Supplemental Information

Effect of Perfluoropyridine Incorporation into Poly(hydroxyethyl methacrylate)

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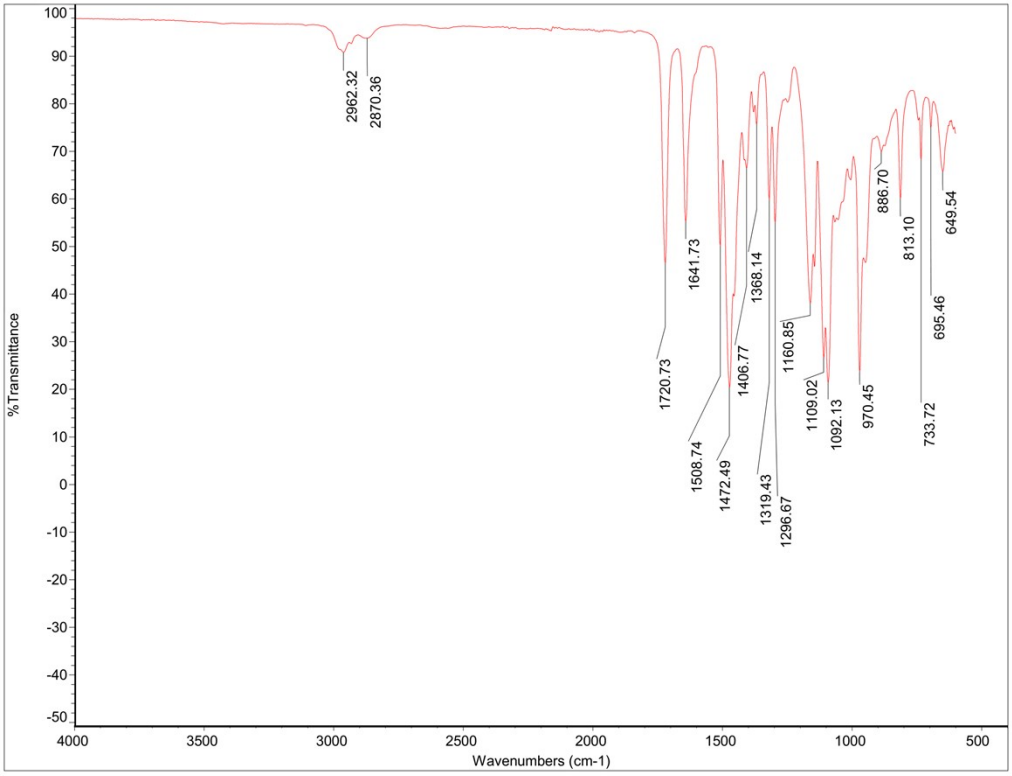
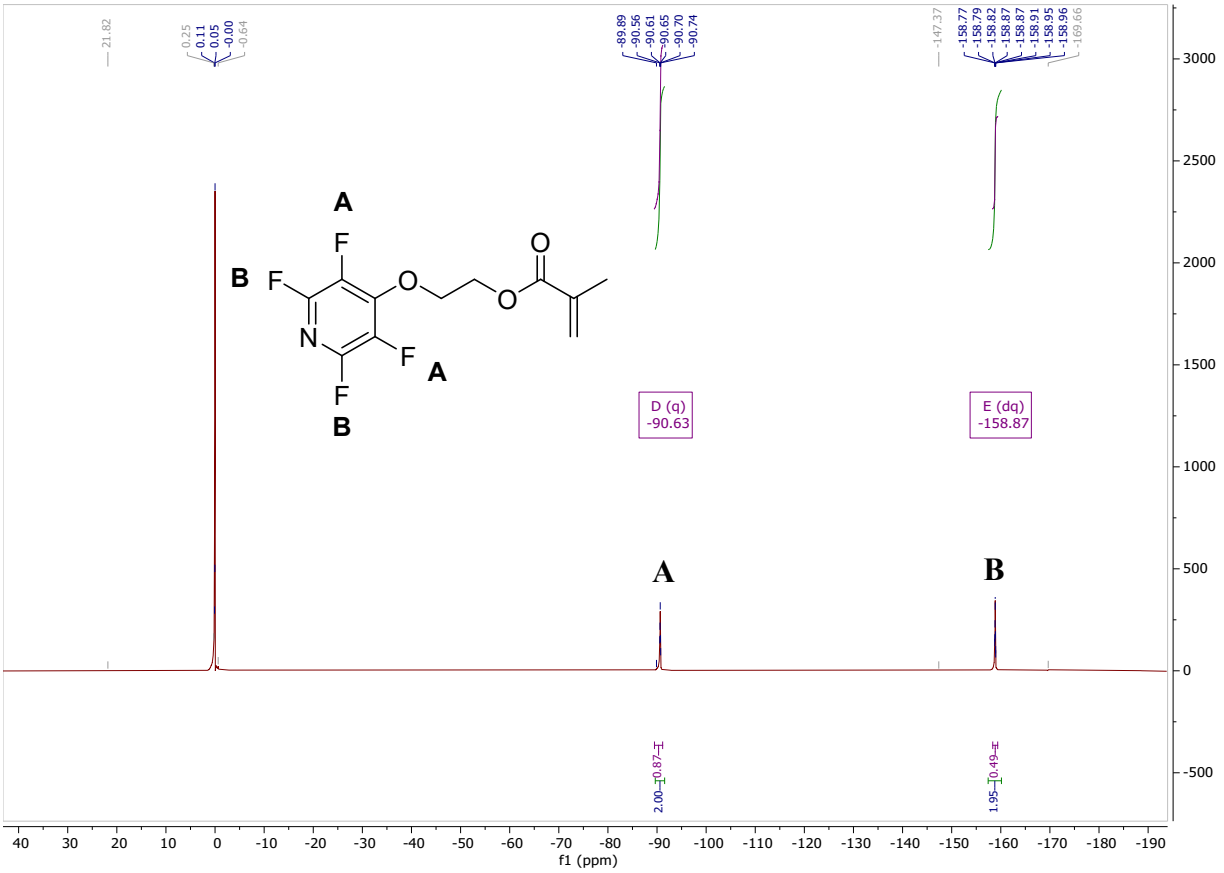
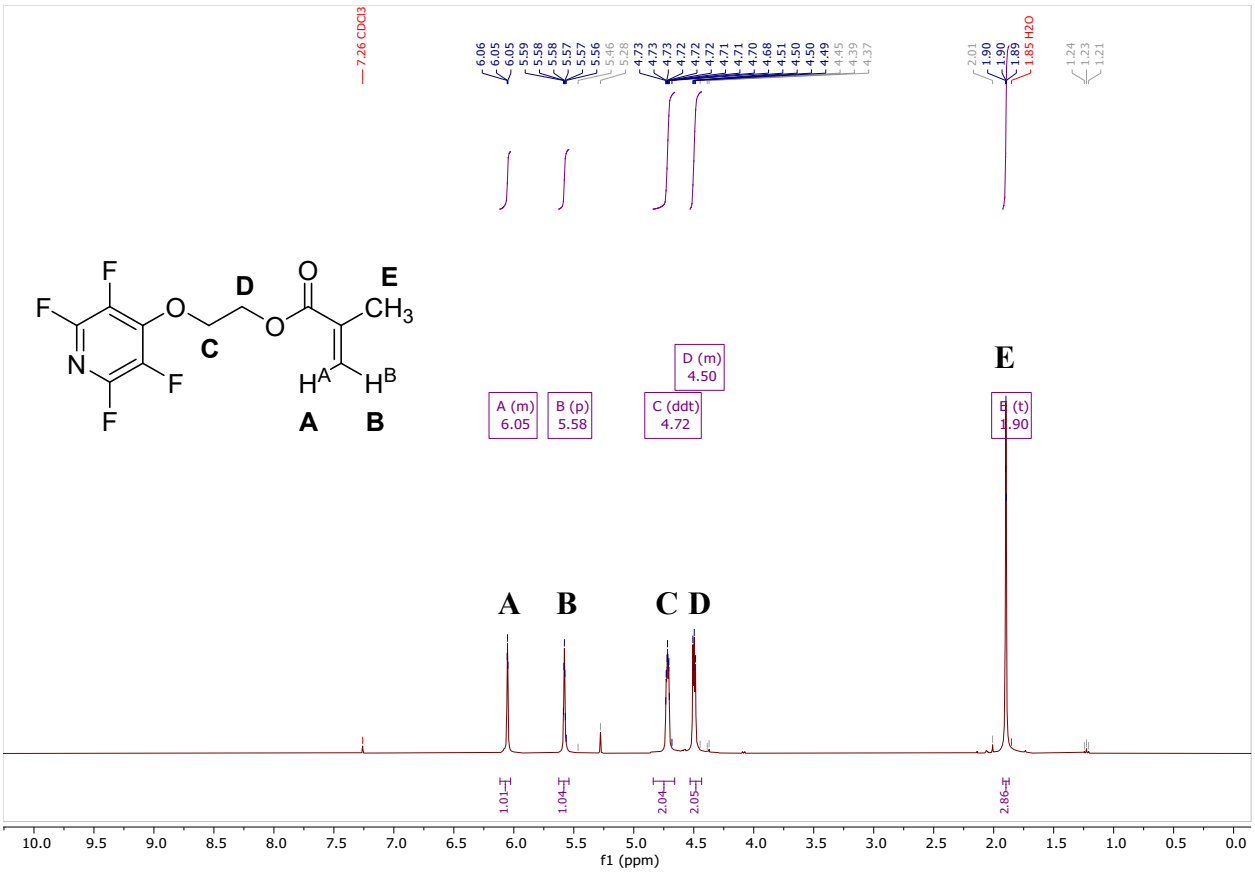


S1: ATR-FTIR of **1**
IR (ATR): ν = 2962.32 (w), 2870.36 (w), 1720.73 (m), 1641.73 (m), 1508.74 (m), 1472.49 (m), 1406.77 (w), 1319.43 (m), 1296.67 (m), 1160.85 (m), 1109.02 (m), 1092.13 (m), 970.45 (m), 813.10 (w), 733.72 (w), (695.46 (w), 649.54 (w).

