

Supporting information:

5,10,15,20-tetraphenylporphyrin (**4**, TPP, Band 1):

MS:

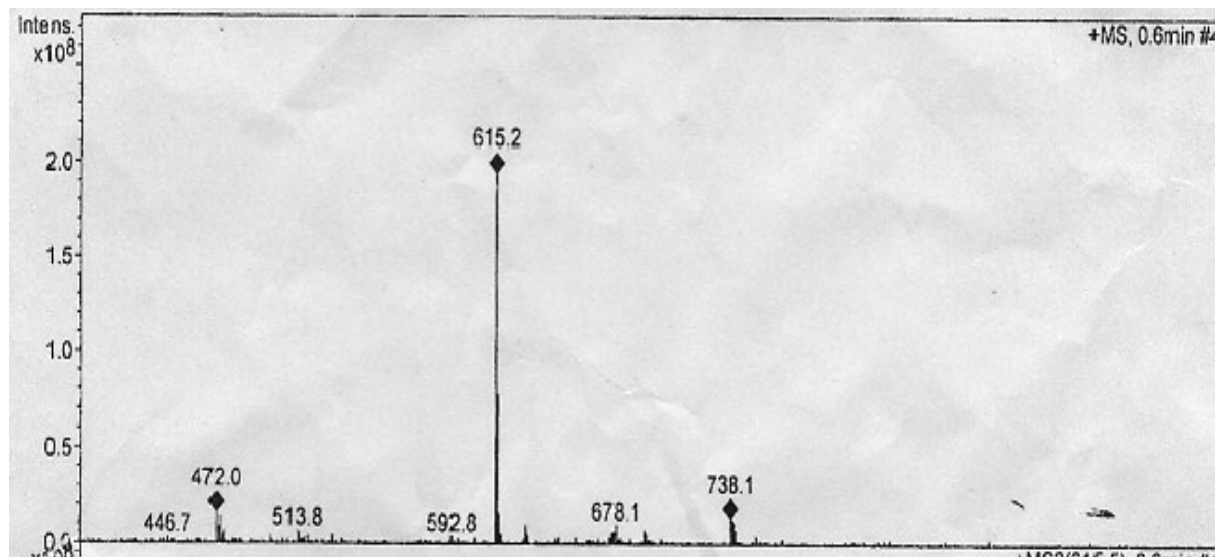


Figure EI MS spectrum of TPP

¹H NMR:

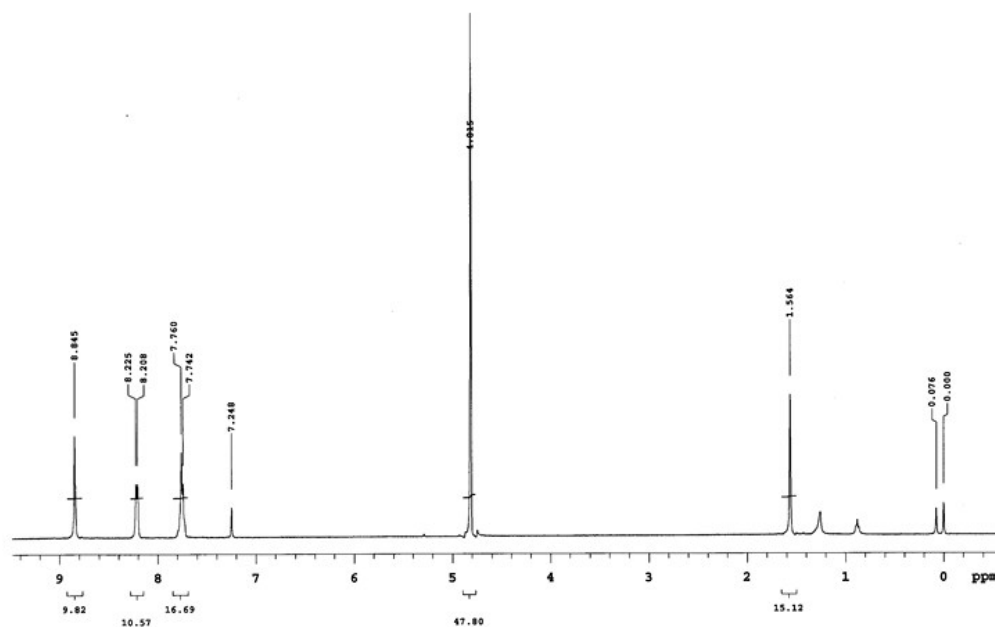


Figure ¹H NMR spectrum of TPP

5-(4'-carboethoxymethyleneoxyphenyl)-10,15,20-trisphenylporphyrin (5, CEPTPP, Band 2):

MS:

zou_111123141502 #5-22 RT: 0.03-0.15 AV: 18 NL: 1.38E7
T: ITMS + c ESI: sid=35.00 Full ms [155.00-1500.00]

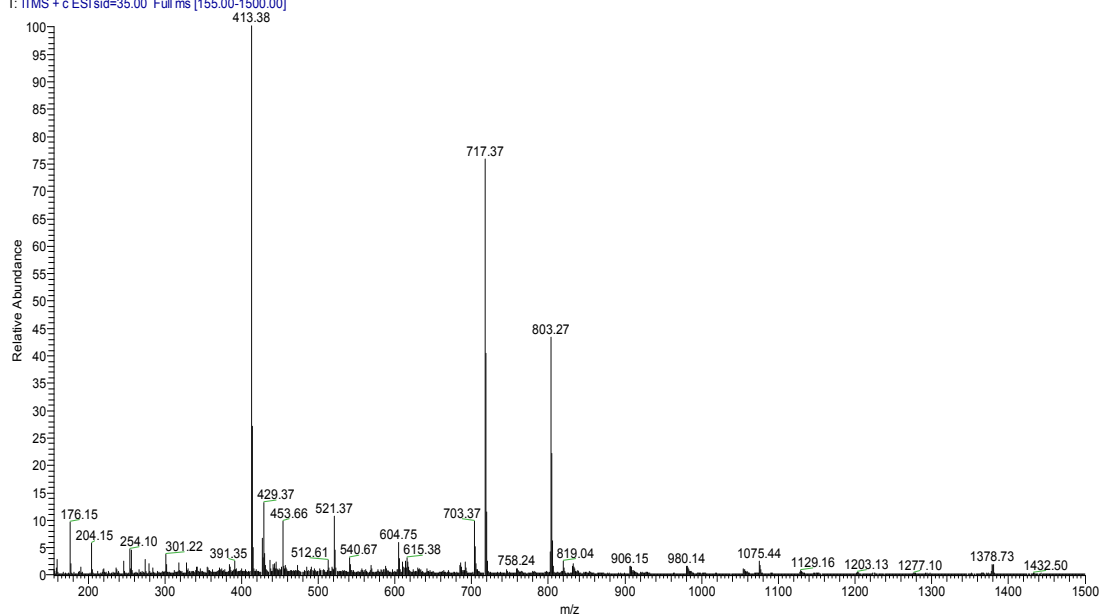


Figure EI MS spectrum of CEPTPP

IR:

