

New acetylacetonate-polymer modified nanoparticles as magnetically separable complexing agents.

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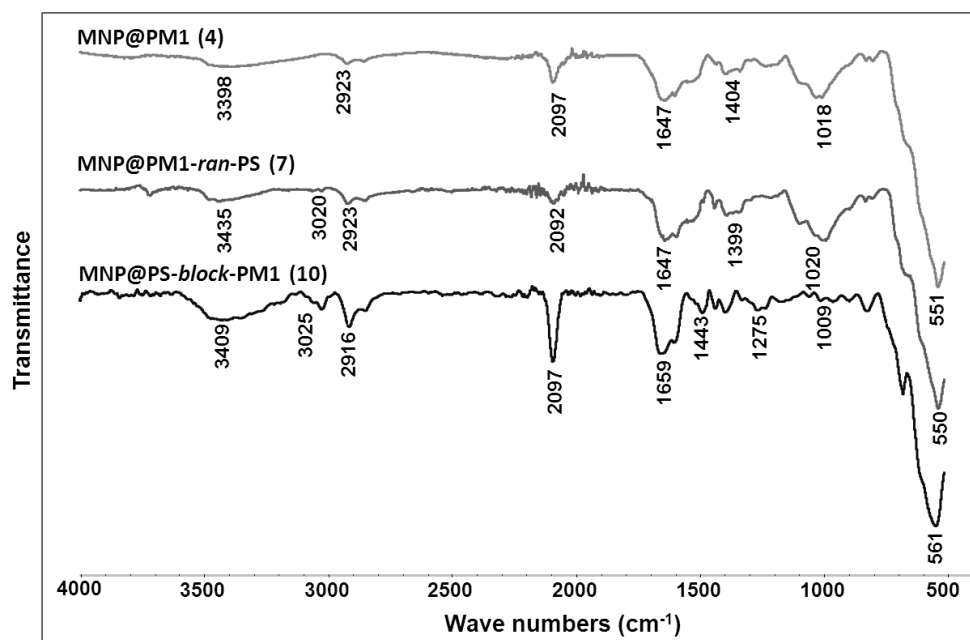
Supporting information

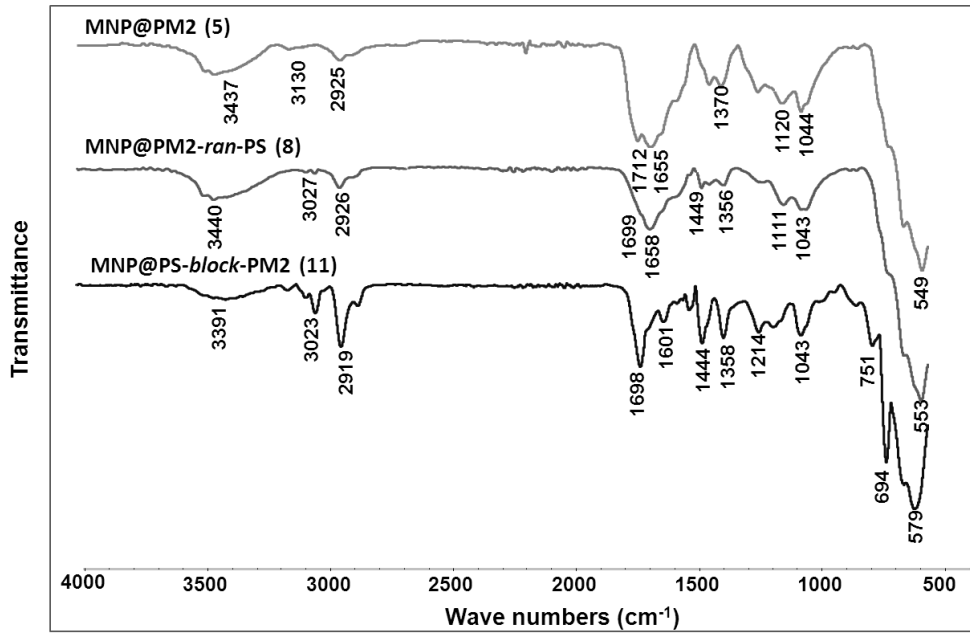
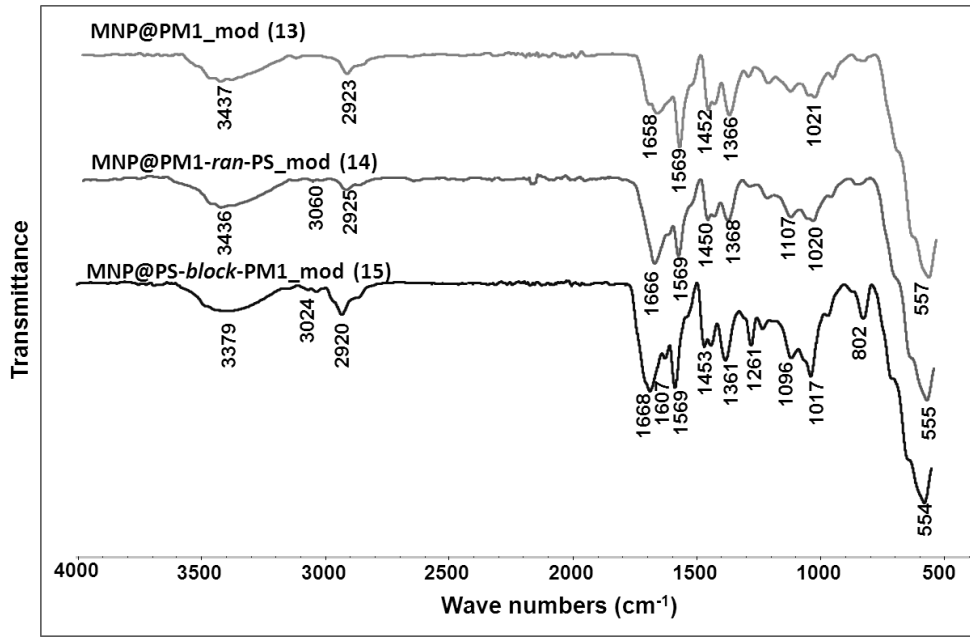
4-vinylbenzyl iodide

