

Supporting Information

**DIVERGENT SYNTHESIS OF
INDOLE-2-CARBOXYLIC ACID DERIVATIVES
VIA LIGAND-FREE COPPER-CATALYZED
ULLMANN COUPLING REACTION**

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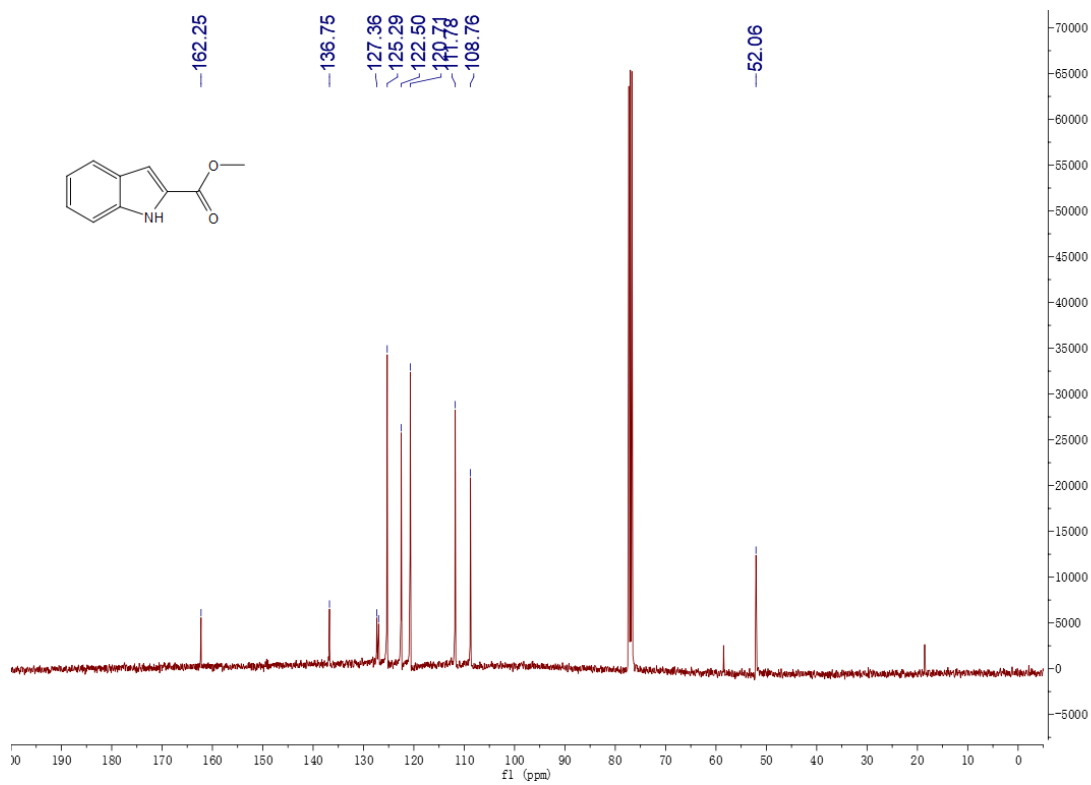