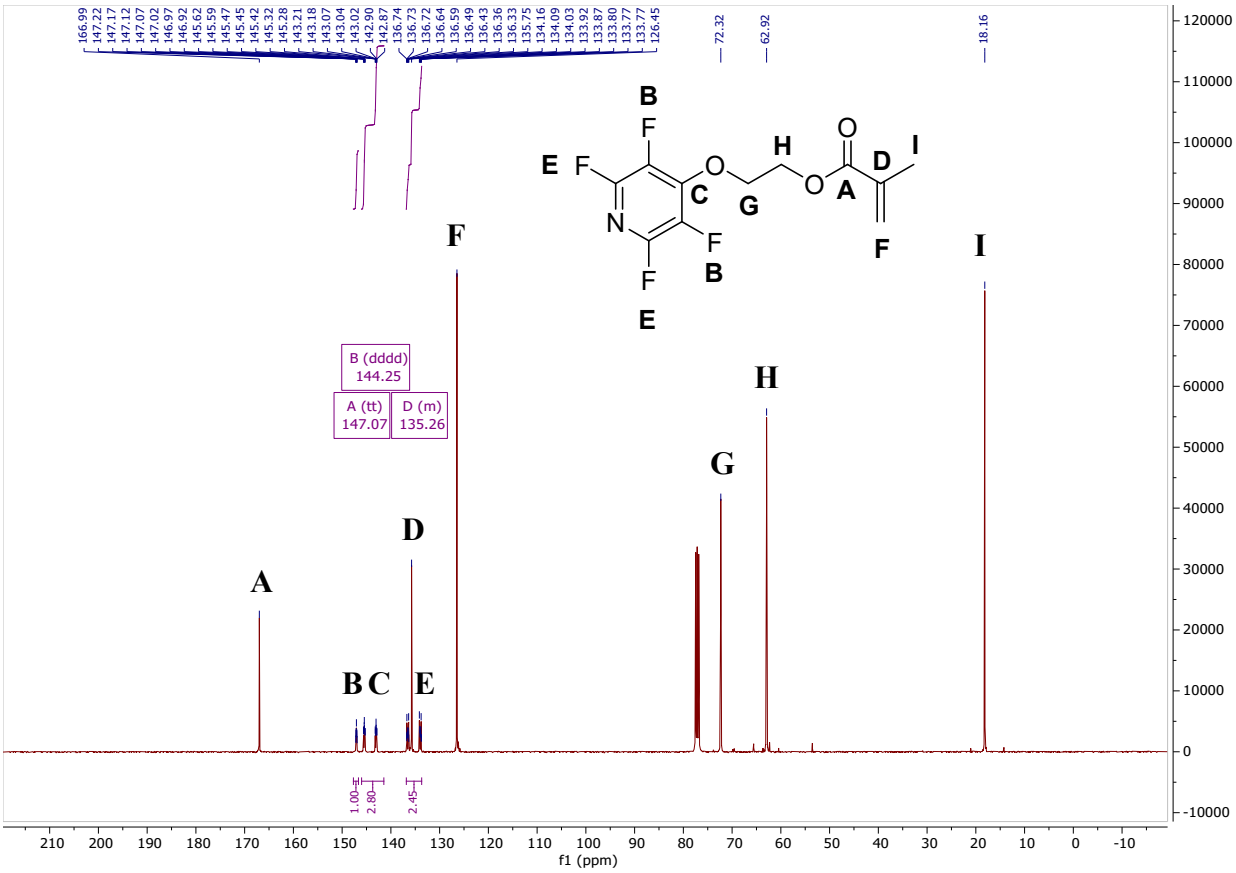


S2: ^{19}F NMR of **1** in $CDCl_3$ referenced to CCl_3F
^{19}F NMR (376 MHz, $CDCl_3$, δ): -90.63 (m, 2F, PFP 2,6-position C-F), -158.87 (m, 2F, PFP 3,5-position **C-F**)



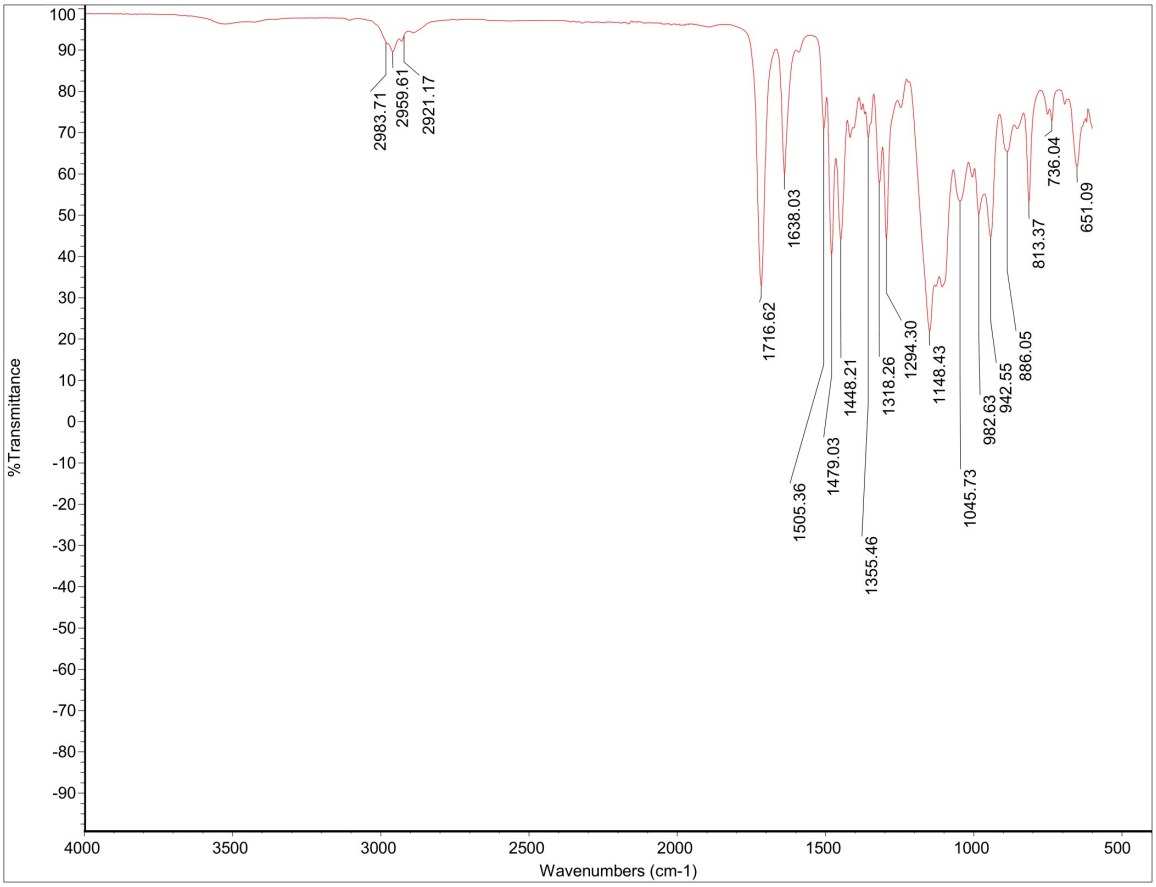
S3: ^{1}H NMR of **1** in $CDCl_3$

^{1}H NMR (400 MHz, $CDCl_3$, δ): 6.05 (s, 1H, R-O(CO)C(CH_3)$\mathbf{CH_2}$), 5.58 (m, J = 1.6 Hz, 1 H, R-O(CO)C(CH_3)$\mathbf{CH_2}$), 4.72 (m, 2H, PFP-O$\mathbf{CH_2}$$CH_2$O-R), 4.50 (m, 2H, PFP-O$CH_2$$\mathbf{CH_2}$O-R), 1.90 (s, 3H, R-O(CO)C(**CH_3**)CH_2).



