fragmented in many papers published across a spectrum of scientific journals.

From these considerations the stimulus was born to bring together in a single work the existing information on the fundamental aspects of VGTs. The results of this effort are reported in a new book, *Vapor Generation Techniques for Trace Element Analysis: Fundamental Aspects*. (Elsevier, 2022)

The book is devoted to a comprehensive coverage of the fundamental aspects of VGTs, encompassing methodologies ranging from the classical chemical approaches to the most recent frontiers and presents a thorough overview and critical discussion of the state-of-the-art of knowledge of the mechanisms that control the generation of volatile derivatives and their atomization/detection by atomic spectrometry.

Recently, the use of CVG techniques, in particular those using aqueous boranes, is being increasingly replaced with other greener techniques, in particular photochemical VG. This is due to the lower use of reactants, fewer interfering effects, and the possibility of derivatizing new elements that are inactive or difficult to derivatize by CVG techniques. Nevertheless, the fundamental studies on CVG with aqueous boranes have contributed not only to improve the applicative aspects of CVG but they also represent a contribution to the understanding of the chemistry of aqueous boranes.

Some aspects of CVG still remain controversial, for example the role played by some additives and interferents. As well, greater efforts must be directed to the identification of many volatile derivatives of noble and transition metals, which hinders further advances in the understanding of the mechanisms governing CVG and in general that of VGTs.

https://iupac.org/project/2007-041-1-500/

Alessandro D'Ulivo <alessandro.dulivo@pi.iccom.cnr.it> C.N.R., Institute of Chemistry of Organometallic Compounds, Pisa, Italy

IUPAC Provisional Recommendations

Provisional Recommendations are preliminary drafts of IUPAC recommendations. These drafts encompass topics including terminology, nomenclature, and symbols. Following approval, the final recommendations are published in IUPAC's journal *Pure and Applied Chemistry* (PAC) or in IUPAC books. During the commentary period for Provisional Recommendations, interested parties are encouraged to suggest revisions to the recommendation's author. https://iupac.org/recommendations/under-review-by-the-public/

Definition of the Pnictogen Bond

This recommendation proposes a definition for the term "pnictogen bond": the term pnictogen bond designates a subset of the attractive interactions between an electrophilic region on a pnictogen atom in a molecular entity and a nucleophilic region in another, or the same, molecular entity.

Corresponding Author: Giuseppe Resnati <giuseppe.resnati@polimi.it>

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