

## Supporting Information

### Intrinsic catalytic activity of Bronsted Acid Ionic Liquids for Synthesis of Triphenyl Methane and Phthalein under Microwave

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1. General Information
2. Typical Procedure
3. Spectral Data
4. <sup>1</sup>H NMR, <sup>13</sup>C NMR Spectra and Mass Spectra

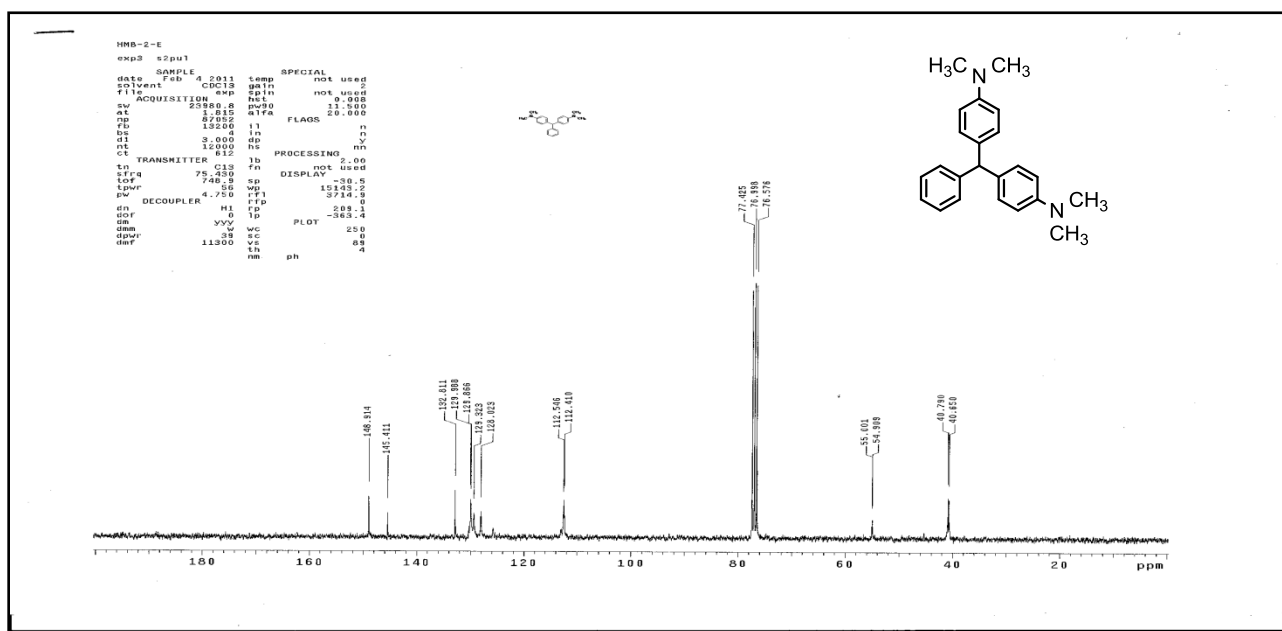
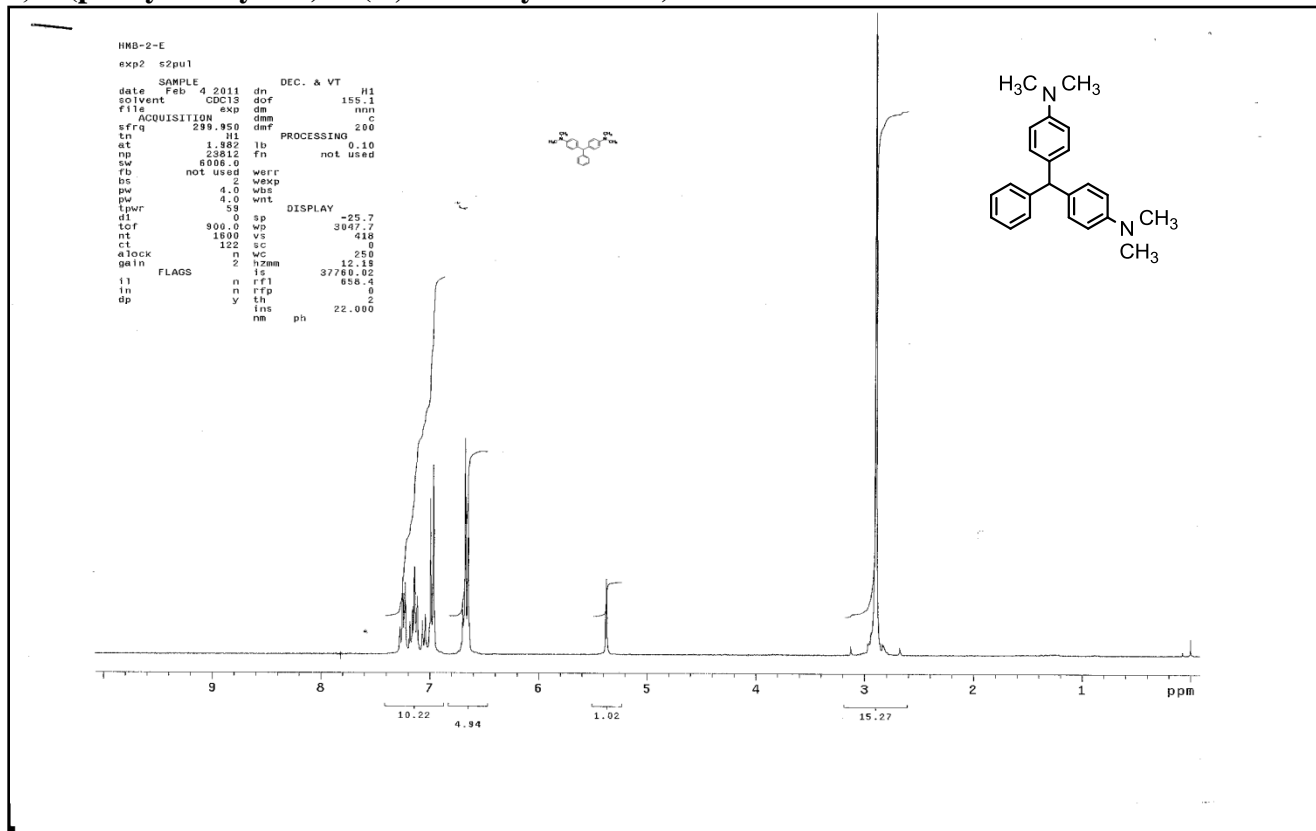
#### 1. General Information

All chemicals were commercially available and used without further purification. <sup>1</sup>H NMR and <sup>13</sup>C NMR spectra were obtained on a Varian Mercury plus 300 MHz NMR Spectrometer Chemical shift values are expressed in  $\delta$  units relative to tetramethylsilane (TMS) signal as internal reference CDCl<sub>3</sub>. Data are reported as follows: chemical shift in ppm ( $\delta$ ), multiplicity (s = singlet, d = doublet, t = triplet, br = broad singlet, m = multiplet), coupling constant  $J$  (Hz).

