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Electronic Supplementary Information (ESI) for RSC Advances This journal is © The Royal Society of Chemistry 2015.

### Supporting Information:

# $I_2$ -DMSO-PTSA: A simple and metal free oxidative cross coupling of imidazo[1,2-a]pyridines and methylketones

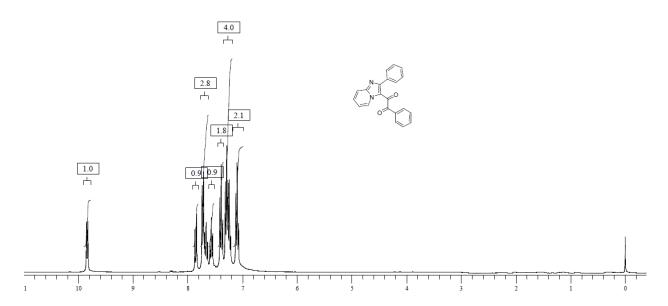
Madhu Chennapuram, a Narender Reddy Emmadi, a Chiranjeevi Bingi, and Krishnaiah Atmakur\*a,c

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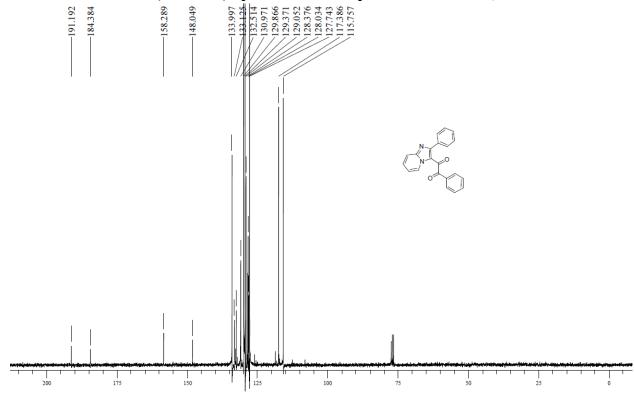
cAcSIR-Indian Institute of Chemical Technology, Tarnaka, Hyderabad 500 007, India. E-mail: krishnu@iict.res.in; Fax: +91 40 27193382; Tel: +91 40 27191436.

#### **Contents:**

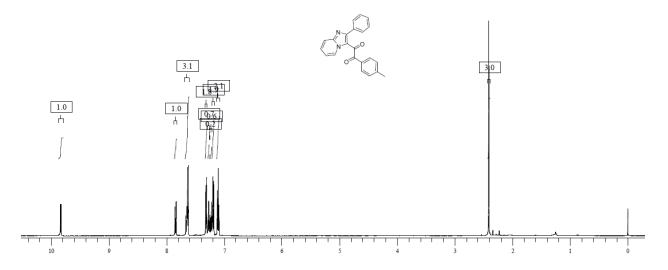
- 1) General Experimental information: Melting points were measured by CINTEX programmable melting point apparatus and are uncorrected. <sup>1</sup>H and <sup>13</sup>C NMR spectra of samples in CDCl<sub>3</sub> and DMSO-d<sub>6</sub> were recorded onAVANCE-300 MHz and 500 MHz spectrometers. Chemical shifts (δ) are reported relative to TMS (δ = 0.0) as the internal standard. Mass spectra were recorded on ESI spectrometers. All high resolution mass spectra were recorded on the QSTARXL Hybrid MS/MS System (Applied Biosystems/MDS Sciex, Foster City, USA), equipped with an ESI source (IICT, Hyderabad). IR were recorded on Thermo Nicolet nexus 670 spectrometer using KBr pellets. TLC was performed on Merck 60 F-254 silica gel plates. The chemicals used in this work were obtained from commercial channels and were used without purification.
- 2) Spectral soft copy <sup>1</sup>H & <sup>13</sup>C NMR of 3aa-3ap&3ba-3ia.