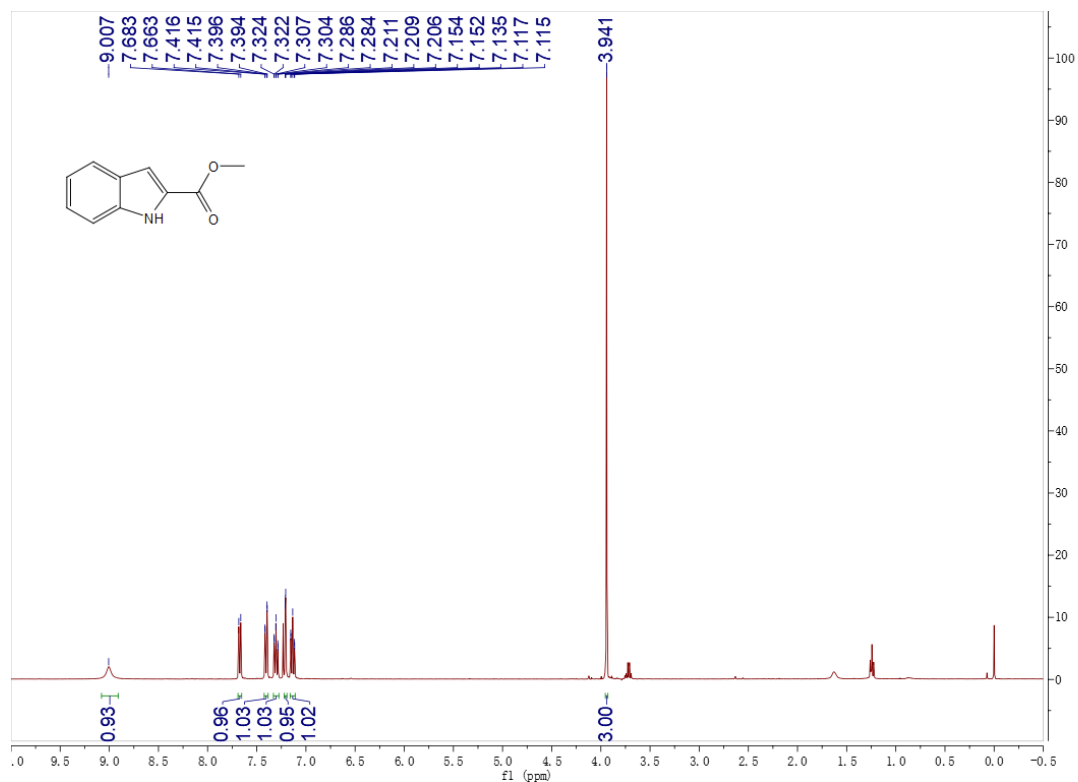
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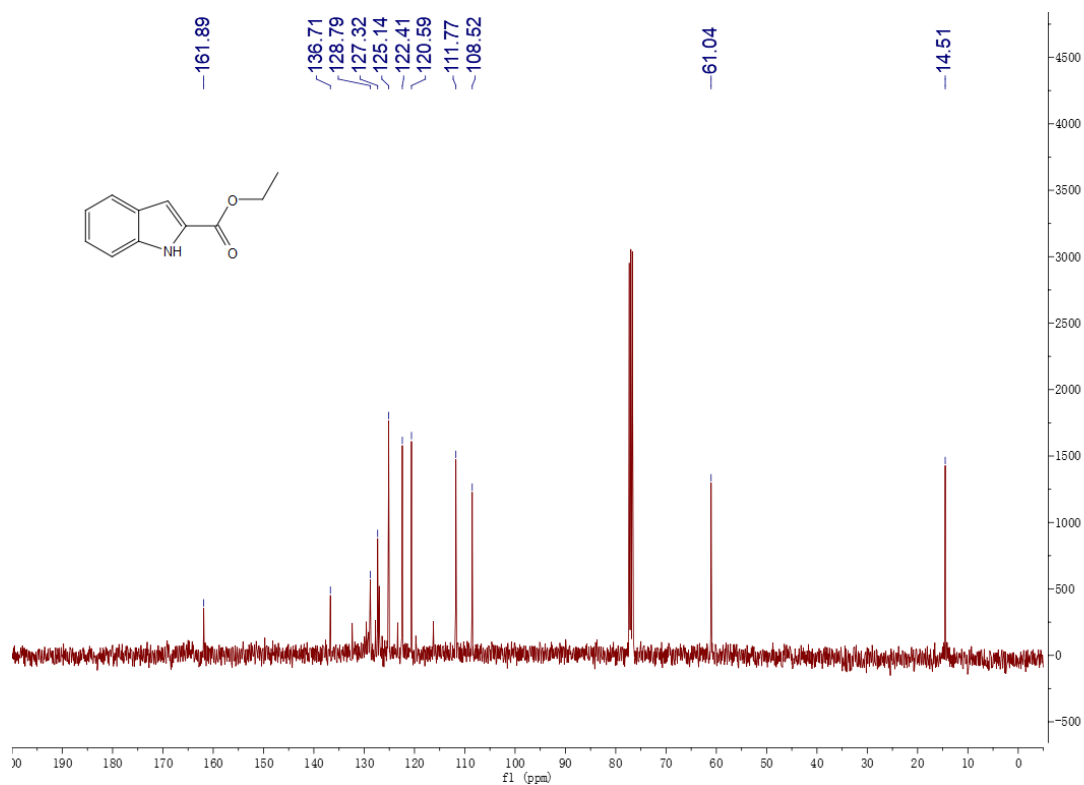
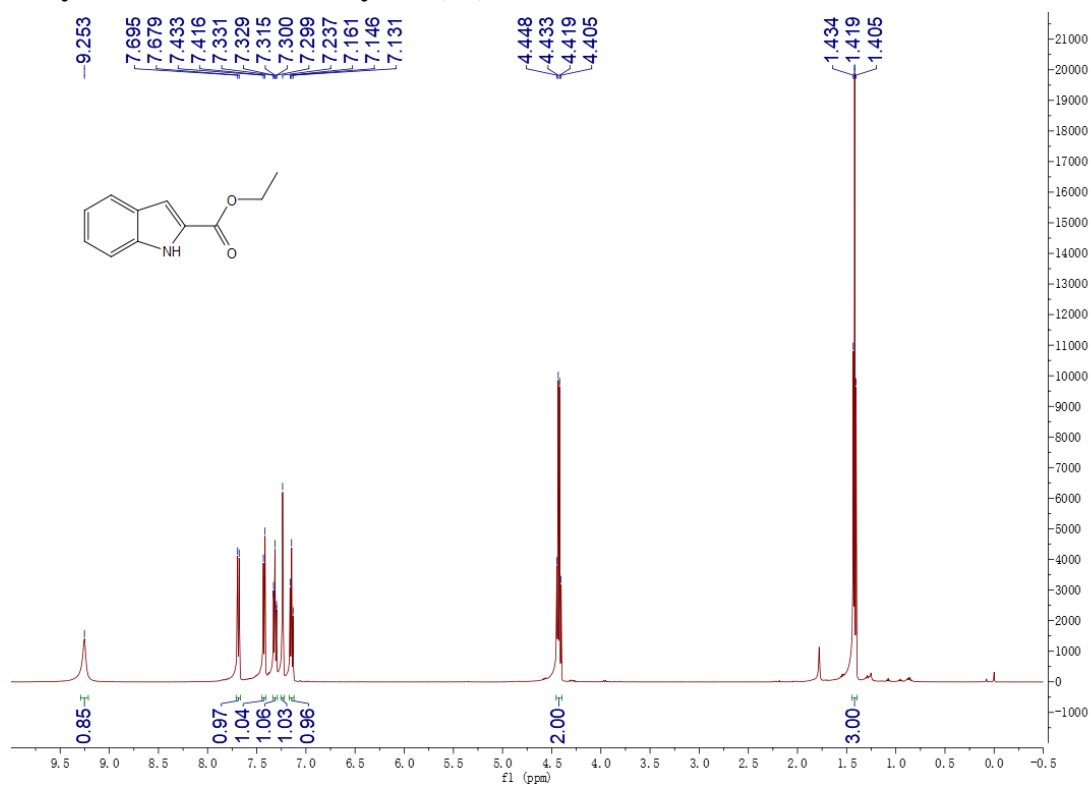
* E-mail: lijianjun@zjut.edu.cn

^1H & ^{13}C NMR of compounds