## Spectral data

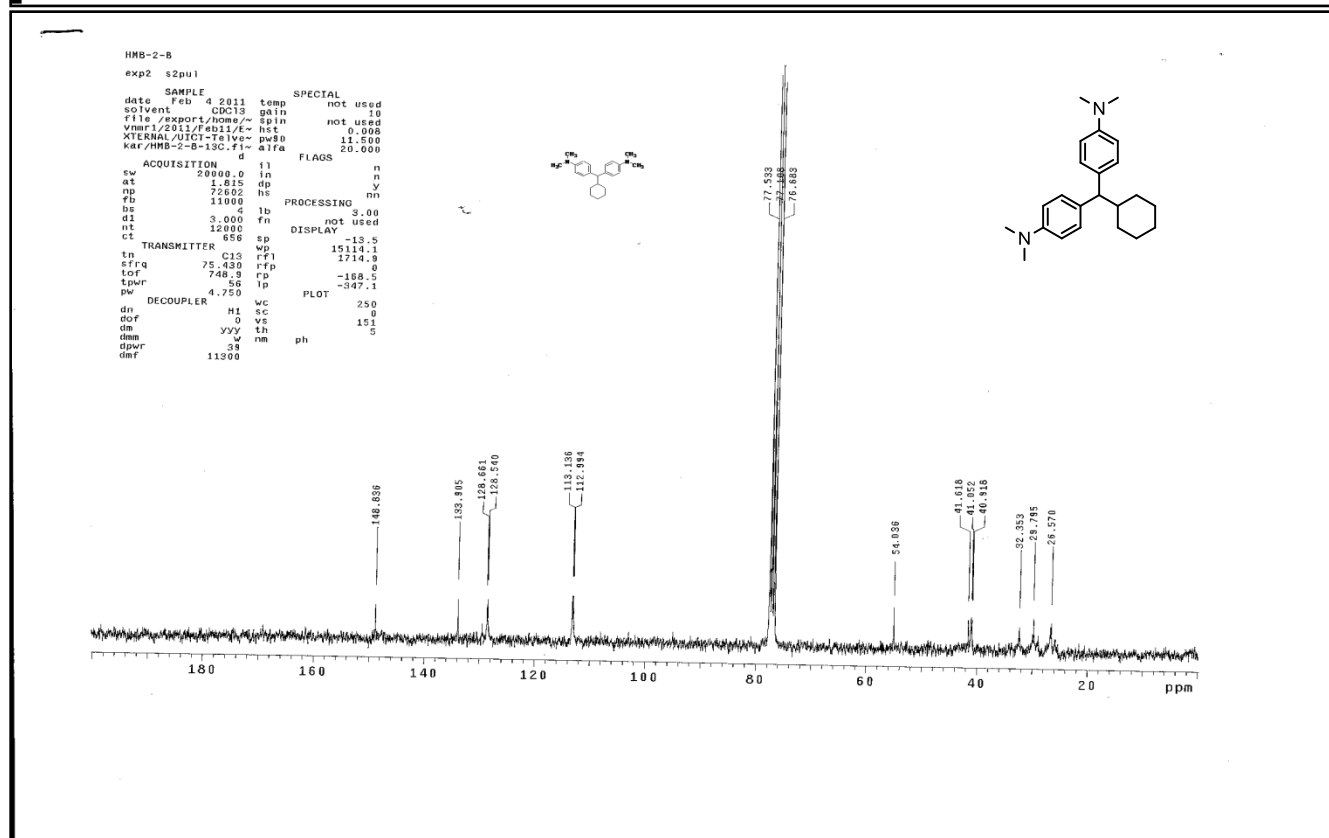
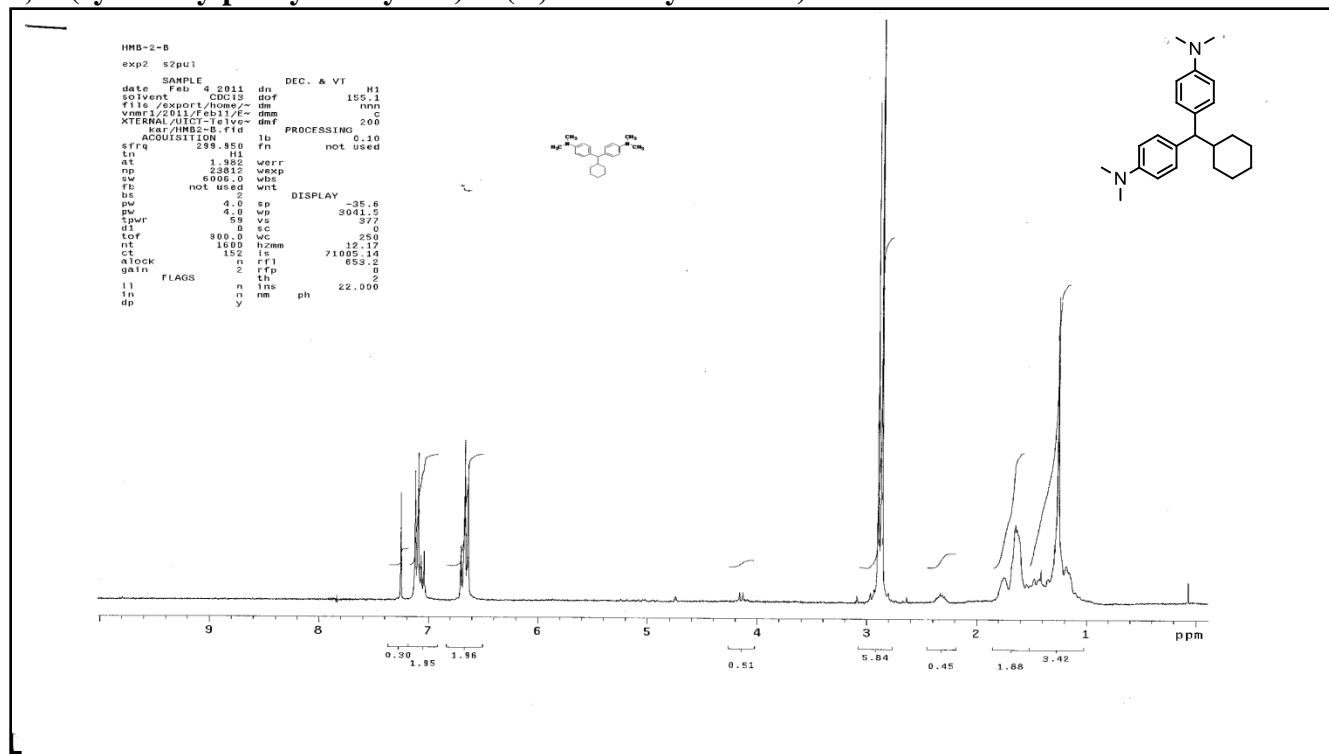
### $^1\text{H}$ NMR & $^{13}\text{C}$ NMR Spectra