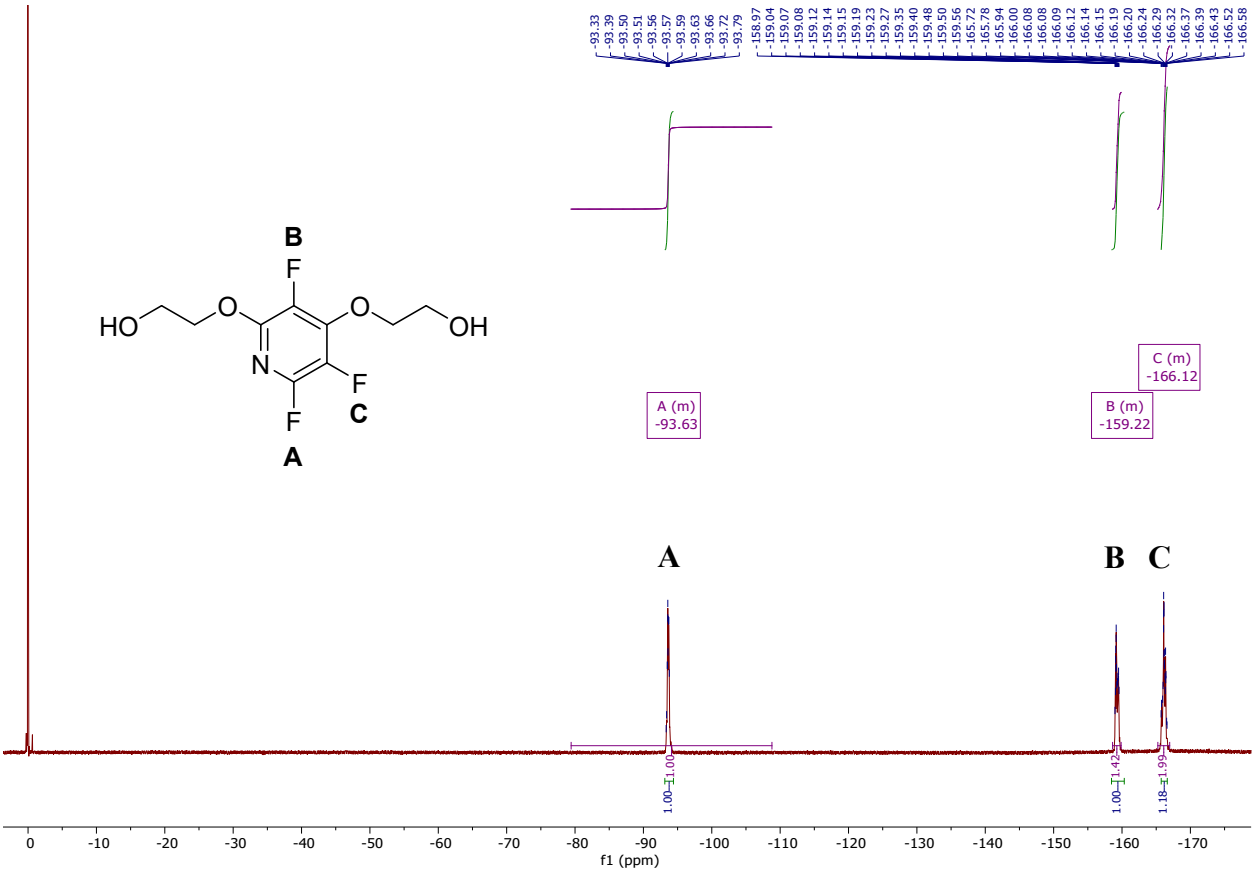
S4: ^{13}C NMR of **1** in $CDCl_3$

^{13}C NMR (101 MHz, $CDCl_3$, δ): 166.99 (s, R-O(**CO**)C(CH_3)CH_2), 147.07 (m, J = 10.0 Hz, 5.5 Hz PFP 2,6-position C-F), 144.25 (m, J = 242.2 Hz, 17.2 Hz, 14.4 Hz, 2.8 Hz, PFP 3,5-position C-F), 135.75 (s, R-O(CO)**C**(CH_3)CH_2), 135.26 (m, PFP 4-position *ipso* C-O), 126.45 (s, R-O(CO)C(CH_3)**CH_2**) 72.32 (s, PFP-O**CH_2**CH_2O-R), 62.92 (s, PFP-OCH_2**CH_2**O-R), 18.16 (s, R-O(CO)C(**CH_3**)CH_2).



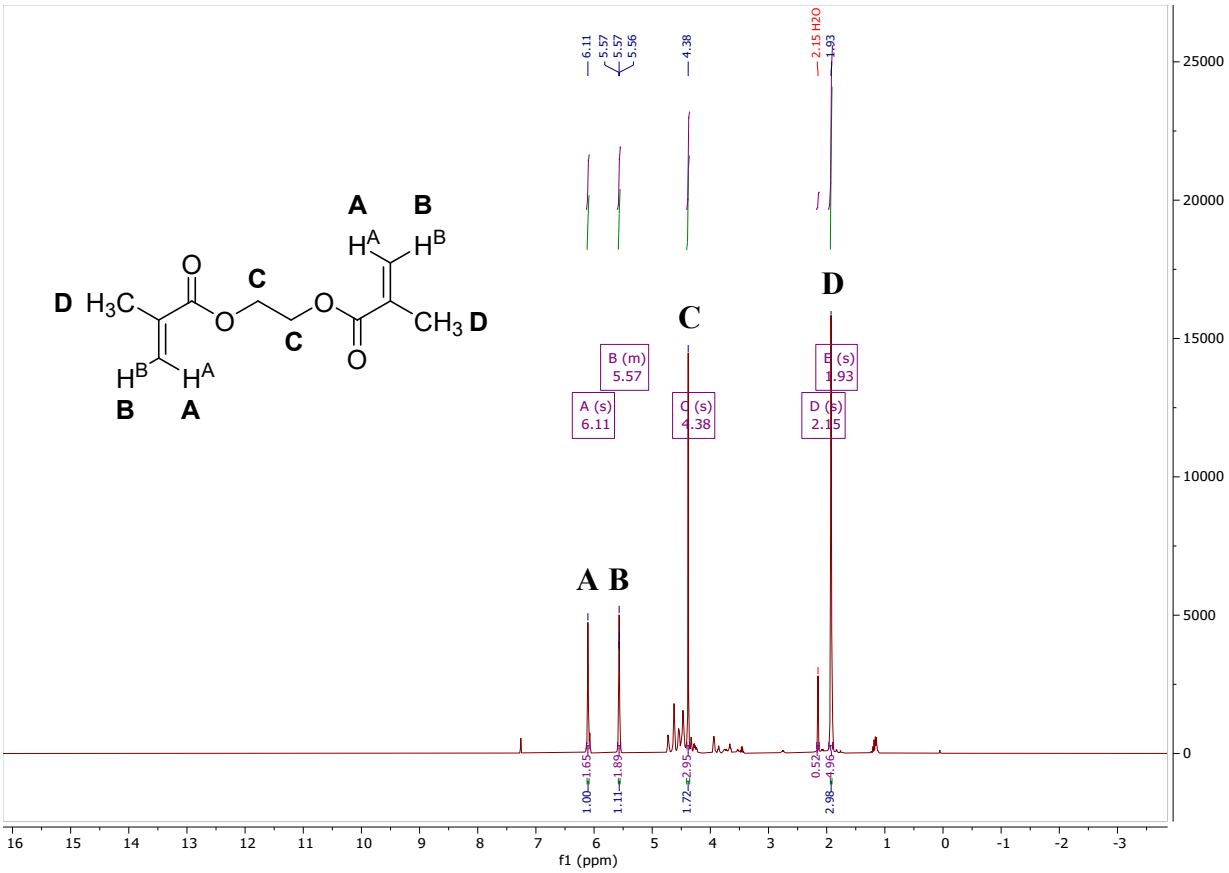
S5: ATR-FTIR of **4**

IR (ATR): ν = 2983.71 (w), 2959.61 (w), 2921.17 (w), 1716.62 (m), 1638.03 (m), 1505.36 (w), 1479.03 (m), 1448.21 (m), 1355.46 (w), 1318/26 (w), 1294.30 (w), 1148.43 (m), 1045.73 (w), 942.55 (w), 886.05 (w), 813.37 (w). 736.04 (w), 651.09 (w)



