Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics

Supporting Information to Accompany

Fluorescent Carboxylic and Phosphonic Acids: Comparative Photophysics from Solution to Organic Nanoparticles

Contribution from

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Experimental Section

1. Infrared spectra in CCl_4 solution

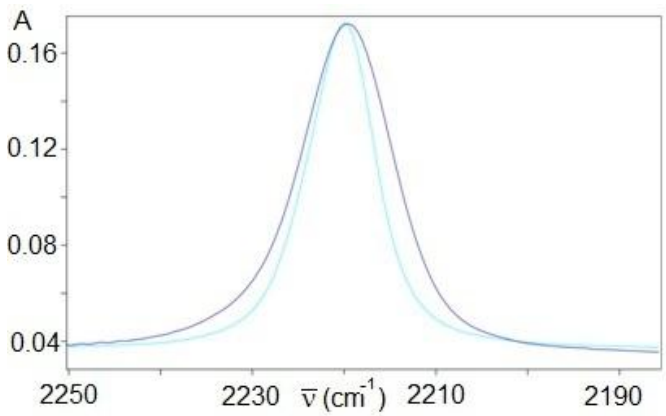


Fig. S1 Infrared absorption band of the CN unit, centered at 2220 cm^{-1} for **fPOH** (—) and **fPOEt** (—) in CCl_4 solution (10^{-4} mol.L^{-1}).

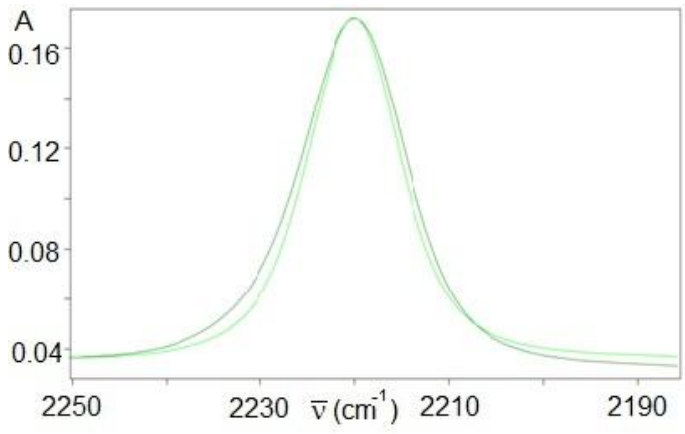


Fig. S2 Infrared absorption band of the CN unit, centered at 2220 cm^{-1} for **fPOH** (—) and **fPOEt** (—) in $CHCl_3$ solution (10^{-4} $mol.L^{-1}$).

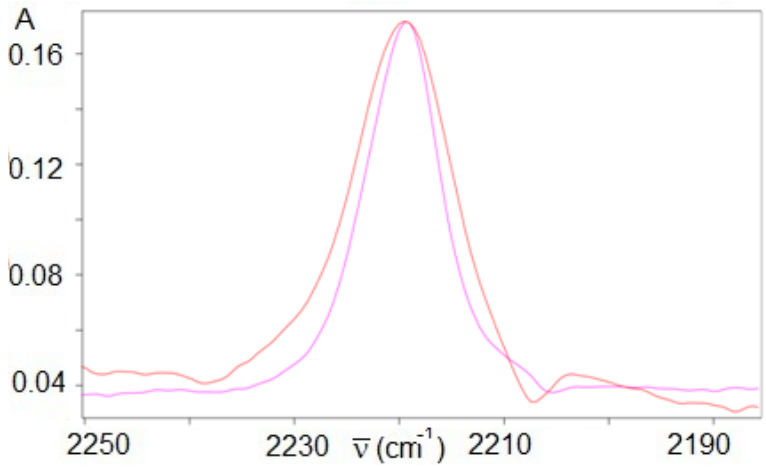


Fig. S3 Infrared absorption band of the CN unit, centered at 2220 cm^{-1} for **fPOH** (—) and **fPOEt** (—) in toluene solution (10^{-4} $mol.L^{-1}$).