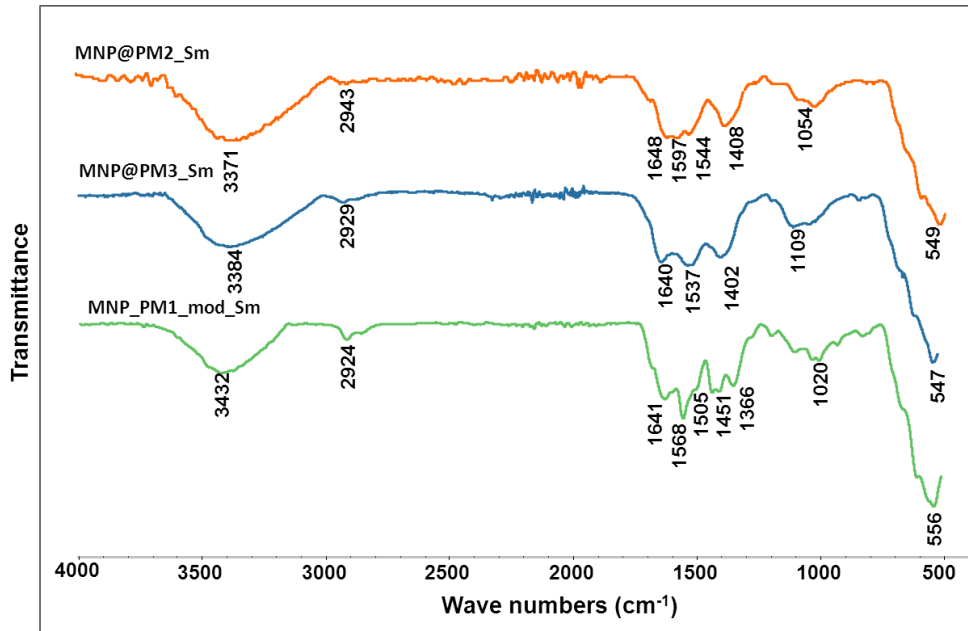
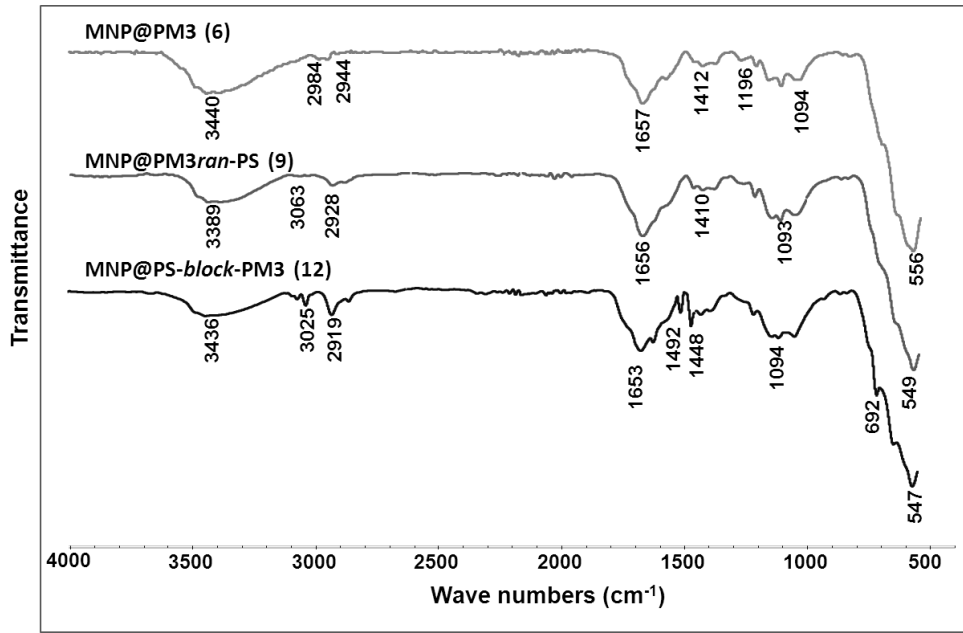
Sodium iodide (534 mg, 3.56 mmol) was placed in Schlenk flask under argon atmosphere. Subsequently 4ml of butan-2-one and 0,1 ml (0.71 mmol) of 4-vinylbenzylchloride were added. The reaction mixture was stirred at inert atmosphere for 4 days in room temperature with absence of sunlight. After completion of the reaction solvent was evaporated and then diethyl ether was added (15 ml). Afterwards mixture was washed 3 times with water. Organic layer were then dried under anhydrous Na₂SO₄ and filtrated. Filtrate was evaporated and the product as yellow oil was obtained (yield 85%).

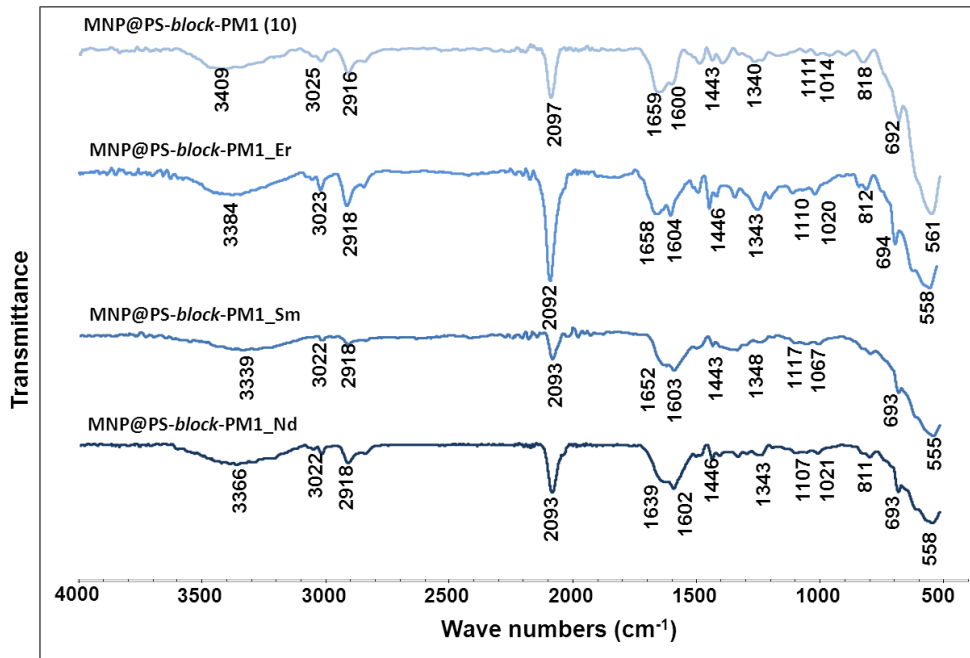
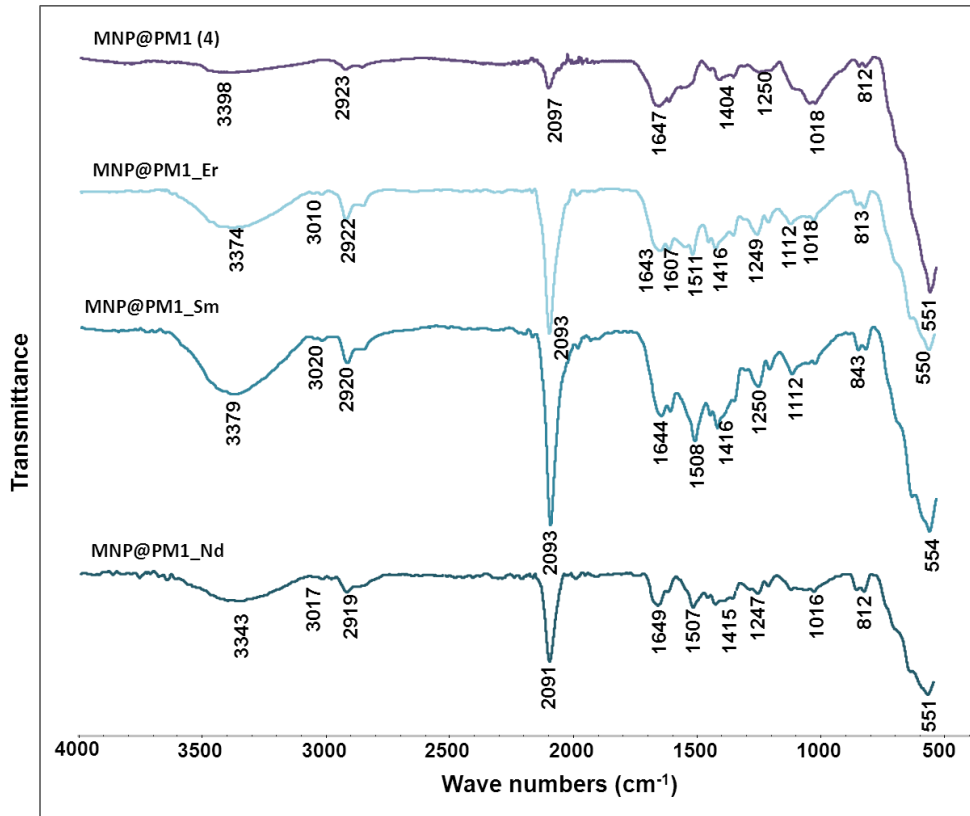
¹HNMR (400MHz, CD₃Cl, δ, ppm): 7.35 (s, 4H), 6.70 (dd, 1H, J₁=17.57Hz, J₂=10.85Hz), 5.77 (d, 1H, J=17.60Hz), 5.27 (d, 1H, J=10.92Hz), 4.48 (s, 2H); ¹³CNMR (100MHz, CD₃Cl, δ, ppm): 138.8, 137.2, 136.3, 129.0, 126.7, 114.5, 5.86; FT-IR (ATR, ν) cm⁻¹: 3083, 3020, 2921, 2848, 1682, 1508, 1406, 1153, 1081, 987, 840, 720, 580.

