

SEQUESTERING A BLISTER AGENT ANALOG IN POLYMER HYDROGELS

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Blister agents are chemical compounds that induce severe skin, eye and mucosal pain and irritation. This research focuses on sequestering a blistering agent analog, thioanisole in hydrogels. A series of polyHEMA, hydroxyethyl methacrylate hydrogels with tunable crosslinkers, ethylene glycol dimethacrylate (EGDMA), diethylene glycol dimethacrylate (Di-EGDMA), triethylene glycol dimethacrylate (Tri-EGDMA), tetraethylene glycol dimethacrylate (Tet-EGDMA) and neopentyl glycol dimethacrylate (NP-EGDMA) were synthesized by varying the mol % of each crosslinker. Crosslinkers were chosen to vary crosslink spacing. The absorption of thioanisole in methanol by these hydrogels was characterized with ultra-violet visible (UV-vis) spectroscopy. The network structures were characterized via differential scanning calorimetry (DSC).