#### 4,4'-(phenylmethylene)bis(N,Ndimethylethaniline) 3a



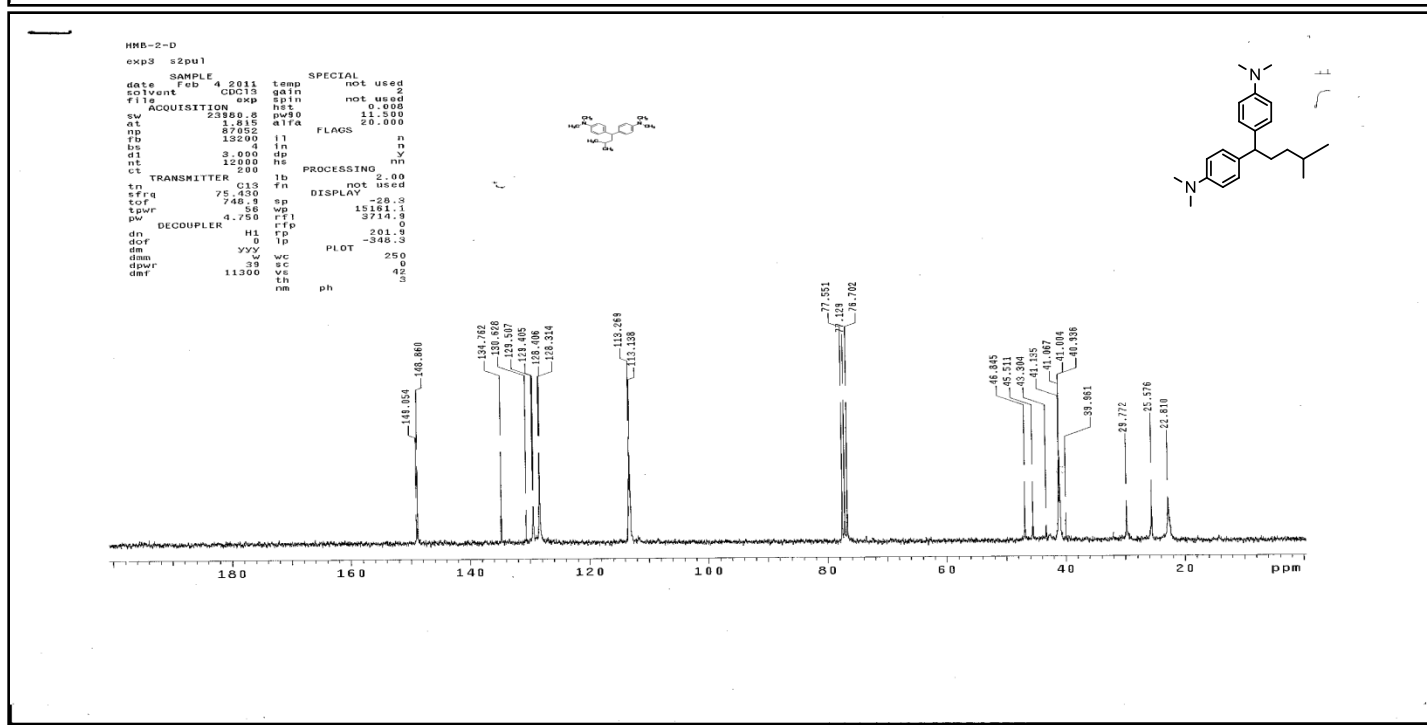
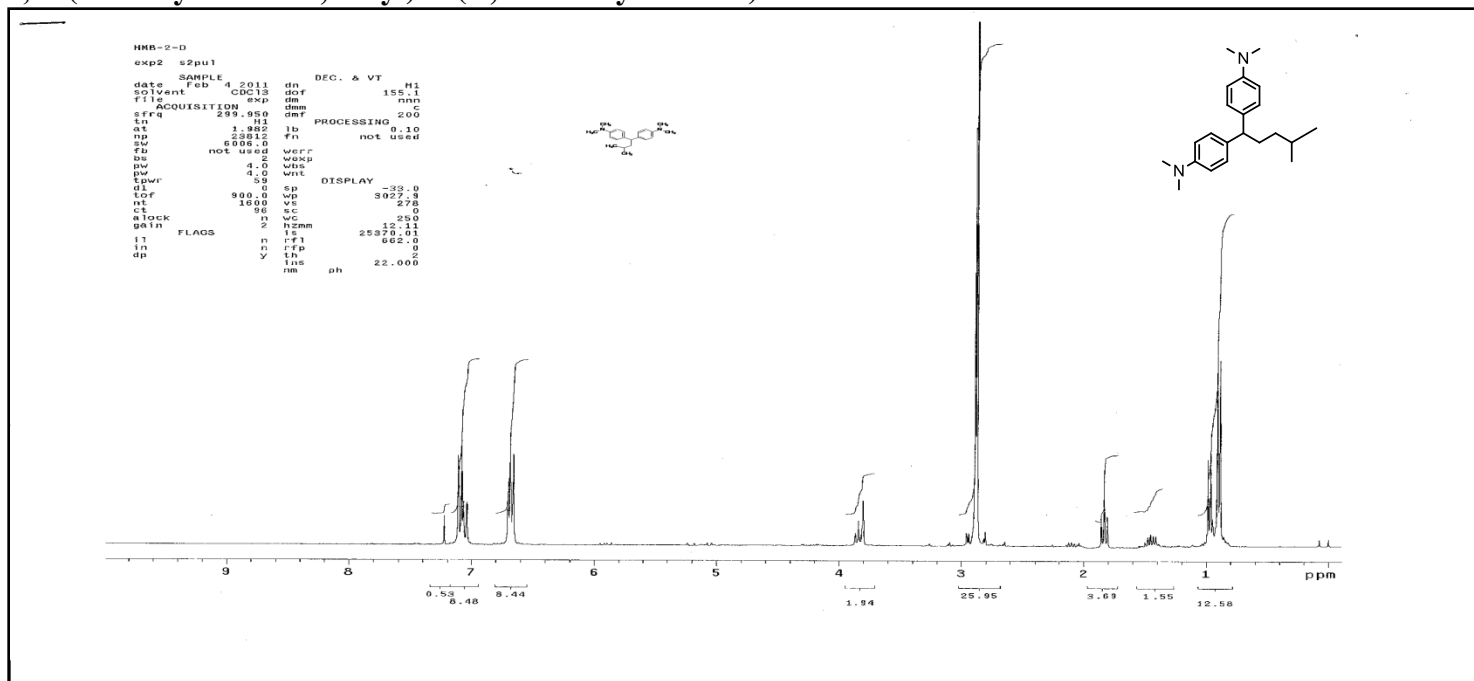
# $^1\text{H}$ NMR & $^{13}\text{C}$ NMR Spectra

