Smart Starch-Poly(*N*-isopropylacrylamide) Hybrid Microgels: Synthesis, Structure, and Swelling Behavior

Authors: Daiani C. Leite,[†] Sergej Kakorin,[‡] Yvonne Hertle,[‡] Thomas Hellweg,[‡] and Nádya P. da Silveira[*†]

[†]Institute of Chemistry, Universidade Federal do Rio Grande do Sul, Av. Bento Gonçalves 9500, 91501 - 970 Porto Alegre, Brazil

[‡]Faculty of Chemistry, Universität Bielefeld, Universitätstrasse 25, 33615 Bielefeld, Germany

*Corresponding Author

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Figure S1. ^{1}H NMR spectrum of SNP-*co*-p(NIPAM), sample NIPAM(1):SNP(1)SDS. Figure S2. SAXS measurements of hybrid microgels (NIPAM:SNP ratio 1:1) above volume transition temperature (45 °C). Figure S3. SAXS measurements of hybrid microgels (NIPAM:SNP ratio 1:2) above volume transition temperature (45 °C). Table S1. Parameters according to SAXS fit data obtained for samples at 45 °C.

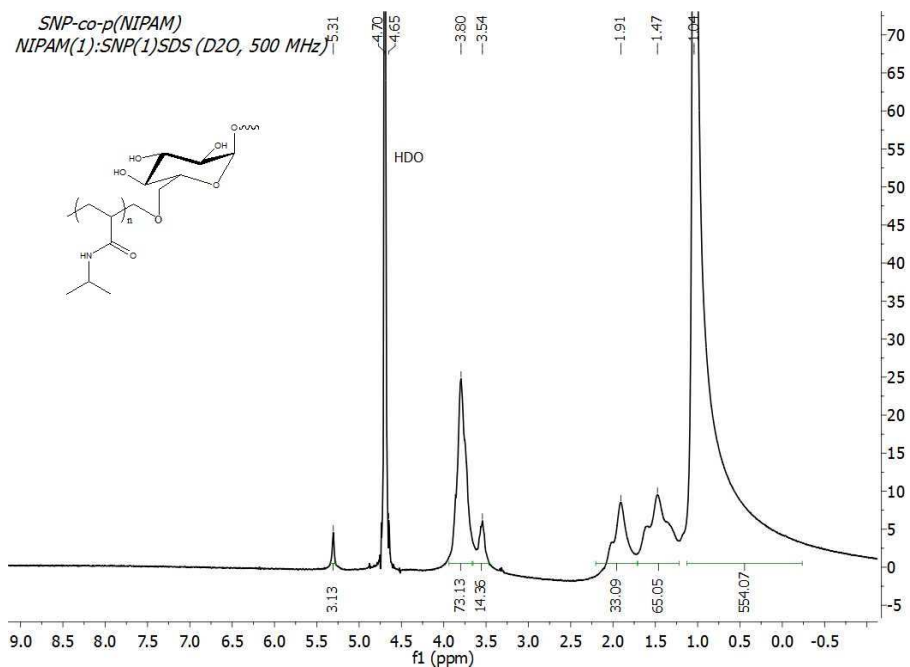**ASSOCIATED CONTENT**

Supporting Information – SI

