

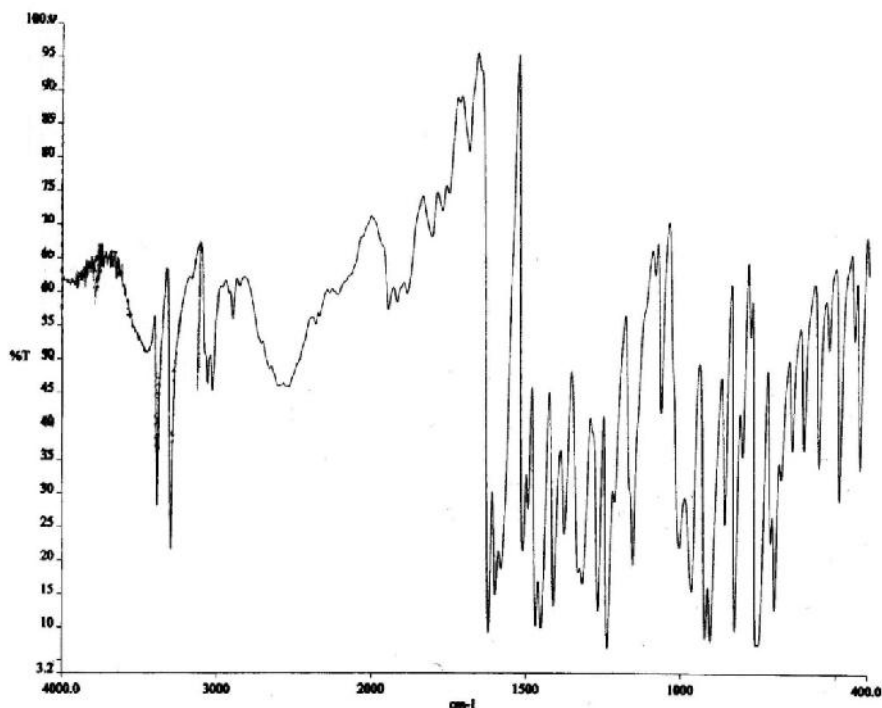
Electrochemical studies of Betti base and its Copper (II) complex by Cyclic and Elimination voltammetry

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(A) FT-IR Spectra of Betti base

FT-IR spectra were recorded on Perkin Elmer RX1 Spectrometer by making KBr pellet of the compound. IR spectra of the Betti base exhibits a relatively broad and strong peak at $\sim 3447\text{ cm}^{-1}$ and a weak, sharp doublet at 3380 cm^{-1} and 3285 cm^{-1} , corresponding to -OH stretching and asymmetric and symmetric -NH_2 stretching vibrations respectively. These are shifted towards $15\text{-}20\text{ cm}^{-1}$ lower wave- number values due to intra molecular hydrogen bonds of the type $\text{-O-H} \cdots \text{NH}_2\text{-R}$.



(B) The NMR spectra of Betti base

The NMR spectra were collected with a 400 MHz spectrometer (Bruker AV 400) in CDCl_3 and d_6 -DMSO to check the purity of the compound. The data for the ^1H NMR and ^{13}C NMR are given below.

^1H NMR(CDCl_3): δ 7.67-7.70 (m, 3H), 7.13-7.42 (m, 8H), 6.10 (s, 1H), 2.39 (br. s, 2H)

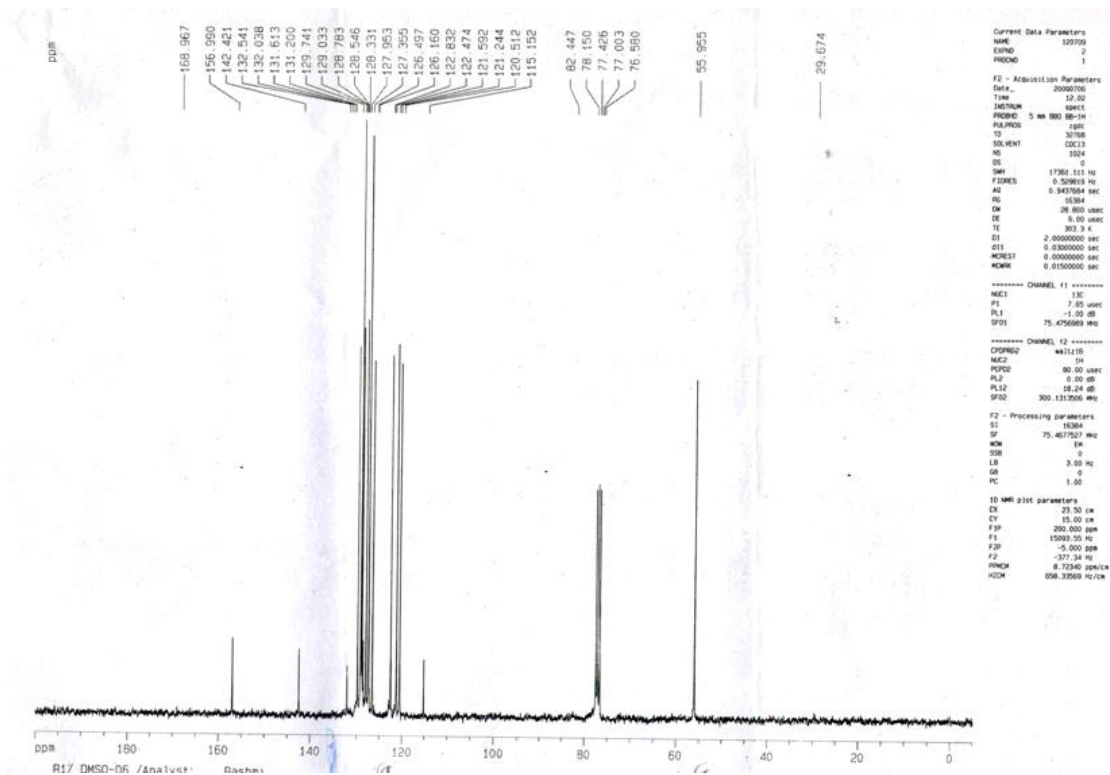
^{13}C NMR(CDCl_3): δ 156.9, 142.4, 132.0, 129.7, 129.0, 128.7(2C), 128.5, 127.9, 127.3(2C), 126.4, 122.4, 121.2, 120.5, 115.1, 55.9.