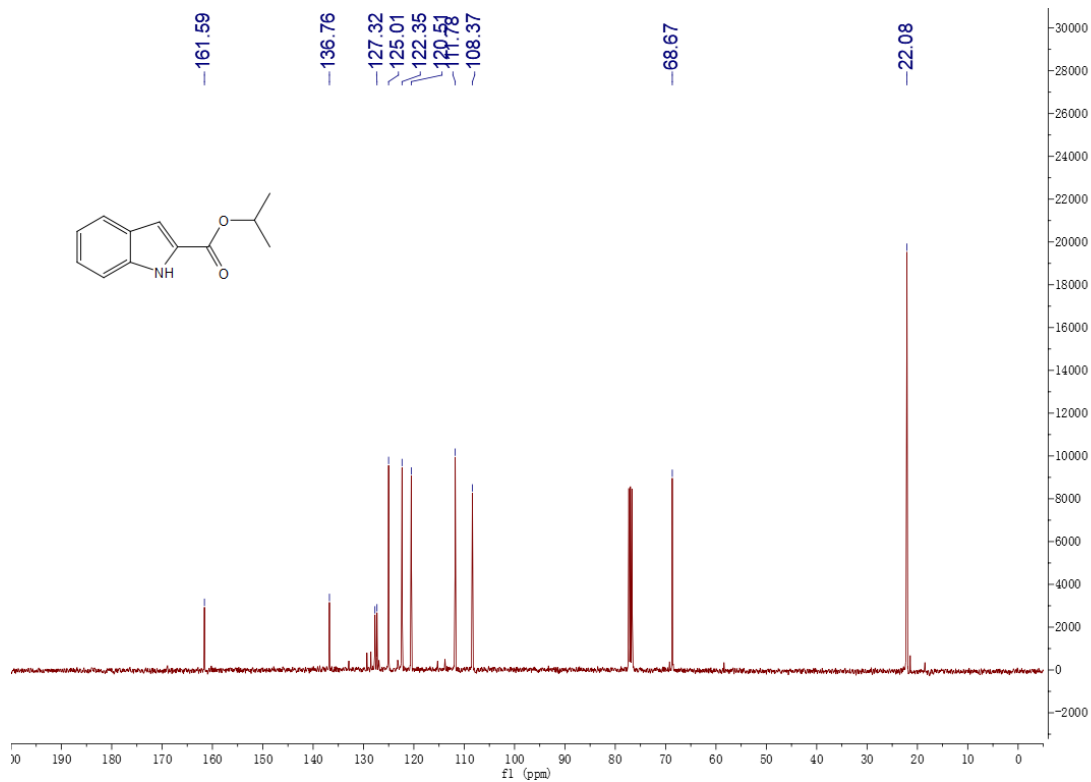
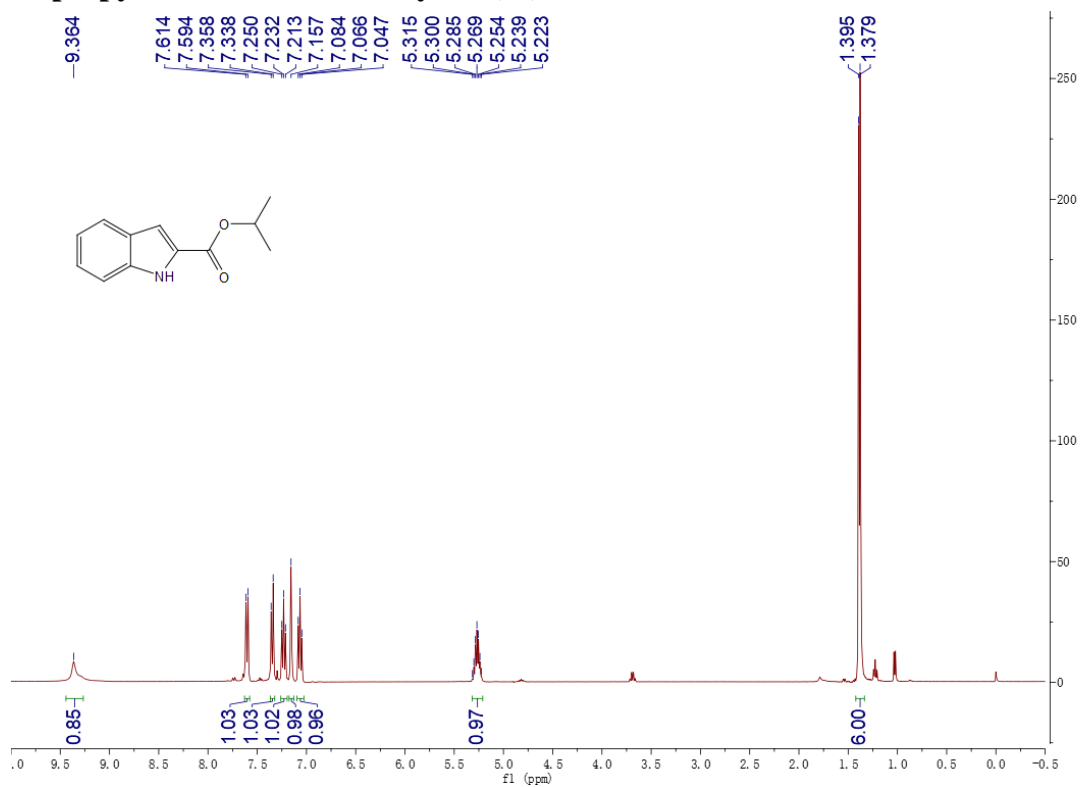
Methyl 1*H*-indole-2-carboxylate (2a)



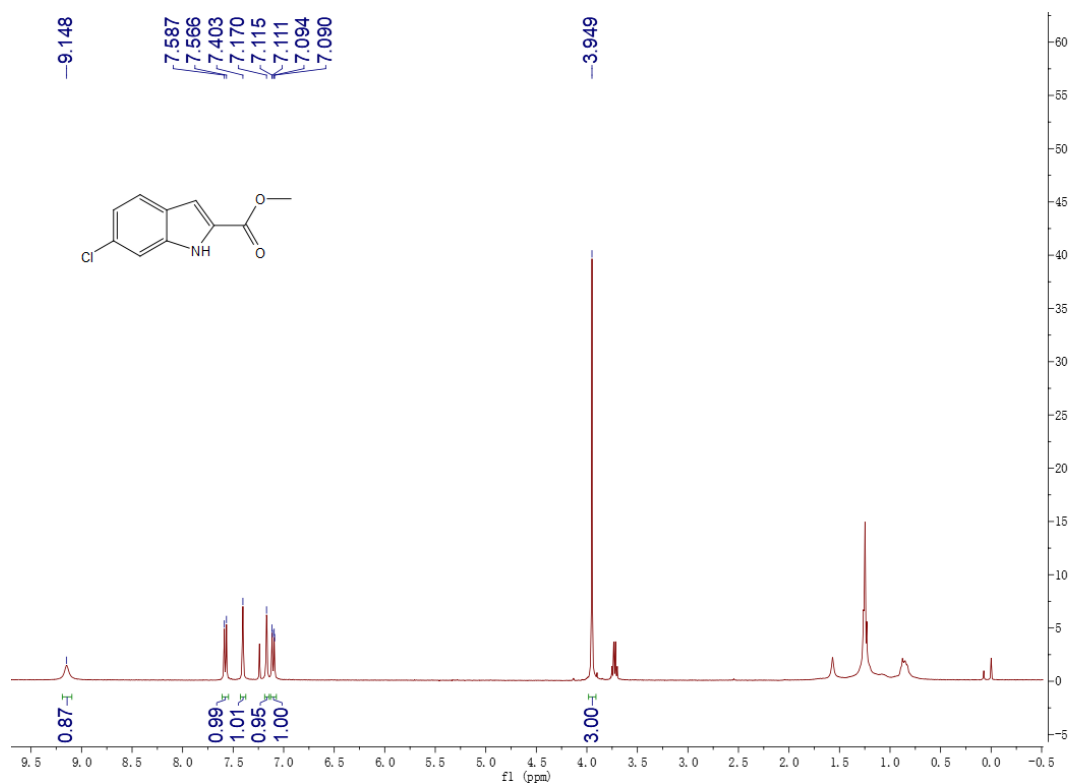
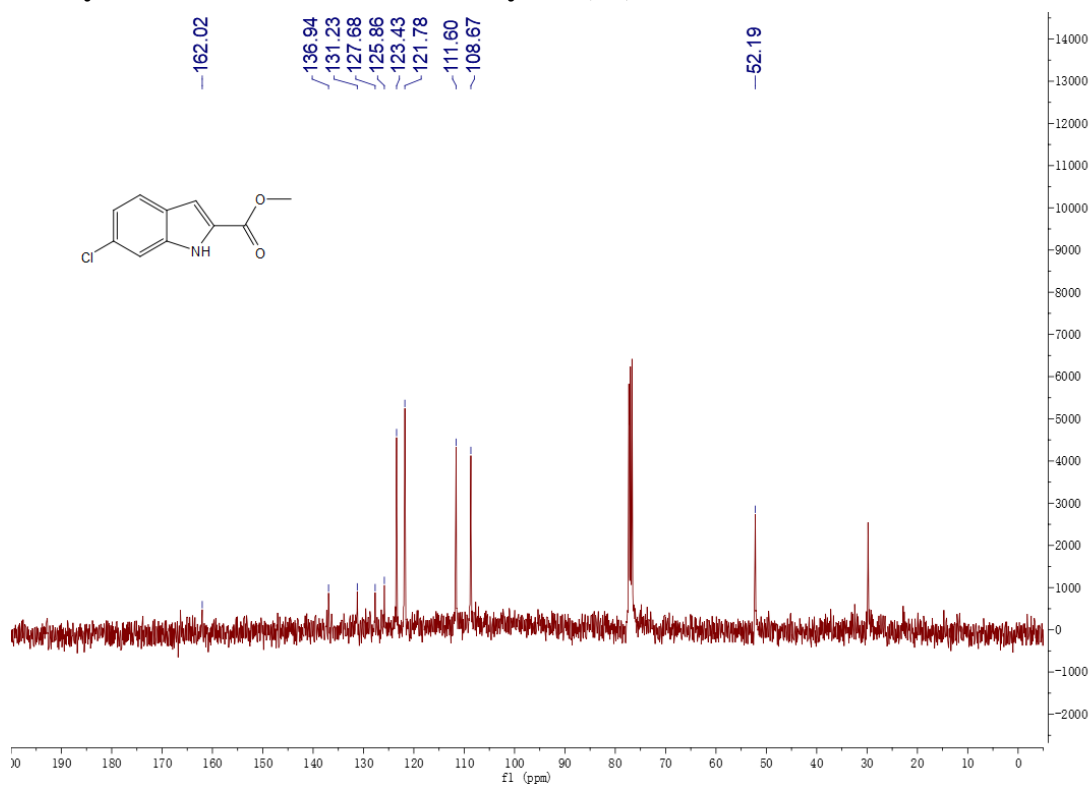
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