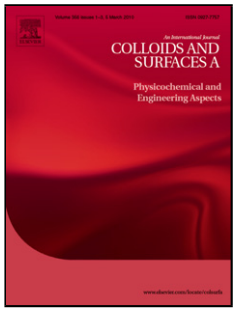

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Effect of Entanglements on Temperature Response of Gel Immobilized Microgel Photonic Crystals

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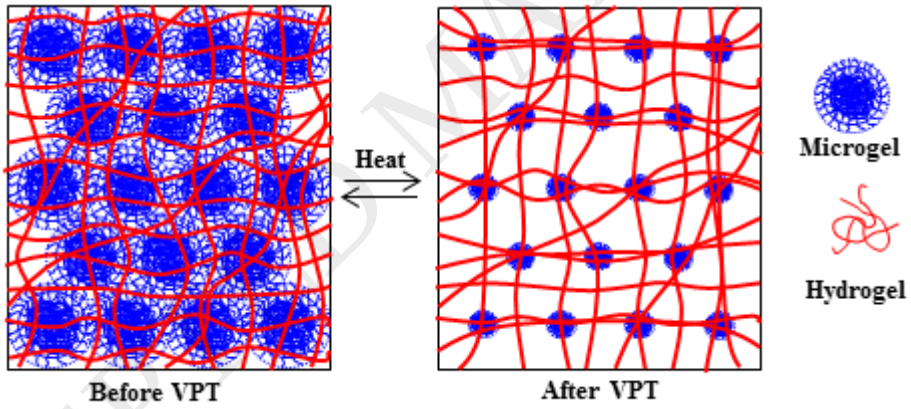
Graphical Abstract:



Abstract:

We report here, an evidence of entanglements between polymer chains of thermo-responsive microgels with the immobilizing hydrogel, by studying the temperature dependent dynamics of the microgel-hydrogel composite. The dynamics measurements show a decrease in amplitude of microgel thermal vibrations with an increase in temperature in contrast to the expected amplitude increase, confirming the binding between microgel and hydrogel through