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## POS-60 Polymer dynamics in a gel network: the effect of confinement (SMC Poster)

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The dynamics of polymer chains in confined environment are relevant in understanding diffusion of macromolecules in real systems such as biological cells. Macromolecular diffusion in cytoplasm exhibits a sharp reduction in diffusivity with increasing molecular weight; a sieving mechanism has been suggested for the same. We present pulsed field gradient NMR experimental studies of the diffusion of Polyethyleneglycol (PEG) in network-forming Agarose gels. The agarose gels are prepared by microfluidic methods that are thought to enhance the homogeneity of the network structure. The volume fraction of Agarose gel is used to control the network pore size, Rp, and the PEG molecular weight is used to vary the PEG radius of gyration Rg. Both are used to systematically vary the ratio Rg/Rp, and examine the polymer diffusivity as a function of this ratio.

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