## 4,4'-(cyclohexylphenylmethylene)bis(N,Ndimethylaniline) 3c

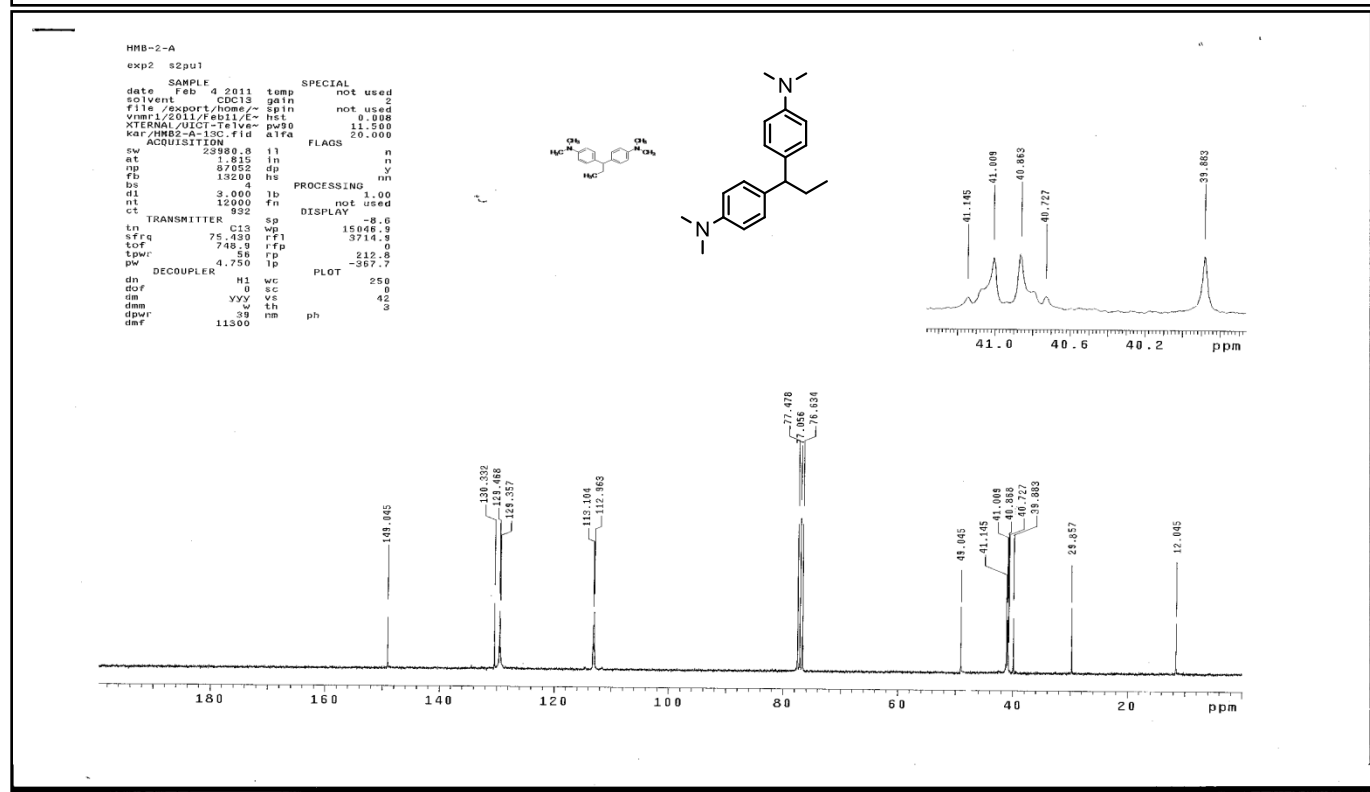
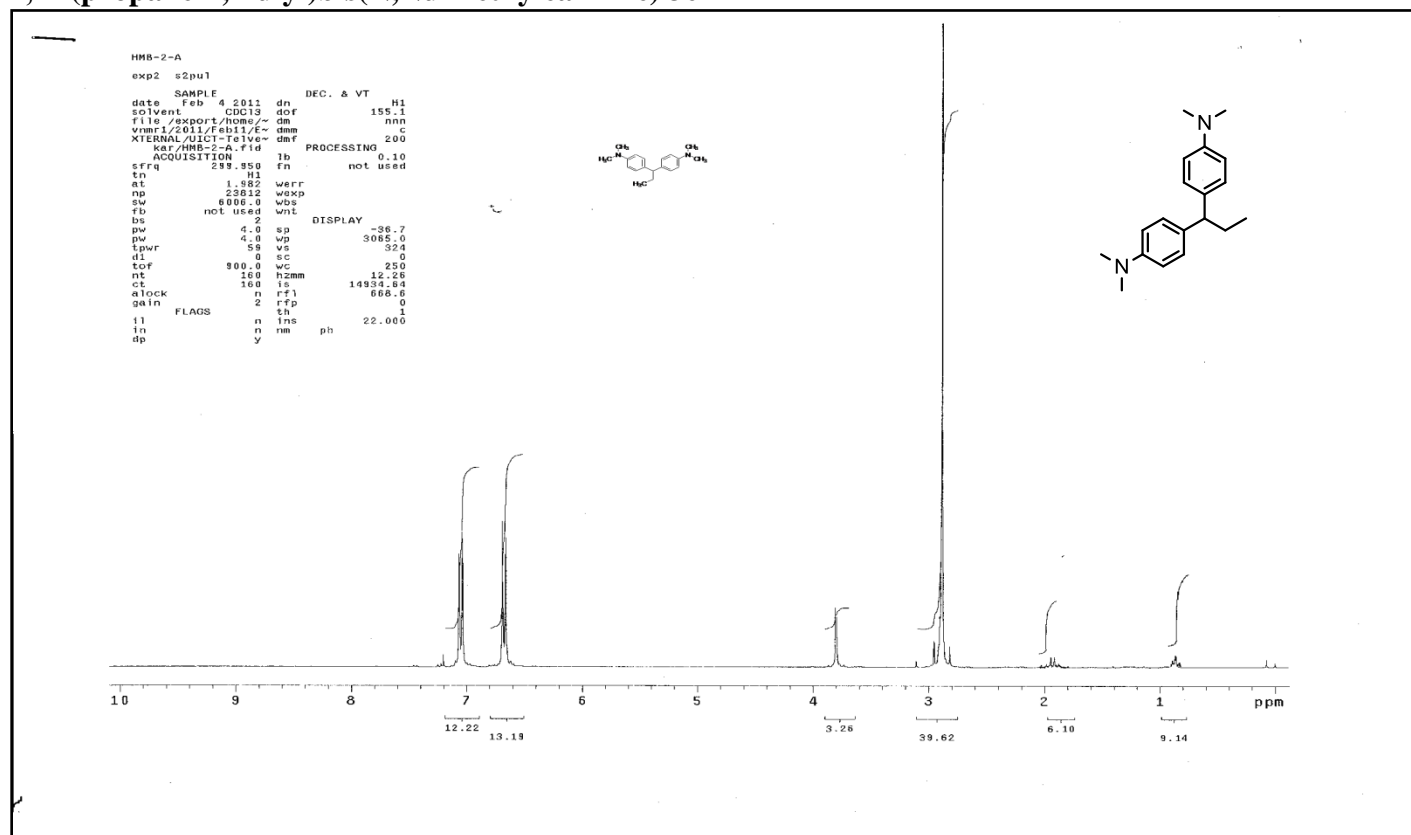


