

THE LANGMUIR PROPERTIES OF ORGANIC GAS SENSOR MATERIALS

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Abstract

Langmuir-Blodgett Film Deposition Technique [1] is a suitable method to fabricate an organic ultra-thin Langmuir-Blodgett (LB) films which can be used as a gas sensor. Organic materials for gas sensing applications attract many researchers attention because of their easy sythesis, their high control of molecular architecture and their low cost. The first step for the investigation of an organic gas sensor studies their Langmuir properties which shows how to form the molecules on the water surface.

A group of poly(methylmethacrylate) (PMMA) has been synthesised using Emulsifier-Free Emulsion Polymerization method [2]. The chemical structure of PMMA is shown in Figure 1 is choosen as an LB gas sensor material. The isotherm graphs for each materials have been taken using alternate layer Langmuir-Blodgett trough. The Langmuir properties of these materials will be discussed in this work.

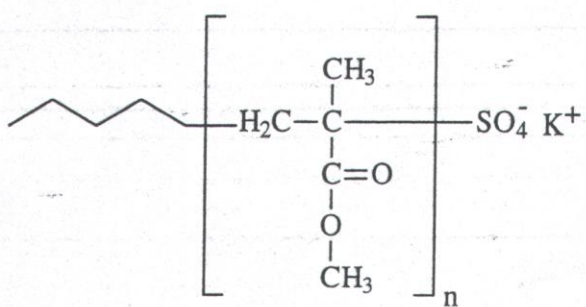


Figure 1: The chemical structure of poly(methylmethacrylate).

[1]- R. Çapan, "Langmuir-Blodgett Thin Film Technology (in Turkish)", Fizik, in press 2001, V:16, The Turkish Physics Foundation Publications.

[2]- T. Tanrısever, O. Okay, İ. Ç. Sönmezoğlu, J. Appl. Polymer Sci. 1996, Vol 61, Iss 3, pp 485-493.

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