

## Supporting information

### Table of contents

<b>Table S1.</b> Observed kinetic constants for the reaction between 9-anthracenemethanol and N-ethylmaleimide at 313 K in the $[\text{Bzbim}]_x[\text{Bz}(\text{F}_5)\text{bim}]_{1-x}[\text{NTf}_2]$ mixtures.	S2
<b>Table S2.</b> Observed kinetic constants for the reaction between 9-anthracenemethanol and N-ethylmaleimide at 313 K in the $[\text{Bzbim}][\text{NTf}_2]_x[\text{BF}_4]_{1-x}$ mixtures.	S3
<b>Table S3.</b> Observed kinetic constants for the reaction between 9-anthracenemethanol and N-Ethylmaleimide at 313 K in the $[\text{Bzbim}]_x[\text{bEt}_3\text{N}]_{1-x}[\text{NTf}_2]$ mixtures.	S4
<b>Figure S1.</b> Plots of Kamlet-Taft and $E_{\text{NR}}$ polarity parameters determined in solution of $[\text{Bzbim}]_x[\text{bEt}_3\text{N}]_{1-x}[\text{NTf}_2]$ .	S5
<b>Figure S2.</b> $^1\text{H}$ NMR spectra of $[\text{Bzbim}]_x[\text{bEt}_3\text{N}]_{1-x}[\text{NTf}_2]$ mixtures.	S6

**Table S1.** Observed kinetic constants for the reaction between 9-anthracenemethanol and N-Ethylmaleimide at 313 K in the  $[\text{Bzbim}]_x[\text{Bz}(\text{F}_3)\text{bim}]_{1-x}[\text{NTf}_2]$  mixtures.

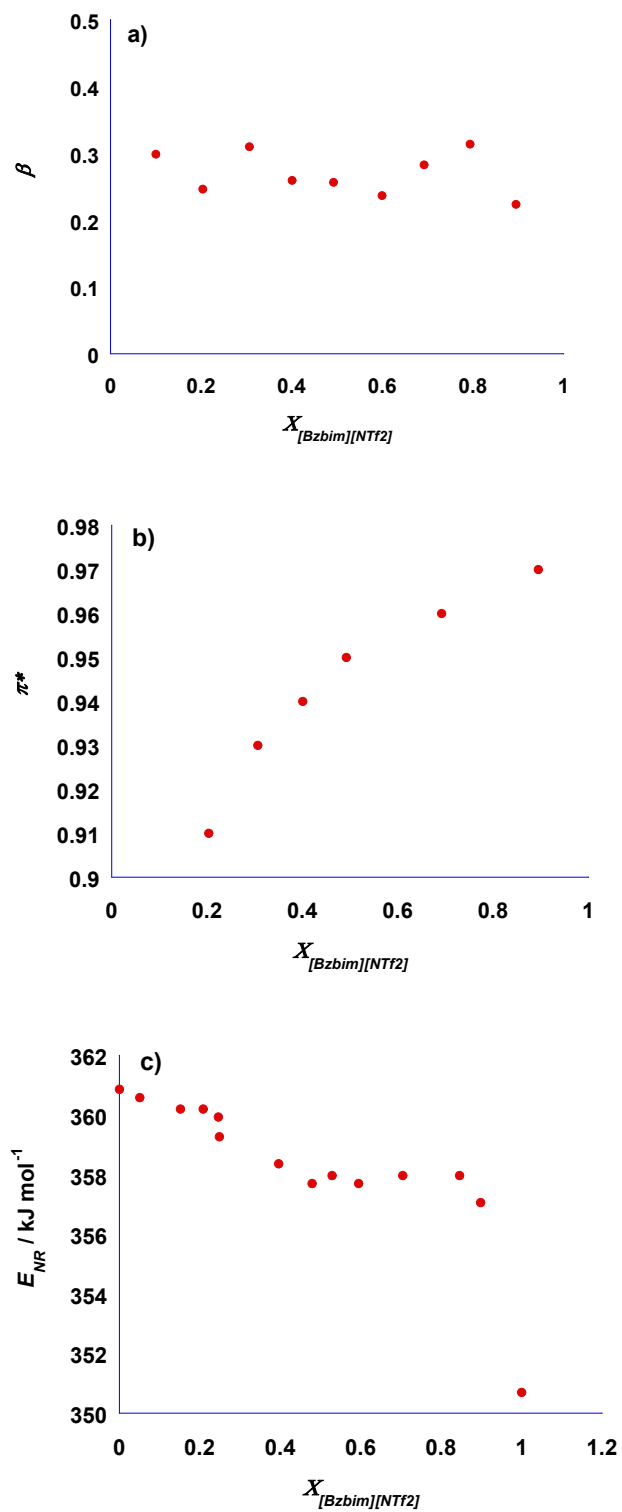
<b>x</b>	<b><math>10^5 k \text{ (s}^{-1}\text{)}</math></b>
0	0.33
0.0523	0.80
0.195	0.98
0.397	1.06
0.504	1.06
0.601	1.04
0.692	0.98
0.805	0.90
0.849	0.87
0.944	0.96
1	1.41

**Table S2.** Observed kinetic constants for the reaction between 9-anthracenemethanol and N-Ethylmaleimide at 313 K in the [Bzbim][NTf<sub>2</sub>]<sub>x</sub>[BF<sub>4</sub>]<sub>1-x</sub> mixtures.

