Phthalocyanine and Single-Wall Carbon Nanotube-Decorated Hybrid Material: Design, Photophysical Properties and High-Performance Supercapacitor Applications

Ozgur Yavuz[a,*], Recep Isci[a,*], Koray B. Donmez[b,c], Serdar Bozoglu[b], Sanaz M. Sarabi[b], Nilgun Karatepe[d], Turan Ozturk[a,*] and Ismail Yilmaz[a,*]

[a]Istanbul Technical University, Chemistry Department, 34469, Maslak, Istanbul, Turkey.

[b]Sabanci University Nanotechnology Research and Application Center (SUNUM), 34956, Istanbul, Turkey.

[c]Electrochemistry Laboratory, Chemistry Group, TUBITAK UME, 41470, Gebze, Kocaeli, Turkey.

[d]Energy Institute, Renewable Energy Division, Istanbul Technical University, 34469, Istanbul, Turkey.

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1. General and Instrumentation

All the reagents, purchased from Aldrich and Acros, were used without further purification. The solvents used in the syntheses were technical grade and freshly distilled prior to use. The solvents used in spectroscopic measurements were spectroscopic grade. Flash chromatography was performed using ≤ 0.063 μm Silica.

NMR spectroscopy

^{1}H and ^{13}C NMR spectra were recorded on a Varian 500 spectrometer. Proton chemical shifts were reported in parts per million downfield from tetramethyl silane, TMS.

Optical spectroscopy

Fluorescence spectra were recorded on a Varian Cary Eclipse fluorophotometer. UV-Vis measurements were recorded on an Agilent 8453 spectrophotometer. Infrared (IR) spectra were obtained using a Perkin–Elmer FT–IR spectrometer. Matrix-Assisted Laser Desorption/Ionization–Time of Flight–Mass Spectrometry (MALDI-TOF-MS) analysis was performed using a BRUKER Microflex LT instrument with CHCA (α-Cyano-4-hydroxycinnamic acid) as the matrix.

Surface properties

Scanning Electron Microscopy (SEM) images were recorded using Hitachi SU 500 FEG-SEM instrument. Atomic Force Microscopy (AFM) images were collected by using Hitachi AFM5100N type instrument, which was operated under dynamic mode (AFM).

