Supporting Information

Oxidant-Free C(sp^2)–H Functionalization/C–O Bond Formation: A Kolbe Oxidative Cyclization Process

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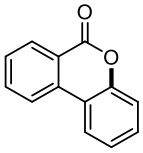
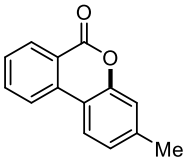
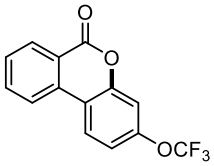
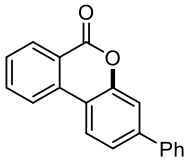
Contents

1. Compound chart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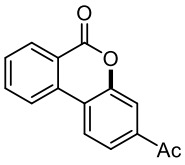	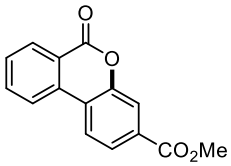	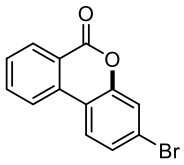	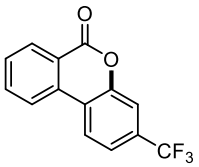
2e, 79%	**2f**, 90%	**2g**, 77%	**2h**, 93%
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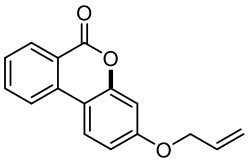	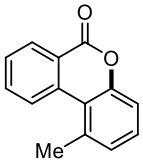	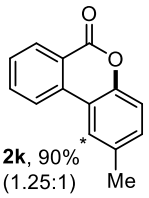	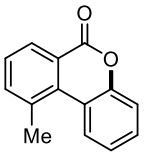
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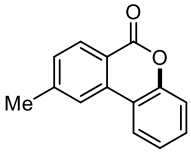
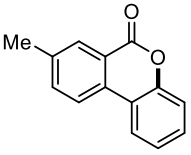
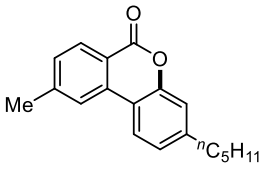
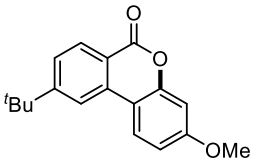
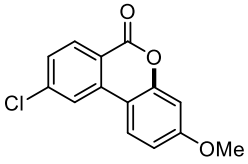
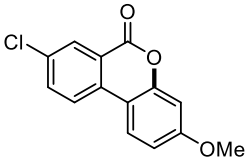
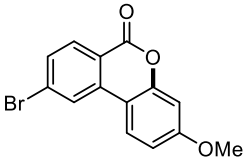
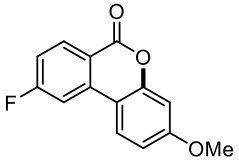
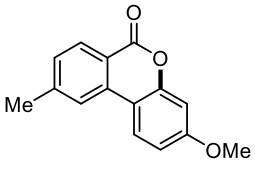
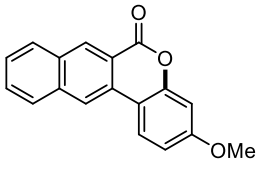
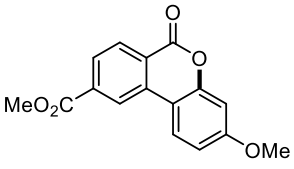
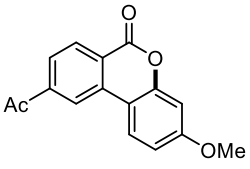
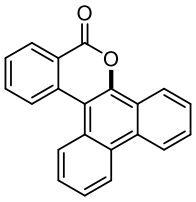
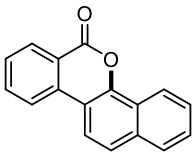
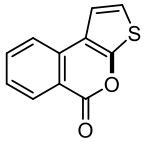
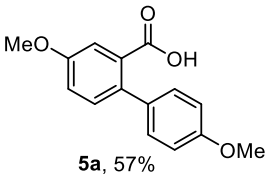
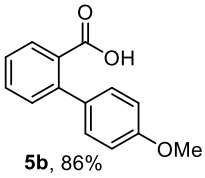
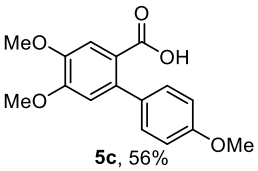
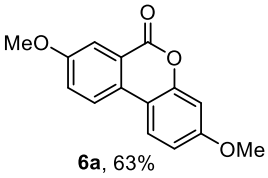
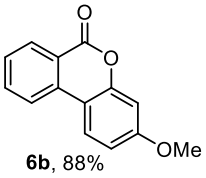
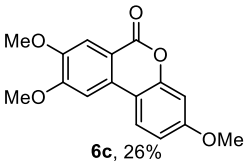
			
2m, 92%	**2n**, 93%	**2o**, 86%	**2p**, 91%
NMR	NMR	NMR	NMR
			
2q, 85%	**2r**, 83%	**2s**, 77%	**2t**, 77%
NMR	NMR	NMR	NMR
			
2u, 81%	**2v**, 89%	**2w**, 87%	**2x**, 75%
NMR	NMR	NMR	NMR

 **2y**, 62%	 **2z**, 90%	 **2aa**, 55%	 **5a**, 57%
NMR	NMR	NMR	NMR
 **5b**, 86%	 **5c**, 56%	 **6a**, 63%	 **6b**, 88%
NMR	NMR	NMR	NMR
 **6c**, 26%			
NMR			

2. Equipment and experiments setup pictures

Figure S1. Pt net electrodes (Photographed by Fanyang Mo)

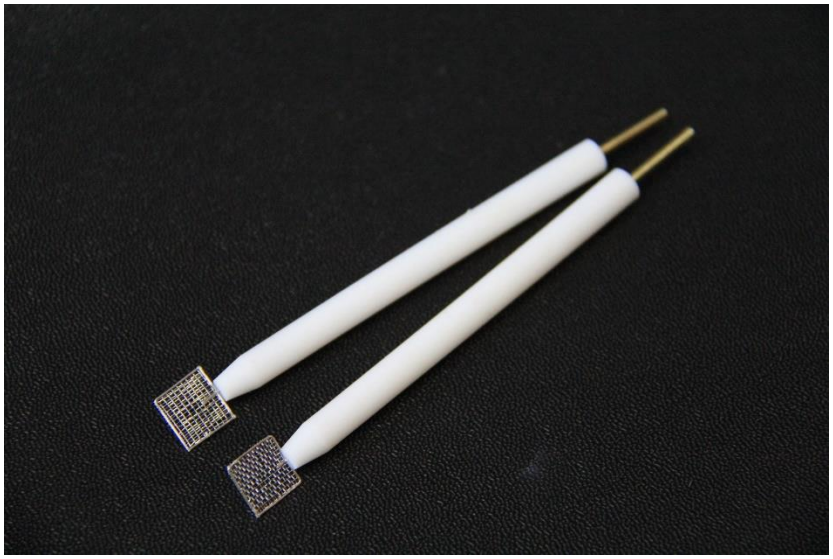


Figure S2. The potentiostat (Photographed by Fanyang Mo)

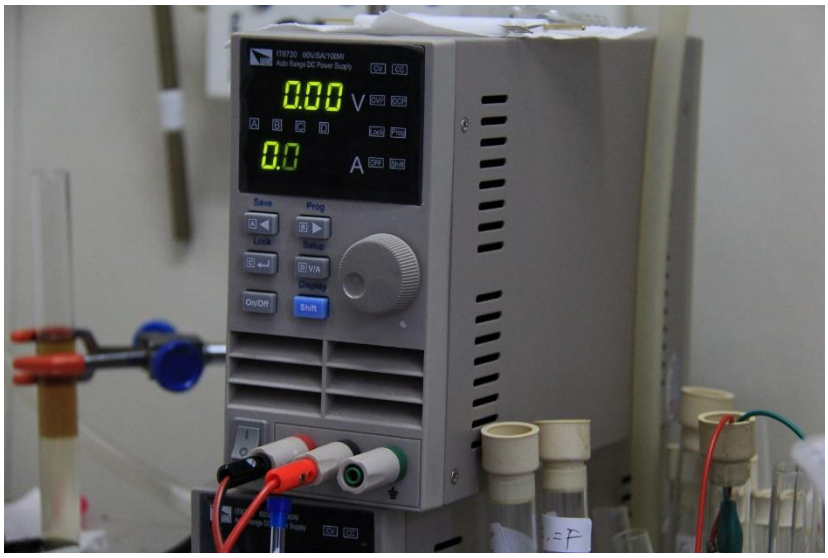


Figure S3. 0.5 mmol scale electrolysis experiment (Photographed by Fanyang Mo)

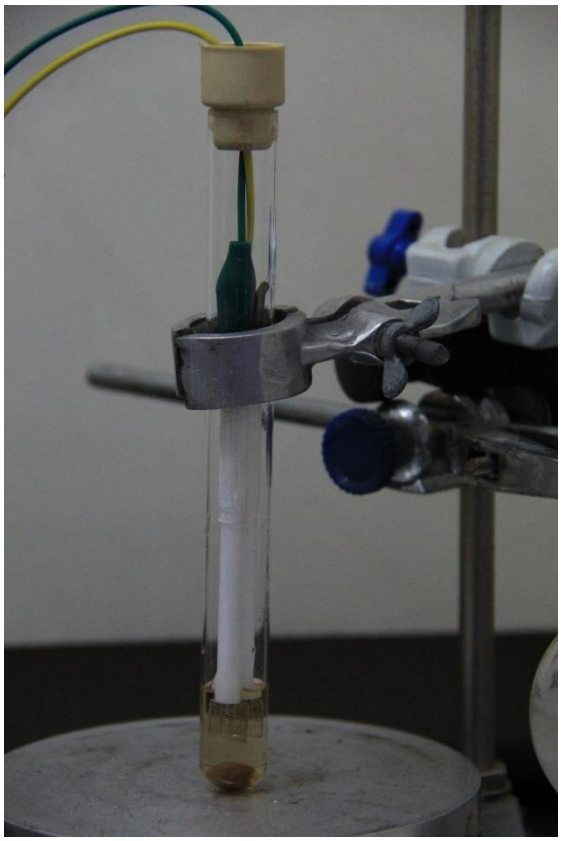
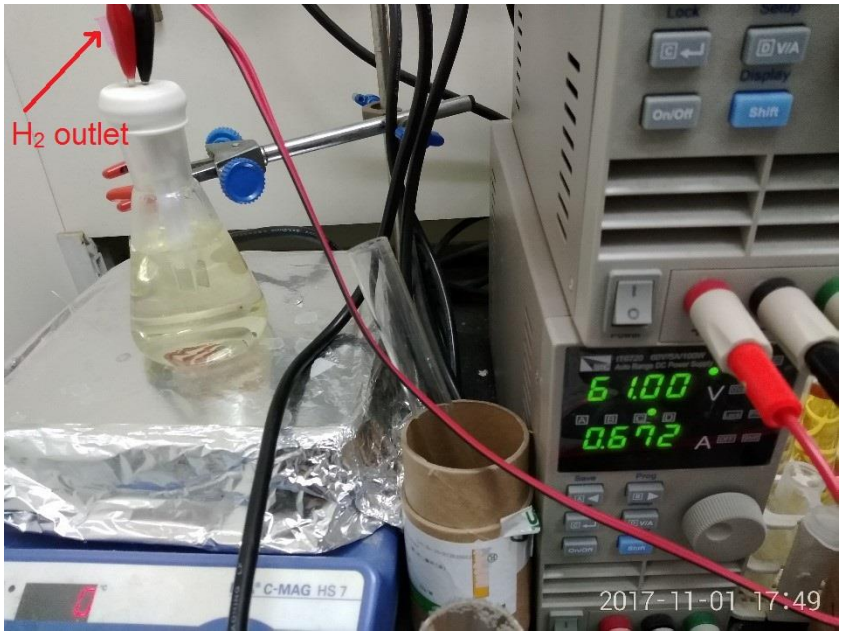
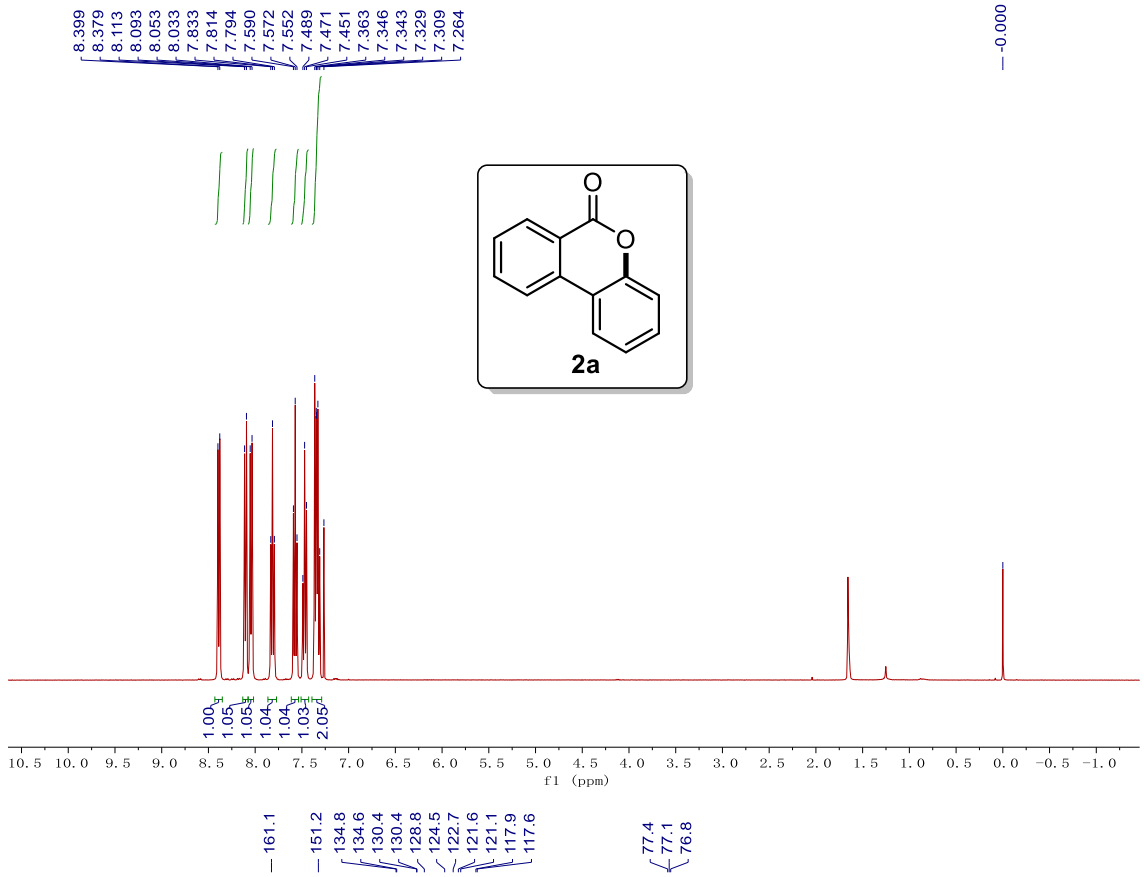


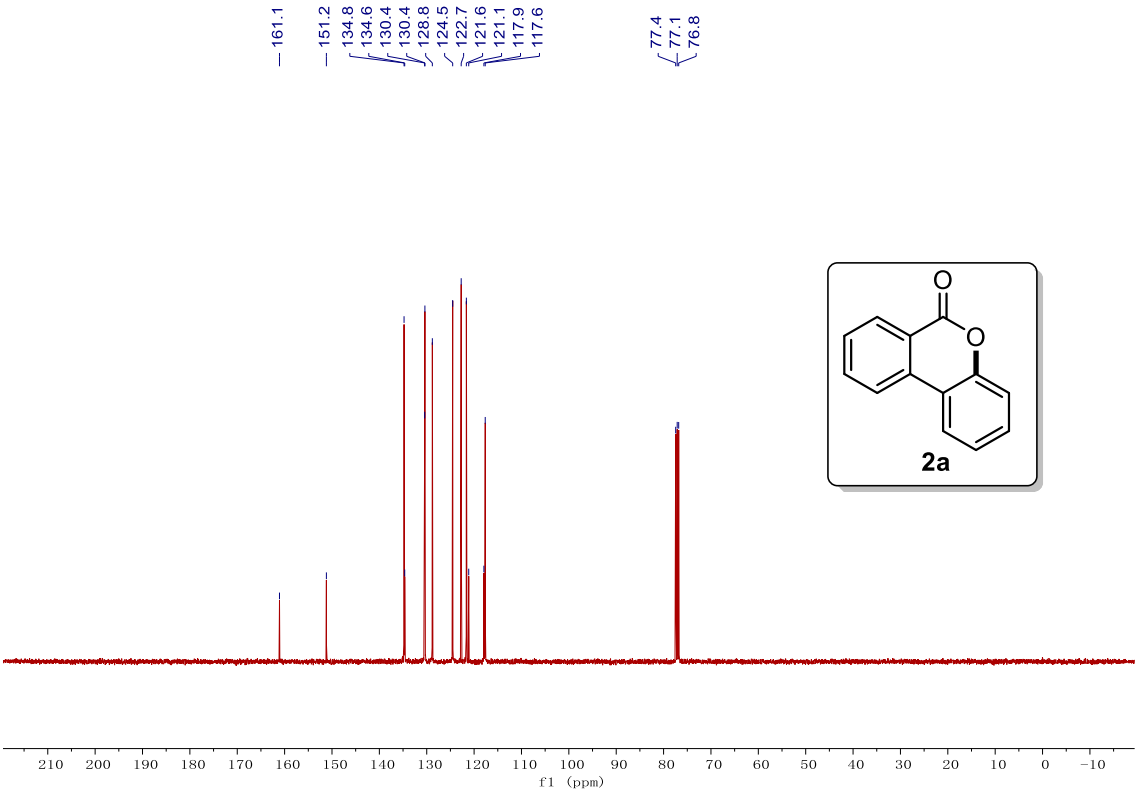
Figure S4. 60 mmol scale electrolysis experiment (Photographed by Zhenxing Zhang)



3. ^{1}H NMR and ^{13}C NMR Spectra

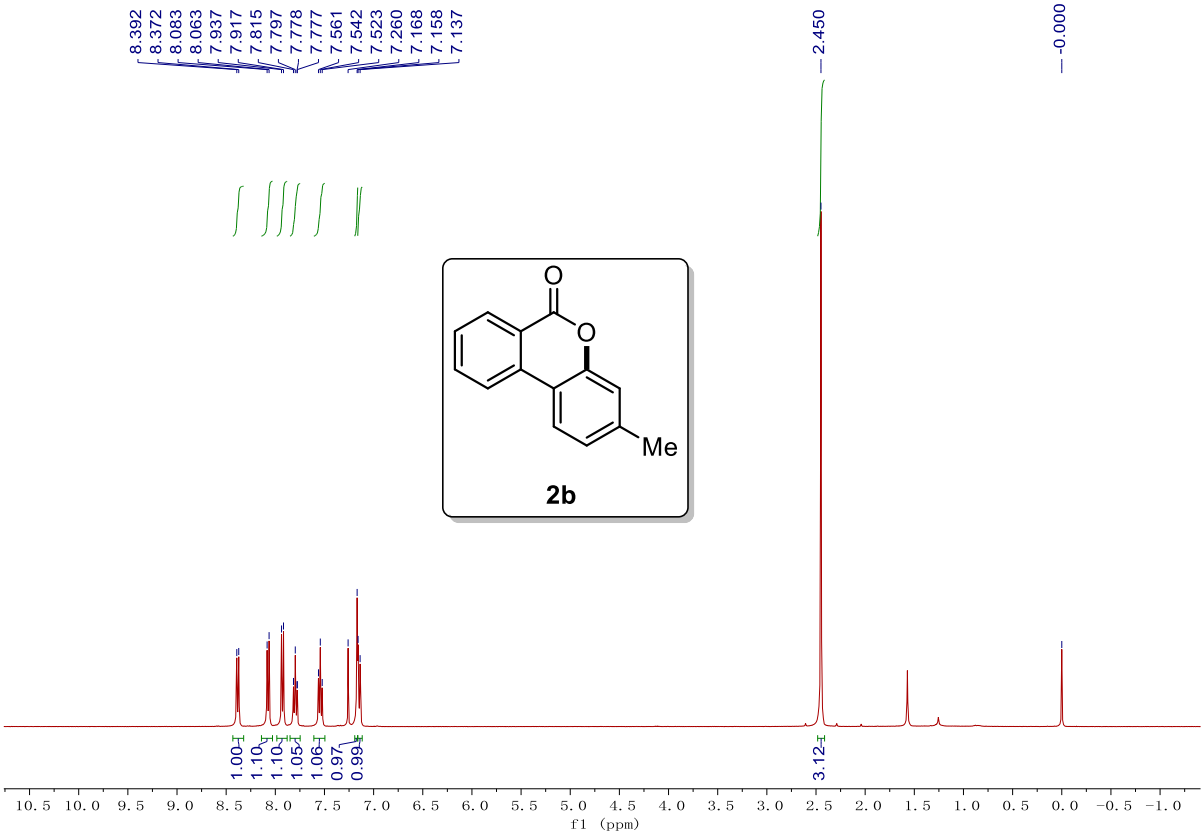
6H-benzo[c]chromen-6-one (**2a**)

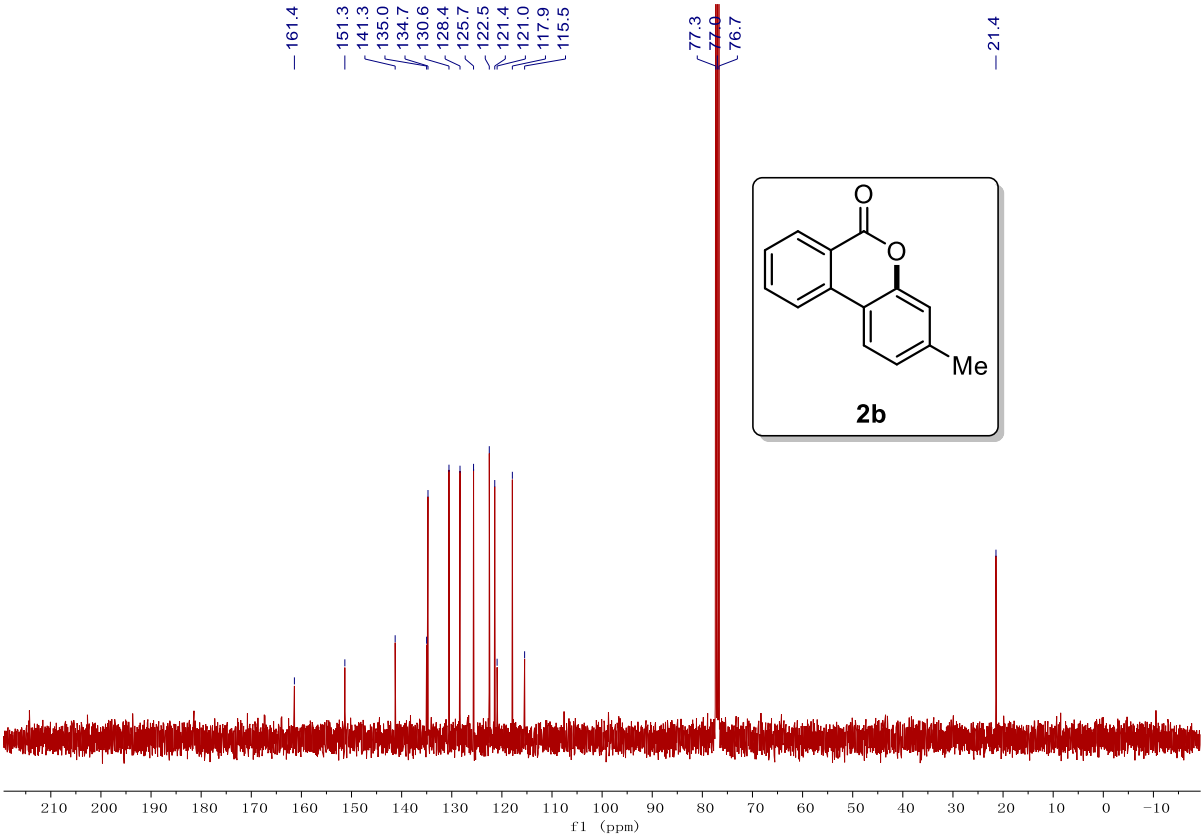




Compound chart

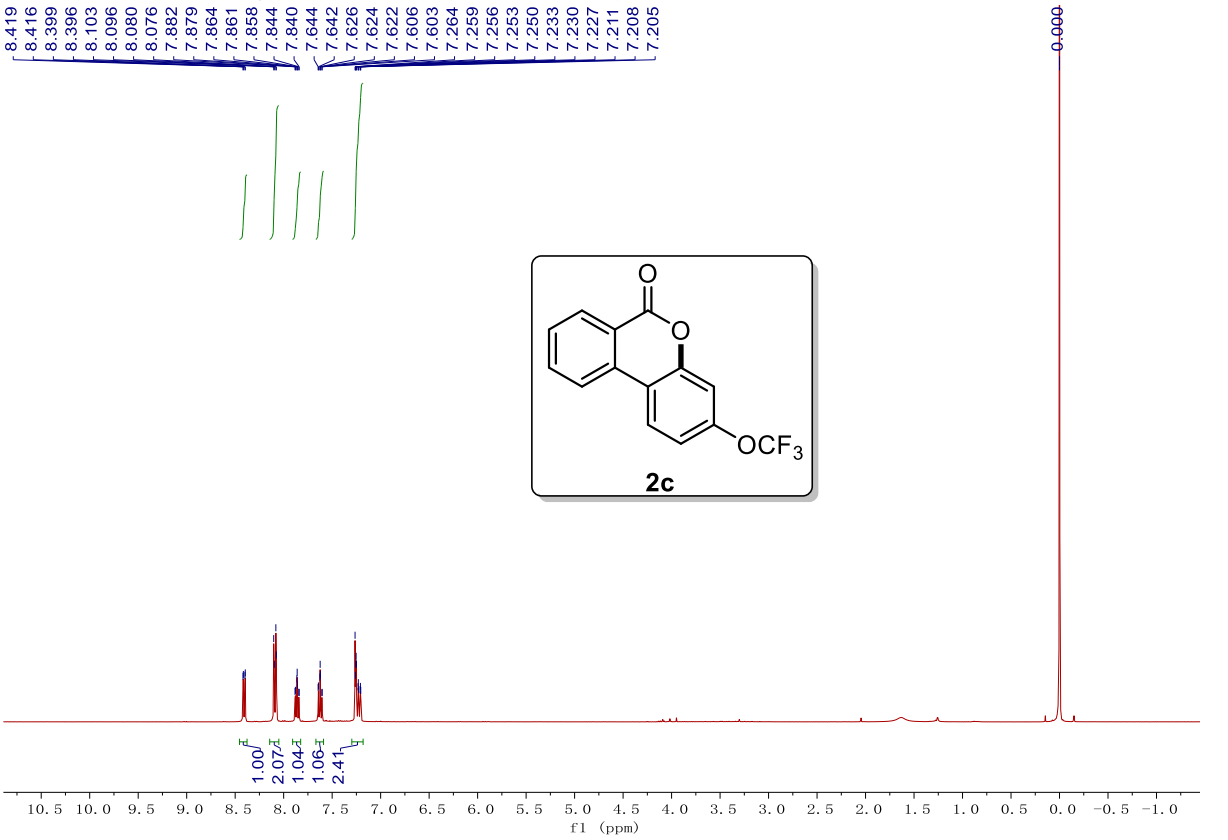
3-methyl-6H-benzo[c]chromen-6-one (**2b**)

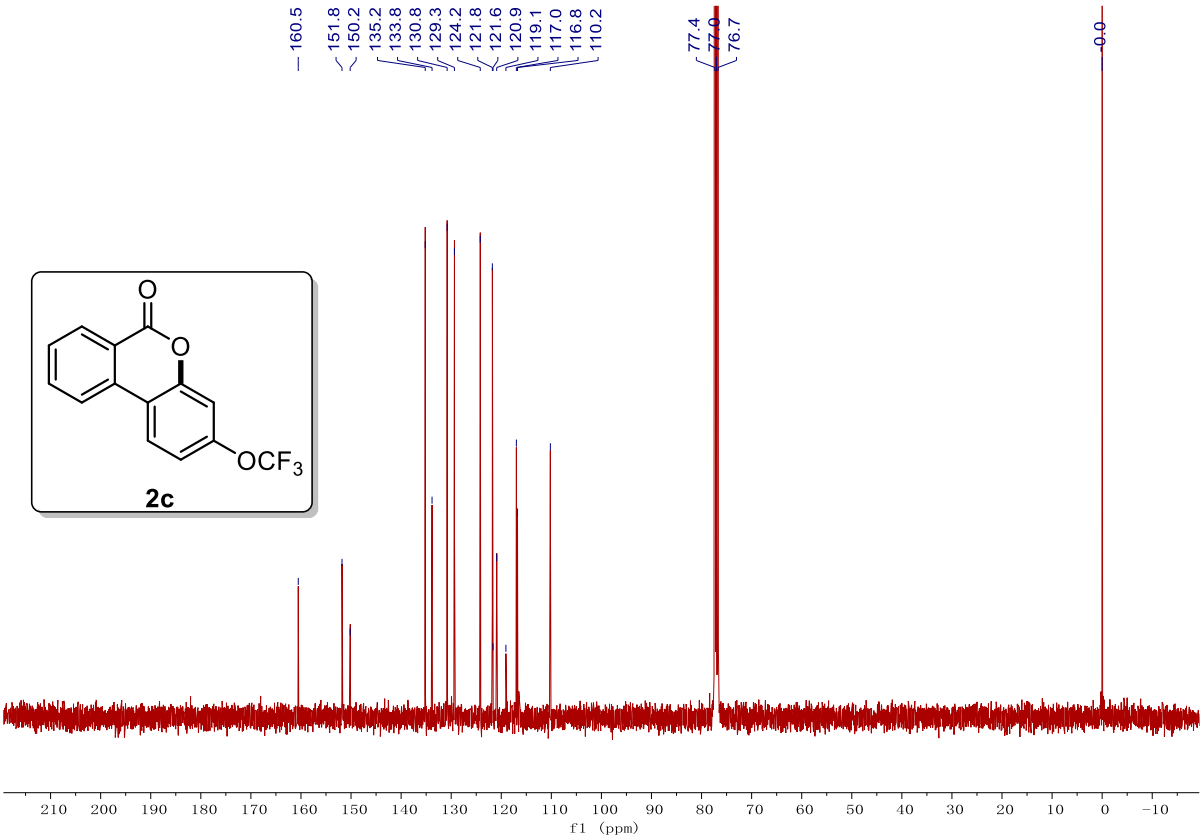




[Compound chart]