Figure S1. ^{1}H NMR spectrum of SNP-*co*-p(NIPAM), sample NIPAM(1):SNP(1)SDS. The reported chemical structure is a simple proposal, since it is a statistical polymerization and hydroxyl groups attached to carbons C2 and C3 are also reactive. In addition, starch polymers chemical structure has been omitted.
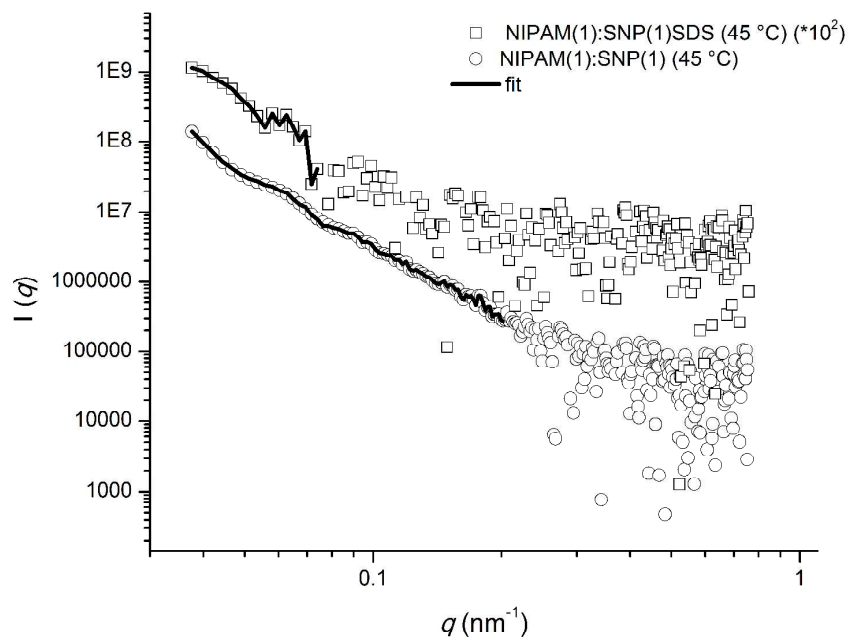
Figure S2. SAXS measurements of hybrid microgels (NIPAM:SNP ratio 1:1) above volume transition temperature (45 °C). The curves could not be well fitted due to the poor signal to noise ratio.

Figure S3. SAXS measurements of hybrid microgels (NIPAM:SNP ratio 1:2) above volume transition temperature (45 °C). The curves could not be well fitted due to the poor signal to noise ratio.
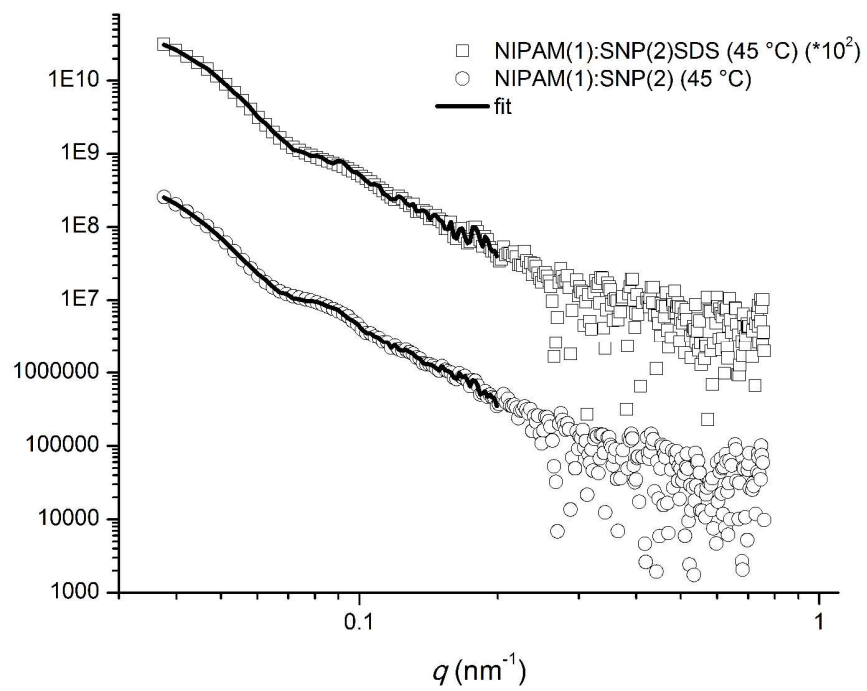
Table S1. Parameters according to SAXS fit data obtained for samples at 45 °C

Sample	Fit (45 °C)	Δη	μ	Chi-square/10^{-3}
NIPAM(1):SNP(0.5)	Yes	1.03308	1.14196	3.4
NIPAM(1):SNP(0.5)SDS	Yes	0.99296	1.05647	2.9
NIPAM(1):SNP(1)	Yes*	0.48000	0.58000	> 100
NIPAM(1):SNP(1)SDS	Yes*	0.97875	0.35206	60.9
NIPAM(1):SNP(2)	Yes*	1.15638	0.56263	59.6
NIPAM(1):SNP(2)SDS	Yes*	1.08780	0.80877	40.1

 * Mid and low-q range