COST EFFECTIVE IVORY PAPER CHROMATOGRAPHY TECHNIQUE FOR QUALITATIVE ANALYSIS OF CHEMICAL SUBSTANCES

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Abstract

The technique of chromatography has undergone tremendous amount of modifications since its discovery. Almost any kind of a given chemical sample can now be separated using this technique. Paper chromatography is one of the widely utilized physiochemical separation method for both, inorganic and organic substances. Traditionally, Paper chromatography technique involved the use of upmarket filter papers of various types, deployed according to the need of the chemist. The focus of my current research is to demonstrate how a sheet of Ivory paper can be utilized for performing paper chromatography. Ivory paper has conventionally found its use in Charcoal and water colour paintings, but its use in chromatography largely remains unexplored. Ivory paper is known for its evenness and fineness of its grains. Ivory is very dense; its pores are close and compact. Ivory sheets of various thicknesses are easily available in the market at very low costs. The Absence of any coating on an Ivory sheet results in faster movement of solvent from the starting line and therefore helps in attaining an expeditious equilibrium and sharper separation of the solute from the solvent. Moreover, it has better defined bands, better and faster staining efficiency, higher sensitivity and better handling (due to stronger sheets). Furthermore, the availability of Ivory sheets in varied thicknesses even makes it a good candidate for conducting quantitative analysis as well as paper electrophoresis.

Image

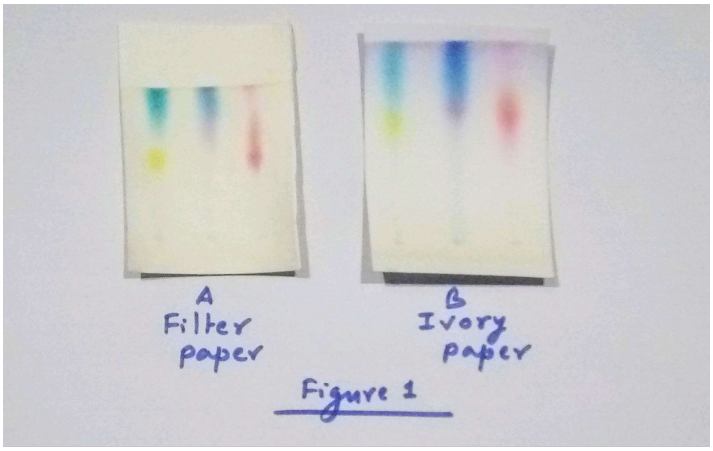


Figure: The left Stationary phase is that of Filter Paper (A) and the Right one is of Ivory Sheet (B). The mobile phase had a faster movement in 'B' as compared to 'A'. One can observe a better and sharper separation of Chromatograms in 'B' as compared to 'A'.

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Biography

Dr. Seema Garg is an Associate Professor in the Department of Chemistry, at Samrat Prithviraj Chauhan Government College, Ajmer, Rajasthan, India. She completed her PhD in Pharmaceutical Chemistry in 1993 from Gujarat University, India. She has a teaching experience of 22 years. In 2019, she was conferred with the honorary Excellence in Teaching award from her Institute. Dr. Garg has her expertise in pyrimidine synthesis and drug design. She recently patented her research titled "A process for preparation of herbal gelatine" which has wide ranging industrial applications and may prove to be pathbreaking in gelatine synthesis.

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