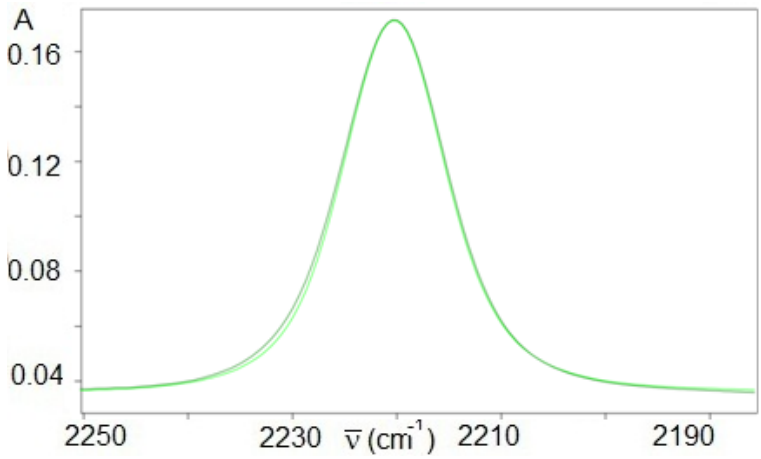


Fig. S4 Infrared absorption band of the CN unit, centered at 2220 cm^{-1} for **fCO$_2$H** (—) and **fOtBu** (—) in $CHCl_3$ solution (10^{-4} $mol.L^{-1}$).