2. Photophysical Collection

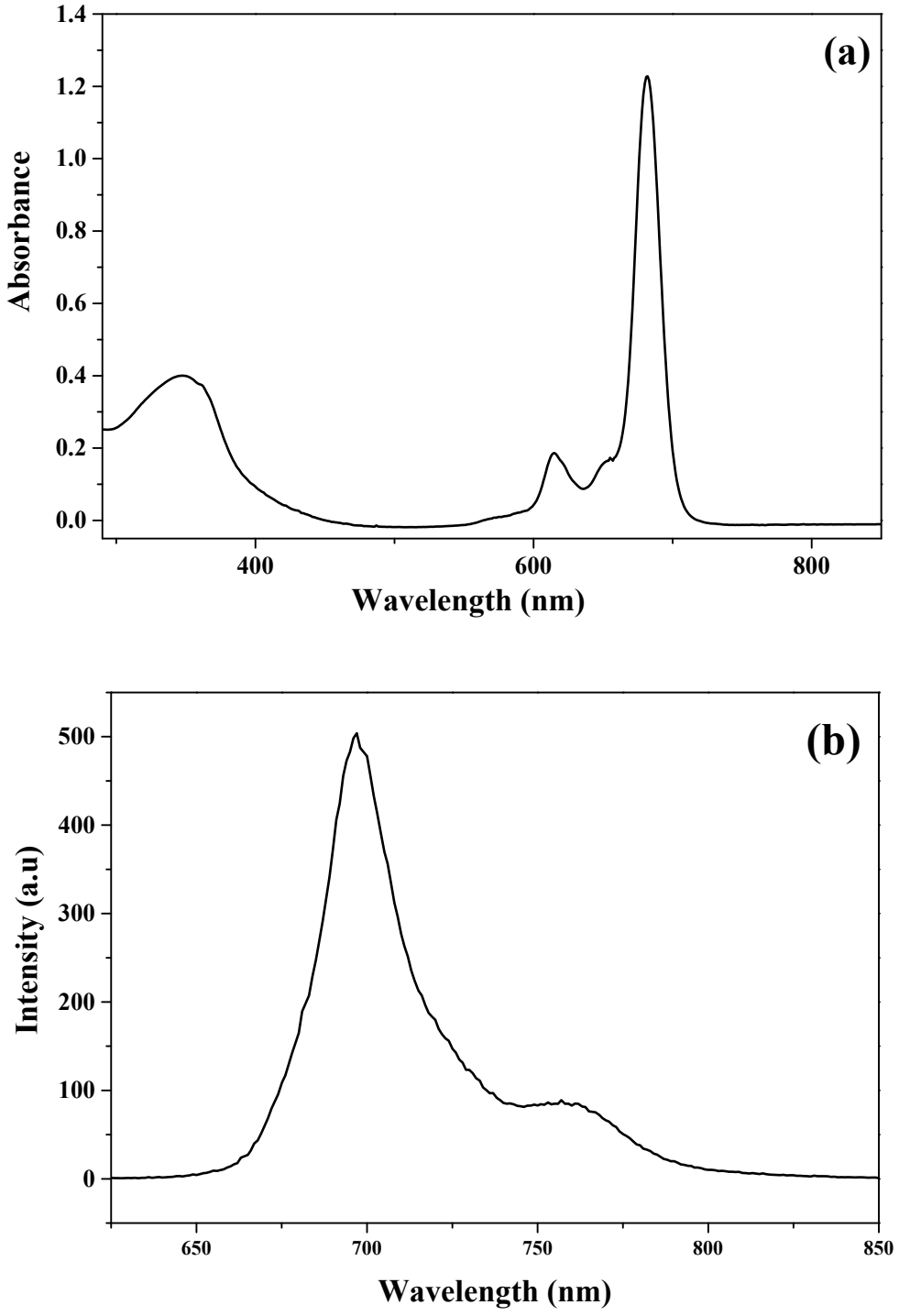

Figure S1. a) UV-Vis and b) fluorescence spectra of **TSA-ZnPc** in THF.

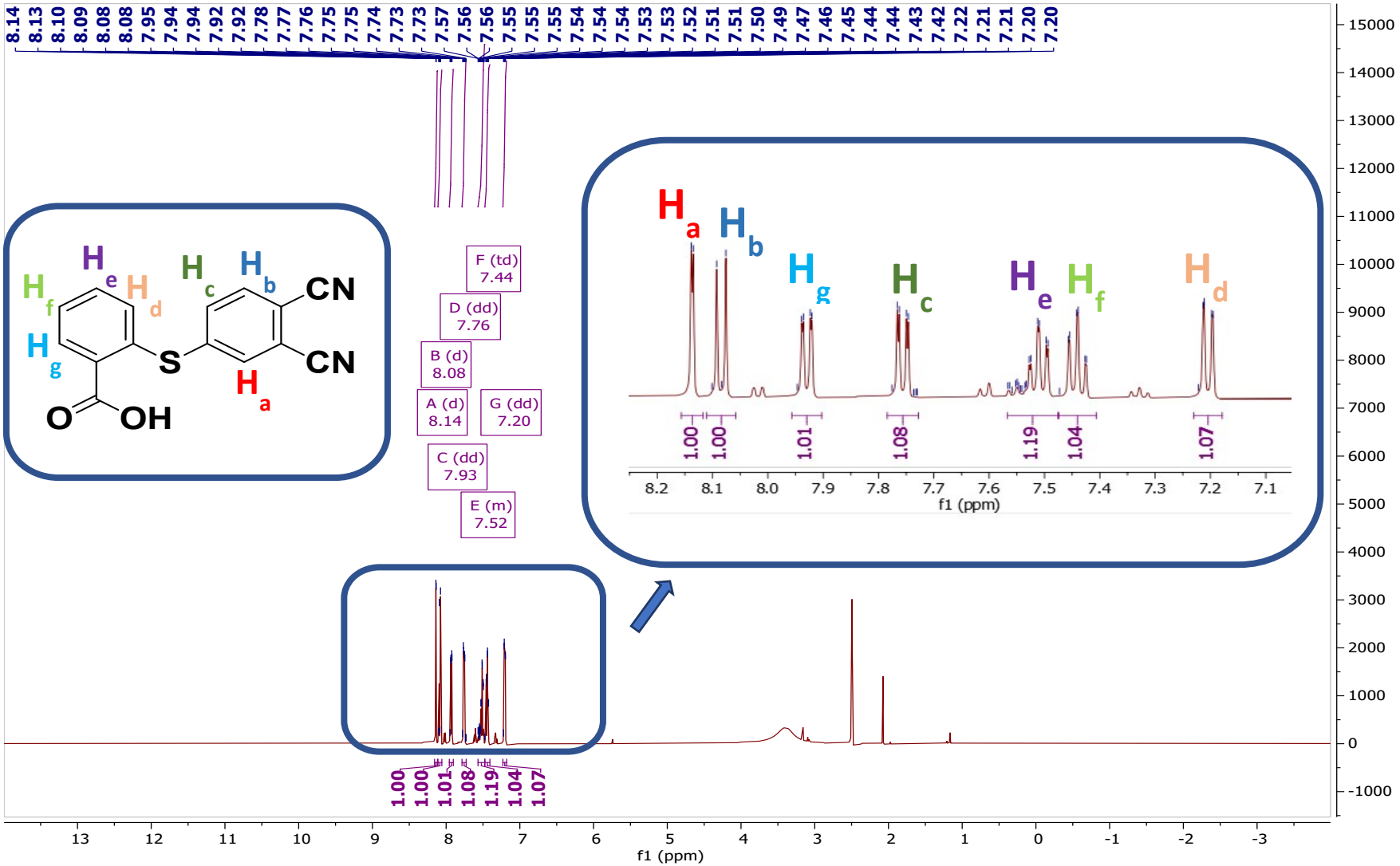

Figure S2. ^{1}H NMR spectrum of **(1)** in DMSO-d_6.