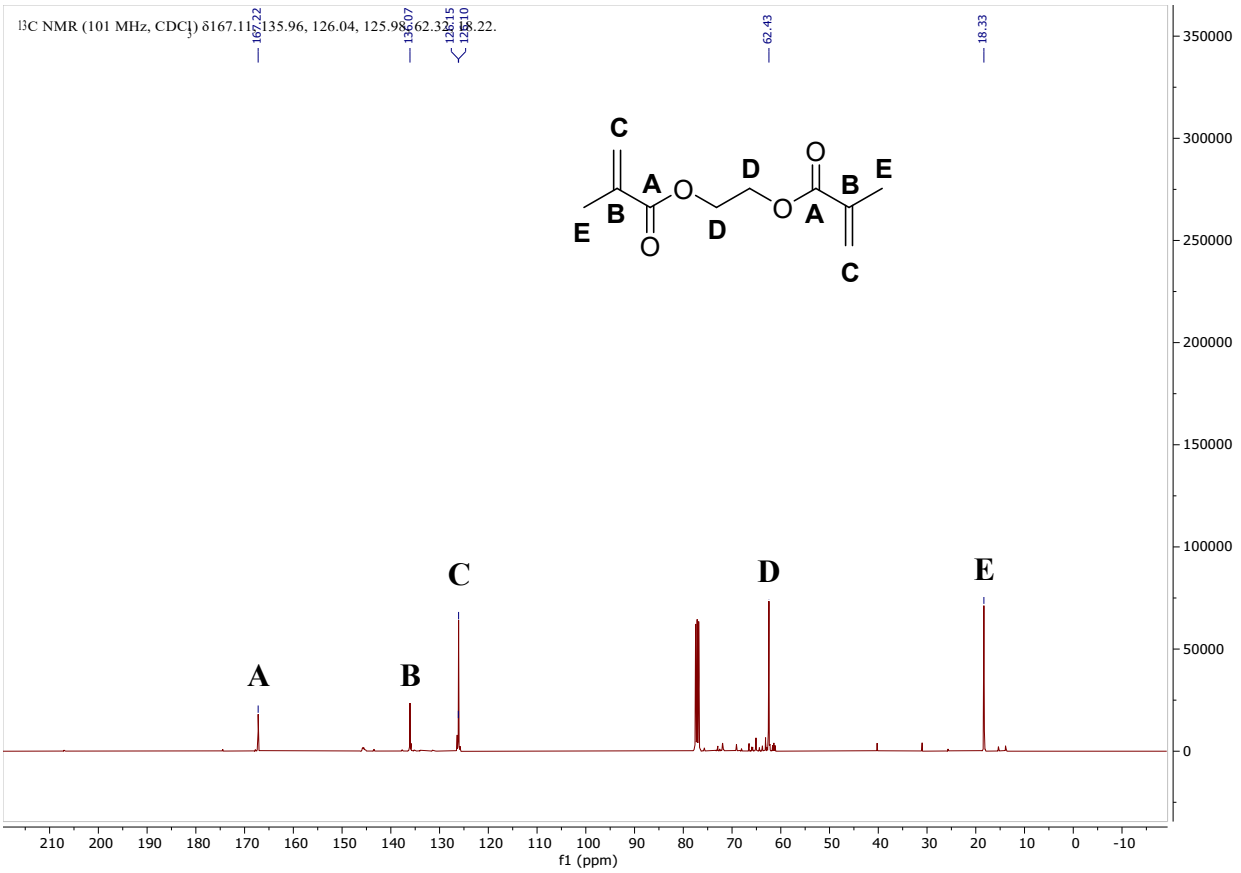
S6: ^{19}F NMR of **4** in $CDCl_3$ referenced to CCl_3F

^{19}F NMR (376 MHz, CDCl3, δ): -93.63 (m, 1F, PFP 6-position **C-F**), -159.22 (m, 1F, PFP 3-position **C-F**), -166.12 (m, 1F, PFP 5-position **C-F**).



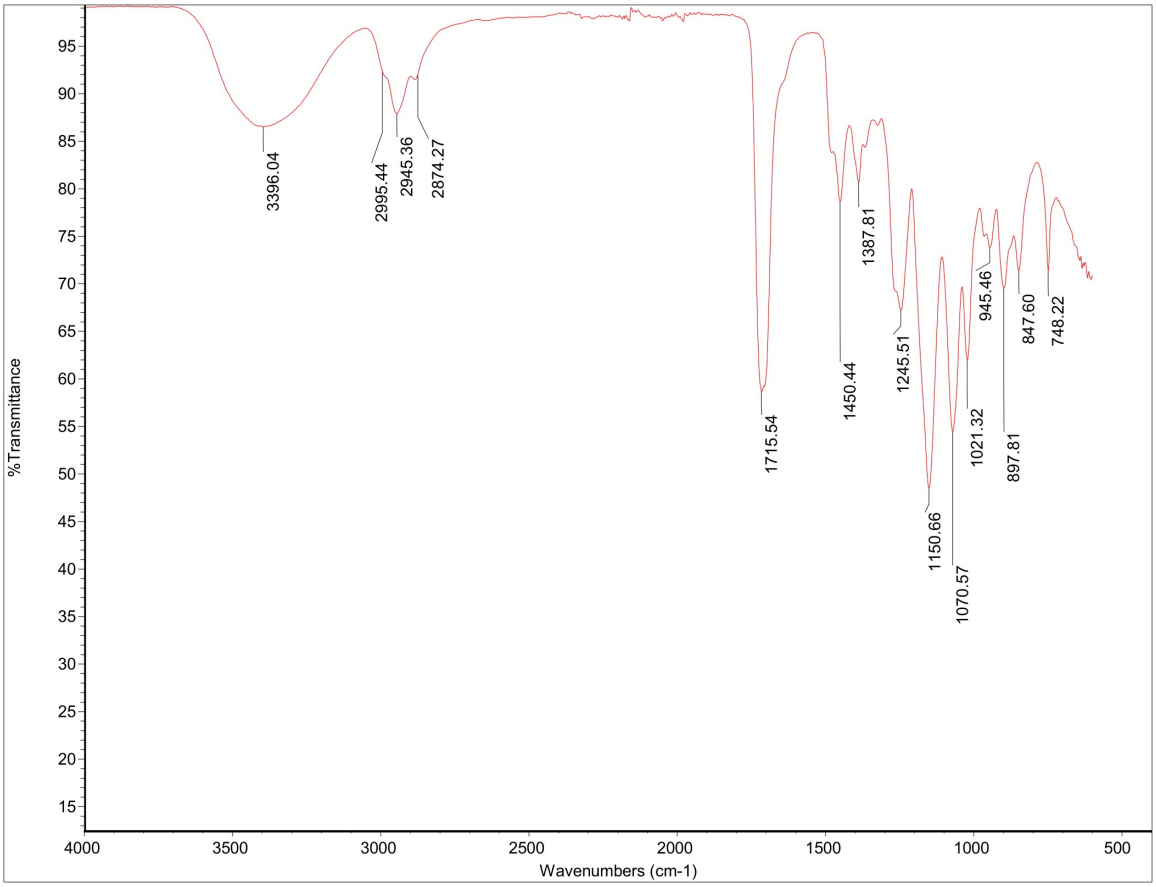
S7: ^{1}H NMR of **4** in $CDCl_3$

^{1}H NMR (400 MHz, CDCl3, δ): 6.11 (s, 1H, R-O(CO)C(CH_3)**CH_2**), 5.57 (s, 1 H, R-O(CO)C(CH_3)**CH_2**), 4.38 (s, 3H, R-O-**CH_2CH_2**-O-R), 1.93 (s, 3H, R-O(CO)C(**CH_3**)CH_2).