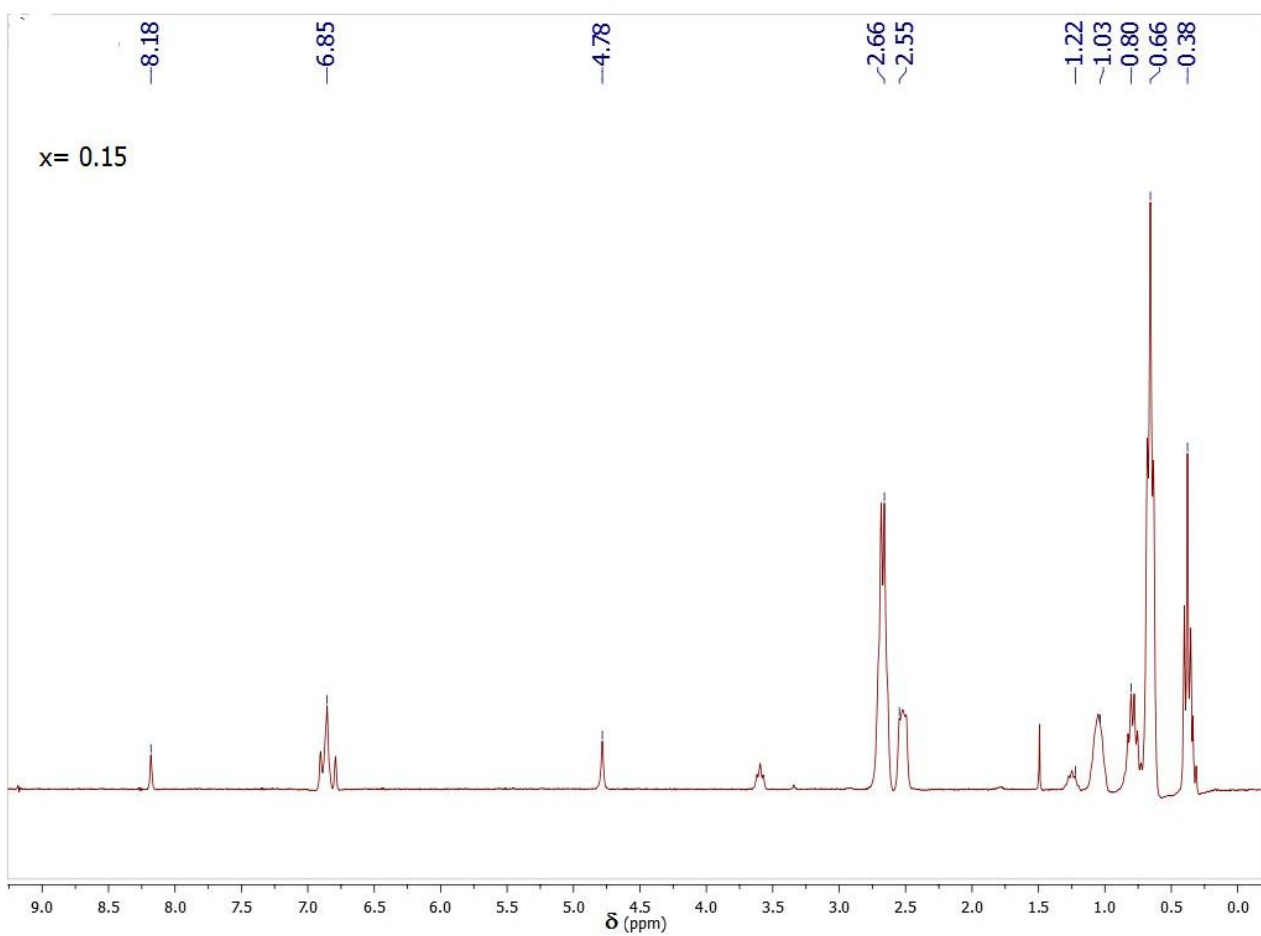
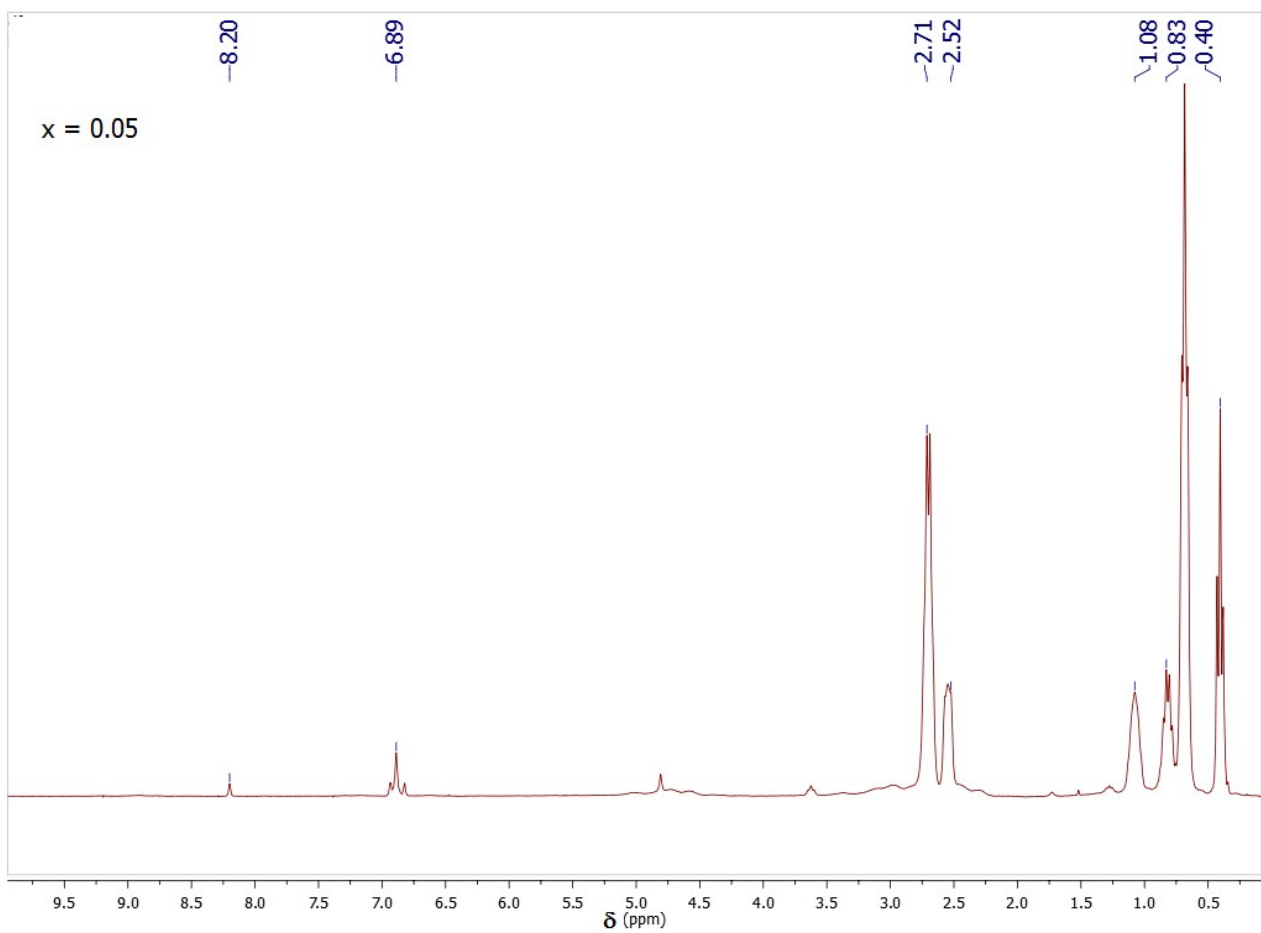
<b>x</b>	<b>10<sup>5</sup> <i>k</i> (s<sup>-1</sup>)</b>