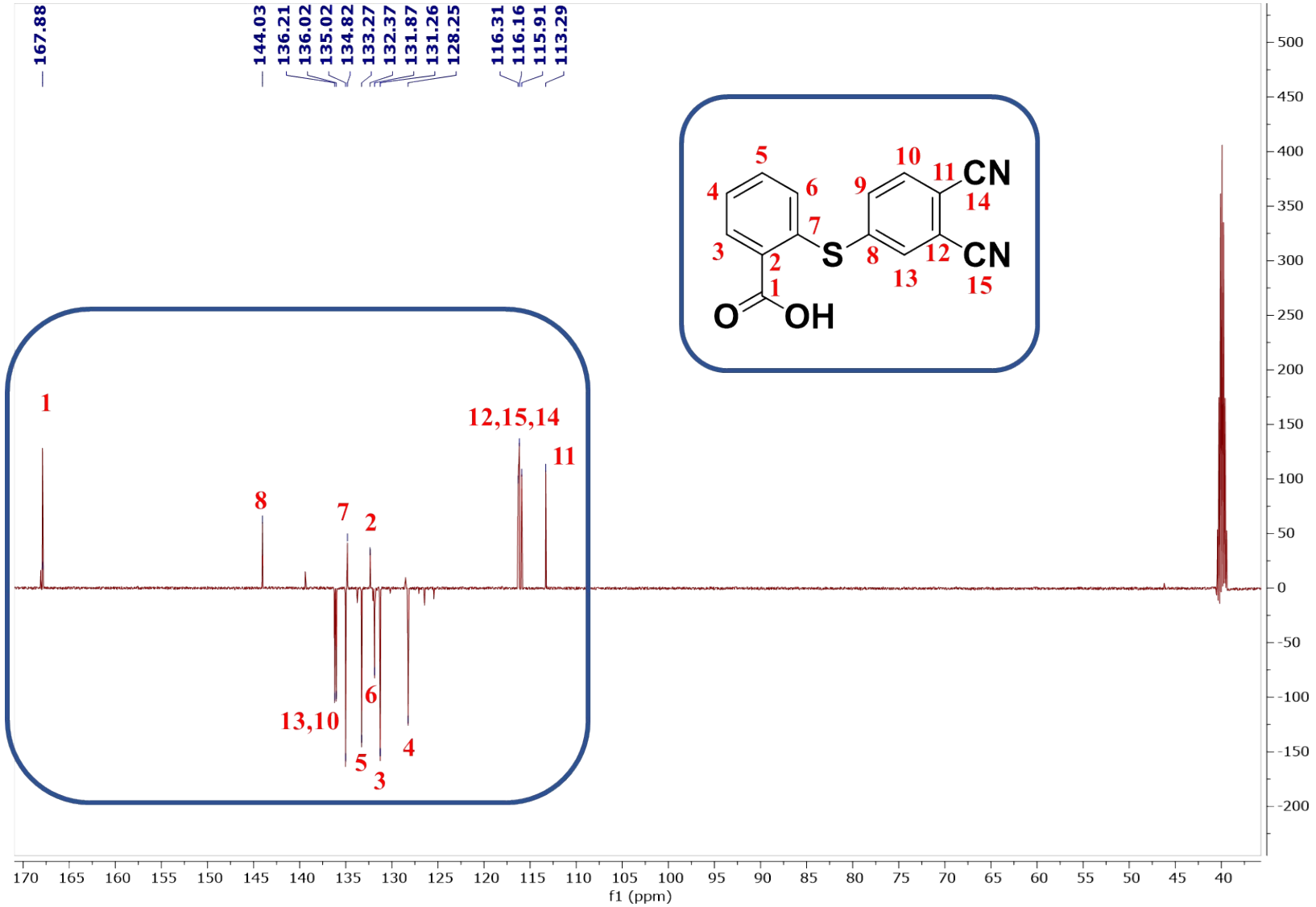

Figure S3. ^{13}C-APT NMR spectrum of **(1)** in DMSO-d_6.

