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Novel fluorinated amino-stilbenes and their solid-state photodimerization

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1) FT-IR spectra of on films of PMMA doped with stilbene 6b and cyclobutane 18b (8% in weight for both of them)

FT-IR spectroscopy can be used study the progress of the photodimerization or the progress of the cycloreversion. The region of double bond bending (900 cm^{-1}) cannot be use to analyse the photodimerization processes because also the stretching and bending modes of the polymeric matrix are present. The PMMA is completely transparent around 1600 cm^{-1} and this region can be used to follow the photochemical reactions occurring in the matrix. In fact, the PMMA doped with stilbene **6b** shows a peak at 1604 cm^{-1}, while the polymer doped with **18b** shows a very weak peak at 1612 cm^{-1} (Fig 1); these signals arise from the stretching vibrations of the C=C bonds of olefins and aromatic rings. The absorption at 1604 cm^{-1} is probably due to stretching of C=C olefinic bond and aromatic double bonds of stilbene; while the peak 1612 cm^{-1} detected for PMMA doped with cyclobutane is only due to the stretching of aromatic rings.

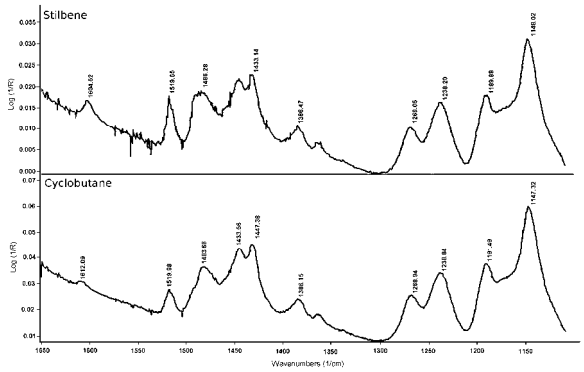


Figure 1: FT-IR reflectance spectra of casted films of Stilbene **6b** compared with cyclobutane **18b**

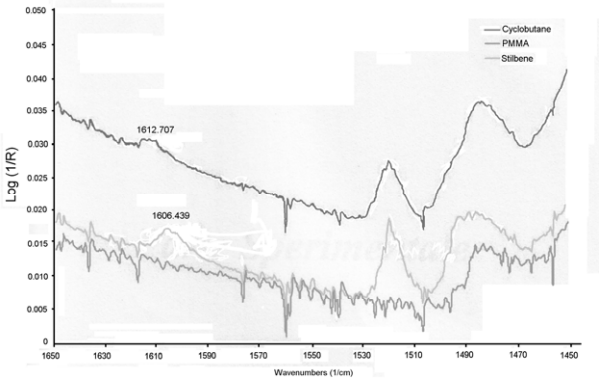
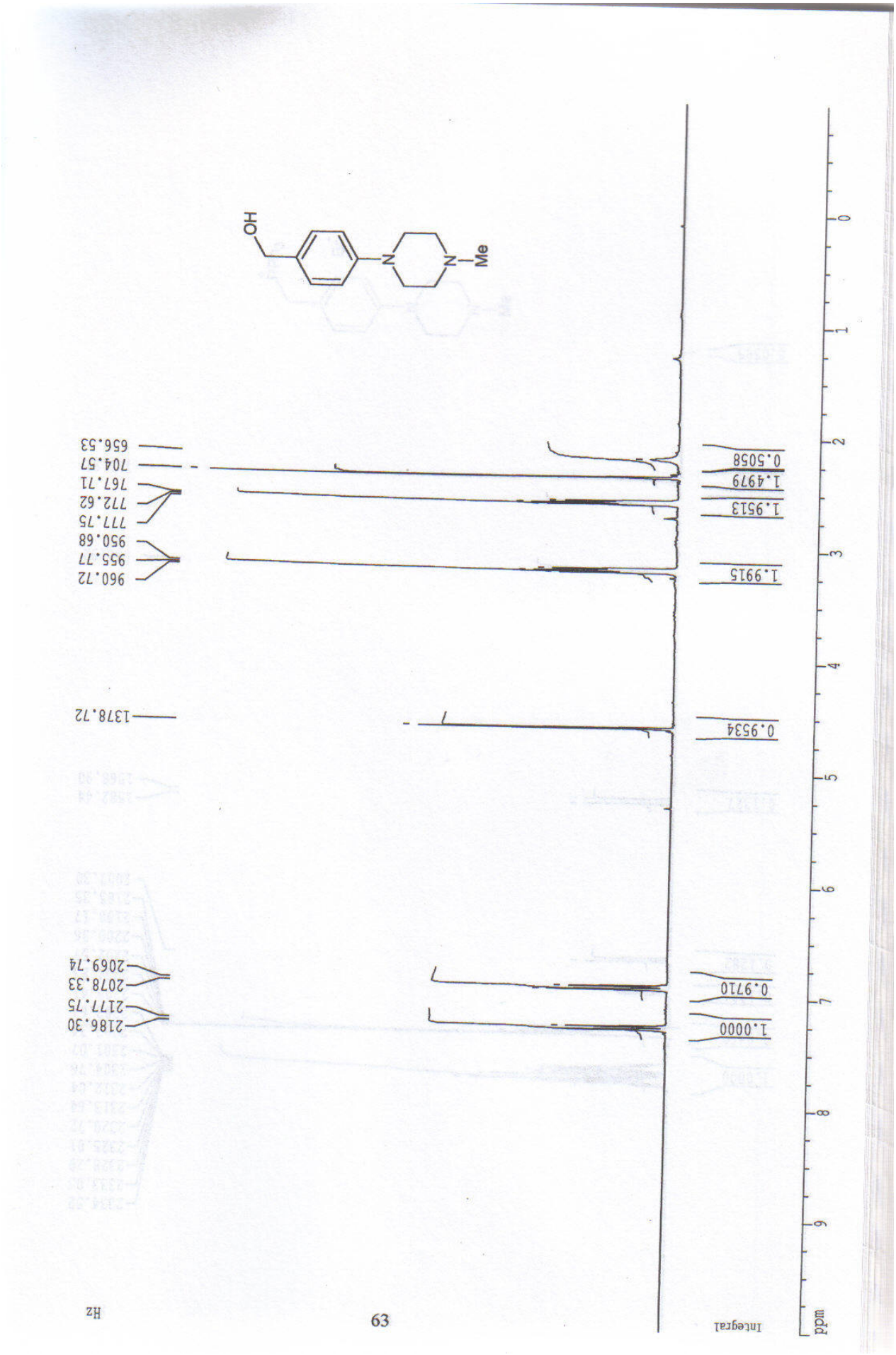
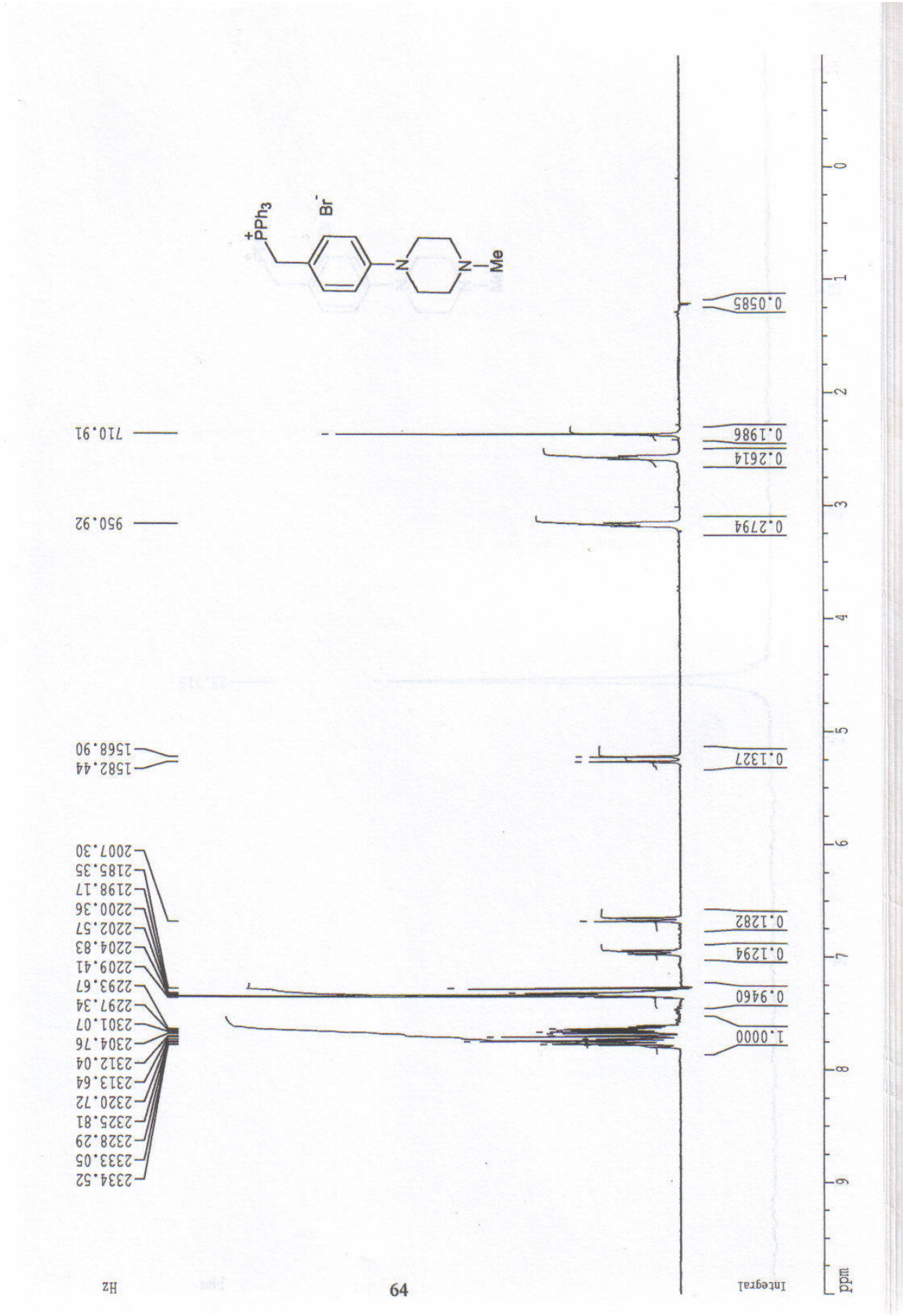
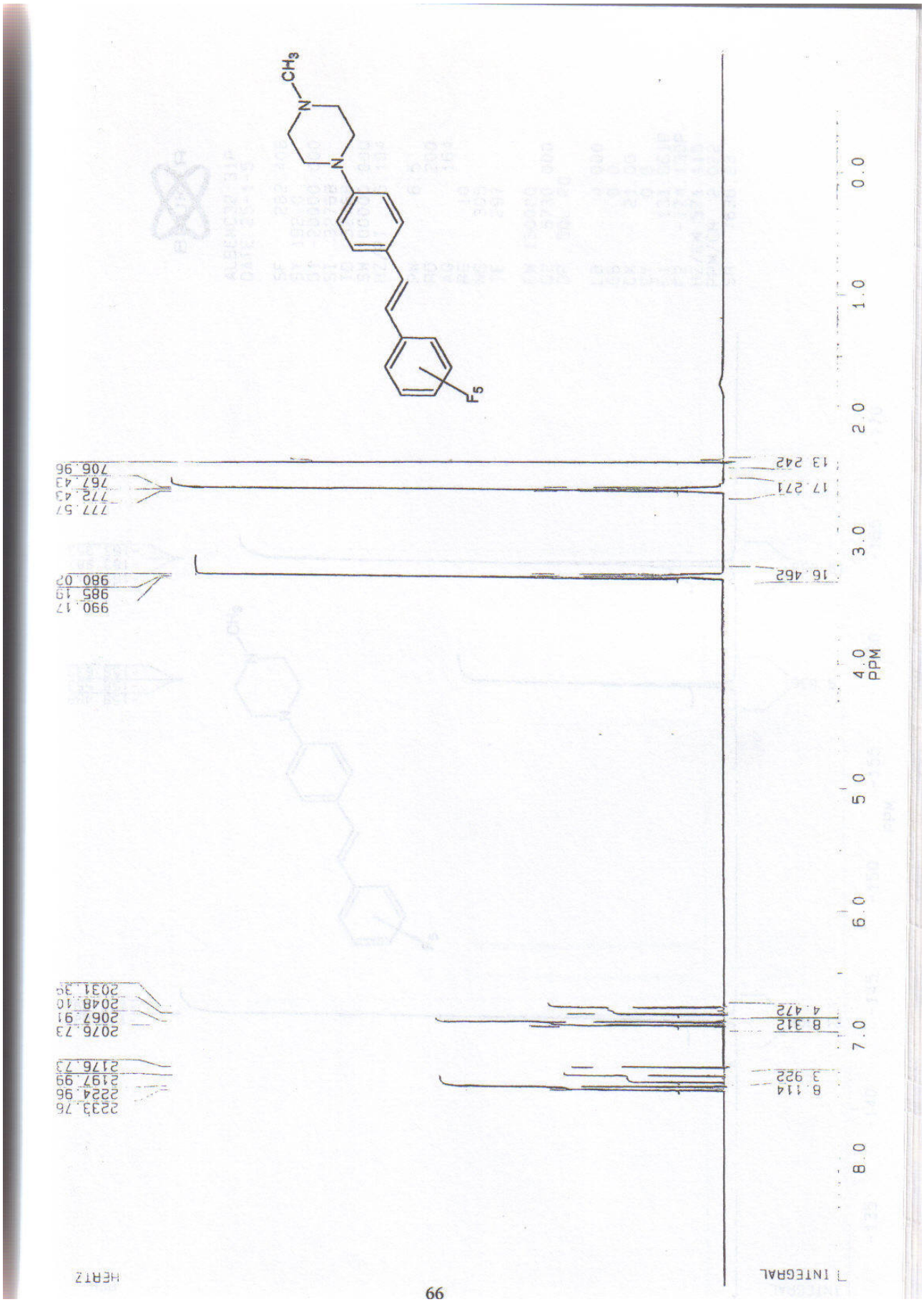