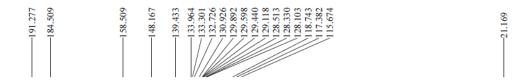


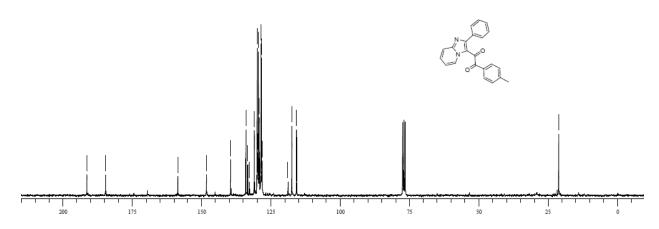


<sup>13</sup>C NMR (125 MHz) Spectrum Of Compound 3aa In CDCl<sub>3</sub>

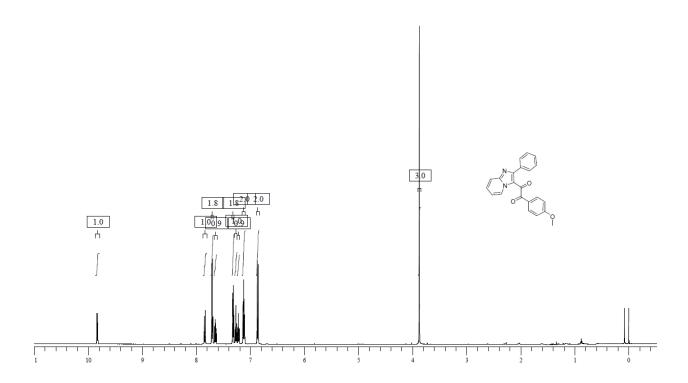


<sup>1</sup>H NMR(500 MHz) Spectrum Of Compound 3ab In CDCl<sub>3</sub>

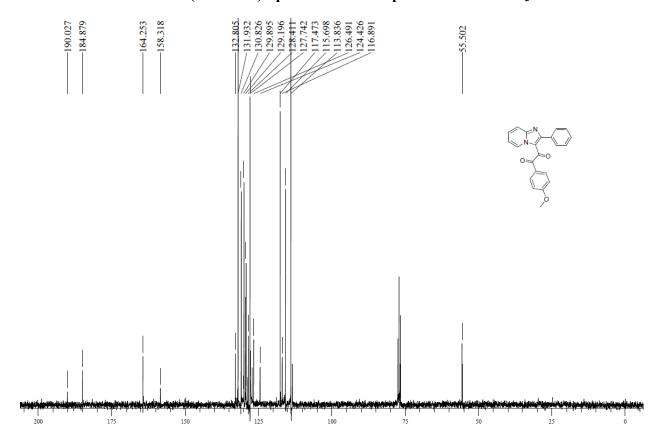




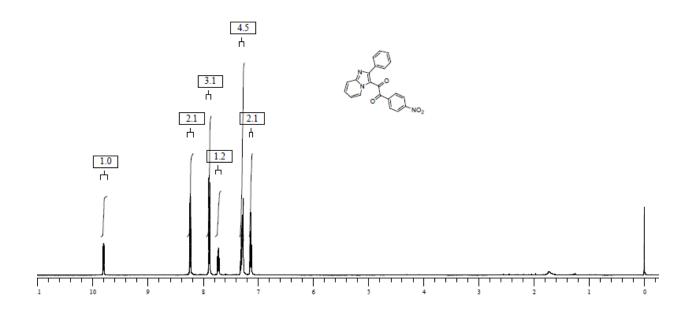
<sup>13</sup>C NMR (125 MHz) Spectrum Of Compound 3ab In CDCl<sub>3</sub>.



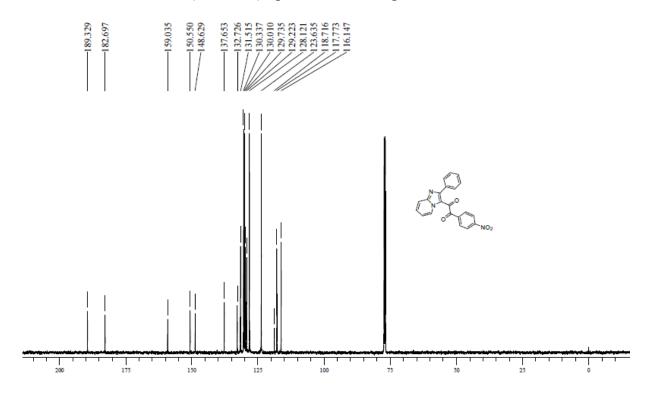
# $^{1}H$ NMR(500 MHz) Spectrum Of Compound 3ac In CDCl $_{3}$



 $^{13}\text{C NMR}$  (125 MHz) Spectrum Of Compound 3ac In CDCl $_3$ .

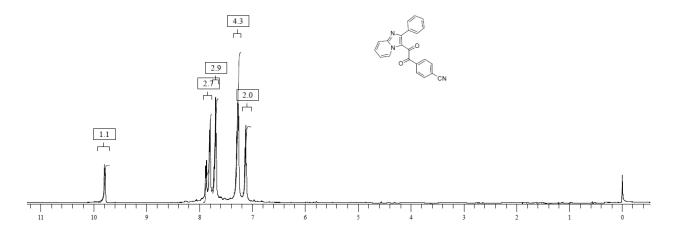


### <sup>1</sup>H NMR(500 MHz) Spectrum Of Compound 3ad In CDCl<sub>3</sub>

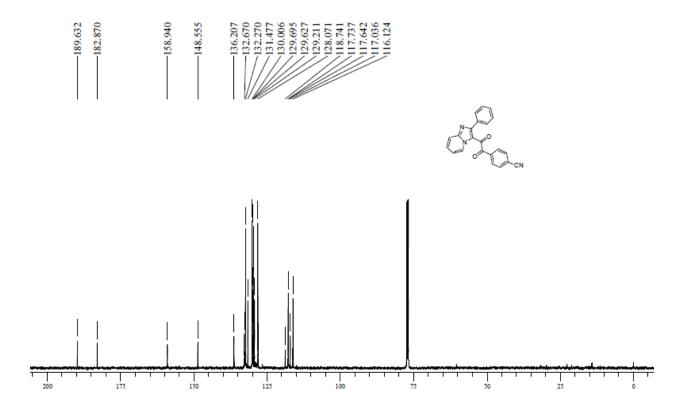


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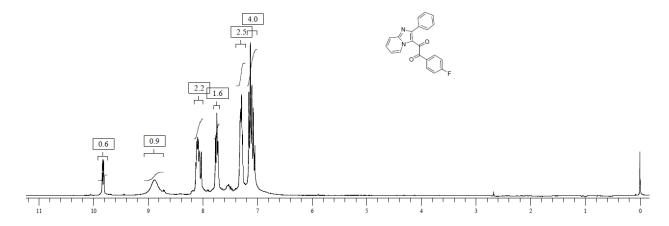
C NMR (125 MHz) Spectrum Of Compound 3ad In CDCl<sub>3.</sub>



