## **Supporting Information for:**

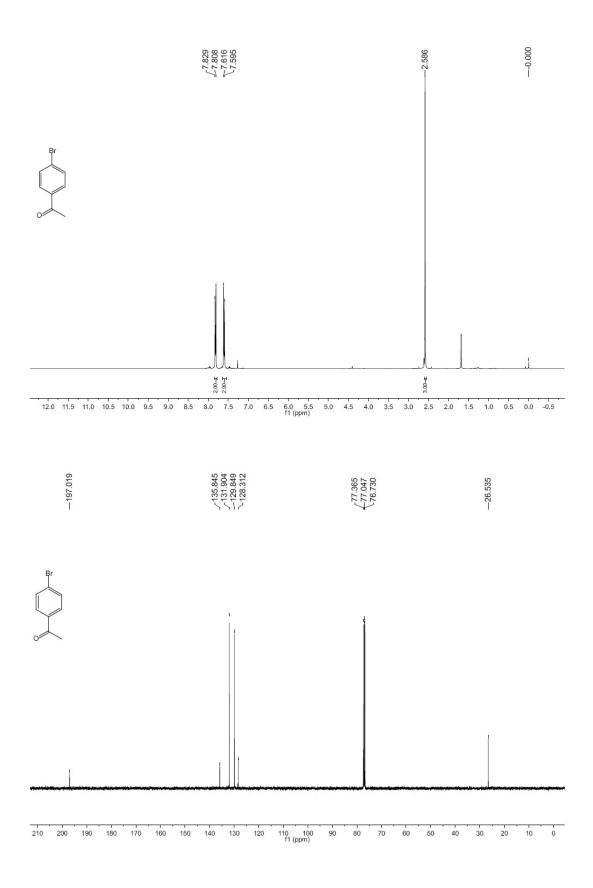
## Heterogeneous gold-catalyzed Sandmeyer coupling of aryldiazonium salts with sodium bromide or thiols for constructing C-Br and C-S bonds

Jiajia Li, Jiajun Zeng, Wenyan Hao,\* Mingzhong Cai\*

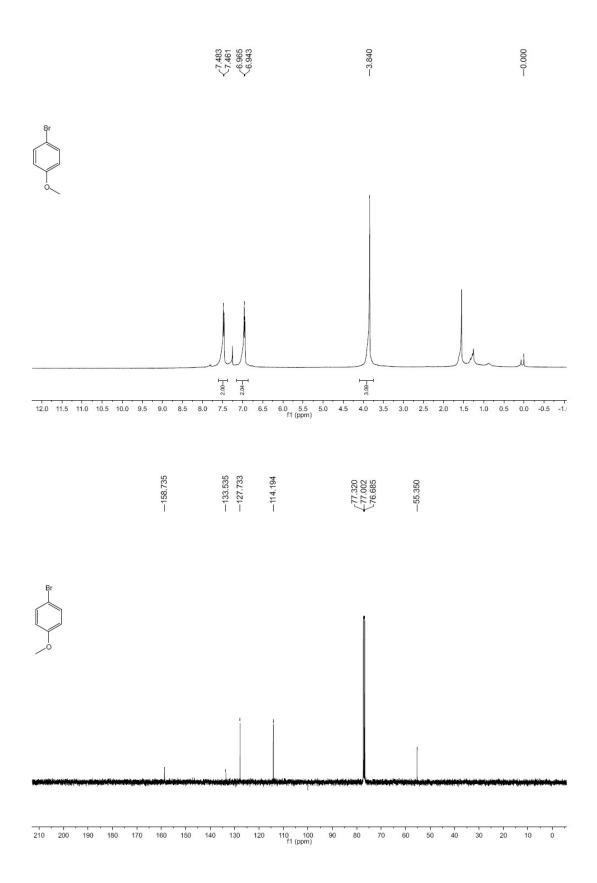
Key Lab of Fluorine and Silicon for Energy Materials and Chemistry of Ministry of Education and College of Chemistry & Chemical Engineering, Jiangxi Normal University, Nanchang 330022, China

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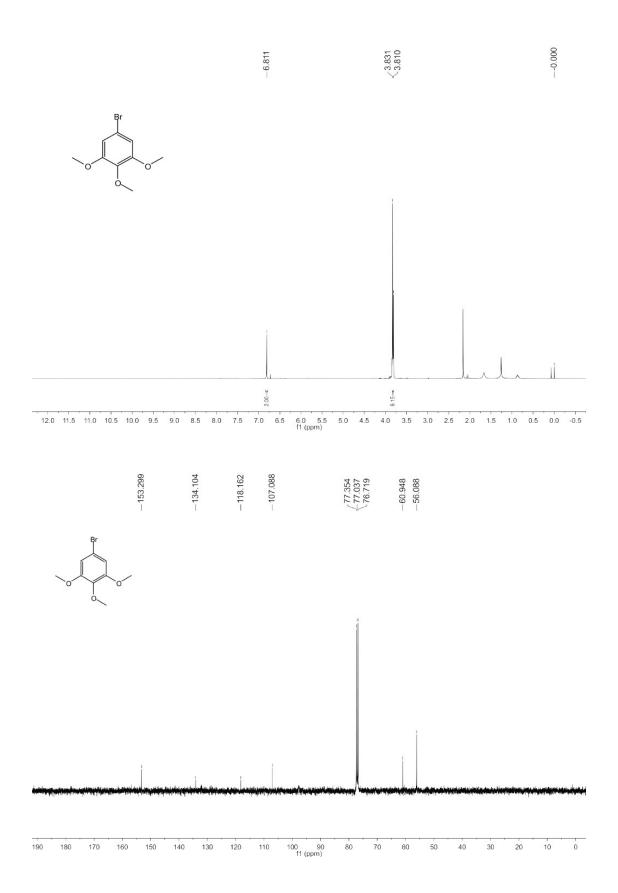
Copies of NMR Spectra of Compounds 2a-2t and 4a-4c'



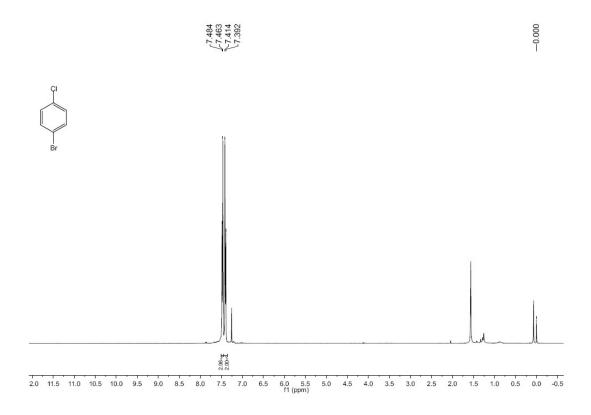
 $^{1}\mbox{H}$  NMR and  $^{13}\mbox{C}$  NMR spectra of compounds  $\boldsymbol{2a}$  (in CDCl3)

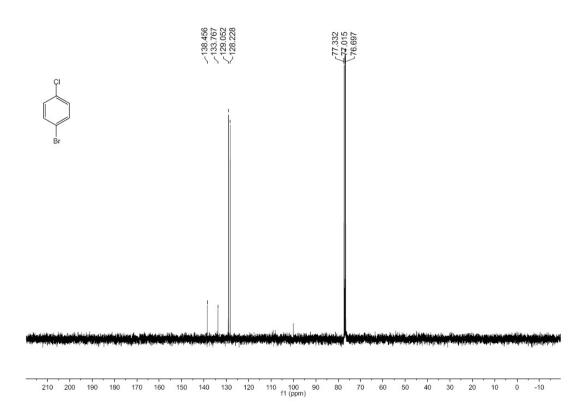


 $^{1}\mbox{H}$  NMR and  $^{13}\mbox{C}$  NMR spectra of compounds  $\mbox{\bf 2b}$  (in CDCl3)

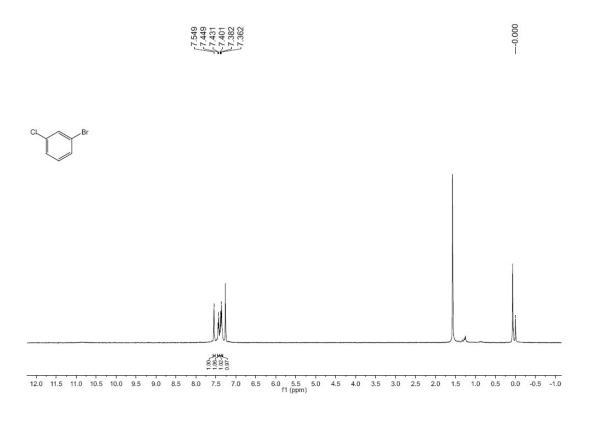


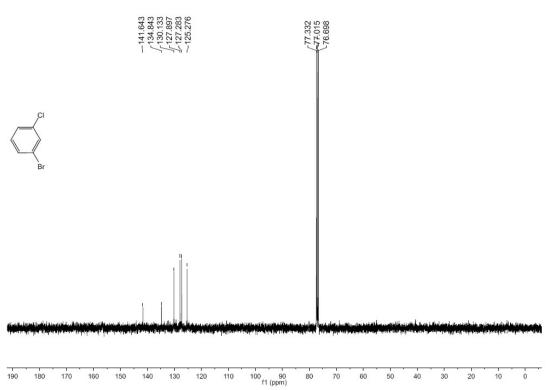
 $^{1}\mbox{H}$  NMR and  $^{13}\mbox{C}$  NMR spectra of compounds 2c (in CDCl3)



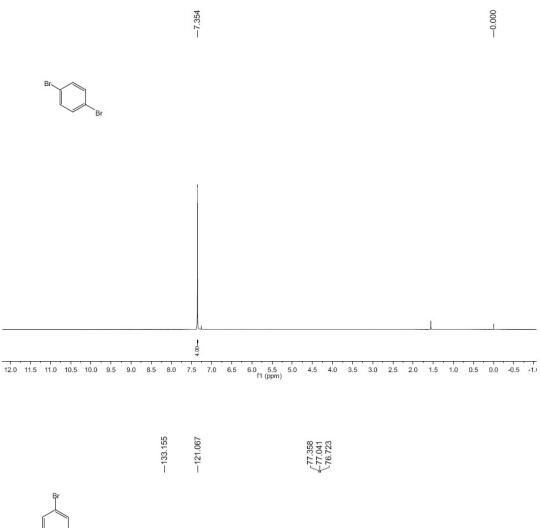


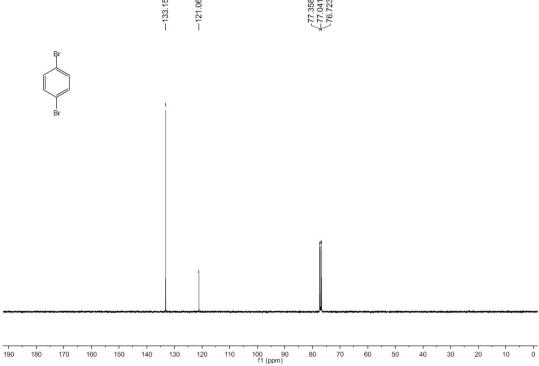
 $^{1}\mbox{H}$  NMR and  $^{13}\mbox{C}$  NMR spectra of compounds  $\mbox{2d}$  (in CDCl3)



