

Abstract Submitted
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Interfacial Characterization of Contact in Aqueous Environments with a Quartz Crystal Microbalance DAVID A. BRASS, KENNETH R. SHULL, Northwestern University — Adhesion of a material to a surface in an aqueous environment requires the removal of a water layer coating the surface. The evolution of this water layer between a micron thick polymer membrane and a quartz crystal microbalance has been investigated. This quartz crystal microbalance is highly surface sensitive, allowing determination of the water thickness during membrane contact. To improve this sensitivity, the thin, polymer membrane is backed by an ambient air environment. The surface of the quartz crystal is coated with a gold layer that acts as an electrode. This same surface allows for surface modification through the grafting of thiol terminated poly(ethylene oxide) brushes. These brushes can also be established with a coating of poly(ethylene oxide-b-styrene) diblock copolymer micelles.

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