

Title: Characterization of Functional Surface Modifications in Medical Devices

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Abstract:

Surface modifications provide important functionality for medical devices, such as increased lubricity, improved hemocompatibility, and localized drug delivery. Characterization of these modifications is essential to understanding and controlling their interactions with a patient. Here, the development and characterization of new functional surface modifications for medical devices is reported with several examples shown. In particular, the spatial-chemical distribution and functional testing of a new biomimicry surface modification will be highlighted in combination with key clinical results. A range of analytical techniques (SEM/EDS, TOF-SIMS, XPS, and Raman spectroscopy) and biochemical methods and assays (blood loop model, TAT, etc.) will be discussed.