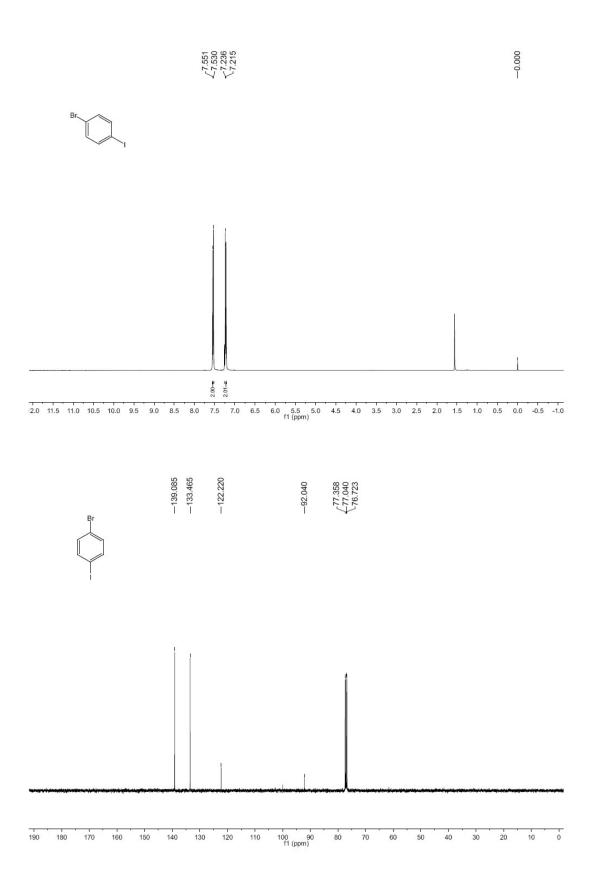


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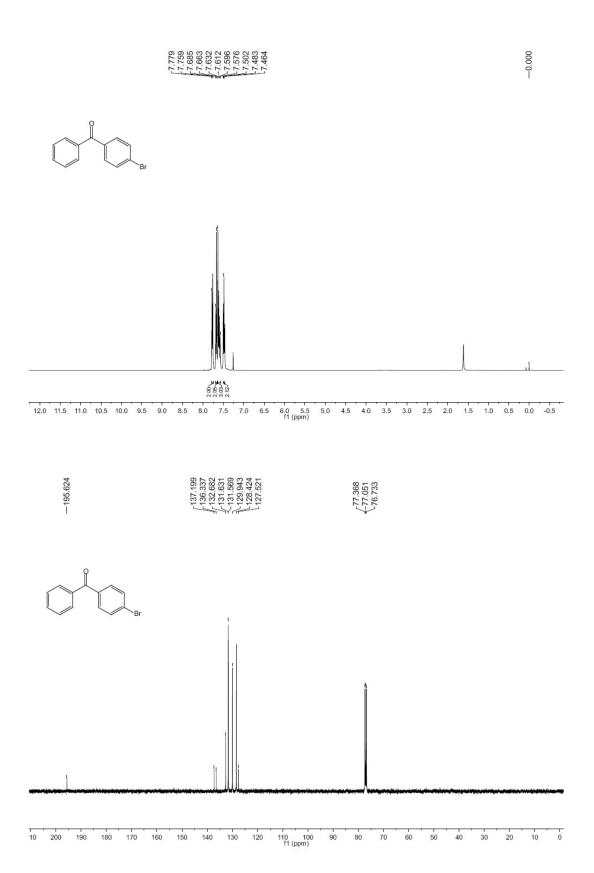




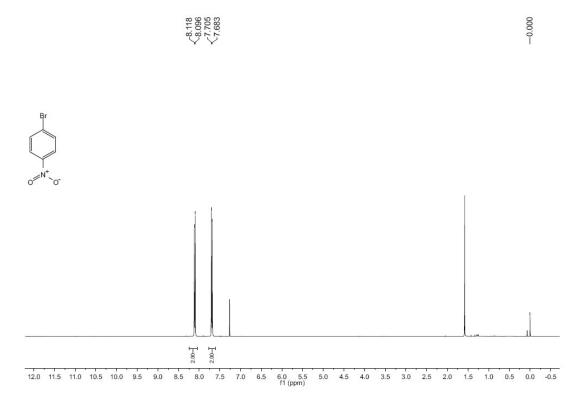
 $^1\mbox{H}$  NMR and  $^{13}\mbox{C}$  NMR spectra of compounds 2f (in CDCl3)

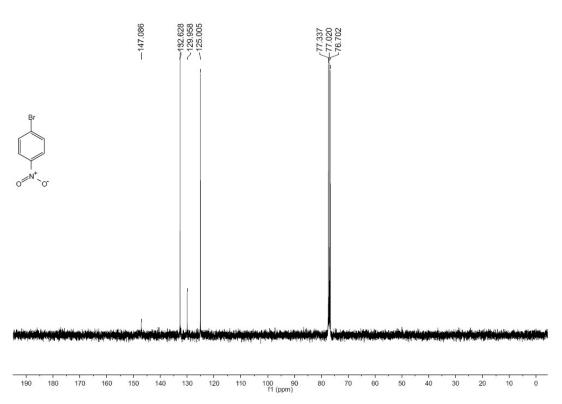


 $^{1}\mbox{H}$  NMR and  $^{13}\mbox{C}$  NMR spectra of compounds  $\mbox{2g}$  (in CDCl3)

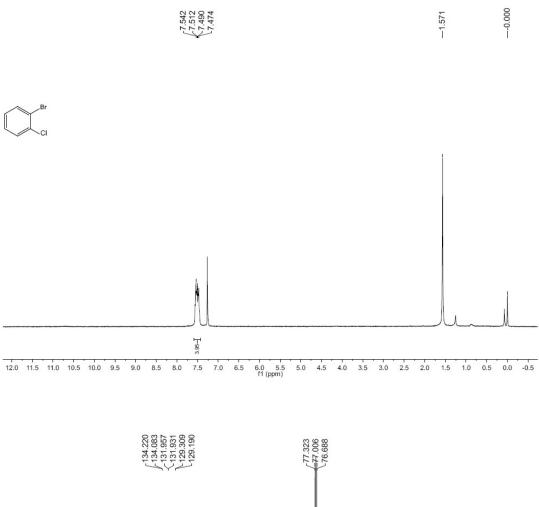


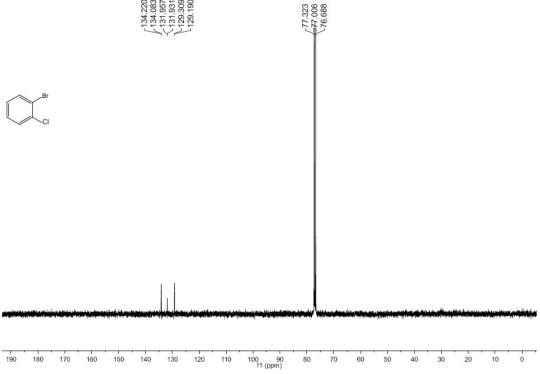
 $^{1}\mbox{H}$  NMR and  $^{13}\mbox{C}$  NMR spectra of compounds 2h (in CDCl3)



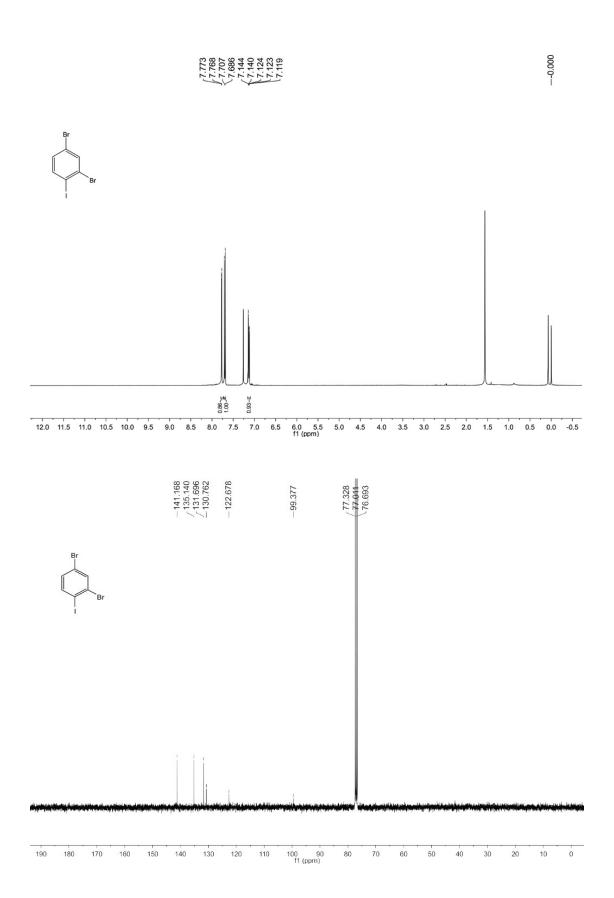


 $^1\mbox{H}$  NMR and  $^{13}\mbox{C}$  NMR spectra of compounds 2i (in CDCl3)