0.15	0.20
0.254	1.67
0.357	2.08
0.443	2.05
0.542	2.24
0.651	1.95
0.705	1.90
0.83	1.83
0.891	1.63
1	1.41

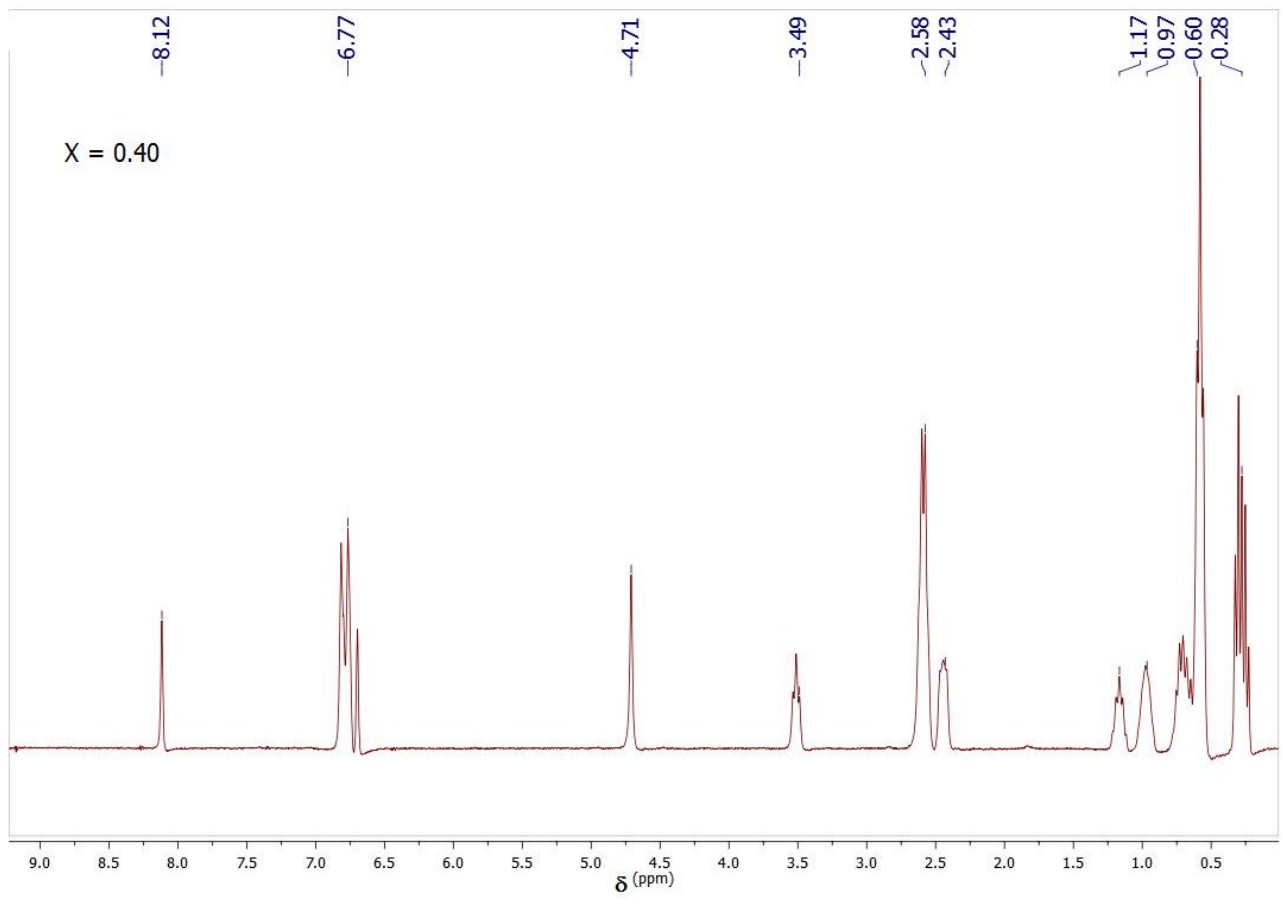
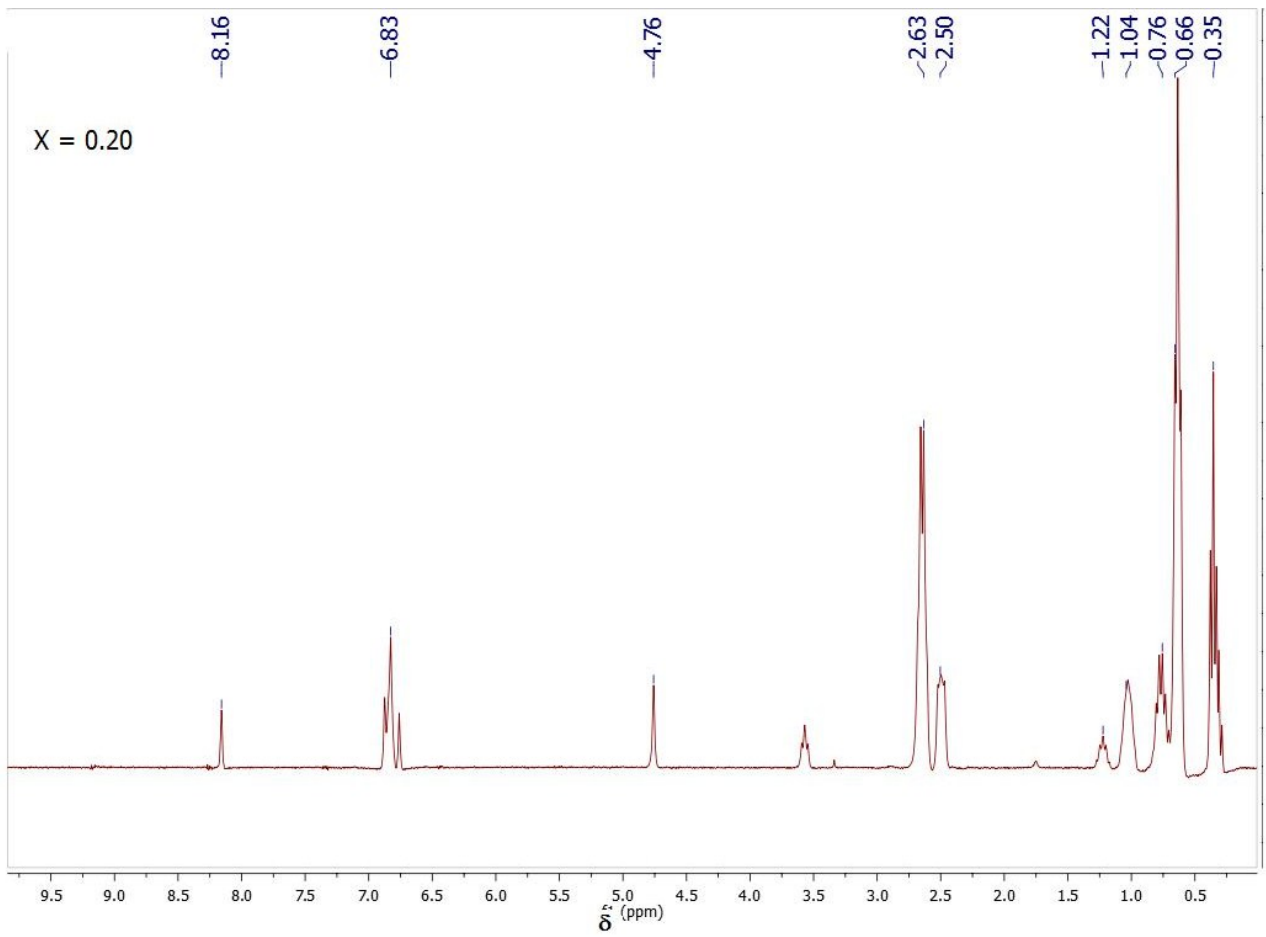
**Table S3.** Observed kinetic constants for the reaction between 9-anthracenemethanol and N-Ethylmaleimide at 313 K in the  $[\text{Bzbim}]_x[\text{bEt}_3\text{N}]_{1-x}[\text{NTf}_2]$  mixtures.