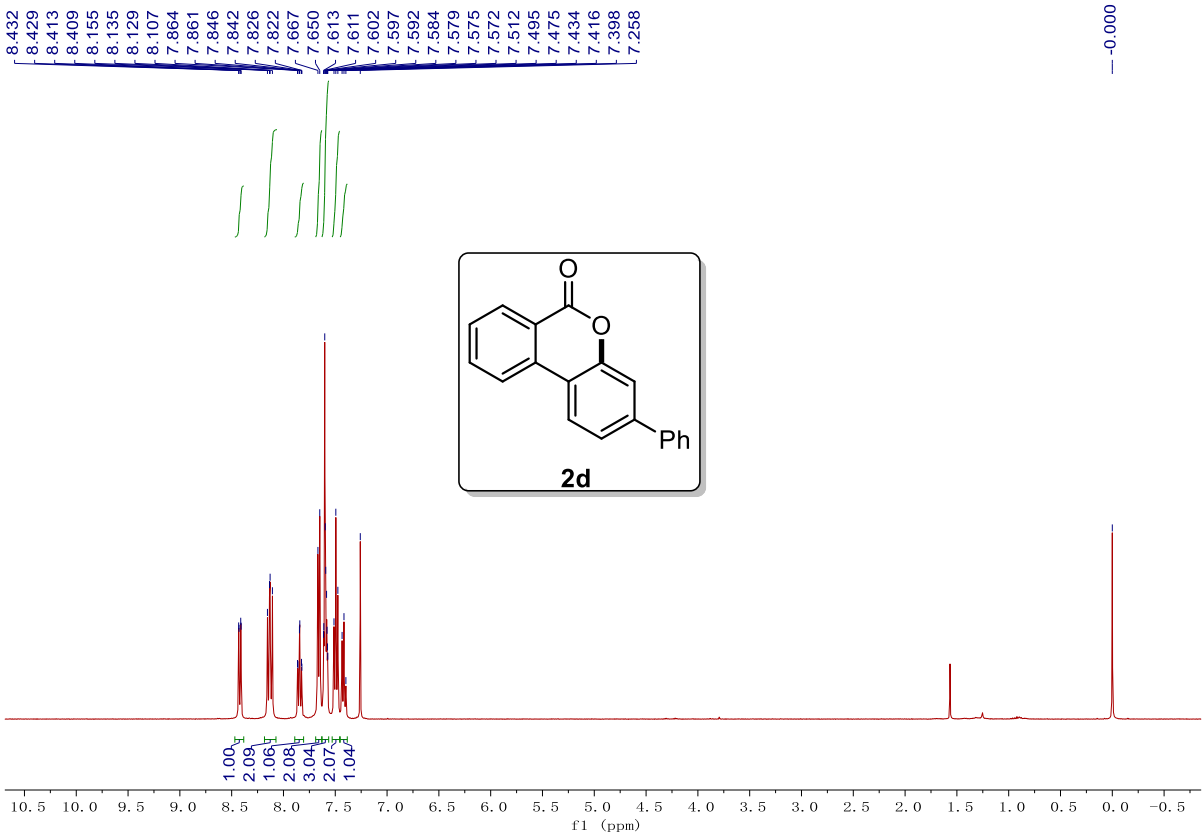
3-(trifluoromethoxy)-6H-benzo[c]chromen-6-one (**2c**)

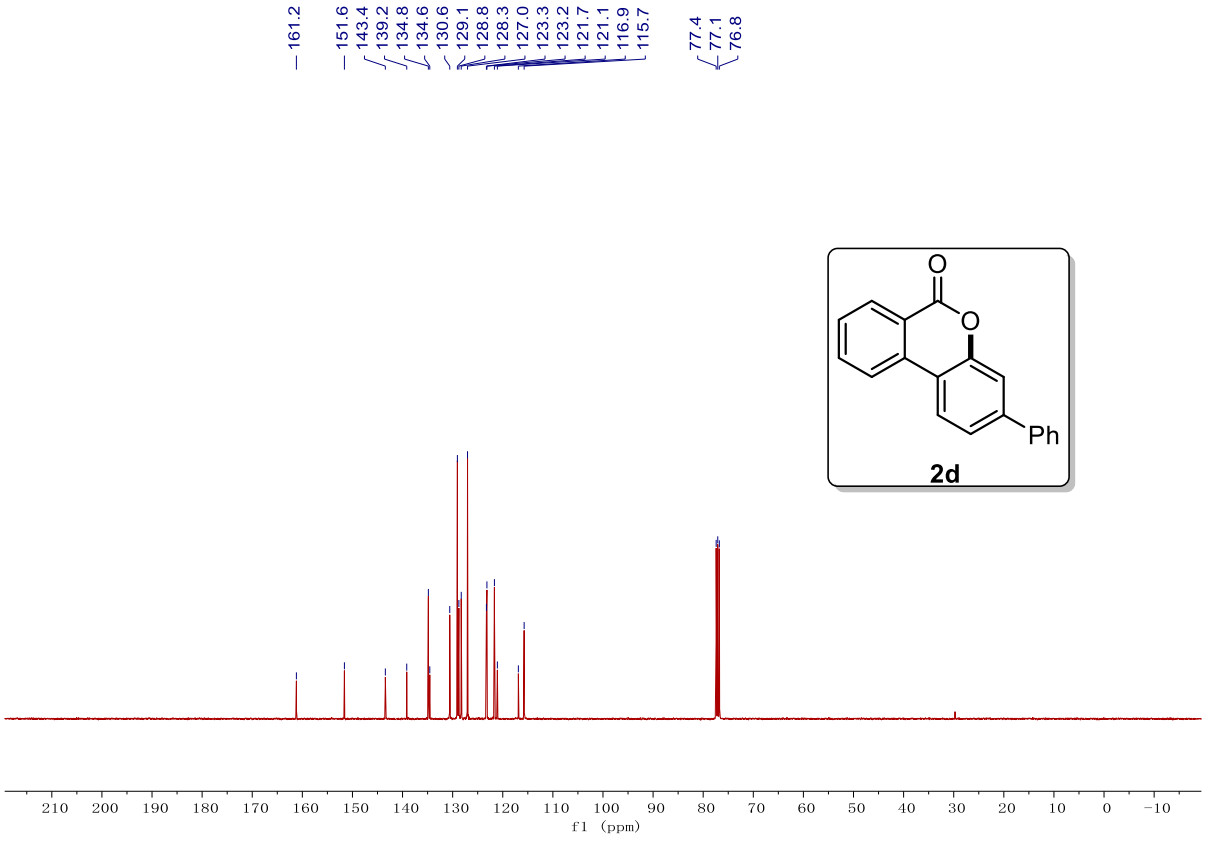




[Compound chart]

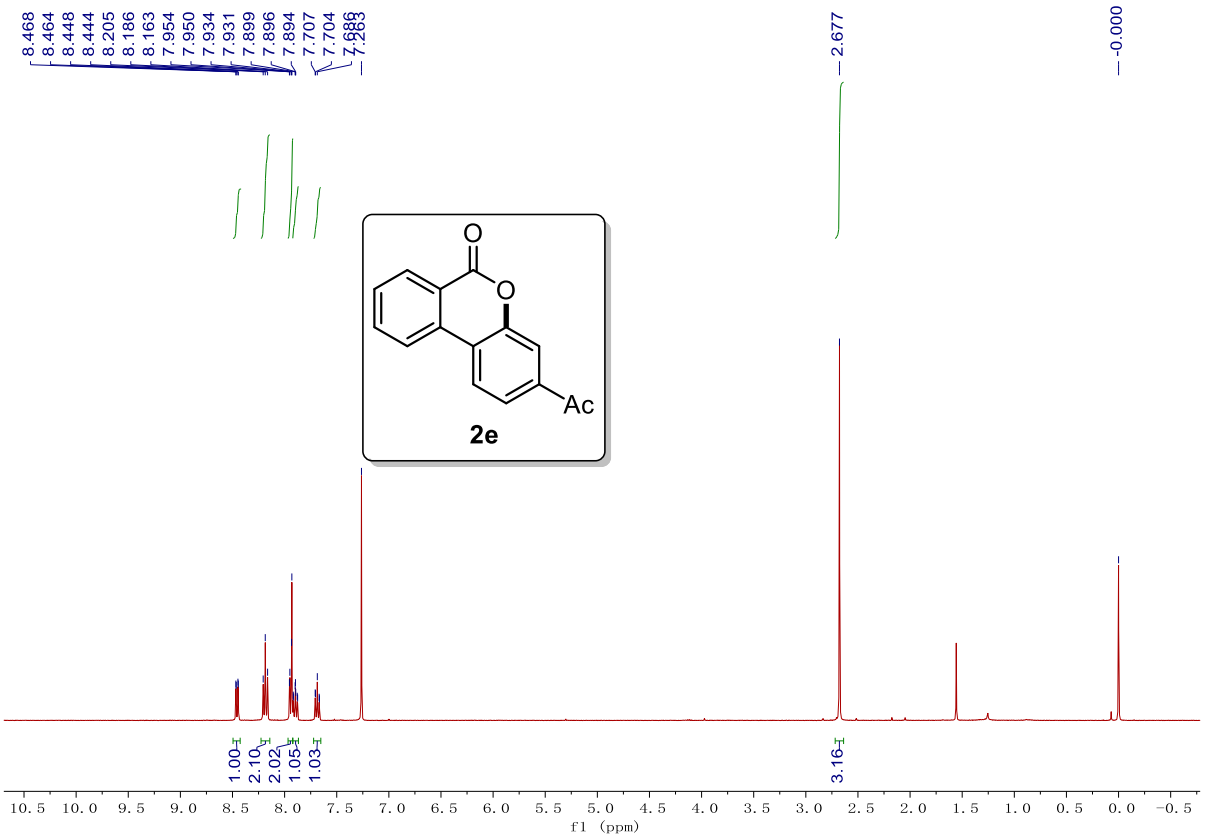
3-phenyl-6H-benzo[c]chromen-6-one (**2d**)

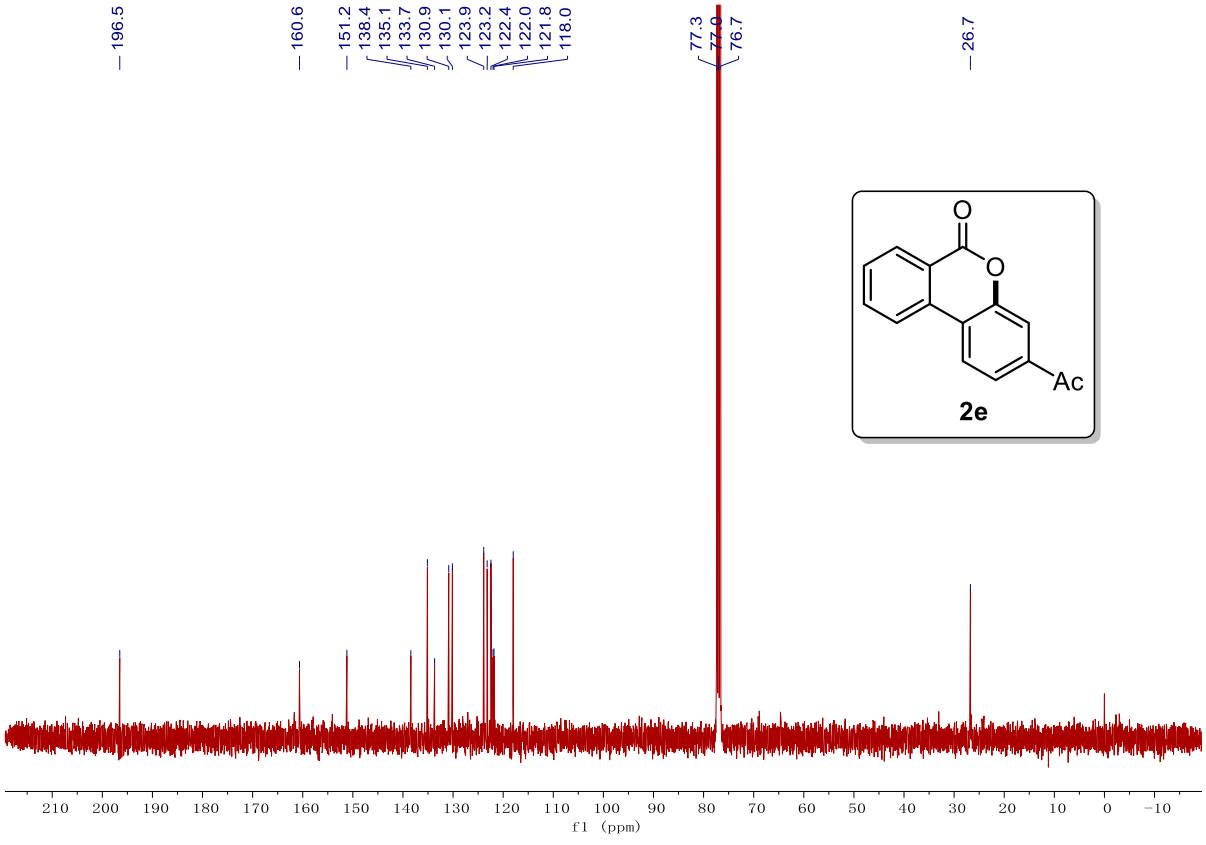




[Compound chart]

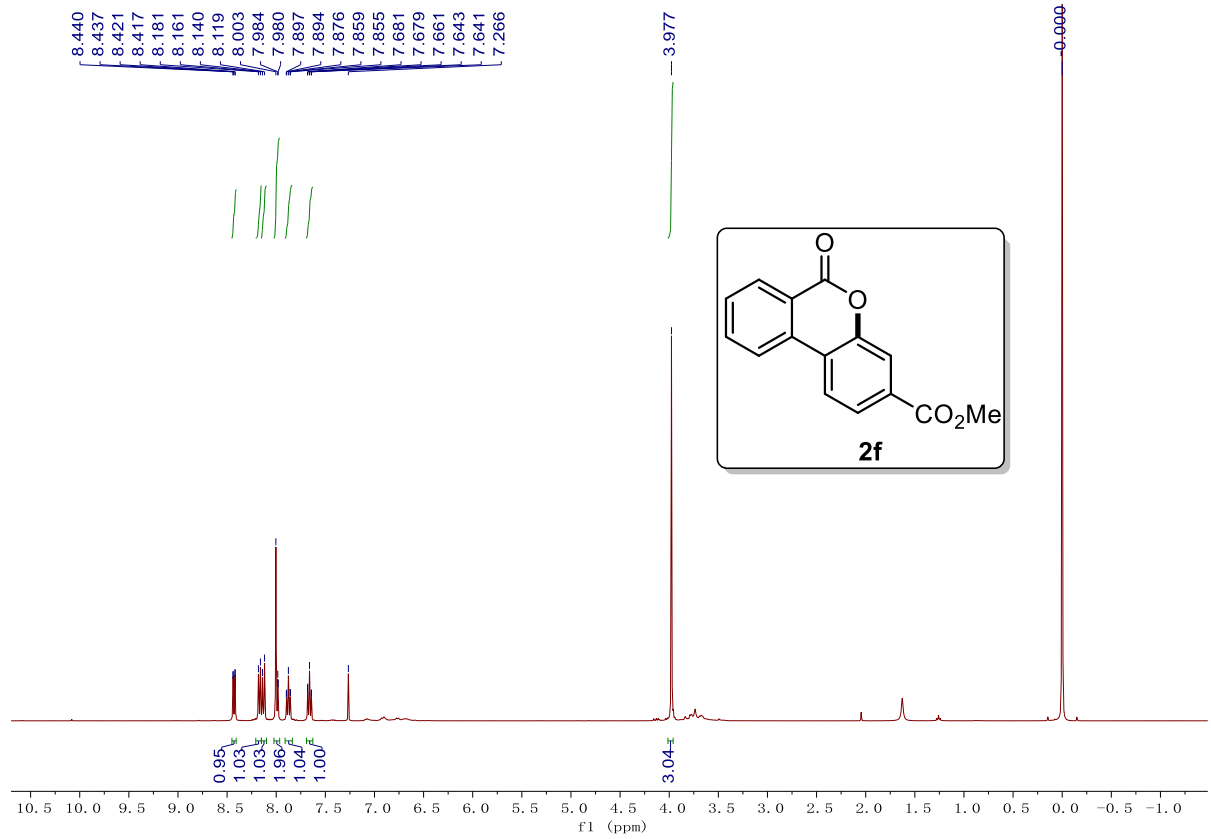
3-acetyl-6H-benzo[c]chromen-6-one (**2e**)

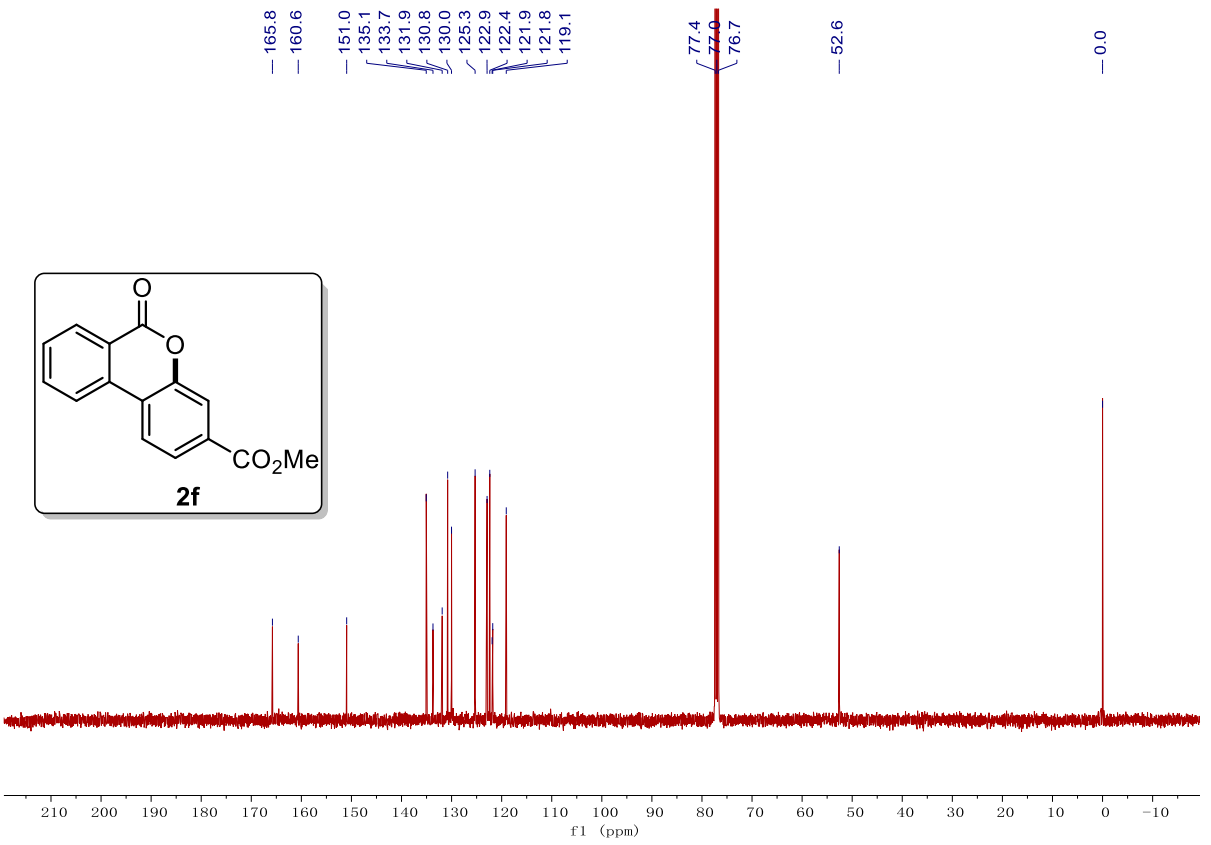




Compound chart

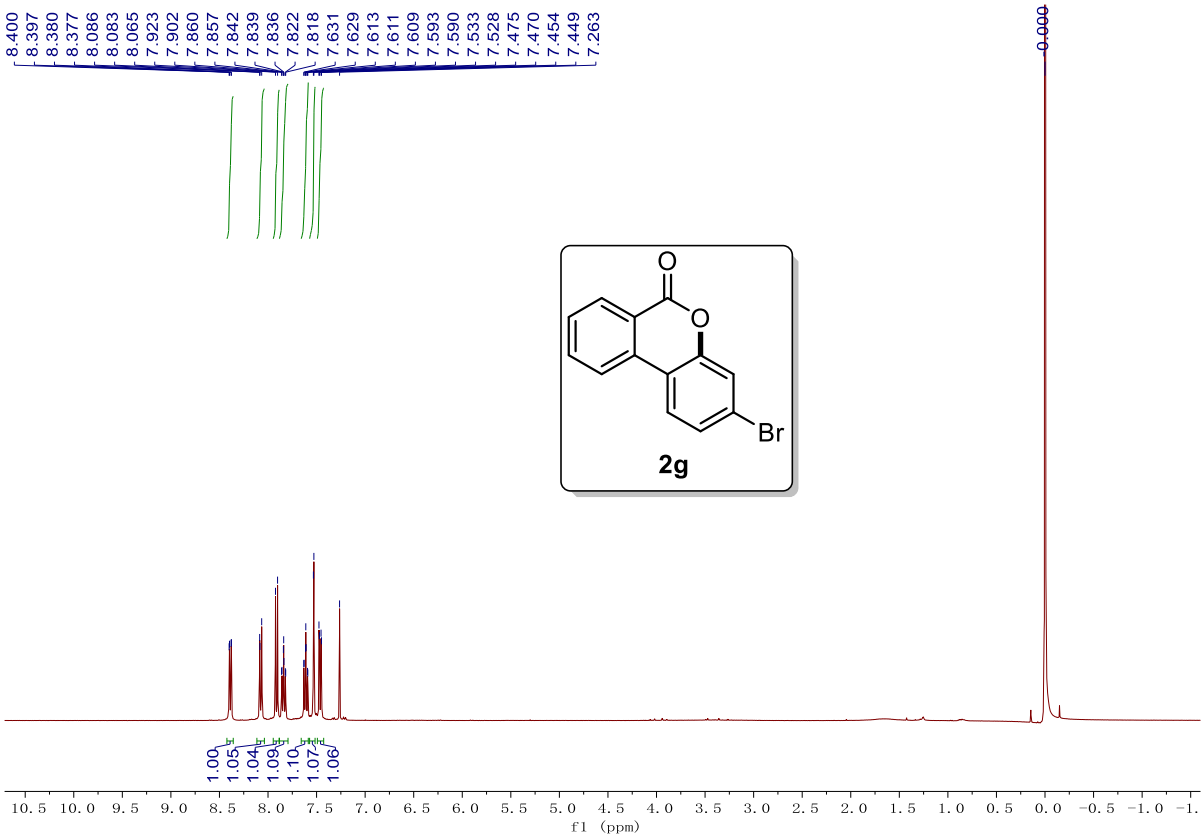
methyl 6-oxo-6H-benzo[c]chromene-3-carboxylate (**2f**)

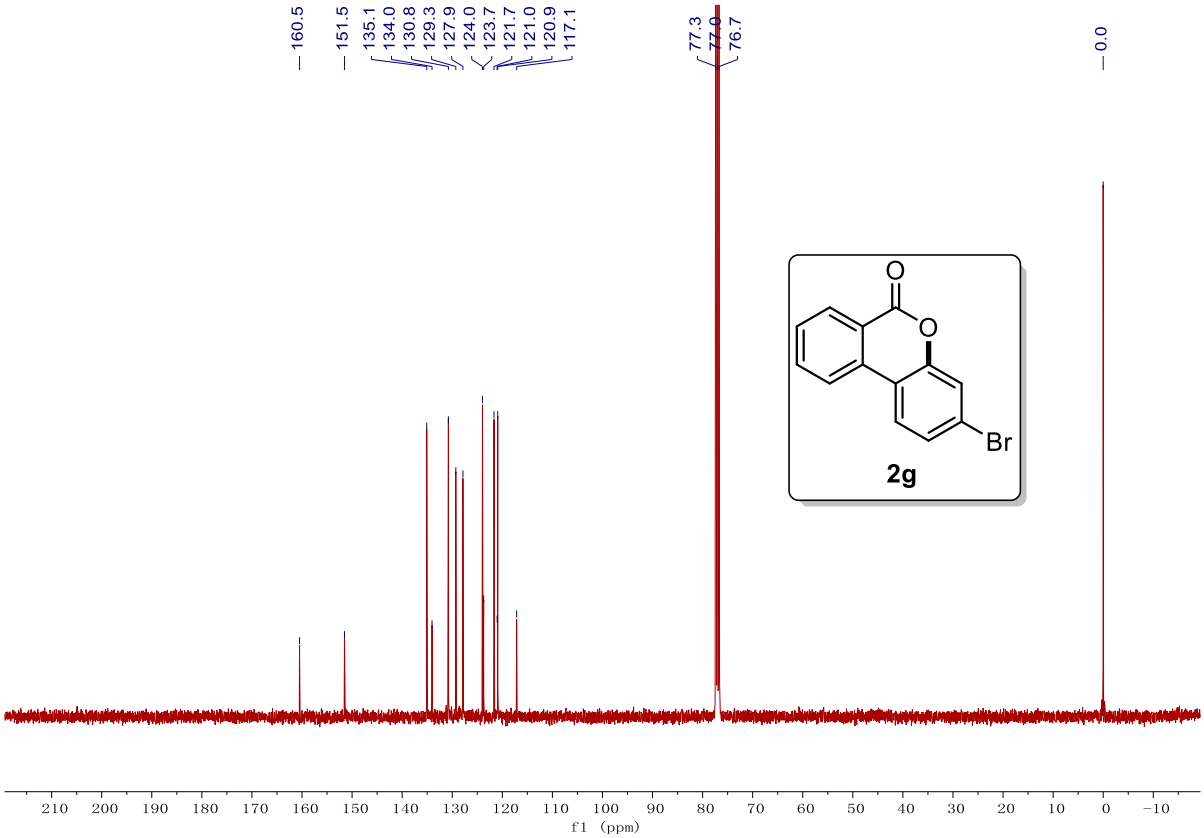




[Compound chart]

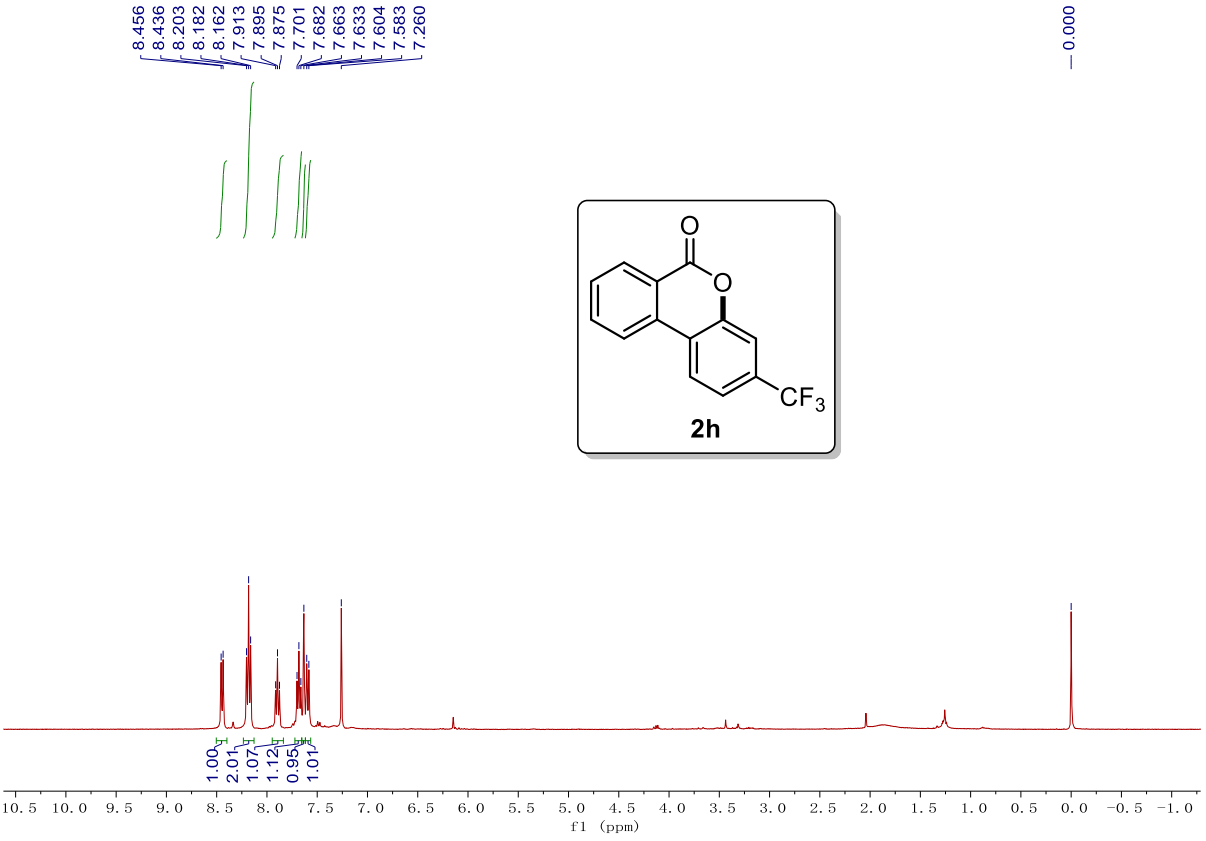
3-bromo-6H-benzo[c]chromen-6-one (**2g**)