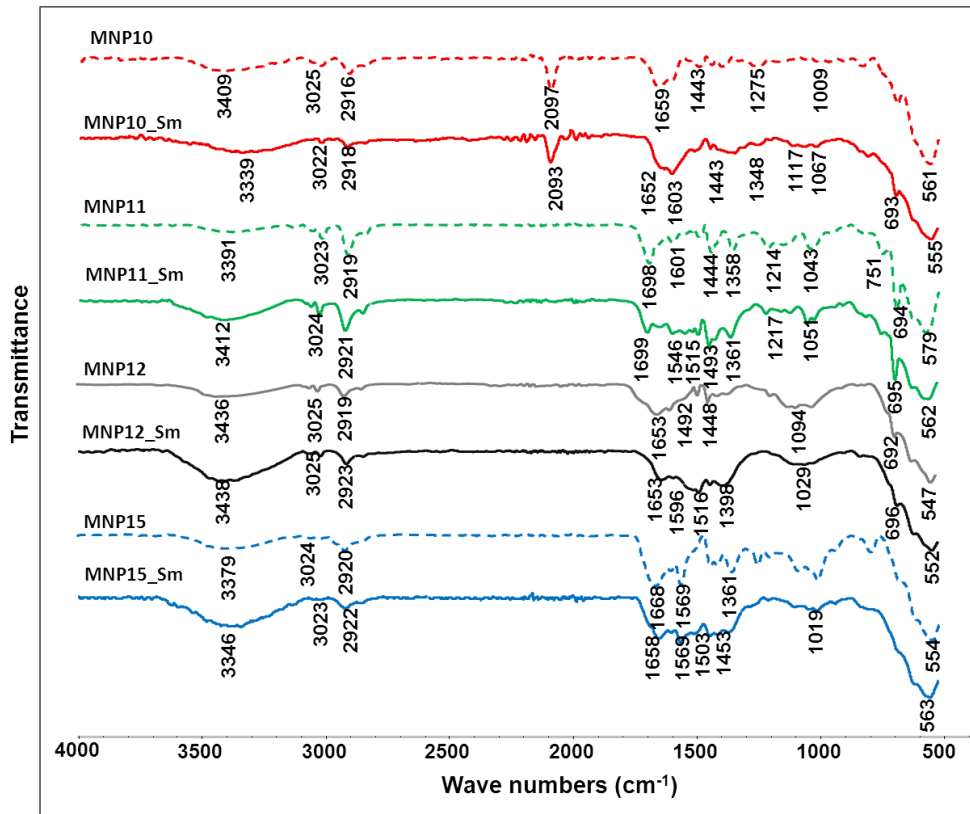
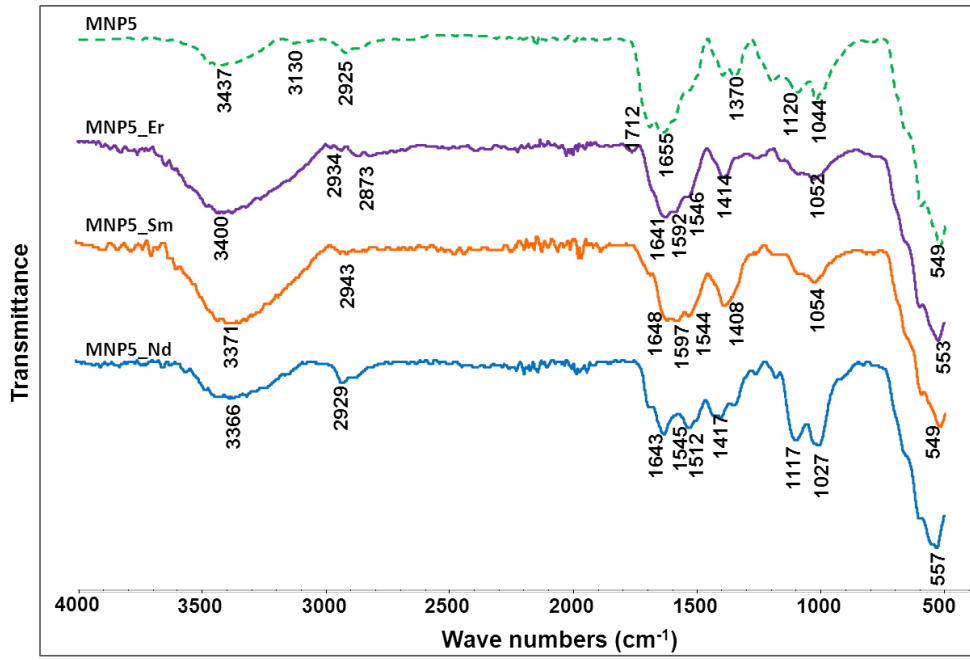
IR Spectra:



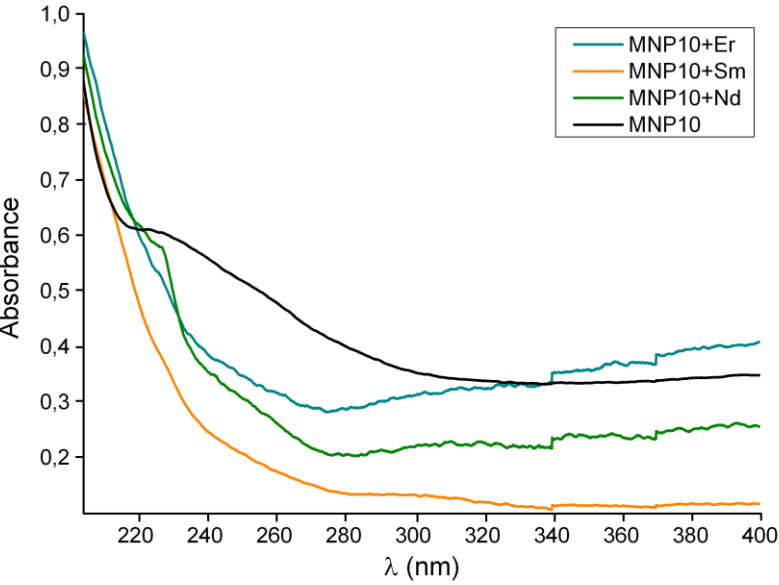
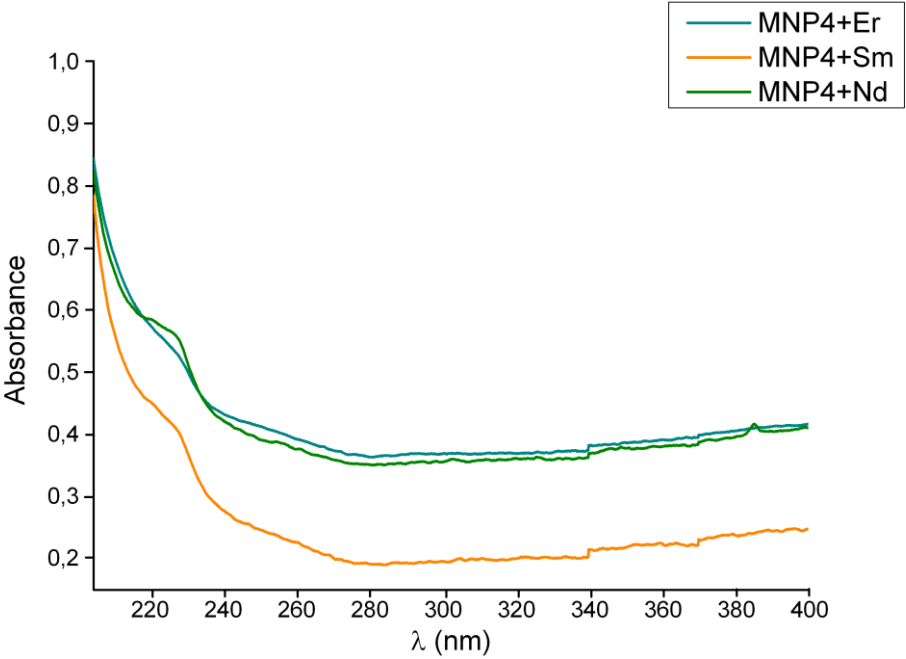