# $^1\text{H}$ NMR & $^{13}\text{C}$ NMR Spectra

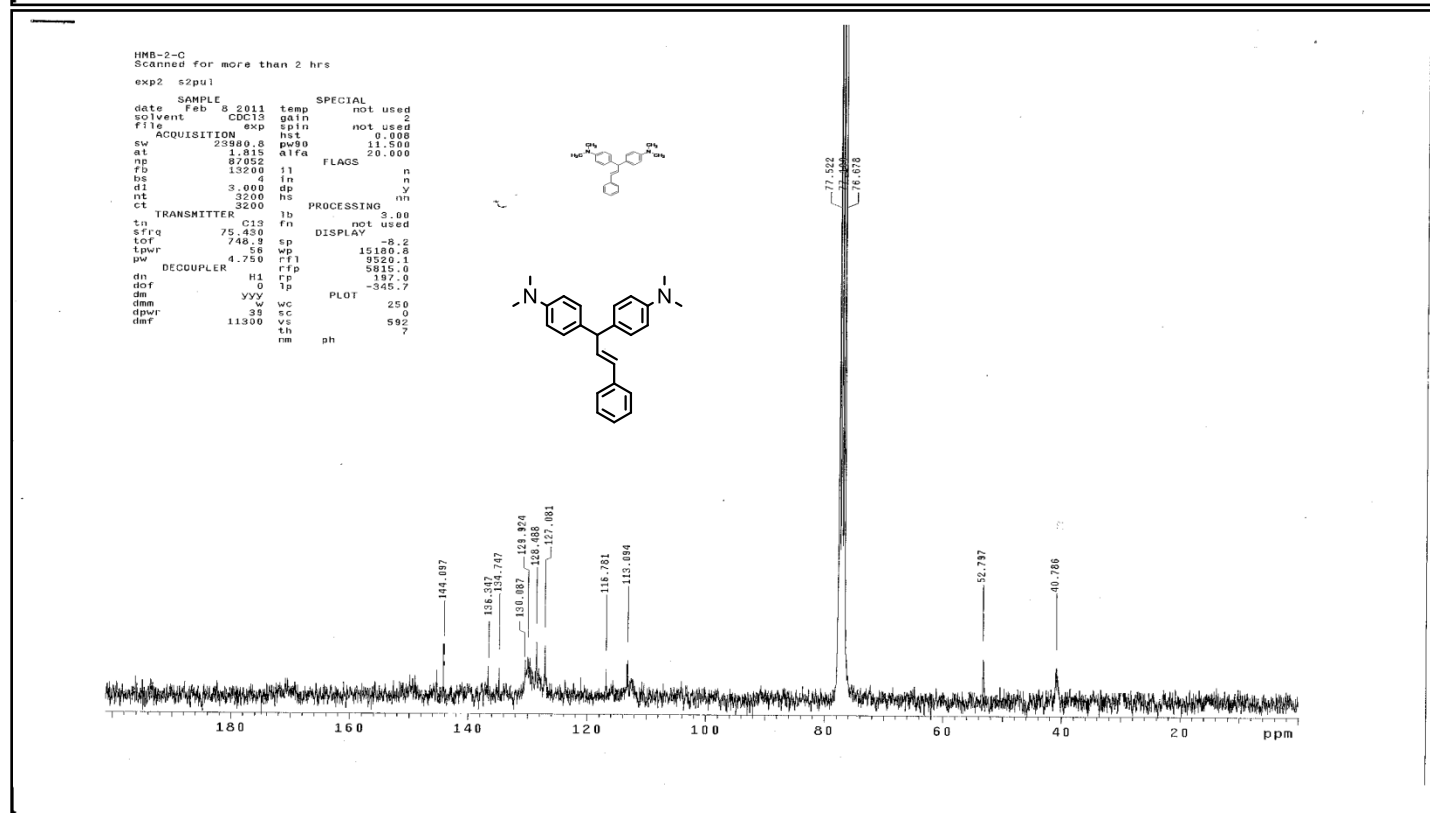
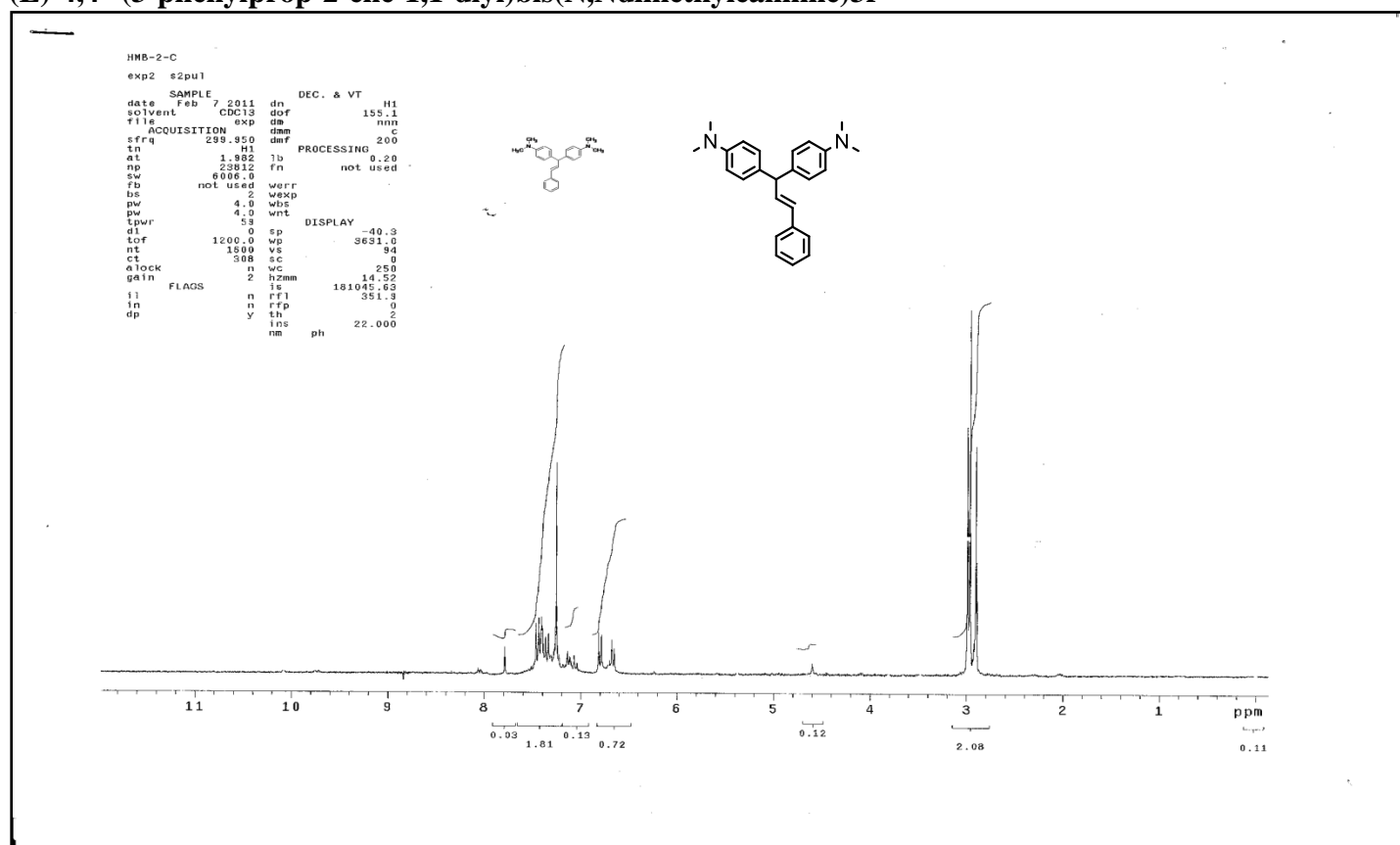
## 4,4'-(3-methylbutane-1,1-diyl)bis(N,N-dimethylethaniline)



