

Supporting Information

Influence of nature of acrylates on reactivity, structure and properties of polyurethane acrylates

Aziz Ahmed, Preetom Sarkar, Imtiaz Ahmad, Neeladri Das and Anil K. Bhowmick ^{§*}

Department of Chemistry, Indian Institute of Technology Patna, Patna-800013, Bihar, India

*Correspondence to: Anil K. Bhowmick Tel.: +91-3222-283180; Fax: + 91-3222-220312.

E-mail: anilkb@rtc.iitkgp.ernet.in, anilbhowmick@gmail.com

[§]Current address of the corresponding author: Rubber Technology Centre, Indian Institute of Technology Kharagpur, Kharagpur-721302, India.

This document provides additional information about the work presented in the main paper with the above mentioned title. It is organized as follows:

Table S1. Band positions (cm^{-1}) assignments in UATR FTIR spectra of PUAs.

Table S2. d - spacing value in nm.

Table S3. Thermal parameters for PUAs obtained from TGA curves.

Figure S1. ^1H NMR Spectrum of pMACA (2a) in DMSO-d₆.

Figure S2. ^1H NMR Spectrum of pTMBCA (2b) in DMSO-d₆.

Figure S3. ^1H NMR Spectrum of pMBCA (2c) in DMSO-d₆.

Table S1. Band position (cm^{-1}) assignments in UATR FTIR spectra of PUAs.

Sample code	$\nu(\text{N-H})$	$\nu(\delta\text{Ar-H})$	$\nu(\text{CH, CH}_2, \text{CH}_3)$	$\nu(\text{C=O})$	$\nu(\text{C-N})$	$\nu(\text{C=C phenyl})$	$\delta(\text{CH, CH}_2, \text{CH}_3)$	$\nu(\text{C-O-C})$	$\delta(\text{Ar-H})$
DGEBA	-	3056w	2966m	-	-	1607m	1454m	1295m	1232vs
pMACA	3313w	3054w	2927w	1718w 1775sh	1638w	1606m	1455w	1298m	1231vs
pTMBCA	3307w	3056w	2967m	1687s 1773sh	-	1607m	1456w	1293m	1232vs
pMBCA	3309w	3058w	2968m	1689s 1768sh	1641s	1607m	1454m	1296m	1231vs

w = weak, m = medium, s = strong, vs = very strong, sh = shoulder

Table S2. d - spacing values in nm.

Sample code	2θ	d-spacing value (nm)
pMACA	21.1	0.421
pTMBCA	20.8	0.426
pMBCA	21.0	0.422

Table S3. Thermal parameters for PUAs obtained from TGA curves.

Sample code	T_i (°C)	T_{\max} (°C)	T_d (°C)	Char weight (%) at 590 °C	DTG (wt %/°C) at T_{\max}
pMACA	360	390	363	16	1.0
pTMBCA	286	410	304	13	0.9
pMBCA	348	460	375	2	1.4