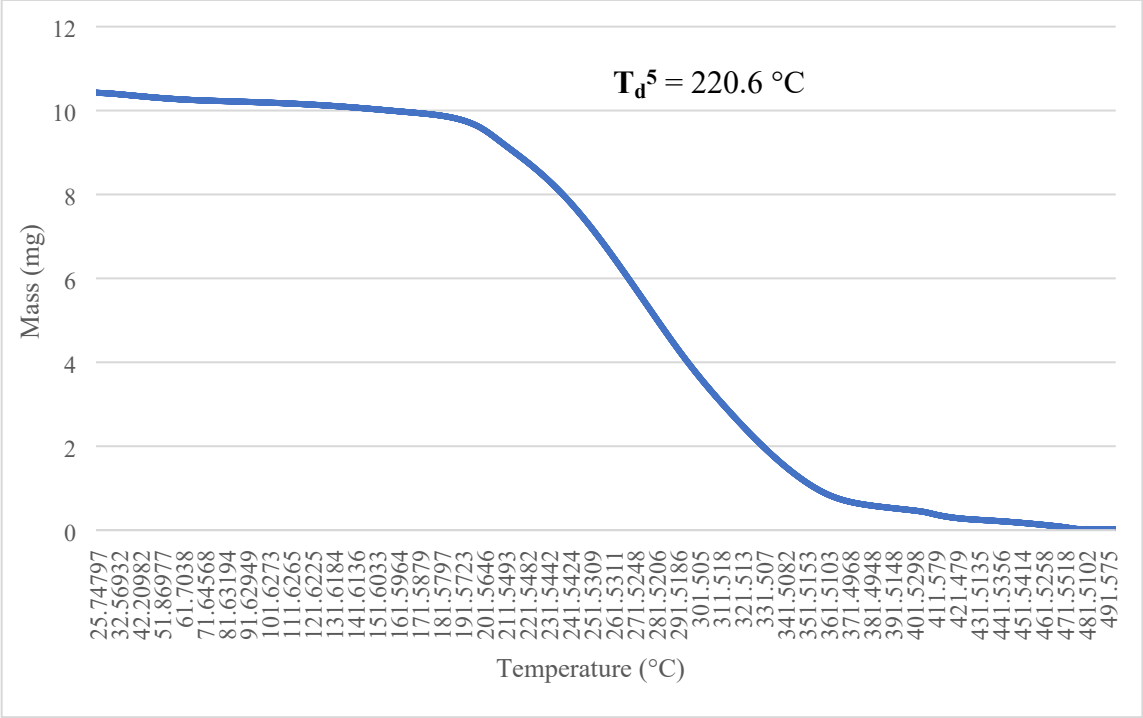
S8: ^{13}C NMR of **4** in $CDCl_3$

^{13}C NMR (101 MHz, CDCl3, δ): 167.22 (s, R-O(**CO**)C(CH_3)CH_2), 136.07 (s, R-O(CO)**C**(CH_3)CH_2), 126.10 (s, R-O(CO)C(CH_3)**CH_2**), 62.43 (s, R-O-**CH_2CH_2**-O-R), 18.22 (s, R-O(CO)C(**CH_3**)CH_2).

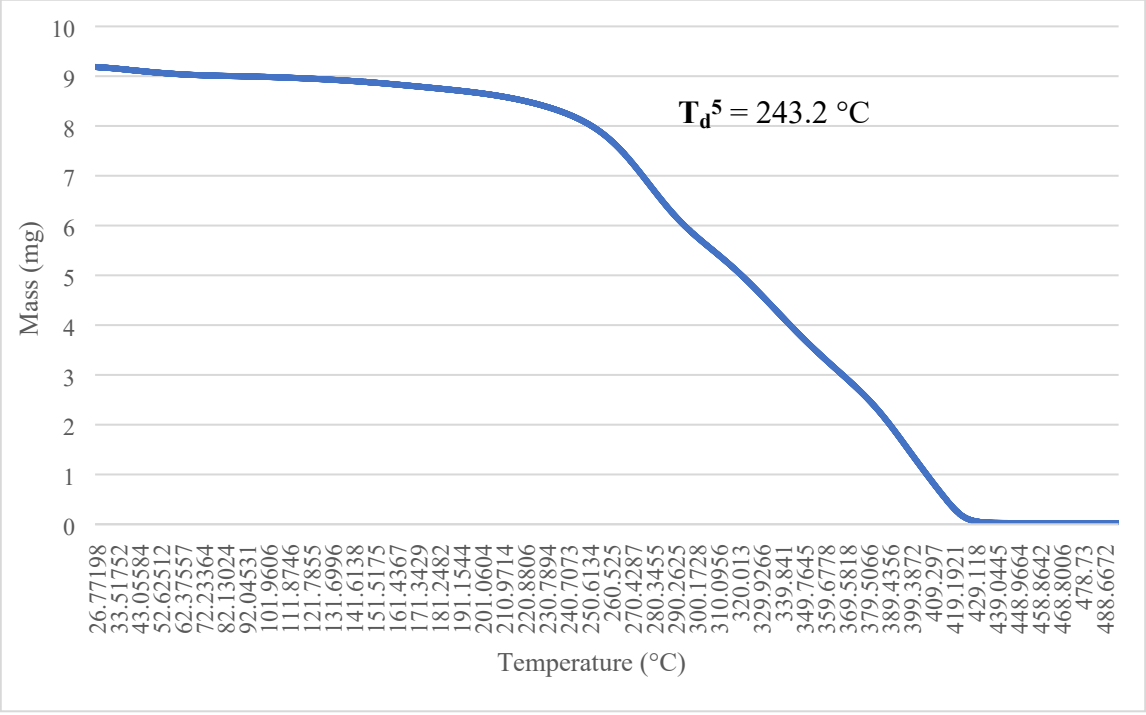


S9: ATR-FTIR of PHEMA

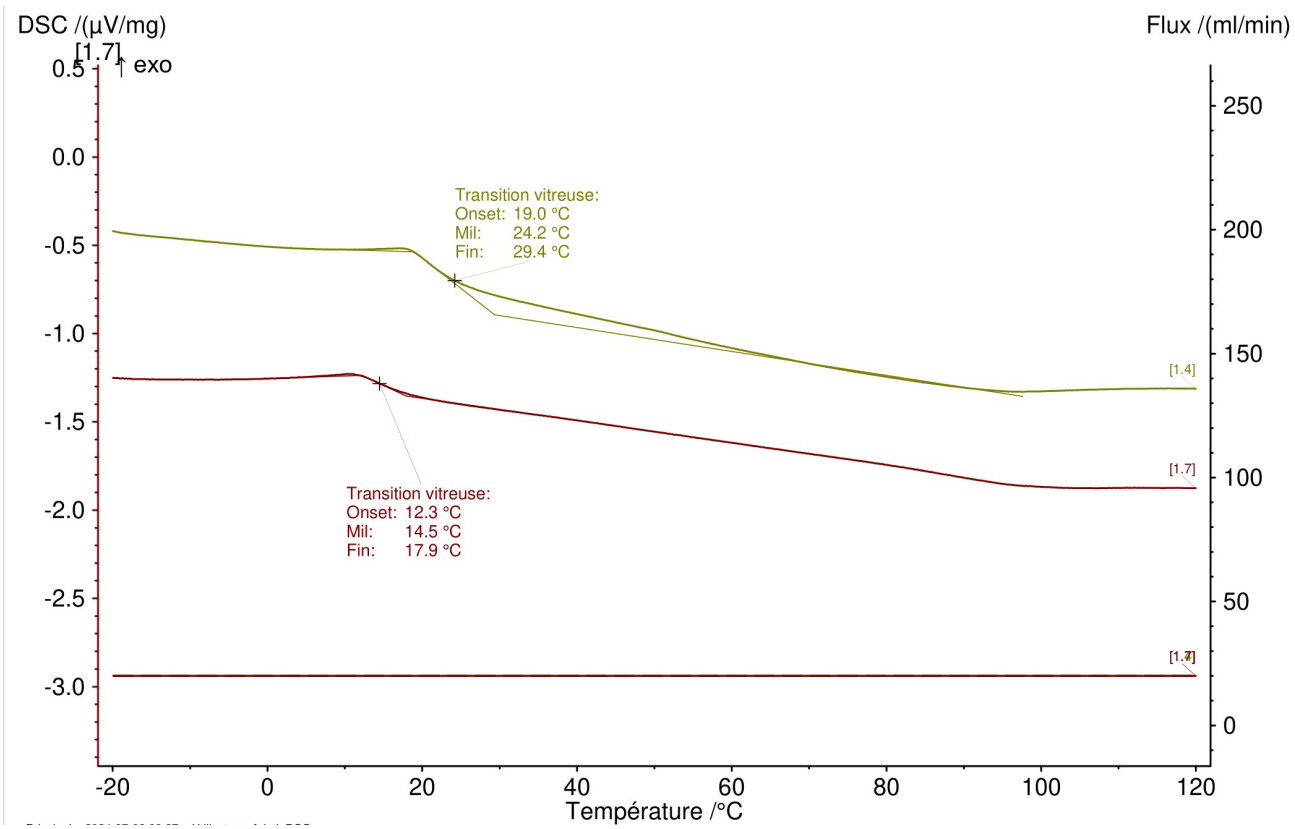
IR (ATR): *v* = 3396.04 (b, O-H stretch), 2995.44 (w), 2945.36 (w), 2874.27 (w), 1715.54 (s), 1450.44 (w), 1387.81 (w), 1245.51 (m), 1150.66 (s), 1070.57 (s), 1021.32 (m), 896.81 (w), 847.50 (w), 748.22 (w).