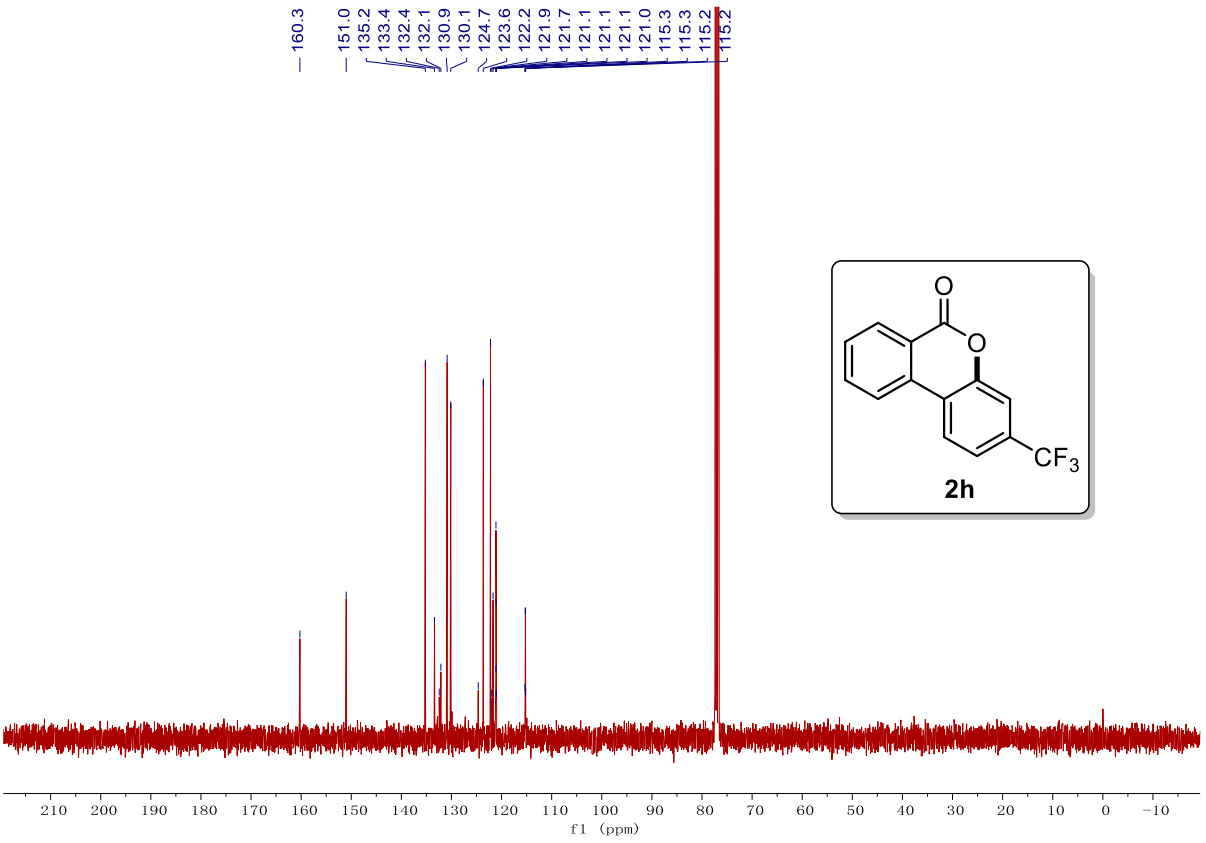




[Compound chart]

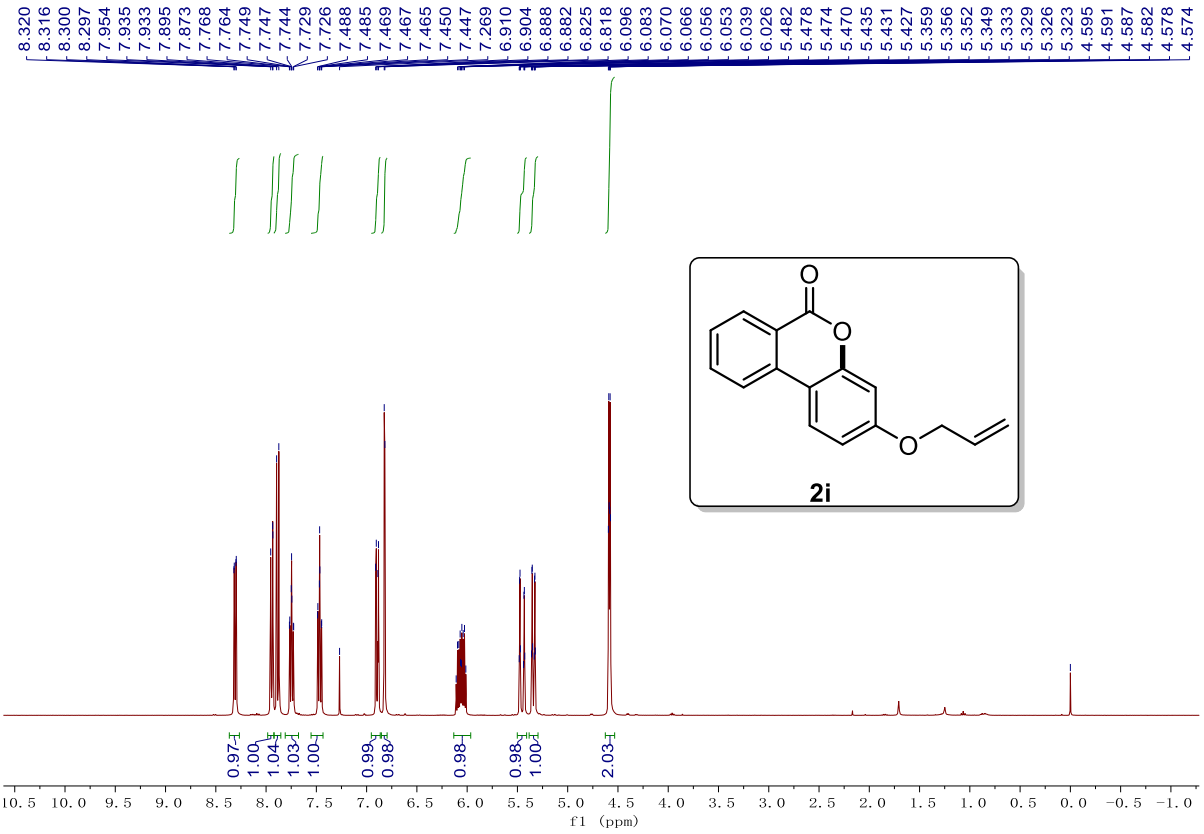
3-(trifluoromethyl)-6H-benzo[c]chromen-6-one (**2h**)

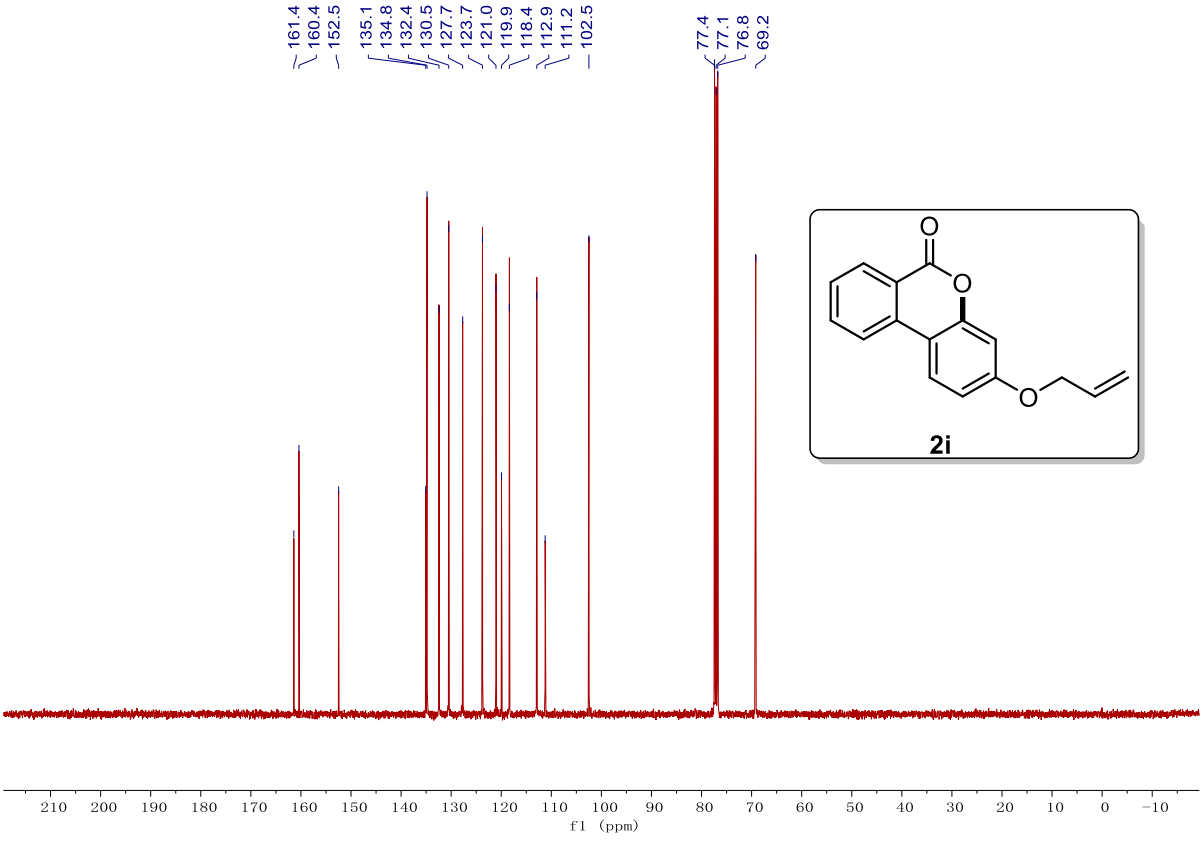




Compound chart

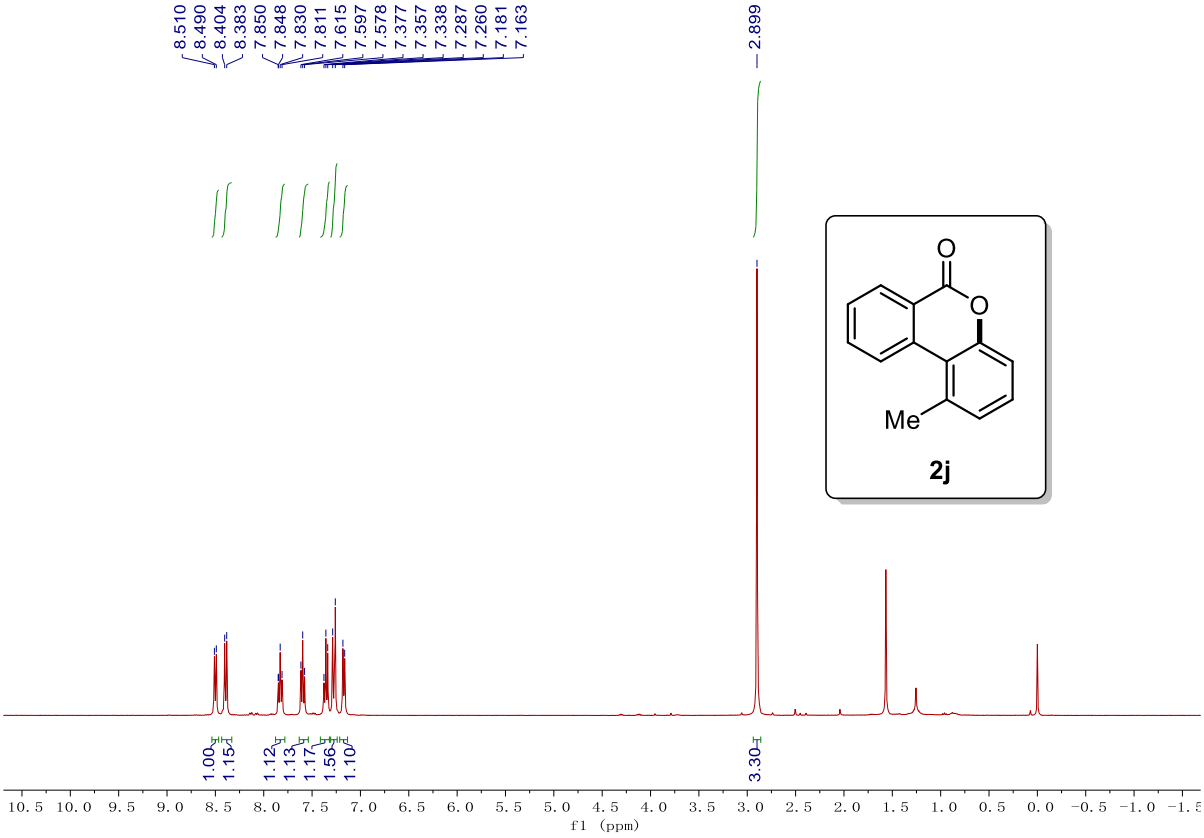
3-(allyloxy)-6H-benzo[c]chromen-6-one (**2i**)

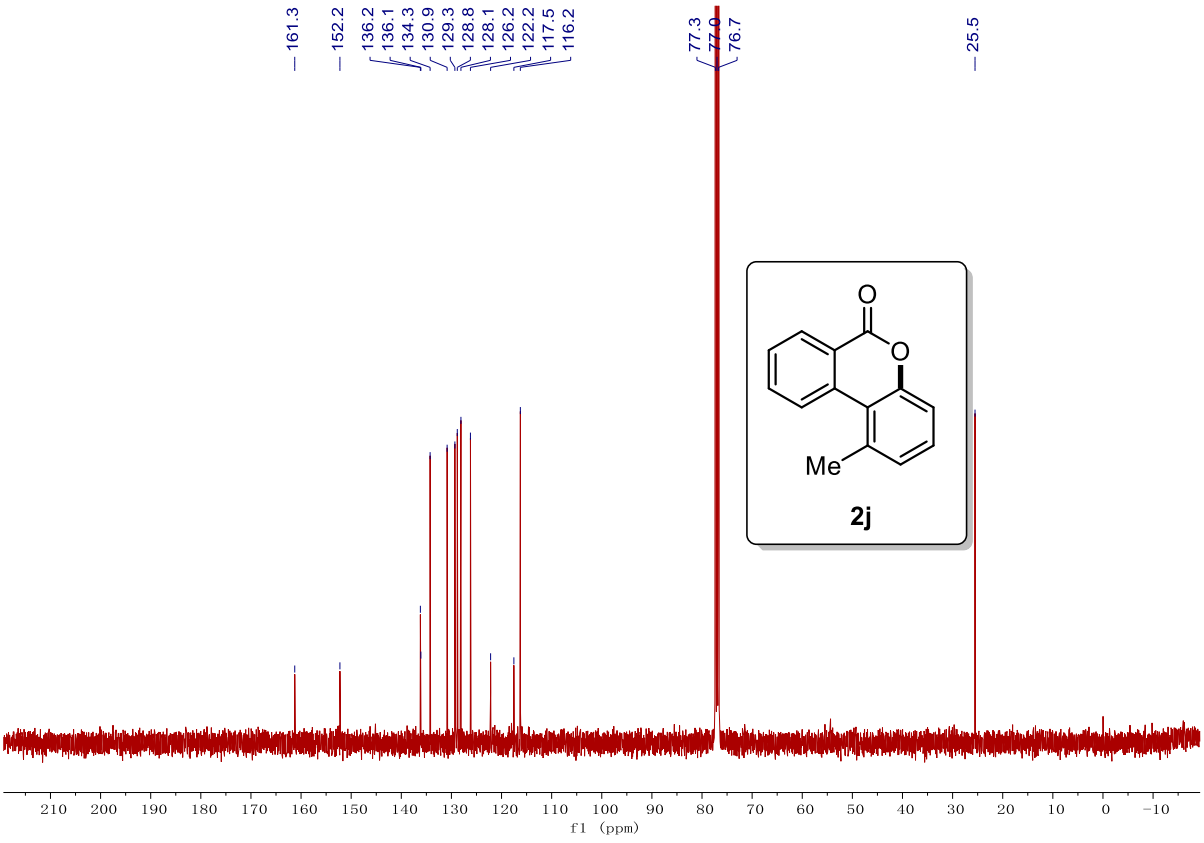




[Compound chart]

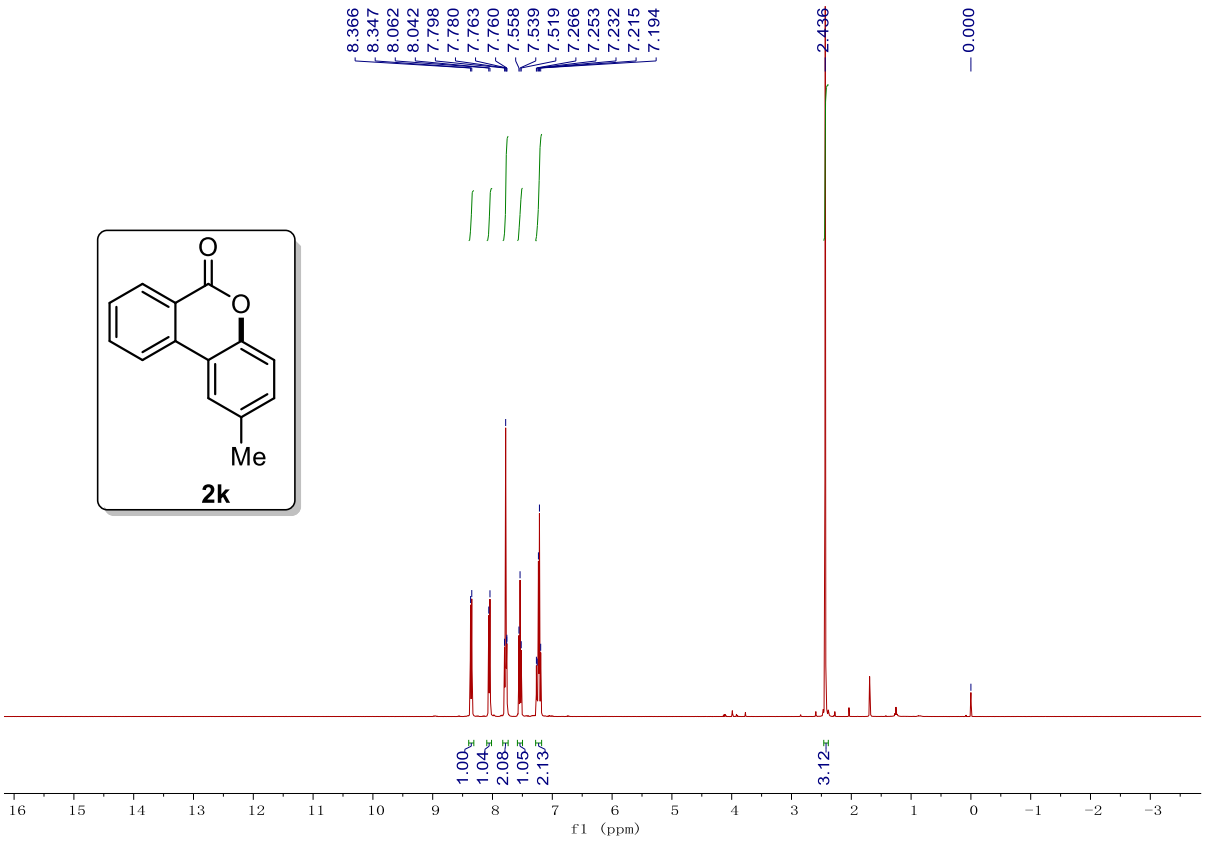
1-methyl-6H-benzo[c]chromen-6-one (**2j**)

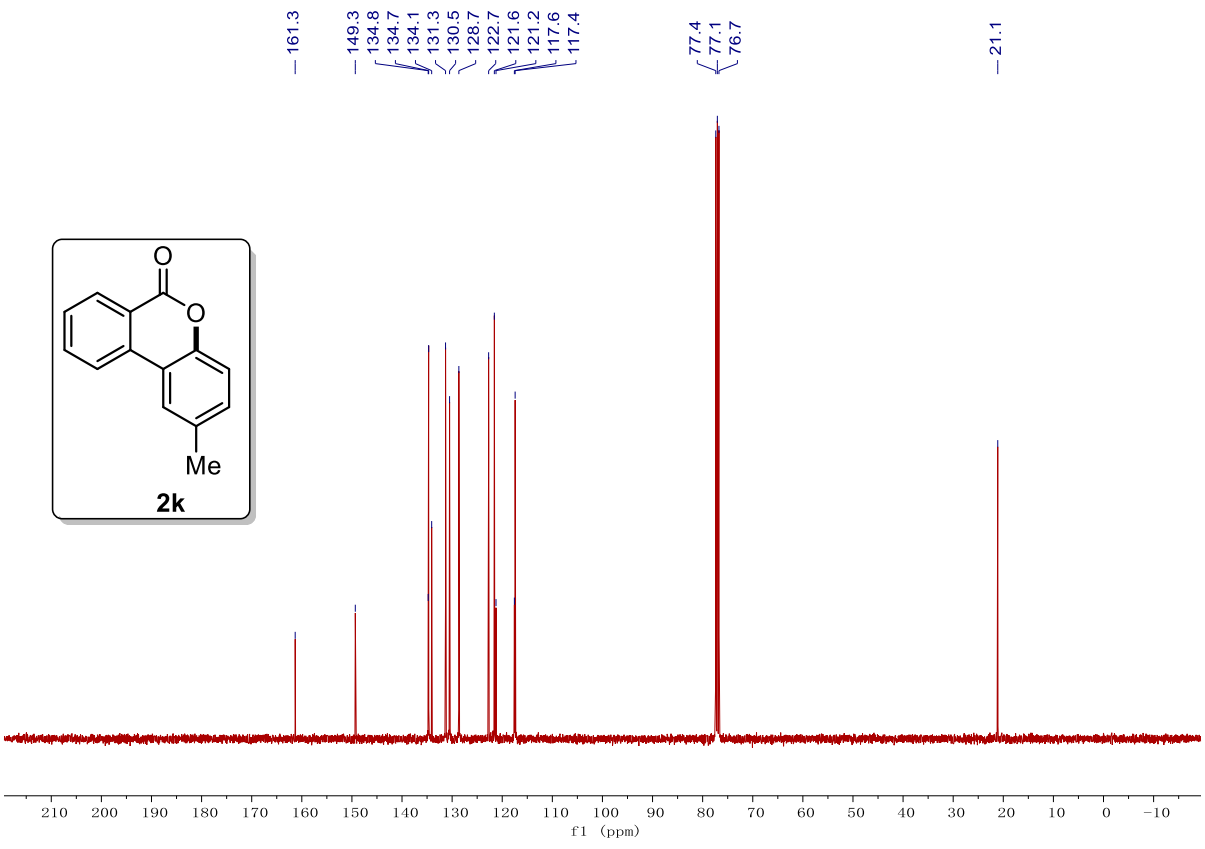




[Compound chart]

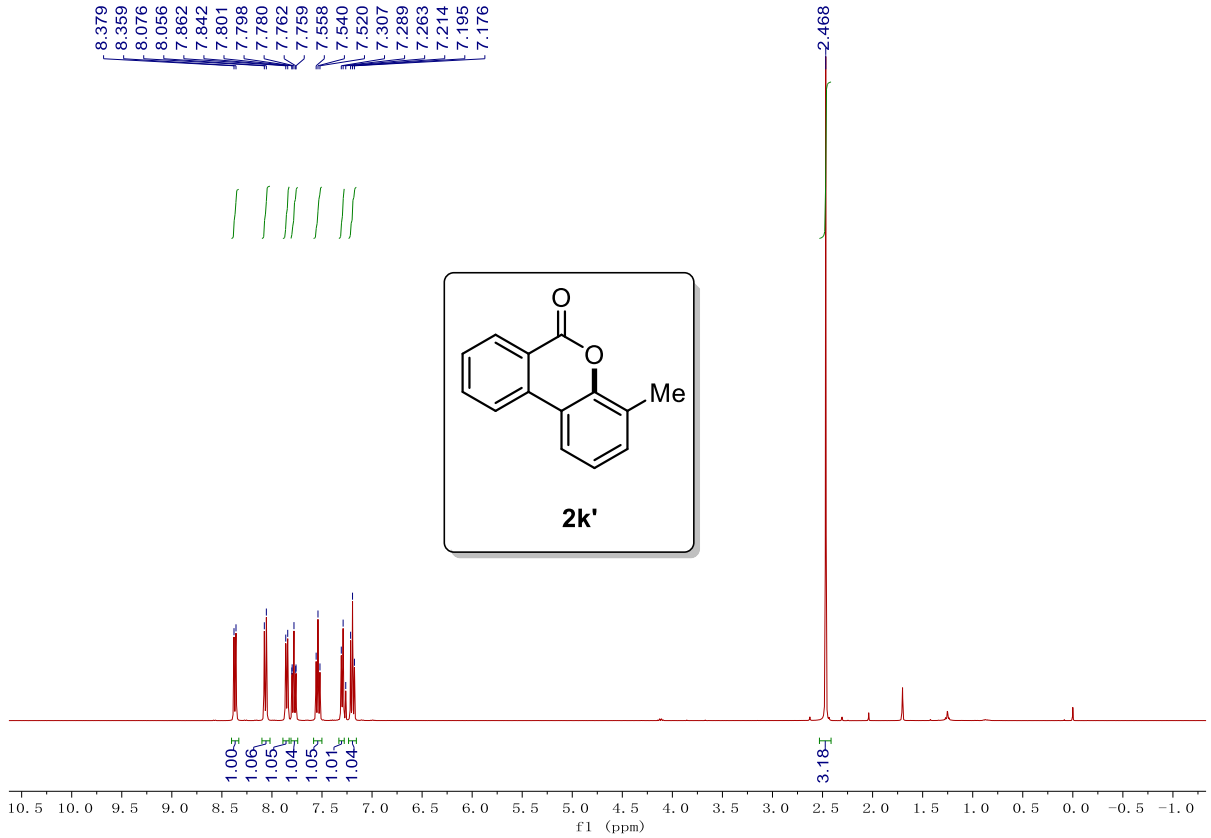
2-methyl-6H-benzo[c]chromen-6-one (**2k**)

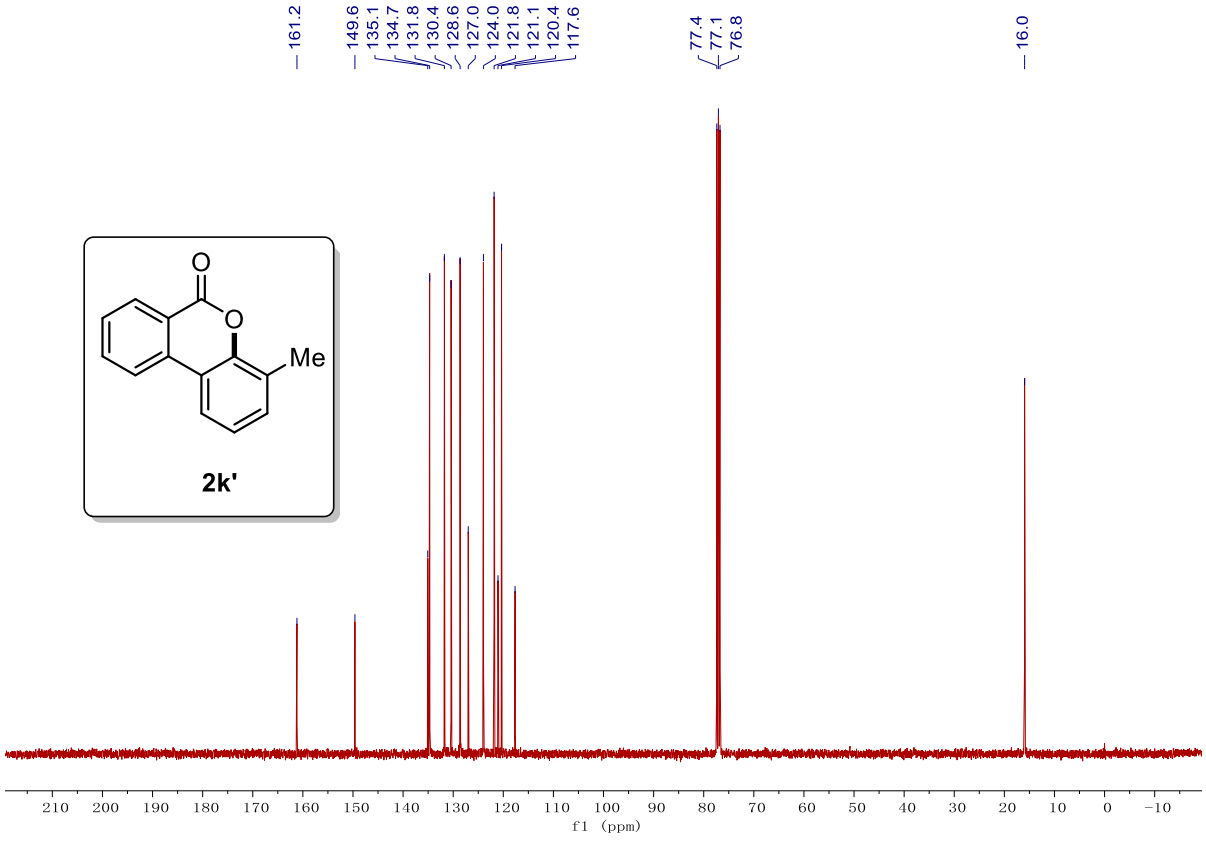




Compound chart

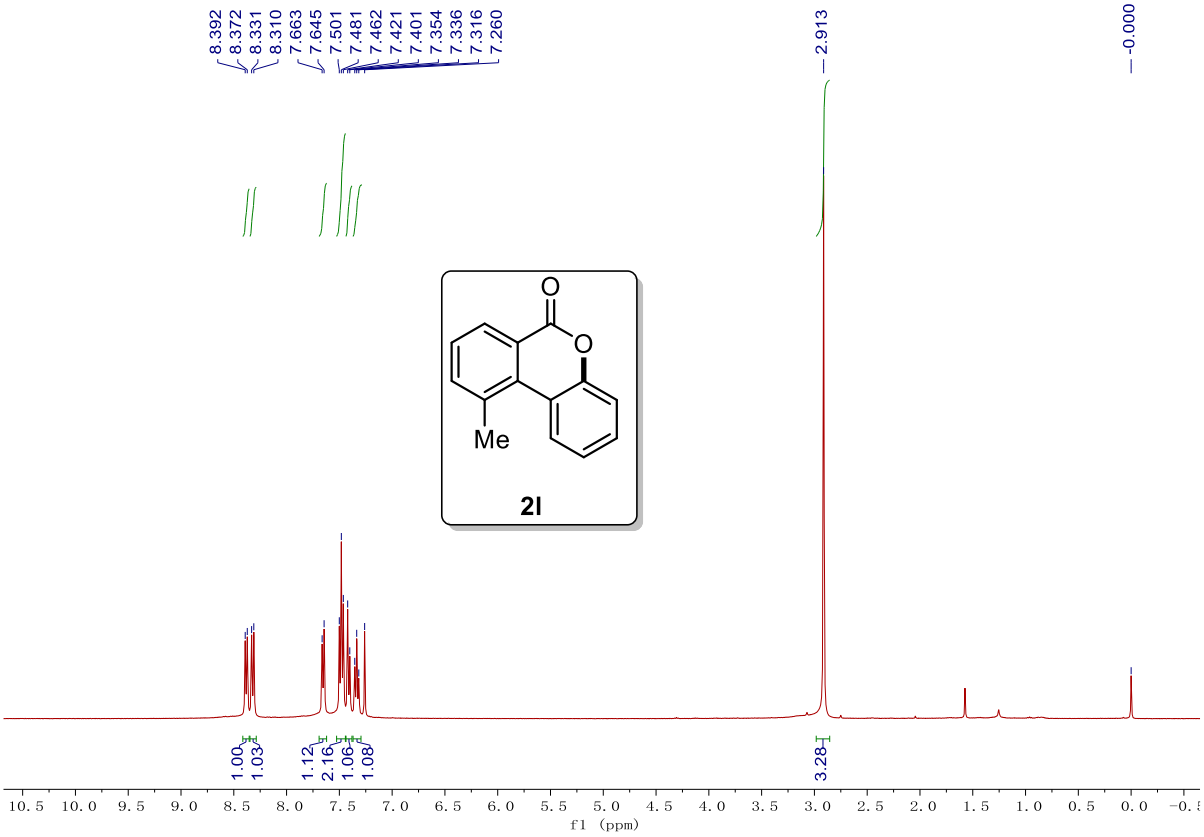
4-methyl-6H-benzo[c]chromen-6-one (**2k'**)

