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Study of the Properties of Urethane-Siloxane Copolymers based on Poly(propylene oxide)-*b*-poly(dimethylsiloxane)-*b*-poly(propylene oxide) Soft Segments

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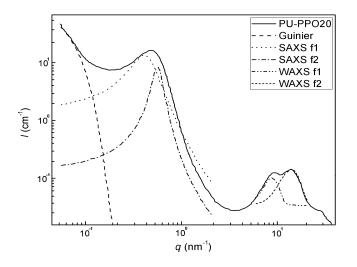


Figure S1. Example of fitting of the peaks

It have been possible to fit five functions: Guinier, two Lorentz in SAXS and two Gauss in WAXS regions. An example fit is in the Figure S1 and relevant parameters and values, their meaning and behavior with increasing hard segment content are in the following tables (Table S1 and Table S2).

| Sample | 10 | Rg | A1 | C1 | T1 | A2 | C2 | T2 | RS | H1 | P1 | HW1 | H2 | P2 | HW2 | RW | H1/2 |
|--------------|------|------|------|------|------|------|------|------|------|--------|------|------|-------|------|------|------|------|
| PU- PPO10 | 65.8 | 28.9 | 7.92 | 0.35 | 0.14 | 8.22 | 0.53 | 0.11 | 8.2 | 0.0689 | 8.42 | 1.25 | 0.156 | 13.0 | 3.66 | 3.48 | 0.44 |
| PU- PPO20 | 62.9 | 29.6 | 11.1 | 0.37 | 0.14 | 7.00 | 0.52 | 0.08 | 6.9 | 0.0716 | 8.53 | 1.42 | 0.115 | 13.7 | 2.79 | 0.74 | 0.62 |
| PU- PPO40 | 65.2 | 32.0 | 20.2 | 0.43 | 0.09 | 2.93 | 0.58 | 0.10 | 3.2 | 0.0490 | 8.51 | 1.11 | 0.127 | 14.0 | 2.74 | 1.51 | 0.39 |
| PU- PPO50 | 53.2 | 27.7 | 23.6 | 0.37 | 0.09 | 5.42 | 0.55 | 0.08 | 10.2 | 0.0419 | 8.40 | 1.13 | 0.123 | 14.0 | 2.81 | 1.85 | 0.34 |
| PU- PPO60 | 89.0 | 30.4 | 20.7 | 0.37 | 0.09 | 4.26 | 0.53 | 0.10 | 3.5 | 0.0311 | 8.41 | 0.92 | 0.127 | 14.2 | 2.73 | 2.96 | 0.24 |

Table S1. SAXS and WAXS results of the PURs

| The | The meaning | The behavior with increasing hard segment content | | | | | |
|------------|--------------------------------|---|--|--|--|--|--|
| parameters | i në meaning | | | | | | |
| ΙΟ | Zero intensity | unclear | | | | | |
| Rq | Radius of gyration | unclear | | | | | |
| A1 | Amplitude of the 1st SAXS peak | clearly grows | | | | | |
| C1 | Position of the 1st SAXS peak | roughly same $D \sim 17 \text{ nm}$ | | | | | |
| T1 | Thickness of the 1st SAXS peak | roughly same | | | | | |
| A2 | Amplitude of the 2nd SAXS peak | slightly decreases | | | | | |
| C2 | Position of the 2nd SAXS peak | roughly same $D \sim 11 \text{ nm}$ | | | | | |
| T2 | Thickness of the 2nd SAXS peak | roughly same | | | | | |
| RS | Quality of the SAXS fit | | | | | | |
| H1 | Amplitude of the 1st WAXS peak | clearly decreases | | | | | |
| P1 | Position of the 1st WAXS peak | roughly same $D \sim 0.74$ nm | | | | | |
| HW1 | Thickness of the 1st WAXS peak | sharpen | | | | | |
| H2 | Amplitude of the 2nd WAXS peak | roughly same | | | | | |
| P2 | Position of the 2nd WAXS peak | slightly increases $D \sim 0.44-0.48$ nm | | | | | |
| HW2 | Thickness of the 2nd WAXS peak | roughly same | | | | | |
| RS | Quality of the WAXS fit | | | | | | |

 Table S2. The parameters, their meaning and behavior with increasing hard segment

 content in the PURs