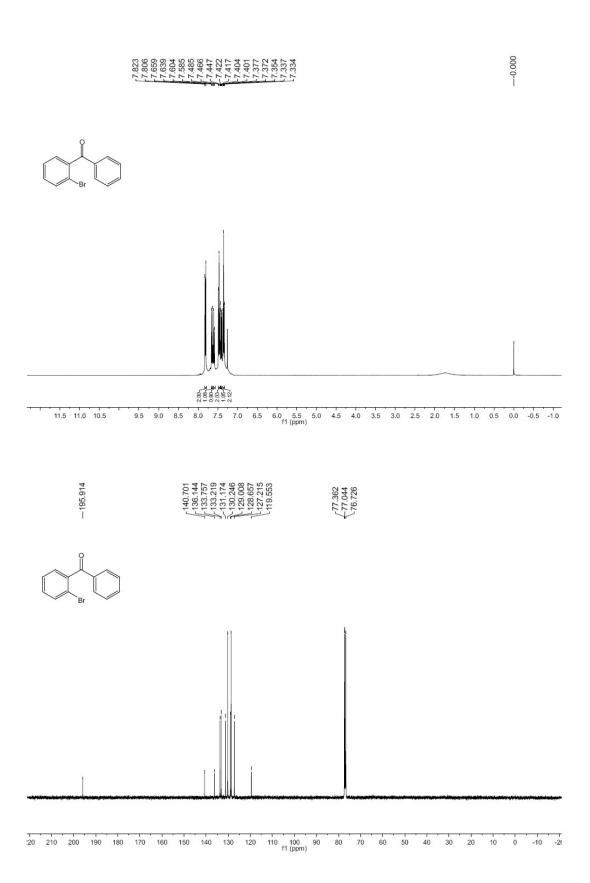




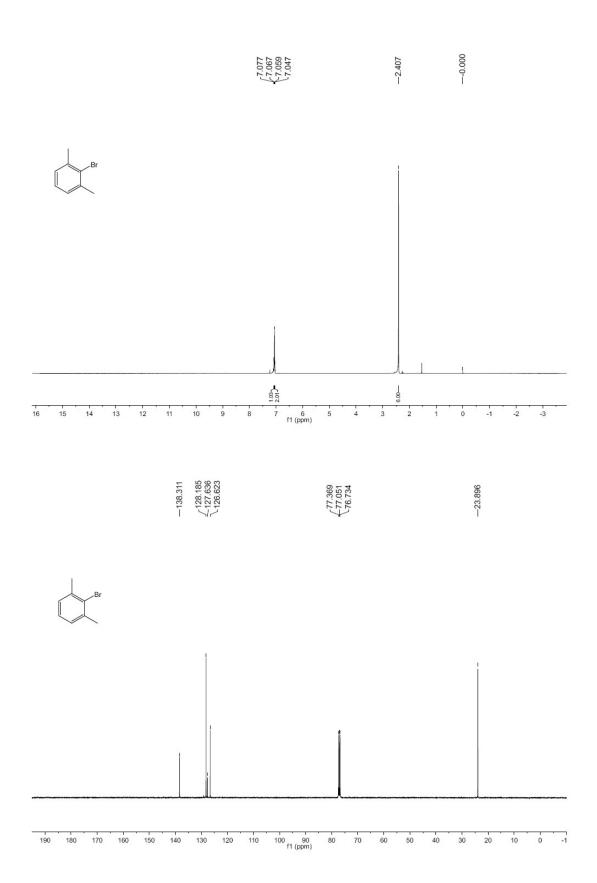
 $^1\mbox{H}$  NMR and  $^{13}\mbox{C}$  NMR spectra of compounds  $\mbox{2j}$  (in CDCl3)



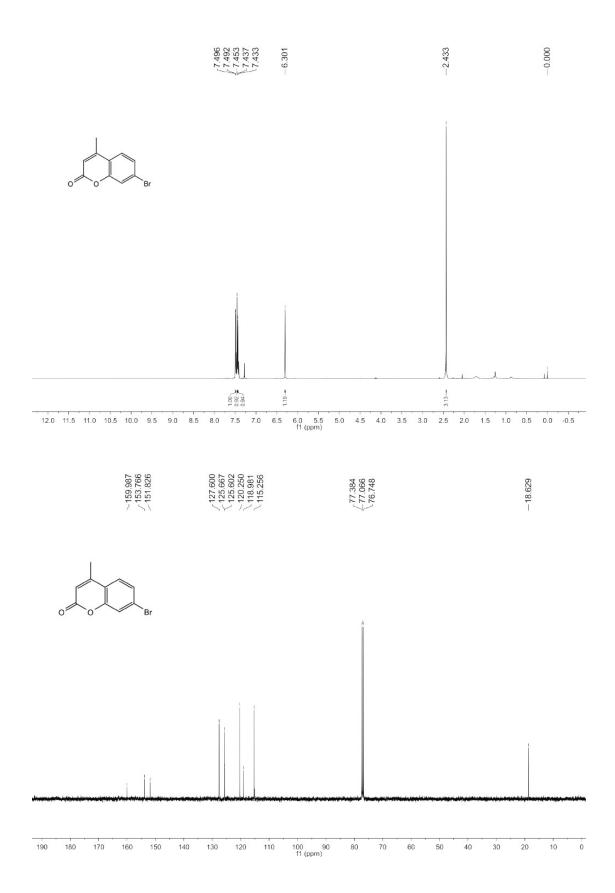
 $^{1}\mbox{H}$  NMR and  $^{13}\mbox{C}$  NMR spectra of compounds 2k (in CDCl3)



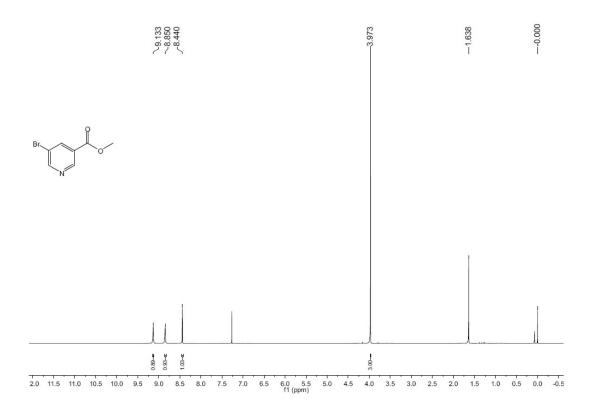
 $^1\mbox{H}$  NMR and  $^{13}\mbox{C}$  NMR spectra of compounds 21 (in CDCl3)

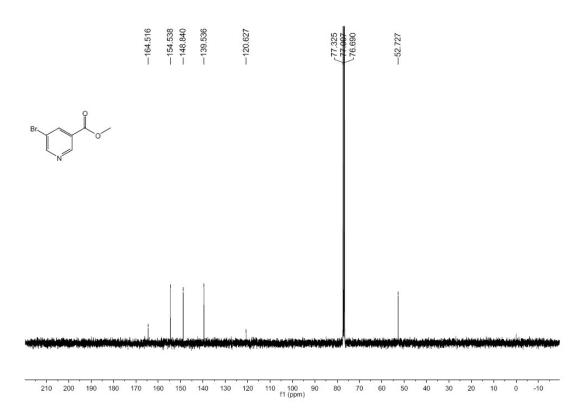


 $^{1}\mbox{H}$  NMR and  $^{13}\mbox{C}$  NMR spectra of compounds 2m (in CDCl3)

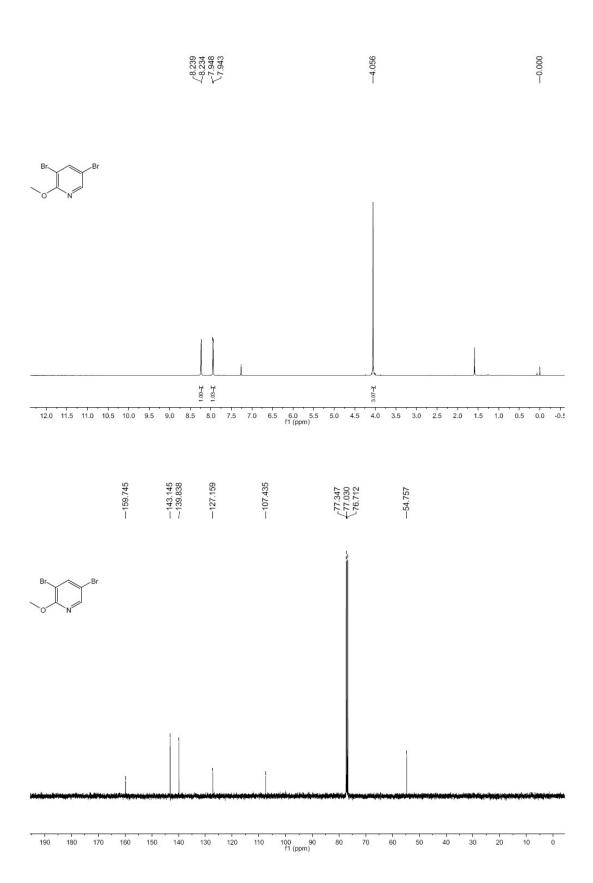


 $^{1}\mbox{H}$  NMR and  $^{13}\mbox{C}$  NMR spectra of compounds  $\boldsymbol{2n}$  (in CDCl3)

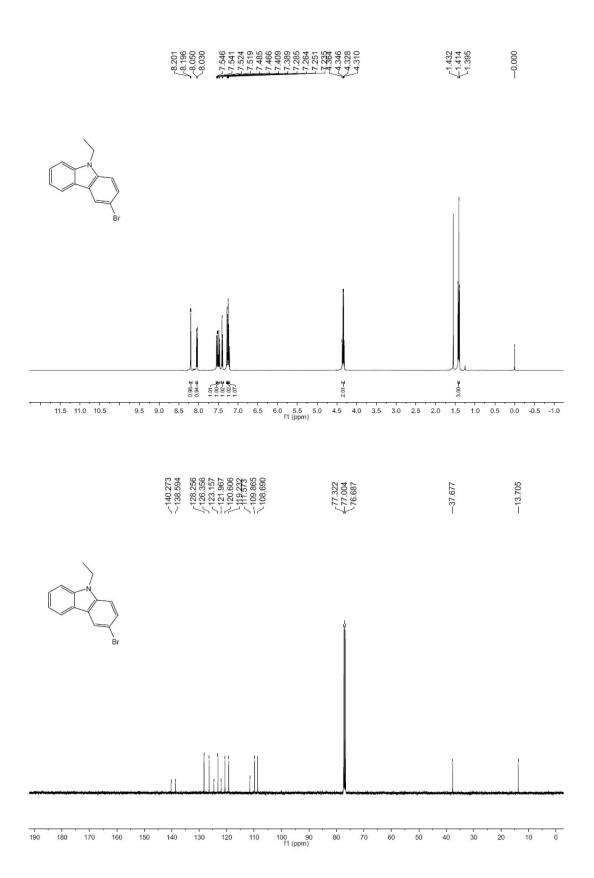




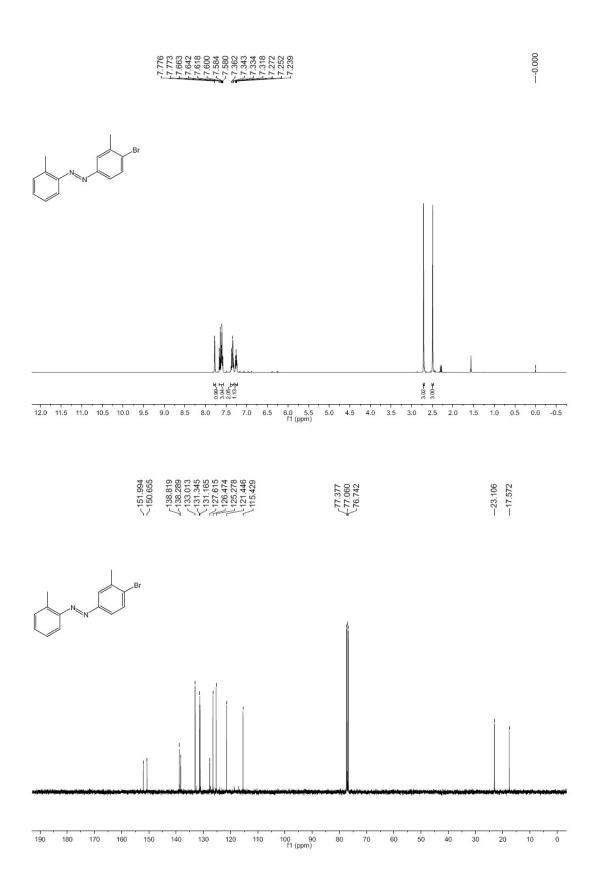
 $^{1}\mbox{H}$  NMR and  $^{13}\mbox{C}$  NMR spectra of compounds  $\boldsymbol{2o}$  (in CDCl3)



