Abstract Submitted for the TSF06 Meeting of The American Physical Society

Photo and Thermo Responsive Poly-N-isopropylacrylamide Gel J'NAE ZWASCHKA, TONG CAI¹, Department of Physics, University of North Texas, ANTONIO GARCIA, Harrington Department Bioengineering Arizona State University, MANUEL MARQUEZ², Research Center, Philip Morris USA, DEVENS GUST, SEAN VAIL³, Department of Chemistry and Biochemistry, Arizona State University, ZHIBING HU, Department of Physics, University of North Texas — Hydrogels composed with poly (N-isopropylacrylamide)-co-Spiropyran acrylamide (PNIPAM-co-SP) were studied for their photo and thermal responsive properties. A mixture of a certain amount of N-isopropylacrylamide monomers, spiropyran acrylamide, crosslinker N, N'-methylene-bis-acrylamide, and photo initiator in acetone/water solvent was irradiated by UV light to synthesize this PNIPAM-co-SP hydrogel. PNIPAM-co-SP hydrogel was then balanced in water for two days and its property measured by using UV-visible spectroscopy. It is found that the gel's size and charge may be altered using stimuli including light of different wavelengths and

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temperature.

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Date submitted: 26 Sep 2006 Electronic form version 1.4