

## Supplemental Information

# Influence of Secondary Structure and Hydrogen- Bonding Arrangement on the Mechanical Properties of Peptidic-Polyurea Hybrids

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**Table S1.** Peptidic-polyurea synthetic quantities.

| <b>Peptidic PU</b> | <b>Peptidic triblock<br/>grams (mmol)</b> | <b>Excess PDMS<br/>grams (mmol)</b> | <b>HDI<br/>grams (mmol)</b> |
|--------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| <b>PDMS-HDI</b>    | -                                         | 5.0 (2.0)                           | 0.34 (2.0)                  |
| <b>PBLA5-5</b>     | 0.75 (0.16)                               | 5.33 (1.94)                         | 0.35 (2.1)                  |
| <b>PBLA5-10</b>    | 1.5 (0.31)                                | 4.59 (1.68)                         | 0.33 (1.99)                 |
| <b>PBLA5-20</b>    | 3.0 (0.63)                                | 3.13 (1.14)                         | 0.29 (1.77)                 |
| <b>PBLA20-5</b>    | 0.5 (0.05)                                | 6.6 (2.4)                           | 0.41 (2.45)                 |
| <b>PBLA20-10</b>   | 0.75 (0.07)                               | 4.6 (1.67)                          | 0.29 (1.74)                 |
| <b>PBLA20-20</b>   | 1.75 (0.16)                               | 4.5 (1.65)                          | 0.3 (1.81)                  |
| <b>PZLY5-5</b>     | 0.5 (0.1)                                 | 4.1 (1.5)                           | 0.27 (1.6)                  |
| <b>PZLY5-10</b>    | 1.0 (0.2)                                 | 3.6 (1.3)                           | 0.25 (1.5)                  |
| <b>PZLY5-20</b>    | 2.0 (0.4)                                 | 2.7 (1.0)                           | 0.22 (1.4)                  |
| <b>PZLY20-5</b>    | 0.5 (0.04)                                | 7.0 (2.6)                           | 0.4 (2.64)                  |
| <b>PZLY20-10</b>   | 0.5 (0.04)                                | 3.3 (1.2)                           | 0.2 (1.24)                  |
| <b>PZLY20-20</b>   | 1.5 (0.1)                                 | 4.2 (1.5)                           | 0.3 (1.6)                   |

Synthetic details for the peptidic polyureas are provided within the manuscript.