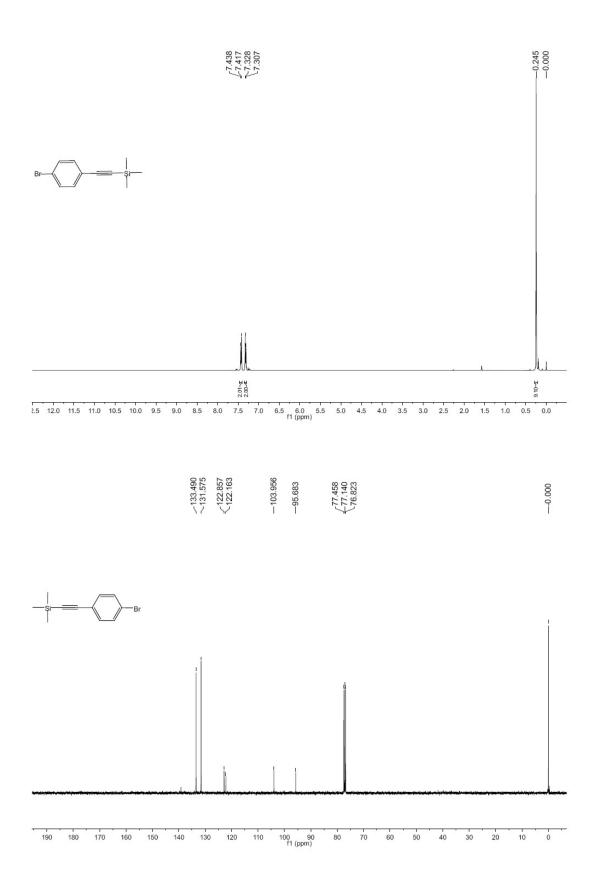
 $^{1}\mbox{H}$  NMR and  $^{13}\mbox{C}$  NMR spectra of compounds  $\mbox{2p}$  (in CDCl3)



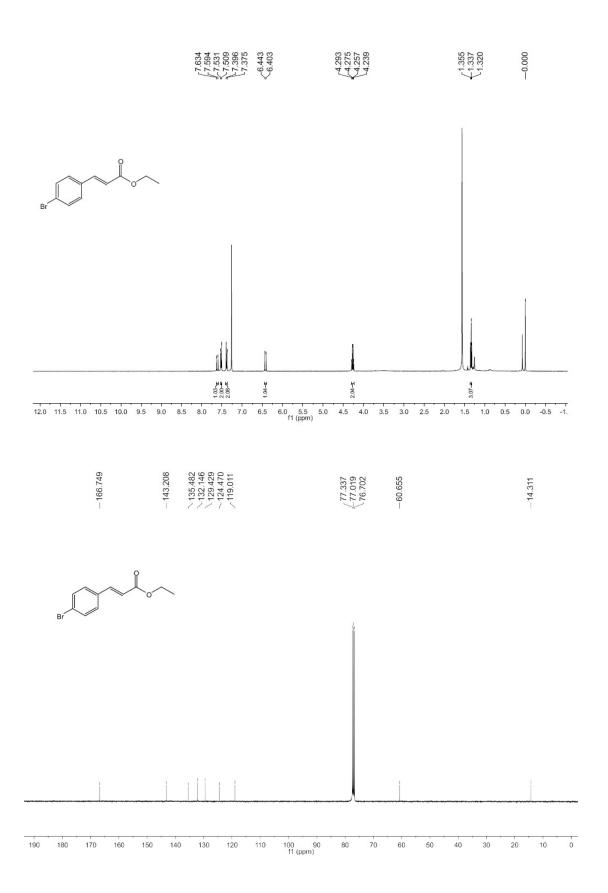
 $^{1}\mbox{H}$  NMR and  $^{13}\mbox{C}$  NMR spectra of compounds  $\mbox{2q}$  (in CDCl3)



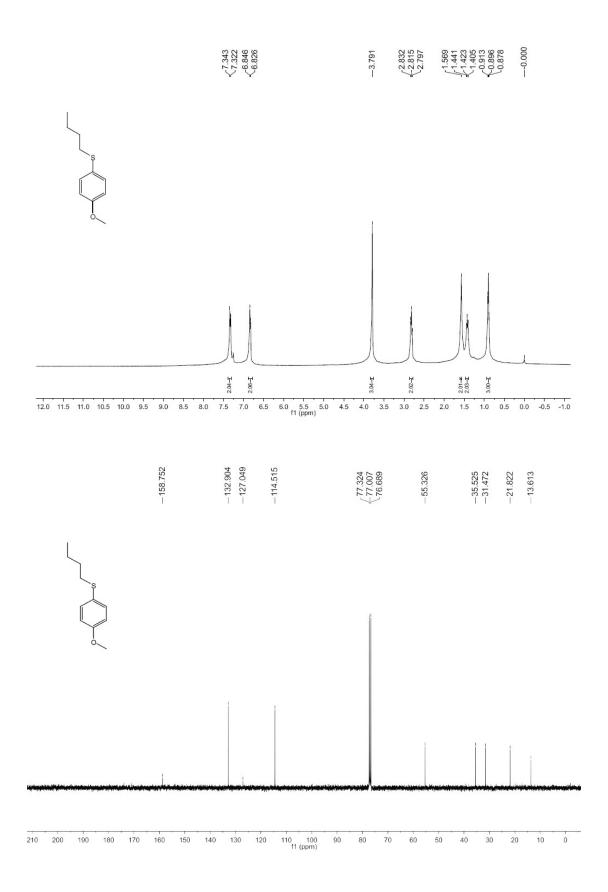
 $^{1}\mbox{H}$  NMR and  $^{13}\mbox{C}$  NMR spectra of compounds 2r (in CDCl3)



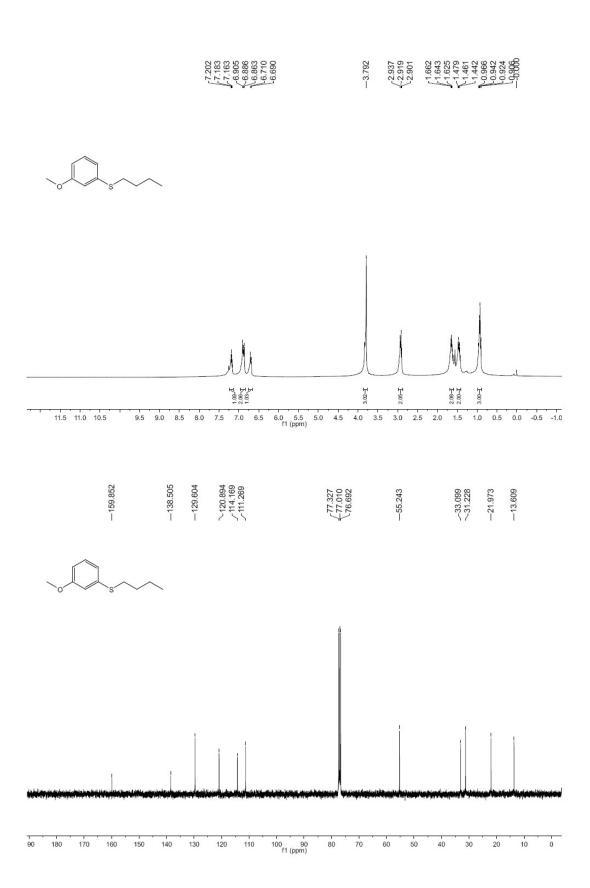
 $^1\mbox{H}$  NMR and  $^{13}\mbox{C}$  NMR spectra of compounds 2s (in CDCl3)



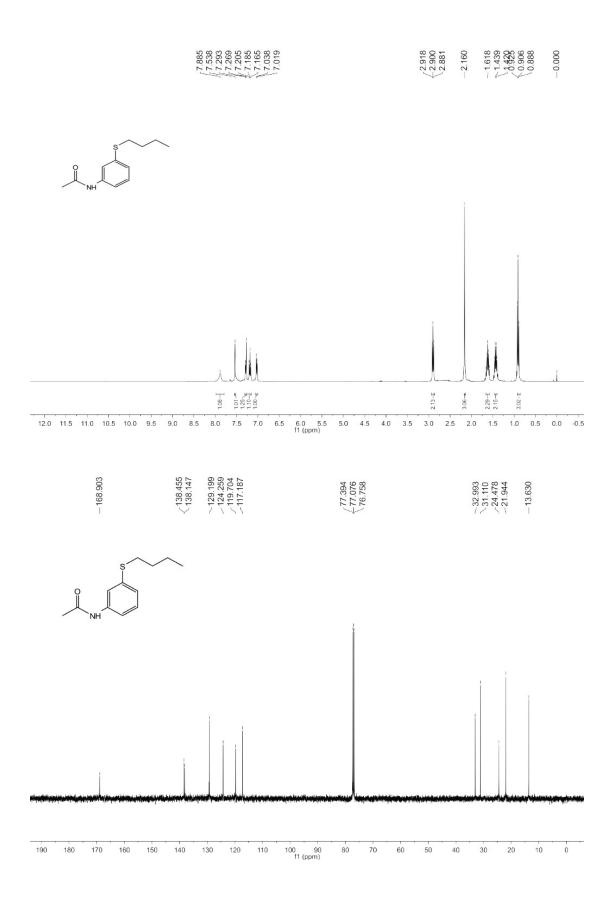
 $^1\mbox{H}$  NMR and  $^{13}\mbox{C}$  NMR spectra of compounds 2t (in CDCl3)



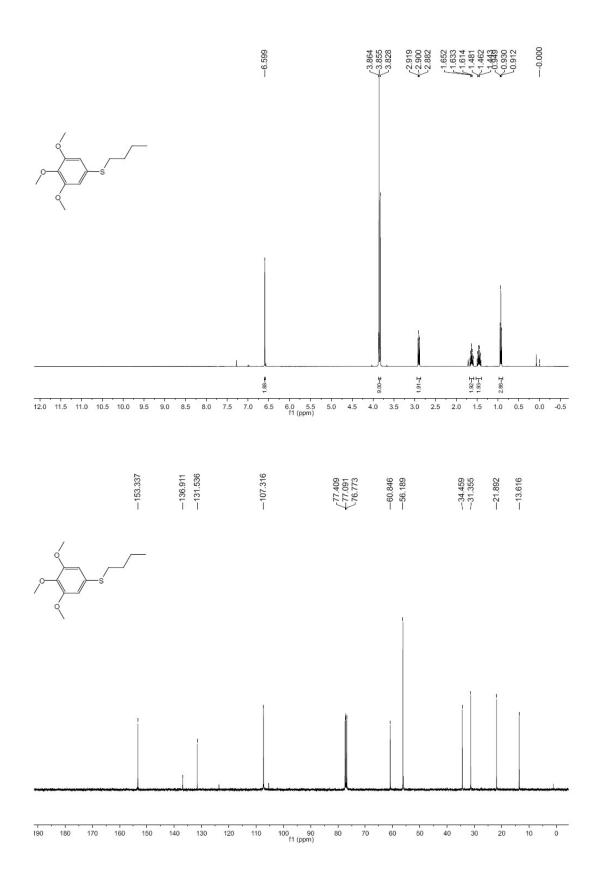
 $^{1}\mbox{H}$  NMR and  $^{13}\mbox{C}$  NMR spectra of compounds  $\mbox{\bf 4a}$  (in CDCl3)