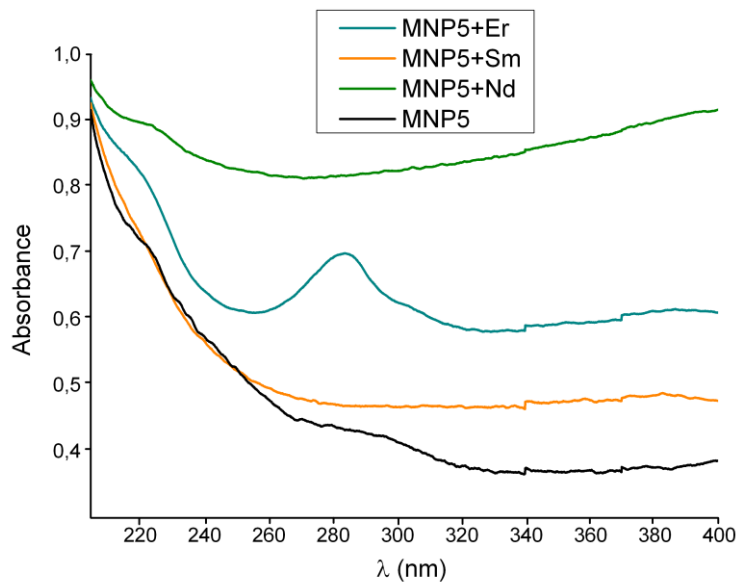




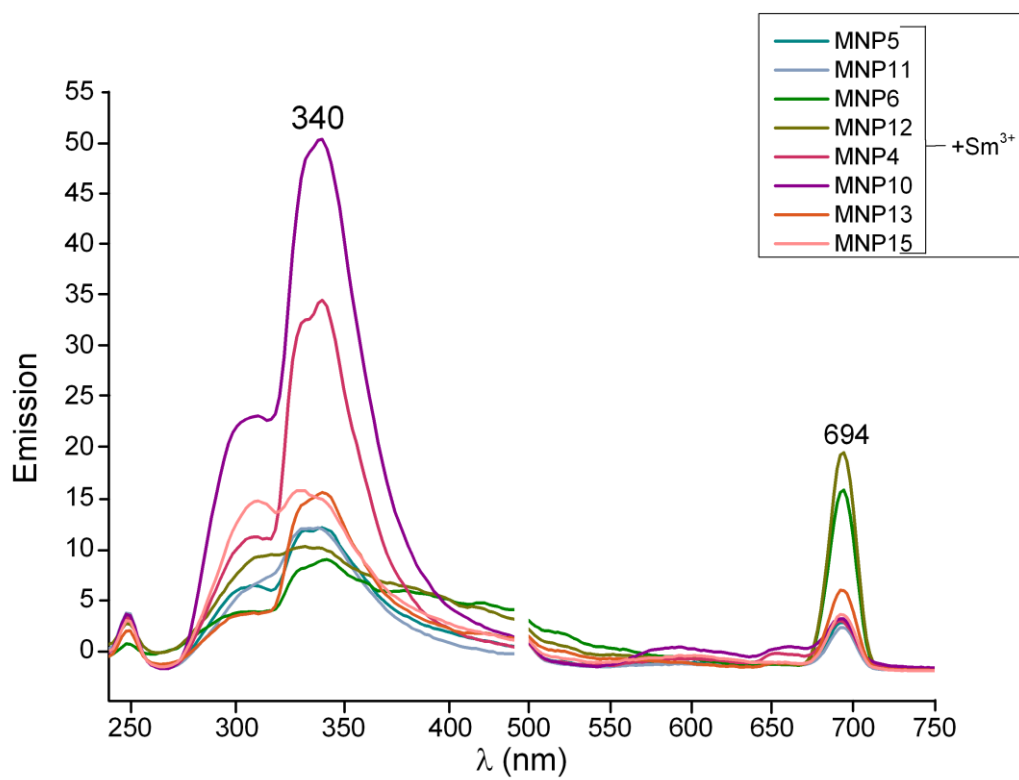


UV spectra (normalized to 1)

