Shape Memory Polymers Based on Naturally-Occurring

Bile Acids

Supporting Information

Julien E. Gautrot and X. X. Zhu*

Département de chimie, Université de Montréal,

C.P. 6128, succursale Centre-ville, Montréal, Québec, H3C 3J7, Canada

*corresponding author: julian.zhu@umontreal.ca

Supplementary Table S1. Shape memory performance of bile acid-based polymers.

	E (MPa)^c		Shape Memory - warm drawing (%)						Shape Memory - cold drawing (%)					
	at T_g-10	at T_g+10	R_r (1)^a	R_r (2)	R_r (3)	R_f(1)	R_f(2)	R_f(3)	R_r (1)	R_r (2)	R_r (3)	R_f(1)	R_f(2)	R_f(3)
1a	76 ± 16	3.3 ± 0.2	97.8 ± 0.6	99.1 ± 0.5	99.8 ± 0.4	97.9 ± 0.1	97.9 ± 0.2	97.9 ± 0.2	95.8 ± 0.6	99.5 ± 0.5	99.6 ± 0.2	79.7 ± 1.1	78.9 ± 1.2	78.6 ± 0.9
1b	177 ± 35	3.5 ± 0.7	98.8 ± 0.2	99.7 ± 0.4	99.9 ± 0.03	98.4 ± 0.1	98.2 ± 0.1	98.3 ± 0.3	95.7 ± 0.9	99.2 ± 0.2	99.5 ± 0.2	80.4 ± 2.7	79.9 ± 2.3	79.5 ± 2.2
1c	197 ± 92	3.6 ± 0.6	97.4 ± 1.0	98.9 ± 0.7	99.5 ± 0.2	98.1 ± 0.2	98.1 ± 0.2	98.0 ± 0.2	95.2 ± 0.7	97.6 ± 1.3	98.7 ± 0.3	74.3 ± 3.2	72.9 ± 2.7	71.4 ± 1.9
1d	266 ± 42	65 ± 13	95.3 ± 2.4	96.2 ± 2.3	95.9 ± 1.8	95.7 ± 0.7	95.6 ± 0.5	95.9 ± 1.4	93.9 ± 1.3	98.6 ± 0.9	99.7 ± 0.4	75.3 ± 3.5	76.5 ± 2.8	77.8 ± 2.4
1e	175 ± 24	5.9 ± 0.9	95.4 ± 1.9	98.7 ± 0.7	99.5 ± 0.2	94.6 ± 2.0	94.2 ± 1.8	93.6 ± 2.0	95.3 ± 1.1	99.0 ± 0.6	99.6 ± 0.2	59.2 ± 2.4	56.1 ± 3.8	56.1 ± 3.0
4a	71 ± 19	4.3 ± 0.6	97.1 ± 1.4	99.5 ± 0.2	99.4 ± 0.4	94.9 ± 1.1	94.4 ± 1.6	94.7 ± 1.2	93.5 ± 1.1	96.3 ± 0.9	98.7 ± 0.3	71.6± 4.3	68.0 ± 2.5	67.3 ± 2.3
4b^b	148 ± 14	4.6 ± 0.6	89.7± 1.4	94.6 ± 0.4	97.1 ± 0.3	92.1 ± 1.6	90.7 ± 1.8	90.1 ± 2.0	95.3 ± 1.3	95.8 ± 1.3	98.3 ± 0.9	60.9 ± 1.2	60.7 ± 1.1	59.0 ± 1.1
4c	252 ± 19	19.6 ± 4.2	96.5 ± 3.5	99.0 ± 0.7	99.6 ± 0.1	91.8 ± 3.5	91.4 ± 2.0	90.7 ± 2.4	94.7 ± 0.8	98.2 ± 0.9	99.3 ± 0.5	64.4 ± 2.0	65.5 ± 3.9	65.6 ± 2.9

[a] the numbers in brackets describe the number of the shape memory cycle; [b] Young's moduli were measured at 37.5 ^{o}C, T_g-20 and T_g+20.