 $^{1}$ H NMR(500 MHz) Spectrum Of Compound 3ae In CDCl $_{3.}$ 

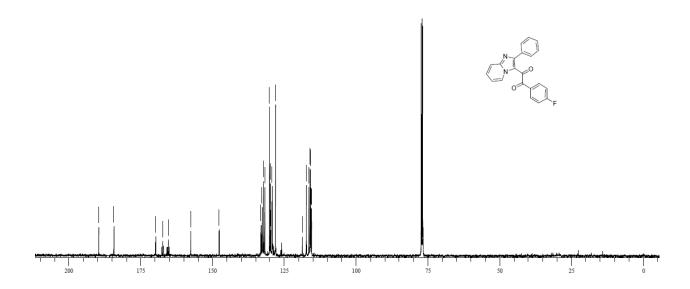


 $^{13}$ C NMR (125 MHz) Spectrum Of Compound 3ae In CDCl $_{3.}$ 

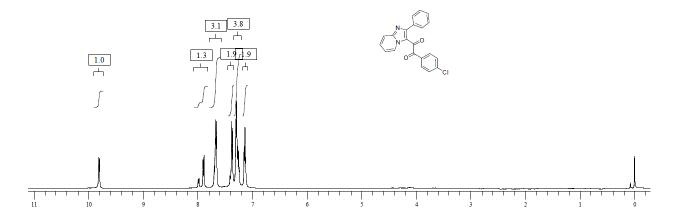


<sup>1</sup>H NMR(500 MHz) Spectrum Of Compound 3af In CDCl<sub>3</sub>

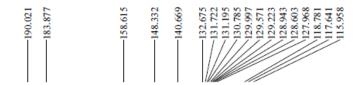


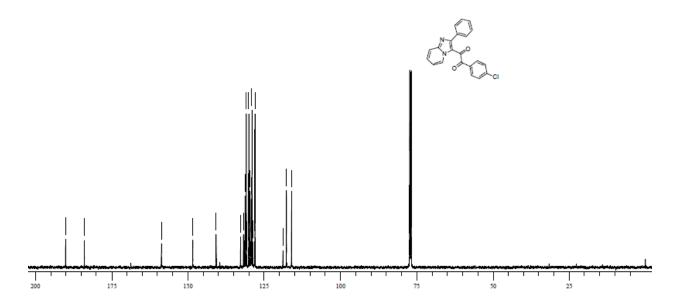


<sup>13</sup>C NMR (125 MHz) Spectrum Of Compound 3af In CDCl<sub>3</sub>

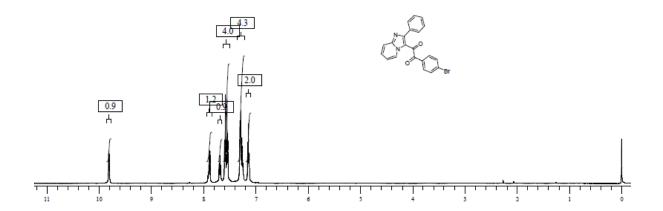


<sup>1</sup>H NMR(300 MHz) Spectrum Of Compound 3ag In CDCl<sub>3</sub>.

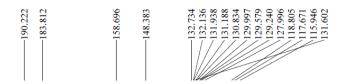


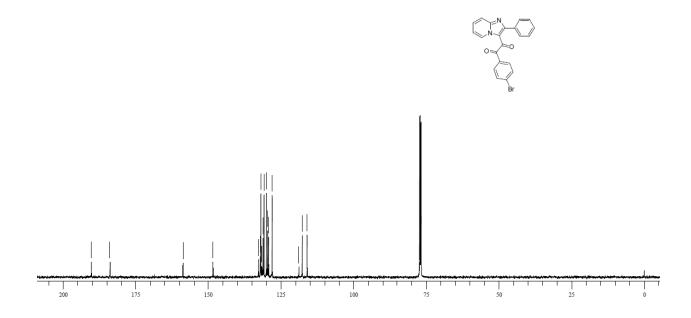


<sup>13</sup>C NMR (125 MHz) Spectrum Of Compound 3ag In CDCl<sub>3</sub>.