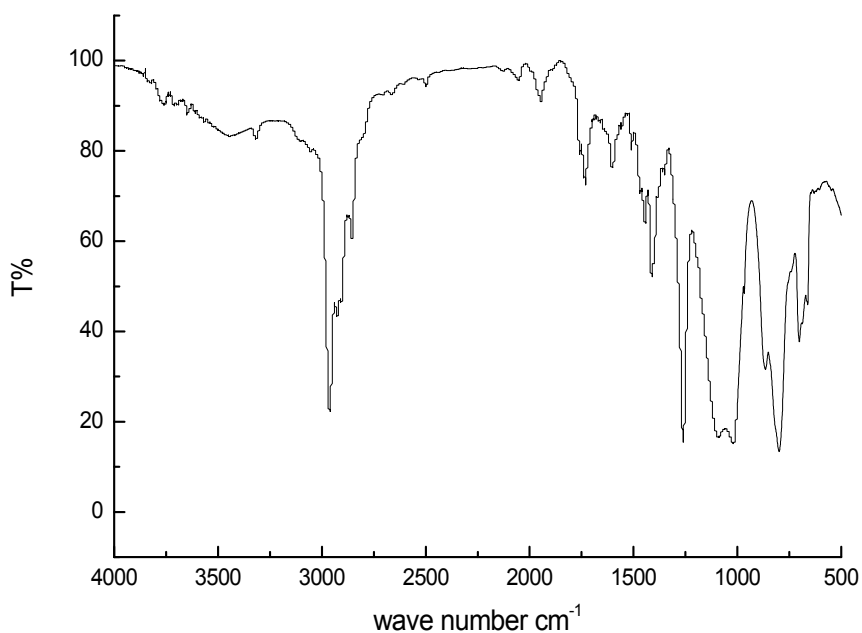


Figure FT-IR spectrum of CEPTPP

UV:

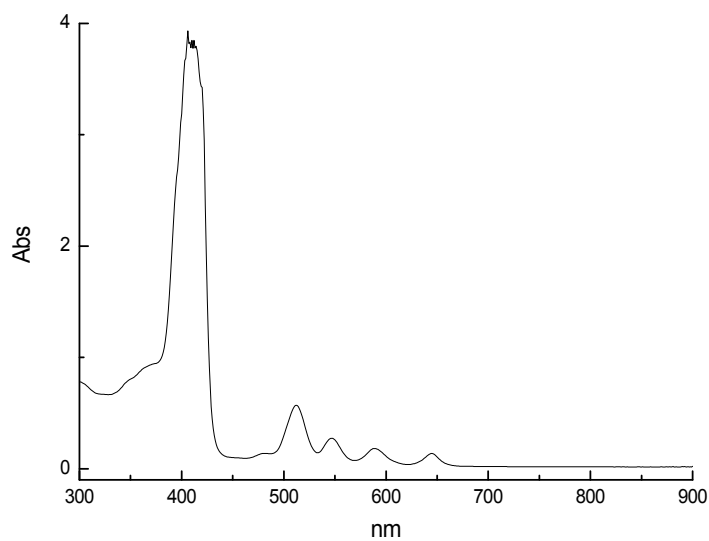


Figure UV-Vis spectrum of CEPTTP

5-(1',1',3',3'-tetramethylisoindolin-2'-yloxy-5'-yl)-10,15,20-trisphenylporphyrin (6, T_{MIO}TPP, Band 3):

MS:

zou_111123142948 #8-45 RT: 0.06-0.38 AV: 38 NL: 7.59E6
T: ITMS + c ESI!sid=35.00 Full ms [220.00-2000.00]

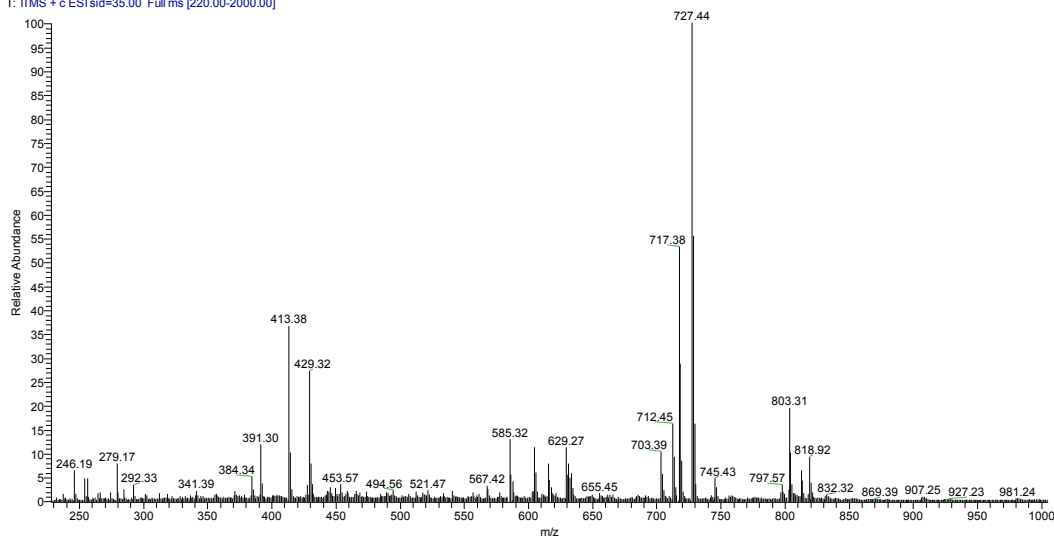


Figure EI MS spectrum of T_{MIO}TPP

IR:

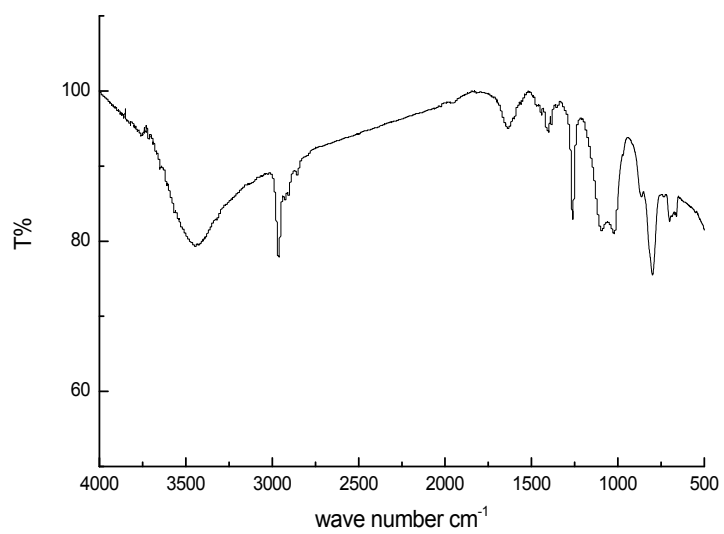


Figure FT-IR spectrum of T_{MIO}TPP

UV:

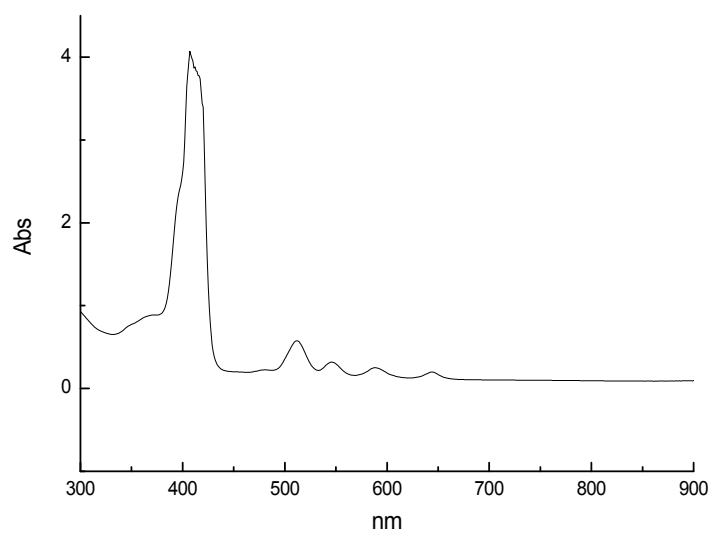


Figure UV-Vis spectrum of T_{MIO}TPP

¹H NMR:

单晶样品 2012.5.11. DMSO

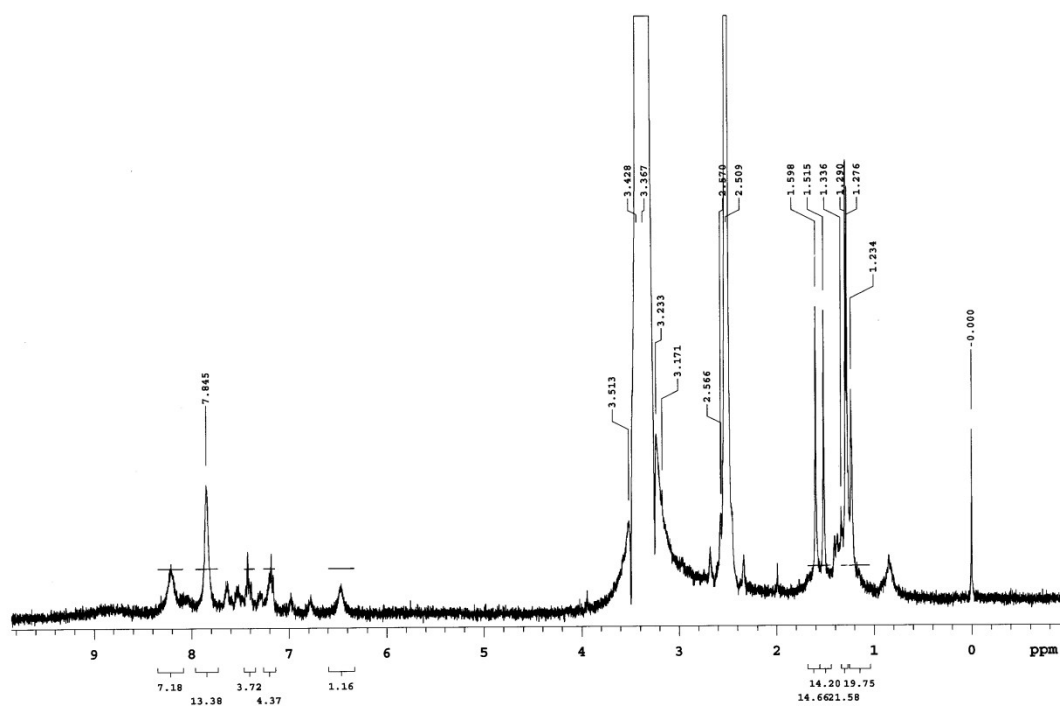


Figure ^1H NMR spectrum of $T_{\text{MIO}}\text{TPP}$

**5,15-bis(4'-carboethoxymethyleneoxyphenyl)-10,20-bisphenylporphyrin
(7, BCEPBPP, Band 4):**

MS:

20120409_120409123512 #153-270 RT: 1.36-2.36 AV: 118 NL: 1.62E6
T: ITMS + c ESI Full ms [300.00-2000.00]

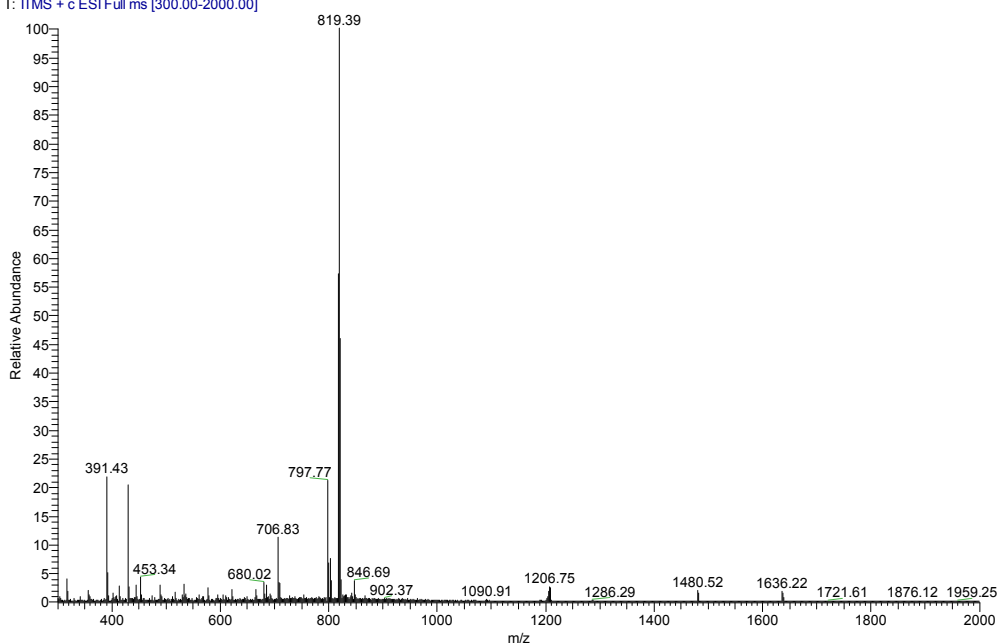


Figure EI MS spectrum of BCEPBPP

IR:

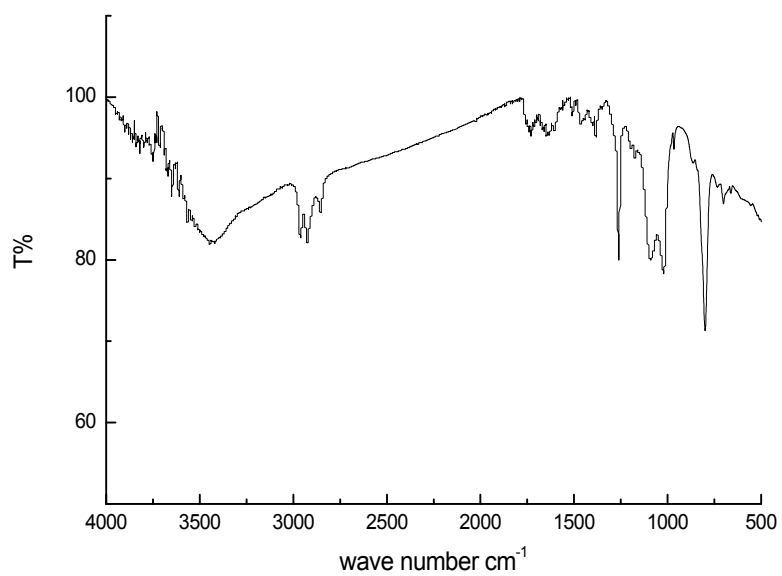


Figure FT-IR spectrum of BCEPBPP

UV:

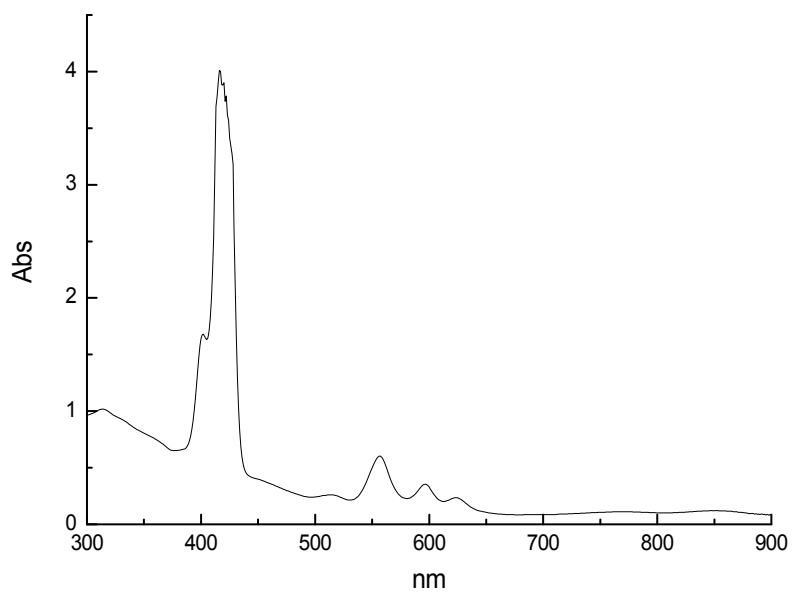


Figure UV-Vis spectrum of BCEPBPP

¹H NMR:

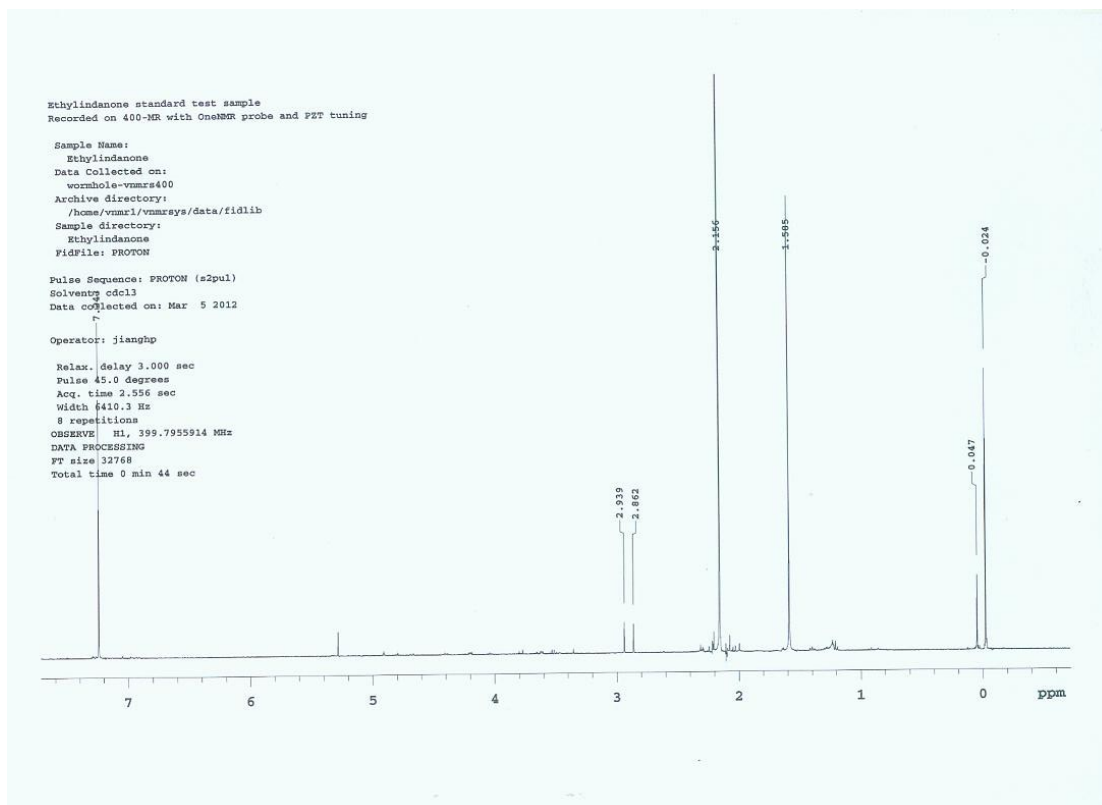


Figure 1H NMR spectrum of BCEPBPP

5-(1',1',3',3'-tetramethylisoindolin-2'-yloxy-5'-yl)-15-(4''-carboethoxymethyleneoxyphenyl)-10,20-bisphenylporphyrin

(8,

T_{MIO}CEPBPP, Band 5):

MS:

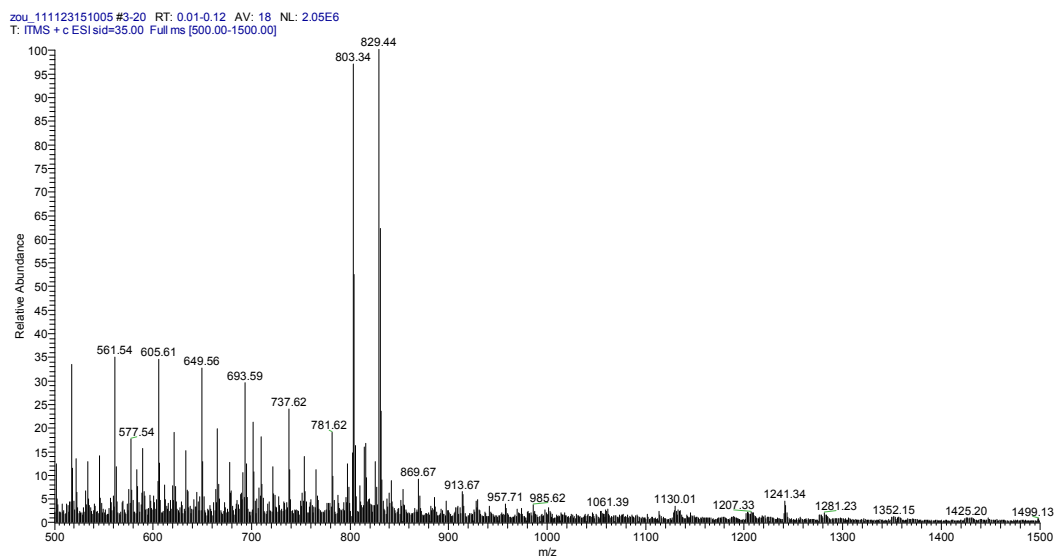


Figure EI MS spectrum of T_{MIO}CEPBPP

UV:

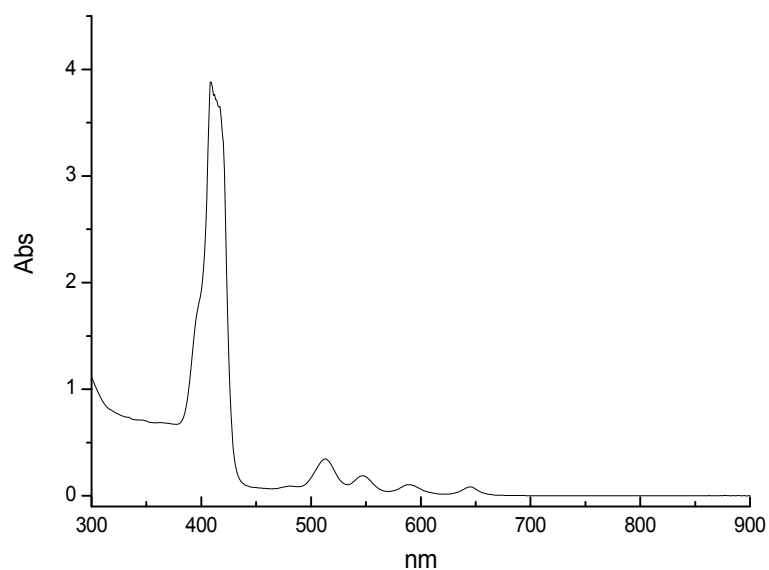


Figure UV-Vis spectrum of T_{MIO}CEPBPP

IR:

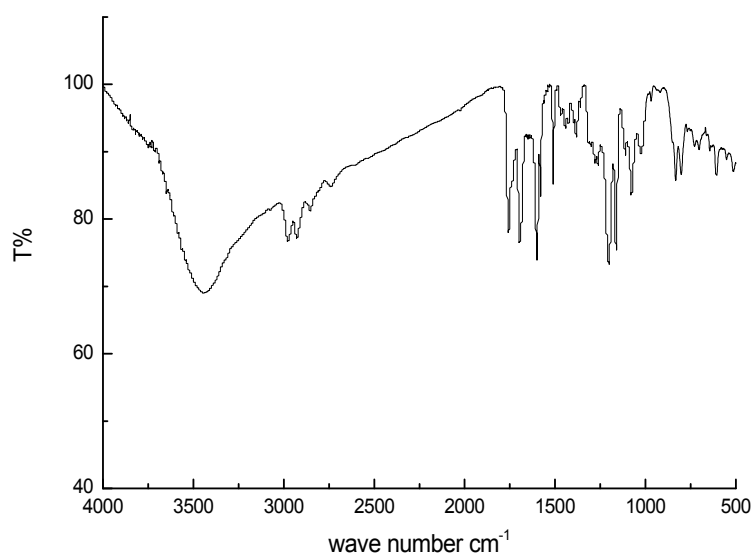


Figure FT-IR spectrum of T_{MIO}CEPBPP

5-(1',1',3',3'-tetramethylisoindolin-2'-yloxy-5'-yl)-10,20-bis(4''-carboethoxy-methyleneoxyphenyl)-15-phenylporphyrin (9, T_{MIO}BCEPPP, Band 6):

MS:

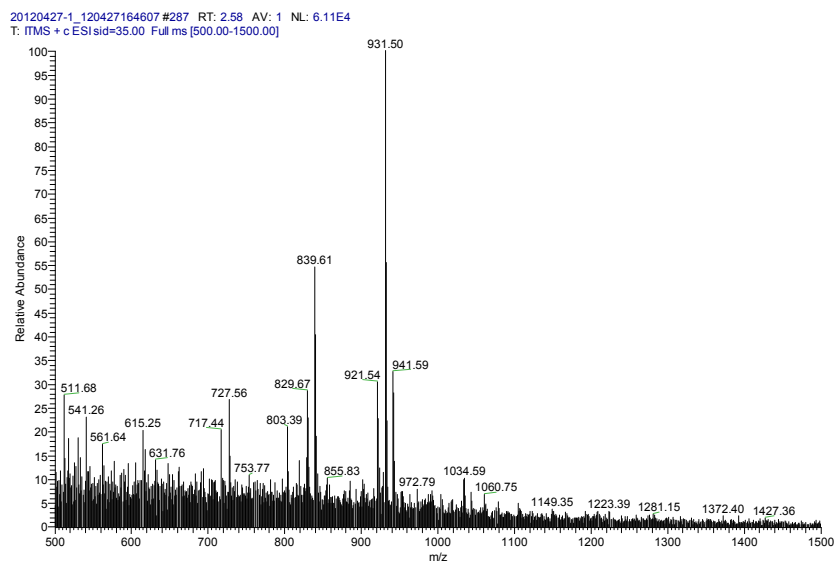


Figure EI MS spectrum of T_{MIO}BCEPPP

UV:

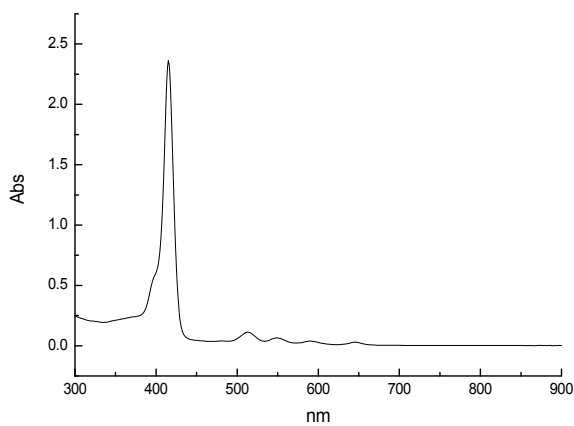


Figure UV-Vis spectrum of T_{MIO}BCEPPP

IR:

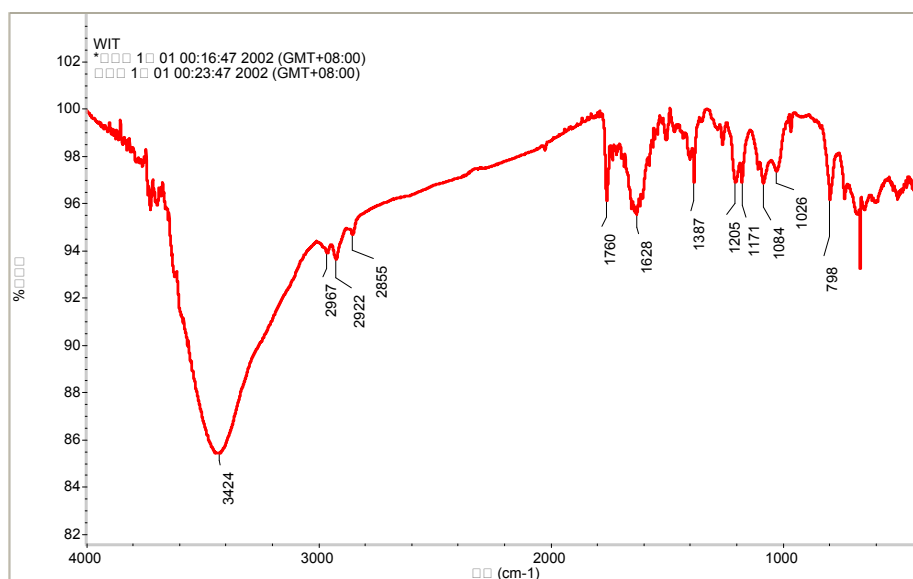


Figure FT-IR spectrum of T_{MIO}BCEPPP

¹H NMR:

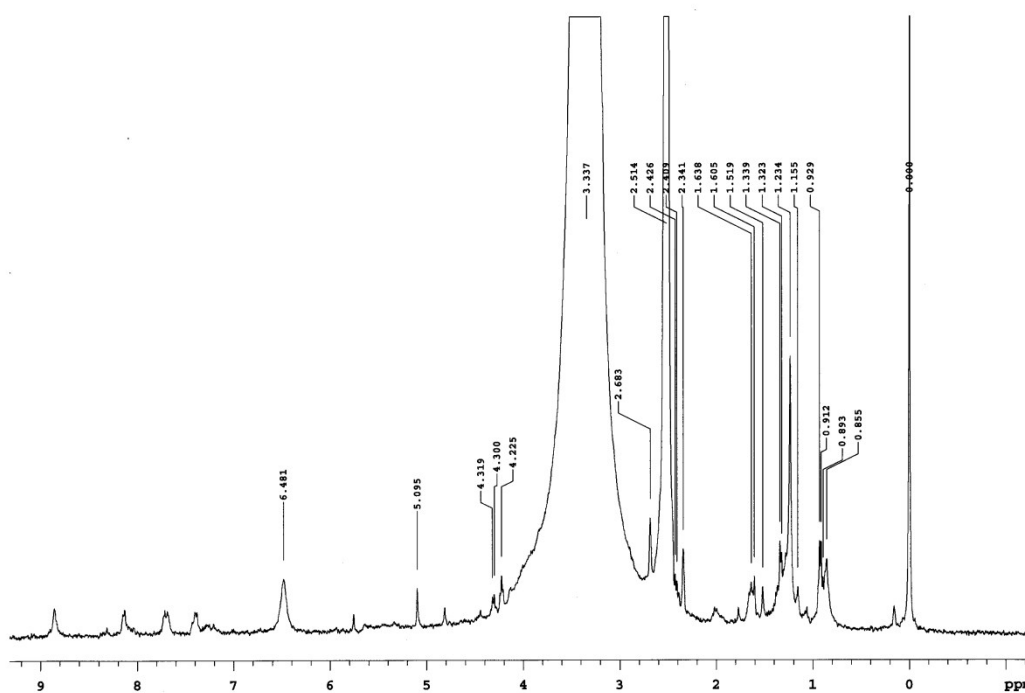


Figure ¹H NMR spectrum of T_{MIO}BCEPPP

5,15-bis(1',1',3',3'-tetramethylisoindolin-2'-yloxy-5'-yl)-10-(4''-carboethoxymethylene-oxyphenyl)-20-phenylporphyrin
BT_{MIO}CEPPP, Band 7):

MS:

(10,

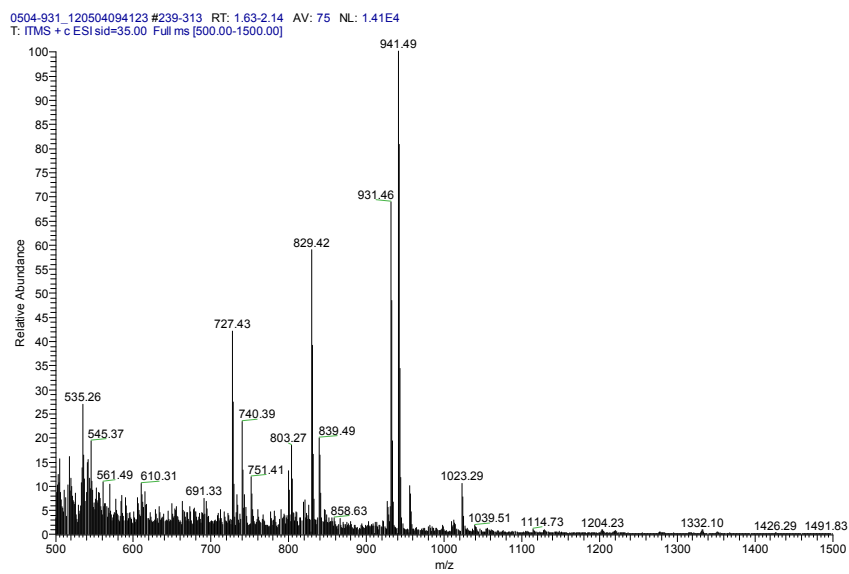


Figure EI MS spectrum of BT_{MIO}CEPPP

UV:

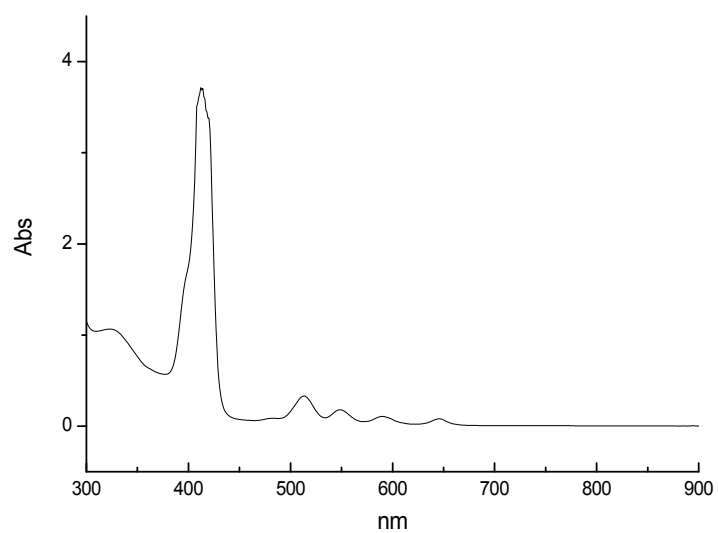


Figure UV-Vis spectrum of BT_{MIO}CEPPP

IR:

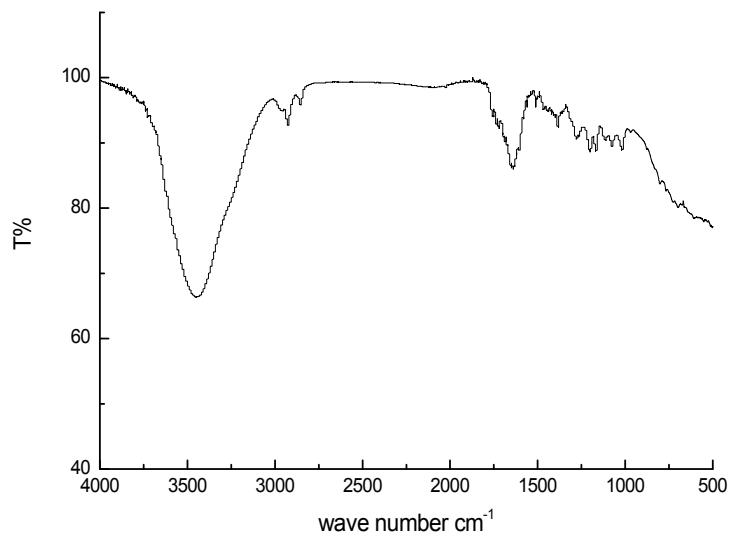


Figure FT-IR spectrum of BT_{MIO}CEPPP

5,10,15,20-tetra(4'-carboethoxymethyleneoxyphenyl)-porphyrin (11,
TCEPP, Band 8):

MS:

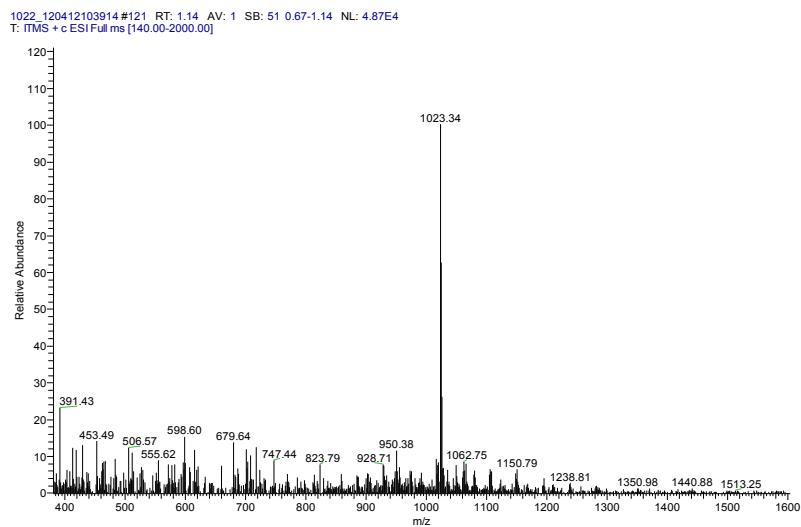


Figure EI MS spectrum of TCEPP

IR:

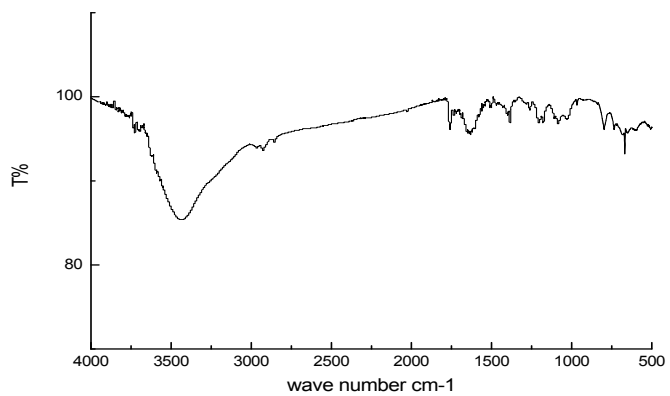


Figure FT-IR spectrum of TCEPP

UV:

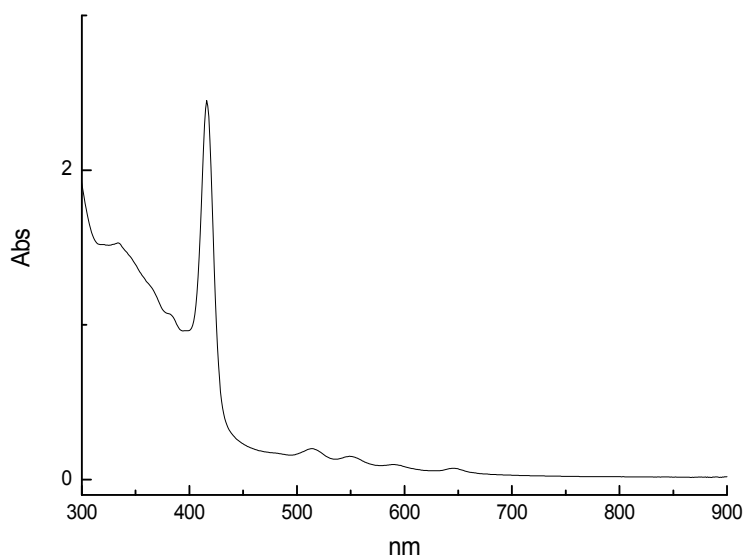


Figure UV-Vis spectrum of TCEPP

¹H NMR:

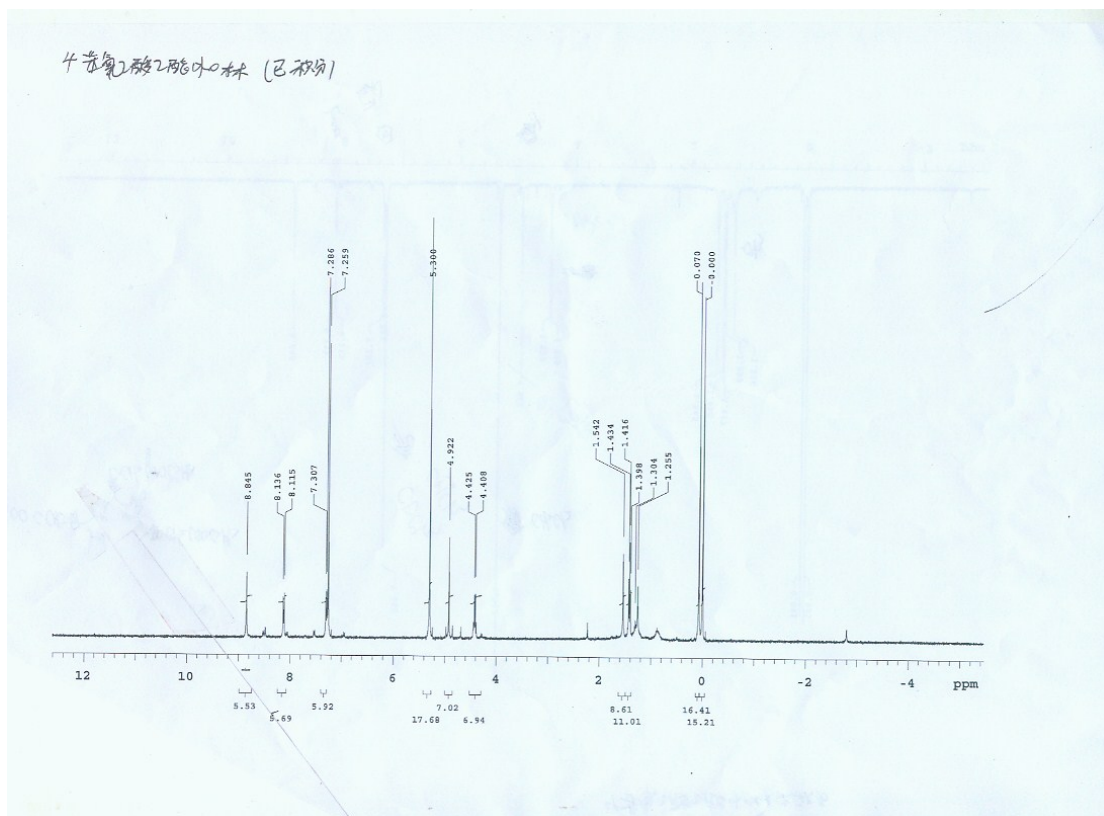
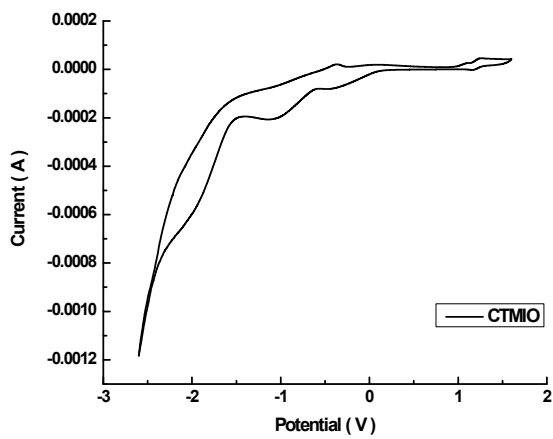


Figure 1^H NMR spectrum of TCEPP

Electrochemical experiments:



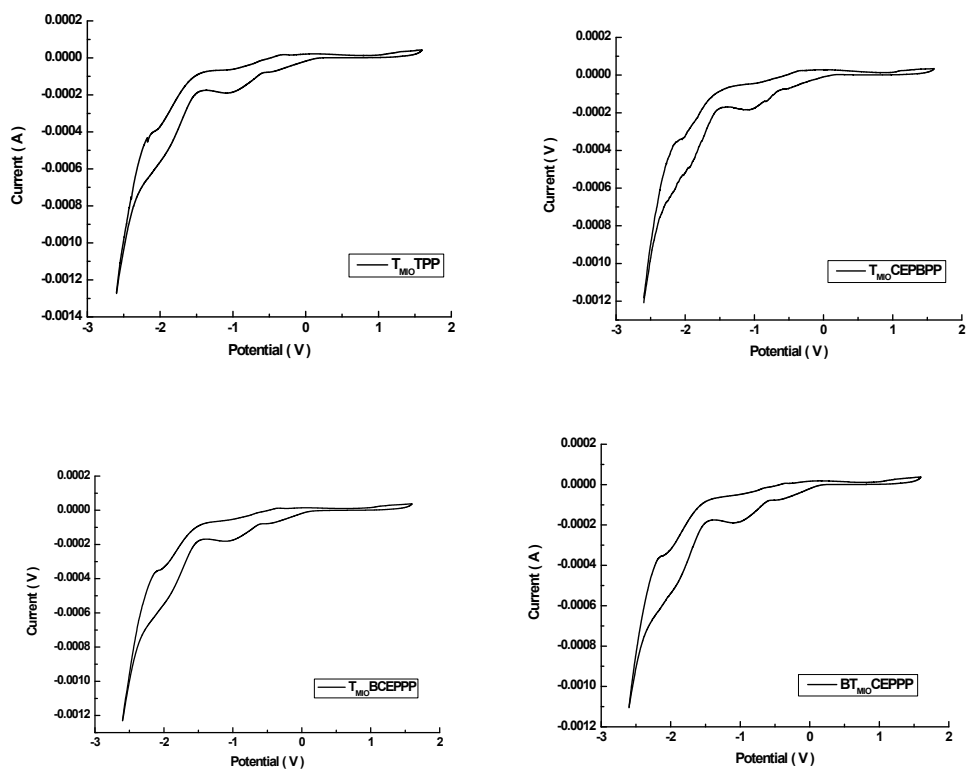


Fig. Current-potential curves of isoindoline nitroxide-labeled porphyrins $T_{MIO}TPP$, $T_{MIO}CEPBPP$, $T_{MIO}BCEPPP$, $BT_{MIO}CEPPP$ and CTMIO solutions.

EPR spectroscopy:

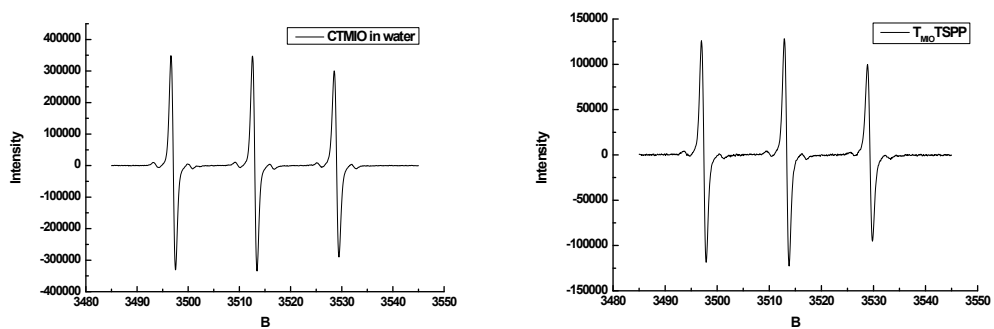


Fig. EPR spectra of isoindoline nitroxide-labeled porphyrin $T_{MIO}TSPP$ and CTMIO in distilled water at room temperature.