Research Article

Panpan Peng, Jianjun Yang*, Qingyun Wu, Mingyuan Wu, Jiuyi Liu, and Jianan Zhang

Fabrication of *N*-halamine polyurethane films with excellent antibacterial properties

Supplementary material

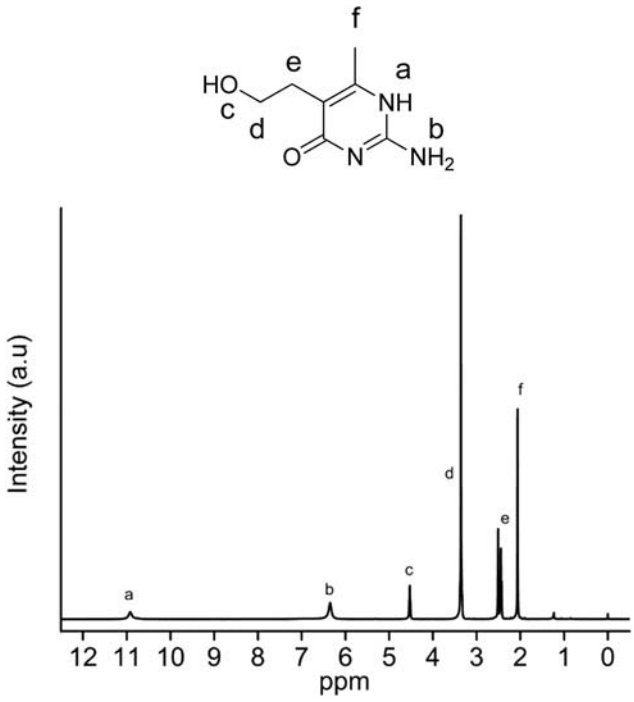

Figure S1: ^{1}H NMR spectrum of AHM in DMSO-d6. 2-amino-5-(2-hydroxyethyl)-6-methylpyrimidin-4-one (AHM). ^{1}H NMR (400 MHz, DMSO) δ: 10.93 (s, 1H), 6.35 (s, 2H), 4.53 (s, 1H), 3.36 (s, 2H), 2.44 (s, 2H), 2.06 (s, 3H).

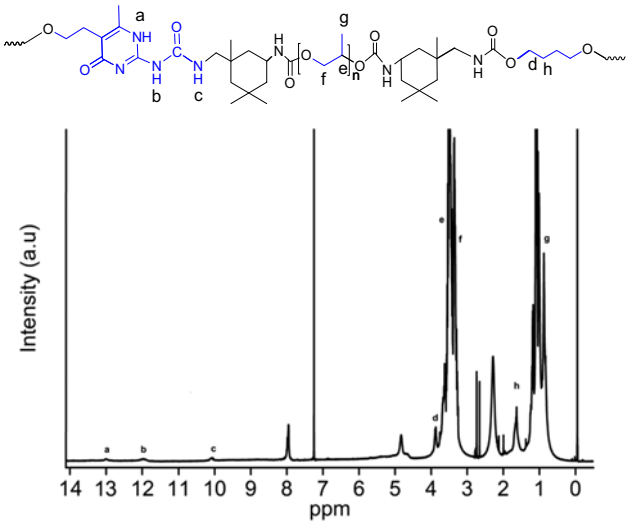

Figure S2: ^{1}H NMR spectrum of PU-AHM in $CDCl_3$. Figure S2 shows the characteristic peaks of N–H in Urea-pyrimidone unites appeared at 12.98 ppm (δ_H^a), 11.92 ppm (δ_H^b), and 10.15 ppm (δ_H^c) in $CDCl_3$ (1,2).

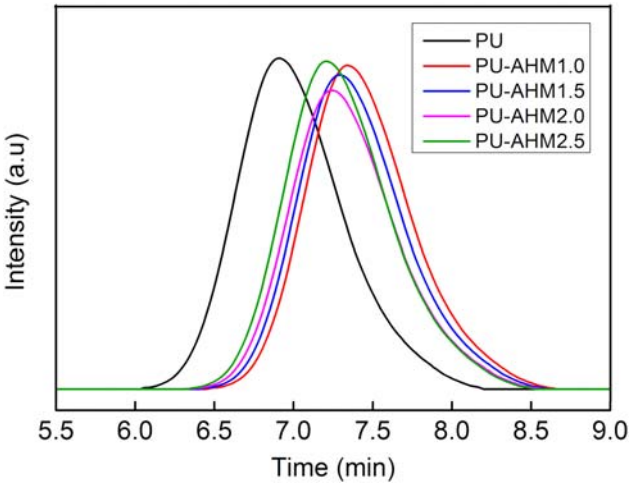

Figure S3: Gel permeation chromatograms of the synthesized PU and PU-AHM films.

*** Corresponding author: Jianjun Yang,** School of Chemistry and Chemical Engineering of Anhui University and Key Laboratory of Environment-friendly Polymer Materials of Anhui Province, Hefei 230601, Anhui, China, e-mail: andayjj@163.com
Panpan Peng, Qingyun Wu, Mingyuan Wu, Jiuyi Liu, Jianan Zhang: School of Chemistry and Chemical Engineering of Anhui University and Key Laboratory of Environment-friendly Polymer Materials of Anhui Province, Hefei 230601, Anhui, China

Table S1: Molecular weight of PU and PU-AHM films, as determined by GPC

Sample	M_n (g/mol)	M_w (g/mol)	PDI
PU	3.56×10^4	9.72×10^4	2.73
PU-AHM1.0	1.21×10^4	3.28×10^4	2.71
PU-AHM1.5	1.36×10^4	3.66×10^4	2.69
PU-AHM2.0	1.52×10^4	4.14×10^4	2.72
PU-AHM2.5	1.64×10^4	4.51×10^4	2.75

References

(1) Mckee JR, Huokuna J, Martikainen L, Karesoja M, Nykanen A, Kontturi E, et al. Molecular engineering of fracture energy dissipating sacrificial bonds into cellulose nanocrystal nanocomposites. Angew Chem. 2014;53:5049–53. doi: 10.1002/anie.201401072.

(2) Beijer FH, Sijbesma RP, Kooijman H, Spek AL, Meijer EW. Strong dimerization of ureidopyrimidones via quadruple hydrogen bonding. J Am Chem Soc. 1998;120:6761–9. doi: 10.1021/ja974112a.