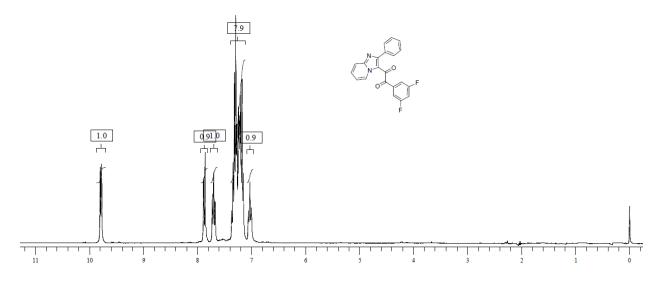


<sup>1</sup>H NMR(500 MHz) Spectrum Of Compound 3ah In CDCl<sub>3.</sub>



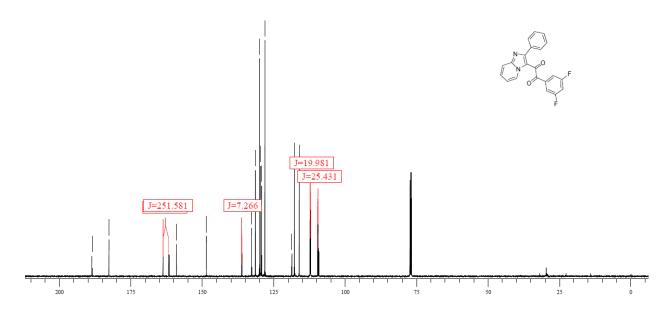


<sup>13</sup>C NMR (125 MHz) Spectrum Of Compound 3ah In CDCl<sub>3</sub>

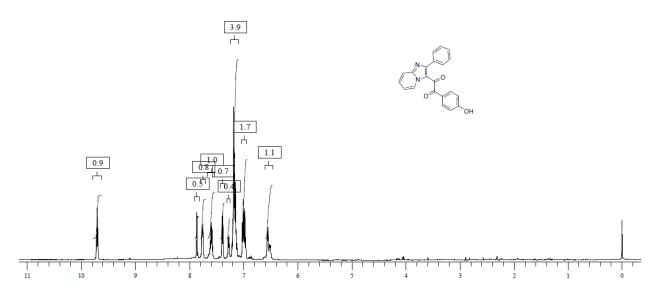


<sup>1</sup>H NMR(500 MHz) Spectrum Of Compound 3ai In CDCl<sub>3</sub>.

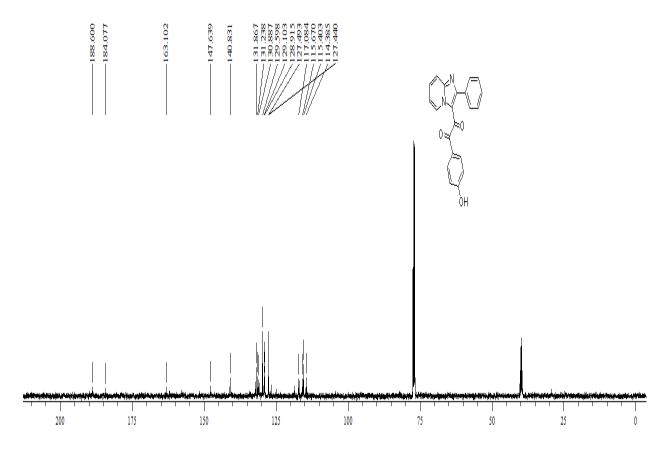




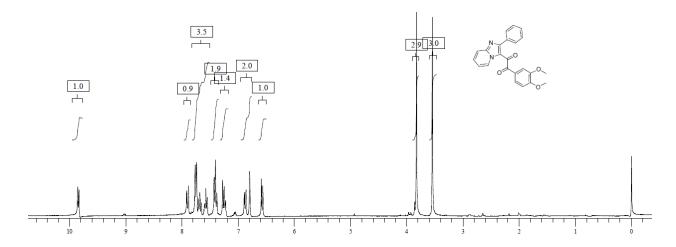
 $^{13}$ C NMR (125 MHz) Spectrum Of Compound 3ai In CDCl $_{3.}$ 



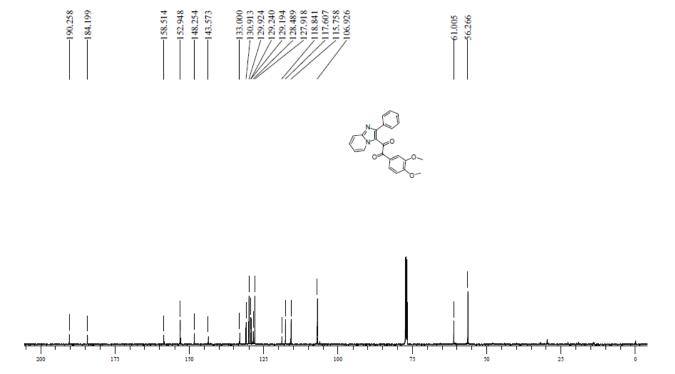
<sup>1</sup>H NMR(500 MHz) Spectrum Of Compound 3aj In CDCl<sub>3.</sub>



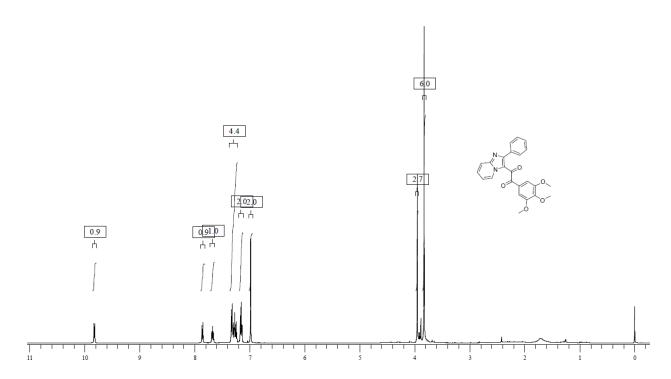
<sup>13</sup>CNMR(75 MHz) Spectrum Of Compound 3aj In DMSO-d<sub>6</sub>+CDCl<sub>3</sub>