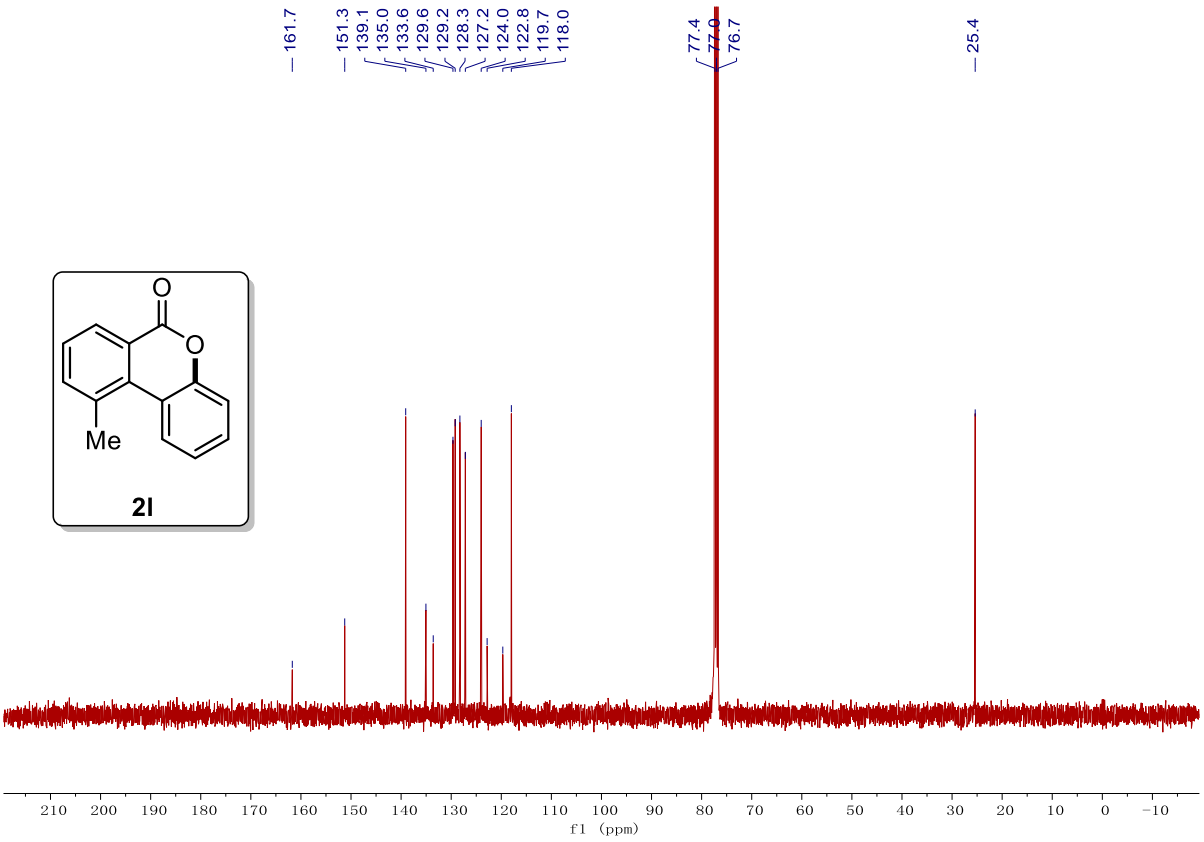




[Compound chart]

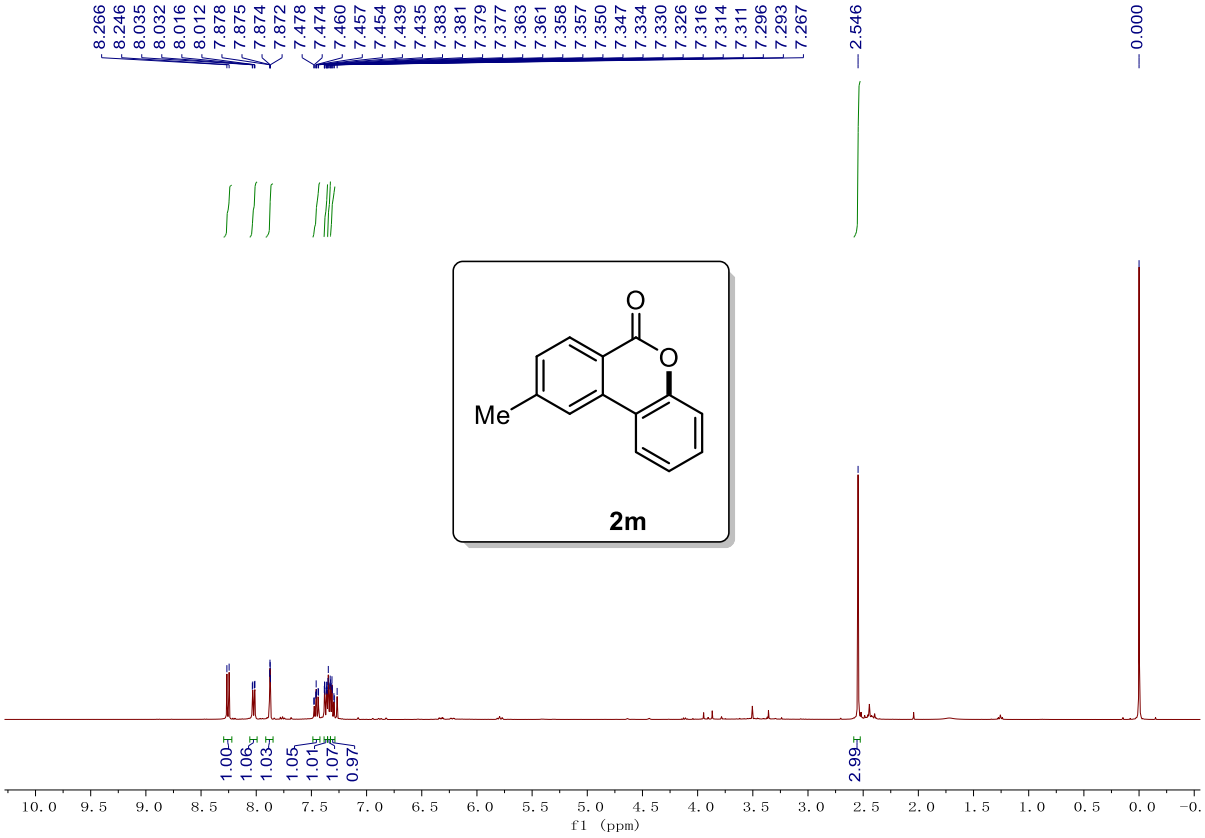
10-methyl-6H-benzo[c]chromen-6-one (**2l**)

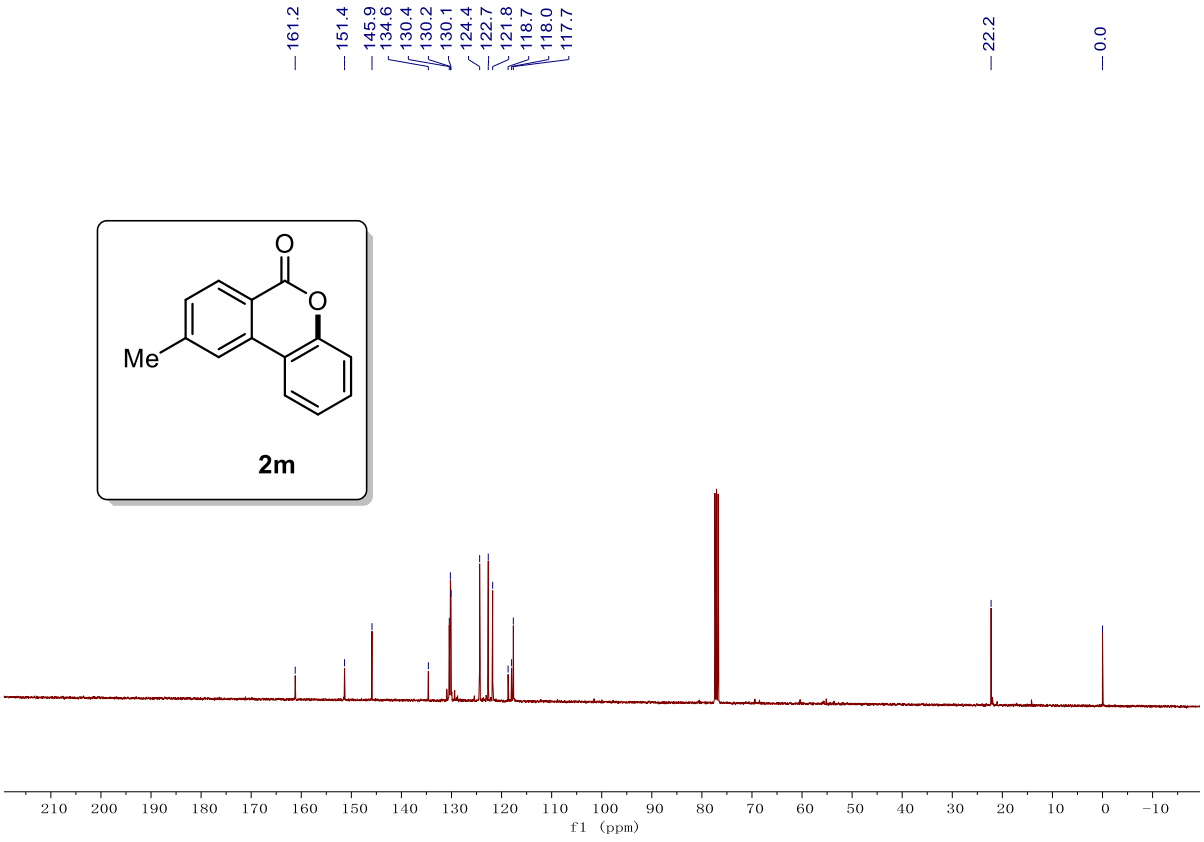




Compound chart

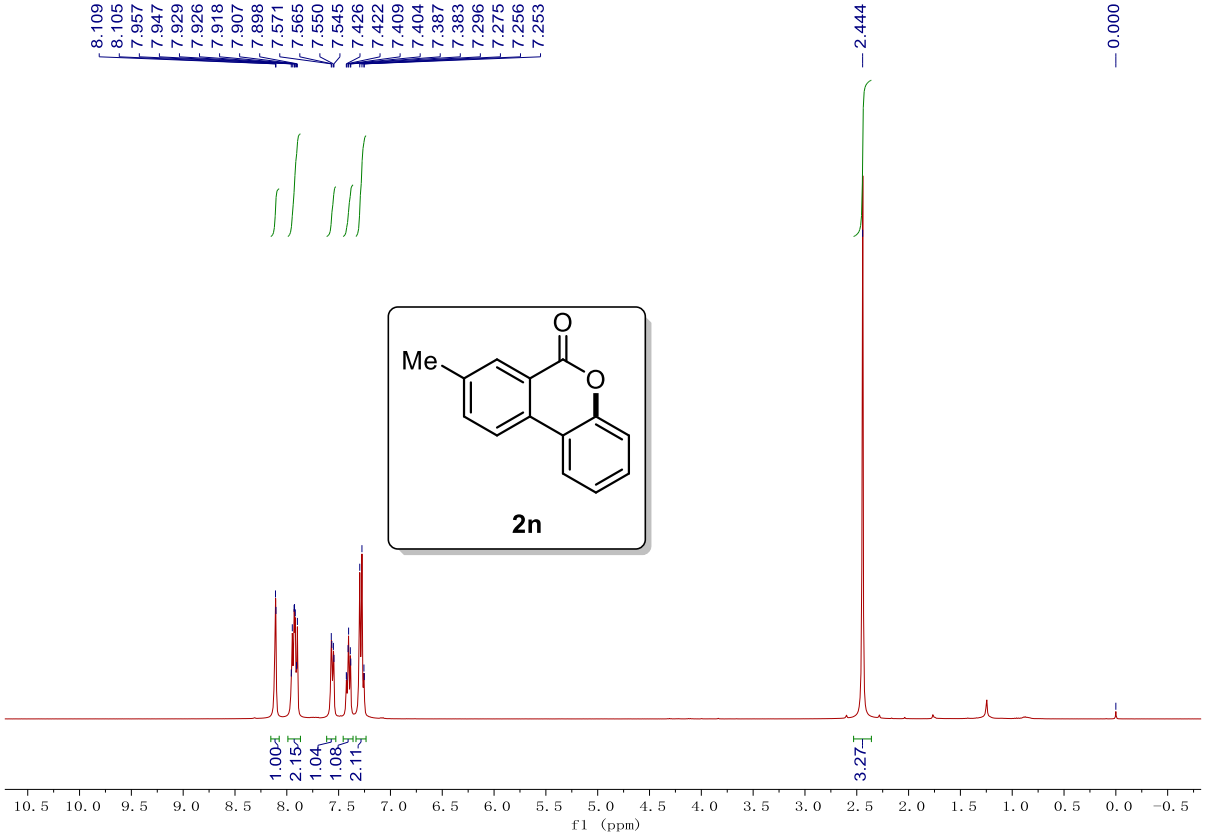
9-methyl-6H-benzo[c]chromen-6-one (**2m**)

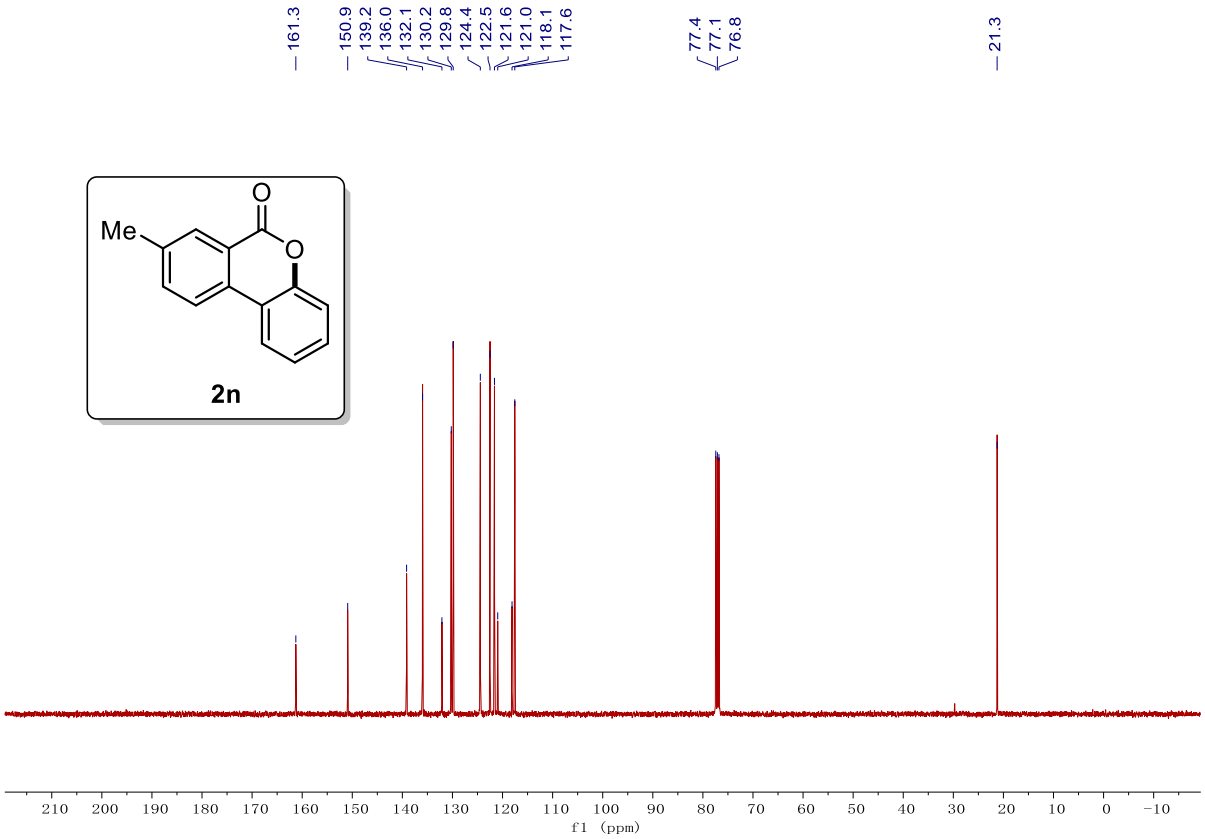




[Compound chart]

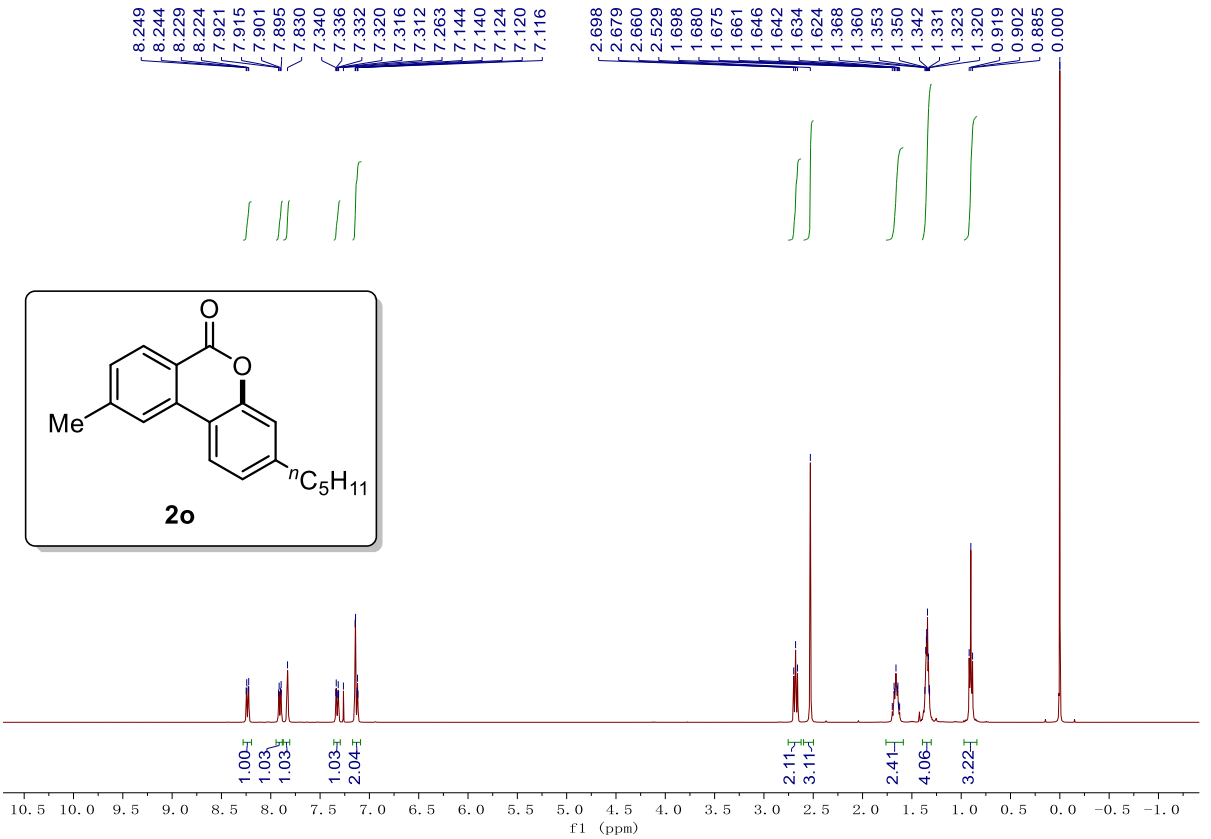
8-methyl-6H-benzo[c]chromen-6-one (**2n**)

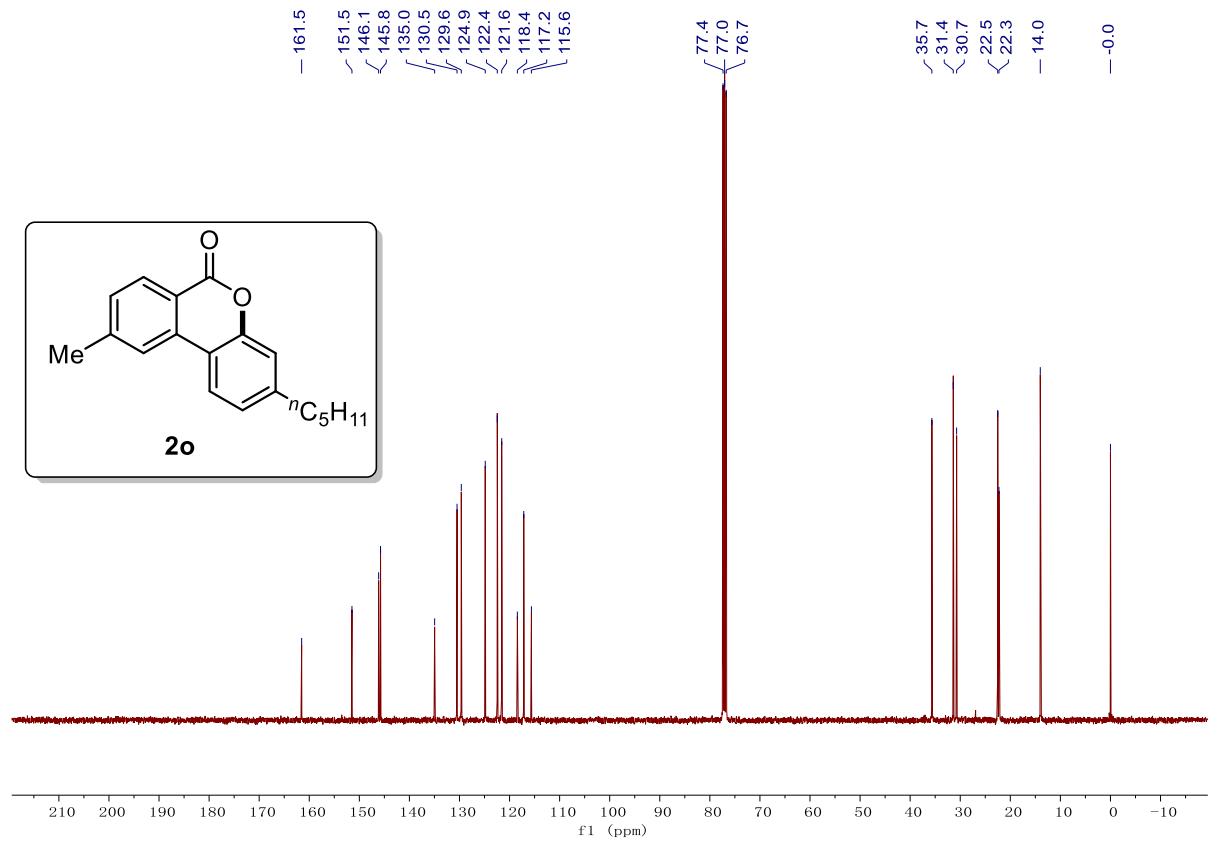




Compound chart

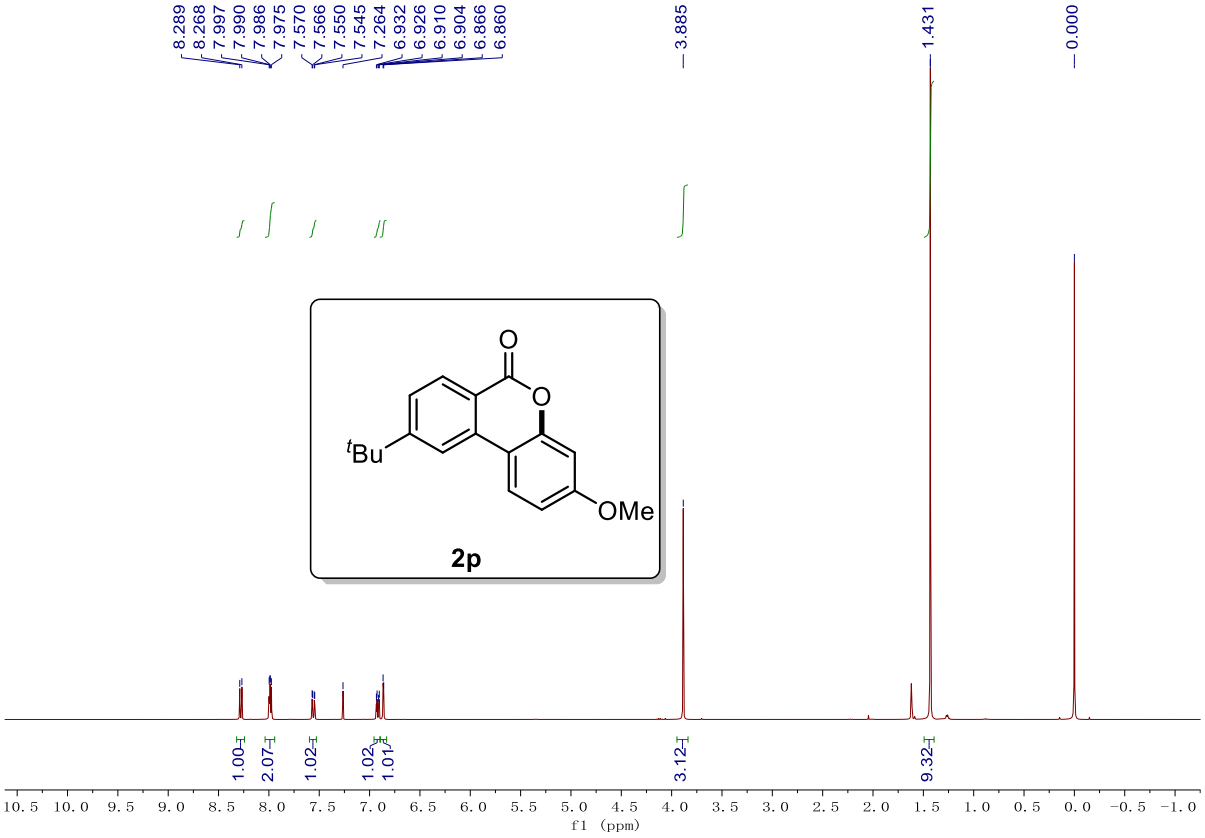
9-methyl-3-pentyl-6H-benzo[c]chromen-6-one (**2o**)