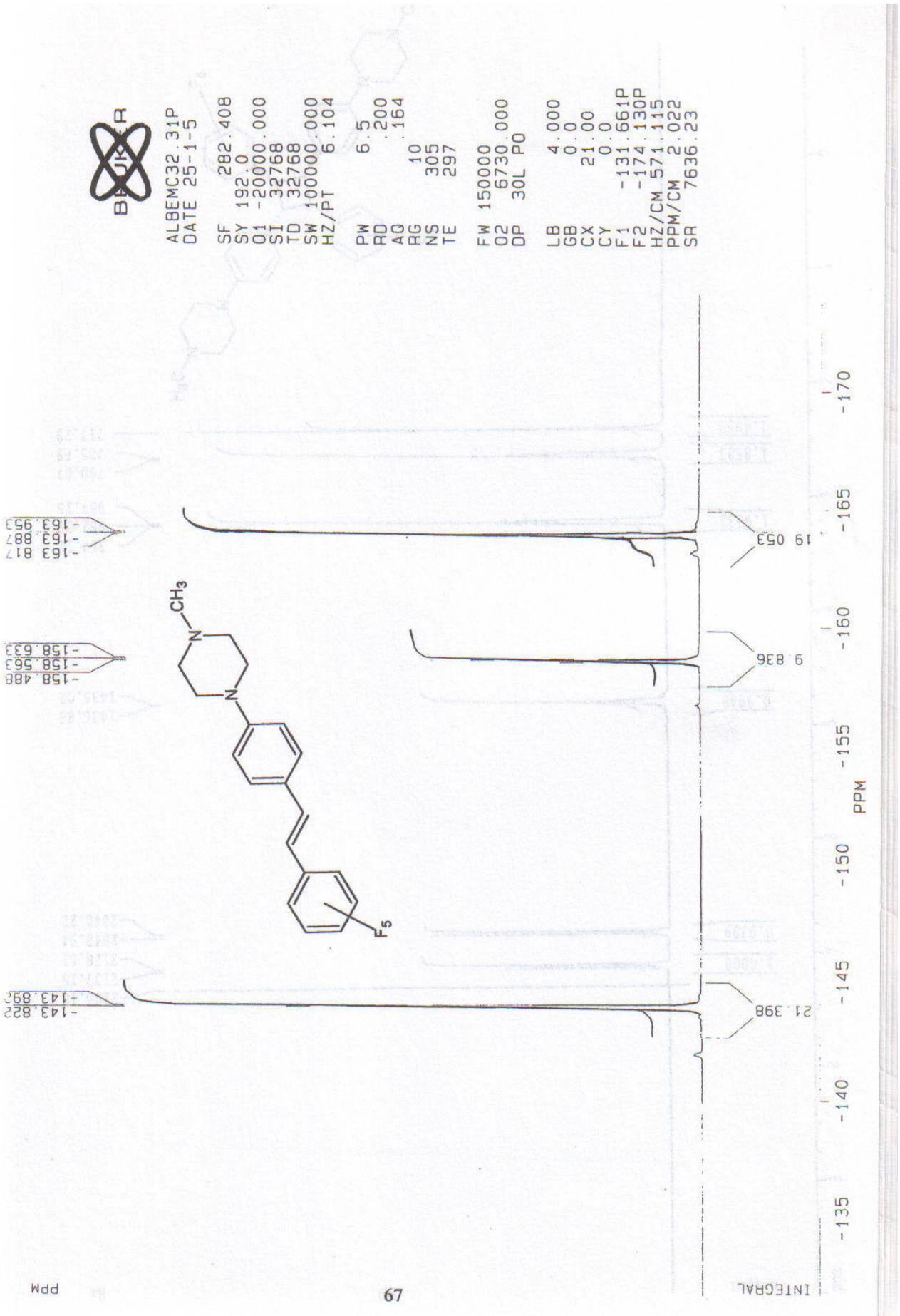
Figure 2: FT-IR reflectance spectra of casted films of Stilbene **6b** compared with cyclobutane **18b** and PMMA (details of the region between 1650 and 1450 cm^{-1}).