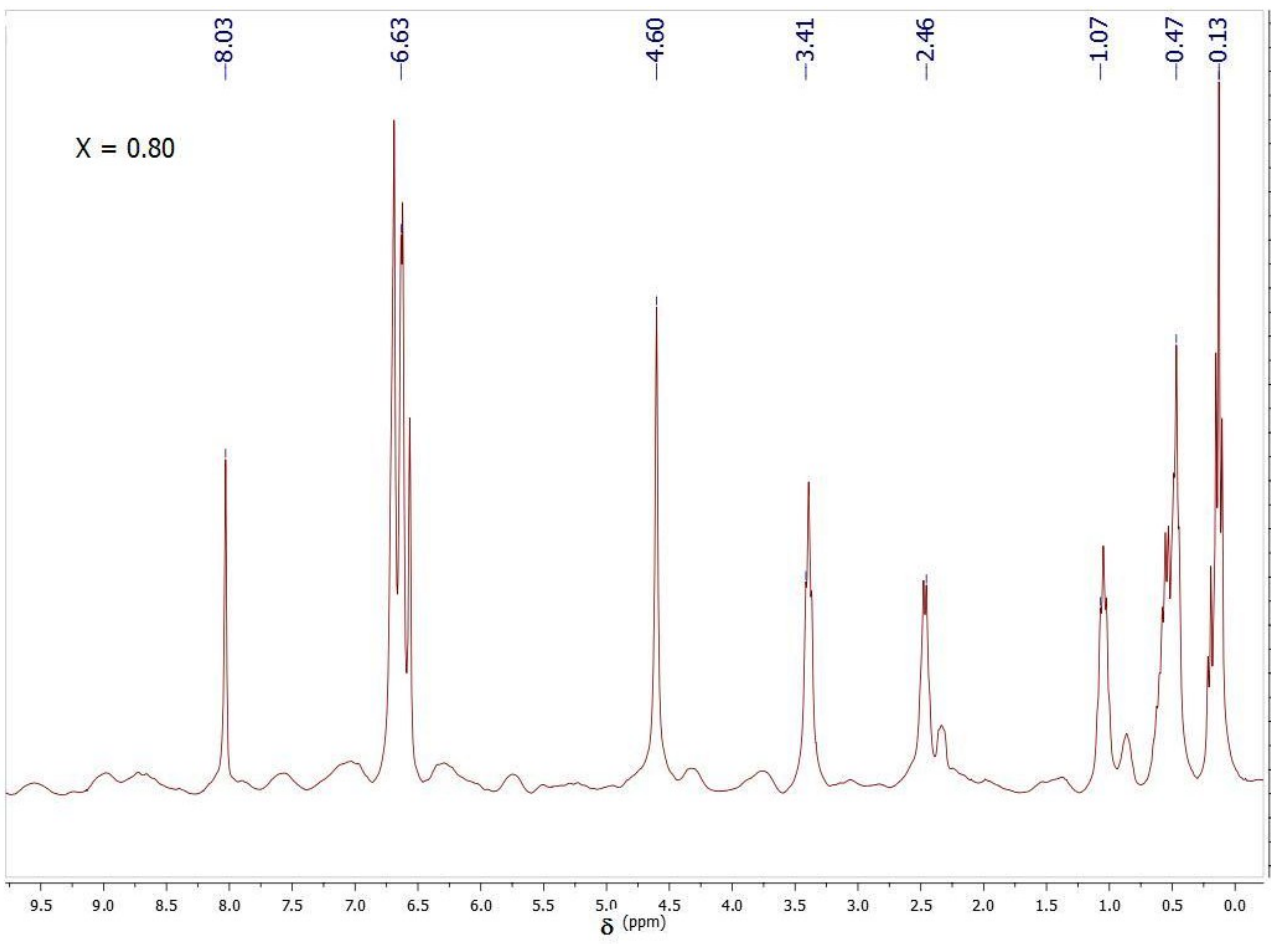
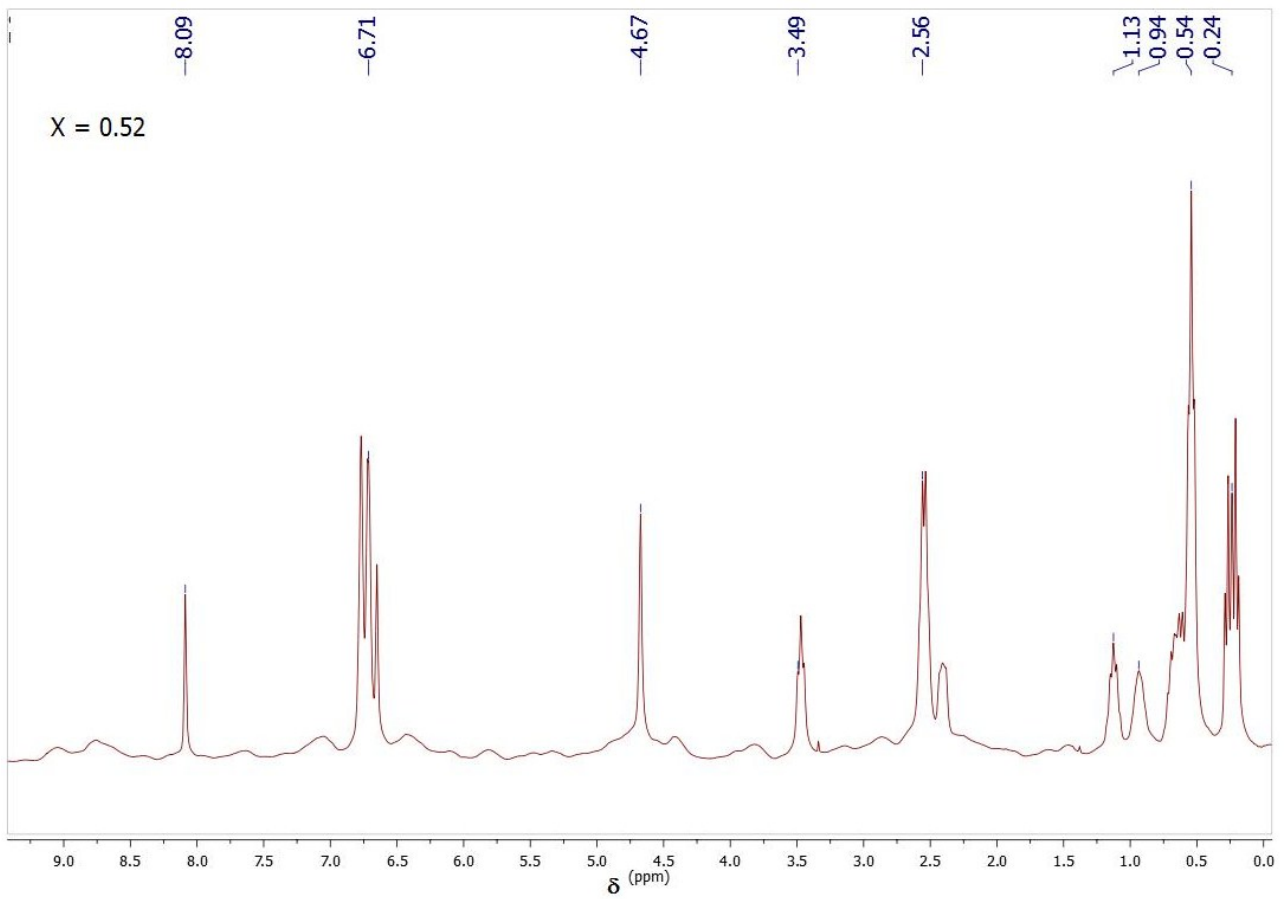
<b>x</b>	<b><math>10^5 k \text{ (s}^{-1}\text{)}</math></b>
0	1.32
0.098	1.52
0.15	1.59
0.20	1.64
0.25	1.68
0.30	1.81
0.40	1.76
0.55	1.64