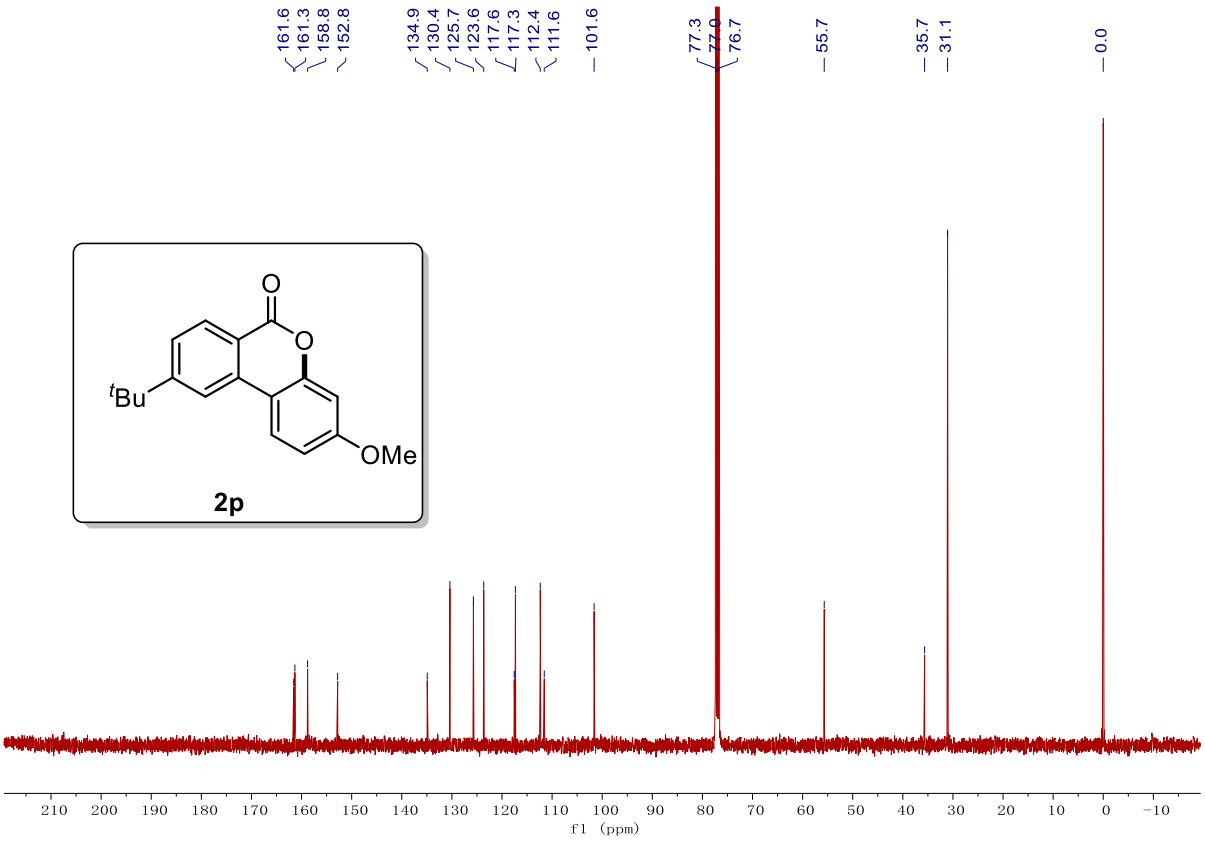




Compound chart

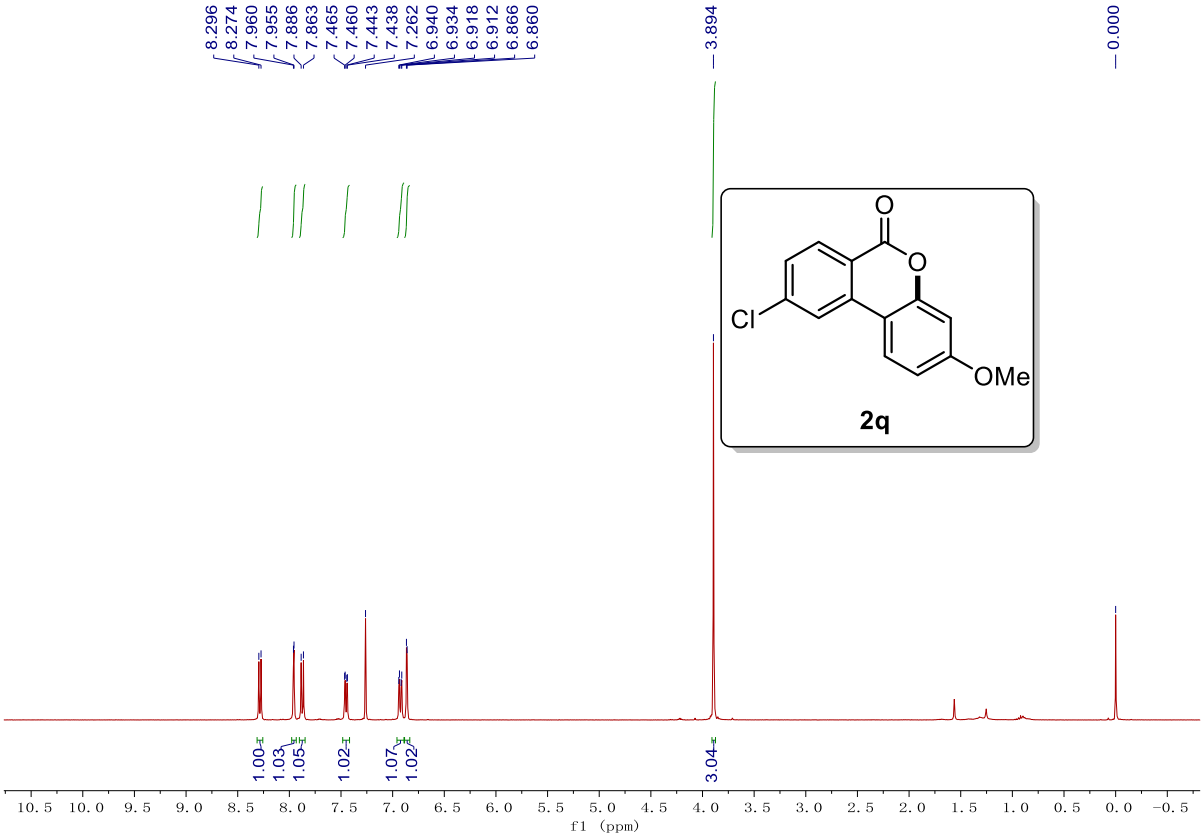
9-(tert-butyl)-3-methoxy-6H-benzo[c]chromen-6-one (**2p**)

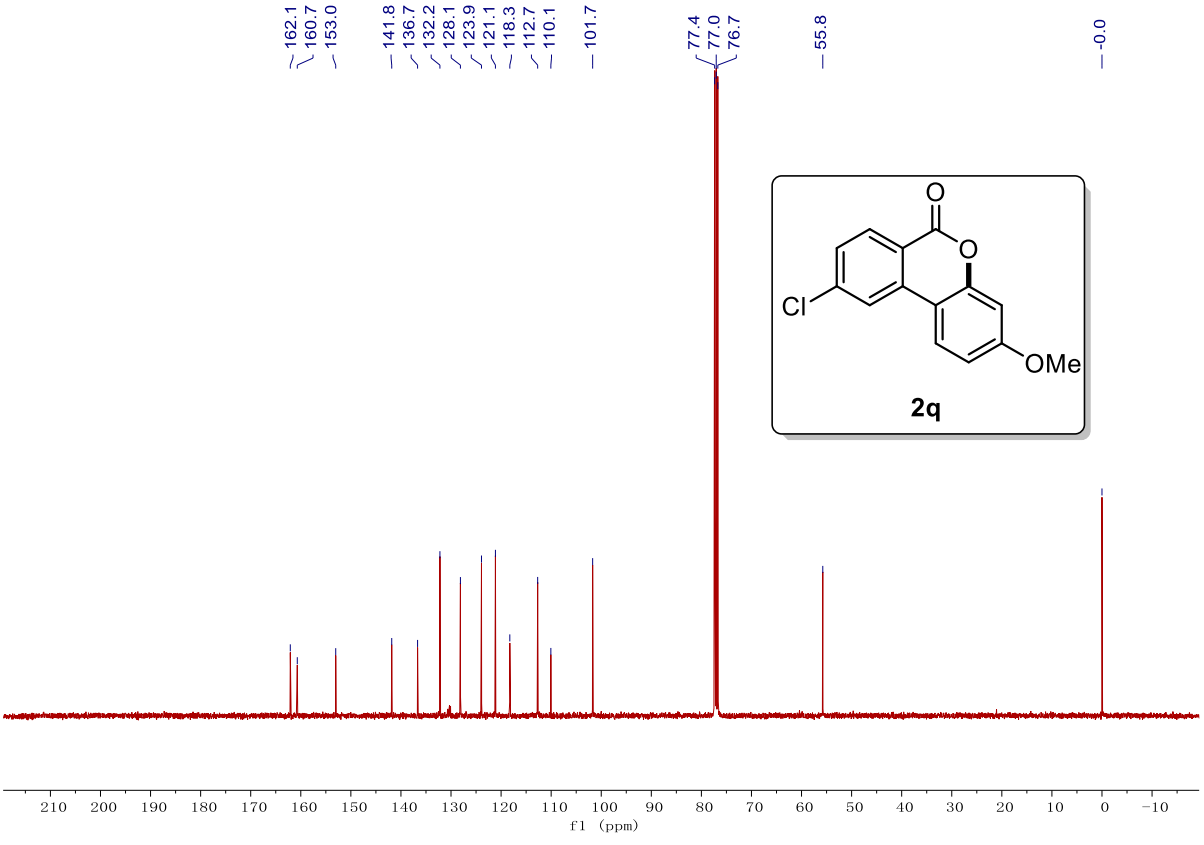




[Compound chart]

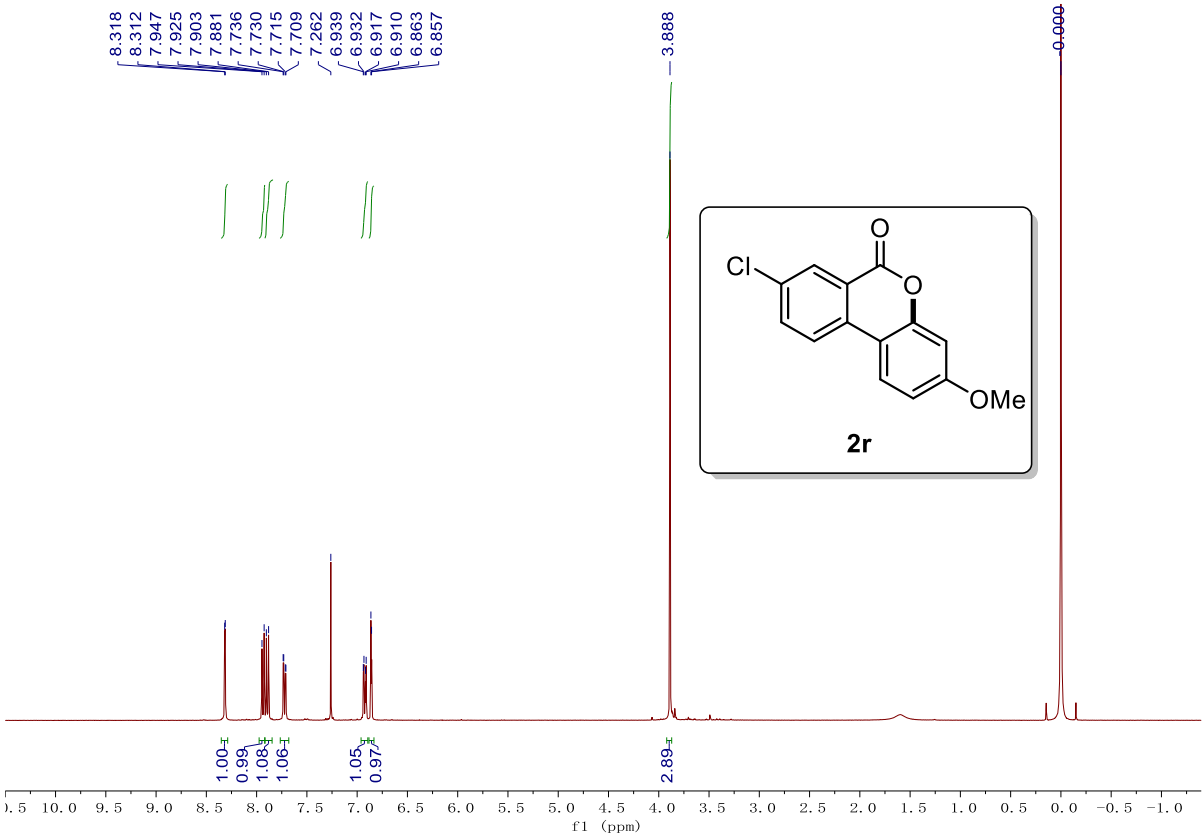
9-chloro-3-methoxy-6H-benzo[c]chromen-6-one (**2q**)

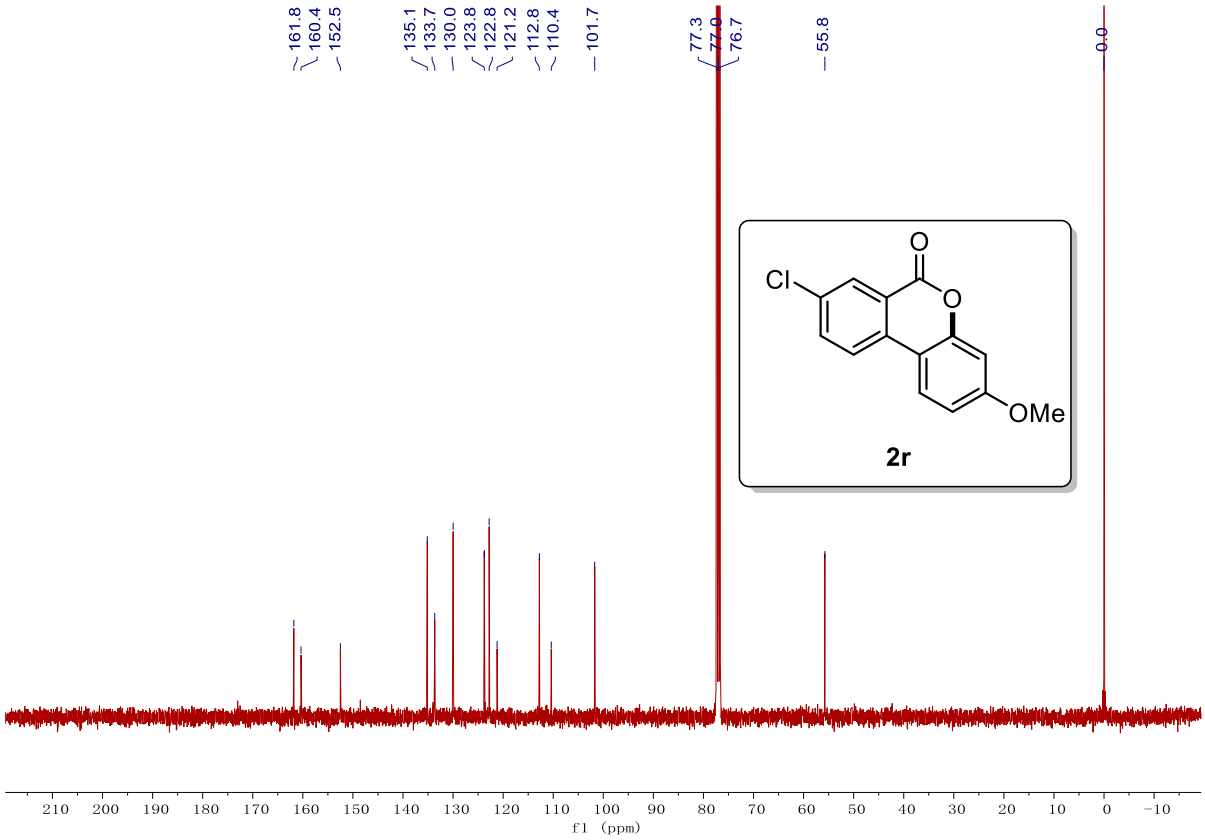




Compound chart

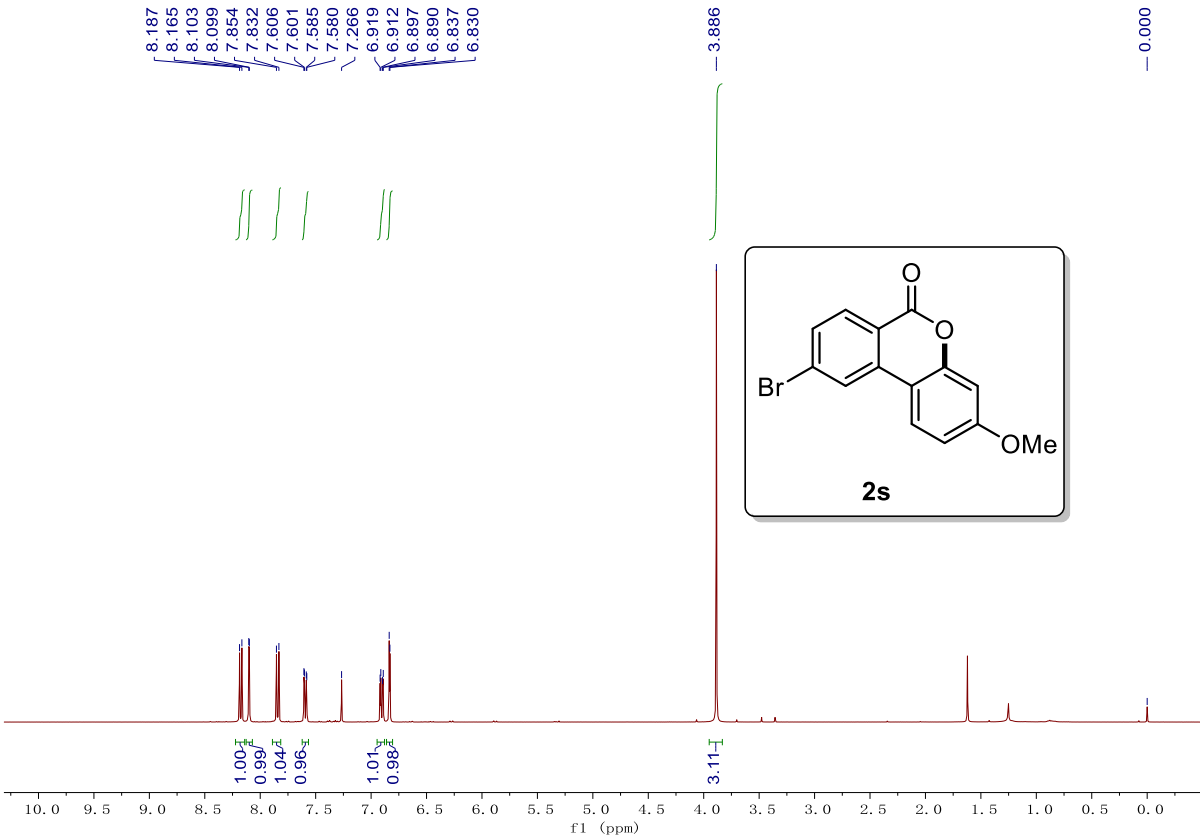
8-chloro-3-methoxy-6H-benzo[c]chromen-6-one (**2r**)

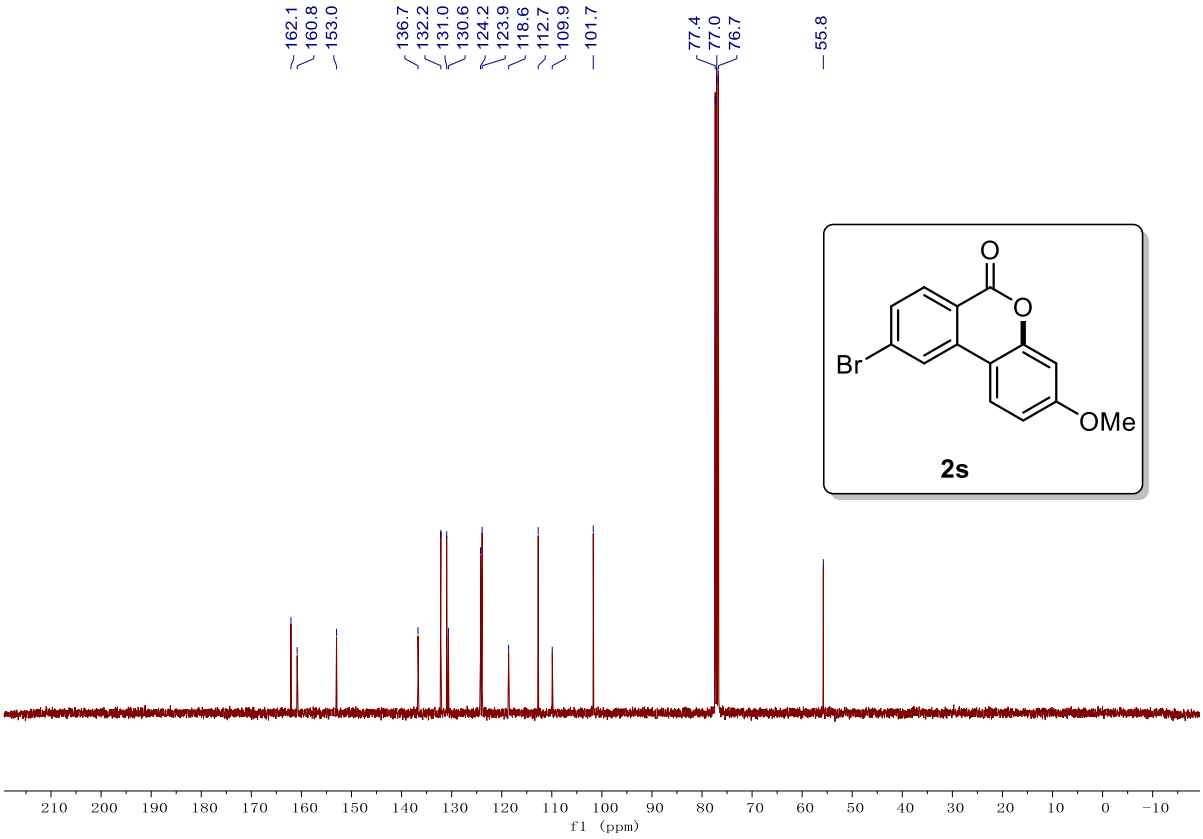




[Compound chart]

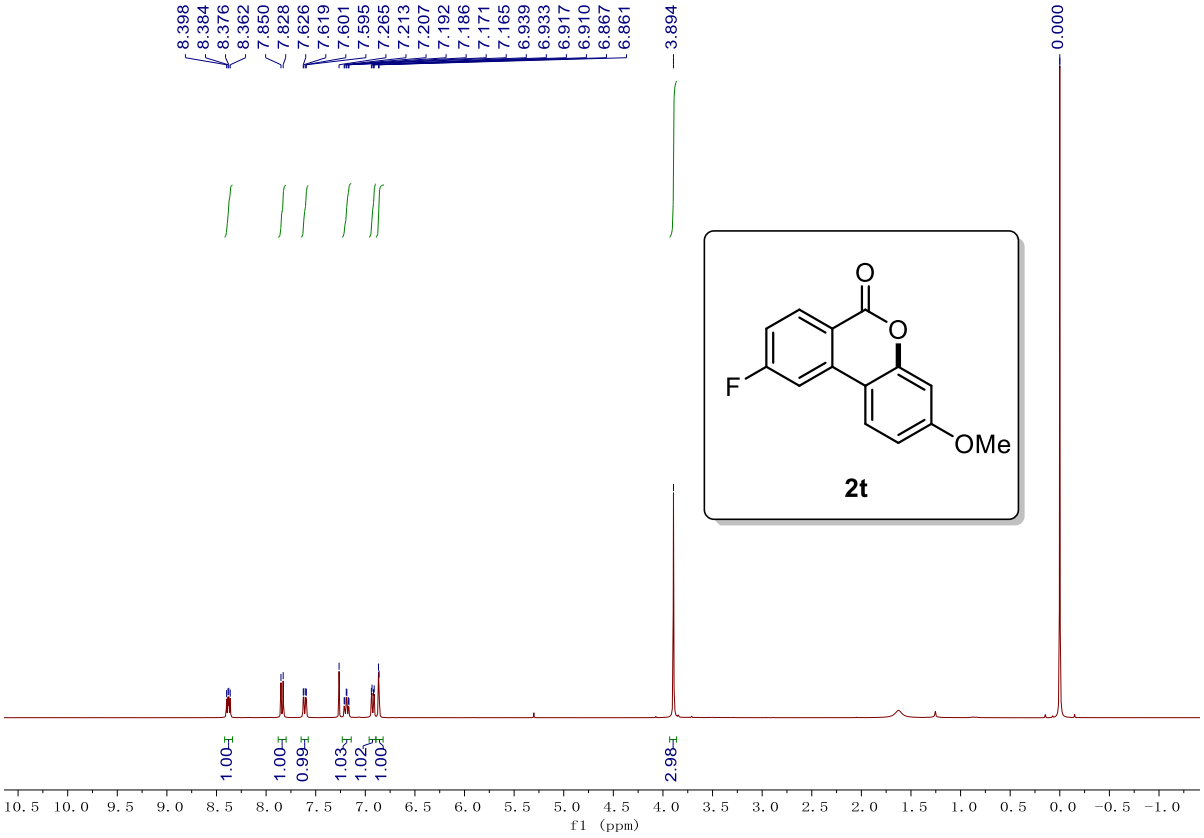
9-bromo-3-methoxy-6H-benzo[c]chromen-6-one (**2s**)

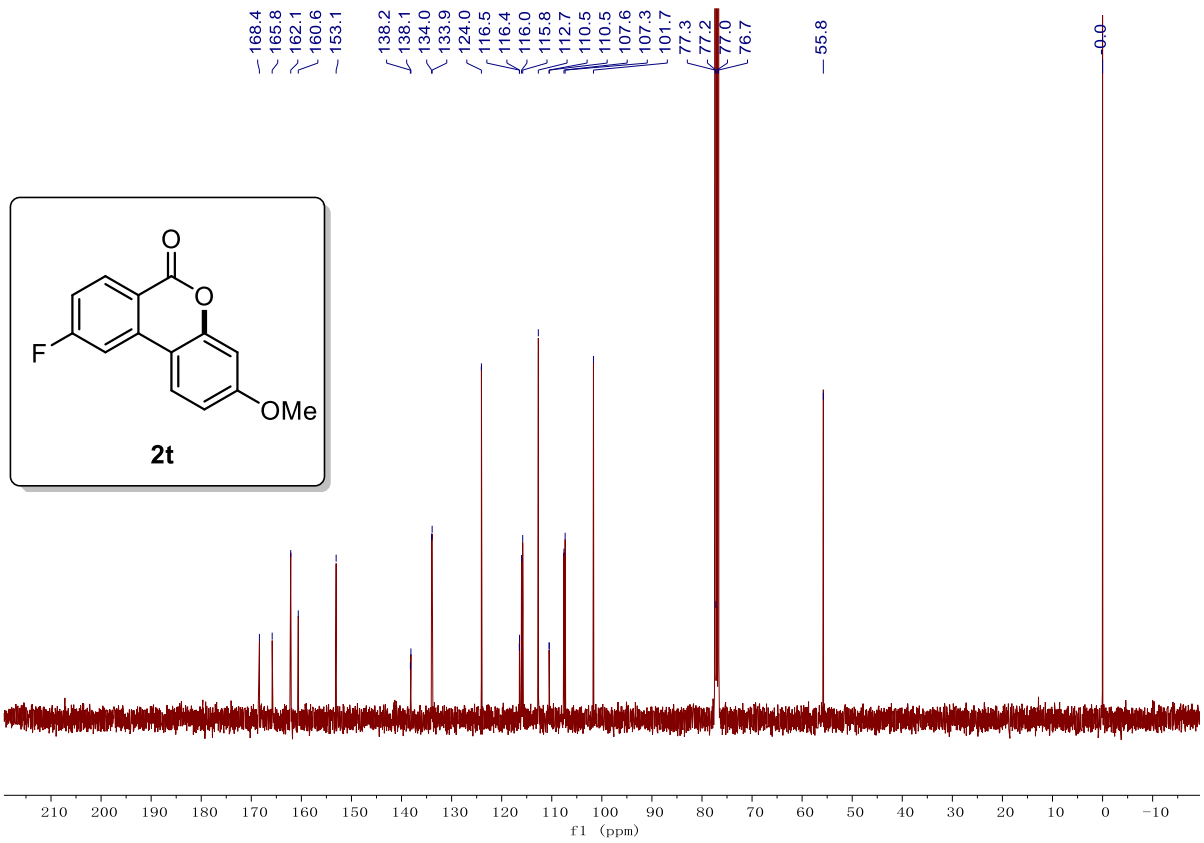




[Compound chart]

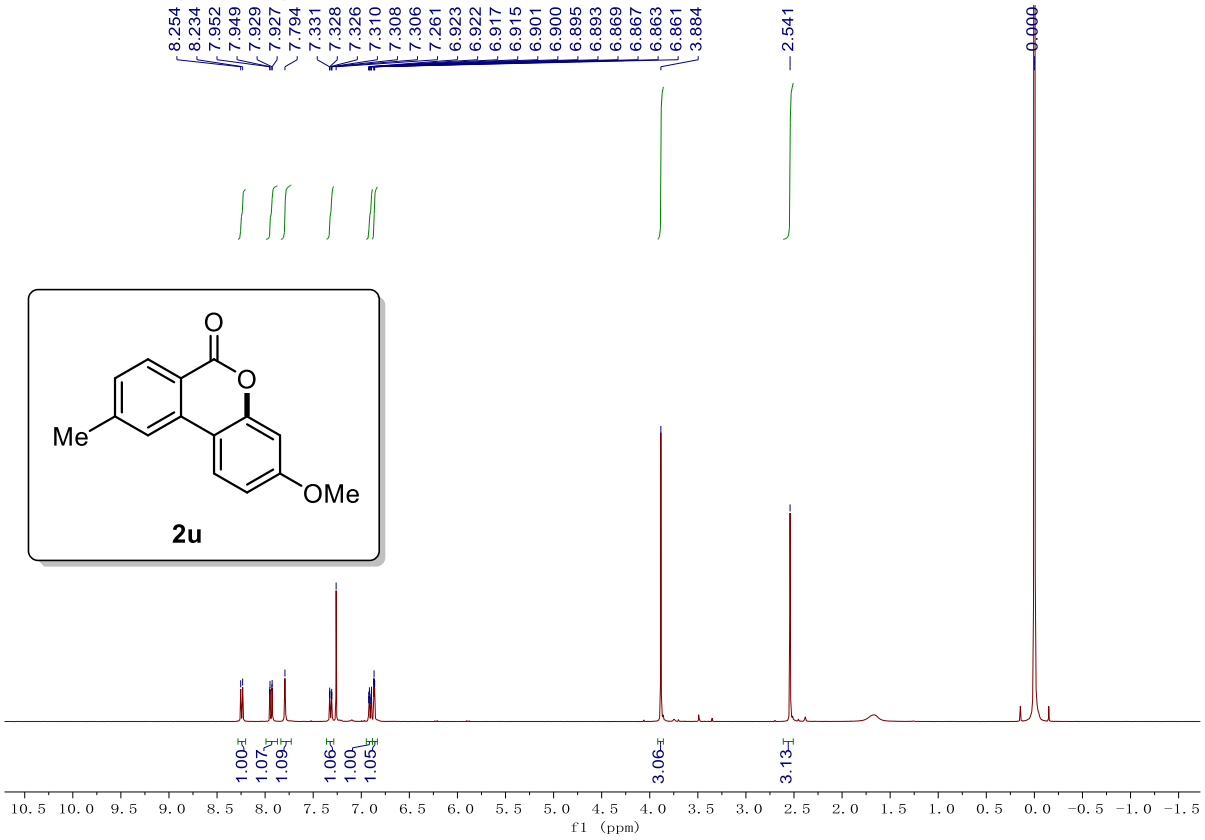
9-fluoro-3-methoxy-6H-benzo[c]chromen-6-one (**2t**)