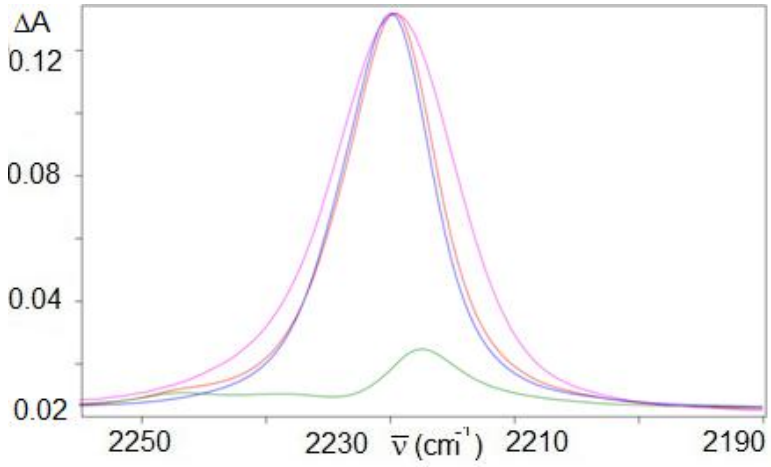
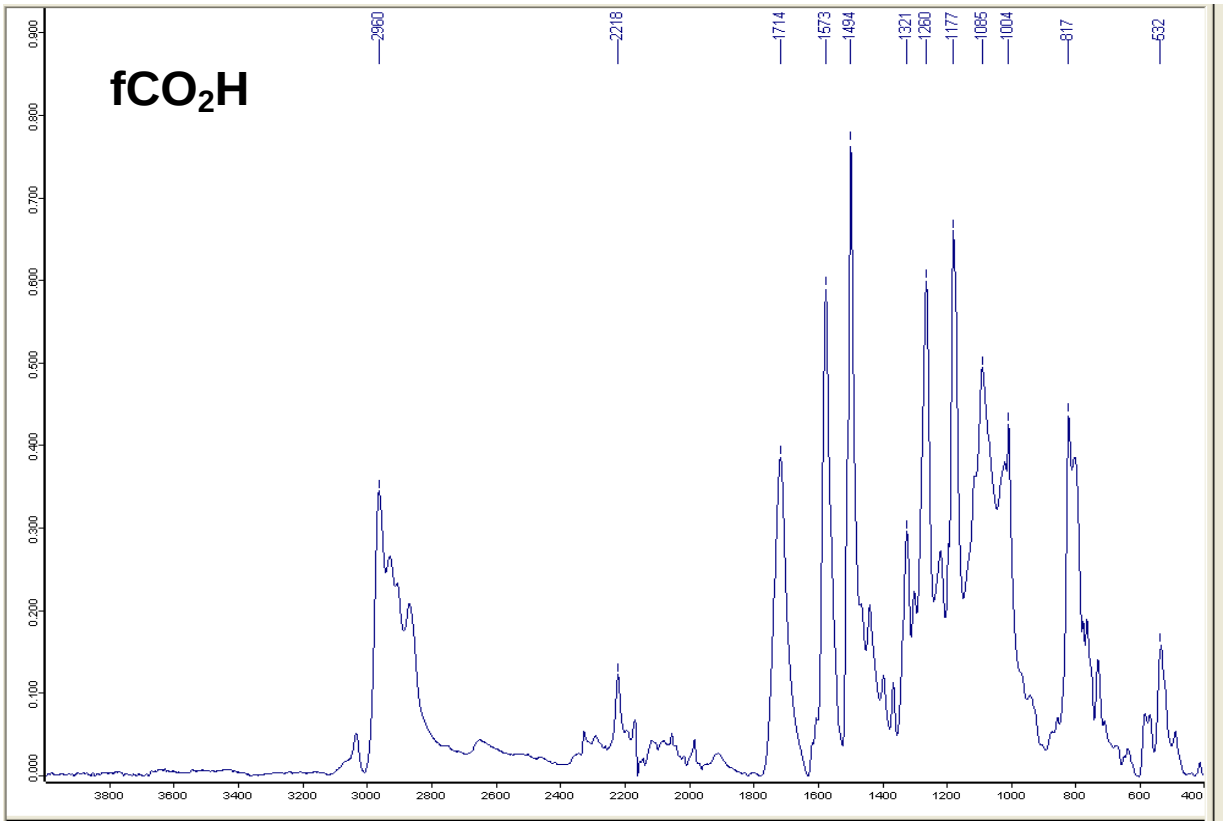
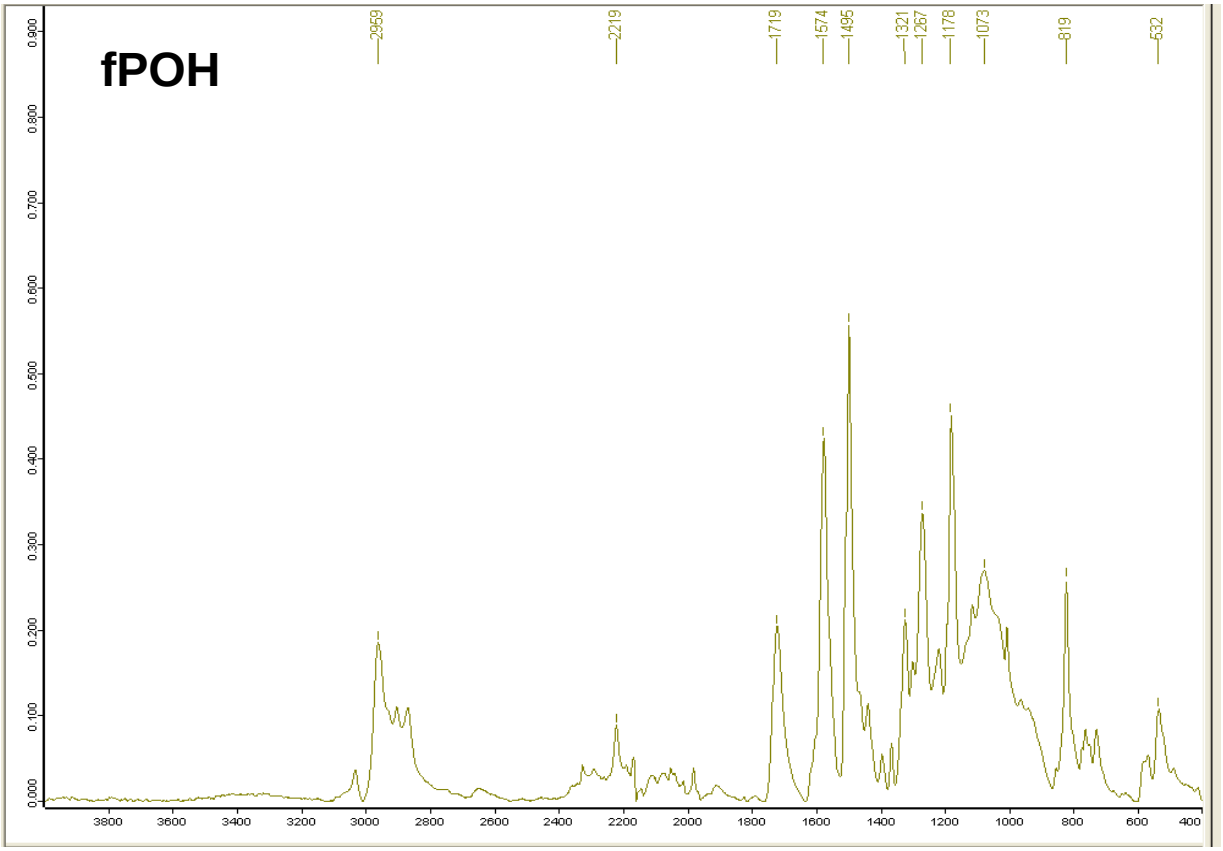