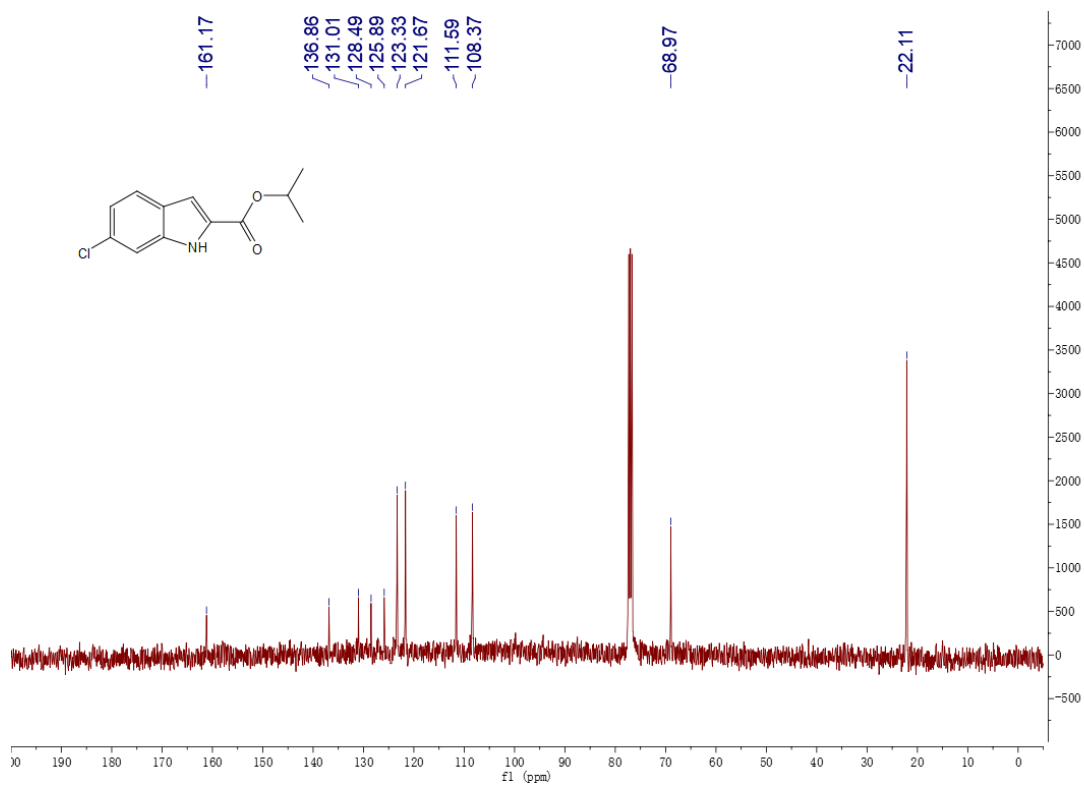
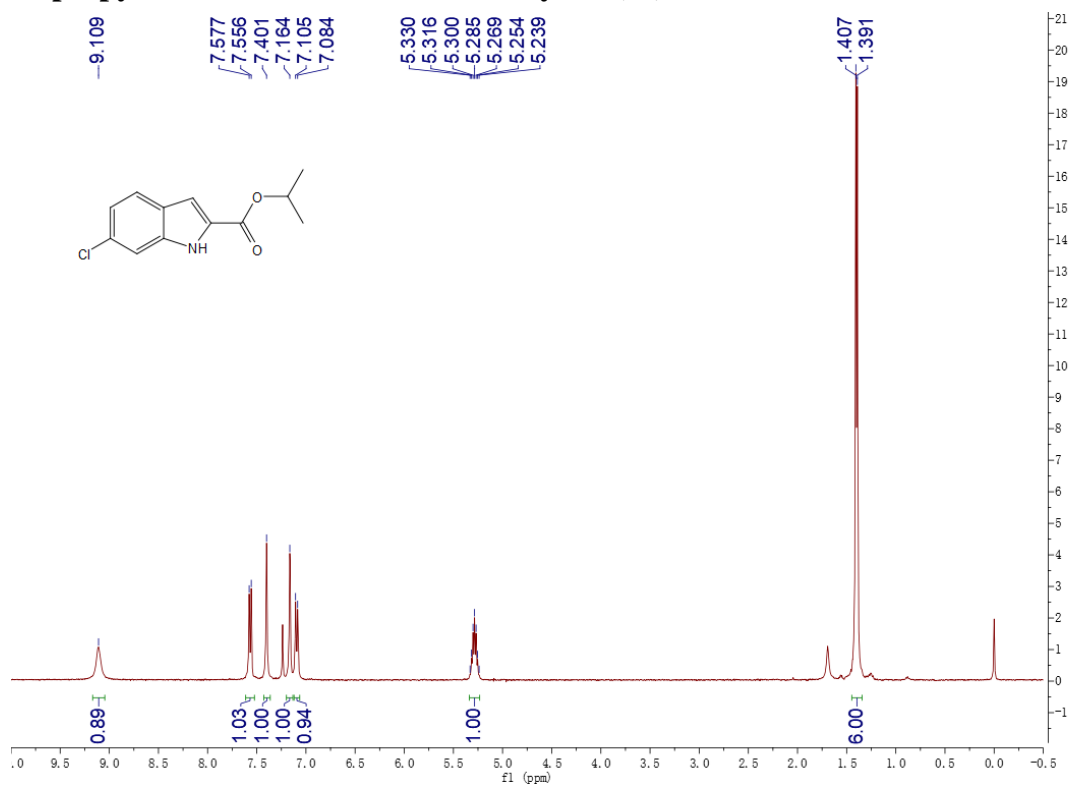
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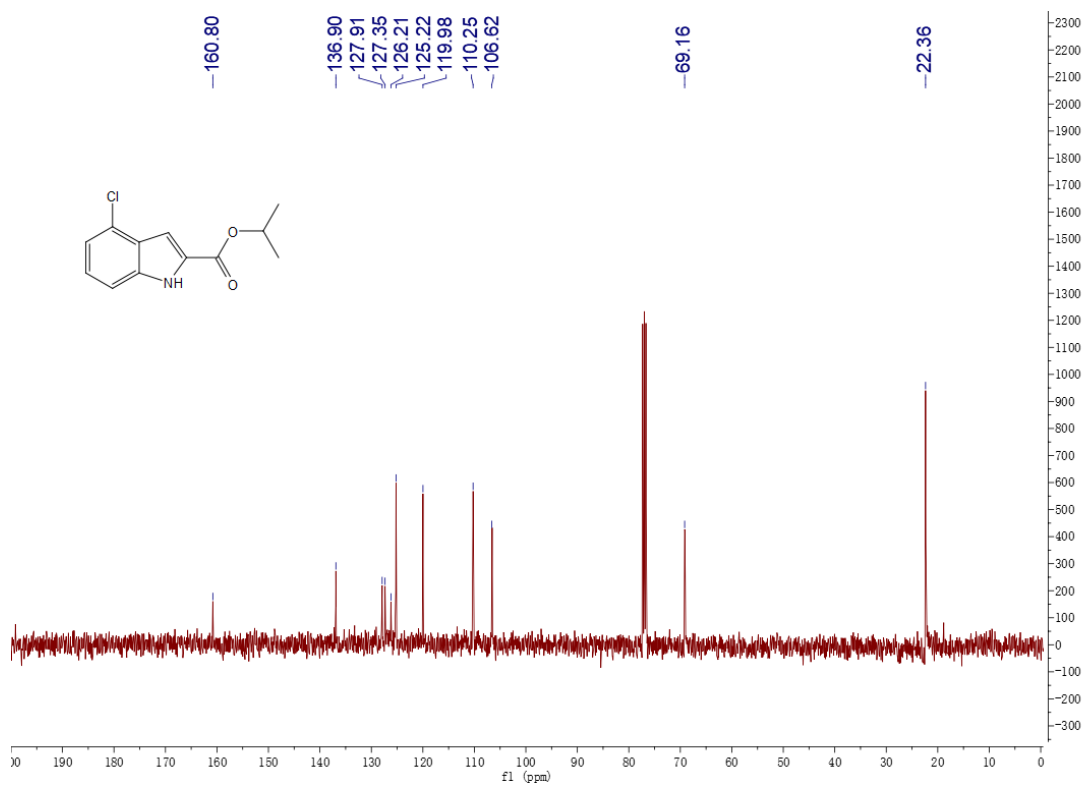
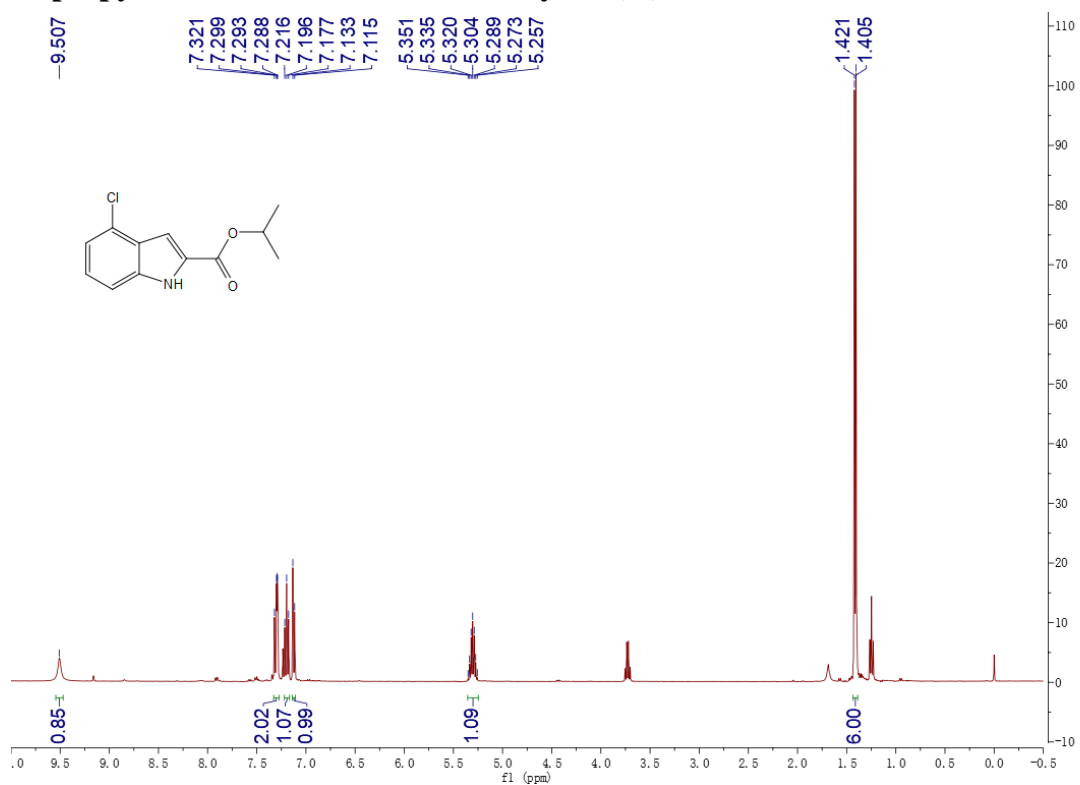