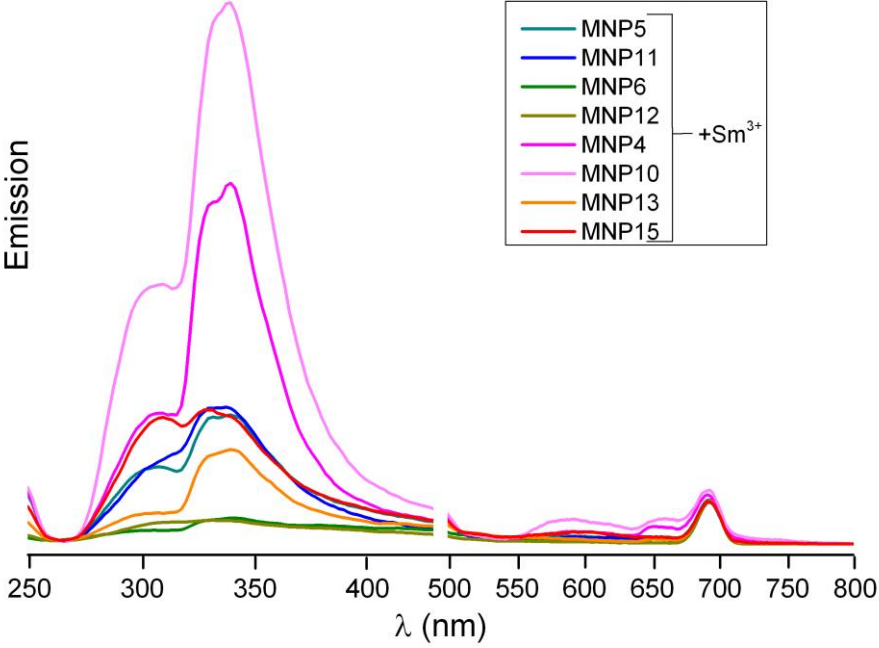




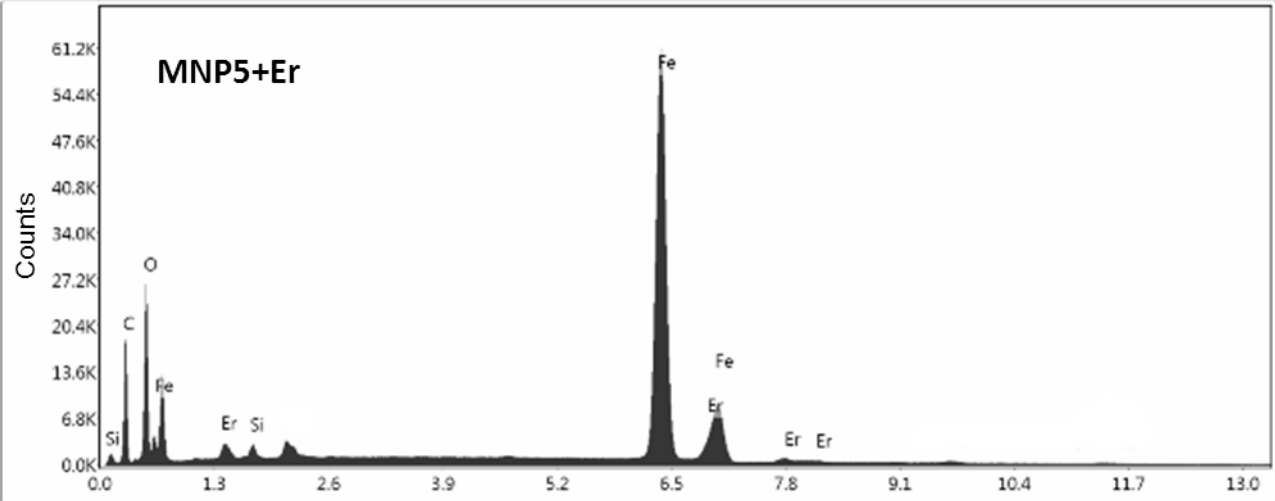
Luminescence spectra:

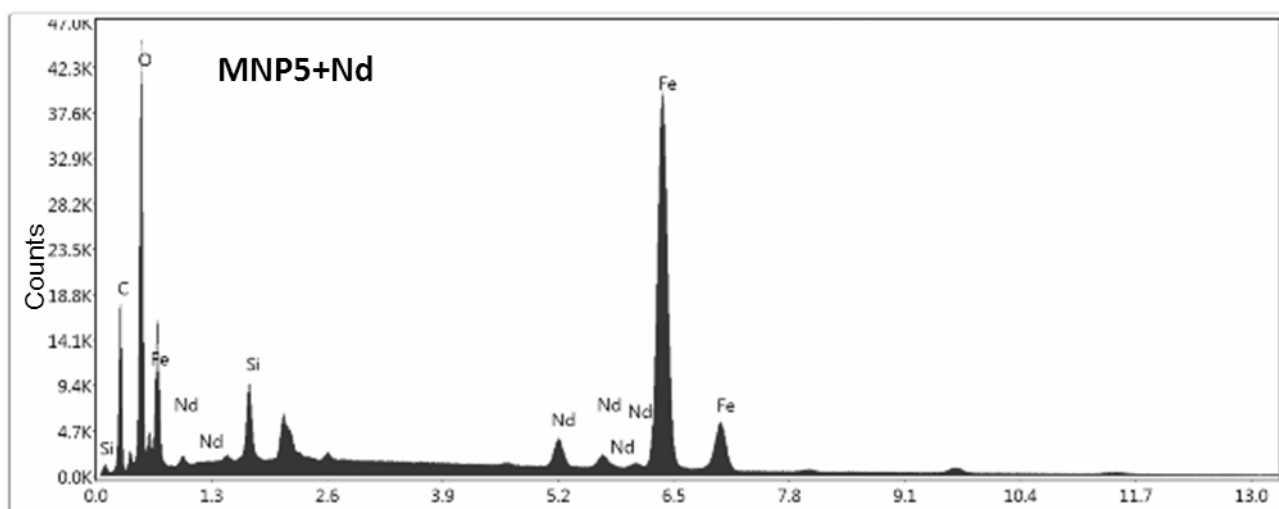
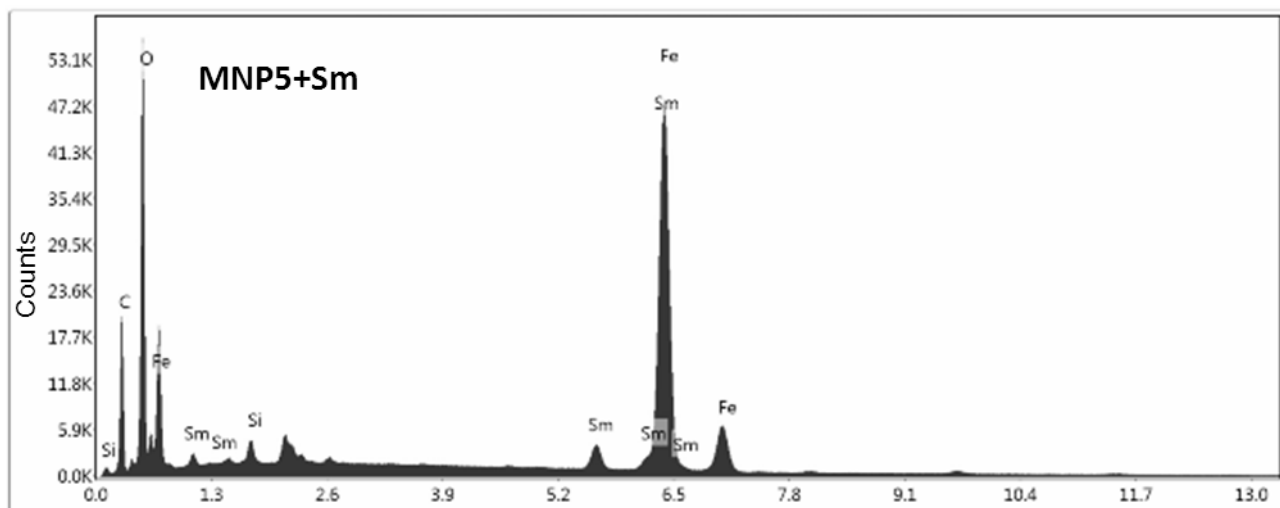


Normalised to 1

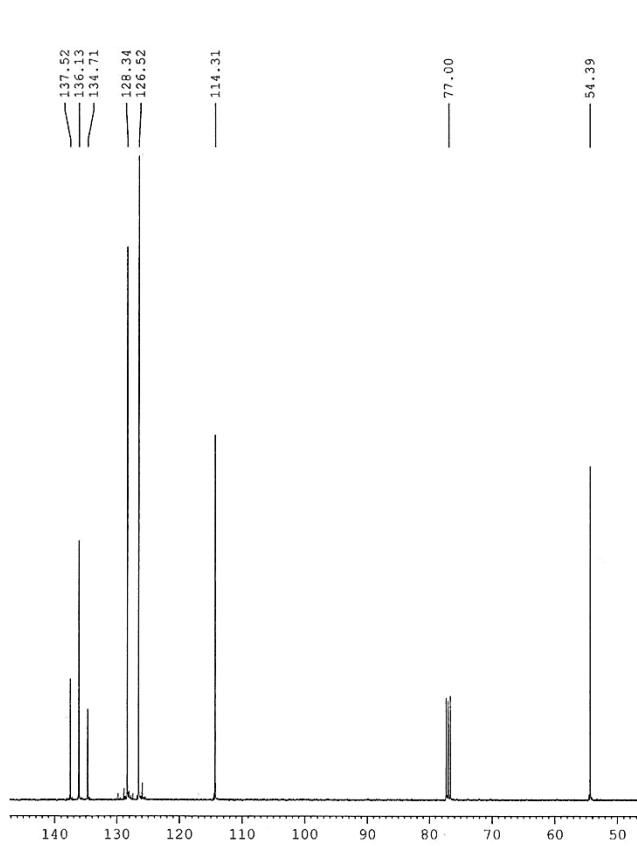
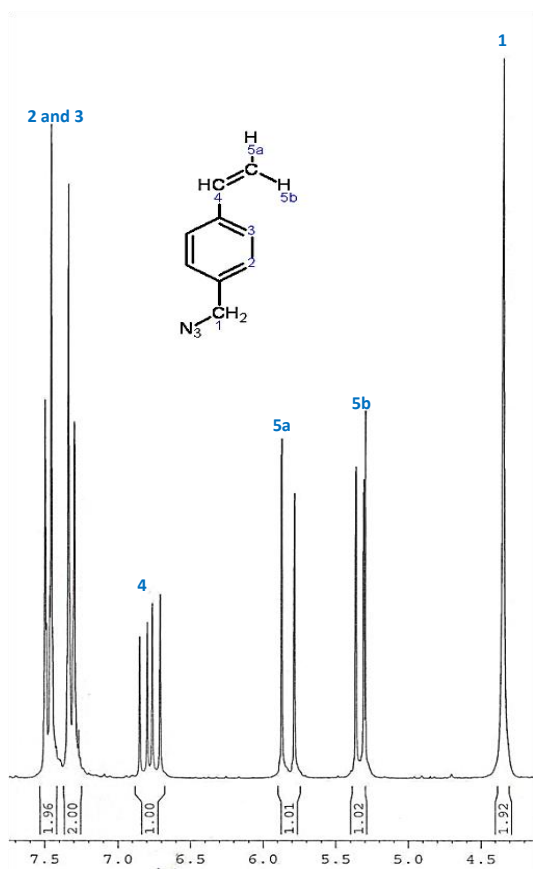