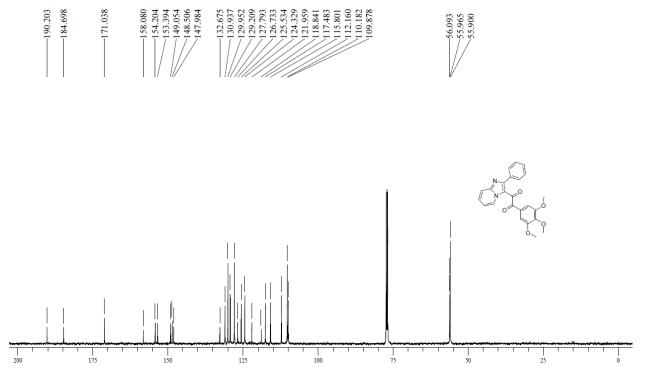
<sup>1</sup>H NMR(300 MHz) Spectrum Of Compound 3ak In CDCl<sub>3</sub>



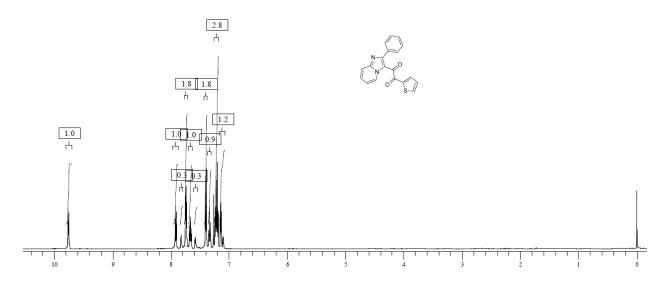
 $^{13}\mathrm{C}$  NMR (75 MHz) Spectrum Of Compound 3ak In  $\mathrm{CDCl}_{3.}$ 



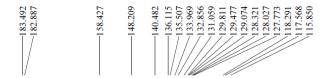
<sup>1</sup>H NMR(300 MHz) Spectrum Of Compound 3al In CDCl<sub>3</sub>