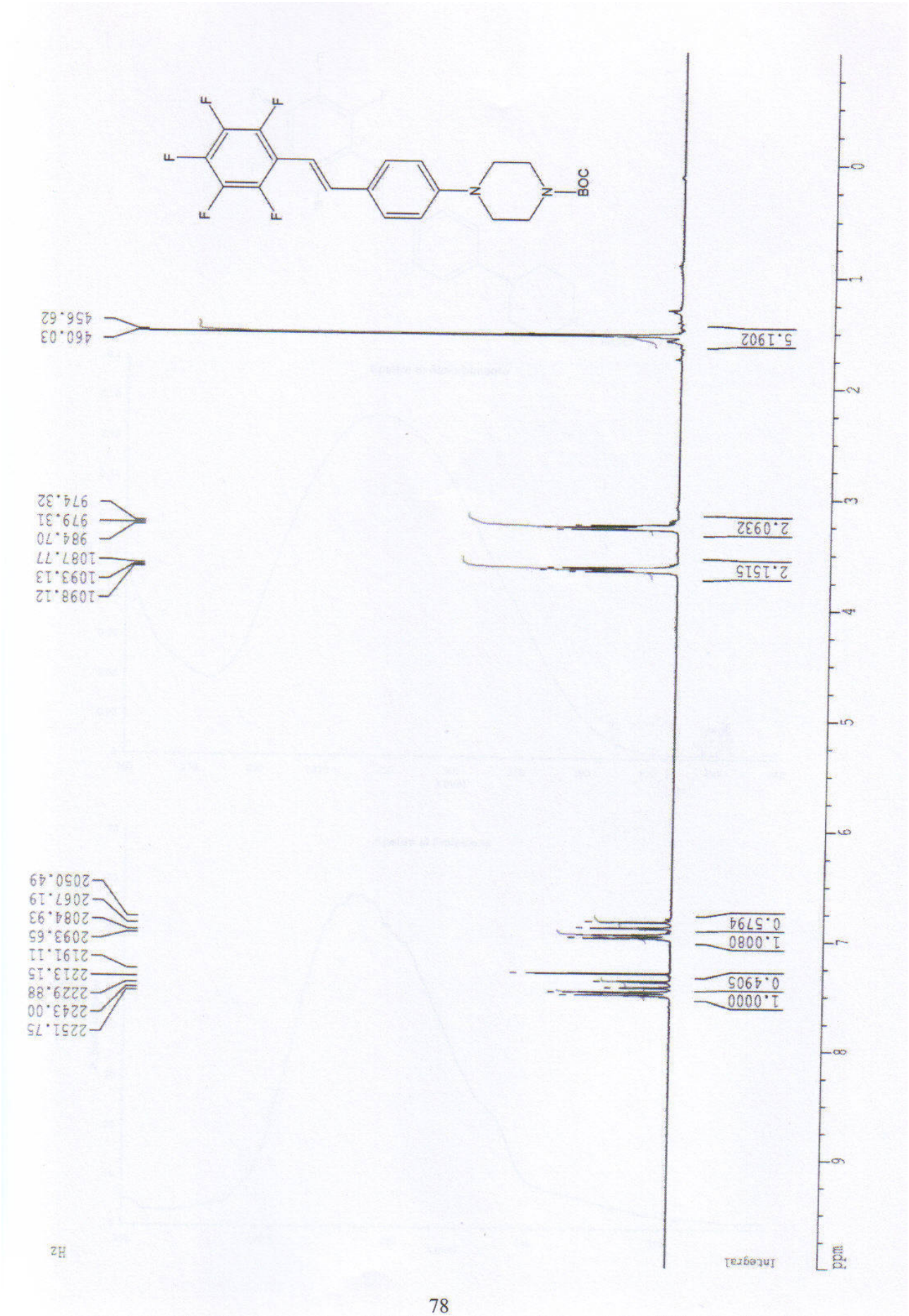
2) NMR spectra of new compounds

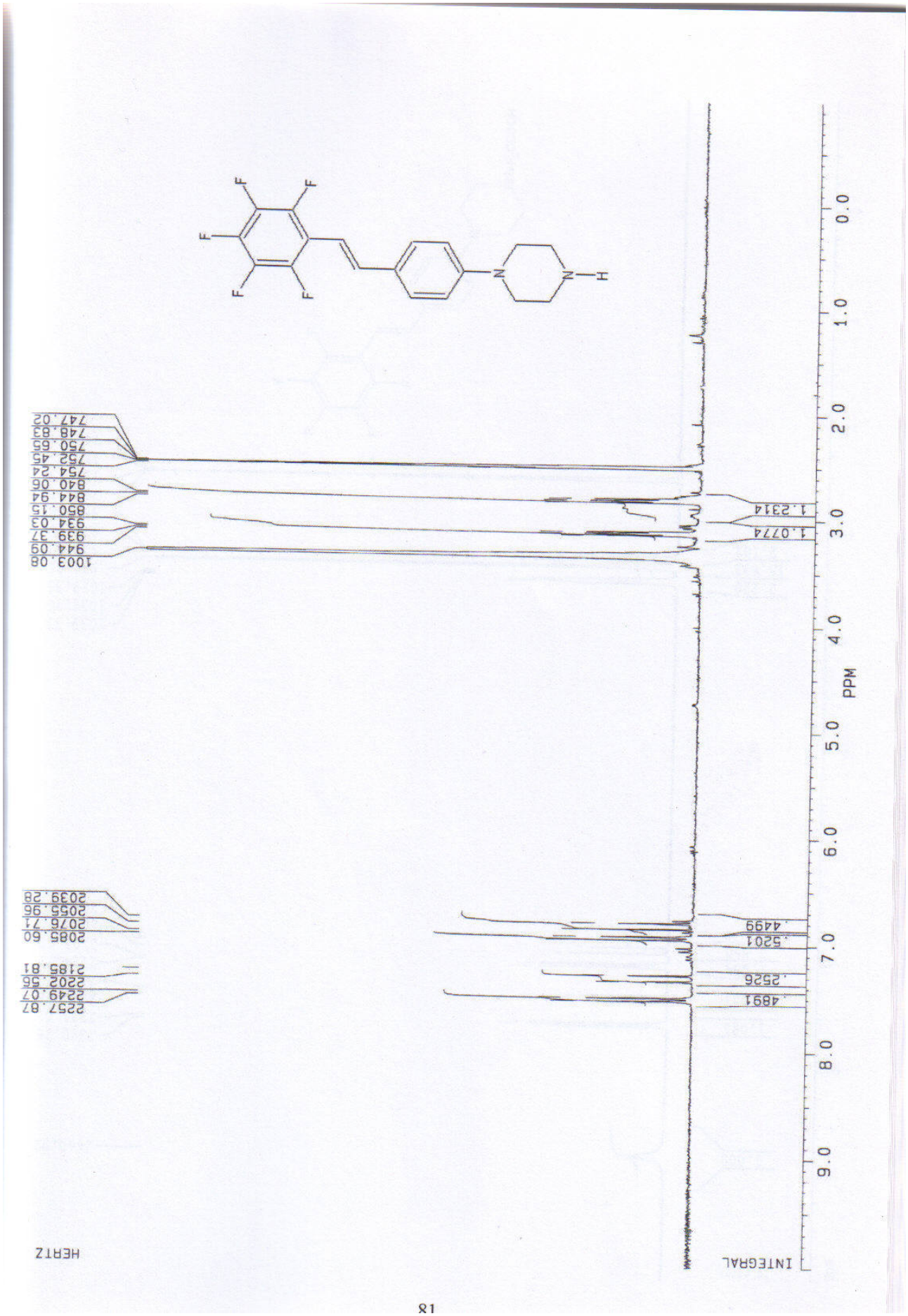


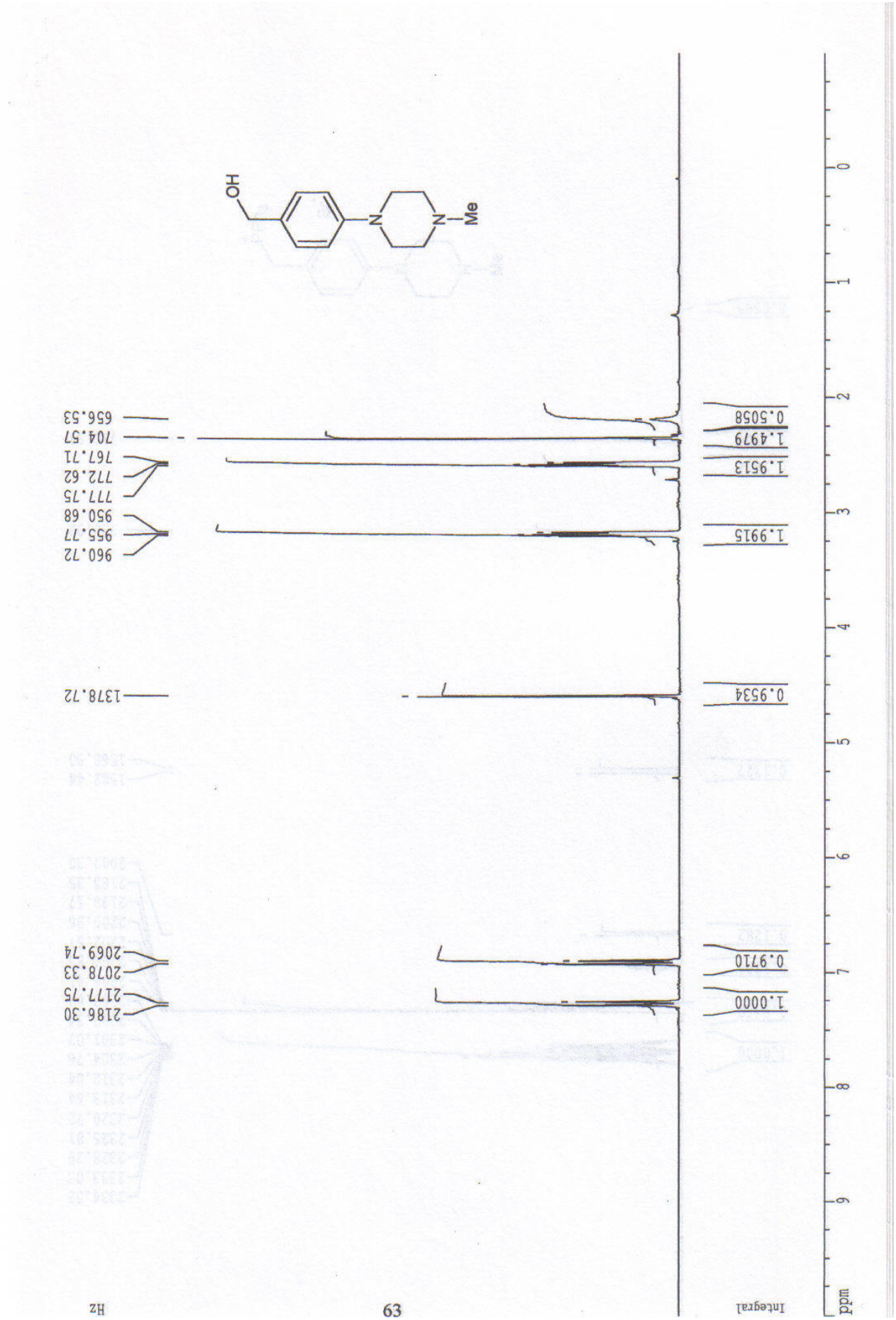