0.59	1.56
0.85	1.51
1	1.41



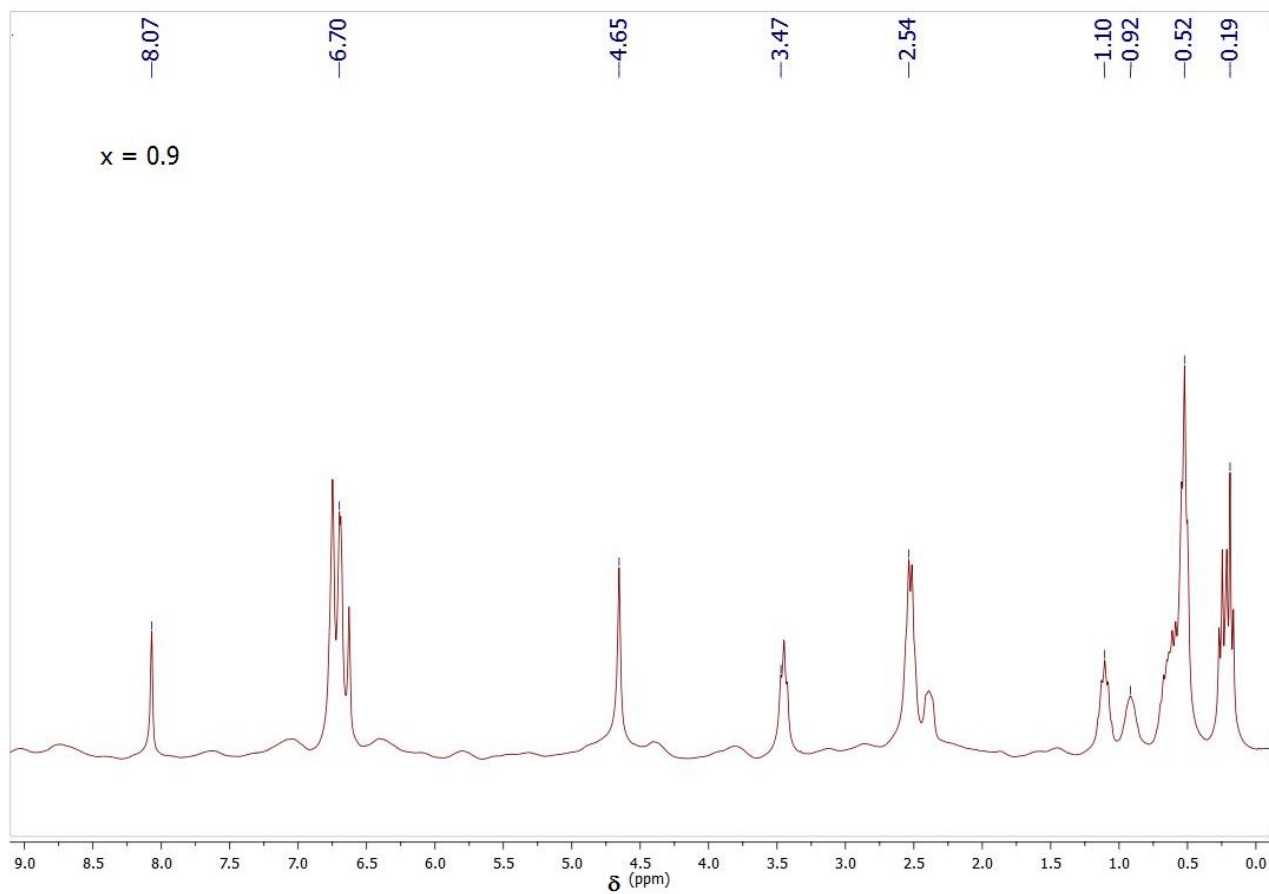
**Figure S1.** Plots of polarity parameters a) Kamlet-Taft  $\beta$ , b) Kamlet-Taft  $\pi^*$  and c)  $E_{NR}$  polarity parameters determined in solution of  $[\text{Bz bim}]_x[\text{bEt}_3\text{N}]_{1-x}[\text{NTf}_2]$ .











**Figure S2.** <sup>1</sup>H NMR spectra of [Bzbim]<sub>x</sub> [bEt<sub>3</sub>N]<sub>1-x</sub> [NTf<sub>2</sub>] mixtures.