The absence of peaks at $\delta = 156.9, 142.4, 132.0$ & 115.1 in DEPT-90 and DEPT-135 indicates the presence of four tertiary carbons in Betti base.

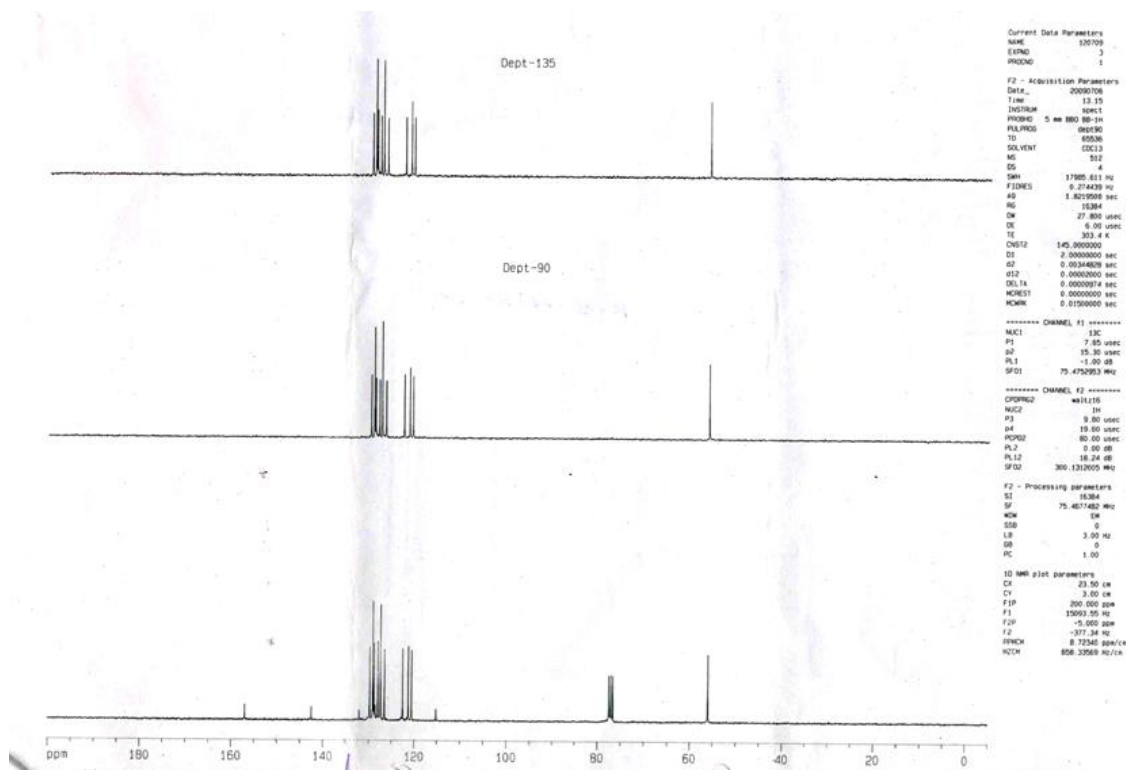
i. ^1H NMR of Betti base



ii. ¹³C NMR of Betti base



iii. Dept ¹³C NMR of Betti base



(C) Schematic diagram of Ag/Ag⁺ reference electrode

The Ag/Ag⁺ reference electrode is made by placing a clean silver wire into the solution of 0.01 M AgNO₃ containing 0.1 M tetrabutylammonium hexafluorophosphate in acetonitrile (ACN). The silver ion electrolyte solution was changed daily. The vycor tip was not allowed to be completely dried to prevent any leaking of silver ion solution from the reference electrode.