### 4,4'-(propane-1,1-diyl)bis(N,N-dimethylaniline) 3e

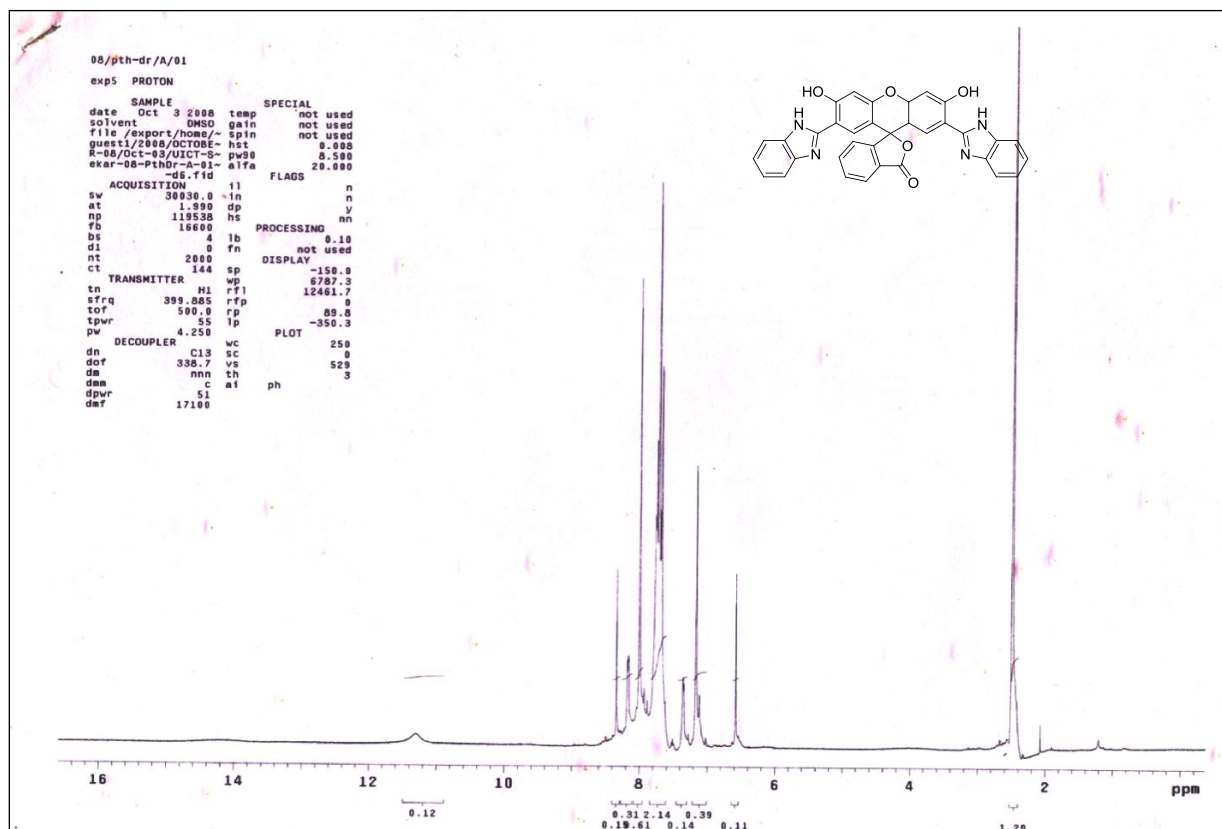


**(E)-4,4'-(3-phenylprop-2-ene-1,1-diyl)bis(N,Ndimethyleaniline)3f**



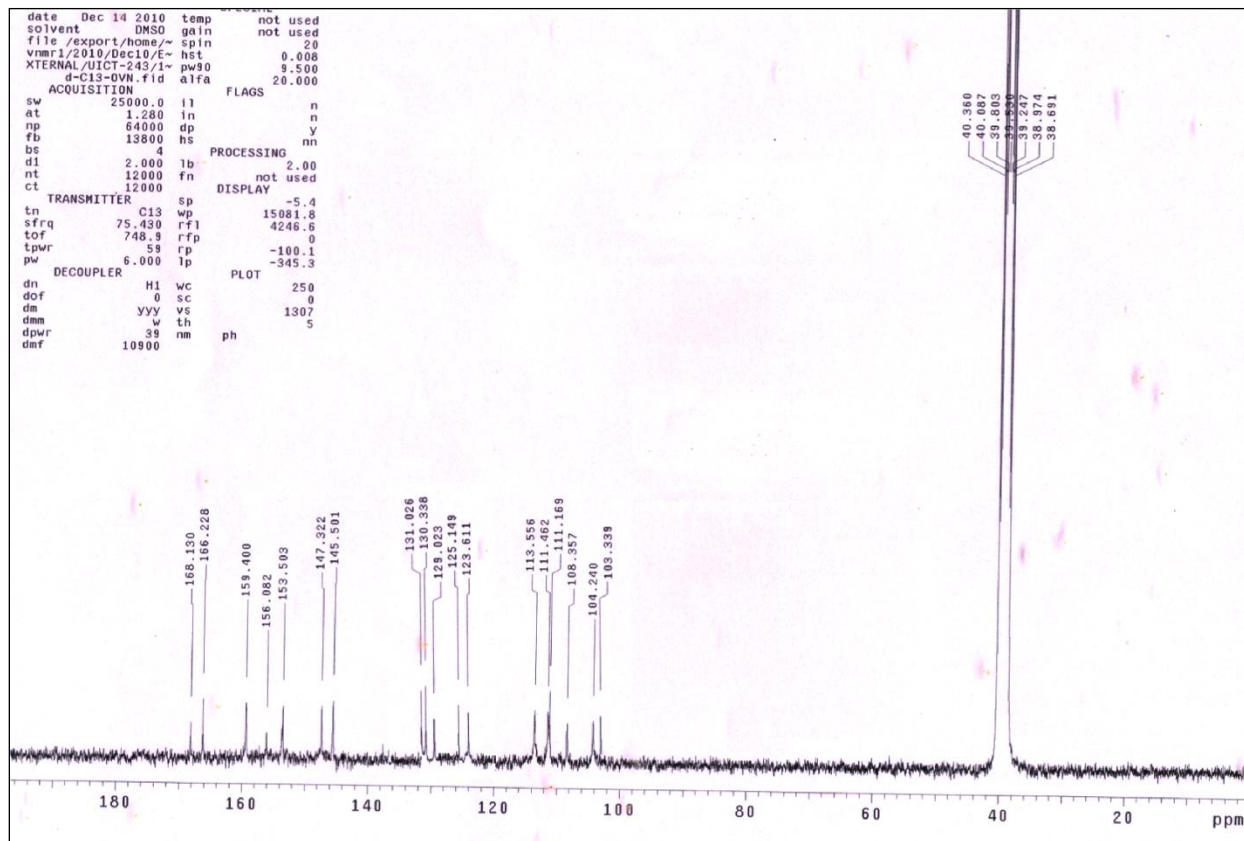
## $^1\text{H}$ - NMR Spectrum

2',7'-bis(1H-benzo[d]imidazol-2-yl)-3',6'-dihydroxy-4a',9a'-dihydro-3H-spiro[isobenzofuran-1,9'-xanthen]-3-one **6f**



## $C^{13}$ - NMR Spectrum

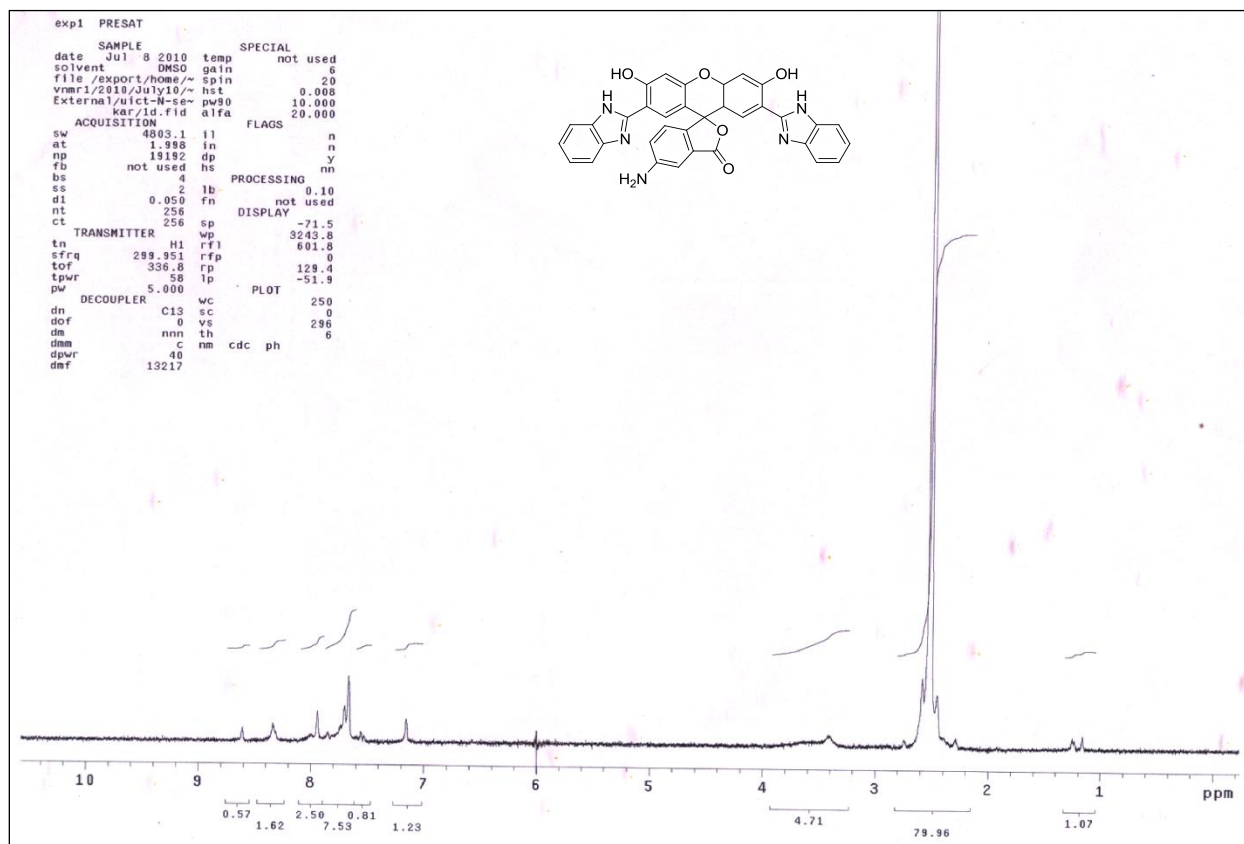
2',7'-bis(1H-benzo[d]imidazol-2-yl)-3',6'-dihydroxy-4a',9a'-dihydro-3H-spiro[isobenzofuran-1,9'-xanthen]-3-one **6f**