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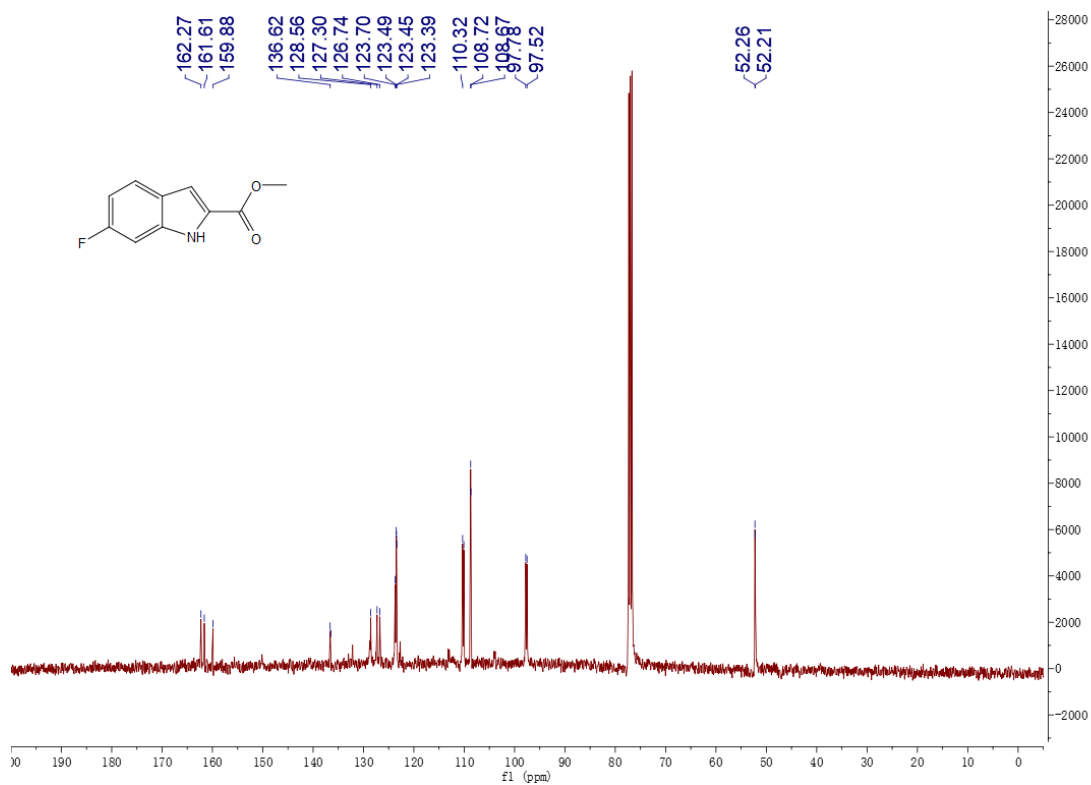
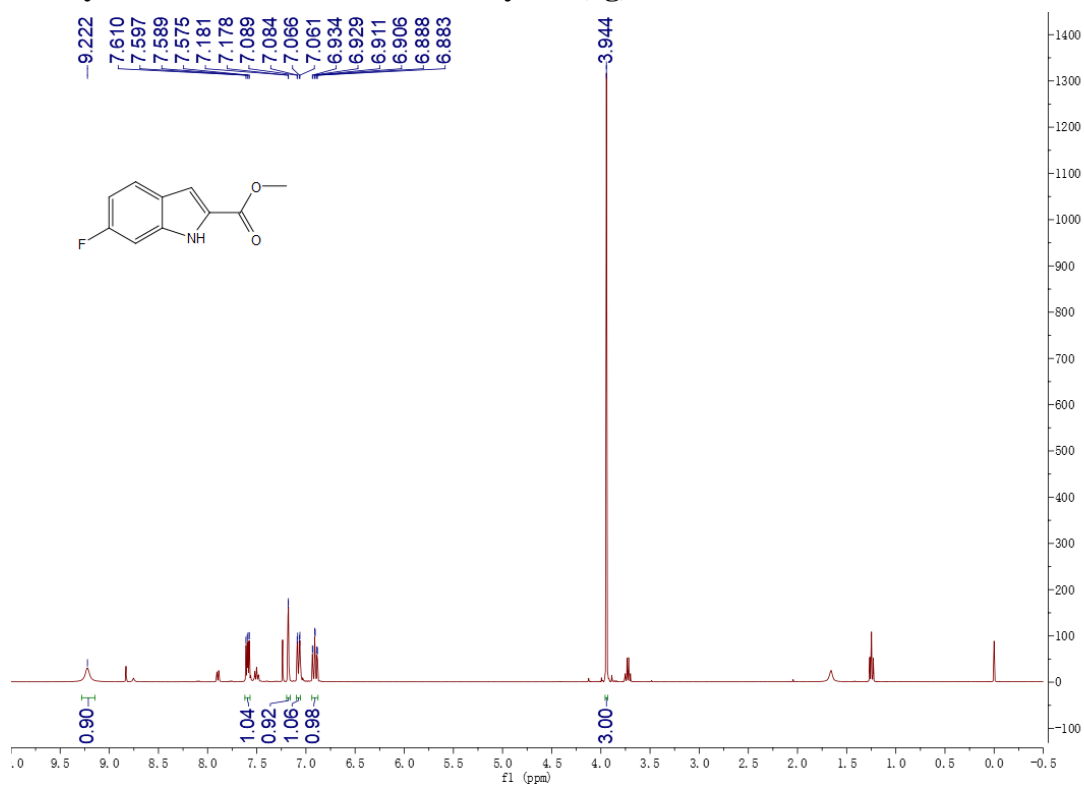
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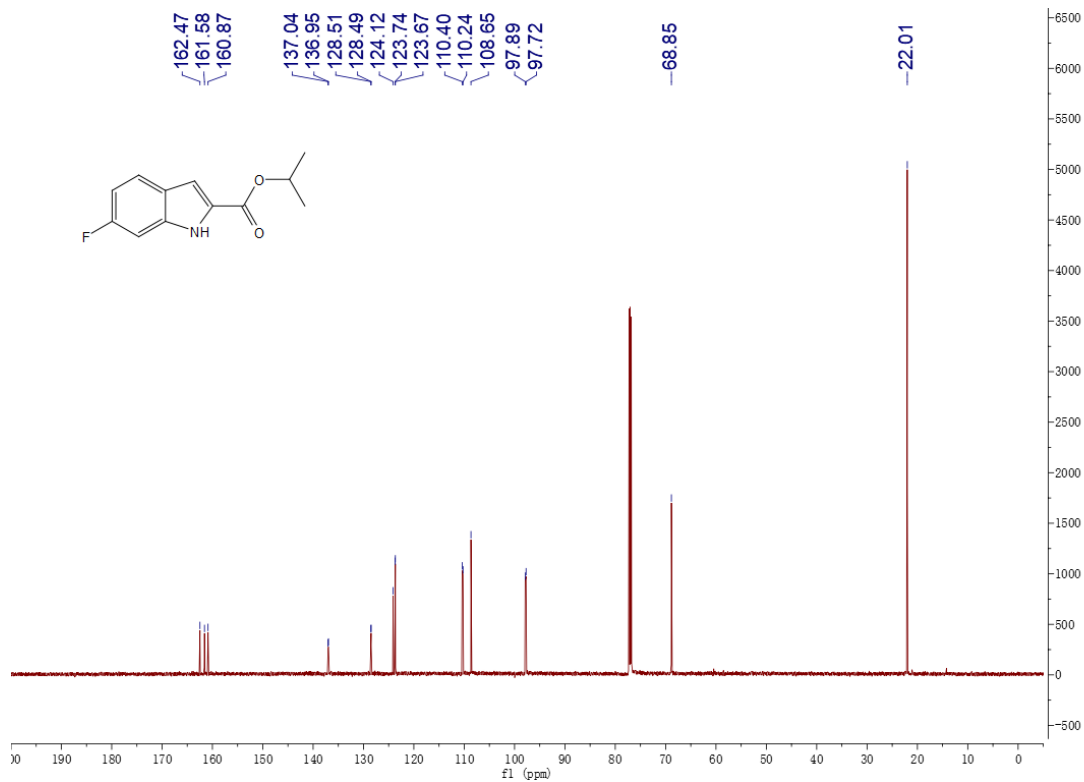
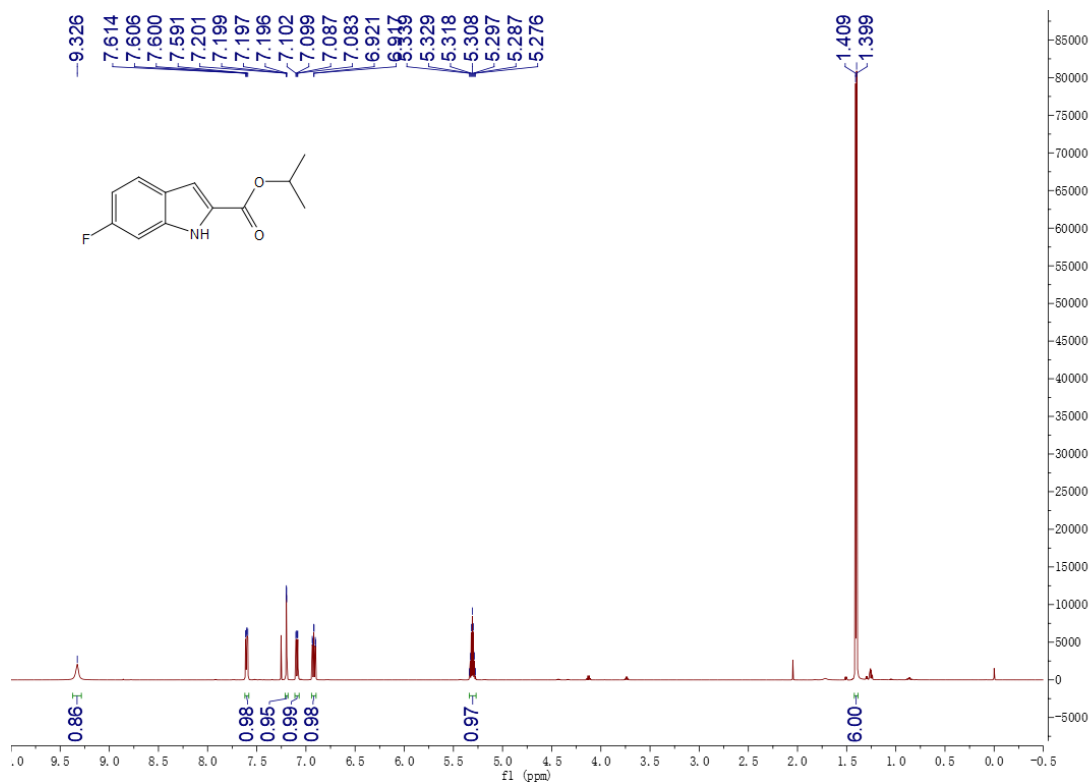