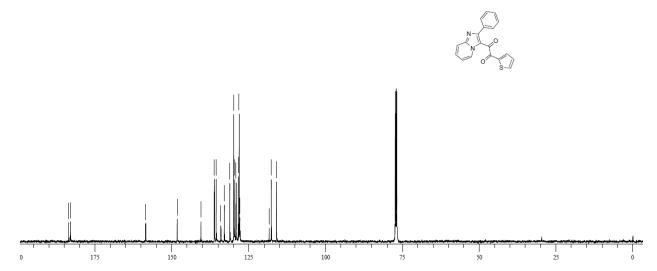


 $^{13}$ C NMR(125 MHz) Spectrum Of Compound 3al In CDCl $_3$ 

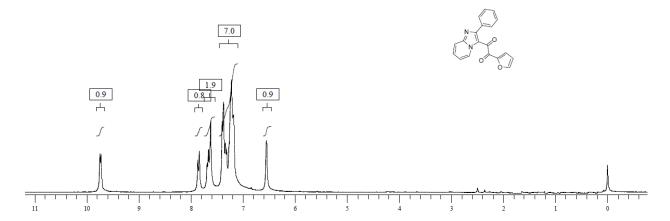


<sup>1</sup>H NMR(500 MHz) Spectrum Of Compound 3am In CDCl<sub>3</sub>



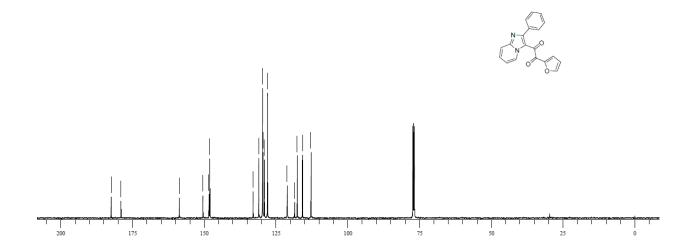


<sup>13</sup>CNMR (125 MHz) Spectrum Of Compound 3am In CDCl<sub>3</sub>

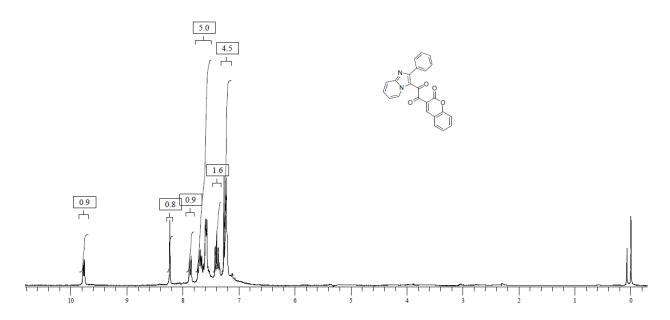


<sup>1</sup>H NMR (300 MHz) Spectrum Of Compound 3an In CDCl<sub>3</sub>

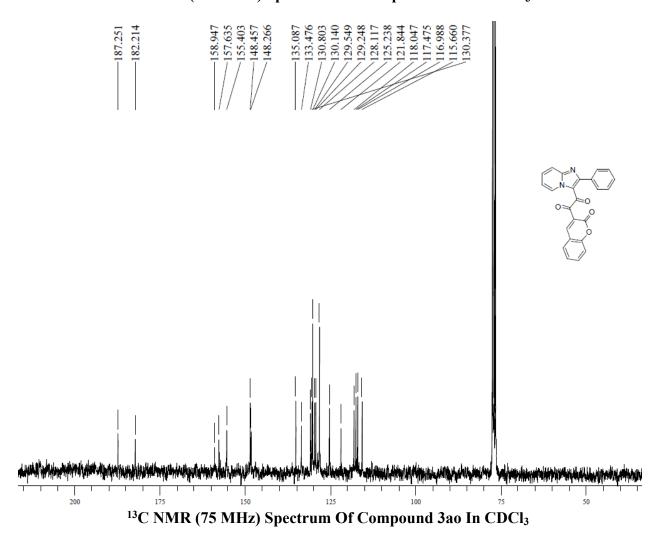
78.958	58.594	50.370 48.282 47.987	32.908 30.930 29.593 29.469 28.986 27.896 20.999 118.450 17.517 15.714
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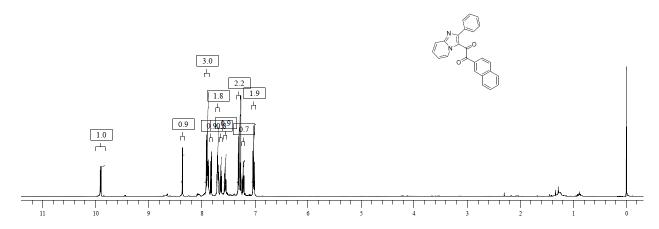


<sup>13</sup>C NMR (125 MHz) Spectrum Of Compound 3an In CDCl<sub>3</sub>

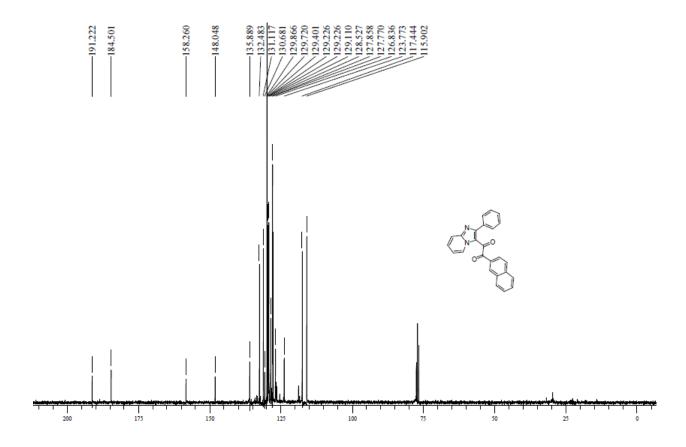


<sup>1</sup>H NMR (500 MHz) Spectrum Of Compound 3ao In CDCl<sub>3</sub>

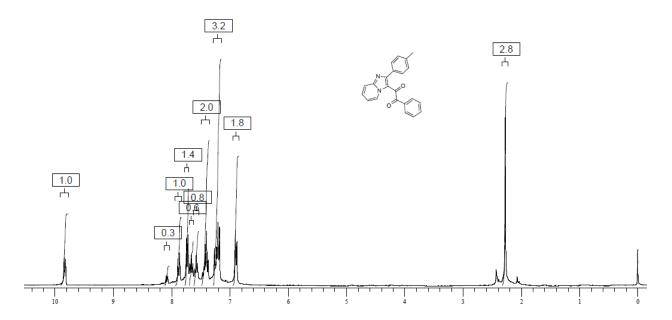




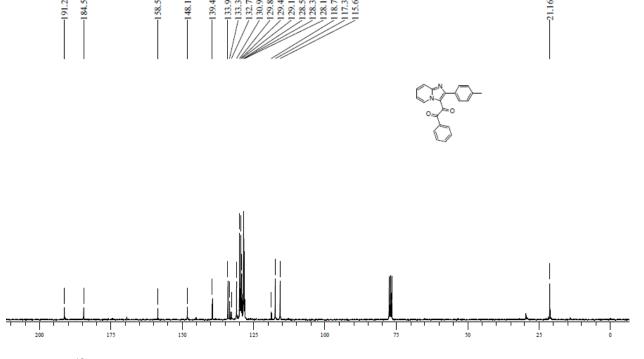
 $^{1}H$  NMR(500 MHz) Spectrum Of Compound 3ap In CDCl $_{3}$ 



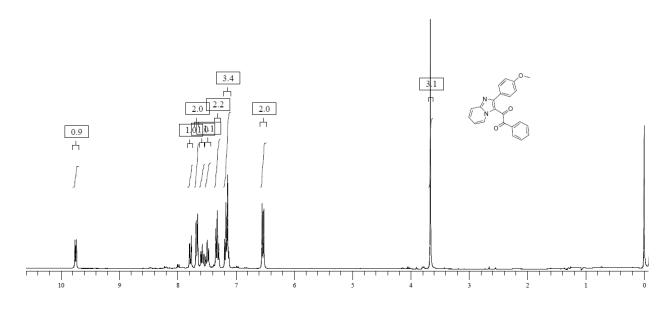
## <sup>13</sup>C NMR(125 MHz) Spectrum Of Compound 3ap In CDCl<sub>3</sub>



<sup>1</sup>H NMR(500 MHz) Spectrum Of Compound 3ba In CDCl<sub>3</sub>.