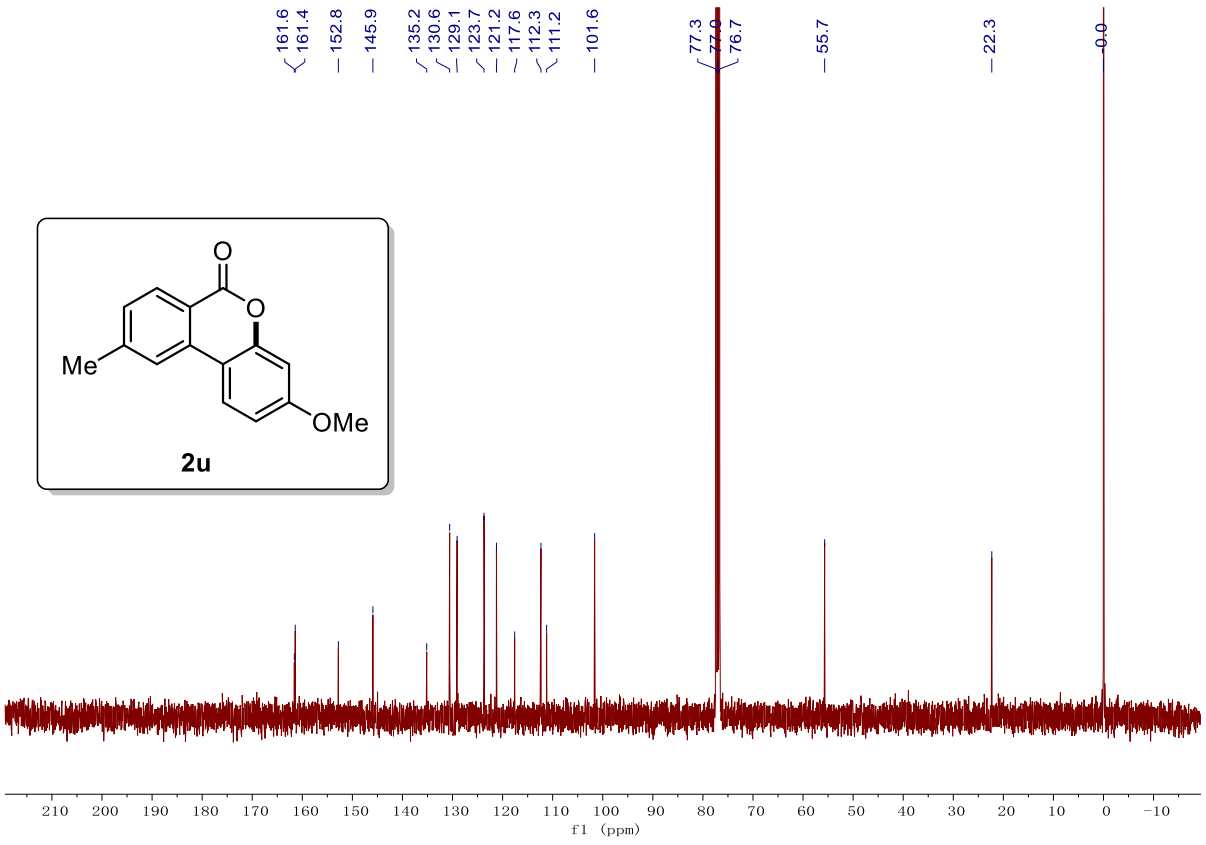




[Compound chart]

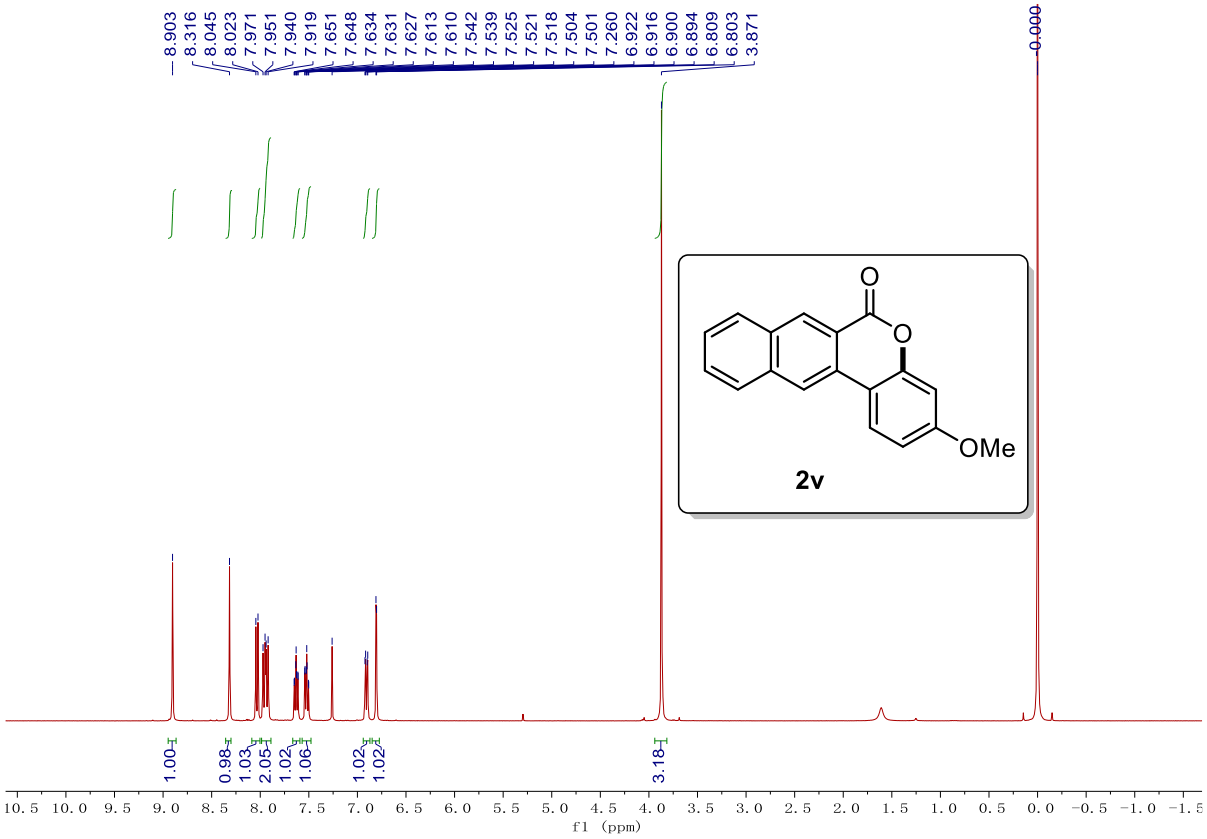
3-methoxy-9-methyl-6H-benzo[c]chromen-6-one (**2u**)

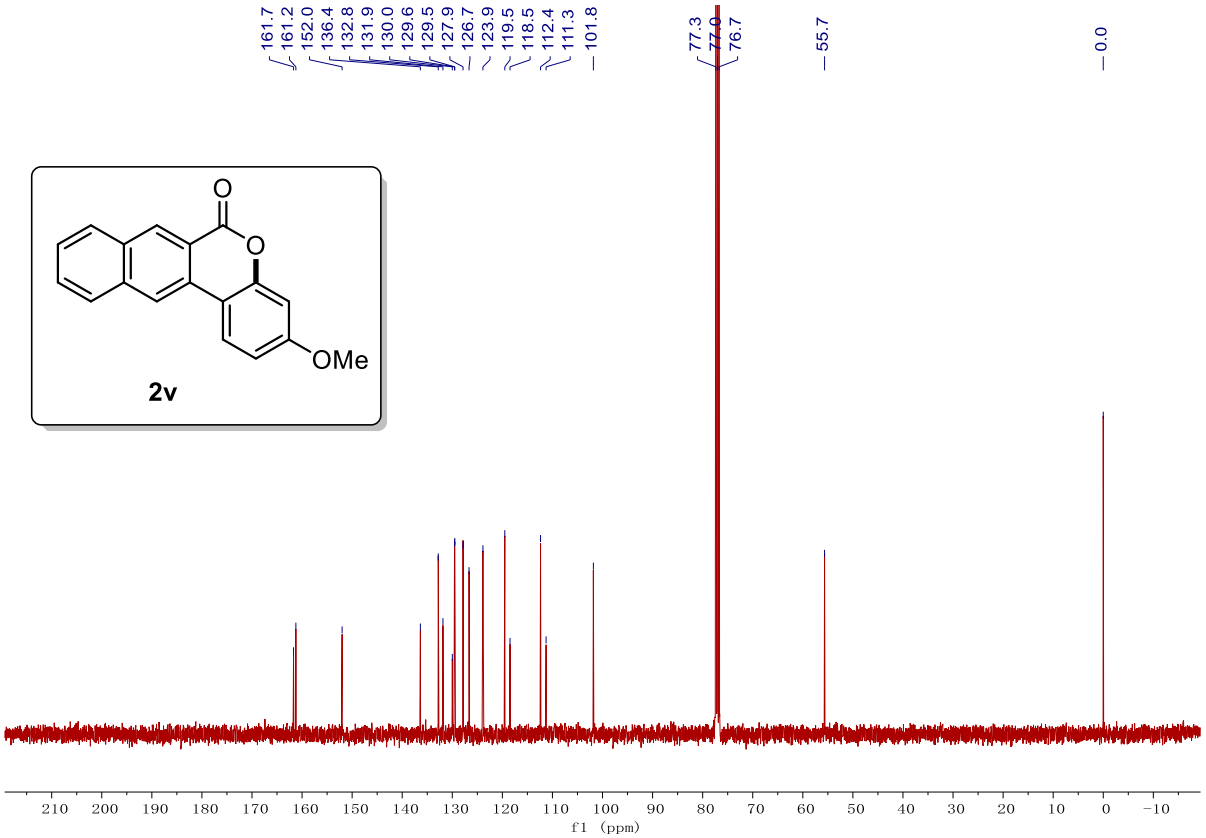




[Compound chart]

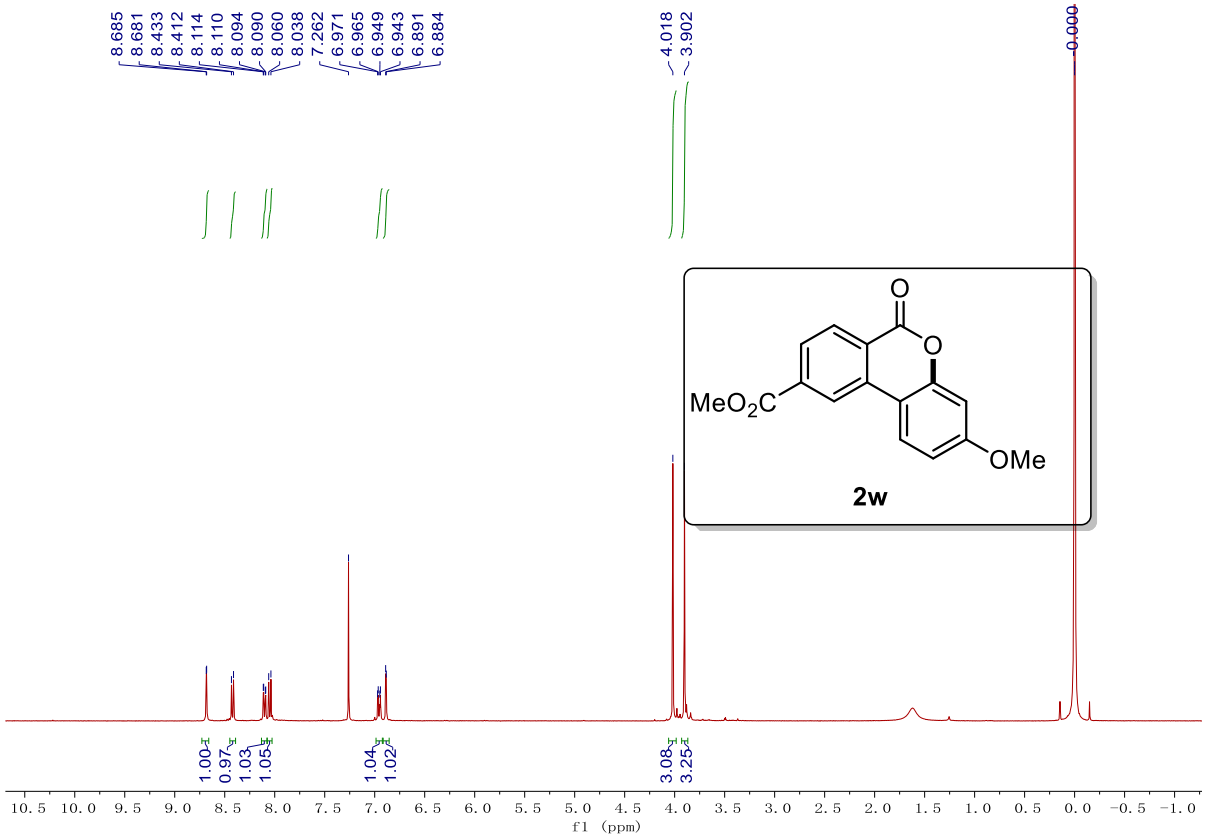
3-methoxy-6H-naphtho[2,3-c]chromen-6-one (**2v**)

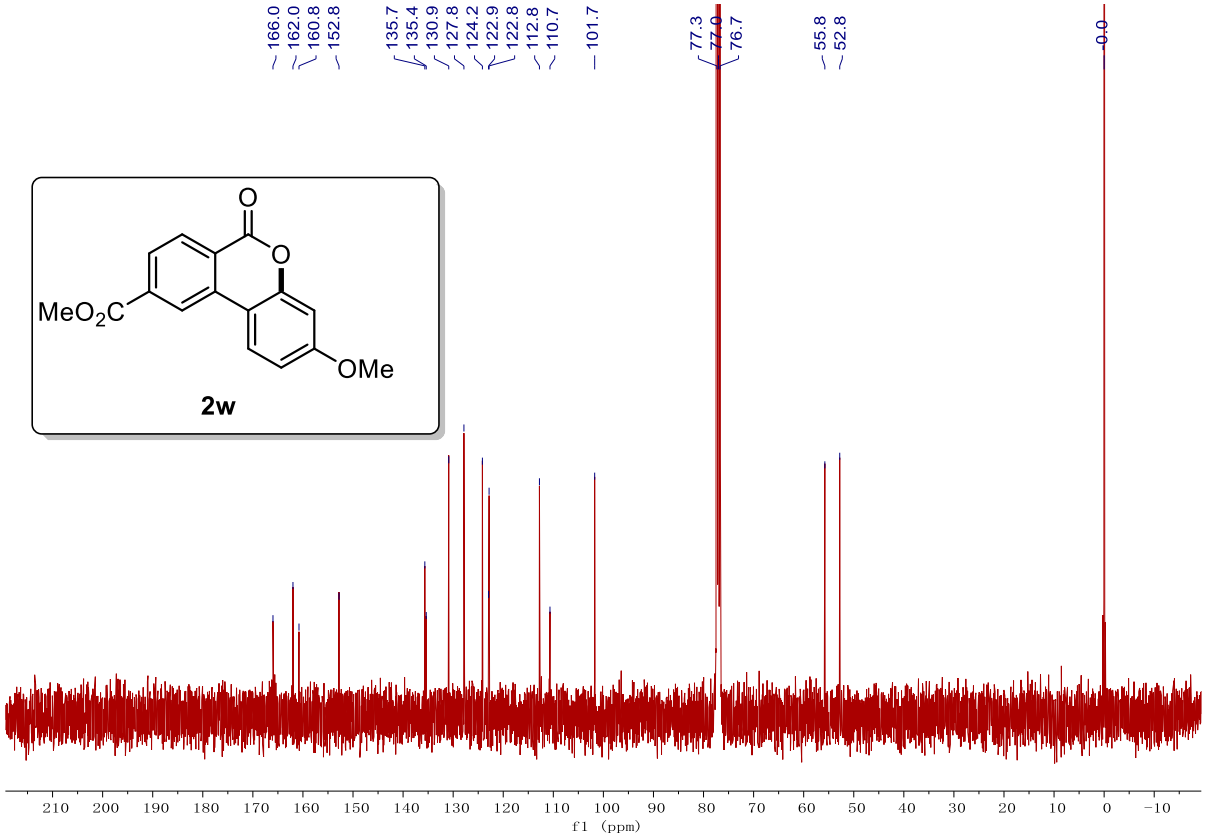




[Compound chart]

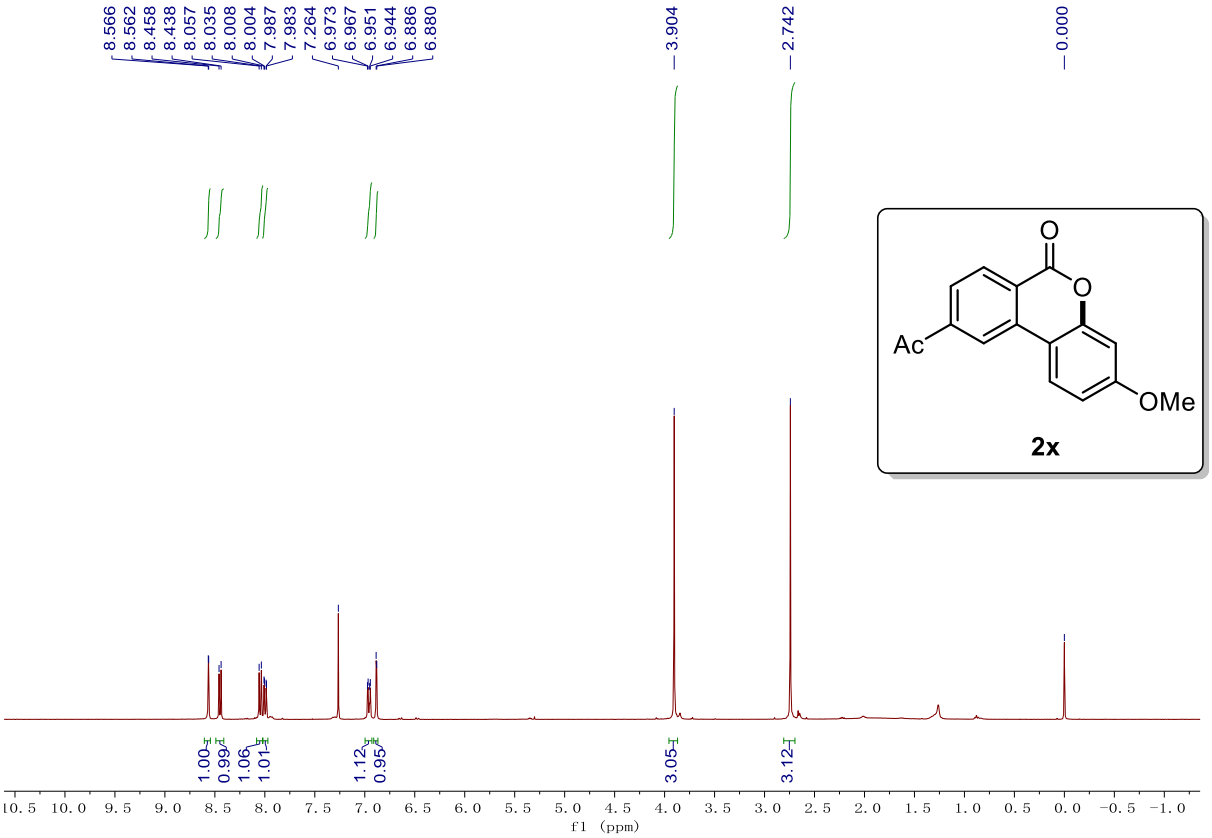
methyl 3-methoxy-6-oxo-6H-benzo[c]chromene-9-carboxylate (**2w**)

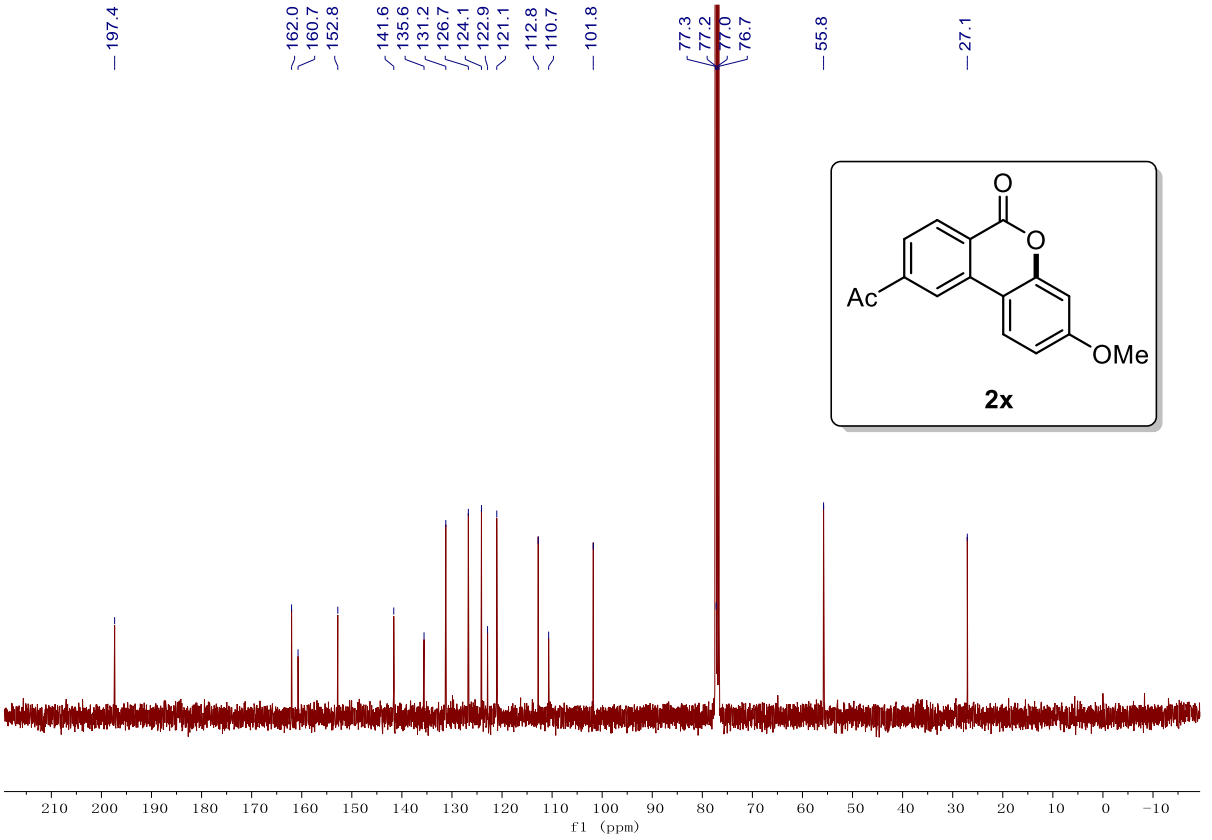




[Compound chart]

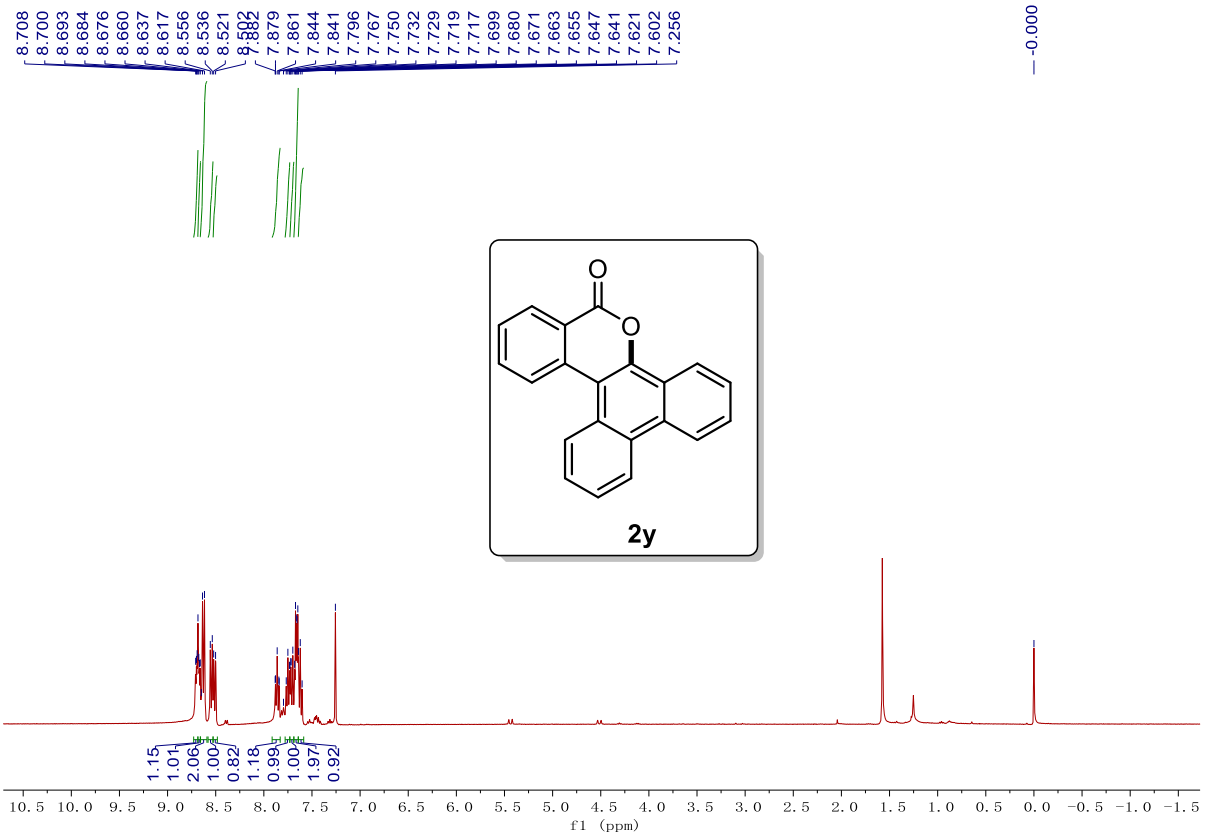
9-acetyl-3-methoxy-6H-benzo[c]chromen-6-one (**2x**)

