

# Supplementary Information

## Preparation of Tunable Wettability Polymer (Ionic Liquid) Brushes at Rough Substrate Using Surface Initiated Atom Transfer Radical Polymerization

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The  $^{13}\text{C}$  NMR data/spectrum of ionic liquid monomer 2-(1-butylimidazolium 3-yl)-ethyl methacrylate hexafluorophosphate.

$^{13}\text{C}$  NMR (400 MHz,  $\text{DMSO}-d_6$ ):  $\delta$  (ppm) 165.1 ( $\text{CH}_2=\text{CCH}_3-\text{COO}$ ), 135.0 ( $\text{N}-\text{CH}-\text{N}$ ), 134.4 ( $\text{CH}_2=\text{CCH}_3-\text{COO}$ ), 125.1 ( $\text{CH}_2=\text{CCH}_3-\text{COO}$ ), 122.9 ( $\text{N}-\text{CH}=\text{CH}-\text{N}$ ), 119.5 ( $\text{N}-\text{CH}=\text{CH}-\text{N}$ ), 63.1 ( $\text{COO}-\text{CH}_2-\text{CH}_2-\text{N}$ ), 45.9 ( $\text{N}-\text{CH}_2-\text{C}_3\text{H}_7$ ), 41.5 ( $\text{COO}-\text{CH}_2-\text{CH}_2-\text{N}$ ), 30.9 ( $\text{N}-\text{CH}_2-\text{CH}_2-\text{C}_2\text{H}_5$ ), 17.9 ( $\text{N}-\text{C}_2\text{H}_4-\text{CH}_2-\text{CH}_3$ ), 16.7 ( $\text{CH}_2=\text{CCH}_3-\text{COO}$ ), 12.1 ( $\text{N}-\text{C}_3\text{H}_6-\text{CH}_3$ ).

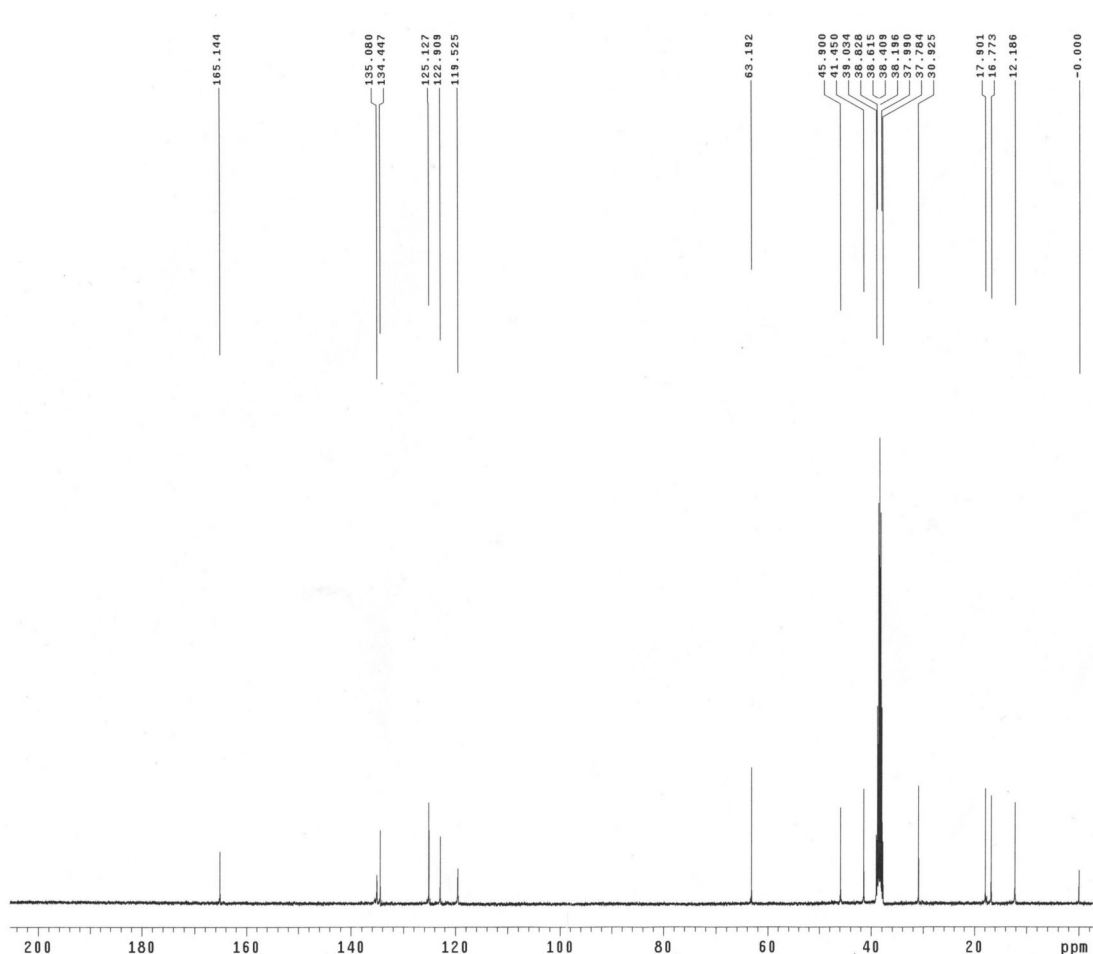


Figure S1.  $^{13}\text{C}$  NMR spectrum of ionic liquid monomer 2-(1-butylimidazolium 3-yl)-ethyl methacrylate hexafluorophosphate.

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