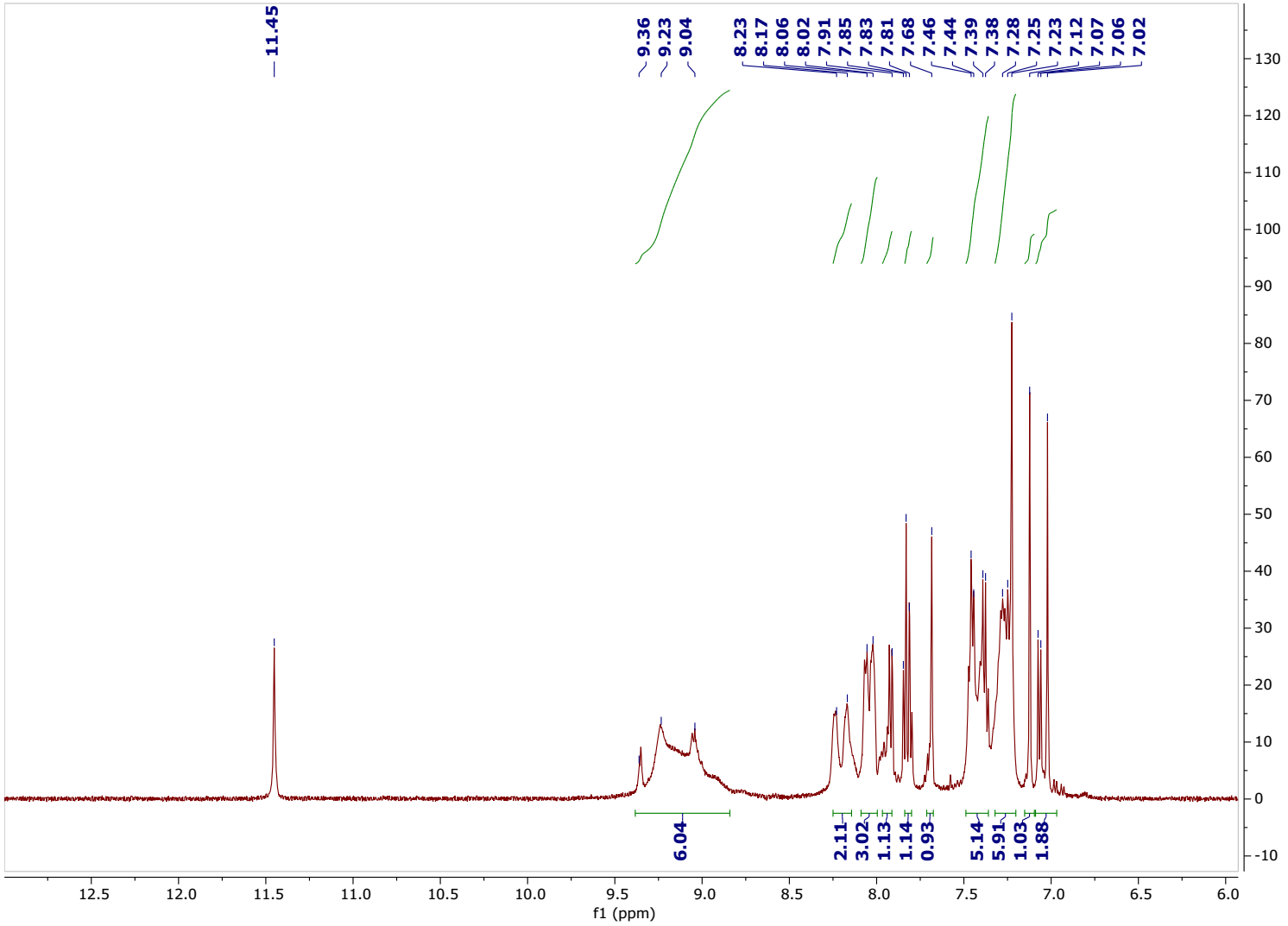

Figure S4. ^{1}H NMR spectrum of **TSA-ZnPc** in DMSO-d_6.