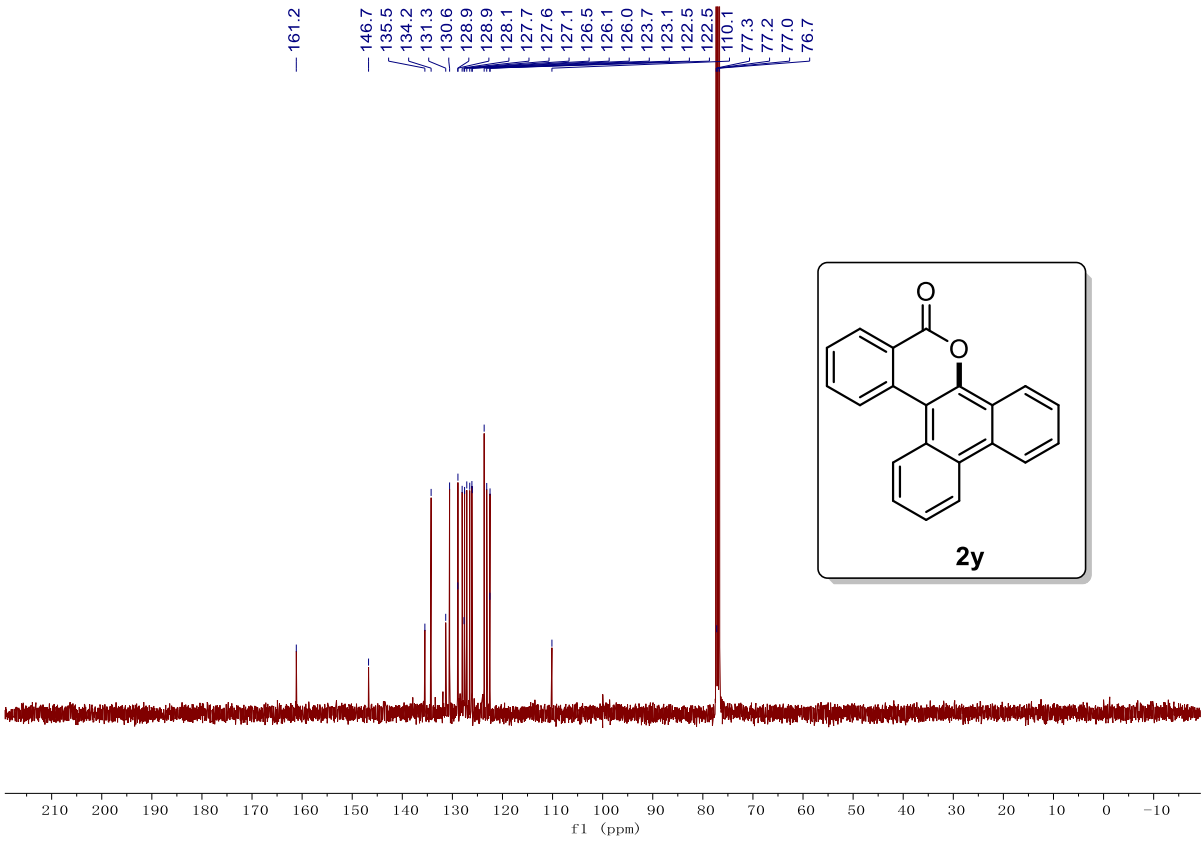




Compound chart

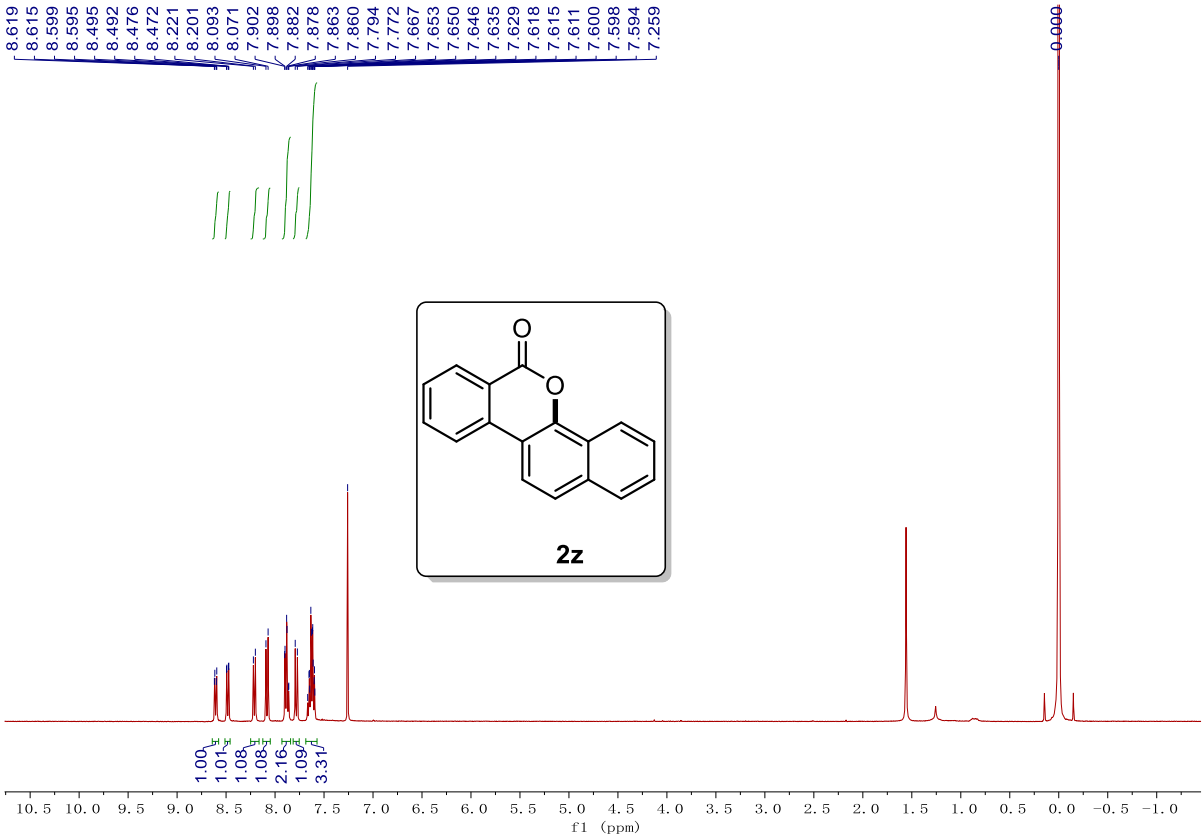
6H-tribenzo[c,f,h]chromen-6-one (**2y**)

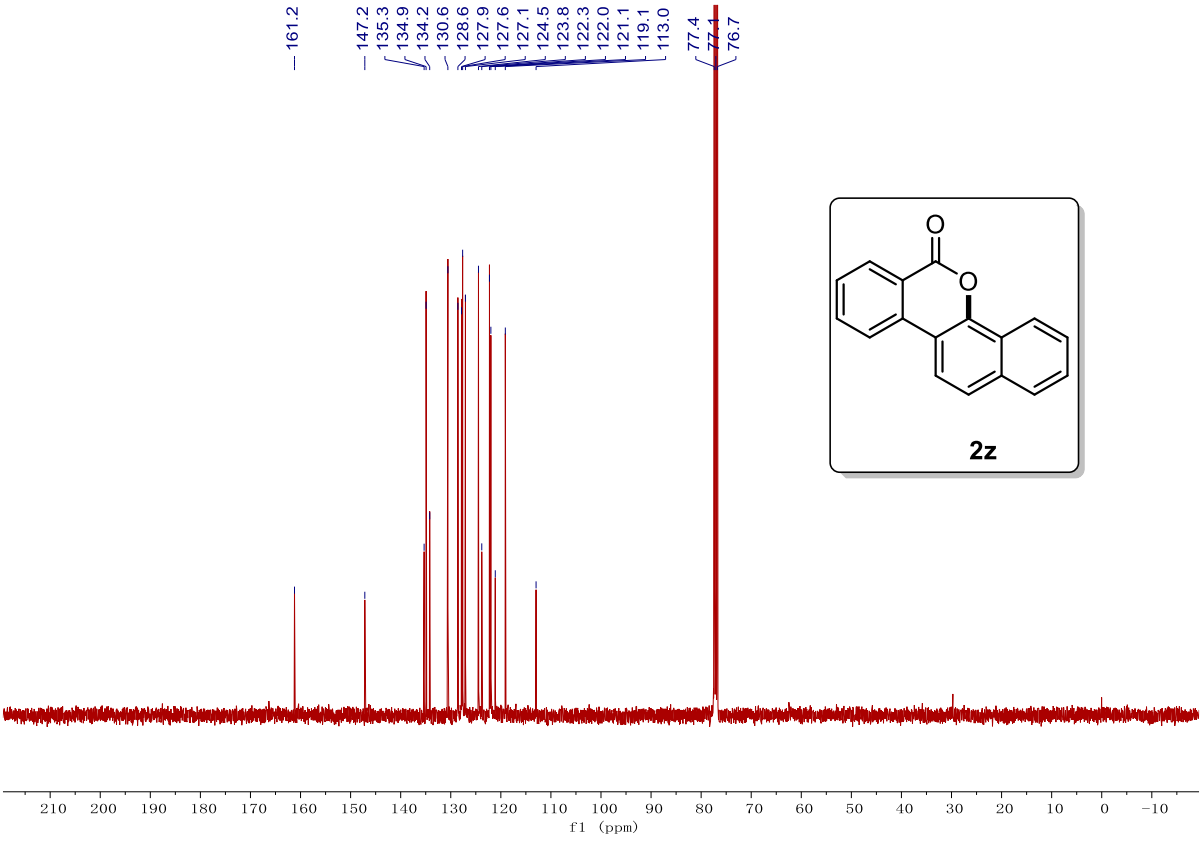




[Compound chart]

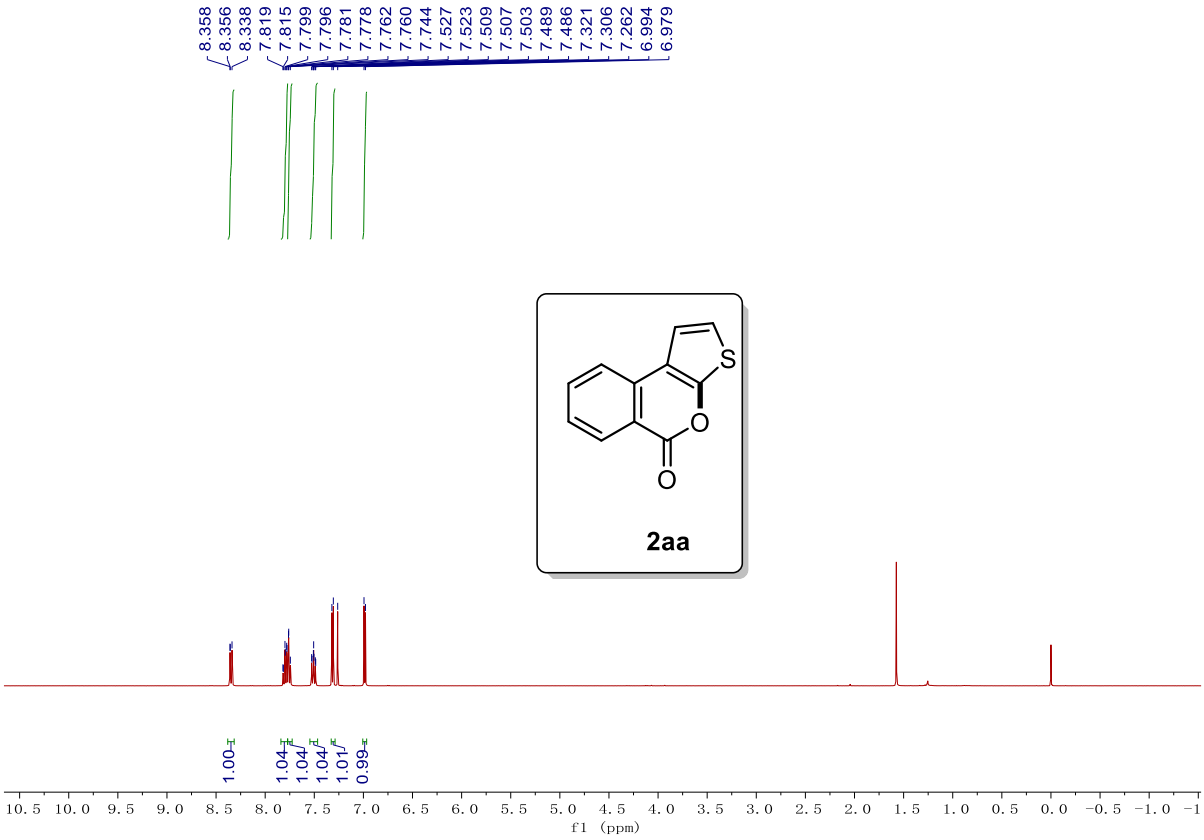
6H-dibenzo[c,h]chromen-6-one (**2z**)

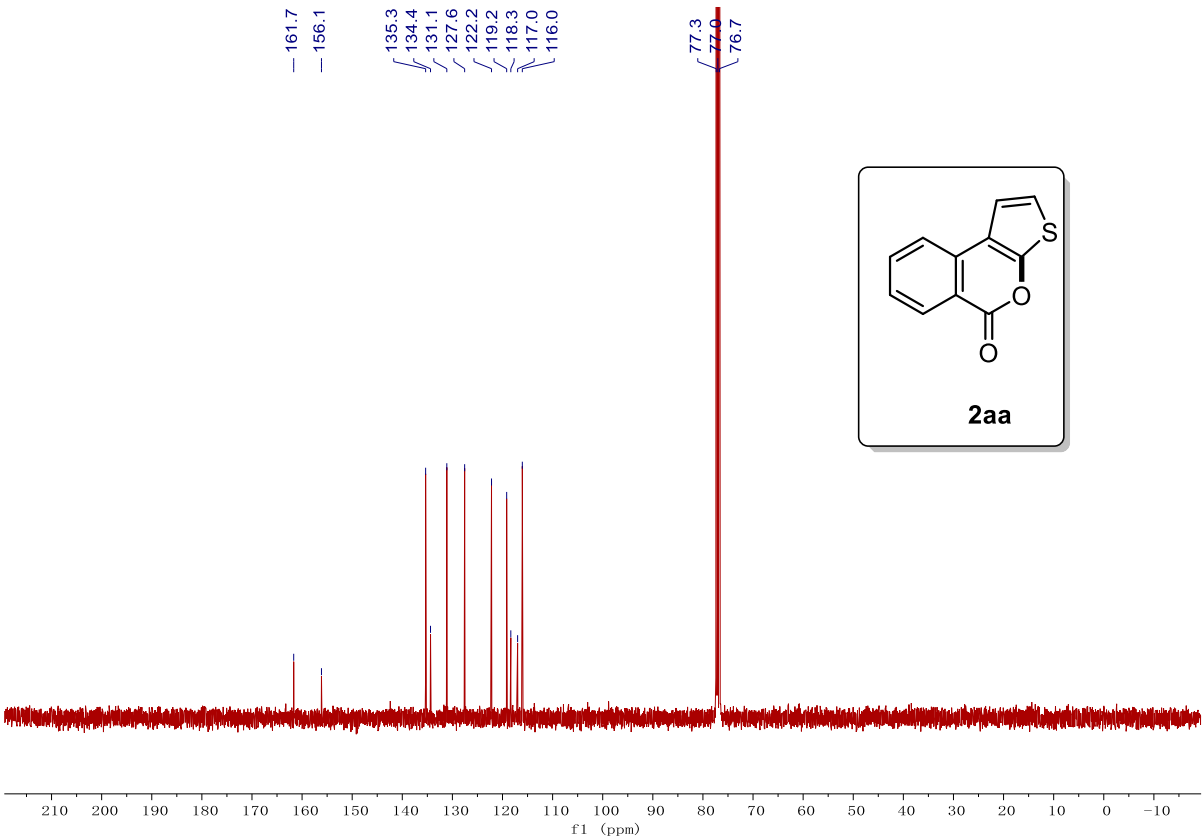




[Compound chart]

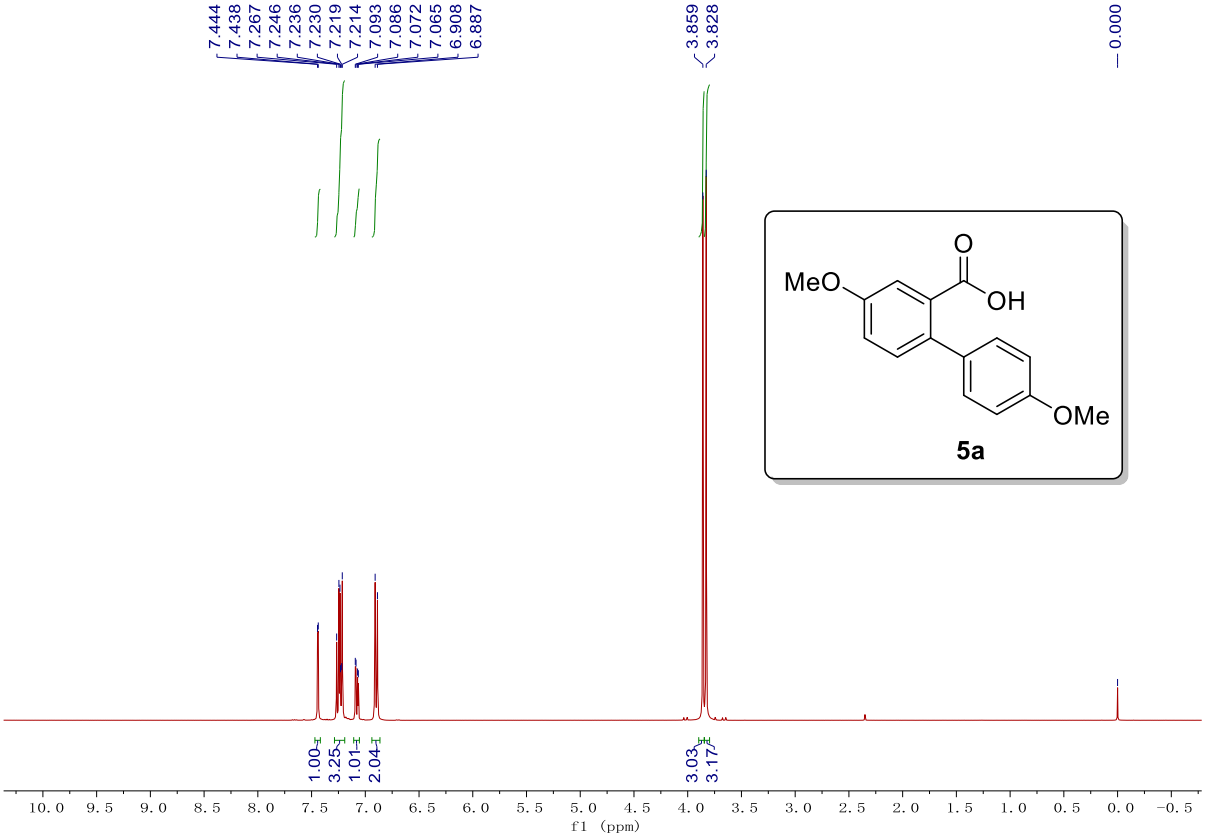
5H-thieno[2,3-c]isochromen-5-one (**2aa**)

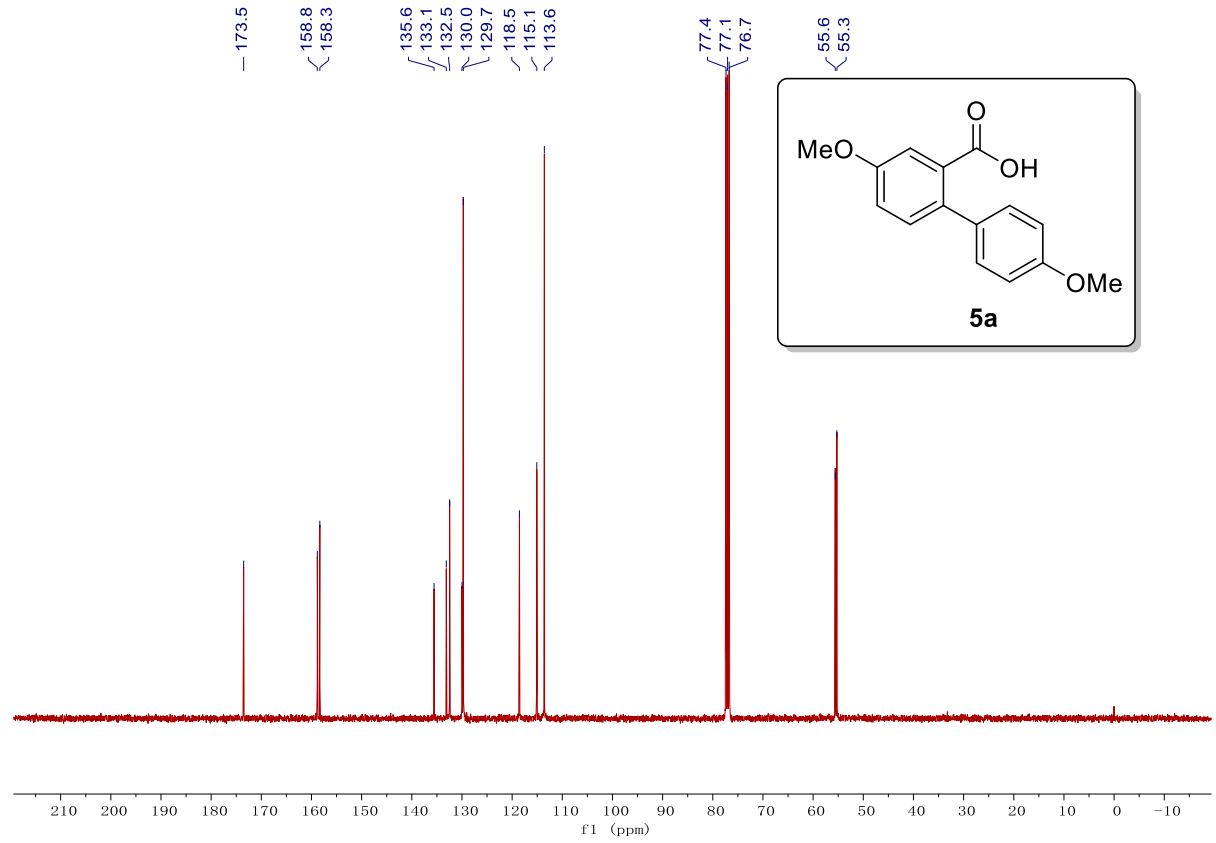




[Compound chart]

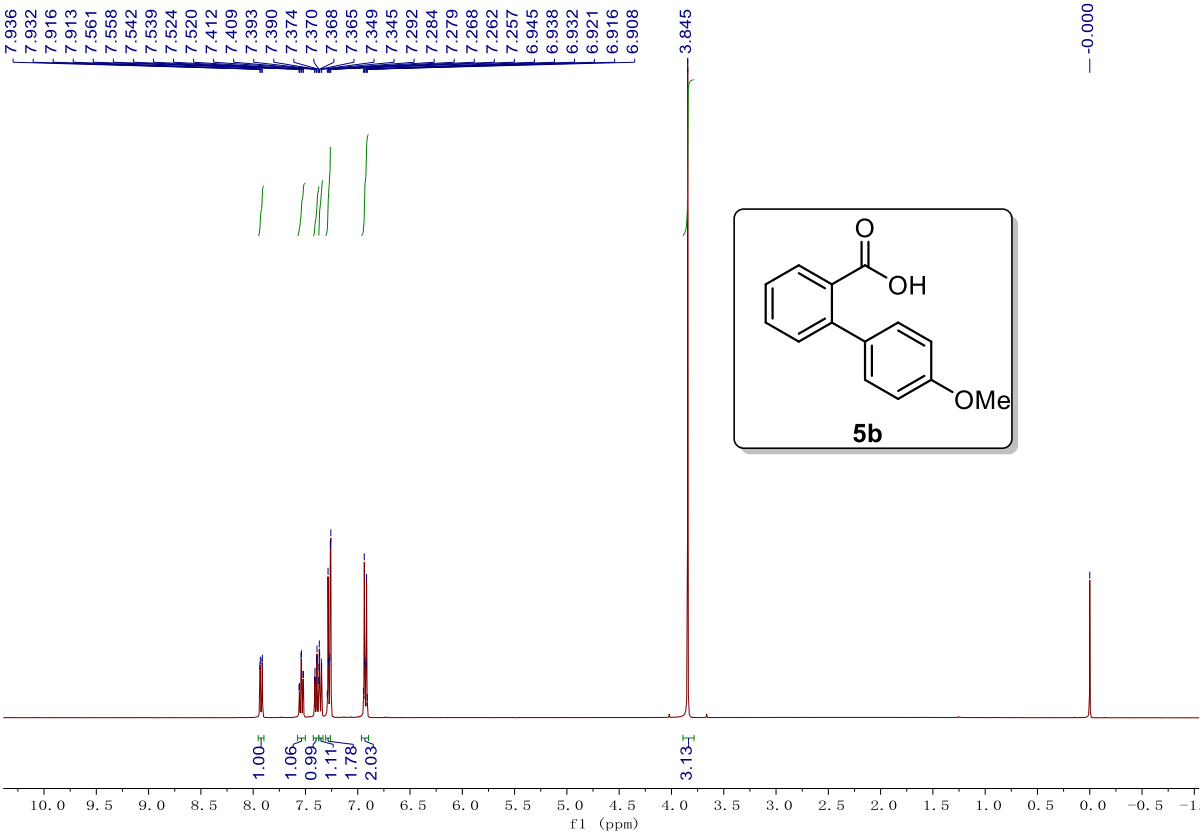
4,4'-dimethoxy-[1,1'-biphenyl]-2-carboxylic acid (**5a**)

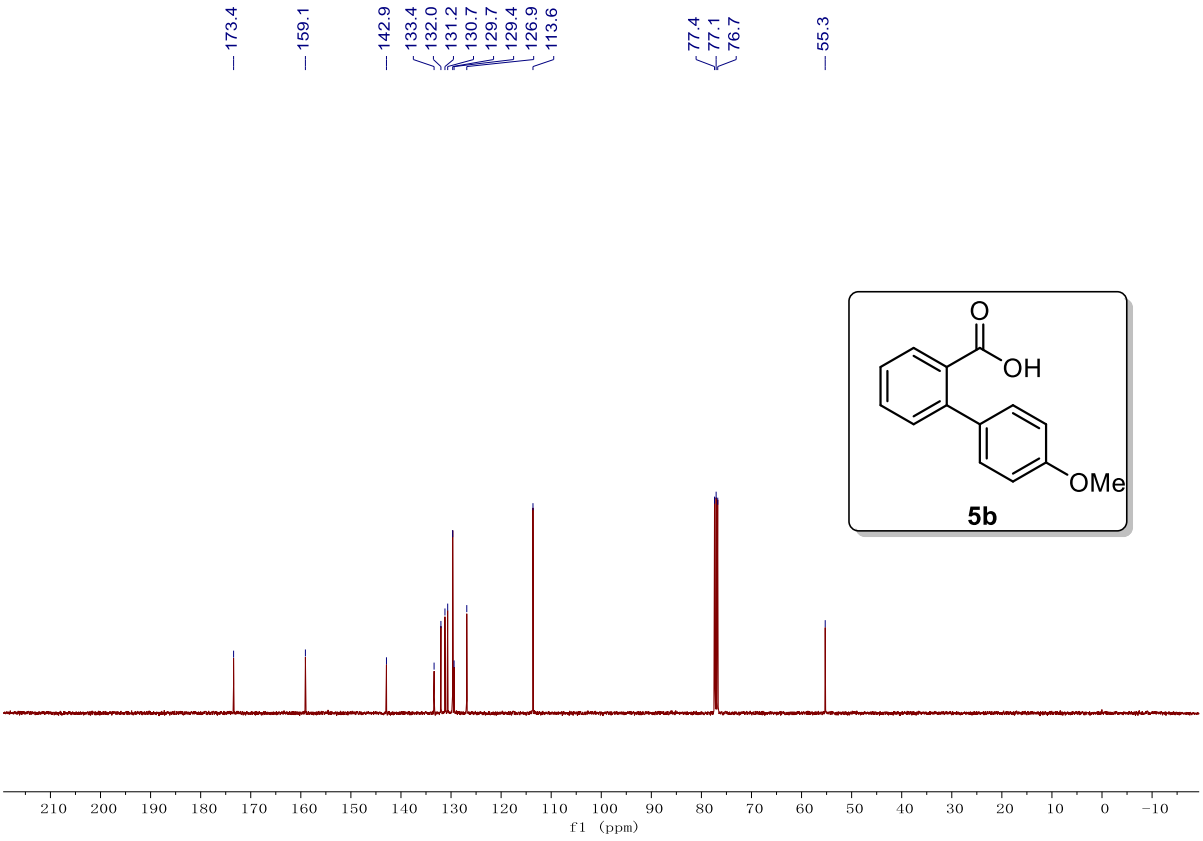




Compound chart

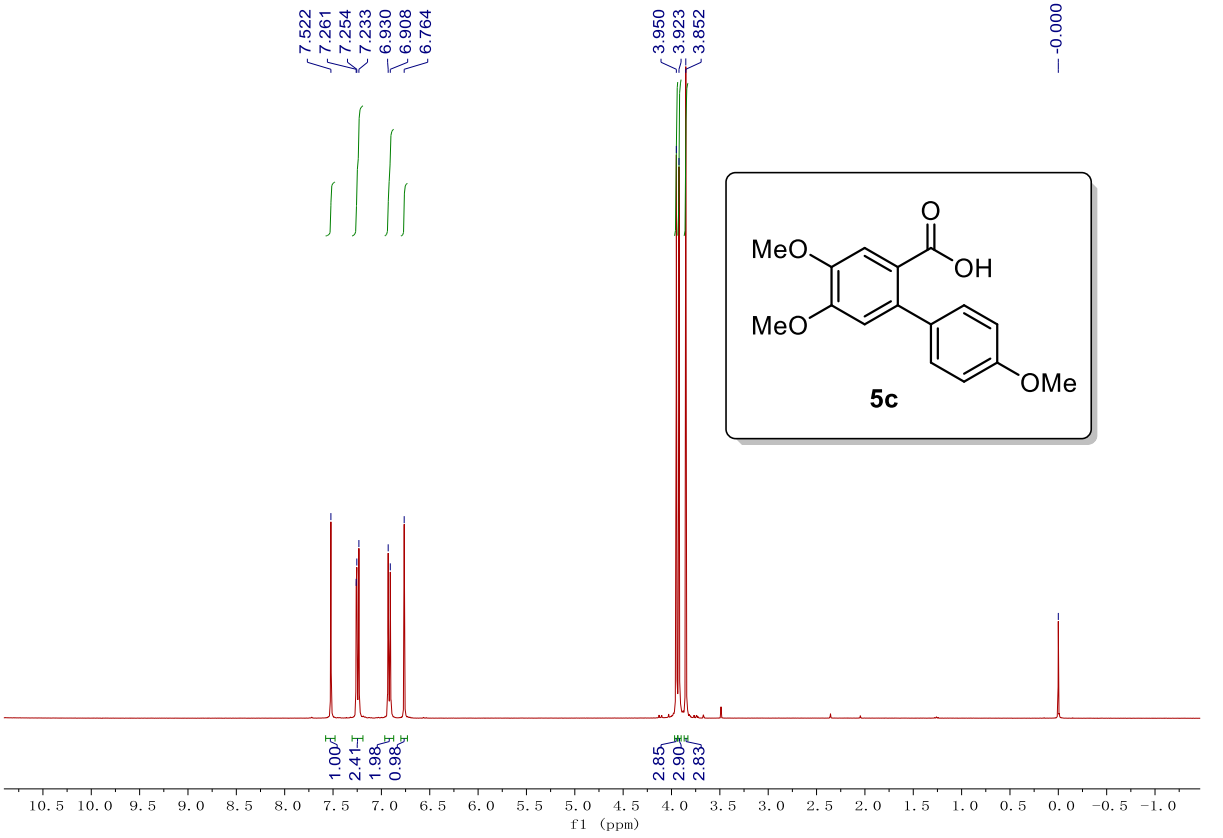
4'-methoxy-[1,1'-biphenyl]-2-carboxylic acid (**5b**)

