

SALOPLASTIC POLYELECTROLYTE COMPLEXES AS BIOMATERIALS Marie Z. Markarian, Haifa H. Hariri, Rabih F. Shamoun, and Joseph B. Schlenoff* , Department of Chemistry and Biochemistry, The Florida State University, Tallahassee, Florida 32306

Tuning of physical and chemical properties of hydrogels enables their applications as biomaterials and implants. We present the preparation of saloplastic complexes by solution mixing of oppositely charged polyelectrolytes in the presence of salts. The composition and physical properties of the materials were controlled by the molecular weight of the polymers, their monomer ratio, and the ionic strength of the solutions. Various characterization methods such as NMR, microscopy, neutron scattering and mechanical testing were used to assess the properties of the nascent complexes and their behavior under varying solution conditions. These synthetic biomaterials present promising substitutes for cartilage and intervertebral discs.