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Introduction of a novel surface plasmon resonance imaging method for use in the study of quantitative kinetic surface interactions SCOTT ALLEN, OLEH TANCHAK, JOHN DUTCHER, University of Guelph — The surface plasmon resonance (SPR) phenomenon is widely used as a surface sensitive probe of biomolecular surface interactions. SPR imaging (SPRi) is an experimental mode that takes advantage of the SPR phenomenon to directly visualize nanoscopic changes to surfaces using simple optics and a CCD camera. SPRi, performed at a fixed angle of incidence, enables one to study association, dissociation and degradation processes in a multi-arrayed format without the need for fluorescent tags. A discussion of specific challenges associated with performing kinetic measurements at a fixed angle of incidence will be presented. A novel SPRi method that enables one to perform reproducible quantitative kinetic measurements will be introduced, along with experimental examples of the use of this technique.

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