Electronic Supplementary Information

# Molecular Design of Environmentally Benign Segmented Polyurethane(urea)s: Effect of the Hard Segment Component on the Molecular Aggregation States and Biodegradation Behavior

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1. WAXD profiles of the SPU(U)s

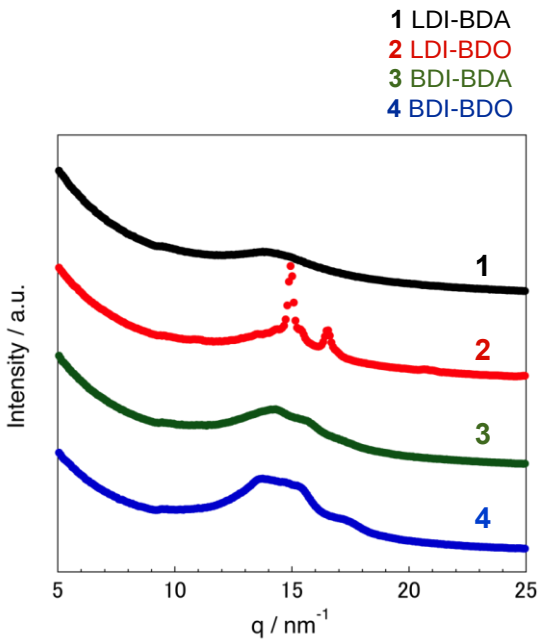


**Fig. S1** Wide angle X-ray diffraction (WAXD) profiles of the SPU(U)s. **1** (black): LDI-BDA, **2** (red): LDI-BDO, **3** (green): BDI-BDA, **4** (blue): BDI-BDO. WAXD measurement was carried out on a RINT 2500V (Rigaku Co., Ltd.) with a Cu-$K_\alpha$ X-ray source (40 kV, 200 mA). The wavelength, λ, was 0.1542 nm. The data-collection time was 3 sec per step at 0.05° intervals. The scattering vector, $q$ = ($4\pi/\lambda$ sin$\theta$, where $\theta$ is the scattering angle, was calibrated by the peak positions of cerium dioxide.

2. Bio-degradation characterization of the LDI-BDO by FT-IR spectroscopy

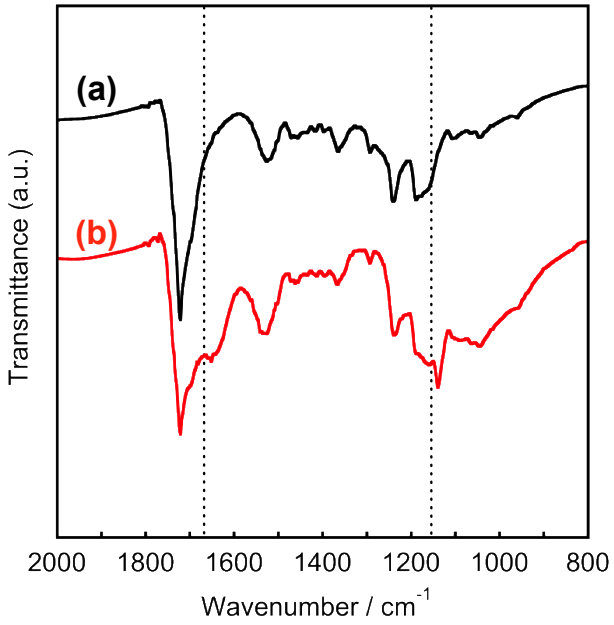


**Fig. S2** FT-IR spectra characterization of the LDI-BDO before and after the degradation test. FT-IR measurements were carried out by Spectrum One spectrometer (PerkinElmer Inc.). The spectra were recorded from 800 to 4000 $cm^{-1}$ with a resolution of 1 $cm^{-1}$ in transmission mode.