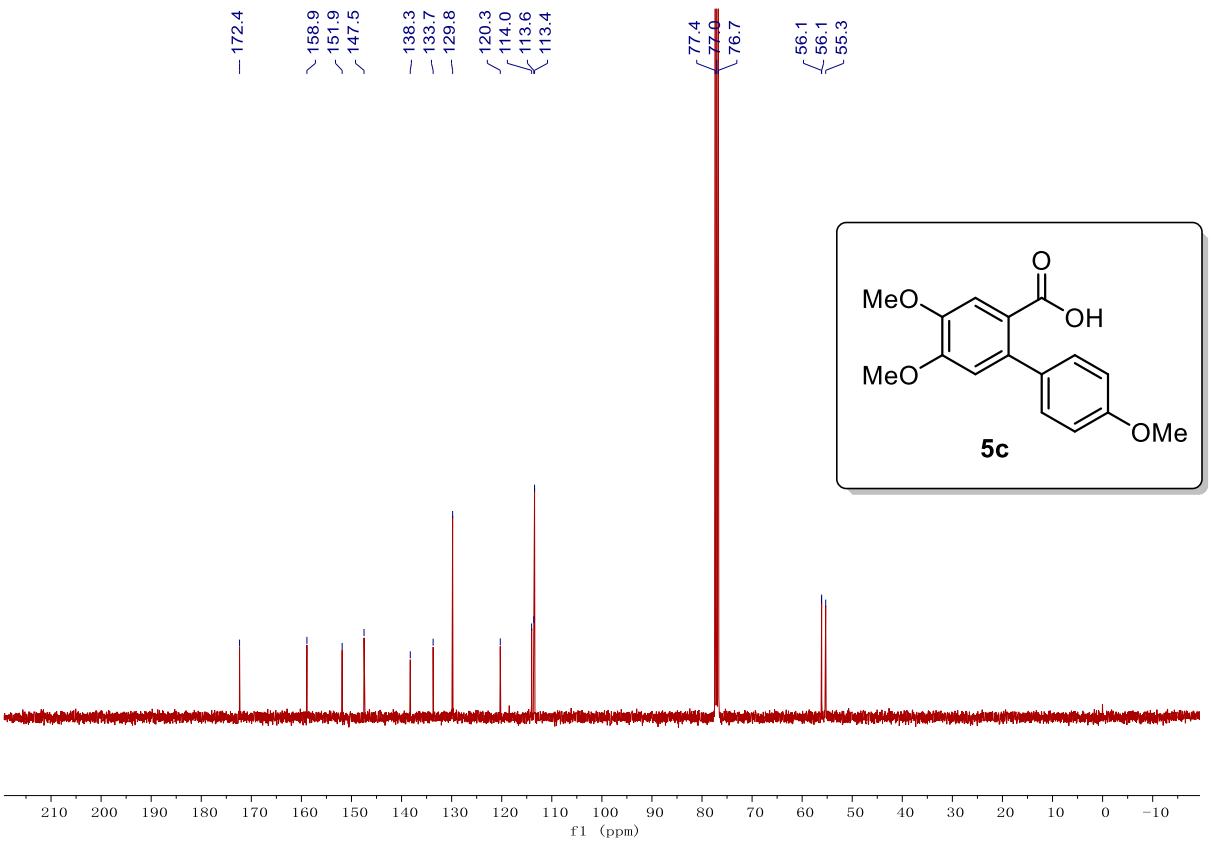




[Compound chart]

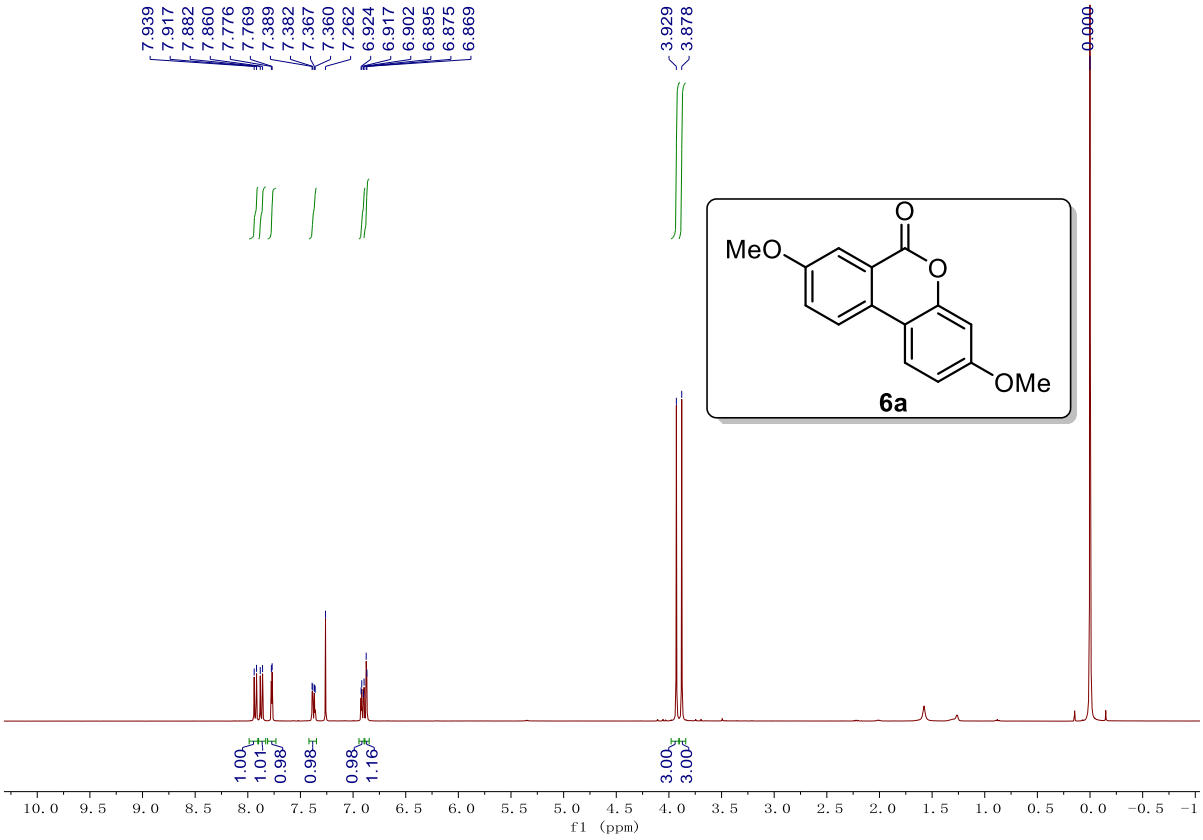
4,4',5-trimethoxy-[1,1'-biphenyl]-2-carboxylic acid (**5c**)

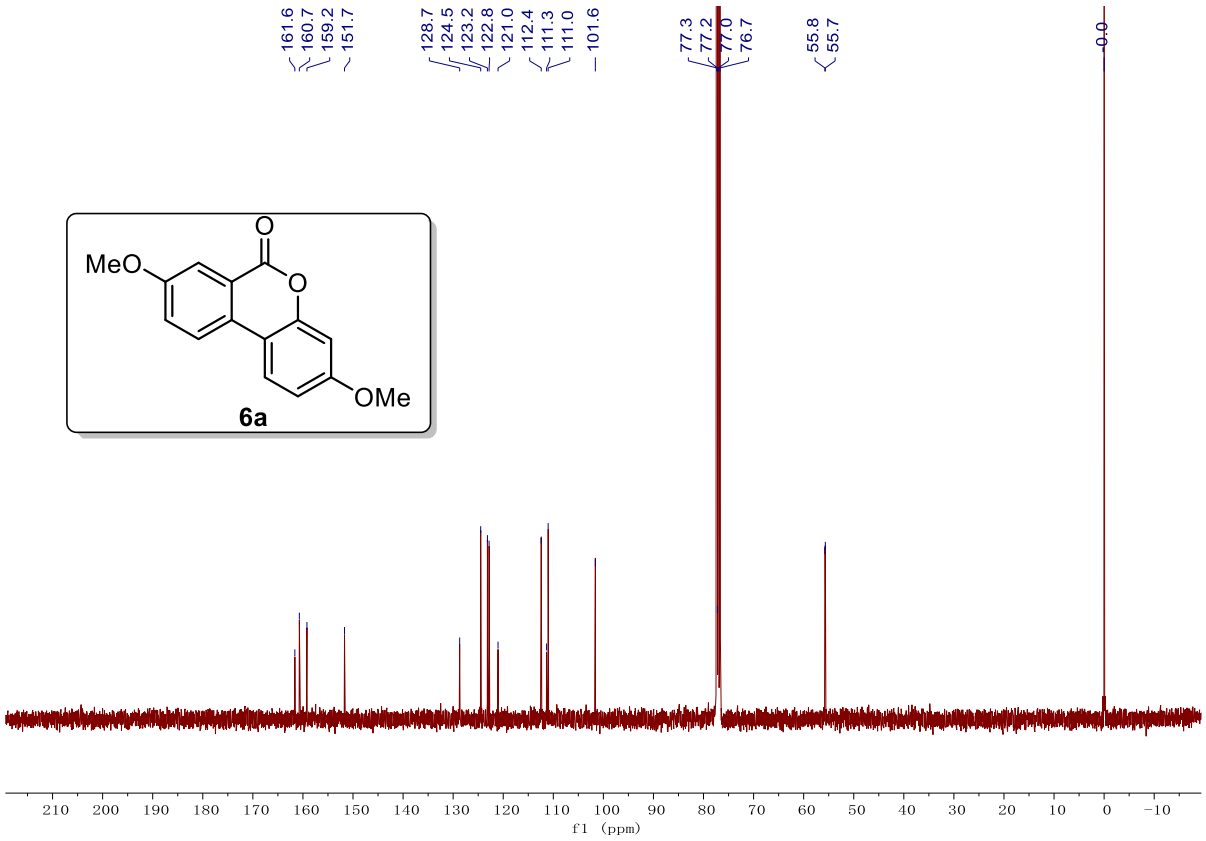




[Compound chart]

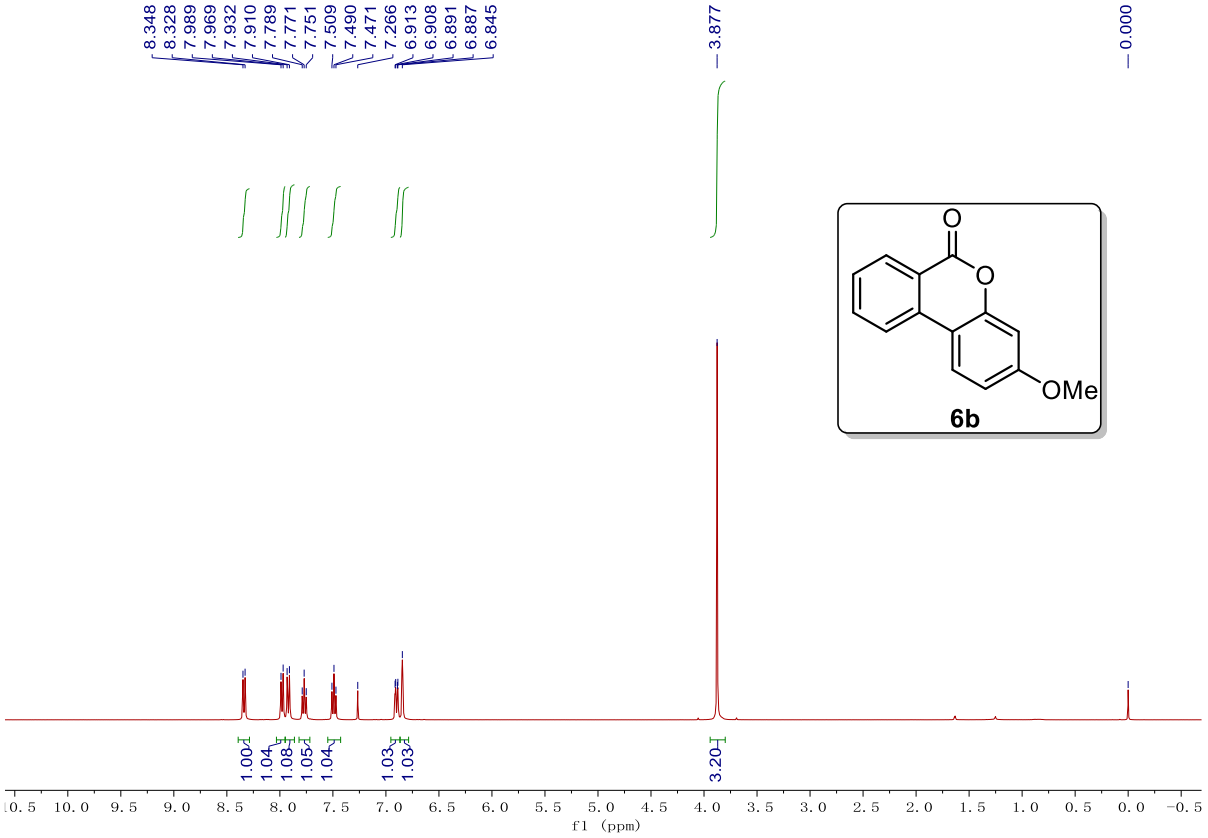
3,8-dimethoxy-6H-benzo[c]chromen-6-one (**6a**)

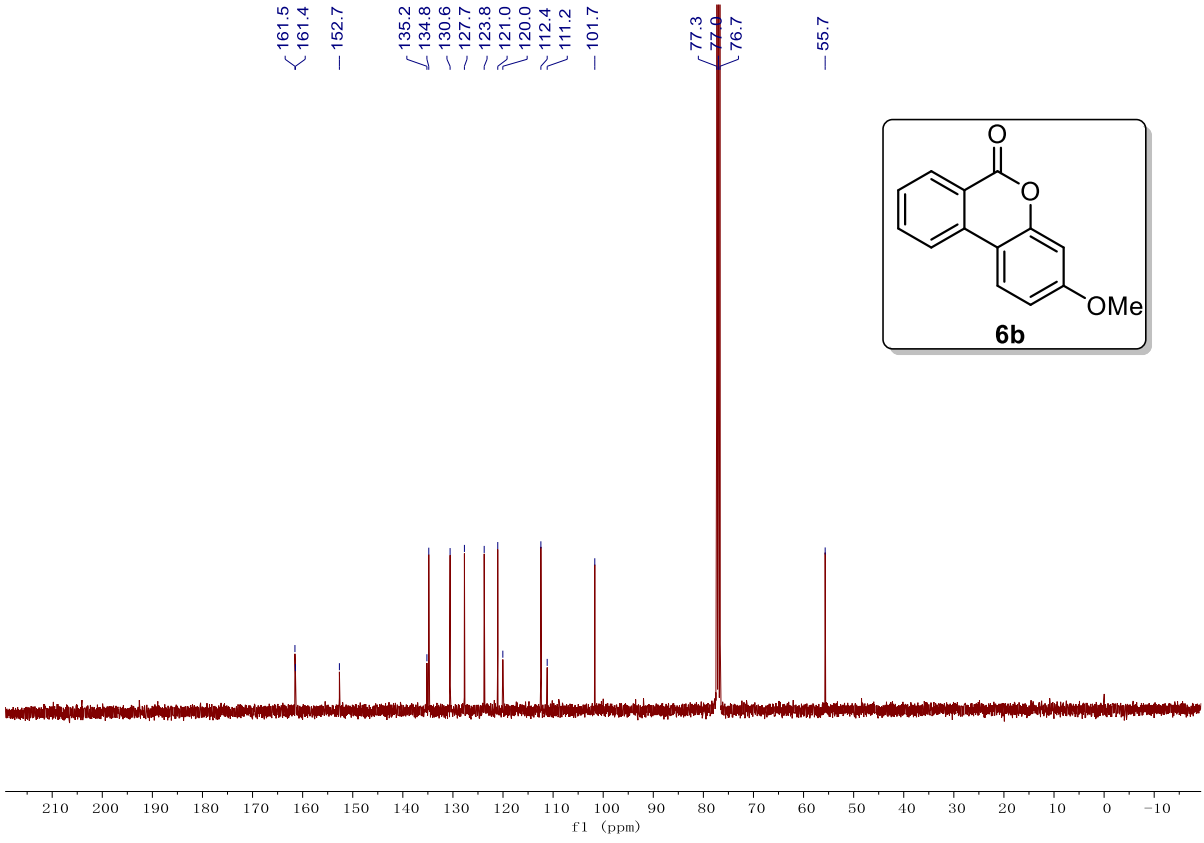




Compound chart

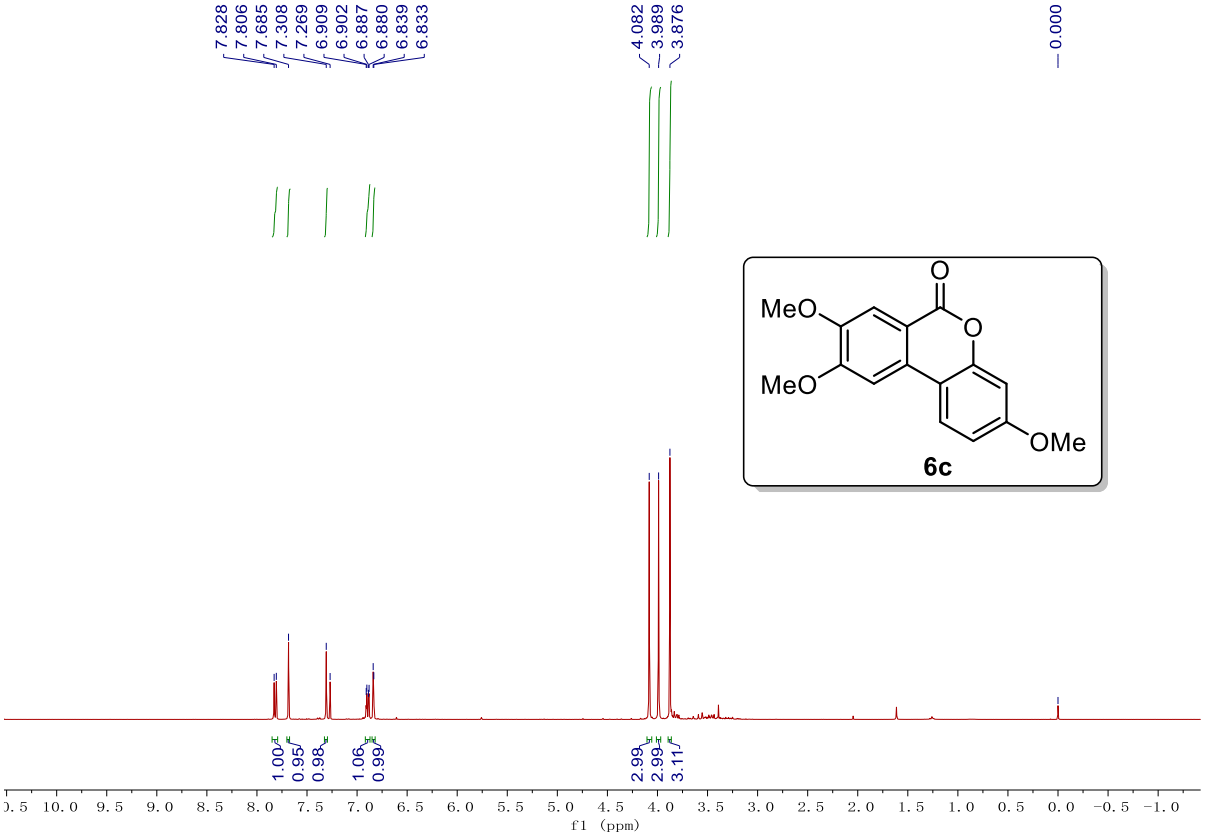
3-methoxy-6H-benzo[c]chromen-6-one (**6b**)

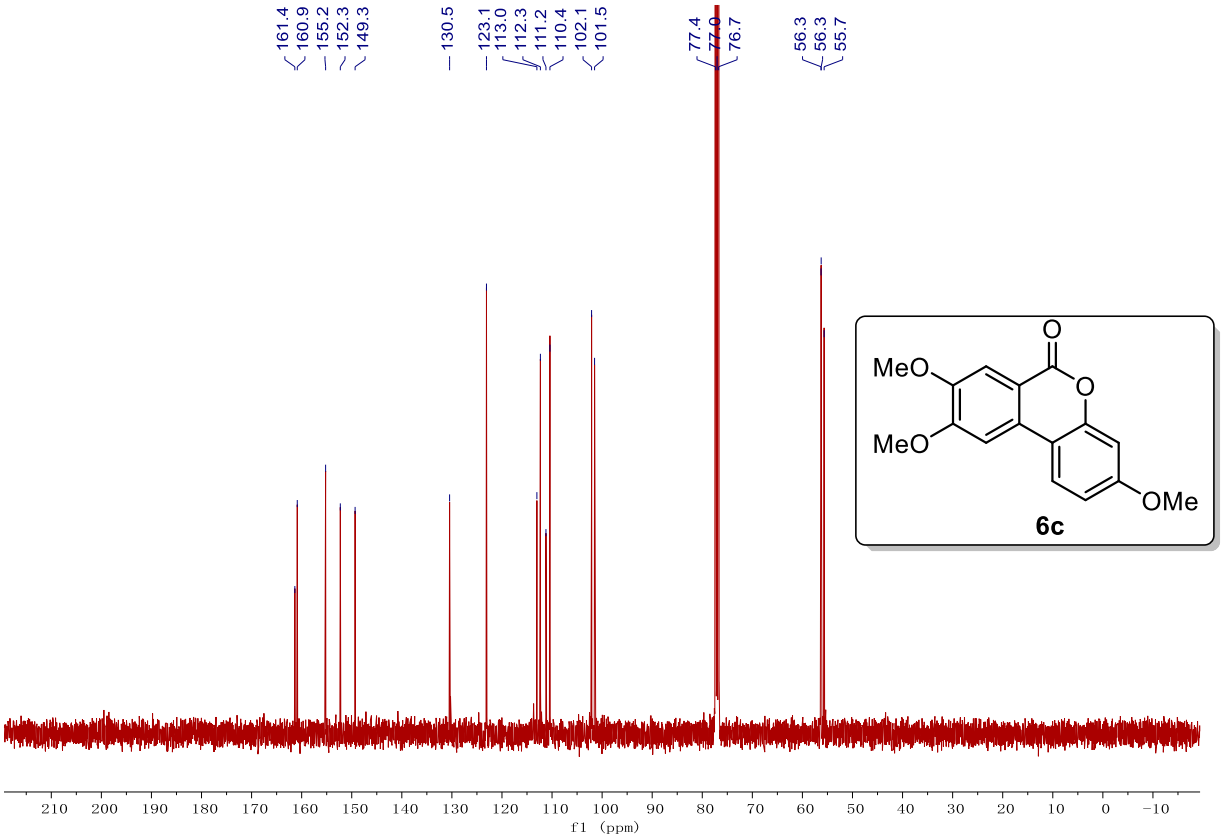




[Compound chart]

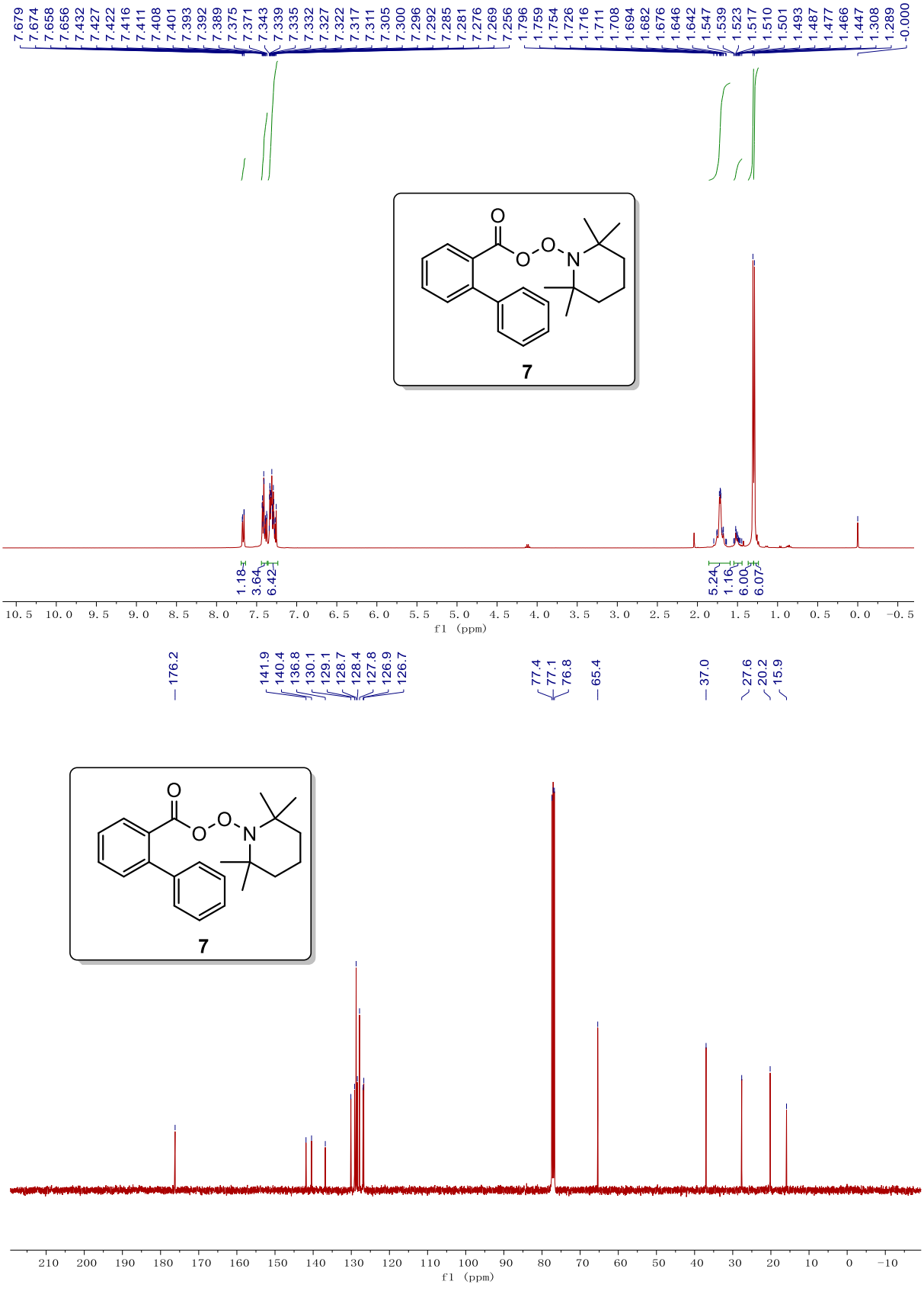
3,8,9-trimethoxy-6H-benzo[c]chromen-6-one (**6c**)



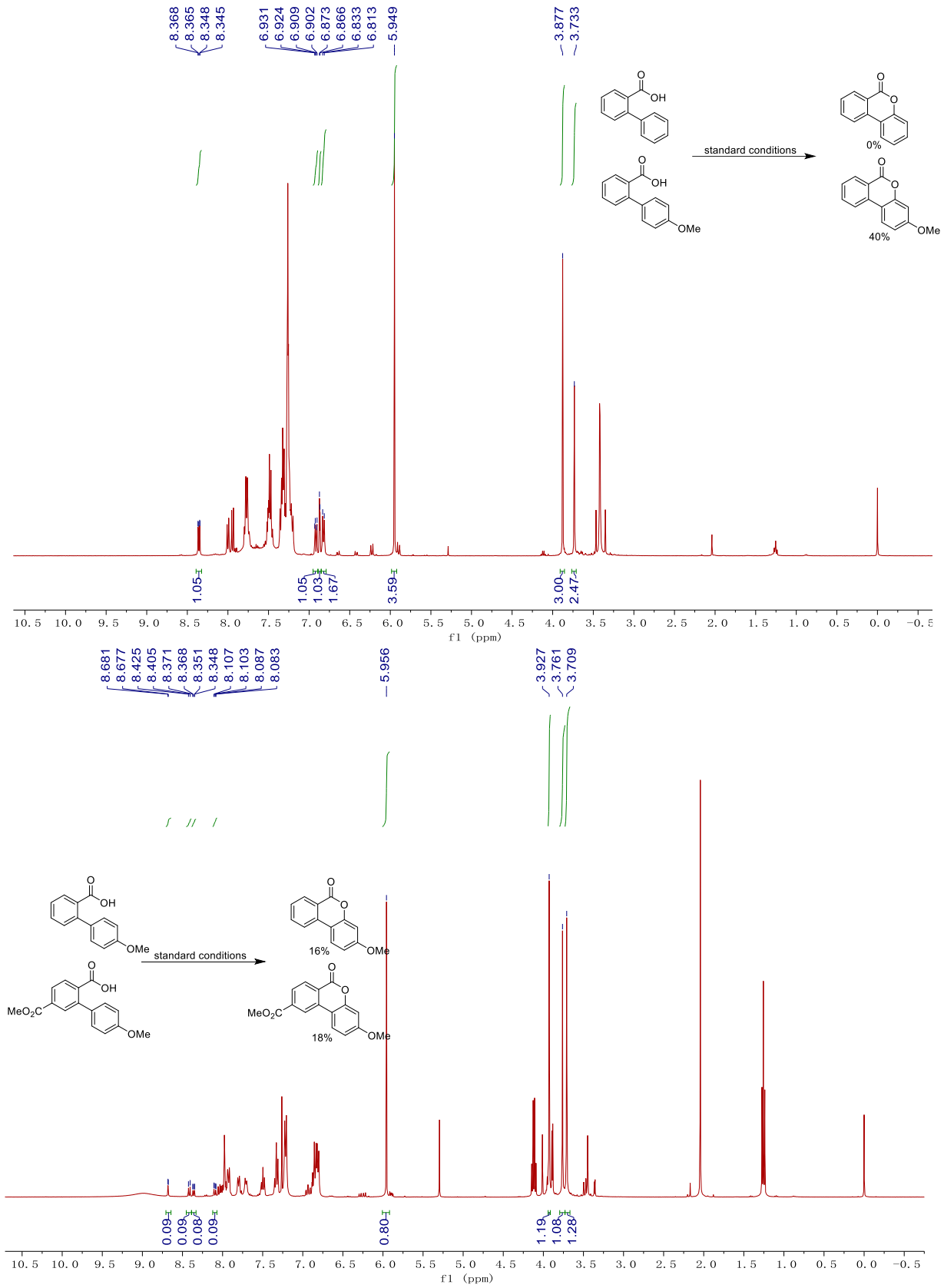


[Compound chart]

2,2,6,6-tetramethylpiperidin-1-yl [1,1'-biphenyl]-2-carboperoxoate (**7**)



[Compound chart]



Yields determined by ^{1}H NMR using 1,1,2,2-tetrachloroethane.