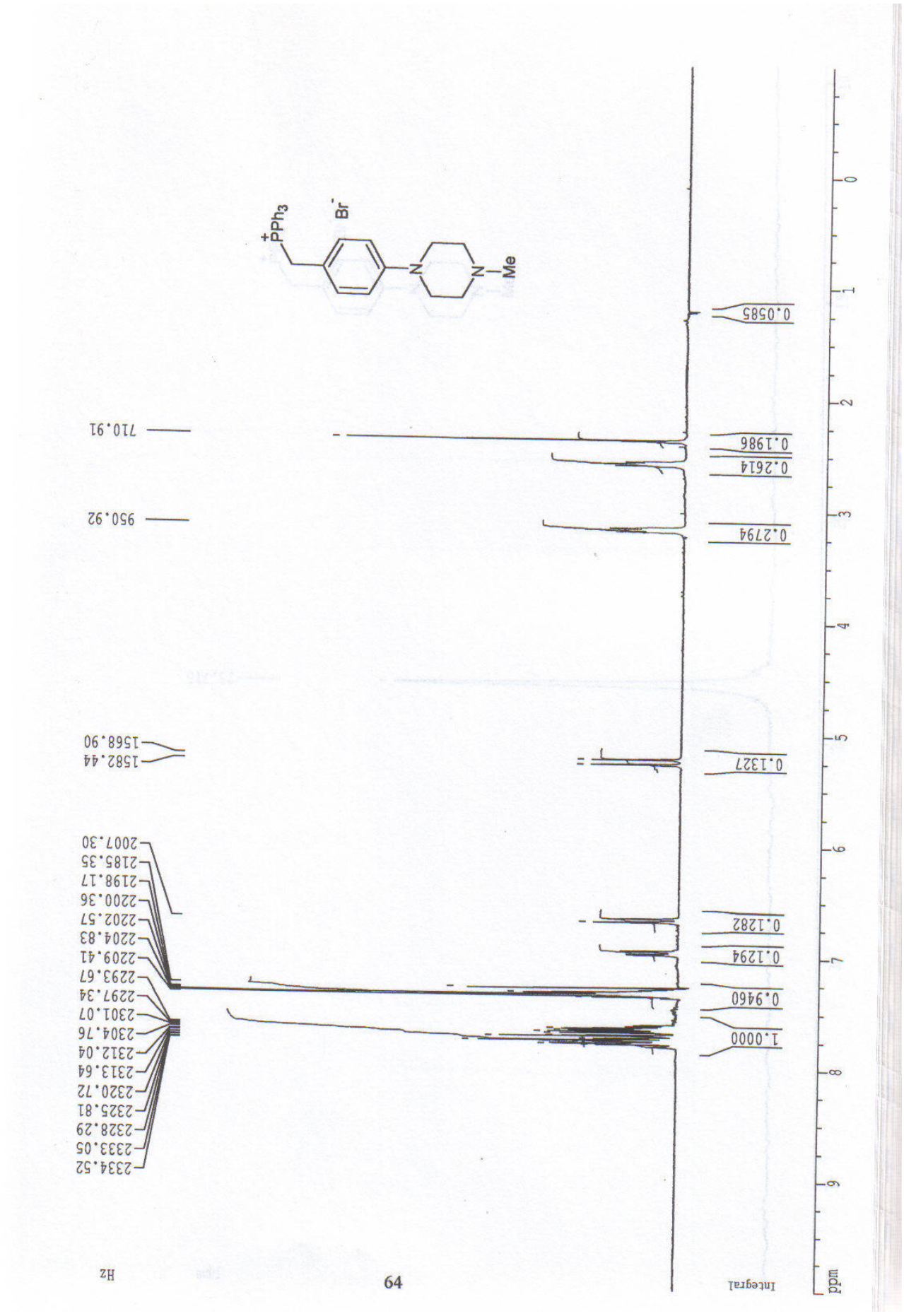


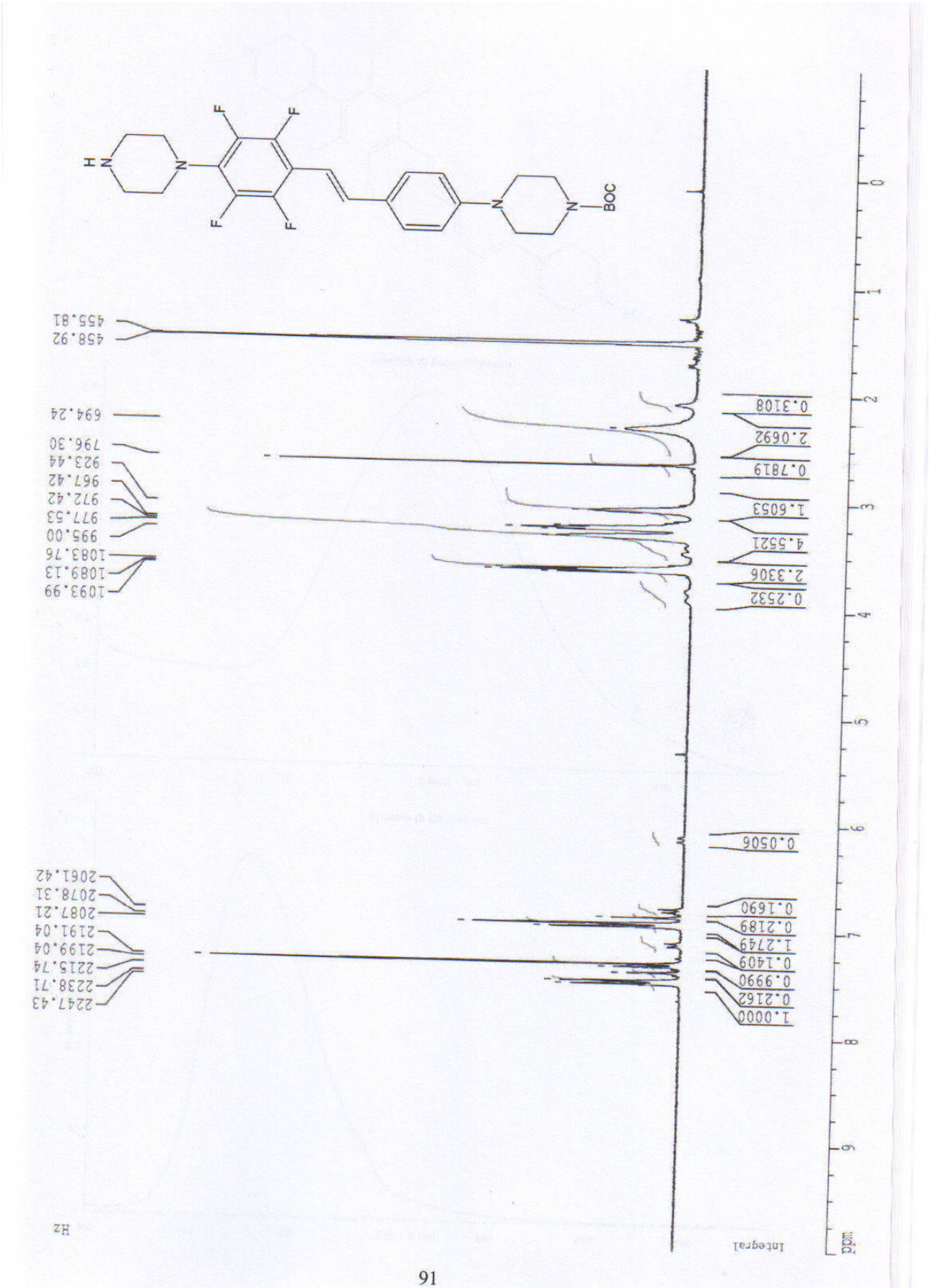


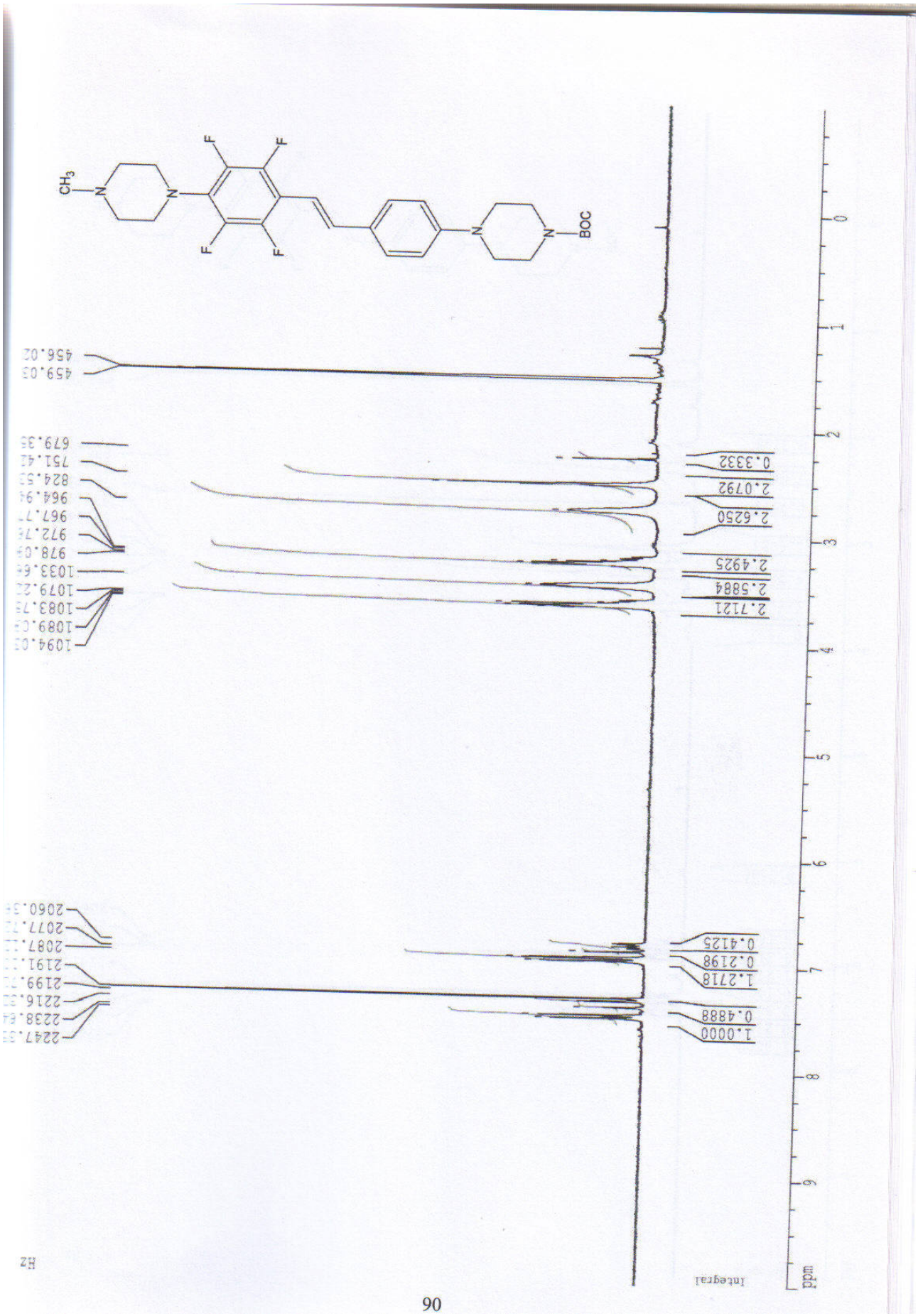