Isopropyl 4-chloro-1H-indole-2-carboxylate (2f)



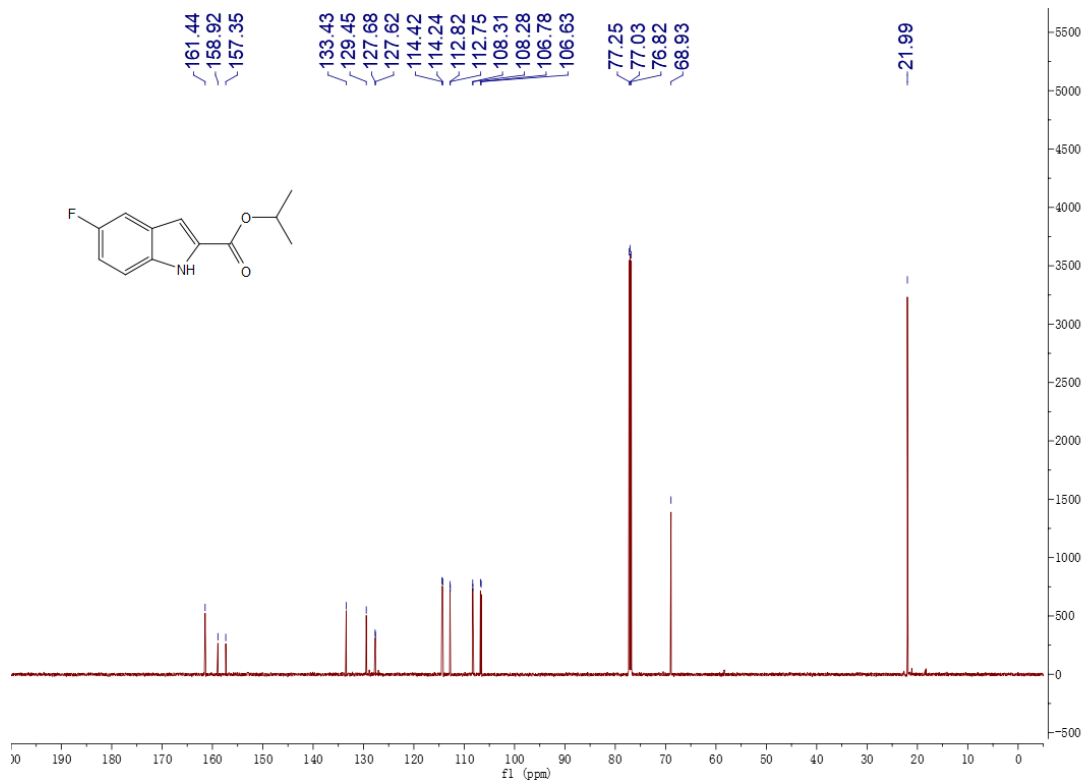
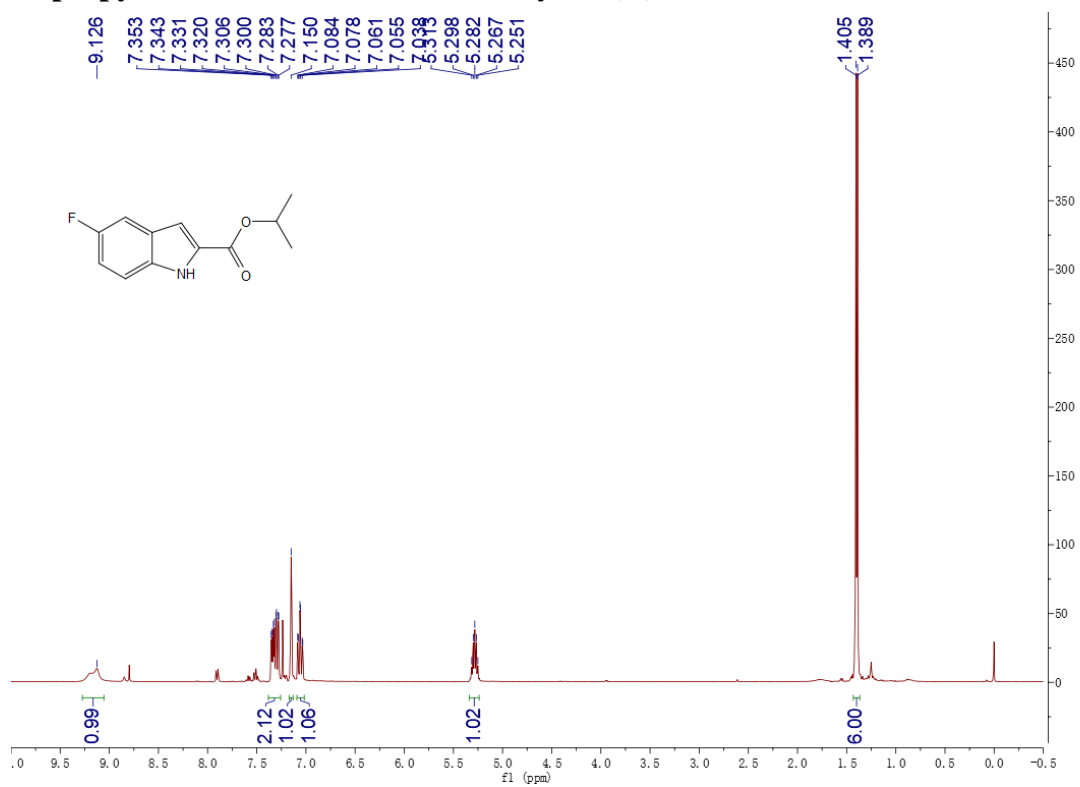
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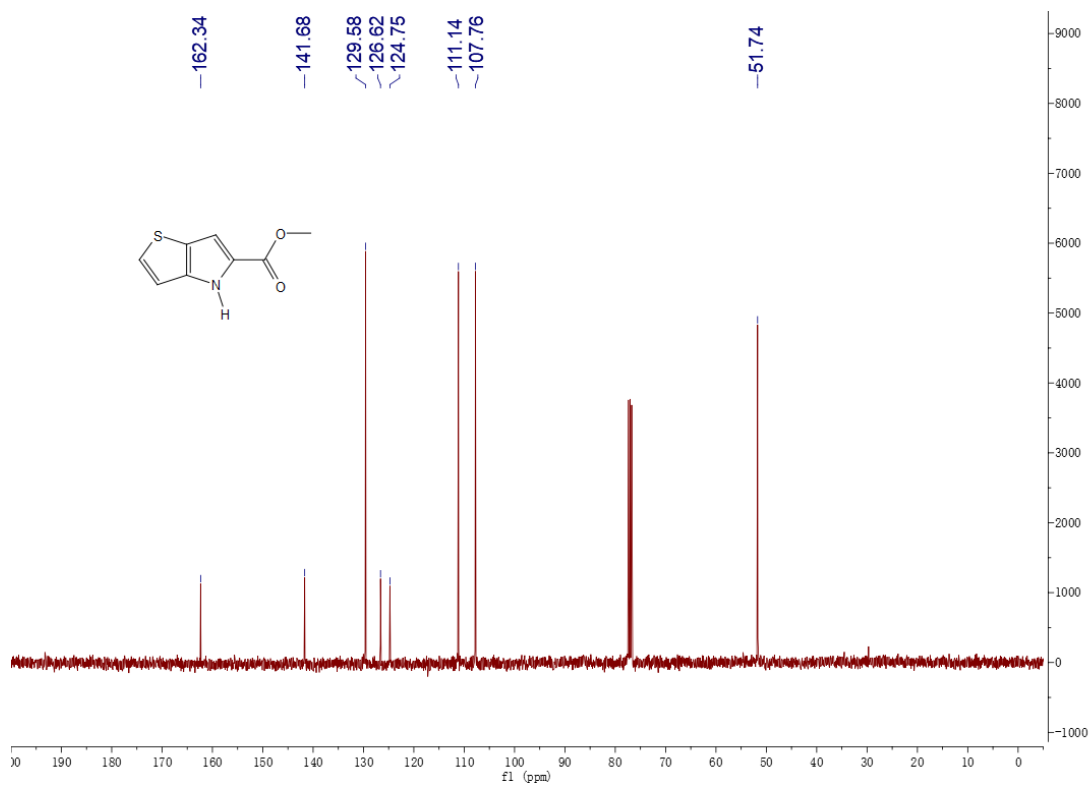