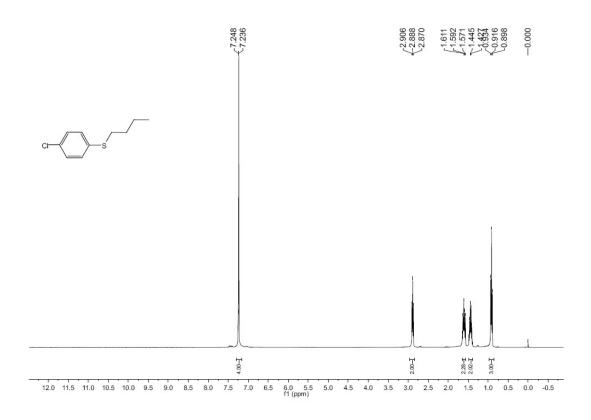
 $^{1}\mbox{H}$  NMR and  $^{13}\mbox{C}$  NMR spectra of compounds 4b (in CDCl3)

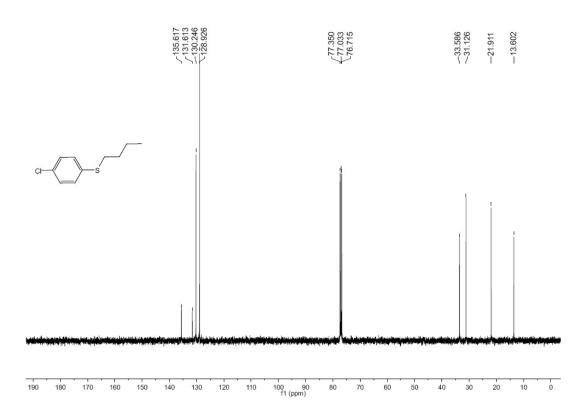


 $^{1}\mbox{H}$  NMR and  $^{13}\mbox{C}$  NMR spectra of compounds 4c (in CDCl3)

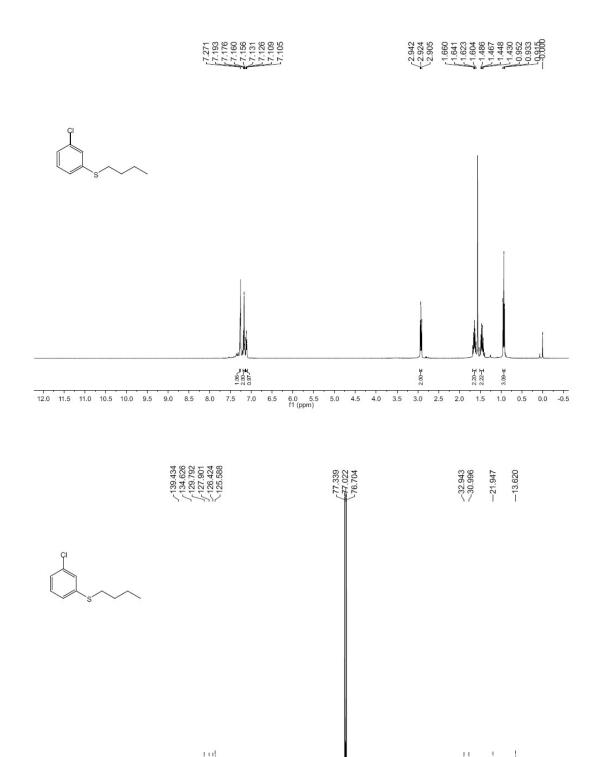


 $^{1}\mbox{H}$  NMR and  $^{13}\mbox{C}$  NMR spectra of compounds  $\mbox{4d}$  (in CDCl3)





 $^{1}\mbox{H}$  NMR and  $^{13}\mbox{C}$  NMR spectra of compounds  $\mbox{\bf 4e}$  (in CDCl3)



 $^1\mbox{H}$  NMR and  $^{13}\mbox{C}$  NMR spectra of compounds  $\mbox{\bf 4f}$  (in CDCl3)

40 30

20

100 90 f1 (ppm)

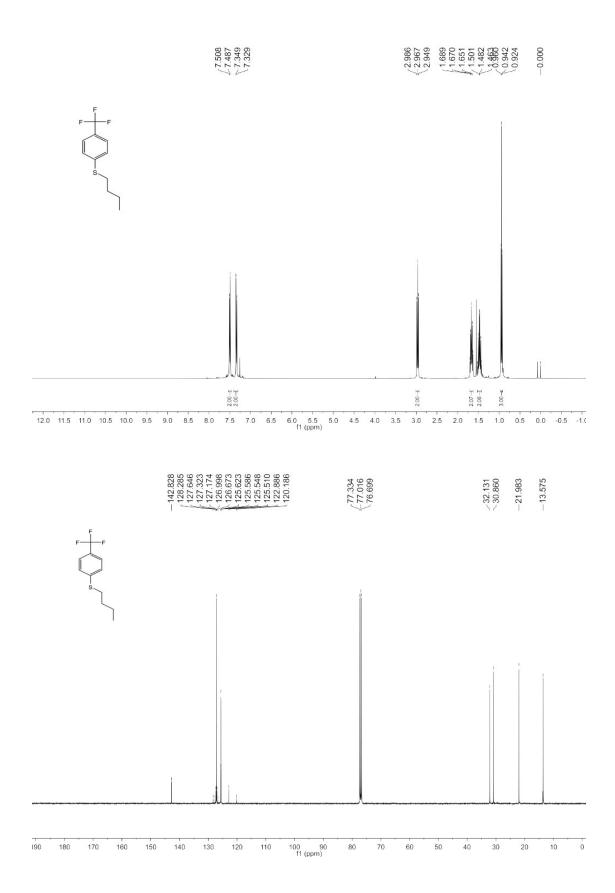
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160 150

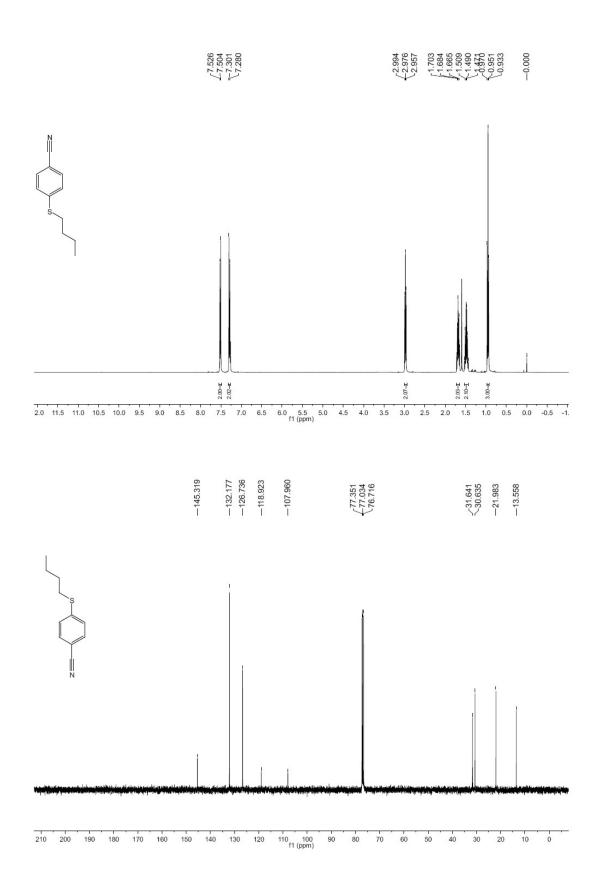
140

130

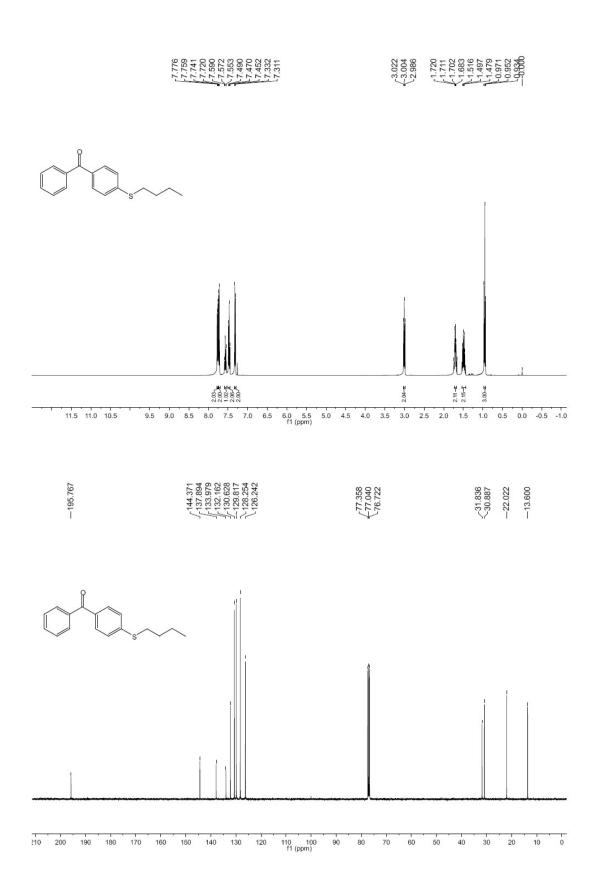
120 110



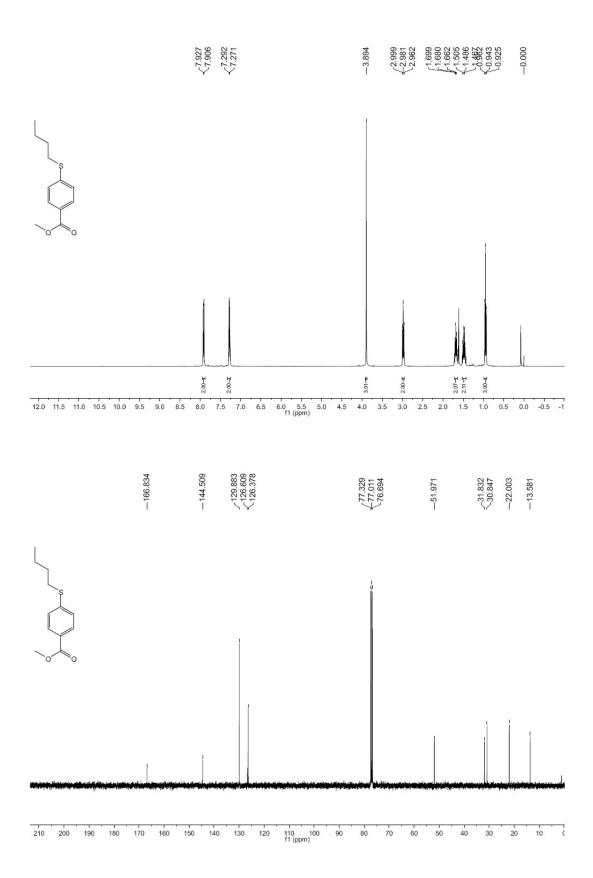
 $^{1}\mbox{H}$  NMR and  $^{13}\mbox{C}$  NMR spectra of compounds  $\mbox{4g}$  (in CDCl3)



