



SYNTHESIS AND PURIFICATION OF SCHIFF BASE N,N-BIS(SALICYLALDEHYDE)-ETILENODIAMINE: An analysis of the economic viability of its production.

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Introduction: The purchase of reagents directed to scientific studies is always a step that demands attention given the availability of resources. In addition, the economic lot (minimum purchase) may be much higher than the desired amount of acquisition, inferring on overdue products. The possibility of synthesizing a compound when it is relatively simple and feasible may reduce the production costs of the desired product. An example of a chemical compound of significant added value and ease of production are the Schiff bases. The Schiff bases are compounds analogous to the ketones or aldehydes and have the presence of an imine group in their structure. The application of this group of compounds is very broad, due to its pharmacological and medicinal properties. Further, they can be used as corrosion inhibitors and adsorbents. More specifically, N, N-bis (salicylaldehyde) -ethylenediamine is marketed for R \$ 35.10 / g. Taking into account these factors, the objective of this article was to compare the cost of the Schiff N, N-bis (salicylaldehyde) -ethylenediamine base with that of commercial origin. **Methods:** For the synthesis of the base, the salicylaldehyde was solubilized in methanol and the ethylenediamine was added dropwise. It is noteworthy that this process was carried out in an exhaust hood since it is an exothermic reaction, and the boiling point of methanol is low. After the synthesis step, the compound was purified with methanol through the soxhlet extractor. The final product was characterized by Fourier Transform Infrared Spectroscopy (FT-IR) and Nuclear Magnetic Resonance (NMR). In order to calculate the productive cost of the base, we considered the expenses with the necessary reagents, water and electricity. **Results:** The product generated had a yellow color, a solid appearance and a yield of 85.5%. The results obtained by the FT-IR and NMR spectra confirmed the synthesis of the compound in question. The Schiff base presented the productive cost of R \$ 5.31 / g. **Conclusion:** Considering the high synthetic yield of the base and cost of its production, it is concluded that it is the synthesis and purification of N-bis (salicylaldehyde) -ethylenediamine is economically feasible on a bench scale for several applications, some of which have been study object of the research group.

Financial support / Acknowledgments: To the UNIVALI and the Fund for Research Support (FAP - UNIVALI) for the financial assistance; to the course of Chemical Engineering of CTTMar; the Laboratory of Organic Synthesis and Prof. Dr. Rogério Corrêa for the physical and technical support.