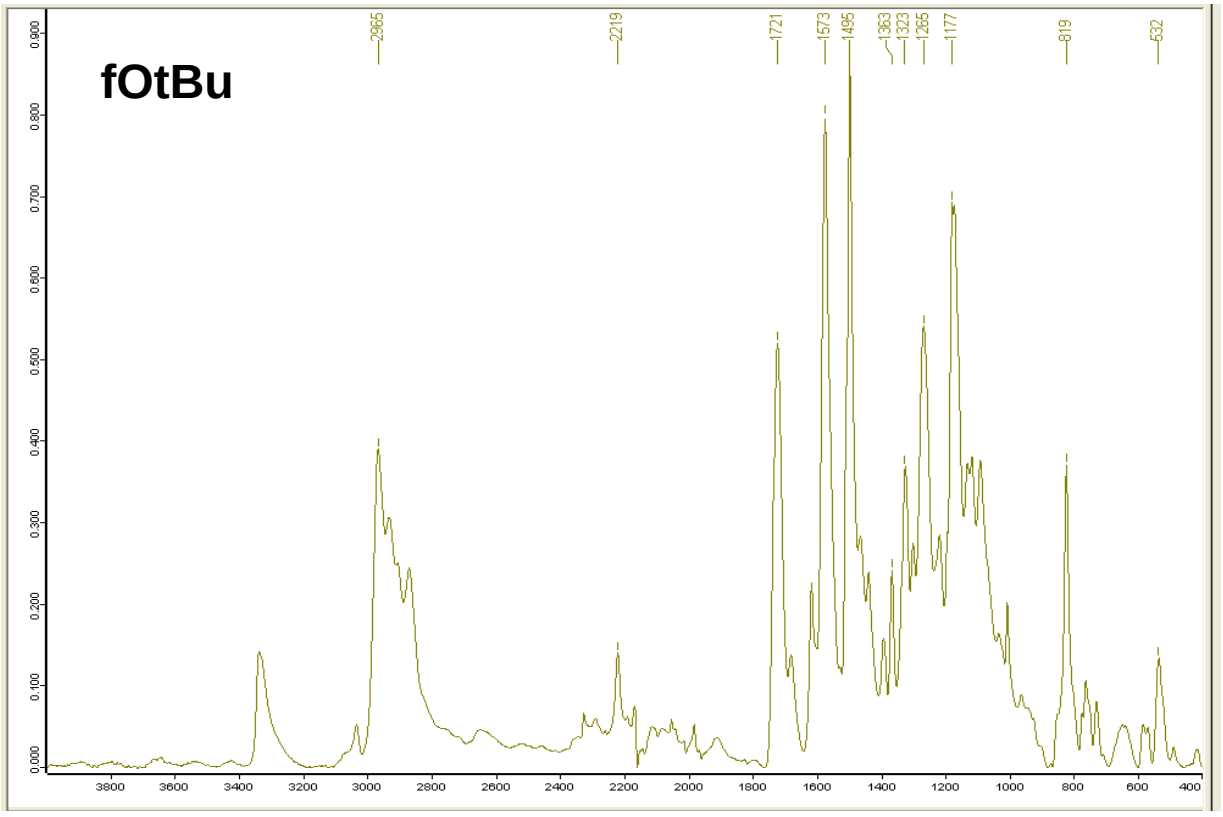
Fig. S5 Infrared absorption band of the CN unit, centered at 2220 cm^{-1} for **fPOH** (—) and **fPOEt** before (—) and (—) after adding 4-fluorophenol (4FP) in excess in CCl_4 solution (10^{-4} $mol.L^{-1}$). The spectrum resulting from the subtraction after and before adding 4FP to the solution of fPOEt (—) is indicated and shows a neat bathochromic shift, featuring strong hydrogen bonding.