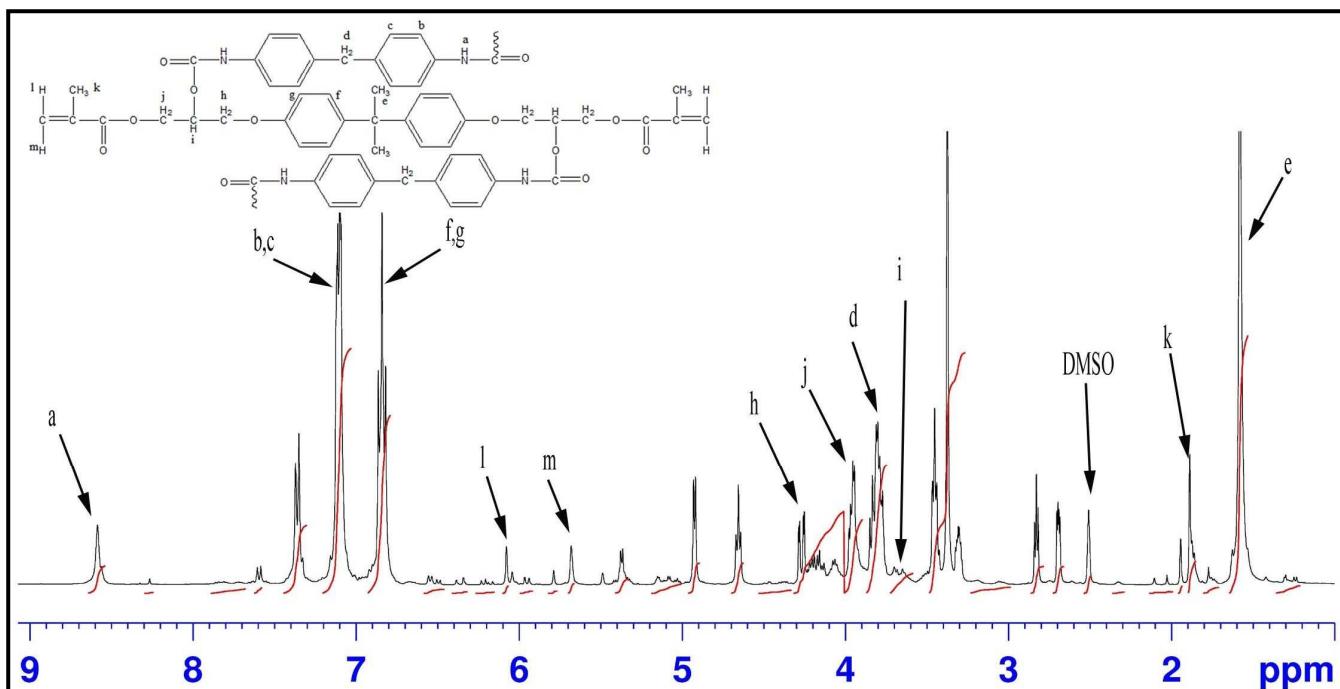


Figure S1. ^1H NMR Spectrum of pMACA in DMSO-d₆

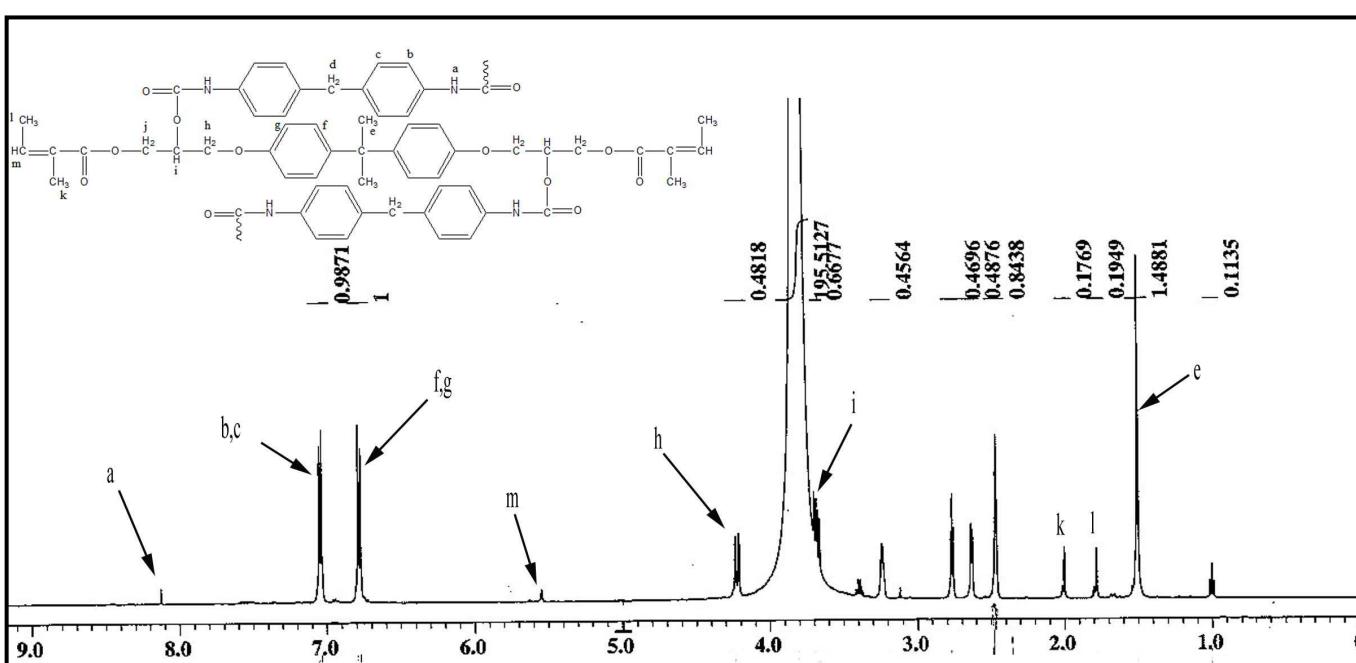