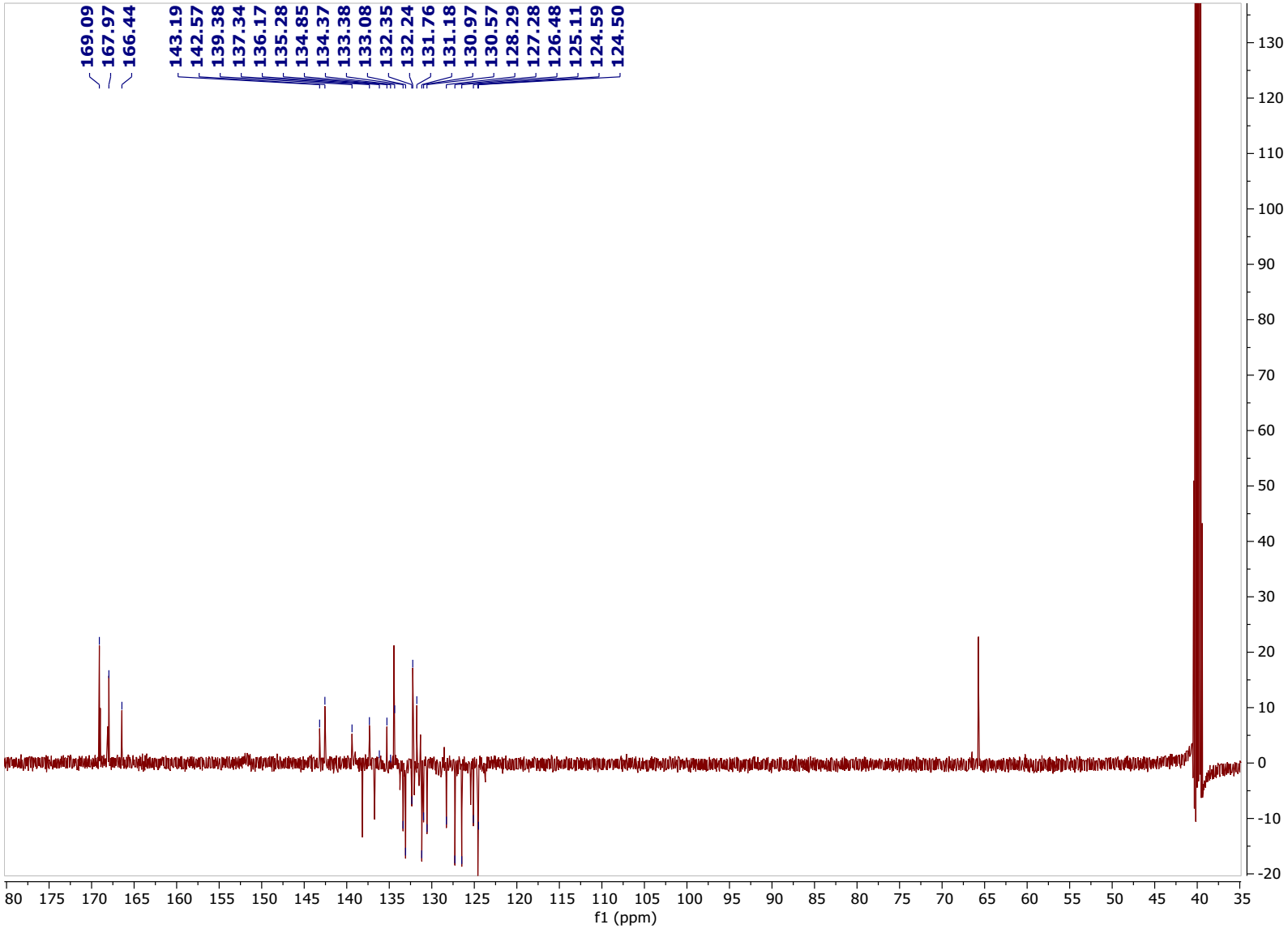

Figure S5. ^{13}C-APT NMR spectrum of **TSA-ZnPc** in DMSO-d_6.