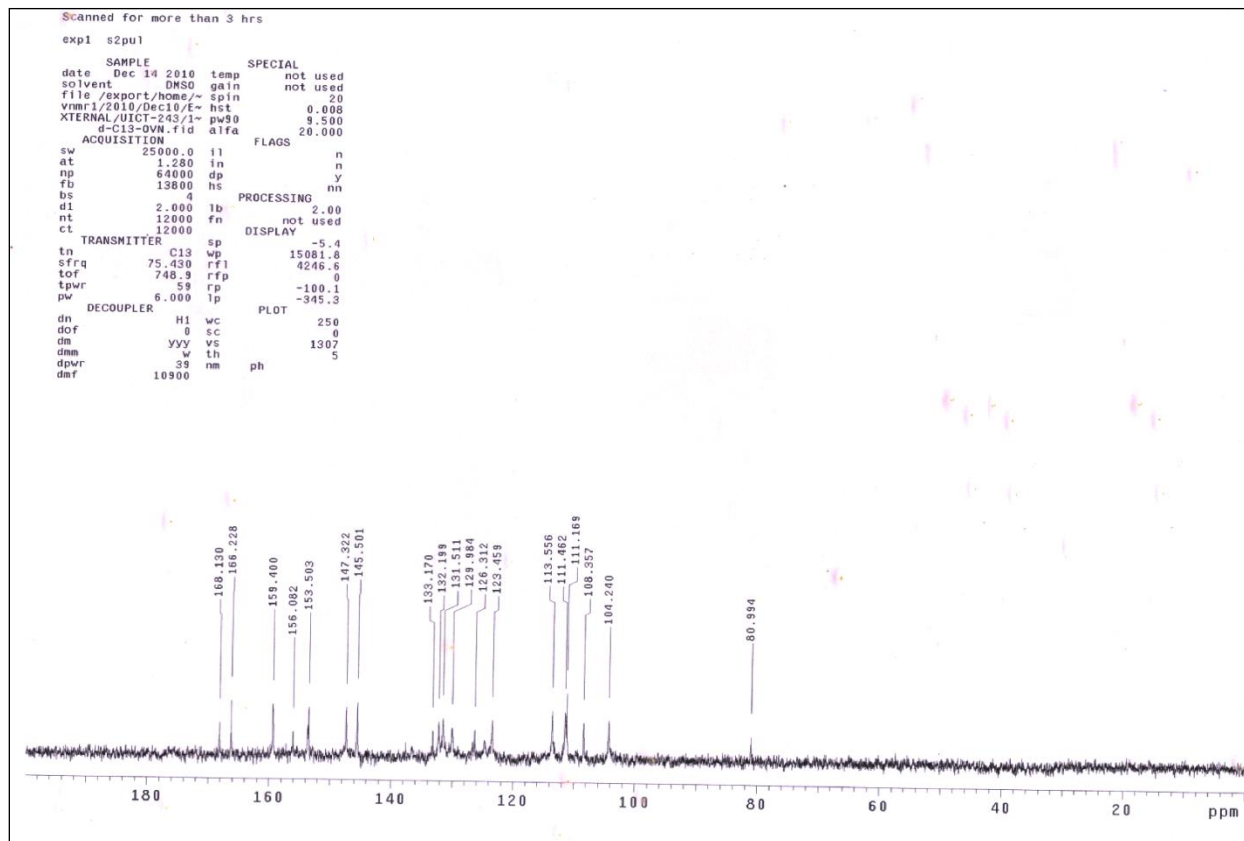
## $^1\text{H}$ - NMR Spectrum

5-amino-2',7'-bis(1H-benzo[d]imidazol-2-yl)-3',6'-dihydroxy-4a',9a'-dihydro-3H-spiro[isobenzofuran-1,9'-xanthen]-3-one **6g**



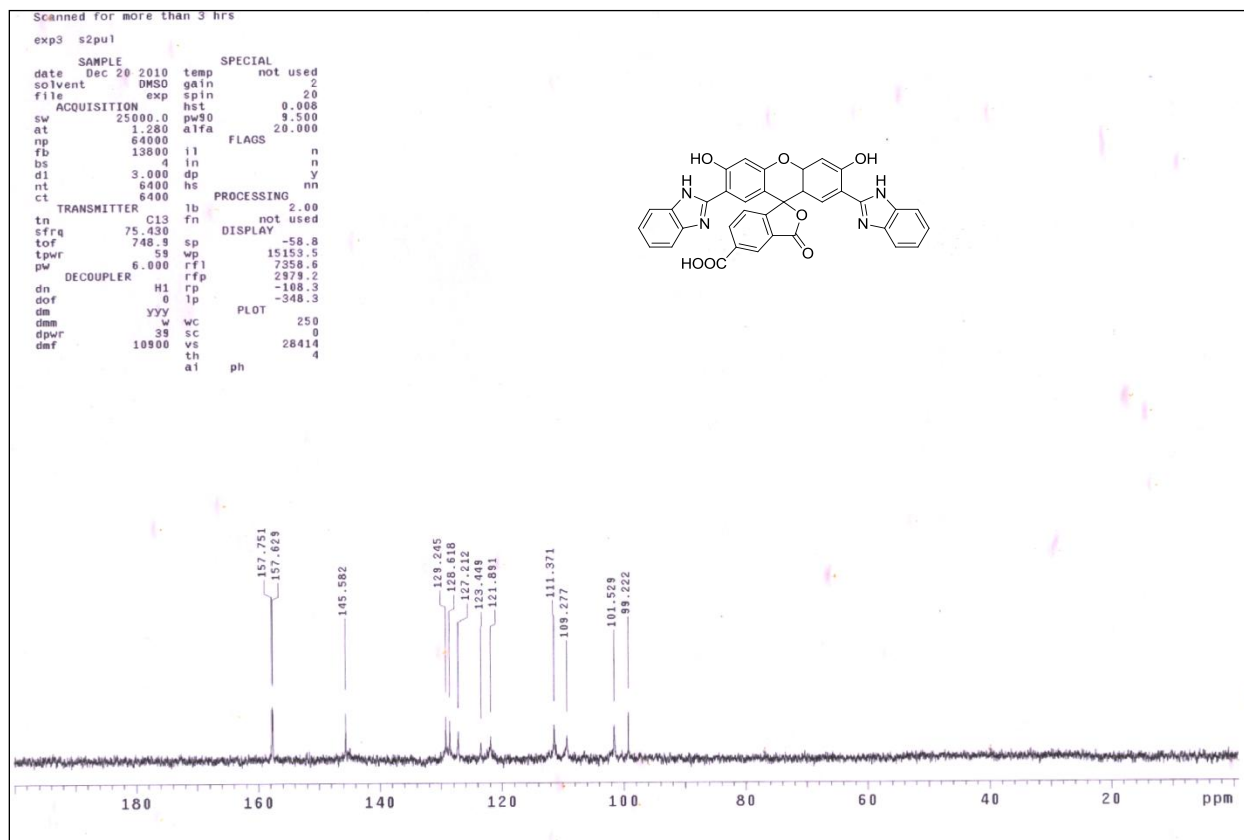
## C<sup>13</sup>- NMR Spectrum

5-amino-2',7'-bis(1H-benzo[d]imidazol-2-yl)-3',6'-dihydroxy-4a',9a'-dihydro-3H-spiro[isobenzofuran-1,9'-xanthen]-3-one **6g**