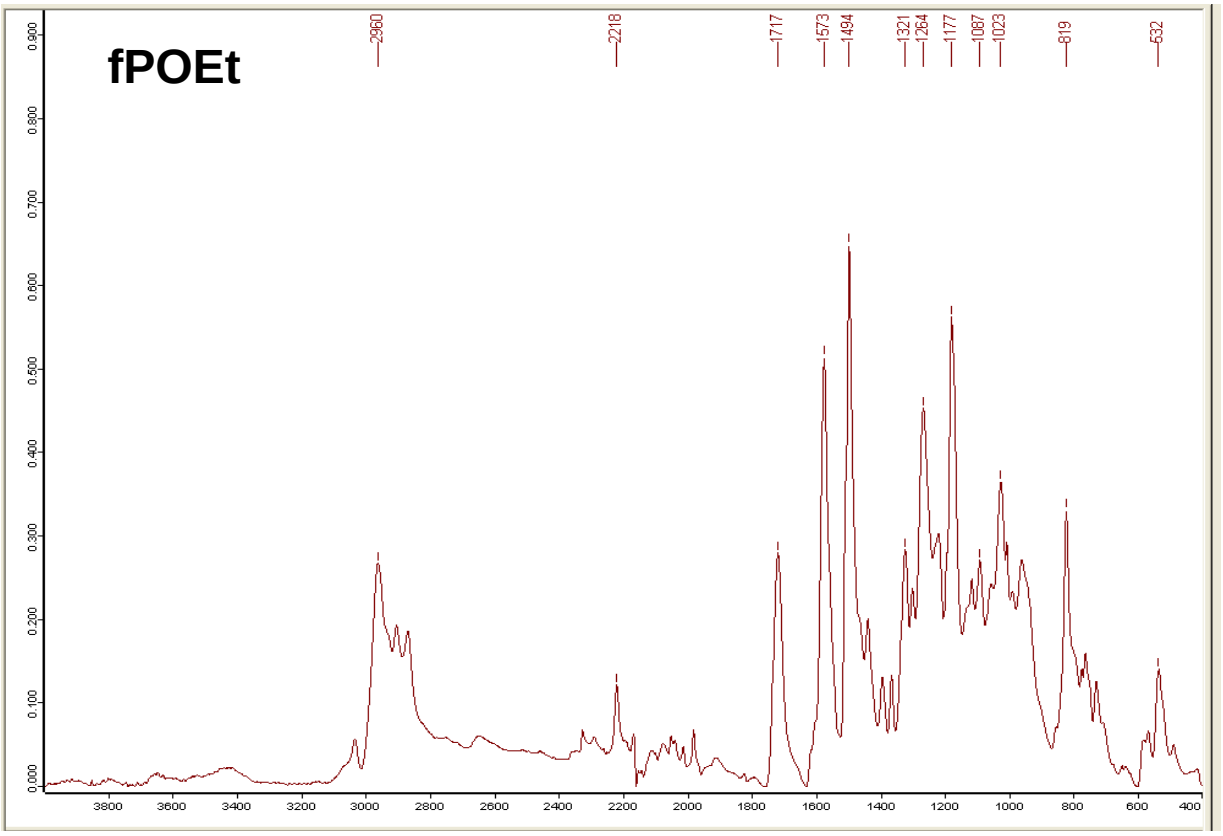
2. Infrared spectra in the solid state

Solid state spectra were recorded in the ATR mode using a FTIR Bruker Vertex 70 spectrometer.