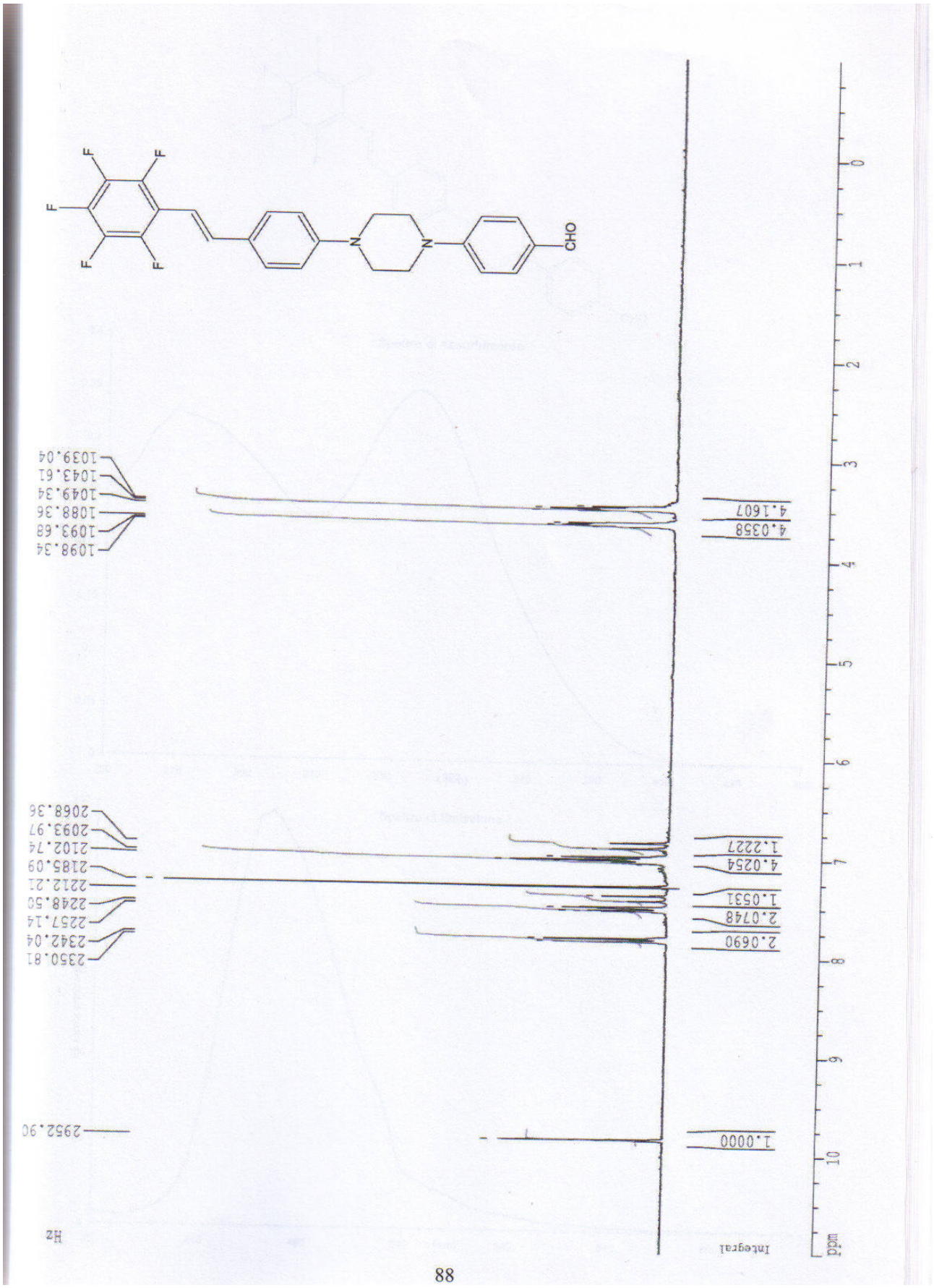


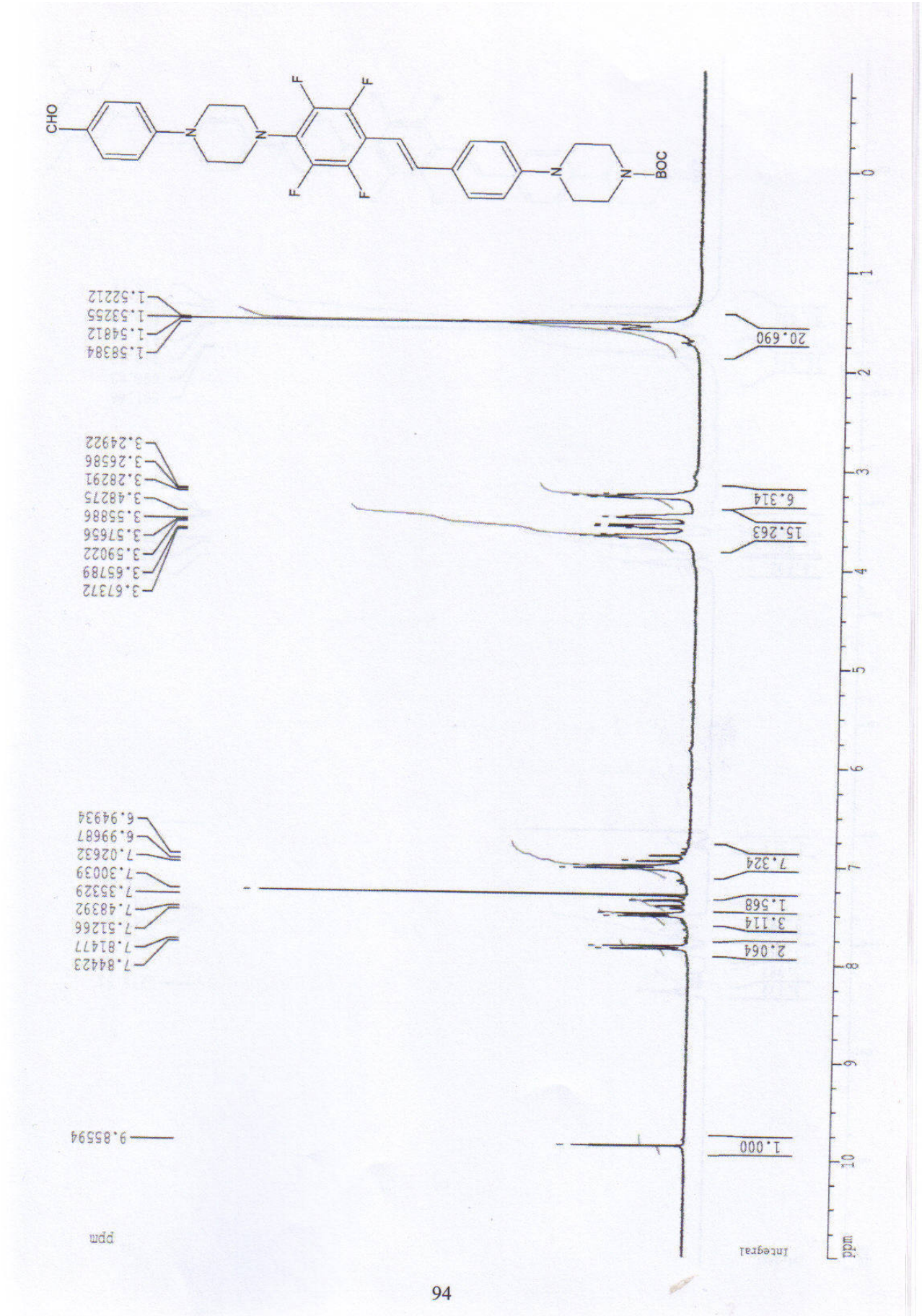


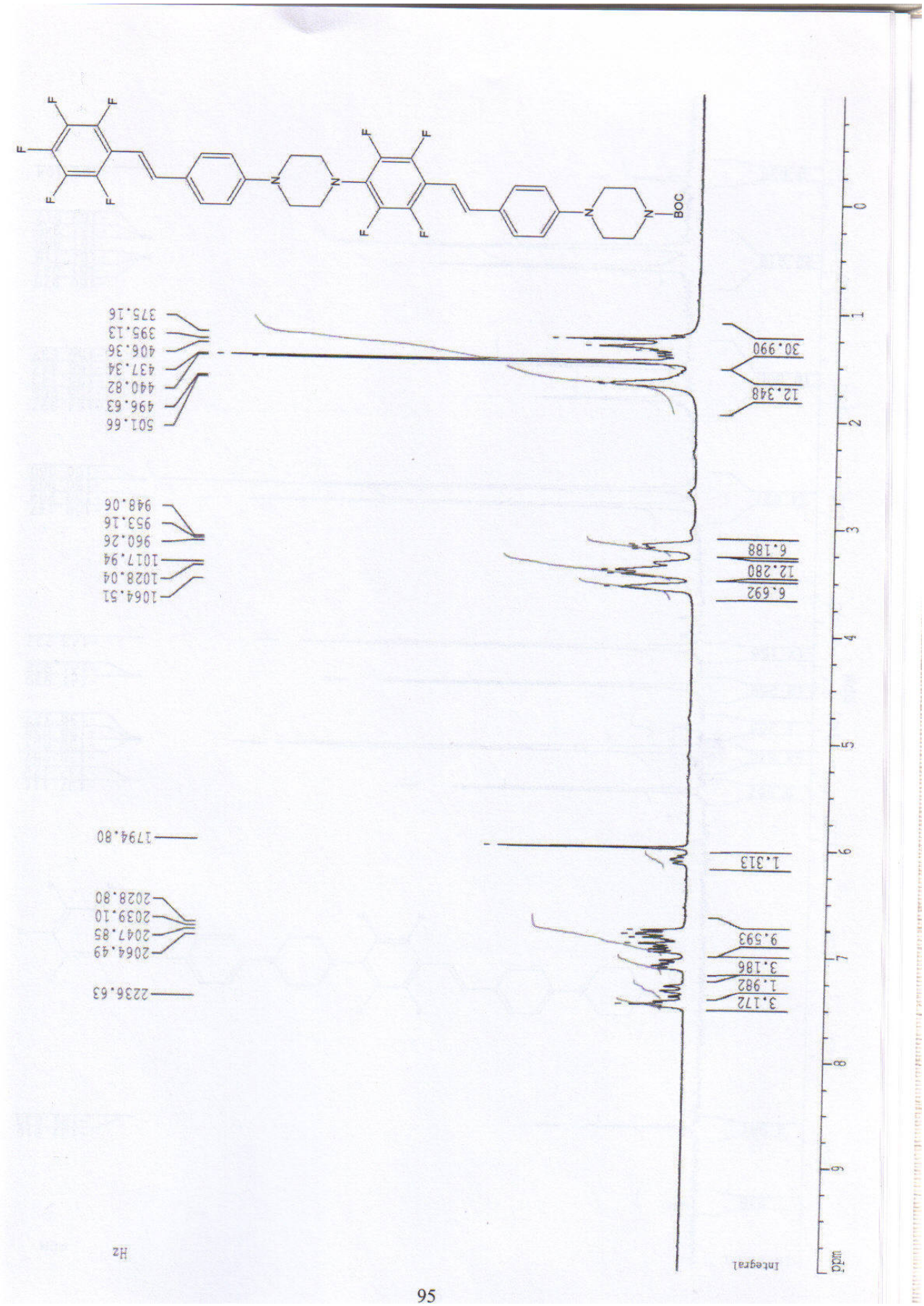


