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Volume phase transition and corresponding change in composition of polymeric microgels. JANNA MINO, CHRISTIAN GUNDER, KIRIL STRELETZKY, Cleveland State University — Temperature sensitive polysaccharide microgels and parent amphiphilic polymer solution were studied in parallel with Dynamic (DLS) and Static Light Scattering (SLS) spectroscopies. The microgels showed a reversible volume phase transition which was accompanied by a significant change in microgel volume and composition. Coupling DLS and SLS techniques on microgels and polymer solutions allowed to deduce microgel size, structure, molecular weight and a relative change in microgel water content during the volume phase transition. It also allowed comparing controlled dewetting transition in microgels with corresponding phase transition in parent polymer solution. Light scattering findings were tested with SEM imaging.

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