SEM/EDX:

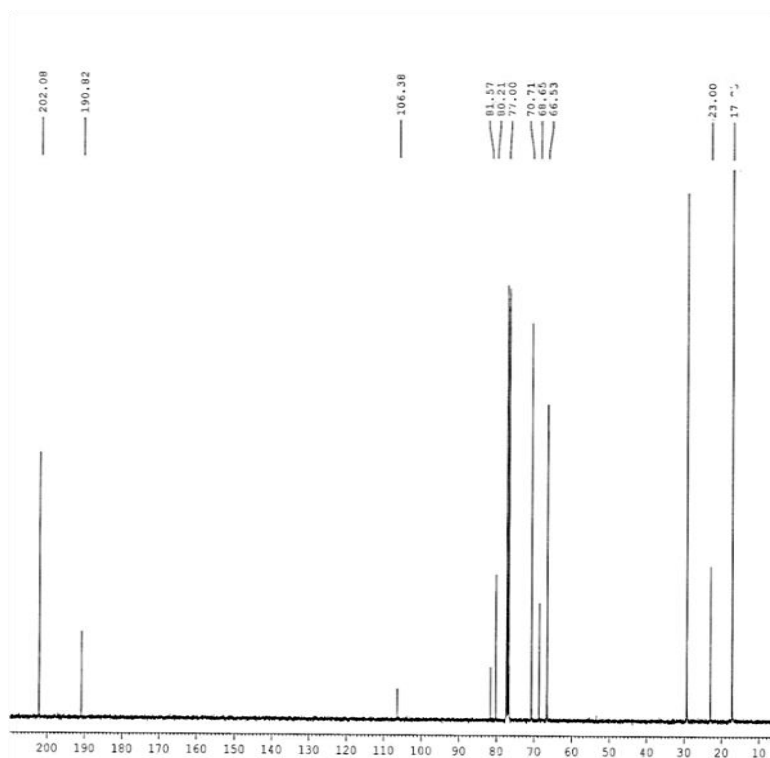
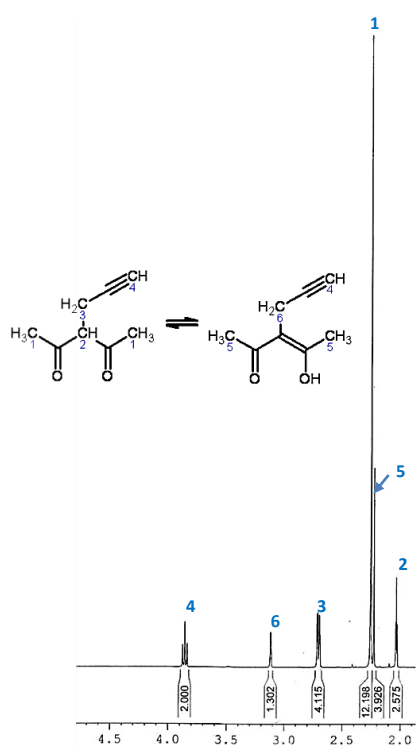




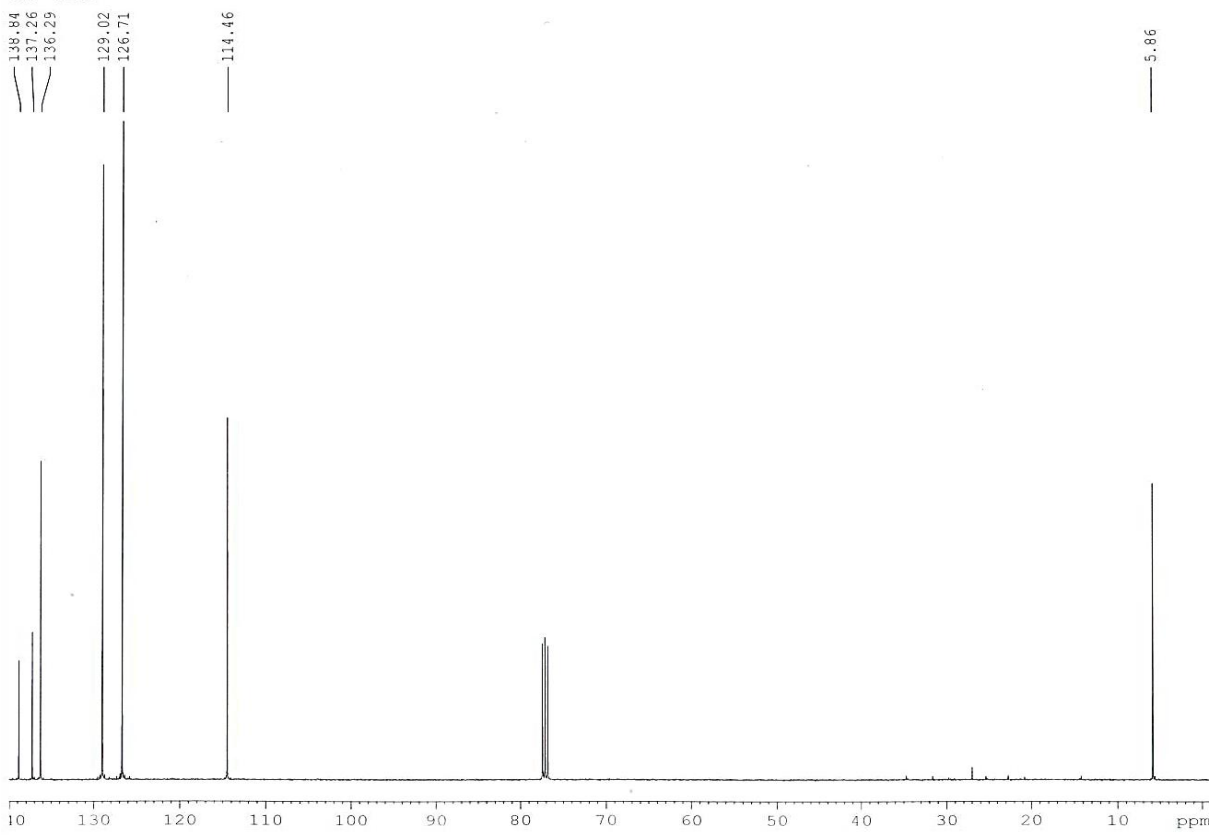
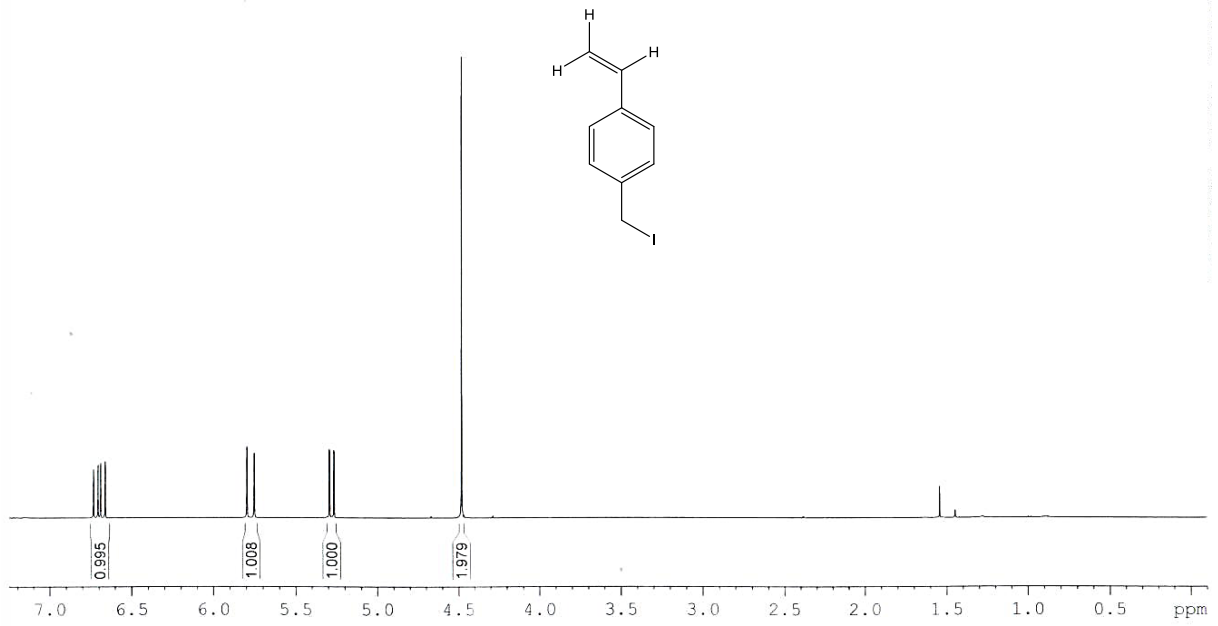
¹H and ¹³C NMR
Monomer 1



