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**Evaluation of the end-to-end distance of chains solubilized in a polymer Langmuir monolayer by atomic force microscopy** JIRO KUMAKI, Yamagata Univ — Polymer chain packing in two-dimensional (2D) condense state is still not well understood. Direct observation of the chain packing in a monolayer should be the best way to understand this, however, it is still difficult even using atomic force microscopy (AFM) except for extraordinarily thick polymers. In this study, we successfully evaluate the end-to-end distance of the chains in a Langmuir-Blodgett monolayer composed of a conventional polymer by AFM. We successfully solubilized a small amount of a polystyrene-*b*-poly(methyl methacrylate)-*b*-polystyrene (PS-*b*-PMMA-*b*-PS) triblock copolymer in a PMMA Langmuir monolayer with the PS blocks being condensed as single-PS-block particles which could be used as a probe of the position of the chain ends. The evaluated end-to-end distance was 2.5 times longer than that of the 2D ideal chain, indicating the chains in the 2D monolayer are not strongly segregated but interpenetrates into other chains.

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