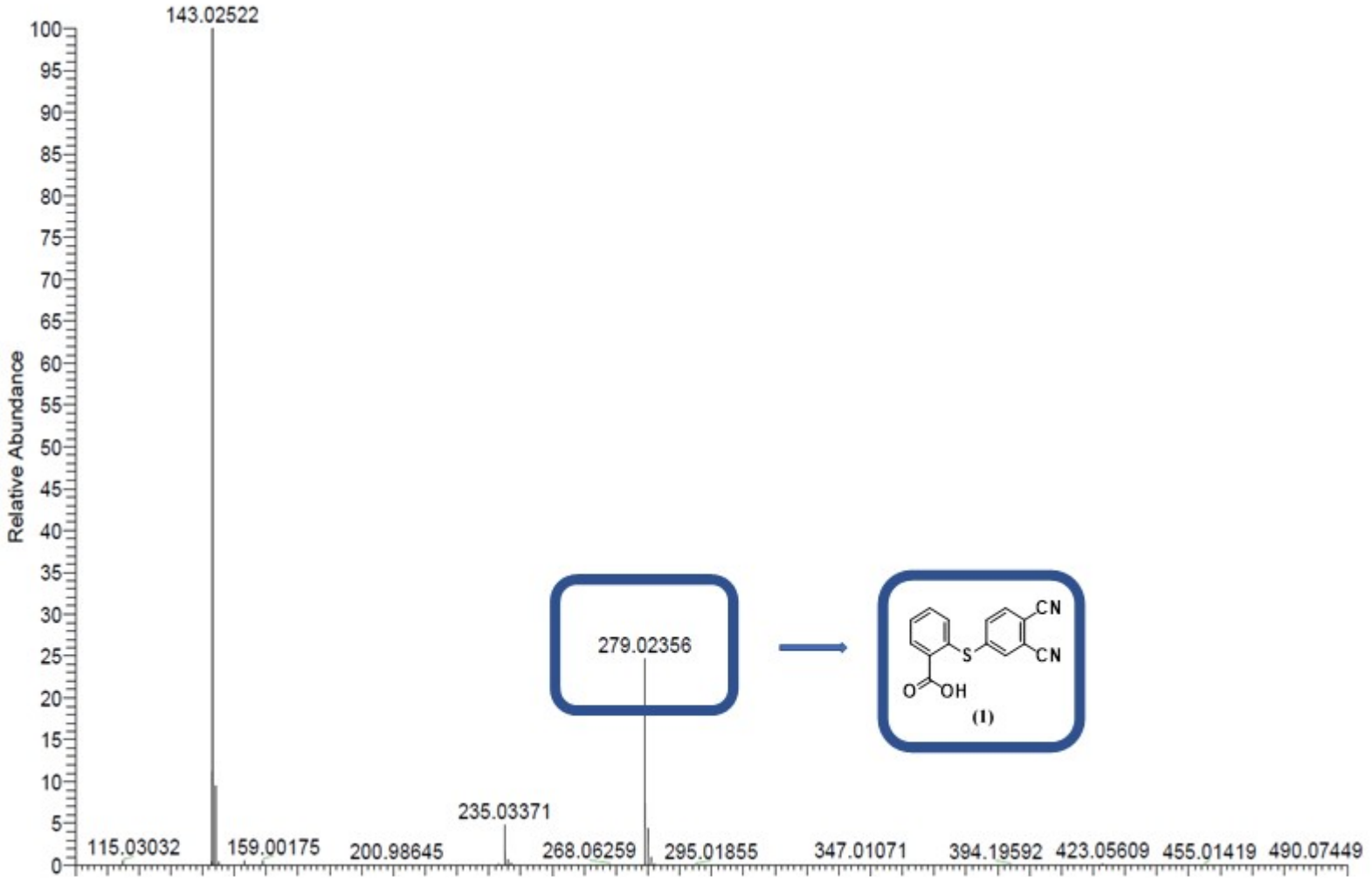

Figure S6. MALDI-TOF-MS spectrum of **(1)**.