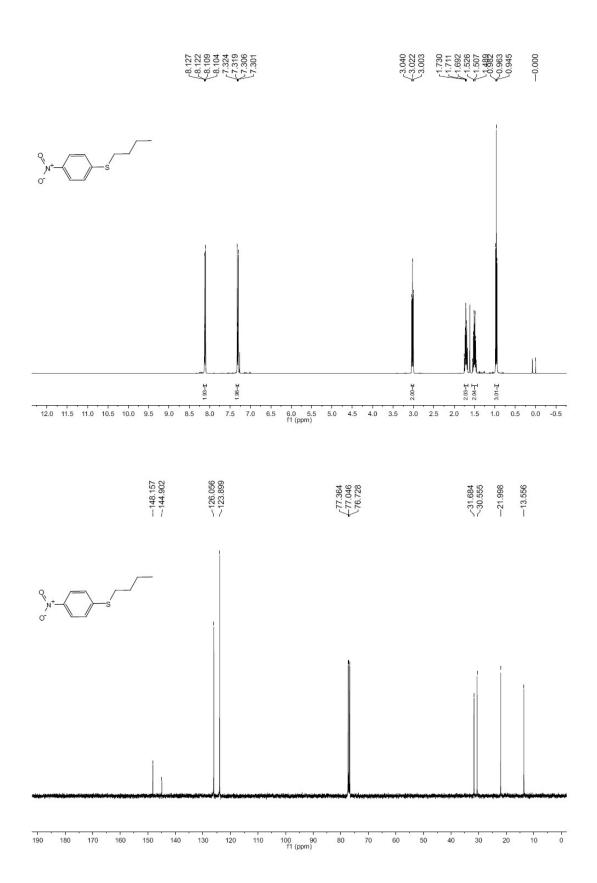
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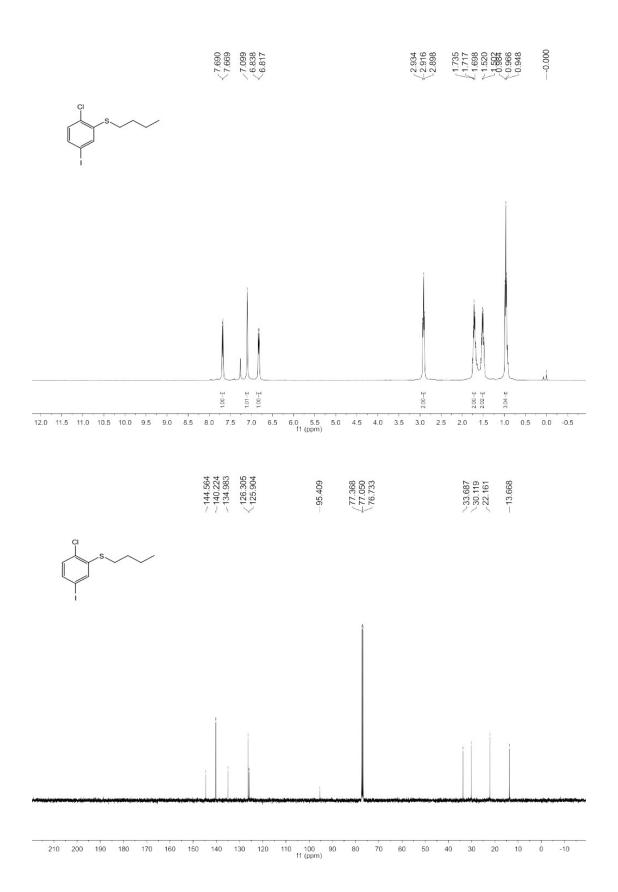
 $^1\mbox{H}$  NMR and  $^{13}\mbox{C}$  NMR spectra of compounds 4i (in CDCl3)



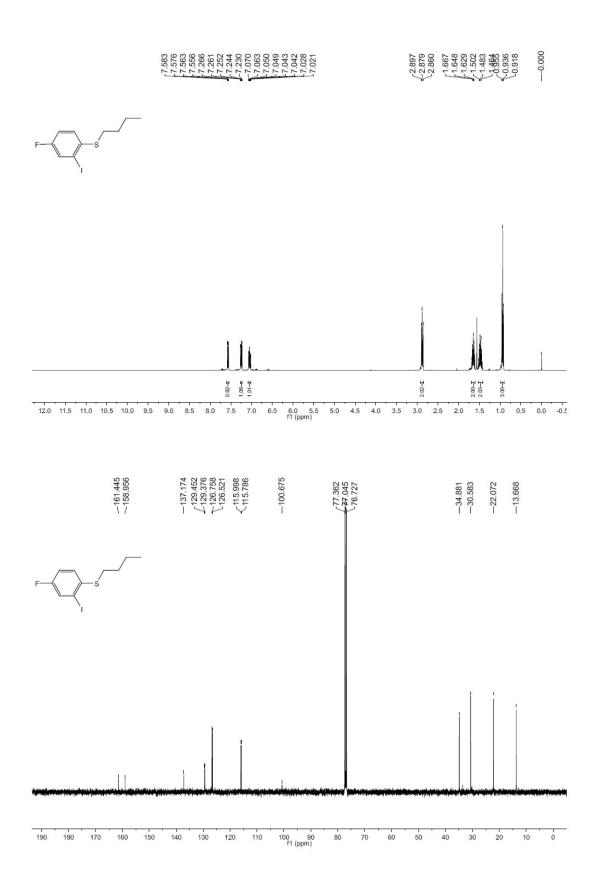
 $^1\mbox{H}$  NMR and  $^{13}\mbox{C}$  NMR spectra of compounds  $\mbox{\bf 4j}$  (in CDCl3)



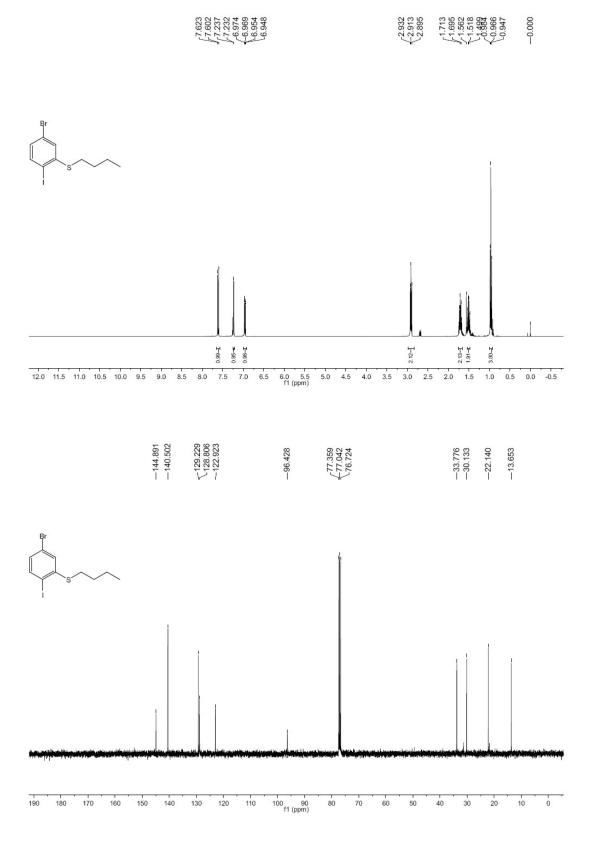
 $^{1}\mbox{H}$  NMR and  $^{13}\mbox{C}$  NMR spectra of compounds 4k (in CDCl3)



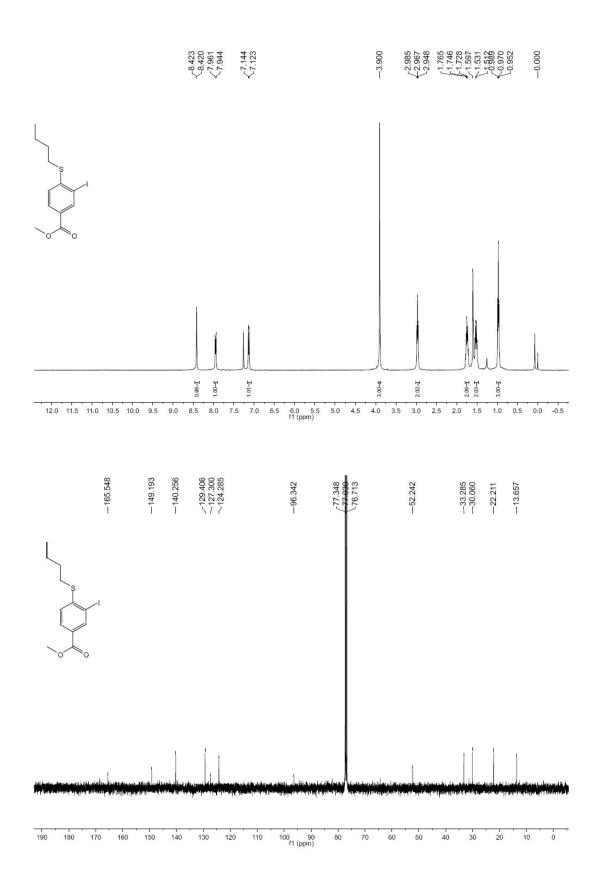
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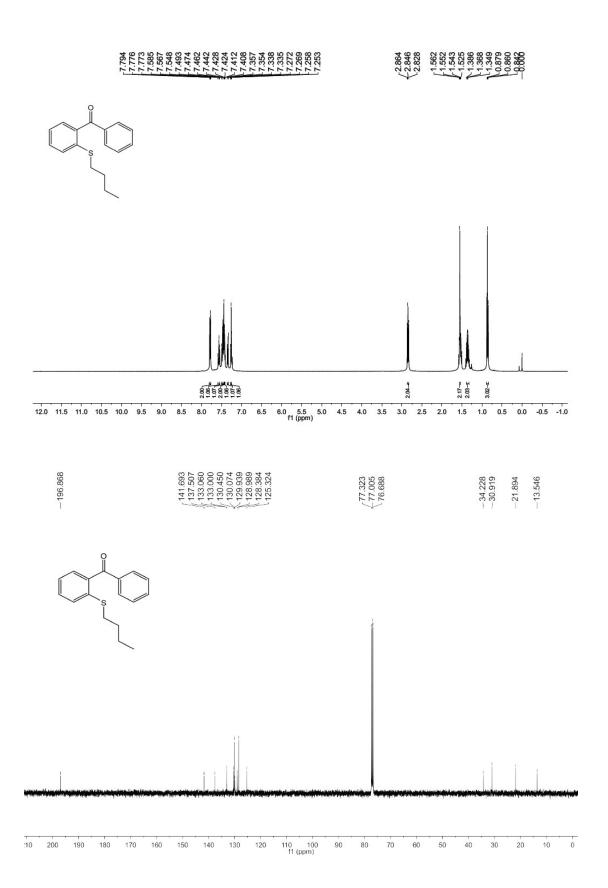
 $^{1}\mbox{H}$  NMR and  $^{13}\mbox{C}$  NMR spectra of compounds 4m (in CDCl3)