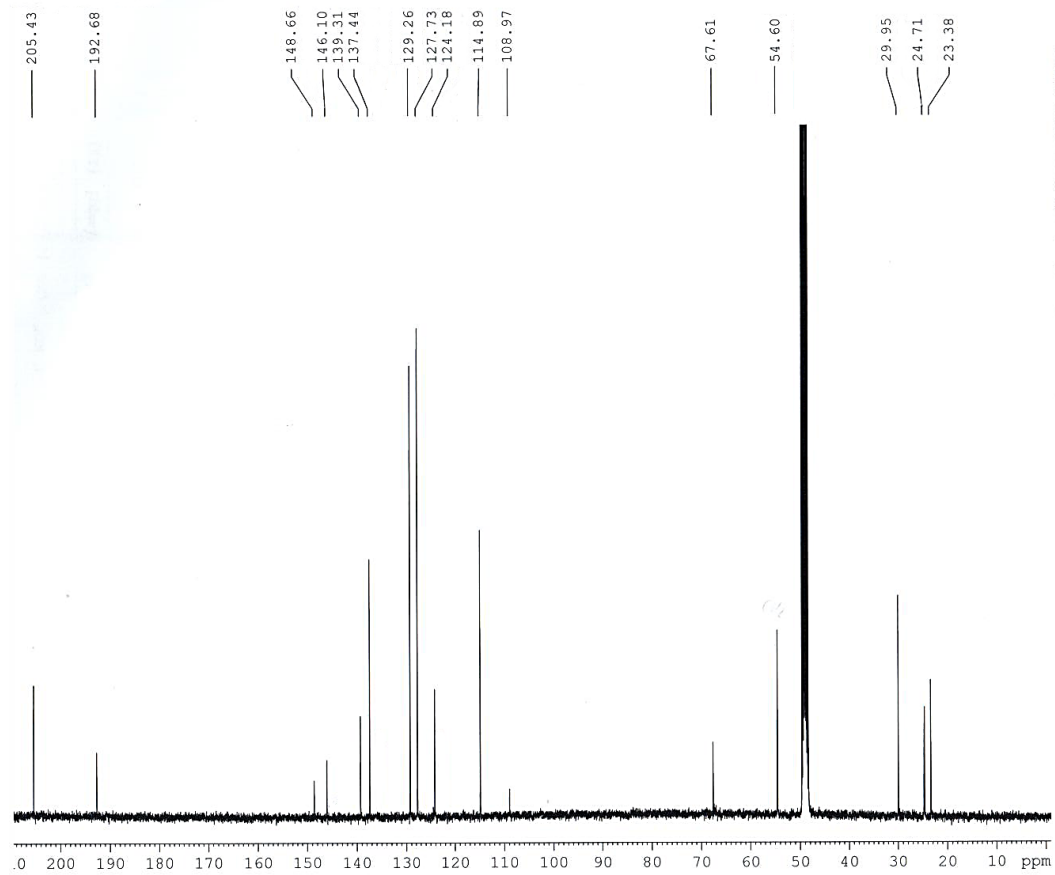
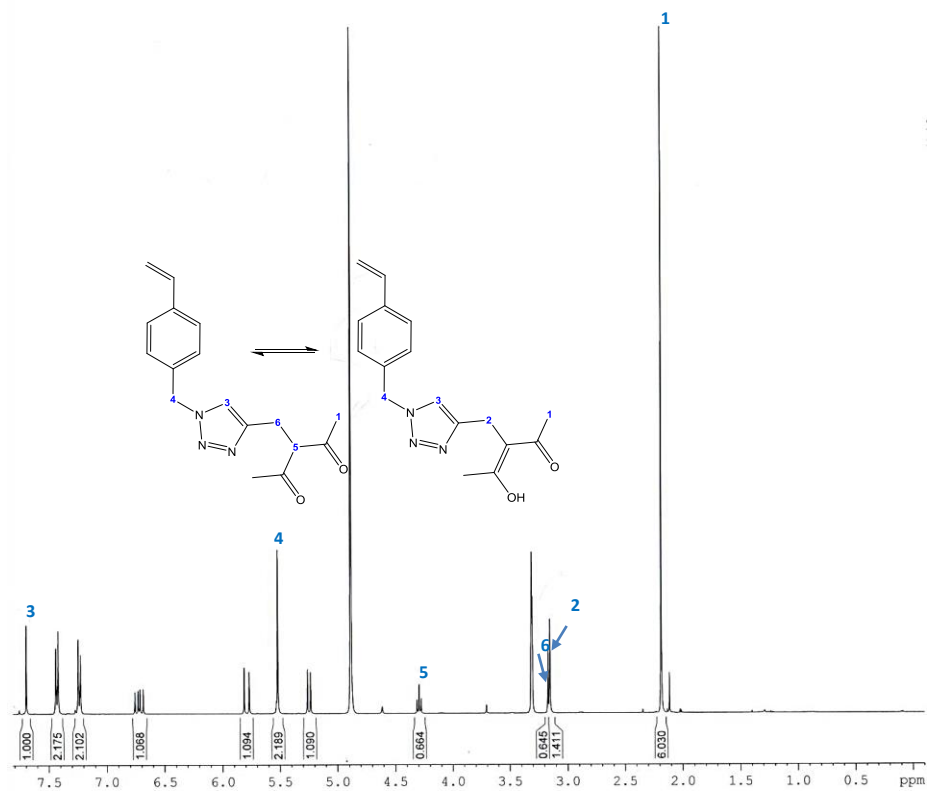
Compound 2a