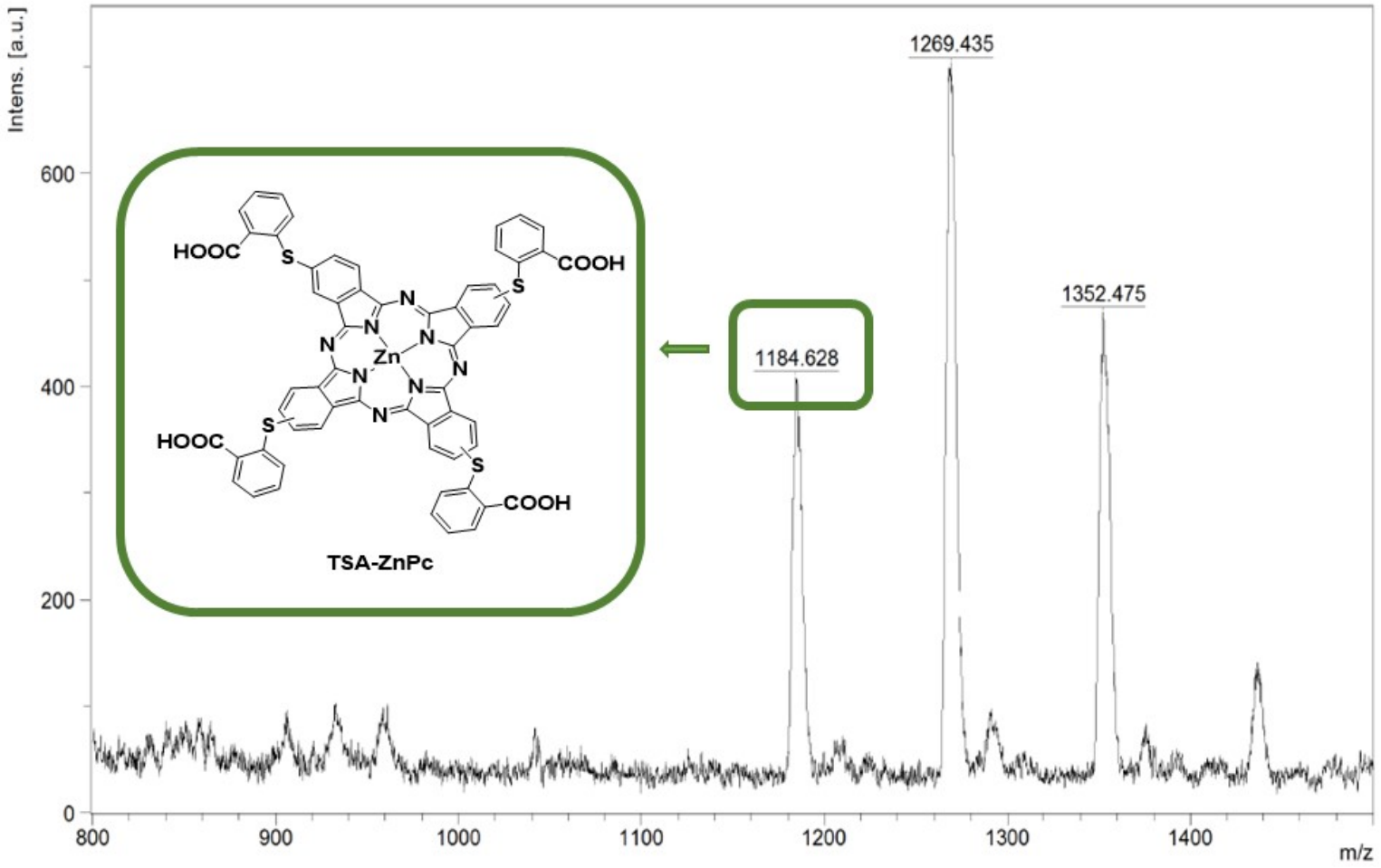

Figure S7. MALDI-TOF-MS spectrum of **TSA-ZnPc**.