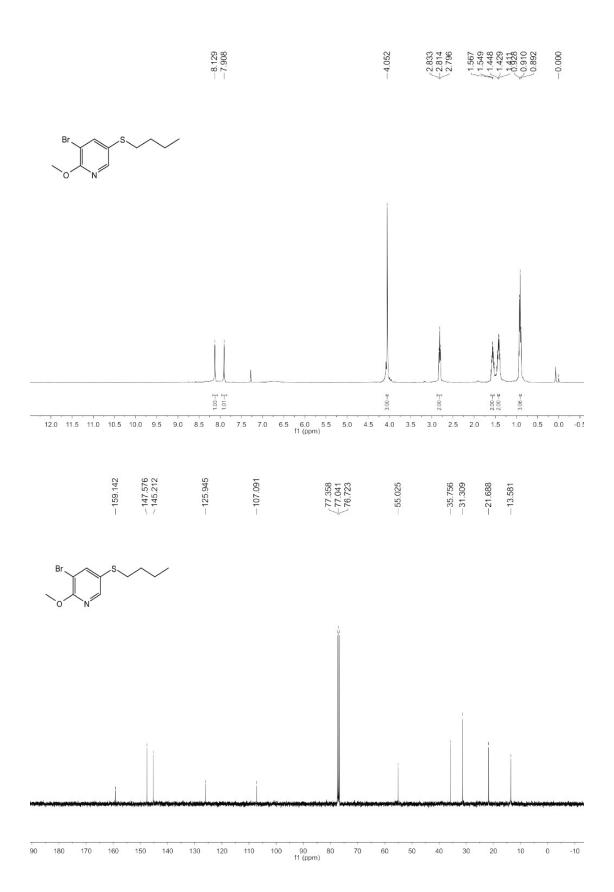
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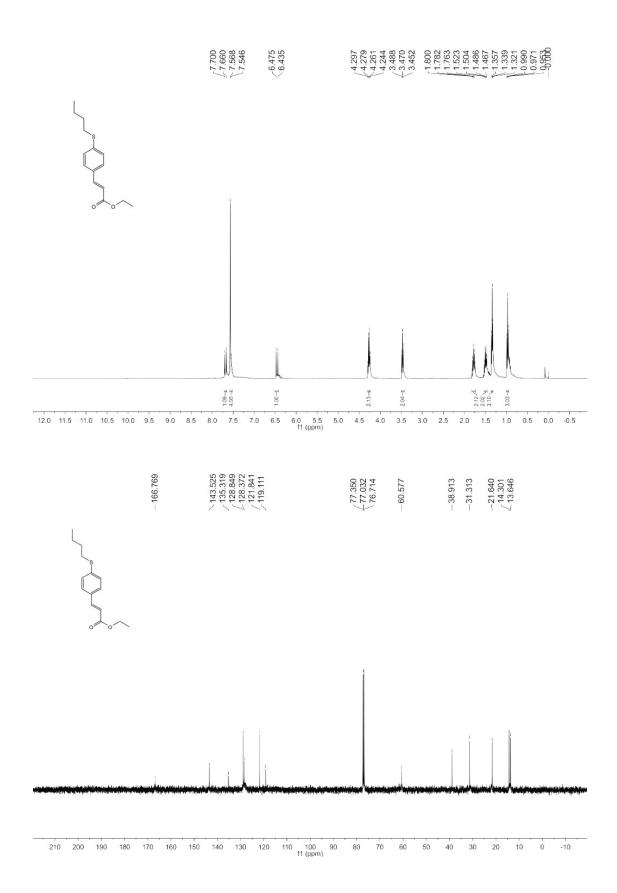
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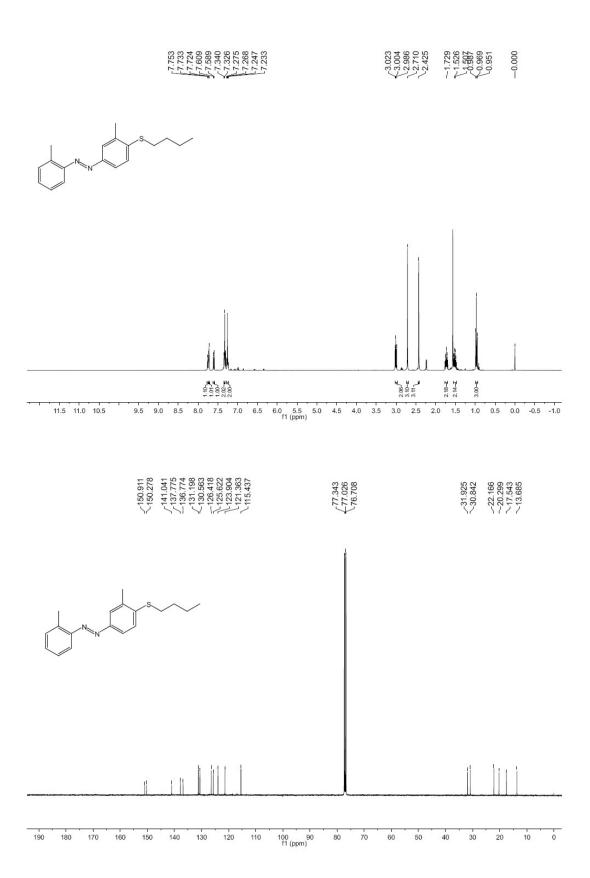
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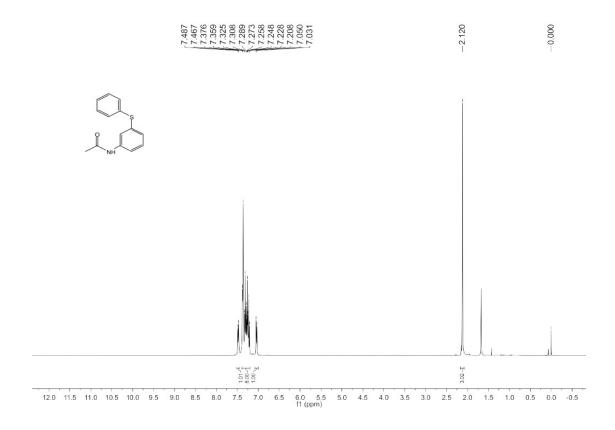
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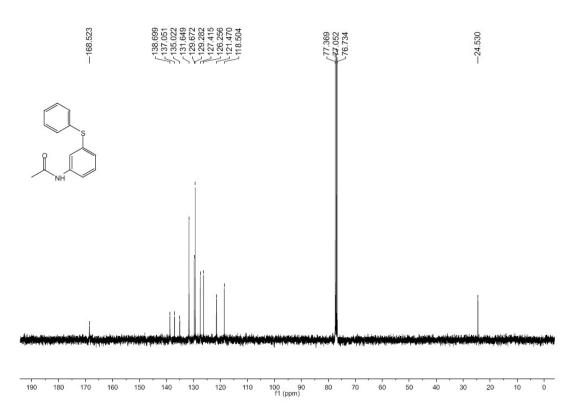


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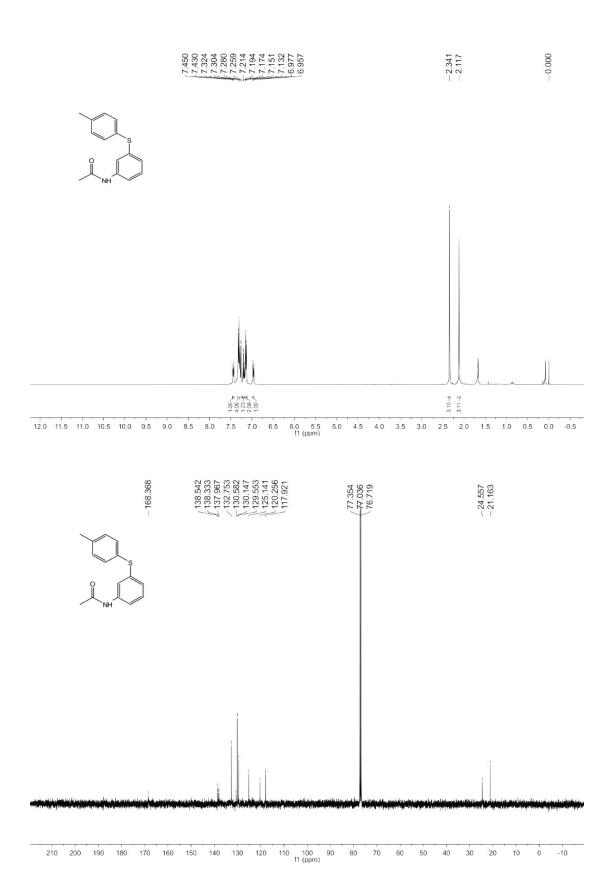


 $^1\mbox{H}$  NMR and  $^{13}\mbox{C}$  NMR spectra of compounds  $\mbox{4s}$  (in CDCl3)

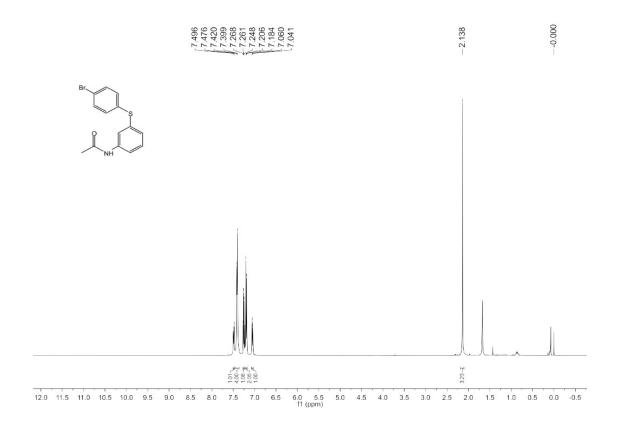


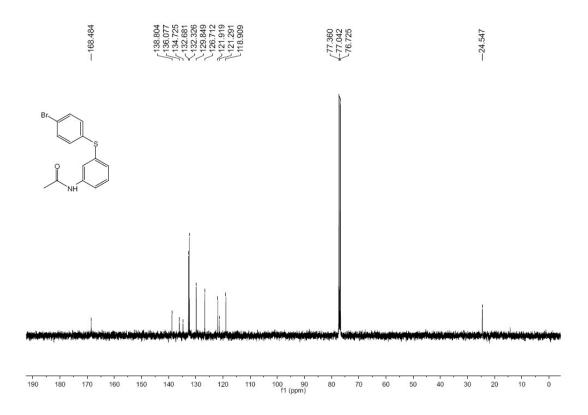


 $^1\mbox{H}$  NMR and  $^{13}\mbox{C}$  NMR spectra of compounds 4t (in CDCl3)