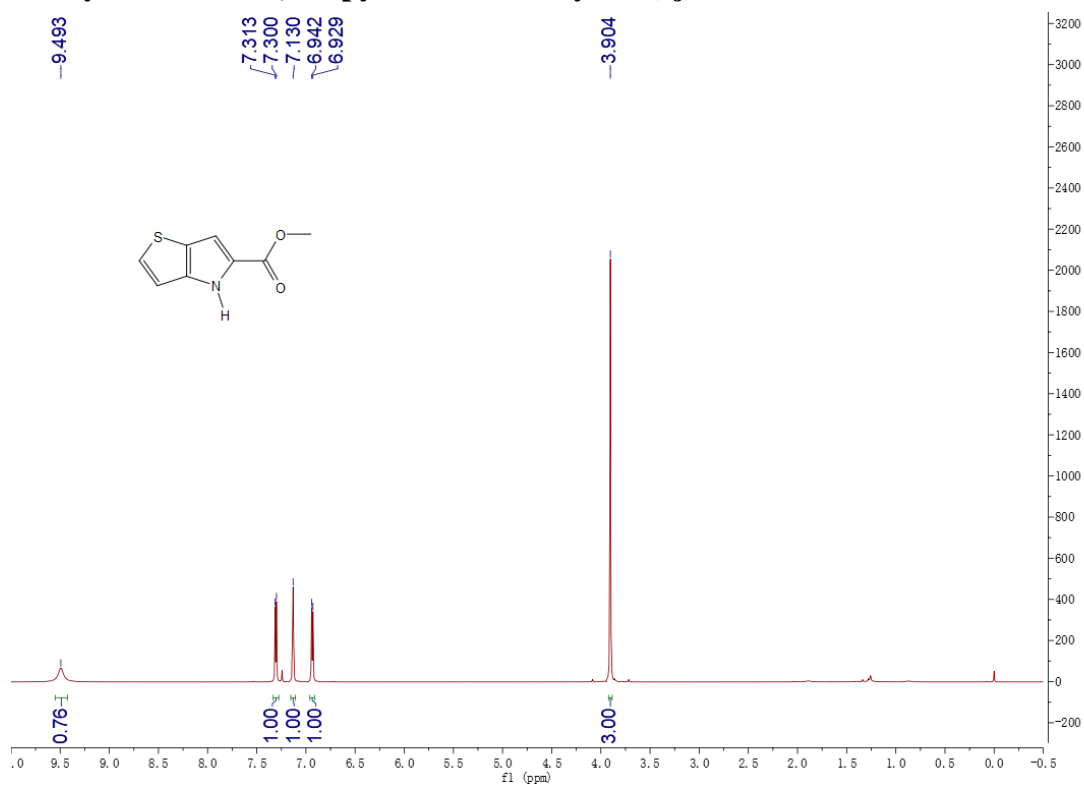
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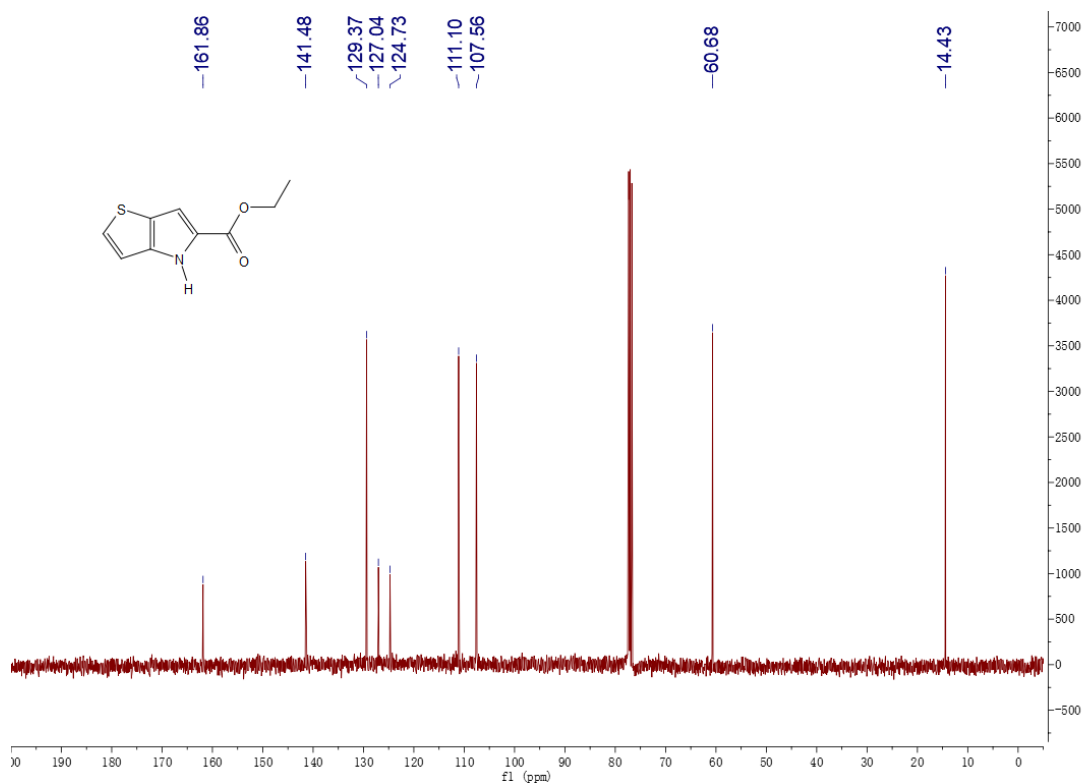
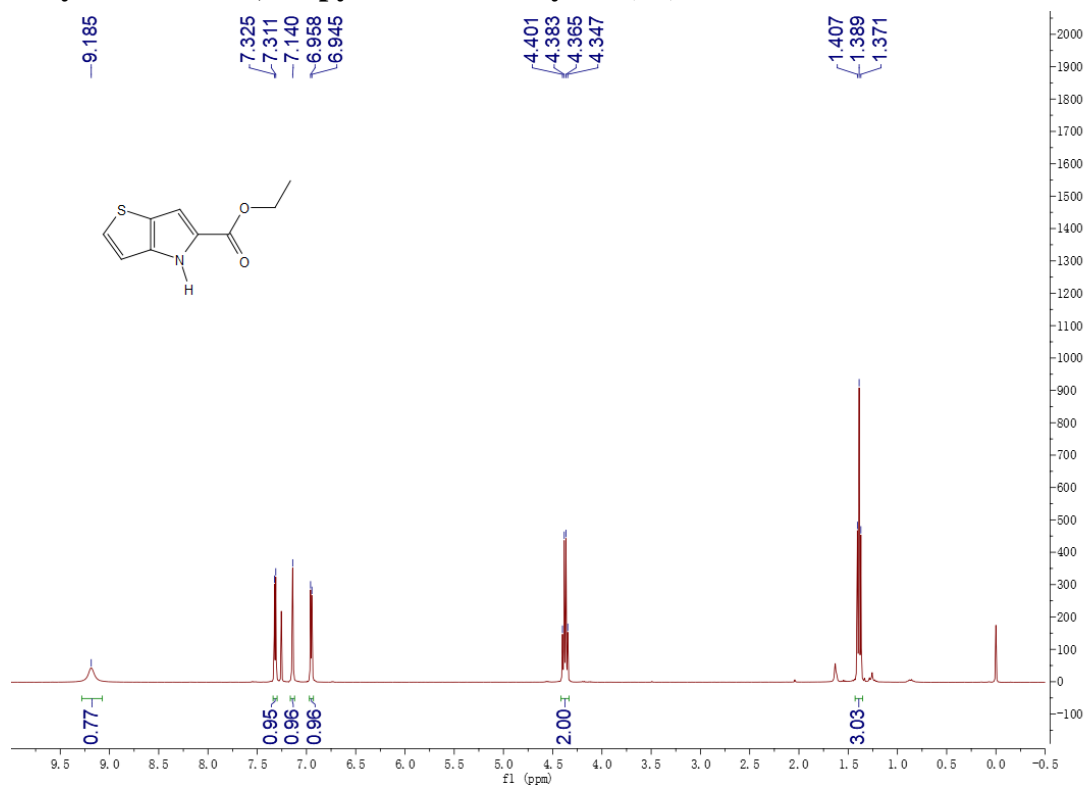
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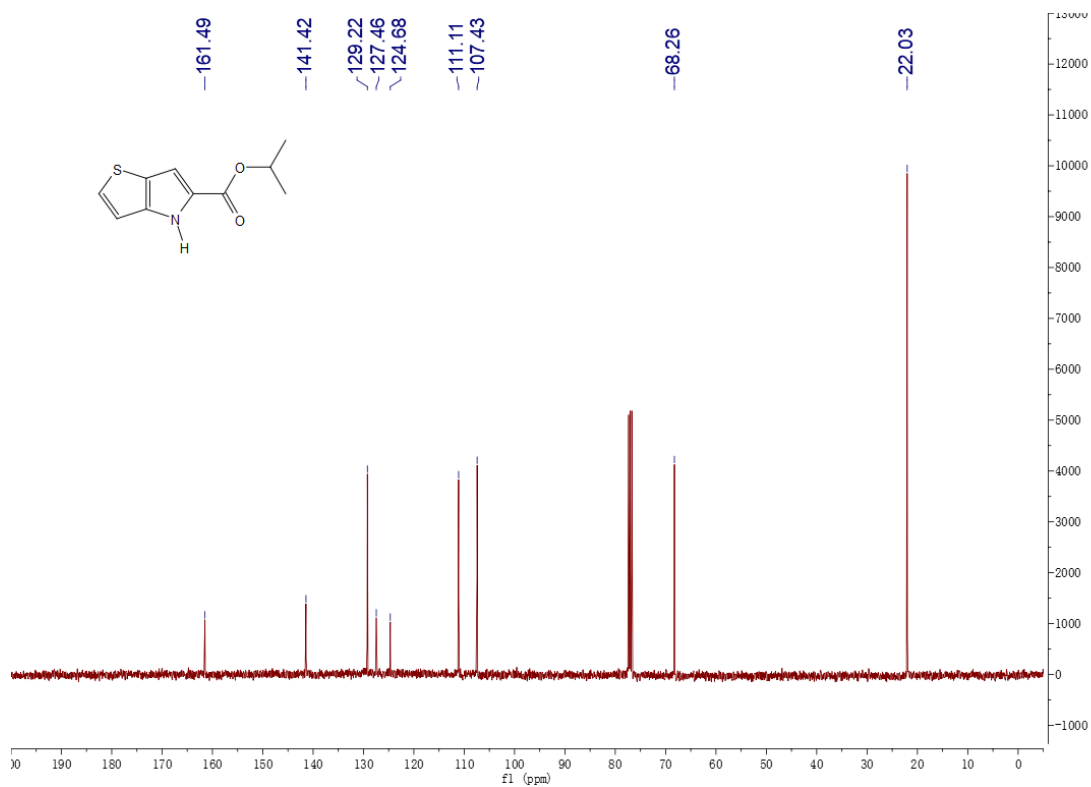
