Electronic Supplementary Material (ESI) for RSC Advances.

Supplementary Information to

Random Copolymers gels of *N*-isopropylacrylamide and *N*-ethylacrylamide: Effect of Synthesis Solvent Compositions on its Properties

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Elemental analysis

Elemental analysis of the dry gels is done on a VARIO EL cube machine (Elementar, Germany) under oxygen and helium using dynamic combustion method. The results are shown in Figure SI 1.

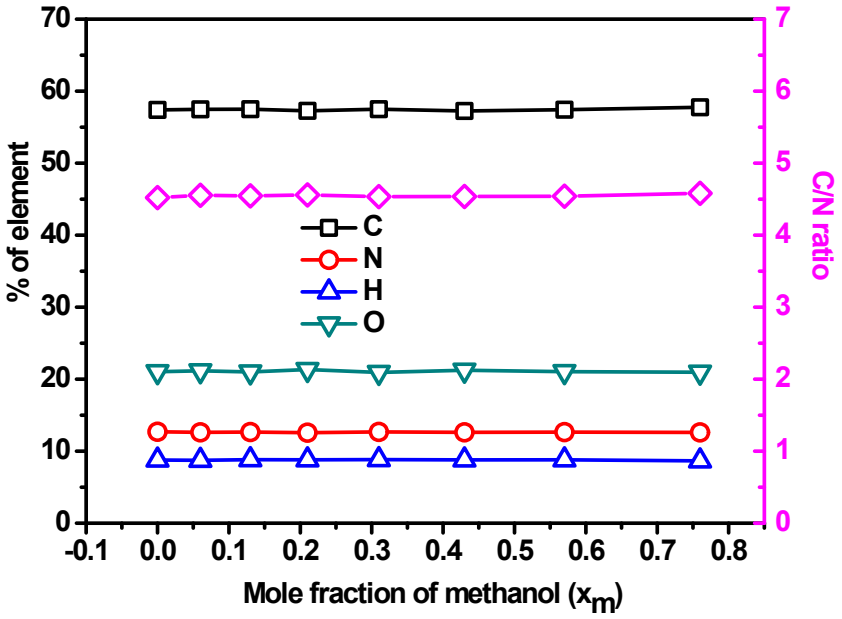

Figure SI1. Comparison of elemental analysis of different elements in the gels.

BET analysis.

BET analysis is done on ASAP 2020 analyzer (Micromeritics instrument) using freeze dried gels under liquid nitrogen at -195 °C. Prior to the analysis, the samples were evacuated at 250 °C for 4 h.

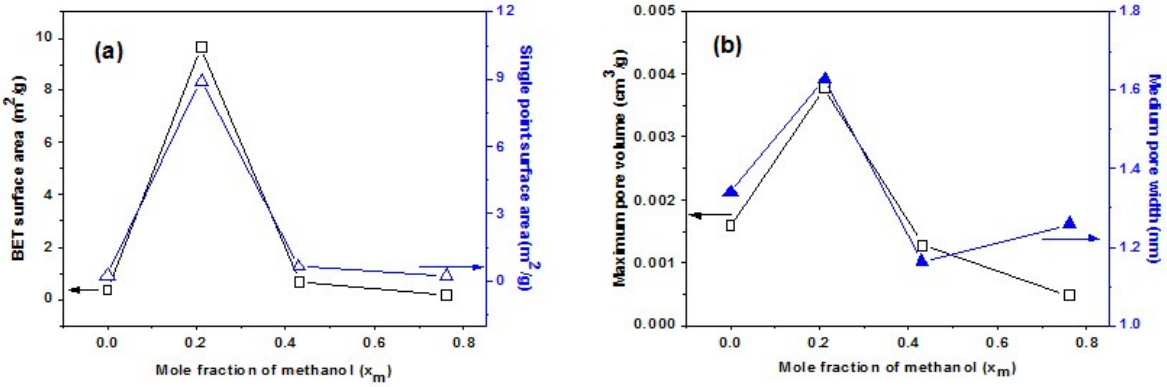

Figure SI2. Comparison of (a) BET surface area and (b) pore voume of the gels synthesized at different solvent compositions.