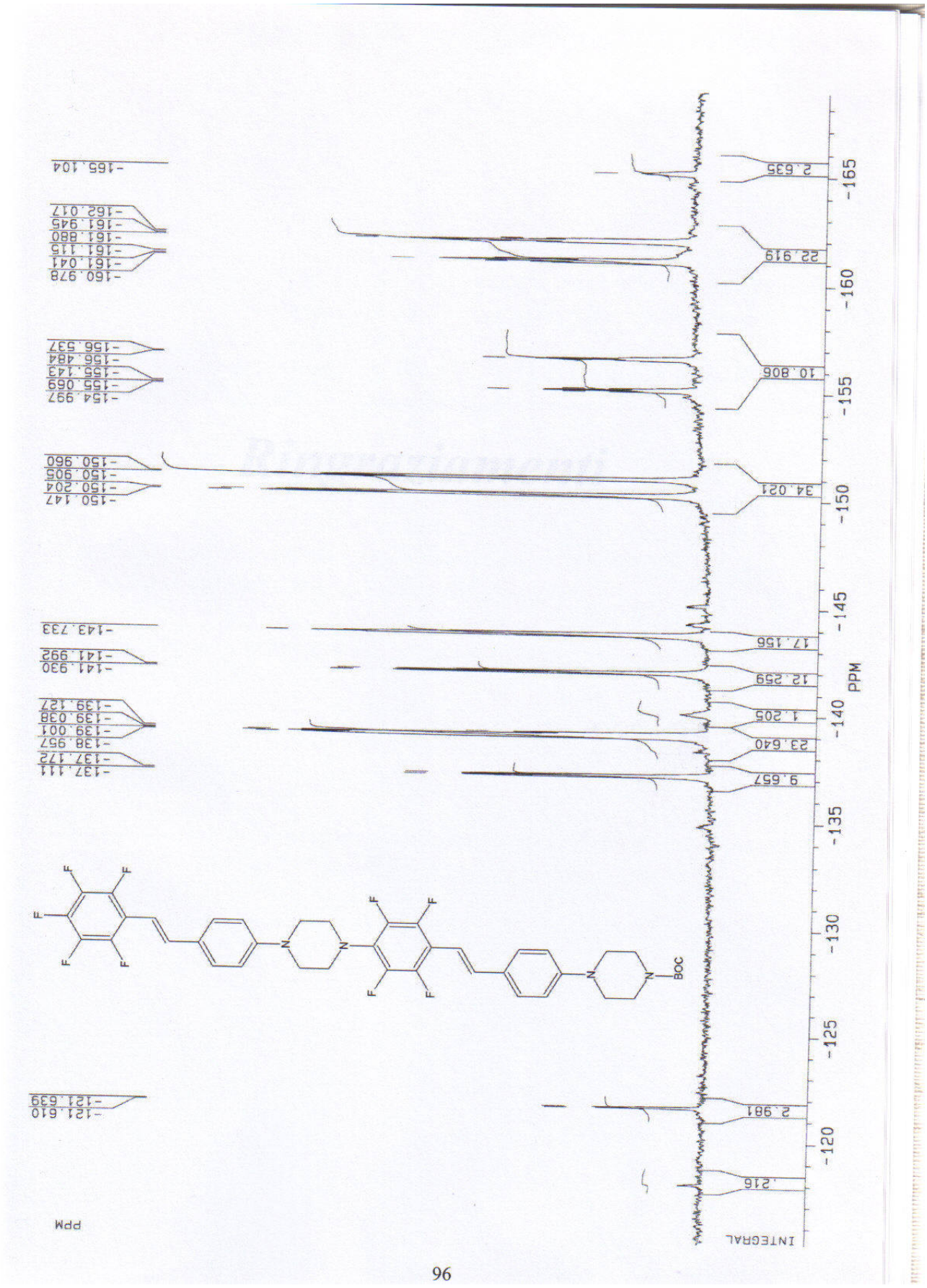












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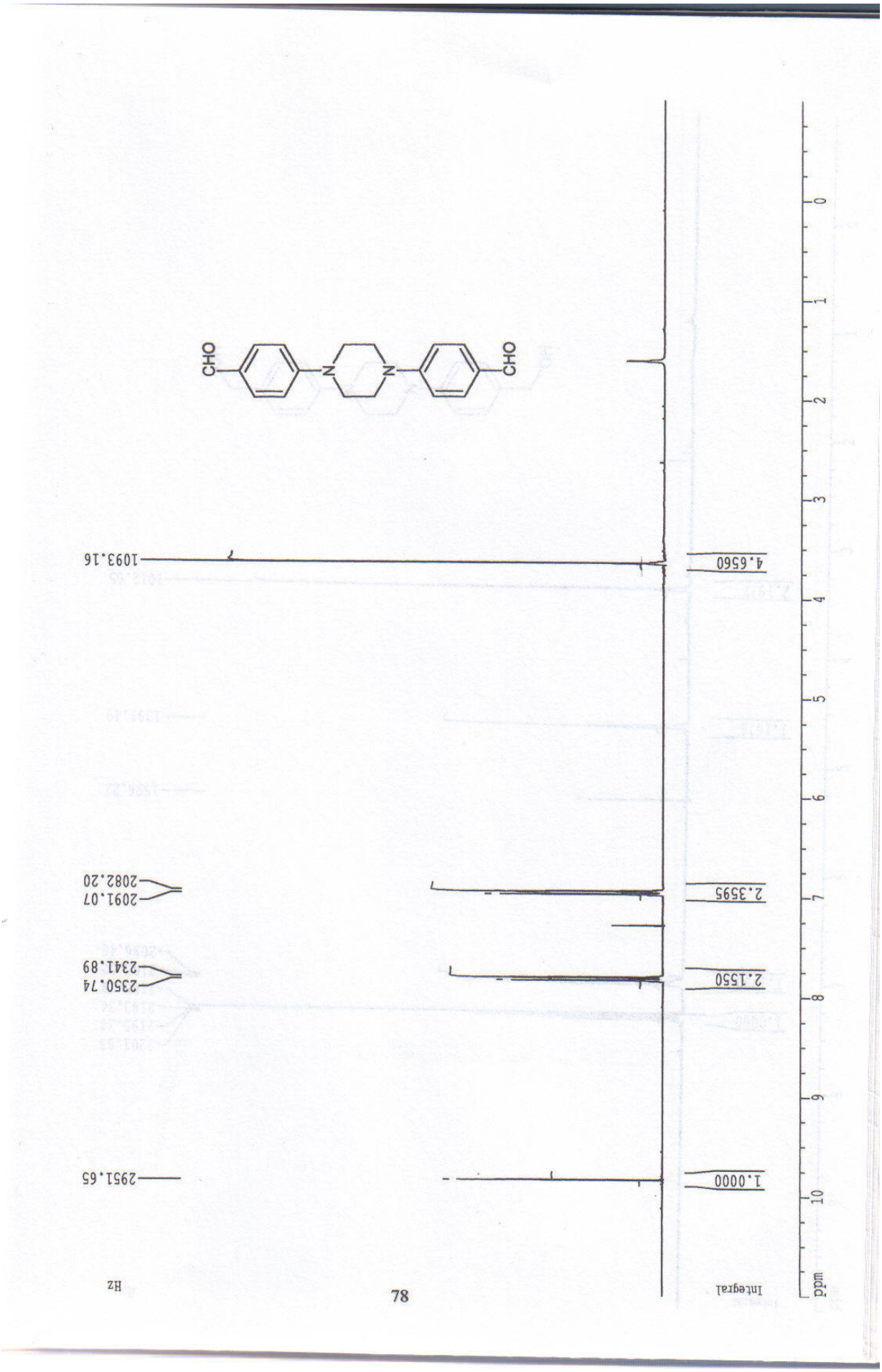