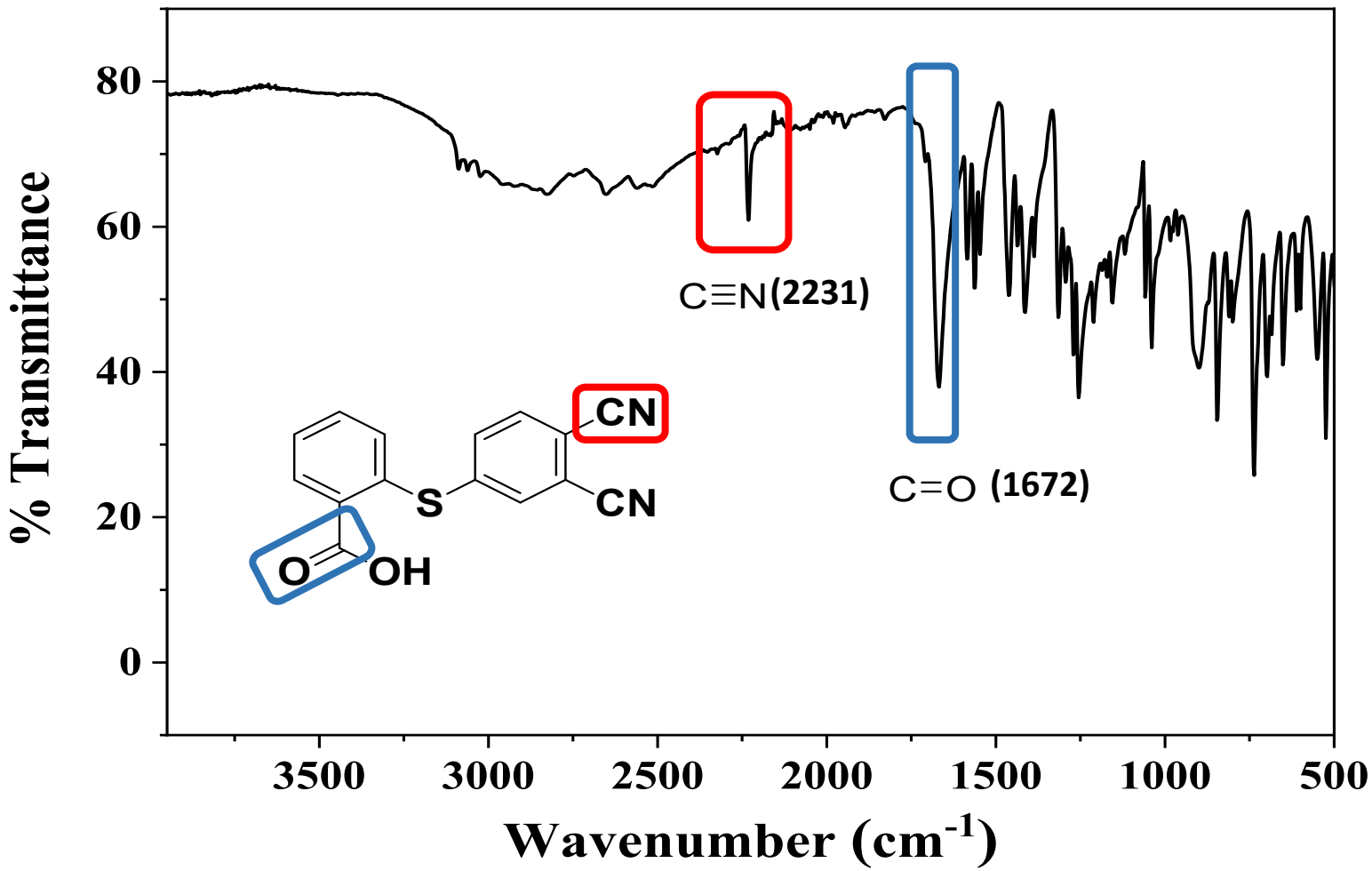

Figure S8. FT-IR spectrum of **(1).**

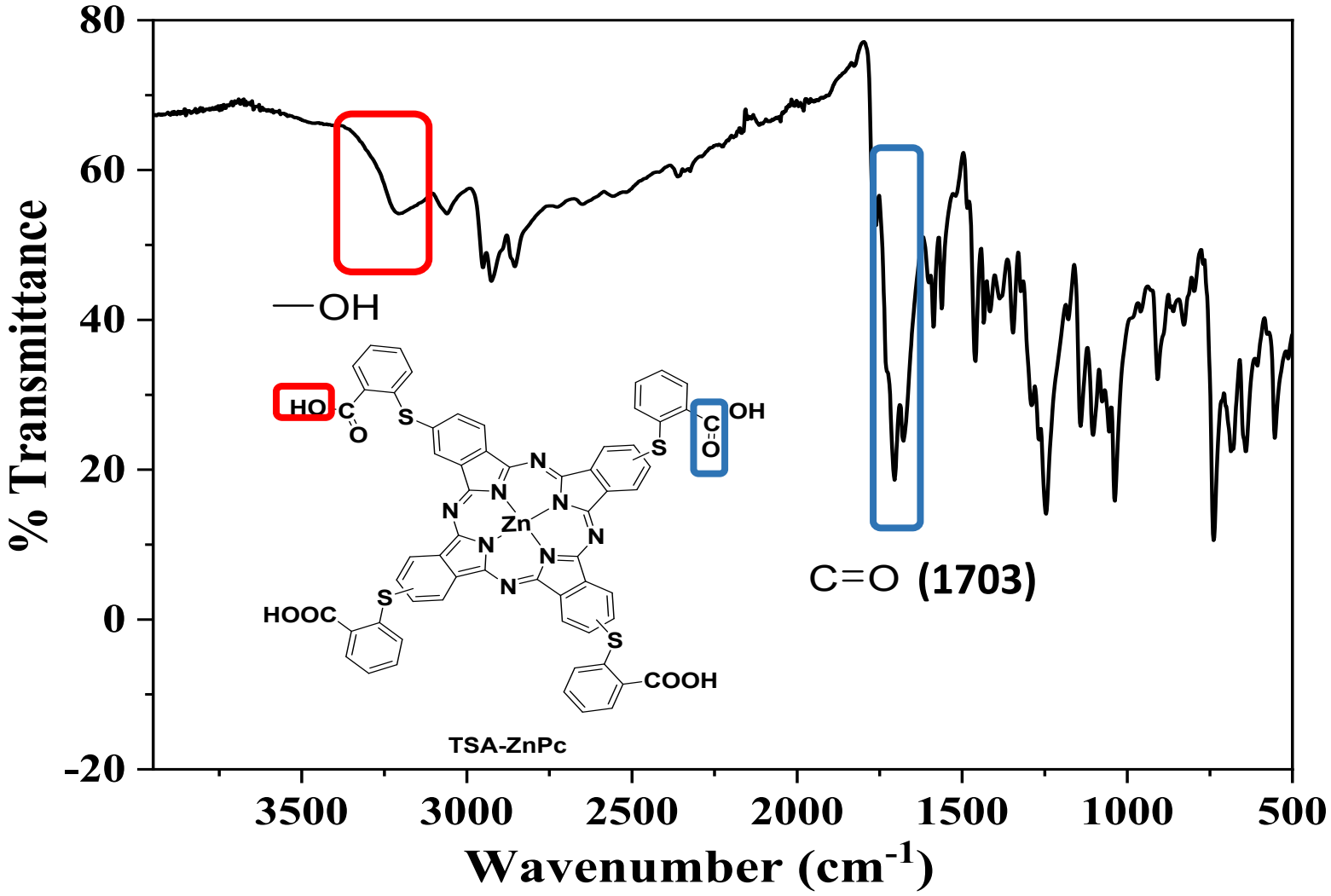

Figure S9. FT-IR spectrum of **TSA-ZnPc.**