**233c Surface Modification of Poly(L-Lactide) Films to Study the Effect of Surface Chemical Functionality on Fibroblast Adhesion**

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Poly(L-lactide) (PLA) has been used as a bioabsorbable material in the medical and pharmaceutical fields. The unmodified hydrophobic PLA surface generally has low cell affinity; thus, modification of PLA film surface properties is necessary to improve its use as a biomaterial. Our surface modification method involved the use of photografting and typical wet chemistry to create grafted layers containing different chemical functionalities. The PLA film was solvent cast and poly(acrylic acid) was grafted to the film surfaces using a UV-induced photografting procedure. The carboxylic acid functionality of the poly(acrylic acid) layer was activated by reacting with water soluble carbodiimide (WSC). This activated complex was then reacted with selected compounds to generate layers containing acid, amide, alcohol, and amine functionalities on the PLA film surface. The film surface resulting from each reaction step was analyzed using Attenuated Total Reflectance Fourier Transform Infrared (ATR-FTIR) spectroscopy and contact angle goniometry. Water contact angle of the neat PLA film was about 82°. Previously, it was shown that the PLA film grafted with poly(acrylic acid) and poly(acrylamide) yielded a water contact angles of 40° and 15°, respectively. MC3T3 fibroblasts were cultured on unmodified and surface-modified PLA films to study the effect of surface chemical functionality on cell adhesion, proliferation, and viability.