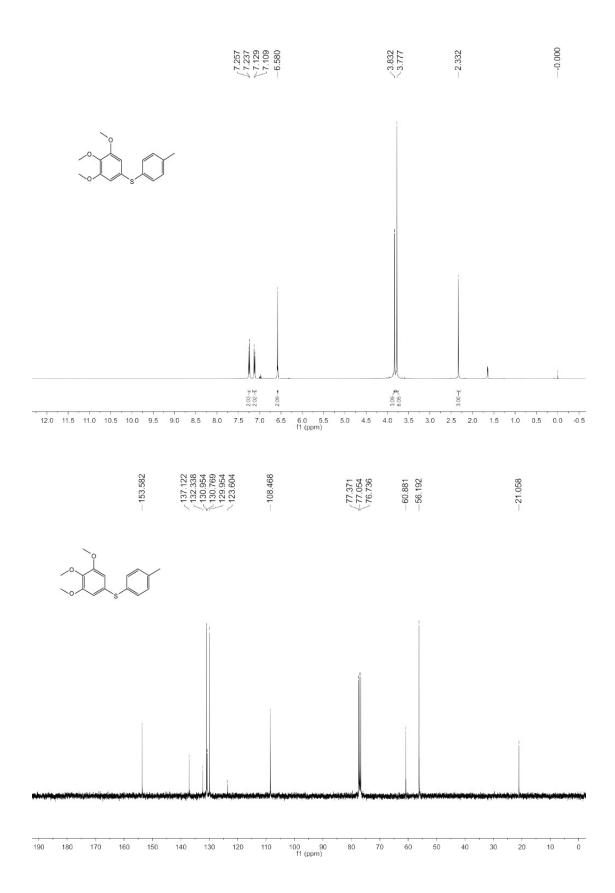


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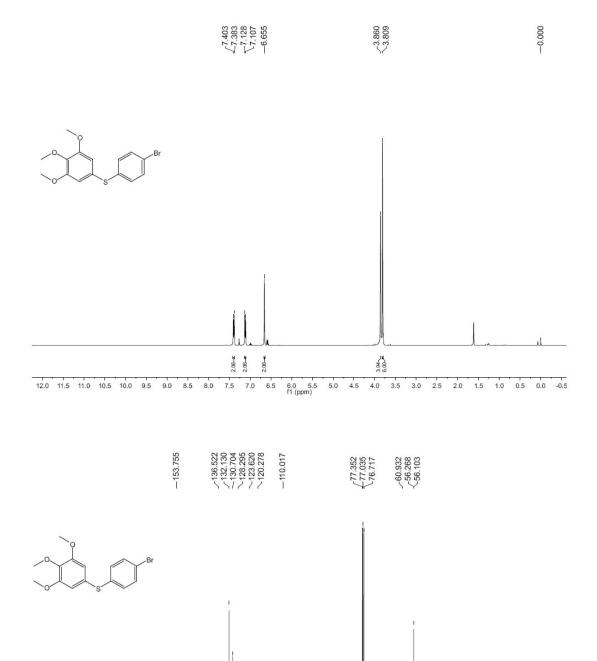




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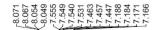


 $^{1}\mbox{H}$  NMR and  $^{13}\mbox{C}$  NMR spectra of compounds 4w (in CDCl3)

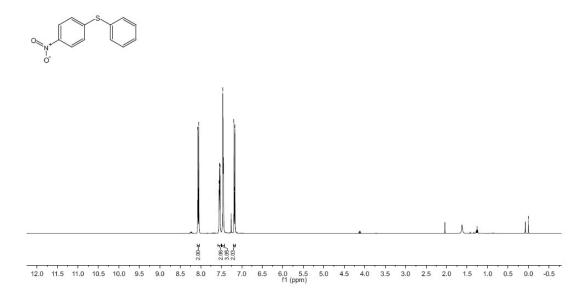


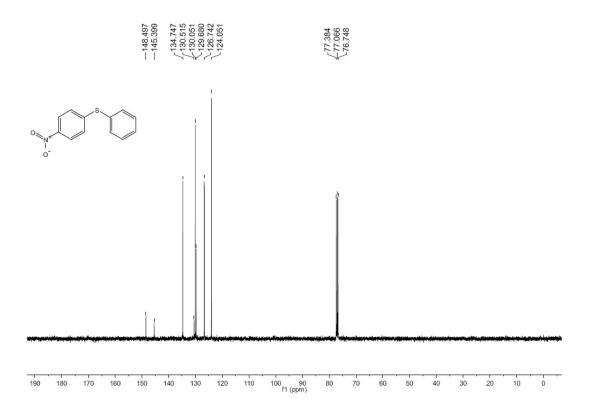
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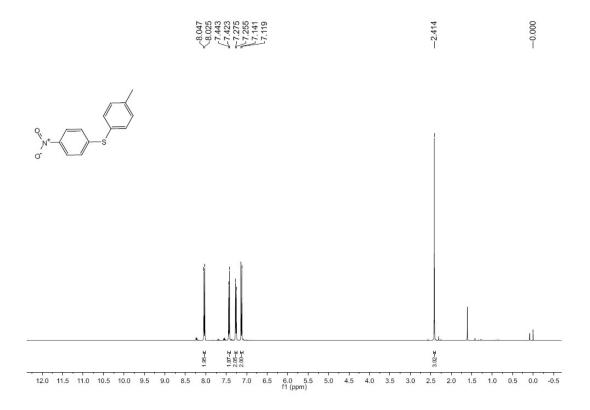


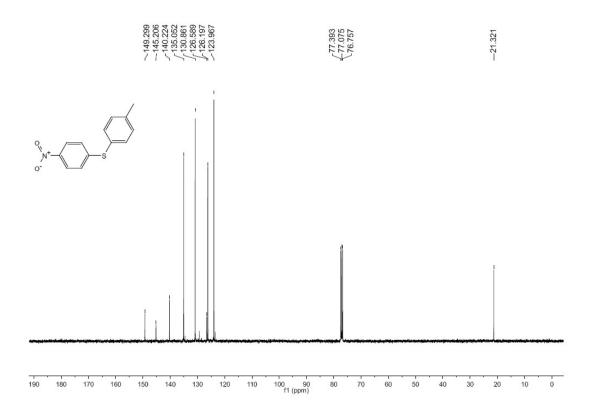




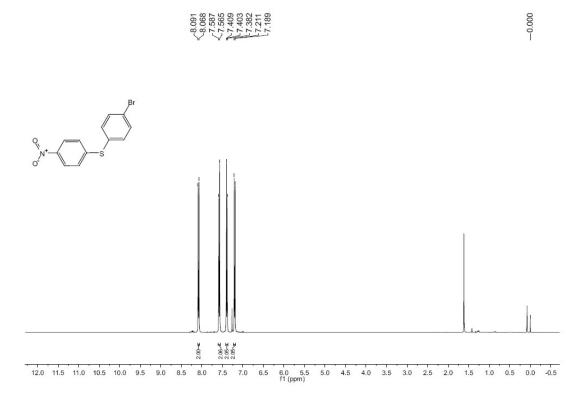


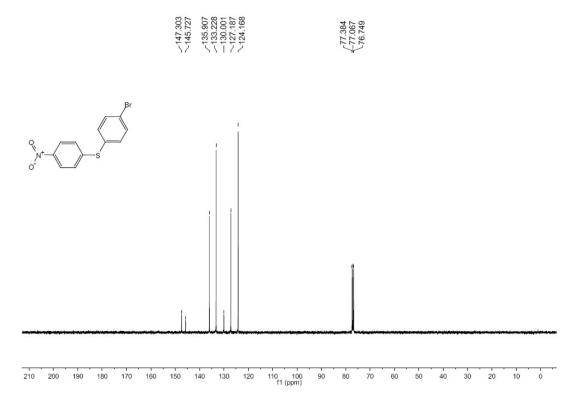
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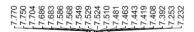


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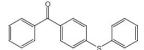


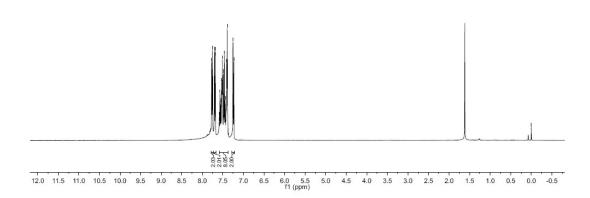


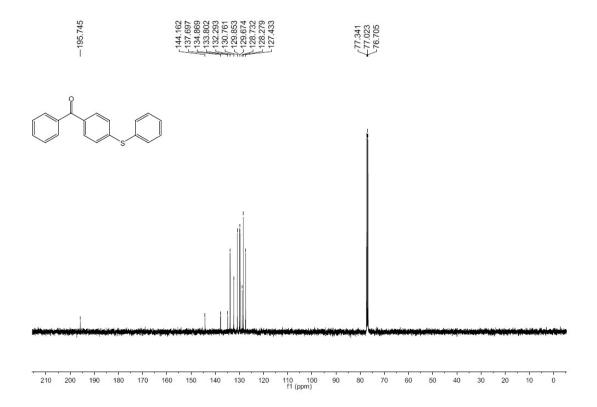
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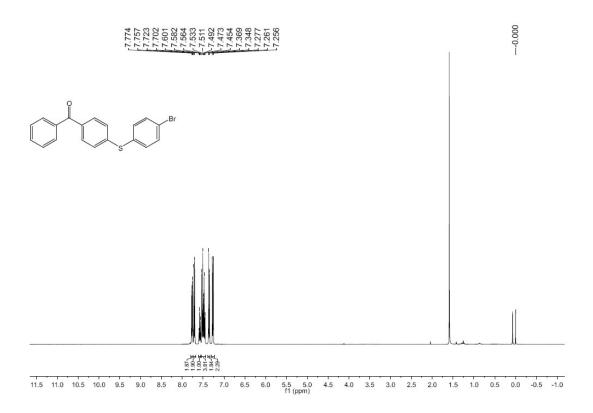


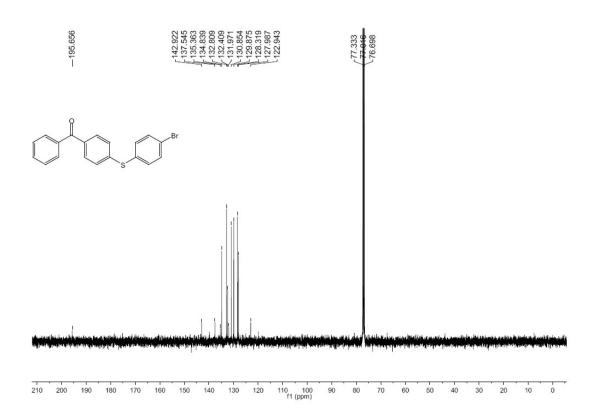






 $^{1}\mbox{H}$  NMR and  $^{13}\mbox{C}$  NMR spectra of compounds 4b' (in CDCl3)





 $^{1}\mbox{H}$  NMR and  $^{13}\mbox{C}$  NMR spectra of compounds  $\mbox{4c'}$  (in CDCl3)