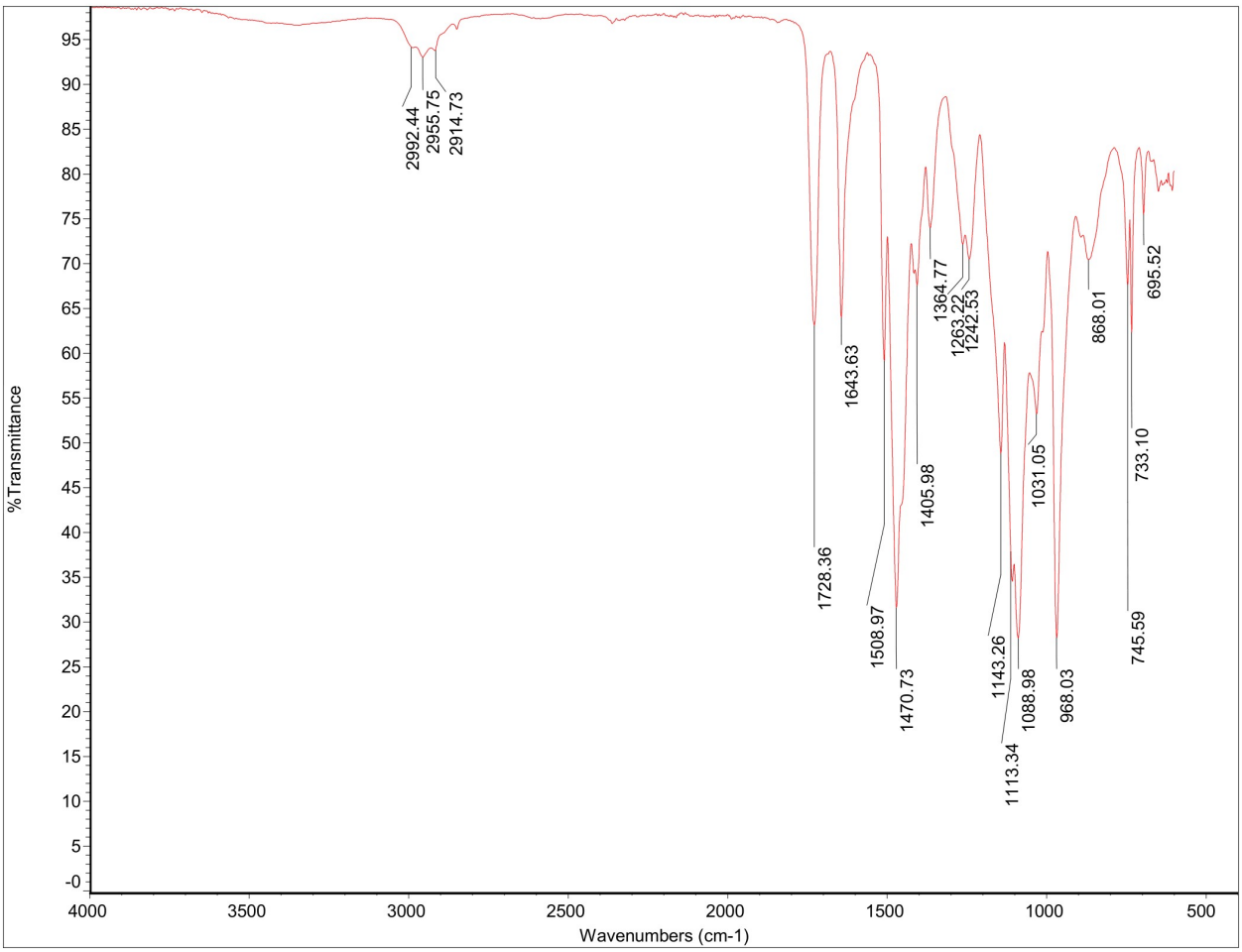
S10: TGA of PHEMA in air



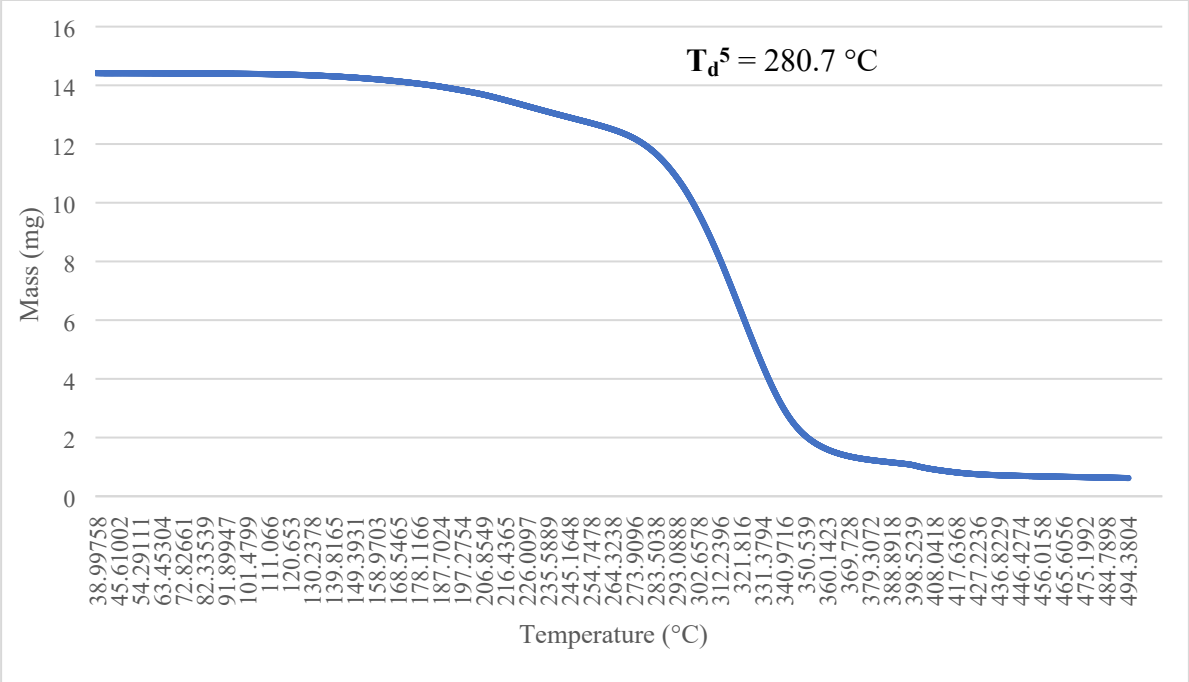
S11: TGA of PHEMA in N_2



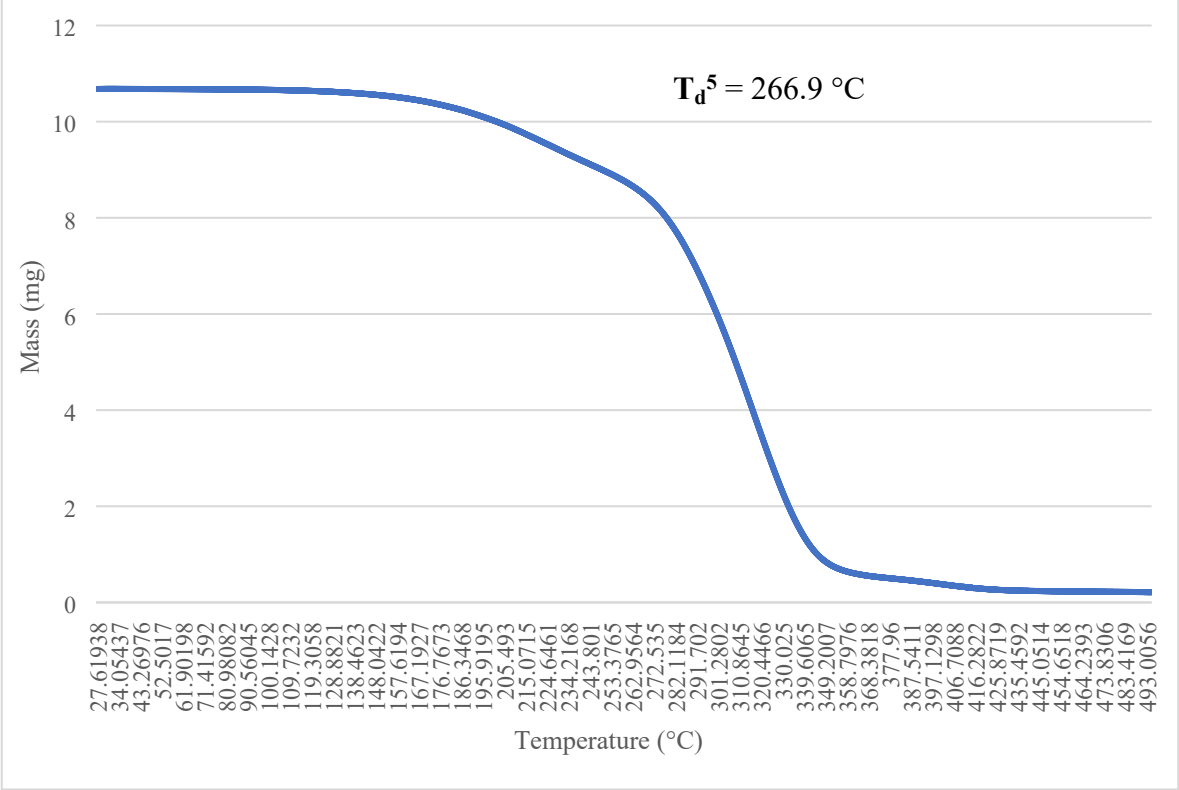
S12: DSC of HEMA



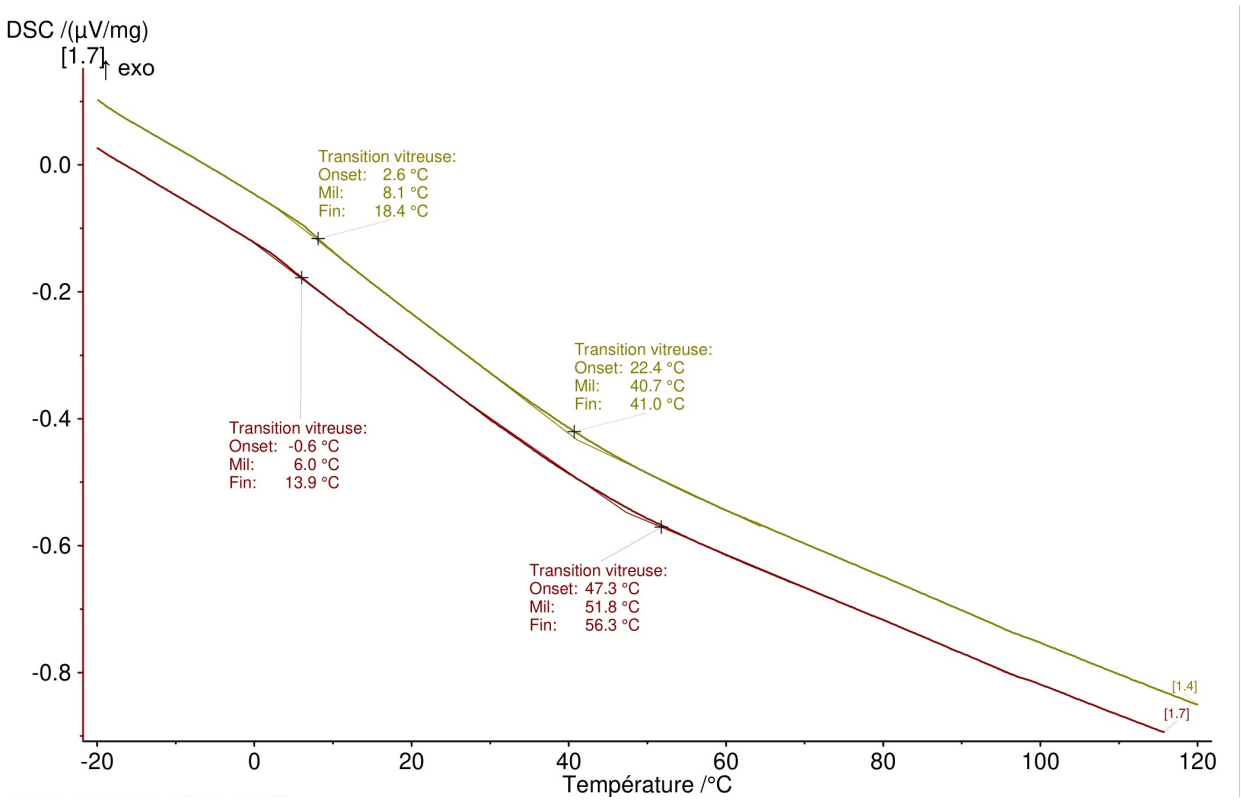
S13: ATR-FTIR of **2**
IR (ATR): ν = 2995.44 (w), 2957.09 (w), 2889.90 (w), 1717.58 (s), 1639.73 (m), 1505.71 (w), 1478.46 (s), 1446.99 (s), 1354.00 (w), 1319.89 (w), 1295.96 (w), 1245.51 (w), 1150.49 (s), 1101.23 (s), 1047.37 (w), 980.70 (m), 883.79 (w), 814.28 (w), 749.78 (w), 735.08 (w), 654.45 (w)