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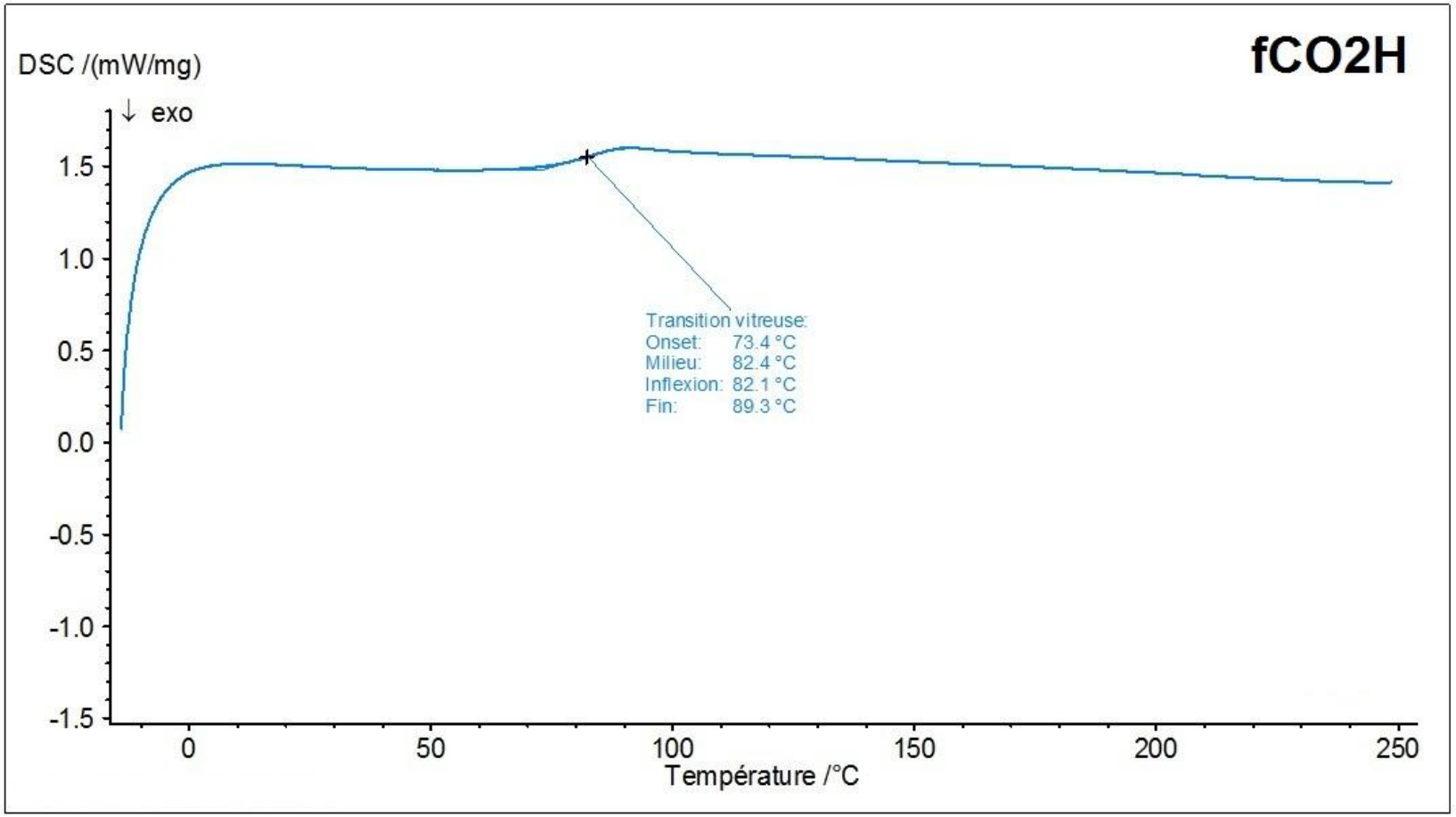
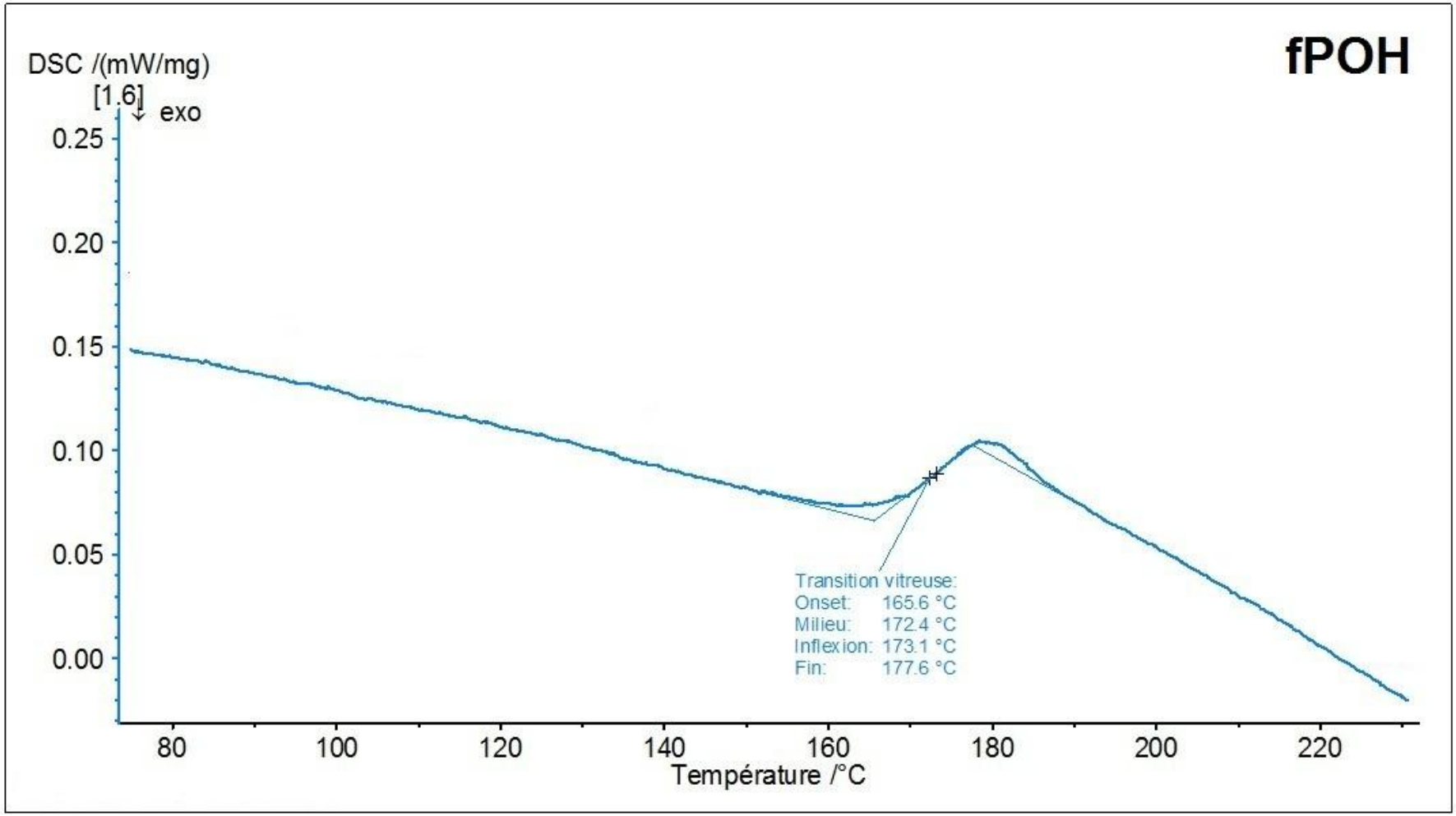
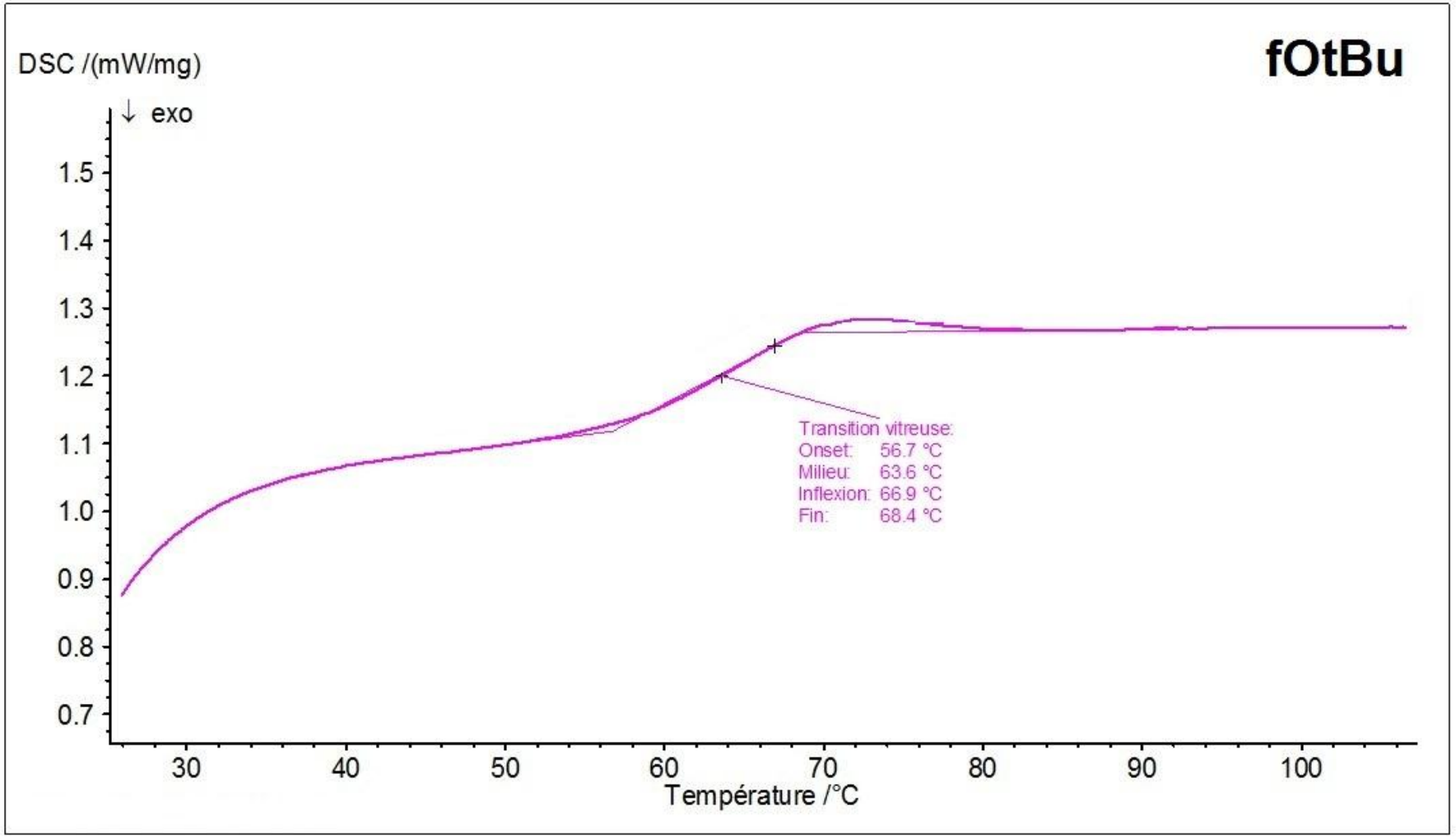
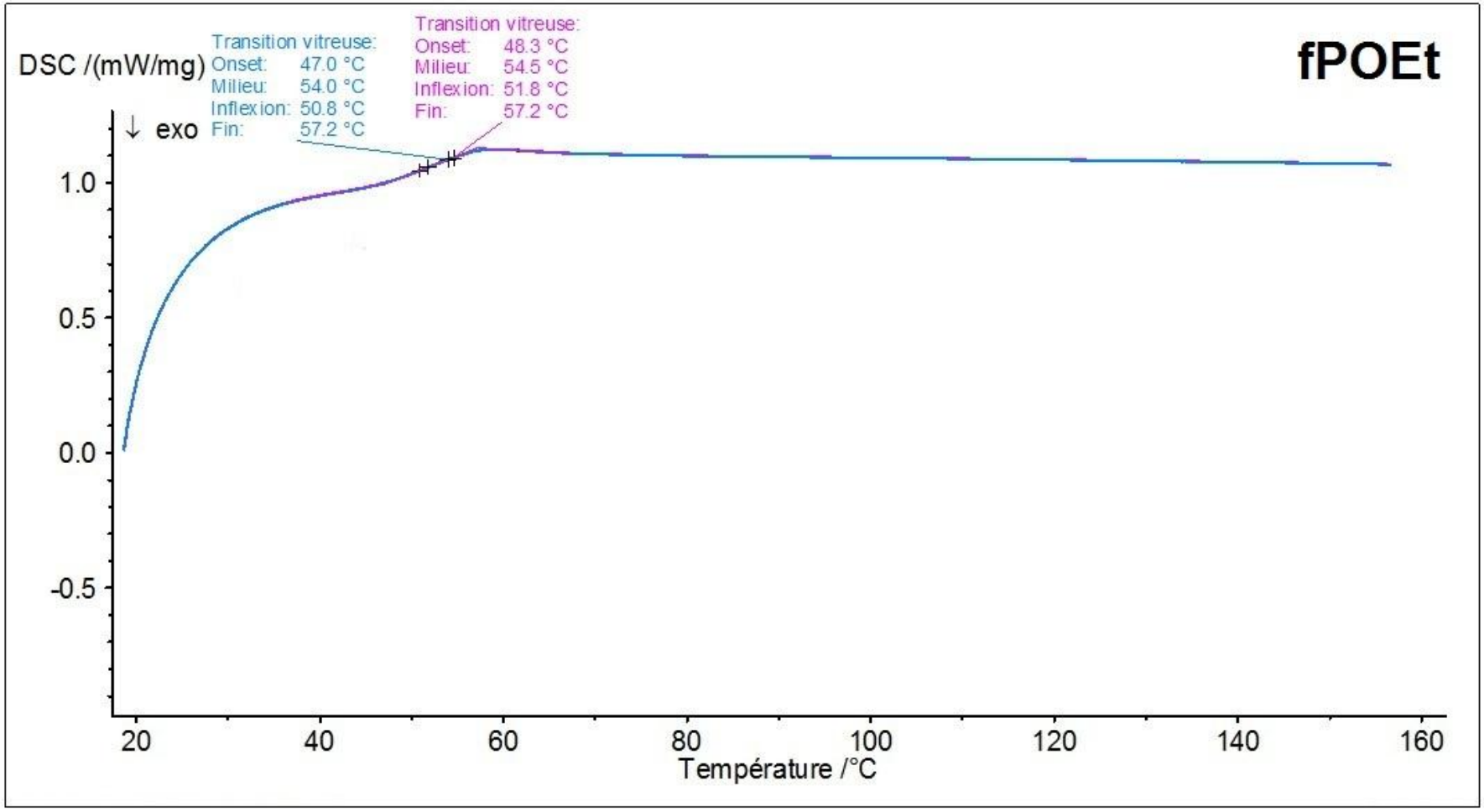
3. DSC thermal analyses

Thermal properties were measured by using differential scanning calorimetry (Netzsch- Maia DSC 200 F3) in alumina caps under a nitrogen flow at a scan rate of 30 °C.min^{-1} over the temperature range [-10°C - 250°C]









Thermal gradient: blue curve 20 °C.min^{-1} ; pink curve : 30 °C.min^{-1}.

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