

Abstract Submitted  
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**Interfacial Properties of Thin Films of Poly(vinyl ether)s with Architectural Design in Water** YUKARI ODA, NOZOMI ITAGAKI, SIN SUGIMOTO, DAISUKE KAWAGUCHI, HISAO MATSUNO, KEIJI TANAKA, Kyushu University — Precise design of primary structure and architecture of polymers leads to the well-defined structure, unique physical properties, and excellent functions not only in the bulk but also at the interfaces. We here constructed functional polymer interfaces in water based on the architectural design of poly(vinyl ether)s with oxyethylene side-chains (POEVE). A branched polymer with POEVE parts was preferentially segregated at the air interface in the matrix of poly(methyl methacrylate). As an alternative way to prepare the POEVE surface, the cross-linked hydrogel thin films were prepared. The moduli of the hydrogel films near the water interfaces, which were examined by force-distance curve measurements using atomic force microscopy, were greatly sensitive to the cross-linking density of the polymers. Diffuse interfaces of POEVE chains at the water interface make it possible to prevent the platelet adhesion on the films.

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