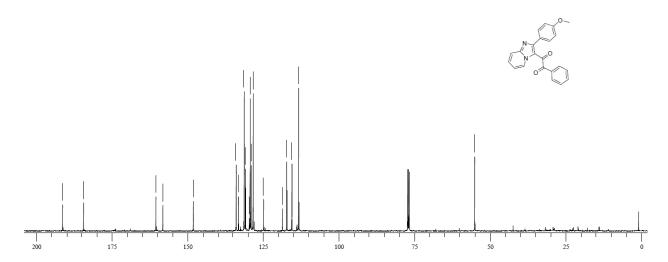


<sup>13</sup>C NMR (125 MHz) Spectrum Of Compound 3ba In CDCl<sub>3</sub>

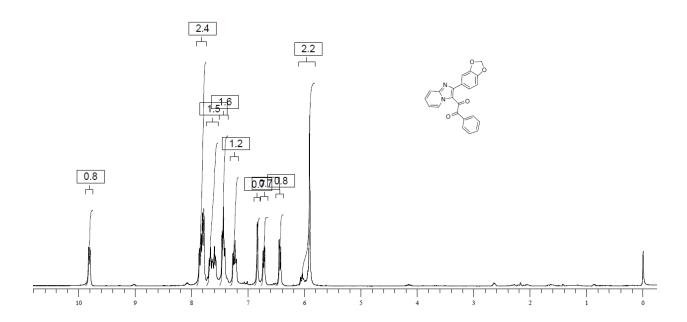


<sup>1</sup>H NMR(300 MHz) Spectrum Of Compound 3ca In CDCl<sub>3</sub>.



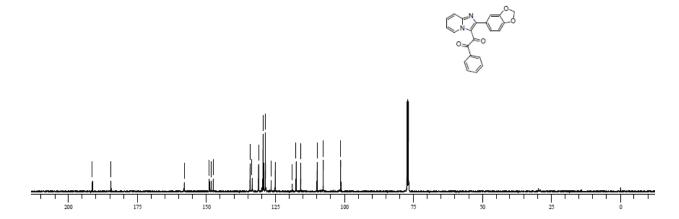


 $^{13}\mbox{C}$  NMR (125 MHz) Spectrum Of Compound 3ca In  $\mbox{CDCl}_3$ 

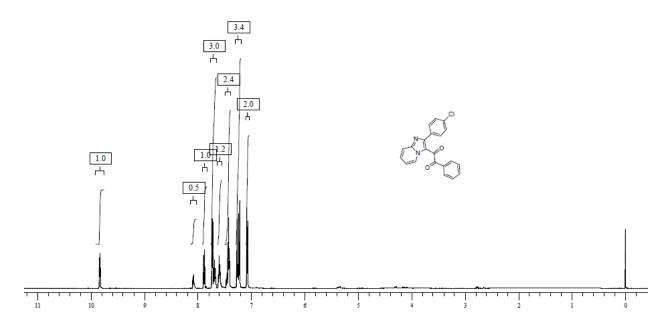


 $^{1}H$  NMR(300 MHz) Spectrum Of Compound 3da In CDCl $_{3}$ 

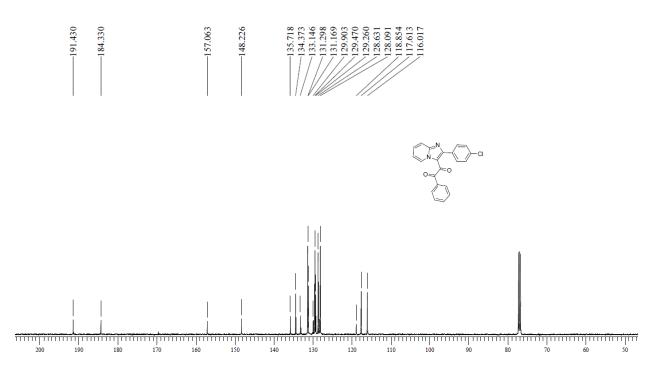




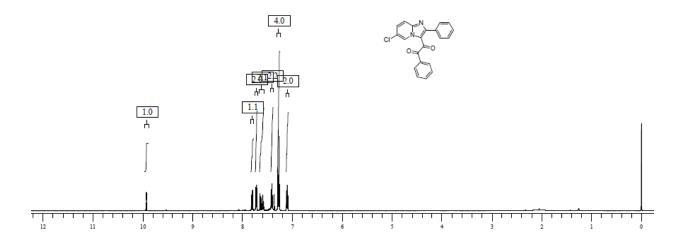
<sup>13</sup>C NMR (125 MHz) Spectrum Of Compound 3da In CDCl<sub>3</sub>



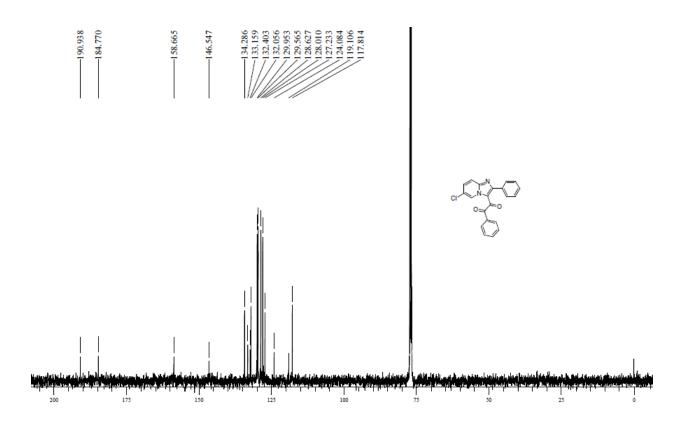
<sup>1</sup>H NMR(300 MHz) Spectrum Of Compound 3ea In CDCl<sub>3</sub>