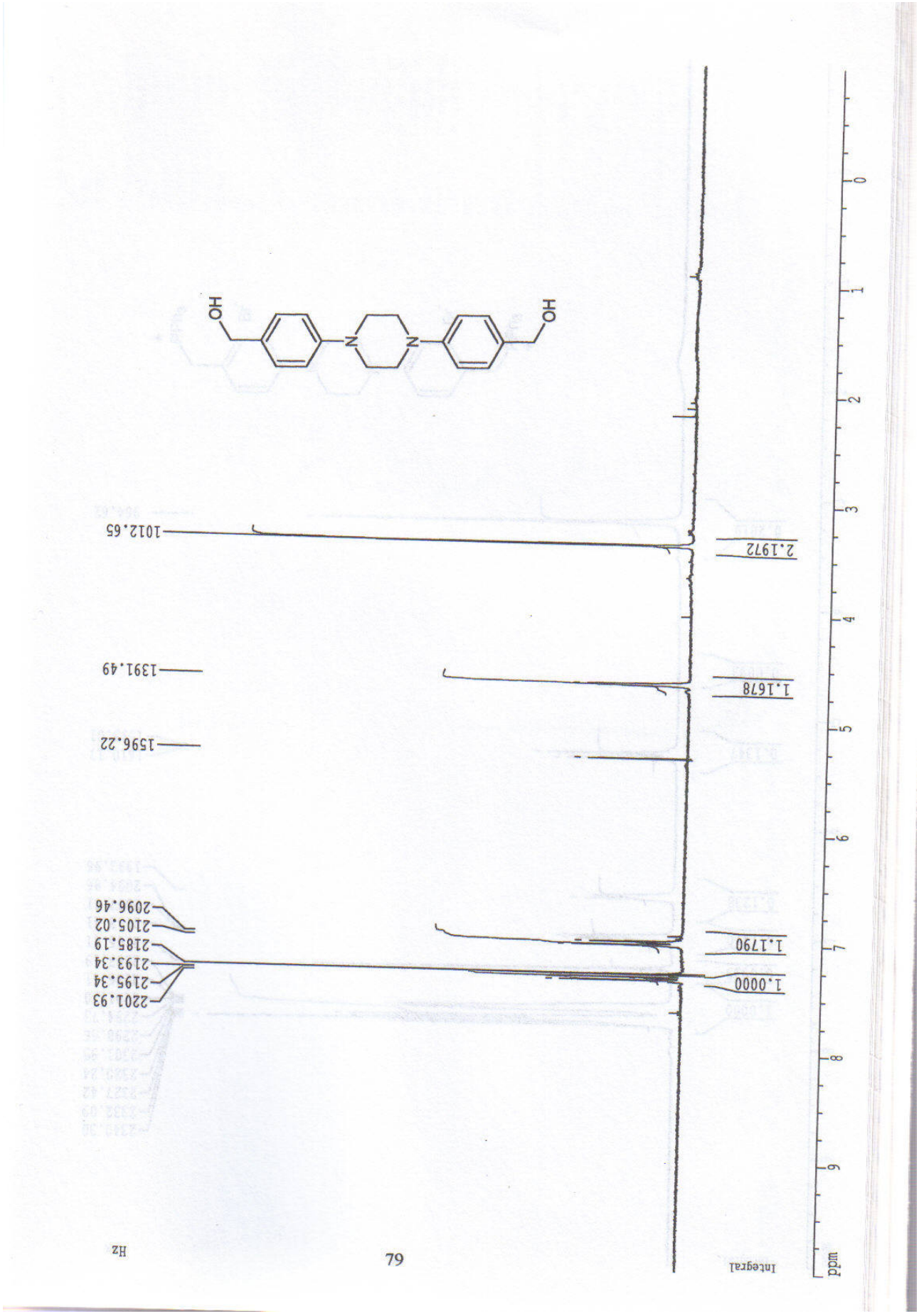

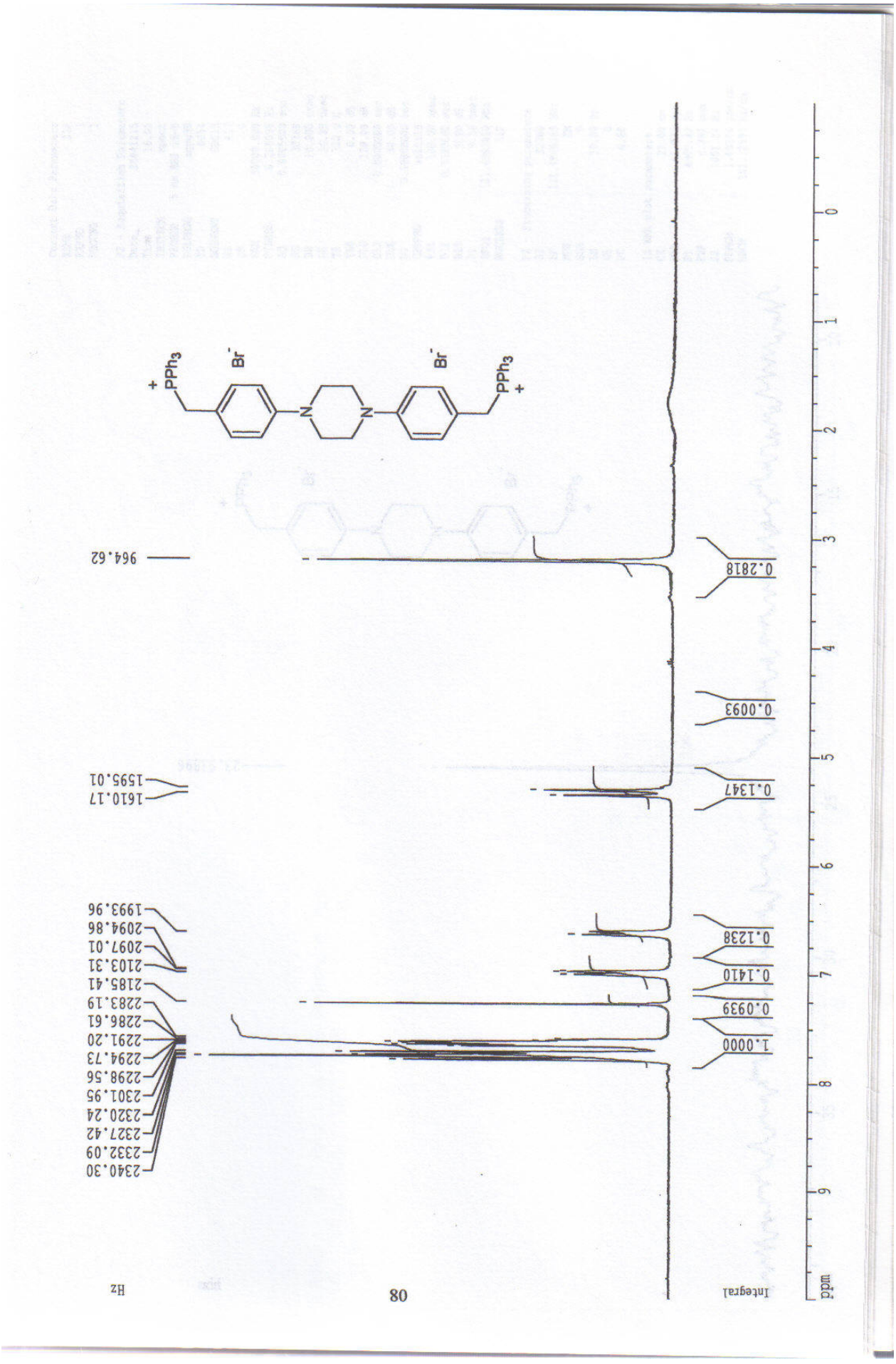

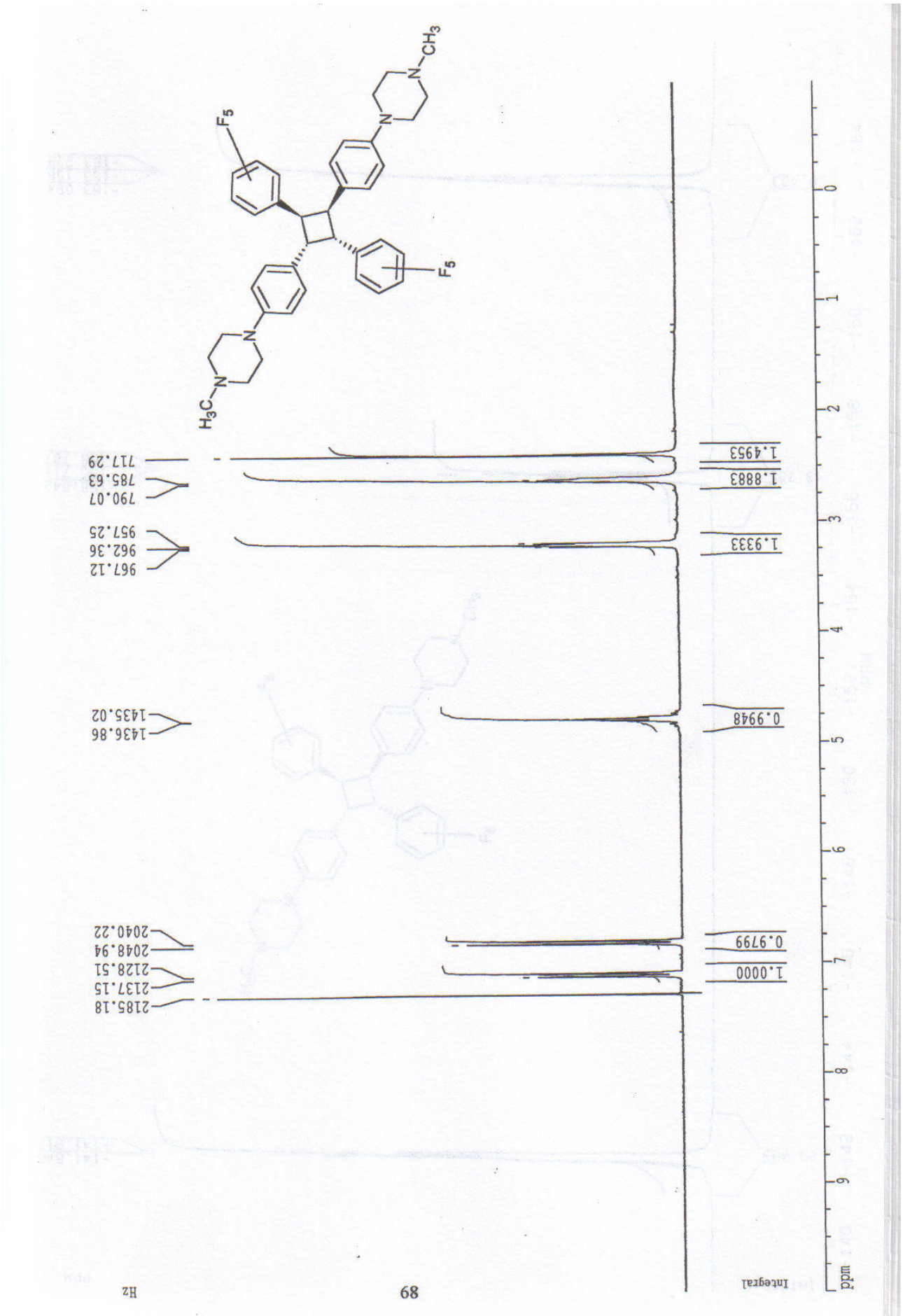