Figure S2. ^1H NMR Spectrum of pTMBCA in DMSO-d₆

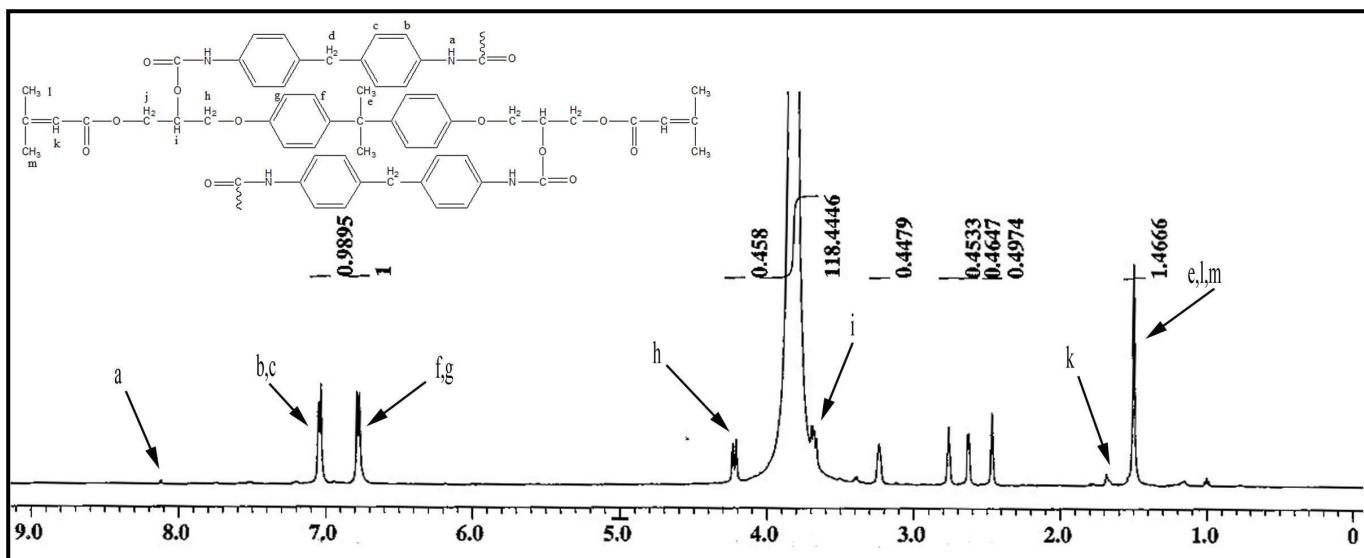


Figure S3. ^1H NMR Spectrum of pMBCA in DMSO-d_6