

Abstract Submitted
for the MAR05 Meeting of
The American Physical Society

Tailoring Protein and Cell Adsorption Using Surface-grafted Polymer Gradients RAJENDRA BHAT, JAN GENZER, Department of Chemical & Biomolecular Engineering, North Carolina State University, Raleigh, NC, BRYCE CHANEY, ANDREA LIEBMANN-VINSON, Biotherapy Group, Becton & Dickinson Technologies, RTP, NC — We report on tuning the adsorption of proteins and cells on surfaces using grafted polymer gradients. Specifically, we manipulated the amount of adsorbed fibronectin (FN) by adsorbing it onto surface-anchored poly (2-hydroxyethyl methacrylate) (PHEMA) with orthogonal variation of PHEMA molecular weight and grafting density. The amount of FN adsorbed on the surface decreased as molecular weight and/or grafting density of the PHEMA increased. Incubating cells that recognize FN resulted in cell density gradient on PHEMA gradient surface. The number of adsorbed cells decreased as FN concentration decreased along PHEMA gradient.

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Date submitted: 21 Mar 2013

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