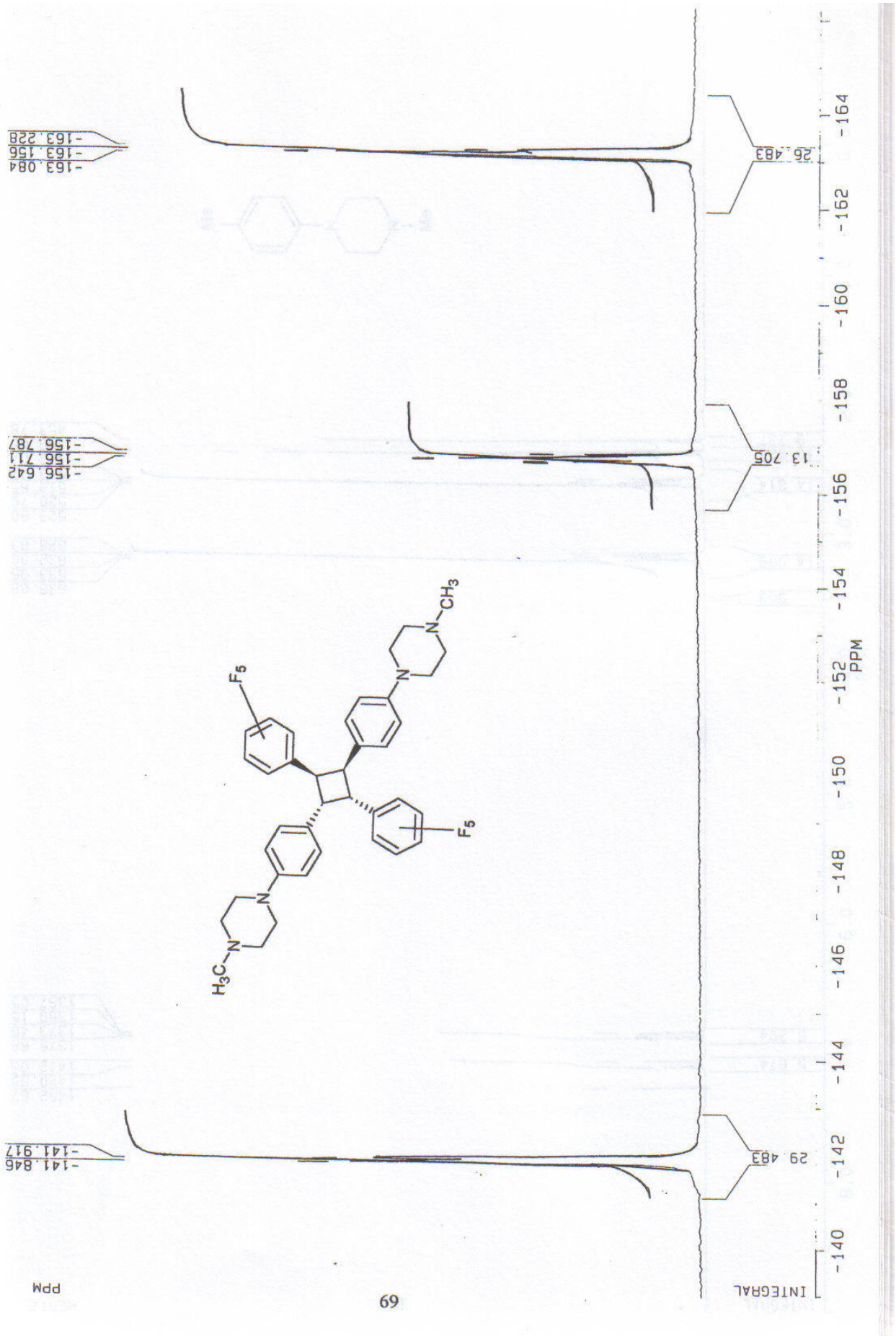

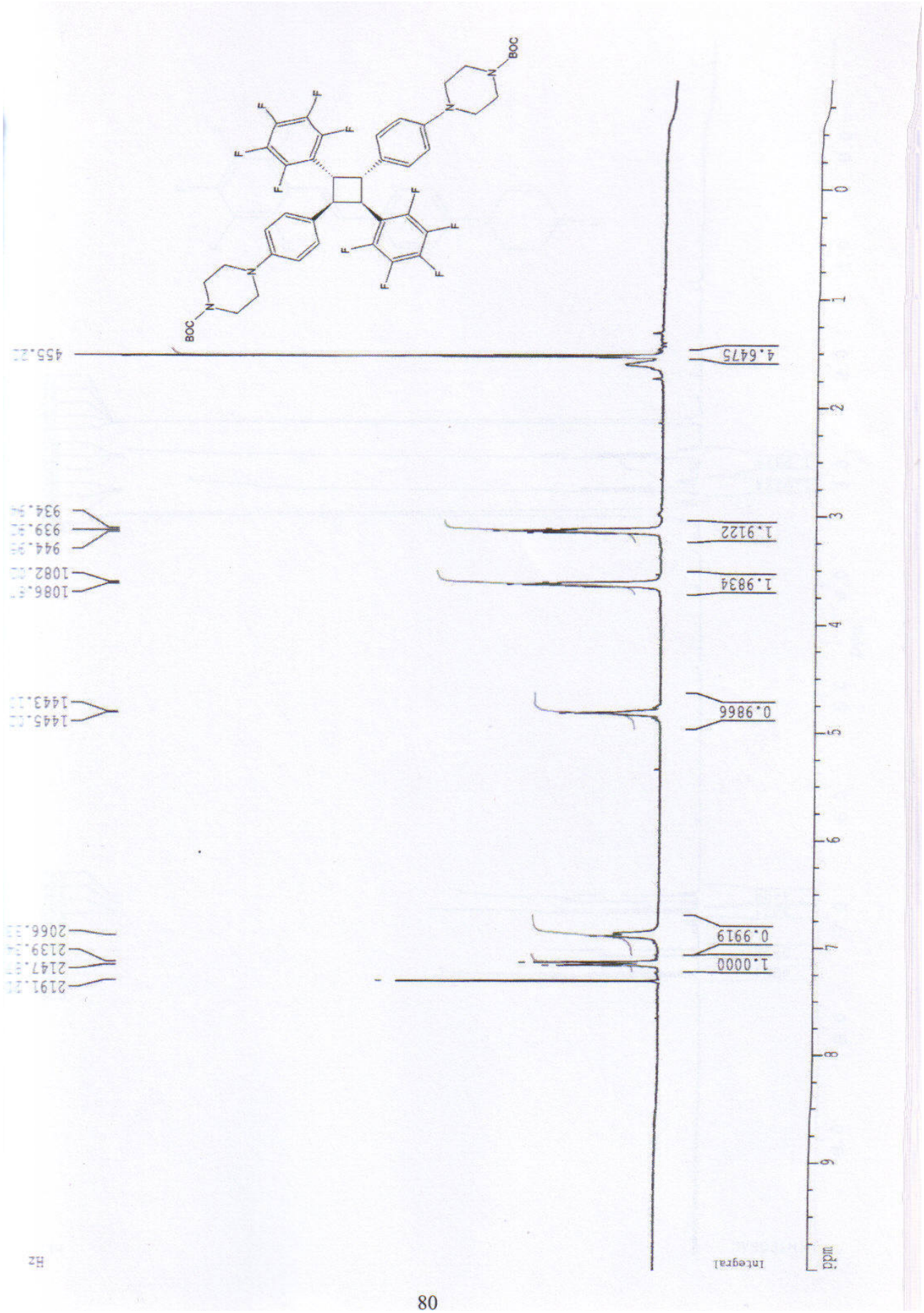

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