Abstract Submitted
for the TSF07 Meeting of
The American Physical Society

The Study of Water's Interaction With PEG-DM hydrogels through T1 relaxation times JOSEPH MEIER, University of Dallas, JAMES MANEVAL, ERIN JEBLONSKI, Bucknell University — Polyethylene glycol(PEG), a hydrophilic polymer, is different then poly-propelene glycol(PPG) and polymethylene glycol(PMG) which are hydrophobic. Study of this difference was carried out by empirically determining how water interacts with PEG using a 600 MHz NMR spectrometer to measure T1 relaxation times of water with PEG-dimethacrylate(PEG-DM) hydrogels. The PEG-DM hydrogels were synthesized in a two part reaction involving attaching methacrylic acid to the two ends of the polymer, then cross-linking vinyl groups of the methacylic acid to form a linked matrix of all the PEG-DM molecules. The presentation will cover how the measurements were taken, what can be learned from the T1 relaxation times, and what future studies will entail.

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Date submitted: 01 Oct 2007 Electronic form version 1.4