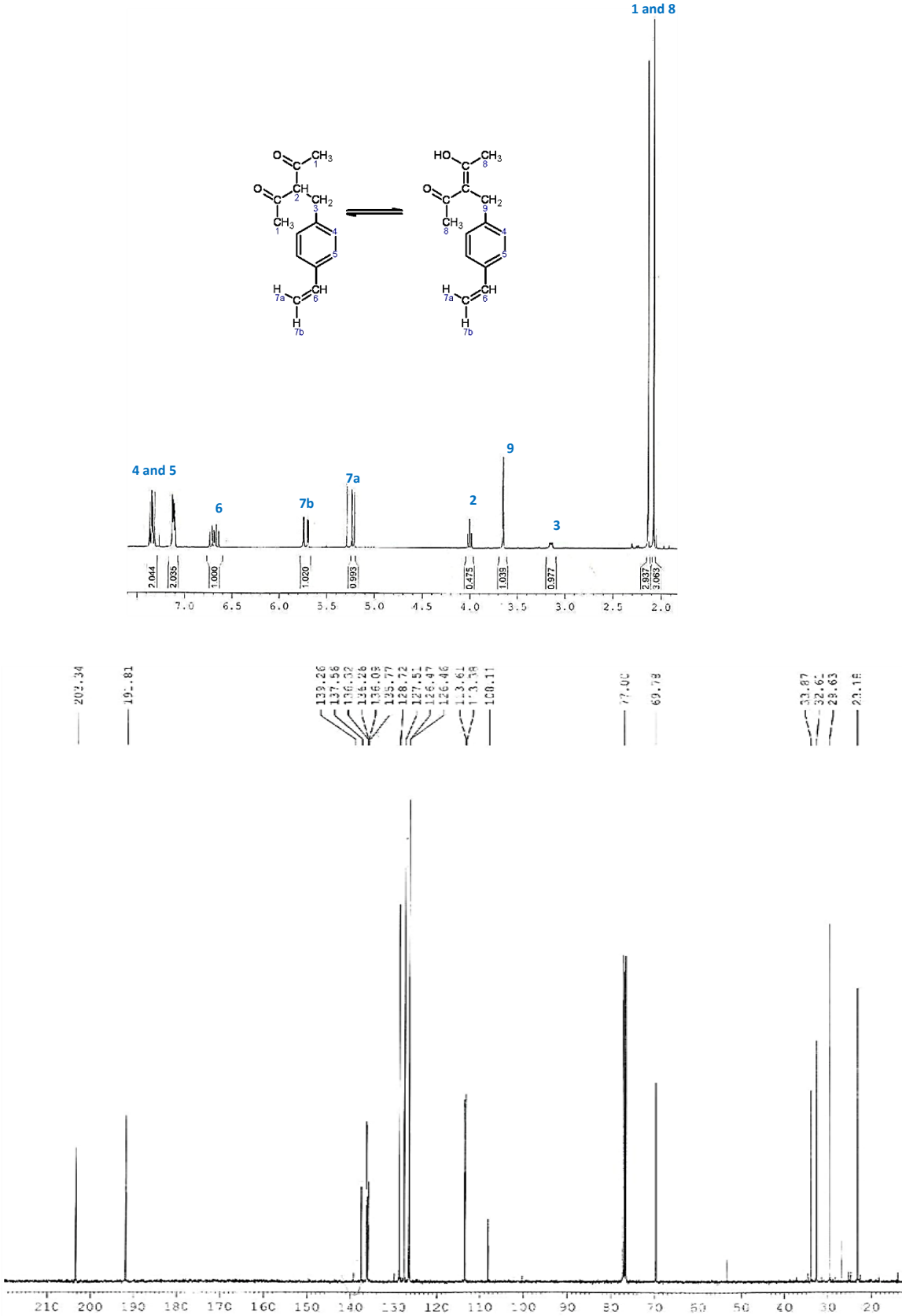
4-vinylbenzyl iodide



Monomer 2

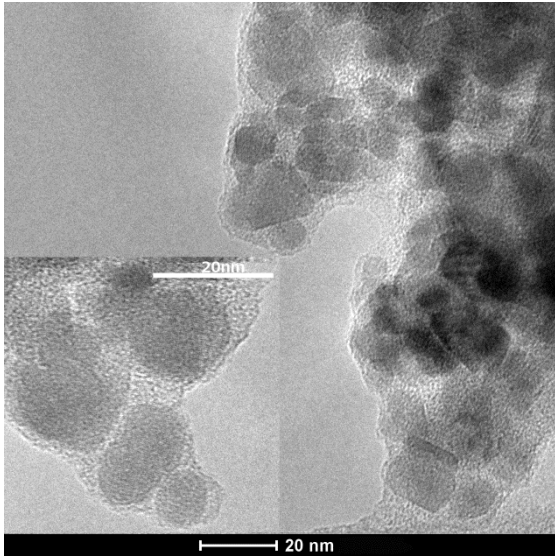


Monomer 3

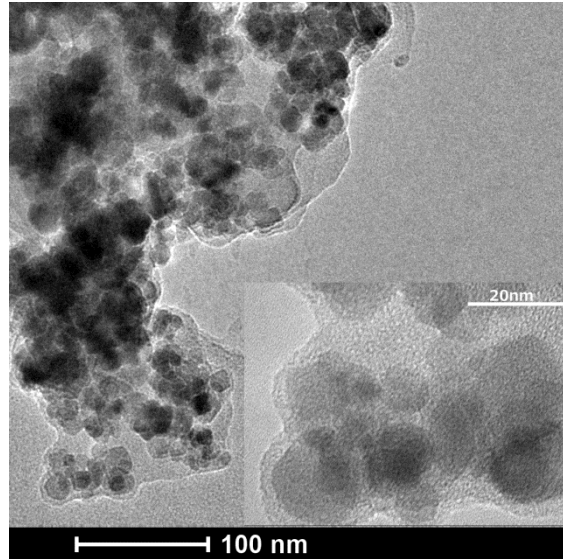


TEM and SEM photographs

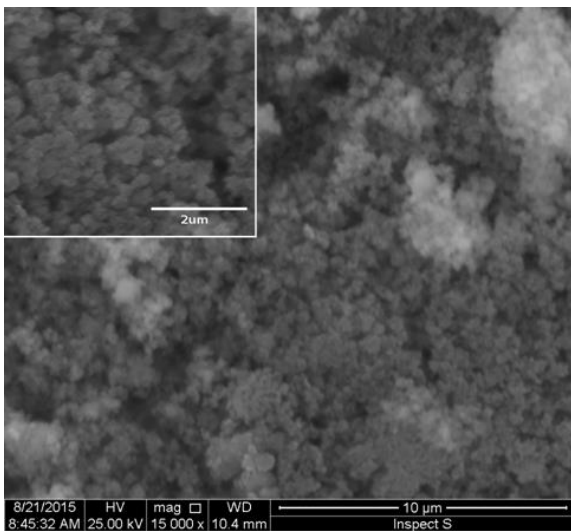
MNP 5



MNP 11



MNP5



TGA, DTG and DSC curves

Determination of Tg temperature for polymer:

