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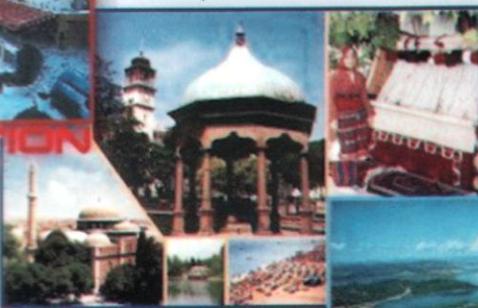


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INVESTIGATING THE BEHAVIOUR OF POLY(METHYL METHACRYLATE) POLYMER (PMMA) MONOLAYERS AT THE AIR-WATER INTERFACE USING LANGMUIR ISOTHERMS

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Several poly(methyl methacrylate) (PMMA) molecules with various chain numbers has been synthesised using Emulsifier-free emulsion polymerization method. Langmuir-Blodgett thin film technique is an excellent method to investigate the surface behaviours of organic monolayers at the air-water interface. In this study, PMMA molecules have been studied at the air-water interface using Langmuir-Blodgett thin film method. Area per molecule for several PMMA molecules is found to be between 0.299 ± 0.01 and 0.976 ± 0.01 nm². It is also found that first surface pressure-area graph for the first compressing of the monolayer at the water surface is different than the surface pressure-area graph obtained after a decompression of the monolayer. Isotherm graphs show that long alkyl chain groups of these molecules may cause aggregation behaviours on water surface and a model for the behaviour of PMMA molecules on the air-water interface due to surface interactions has been proposed.

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