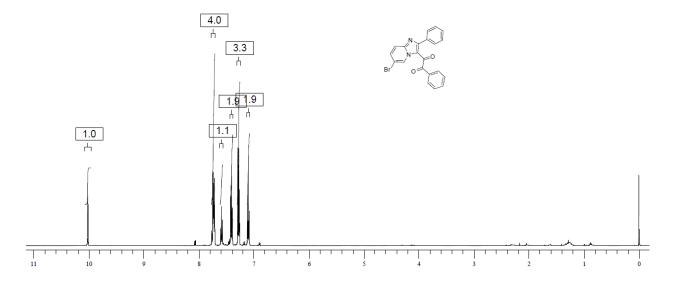
<sup>13</sup>C NMR (75 MHz) Spectrum Of Compound 3ea In CDCl<sub>3</sub>



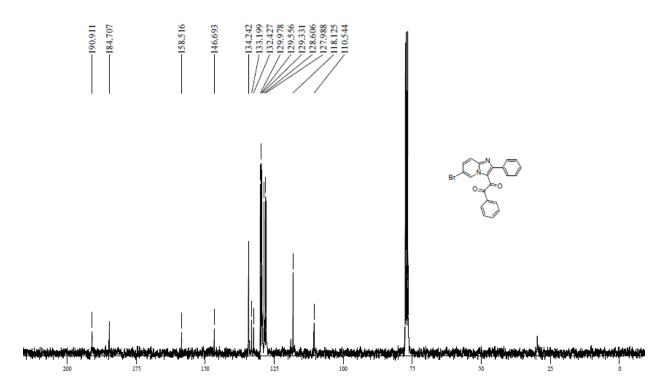
<sup>1</sup>H NMR(500 MHz) Spectrum Of Compound 3fa In CDCl<sub>3</sub>.



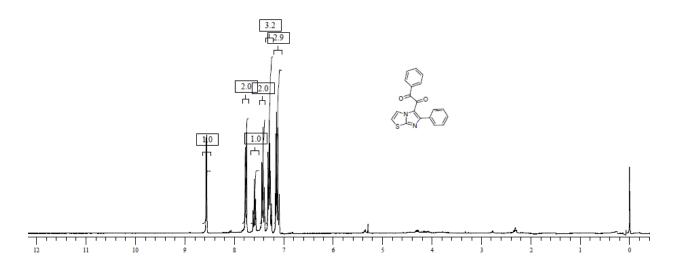
 $^{13}$ C NMR (125 MHz) Spectrum Of Compound 3fa In CDCl $_3$ 



 $^{1}H$  NMR(300 MHz) Spectrum Of Compound 3ga In CDCl $_{3}$ 

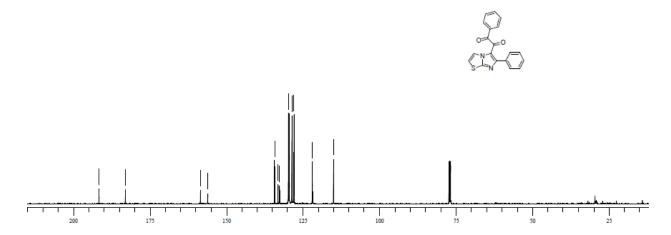


<sup>13</sup>C NMR (125 MHz) Spectrum Of Compound 3ga In CDCl<sub>3.</sub>

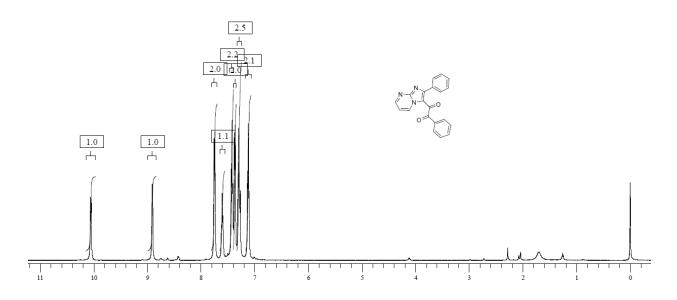


<sup>1</sup>H NMR(300 MHz) Spectrum Of Compound 3ha In CDCl<sub>3</sub>



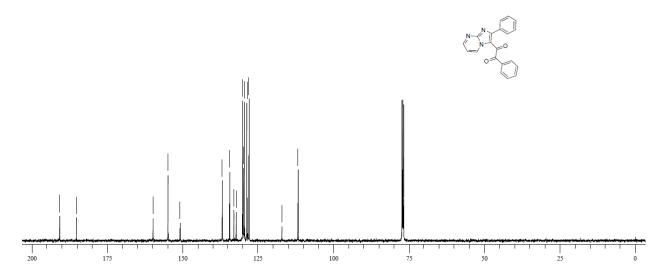


<sup>13</sup>C NMR (125 MHz) Spectrum Of Compound 3ha In CDCl<sub>3</sub>.



<sup>1</sup>H NMR(500 MHz) Spectrum Of Compound 3ia In CDCl<sub>3</sub>

90.700	59.763 54.788 50.788	36.806 34.366 32.958 32.221 30.075 29.854 29.513 28.639 17.049 11.741
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<sup>13</sup>C NMR (75 MHz) Spectrum Of Compound 3ia In CDCl<sub>3</sub>.