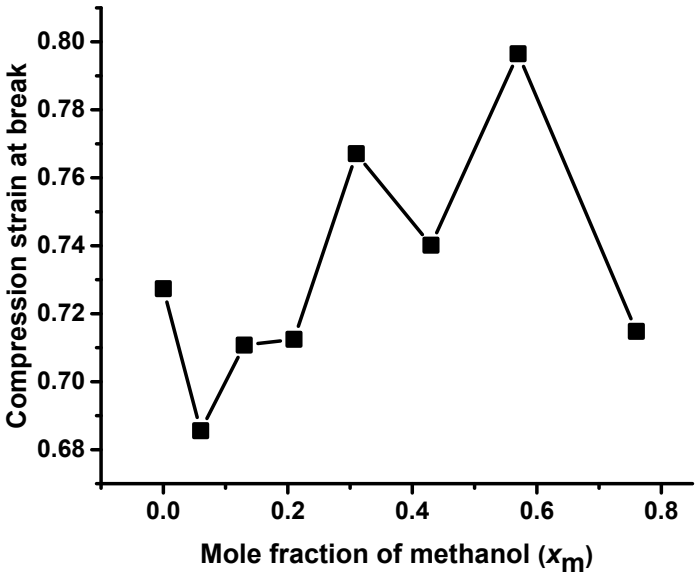

Figure SI3. Comparison of compression strain at break with x_m value.

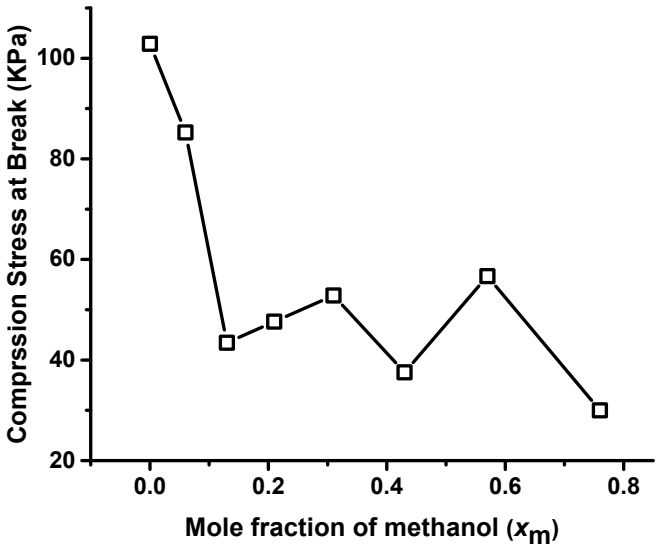

Figure SI4. Comparison of compression stress at break with x_m value.

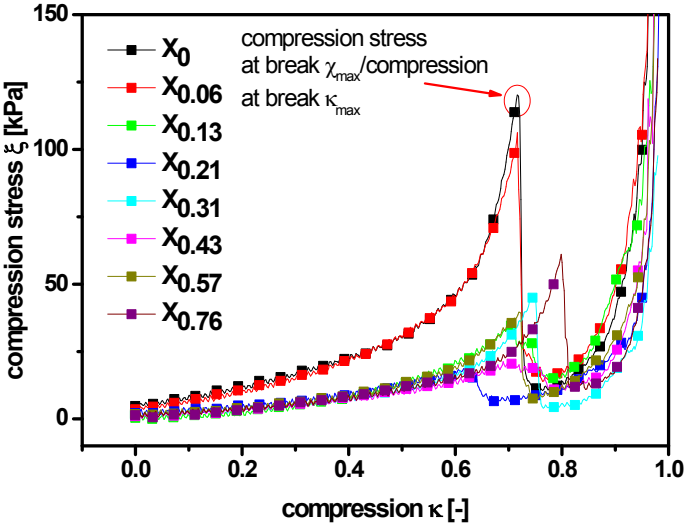

Fig. SI5. Compression strain of the gels as function of χ.

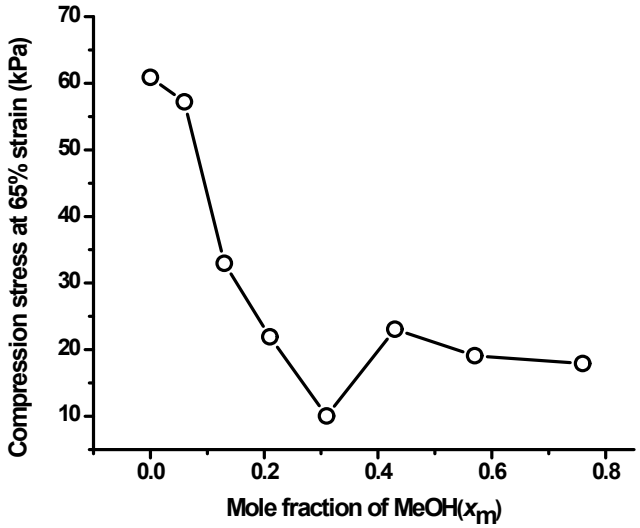

Figure SI6. Comparison of compression stress at at 65% strain with x_m value.