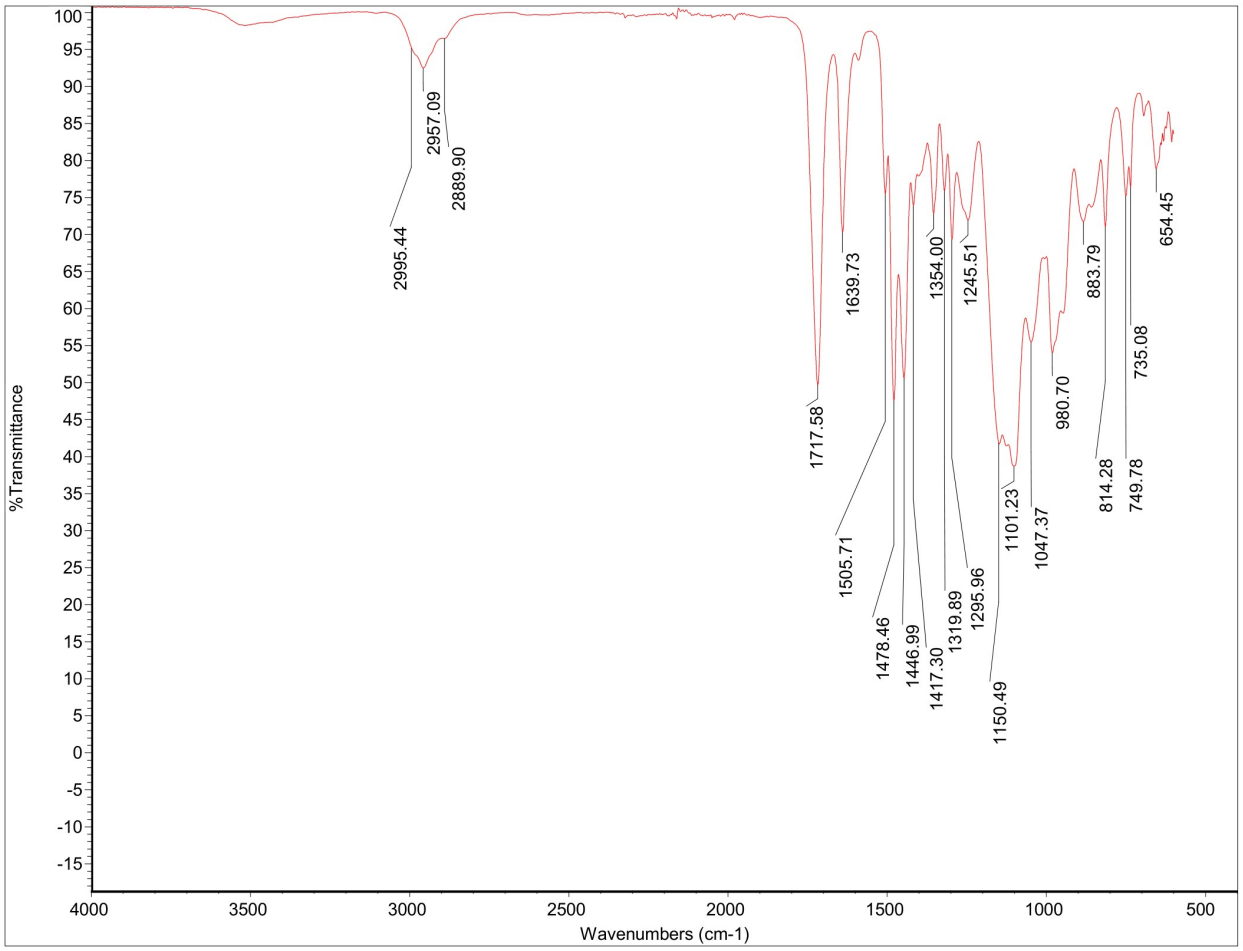
S14: TGA of **2** in air



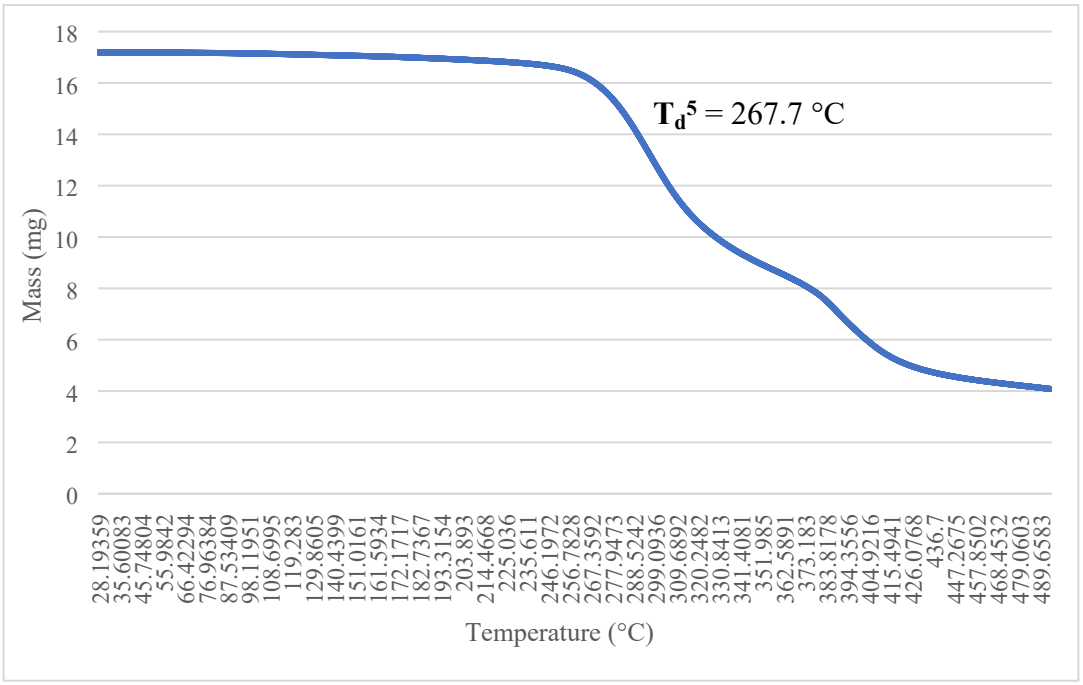
S15: TGA of **2** in N_2


DSC /(µV/mg)
[1.7]
↑ exo
0.0
-0.2
-0.4
-0.6
-0.8
Transition vitreuse:
Onset: 2.6 °C
Mil: 8.1 °C
Fin: 18.4 °C
Transition vitreuse:
Onset: -0.6 °C
Mil: 6.0 °C
Fin: 13.9 °C
Transition vitreuse:
Onset: 22.4 °C
Mil: 40.7 °C
Fin: 41.0 °C
Transition vitreuse:
Onset: 47.3 °C
Mil: 51.8 °C
Fin: 56.3 °C
[1.4]
[1.7]
-20
0
20
40
60
80
100
120
Température /°C

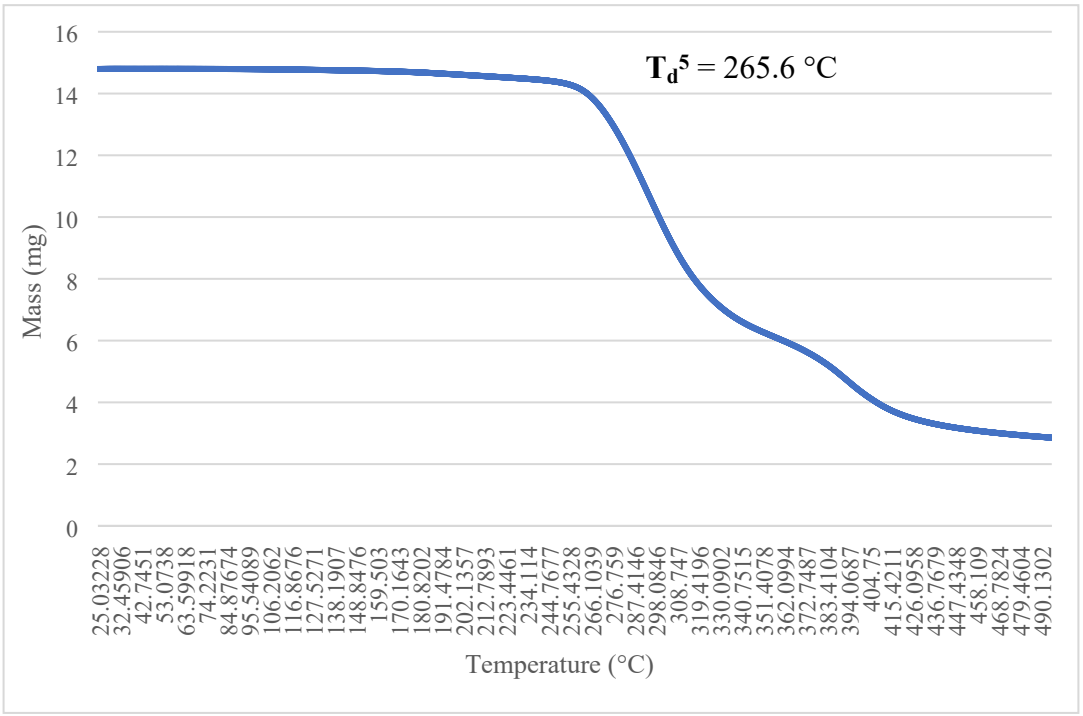
S16: DSC of **2**



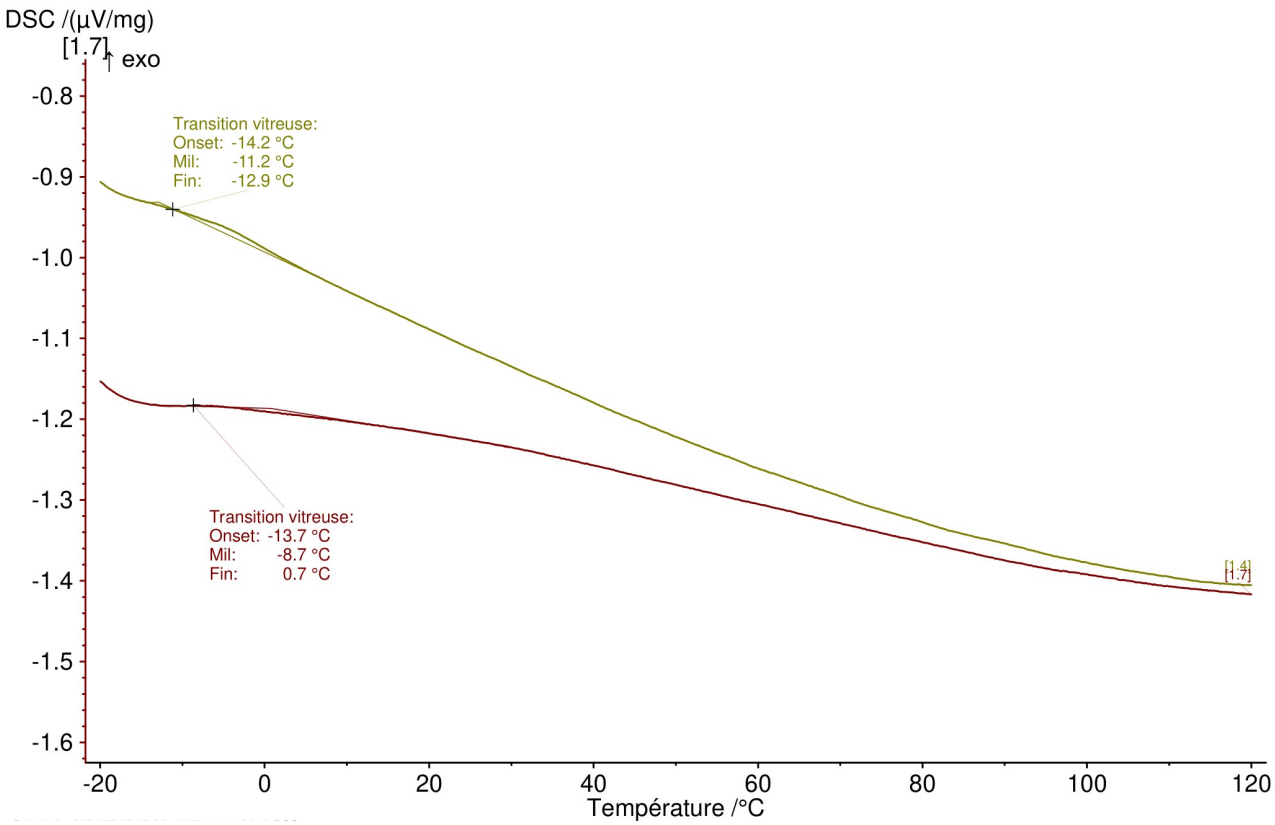
S17: ATR-FTIR of **4-a**
IR (ATR): ν = 2995.44 (w), 2957.09 (w), 2889.90 (w), 1717.58 (s), 1639.73 (m), 1505.71 (w), 1478.46 (s), 1446.99 (s), 1354.00 (w), 1319.89 (w), 1295.96 (w), 1245.51 (w), 1150.49 (s), 1101.23 (s), 1047.37 (w), 980.70 (m), 883.79 (w), 814.28 (w), 749.78 (w), 735.08 (w), 654.45 (w)



S18: TGA of **4-a** in air



S19: TGA of **4-a** in N_2


DSC /(µV/mg)
[1.7]
exo
-0.8
-0.9
-1.0
-1.1
-1.2
-1.3
-1.4
-1.5
-1.6
Transition vitreuse:
Onset: -14.2 °C
Mil: -11.2 °C
Fin: -12.9 °C
Transition vitreuse:
Onset: -13.7 °C
Mil: -8.7 °C
Fin: 0.7 °C
[1.4]
[1.7]
-20
0
20
40
60
80
100
120
Température /°C

S20: DSC of **4-a**