

Abstract Submitted  
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**Viscosity of poly(methylmethacrylate) films on silicon<sup>1</sup>** OPHELIA K. TSUI, RANXING N. LI, Department of Physics and Materials Science and Engineering Division, Boston University, DONGDONG PENG, Boston University — Previously we showed that the viscosity of polystyrene films on silicon decreased noticeably with decreasing film thickness when the film thickness was decreased below about 10 nm. Moreover, the result could be explained by using a two-layer model presuming a hydrodynamic coupling between a mobile interfacial layer, located at the top, and the remaining, bulk-like layer underneath it. In this experiment, we study the viscosity of poly(methylmethacrylate) (PMMA) films supported by silicon. Contrary to the result found of the polystyrene films, the viscosity of the PMMA films increases with decreasing film thickness. The two-layer model still applies, but the interfacial layer has to be assumed to be slow and located at the substrate interface, beneath the bulk-like layer.

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