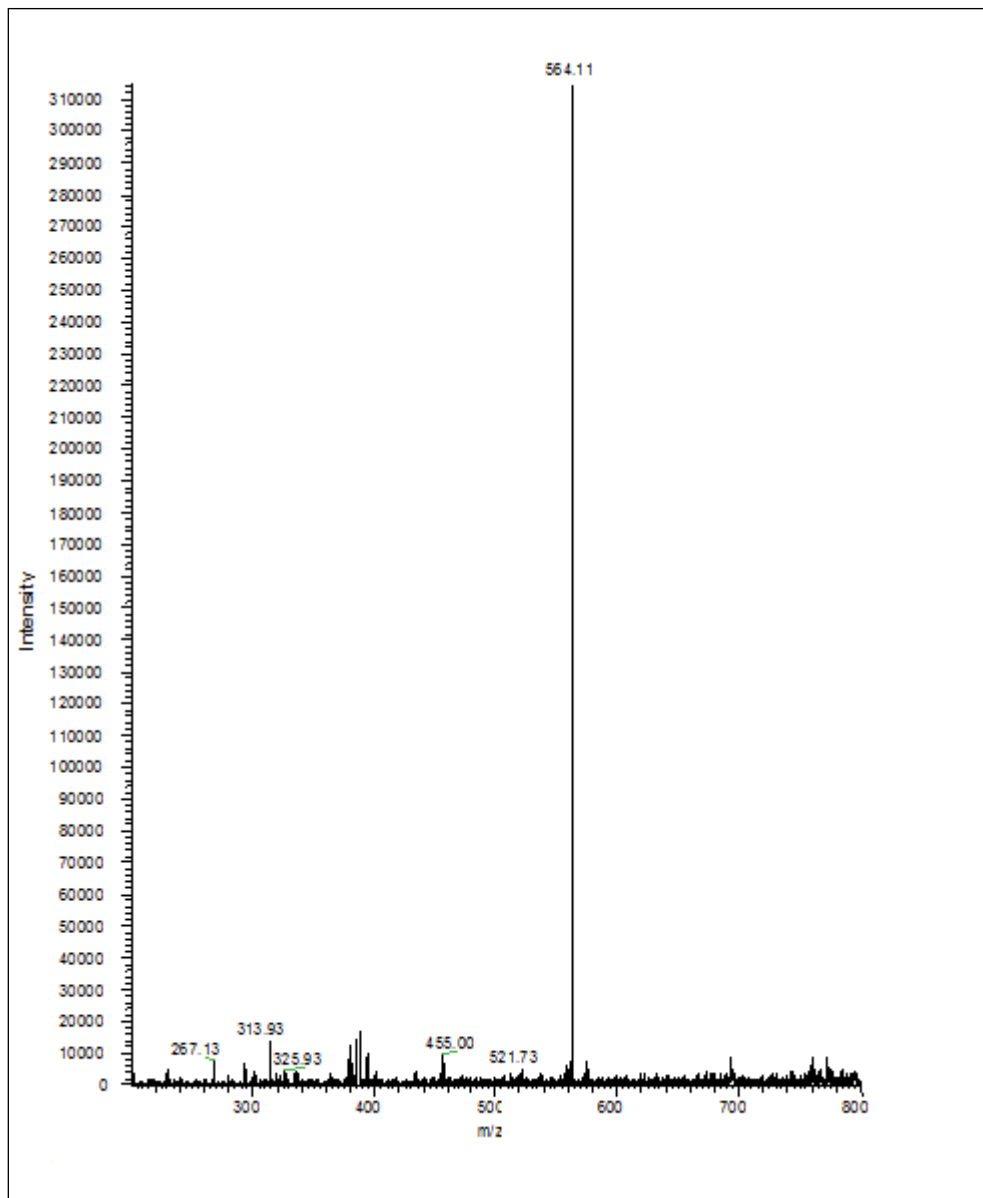
## C<sup>13</sup>- NMR Spectrum

2',7'-bis(1H-benzo[d]imidazol-2-yl)-3',6'-dihydroxy-3-oxo-4a',9a'-dihydro-3H-spiro[isobenzofuran-1,9'-xanthene]-5-carboxylic acid **6h**



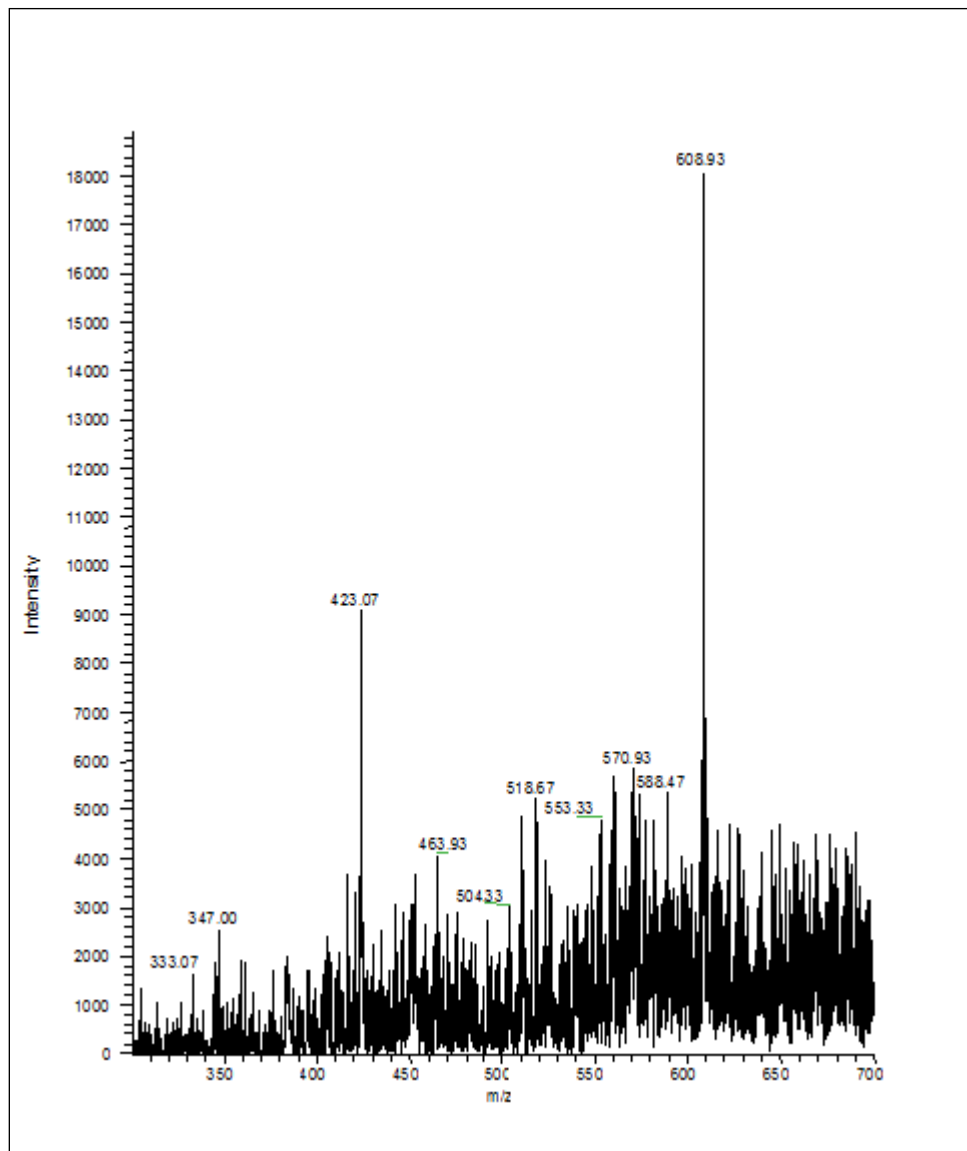
## Mass spectrum 6f

2',7'-bis(1H-benzo[d]imidazol-2-yl)-3',6'-dihydroxy-4a',9a'-dihydro-3H-spiro[isobenzofuran-1,9'-xanthen]-3-one **6f**



## Mass spectrum 6g

5-amino-2',7'-bis(1H-benzo[d]imidazol-2-yl)-3',6'-dihydroxy-4a',9a'-dihydro-3H-spiro[isobenzofuran-1,9'-xanthen]-3-one **6g**



## Mass spectrum 6h

2',7'-bis(1H-benzo[d]imidazol-2-yl)-3',6'-dihydroxy-3-oxo-4a',9a'-dihydro-3H-spiro[isobenzofuran-1,9'-xanthene]-5-carboxylic acid **6h**

