# Ionic and Molecular Imprinting Technology in the development of chemical sensors

Maria Del Pilar Taboada Sotomayor[1,2].

[1] Institute of Chemistry, Department of Analytical Chemistry, State University of São Paulo (UNESP), 14801-970 Araraquara, SP, Brazil.

[2] National Institute for Alternative Technologies of Detection, Toxicological Evaluation & Removal of Micropollutants and Radioactives (INCT-DATREM), Araraquara, SP, Brazil

**Abstract**: Imprinting technology has become one of the most effective techniques in developing biomimetic materials[1] and, within these approaches, ionic and molecularly imprinted polymers (IIP and MIP) have proven their potential in synthetic recognition (Figure 1). Their advantages, when compared to biological material (like enzymes and antibodies), include high chemical and thermal stability, easy preparation, low cost and proven stability in long-term storage[2]. Additionally, these materials present many uses, from the preparation of samples, to Solid Phase Extraction (SPE), High Performance Liquid Chromatography (HPLC) and like layer recognition in sensors, that will be the focus addressed in this lecture. Thus, will be describe the recent advances carried out in this research group in relation to the development of electrochemical sensors for ions such as $Cd^{2+}$ and $Pb^{2+}$, and several molecules of clinical, food and environmental interest, using highly porous and hybrid materials that allow an efficient transfer of mass that is essential for application in sensing phases, allowing to show the great potential of these highly selective materials in the construction of electrochemical devices.

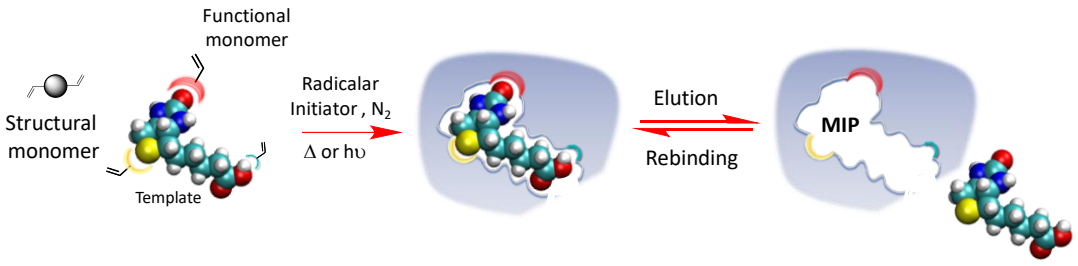


**Figure 1:** Schematic representation of the formation of a MIP by radical polymerization to biotin in its lower energy conformational state. **Source:** Own authorship

**Acknowledgments:** CNPq, FAPESP, FONDECYT

## References:

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* **e-mail:** m.sotomayor@unesp.br