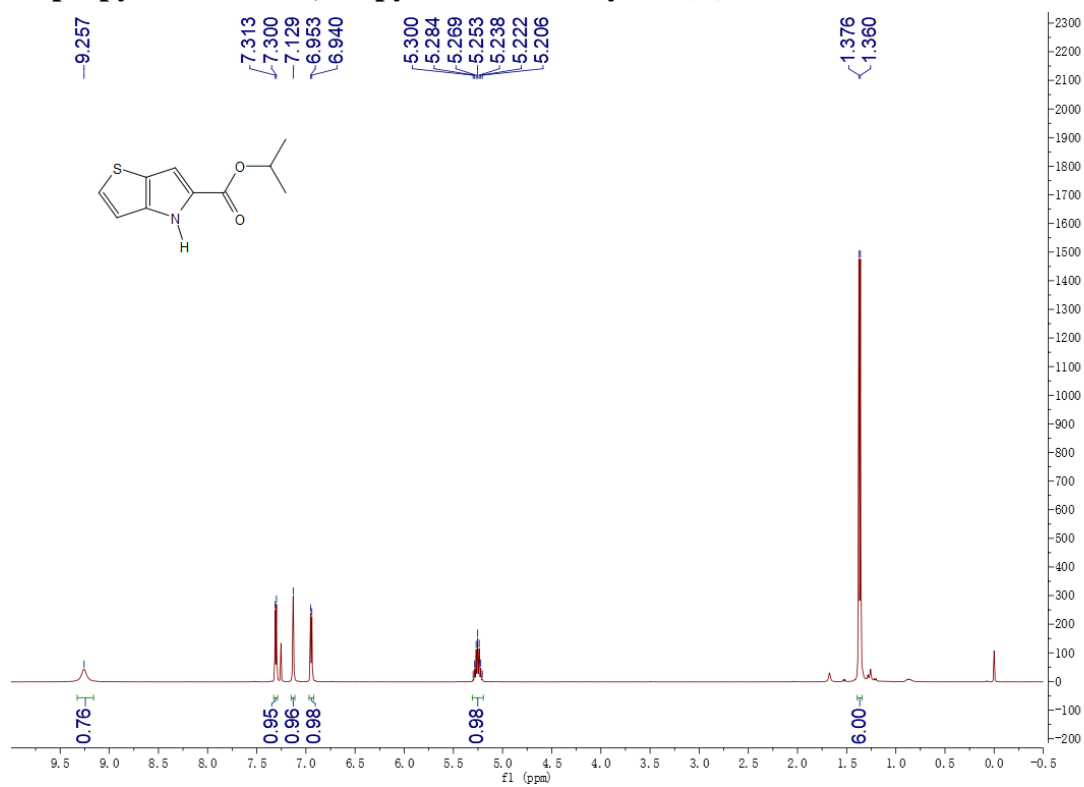
Methyl 4*H*-thieno[3,2-*b*]pyrrole-5-carboxylate (2j)



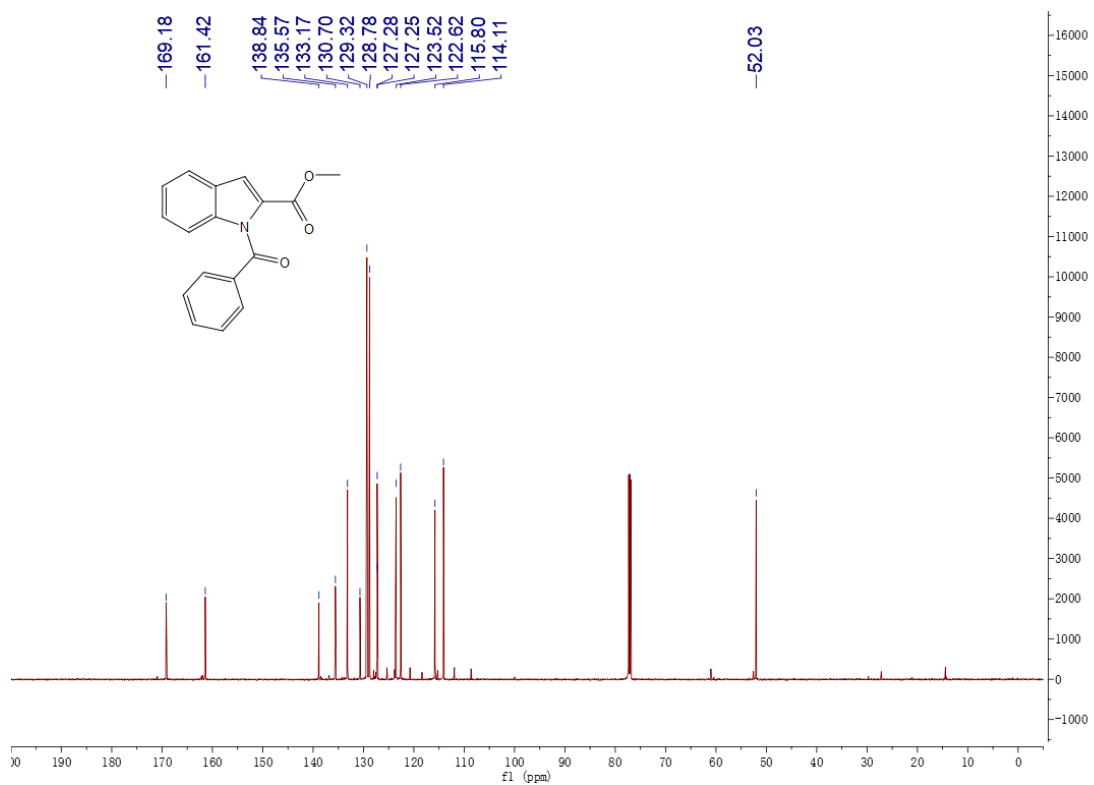
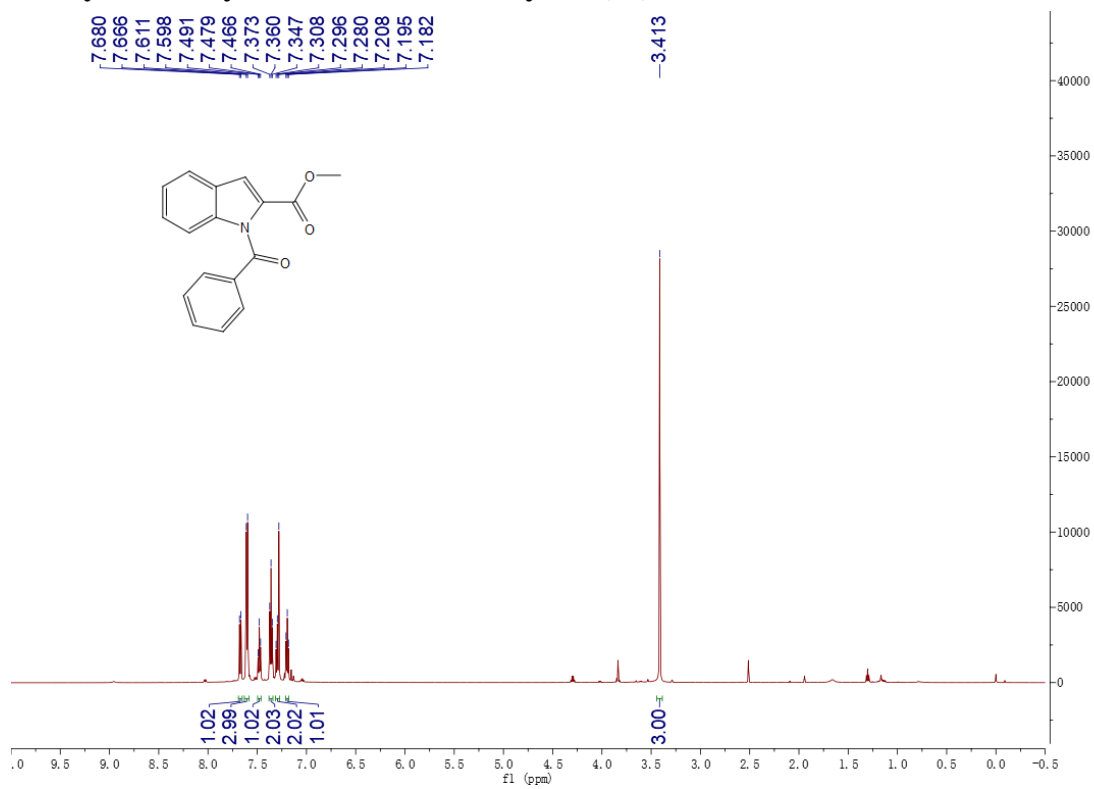
Ethyl 4*H*-thieno[3,2-*b*]pyrrole-5-carboxylate (2k)



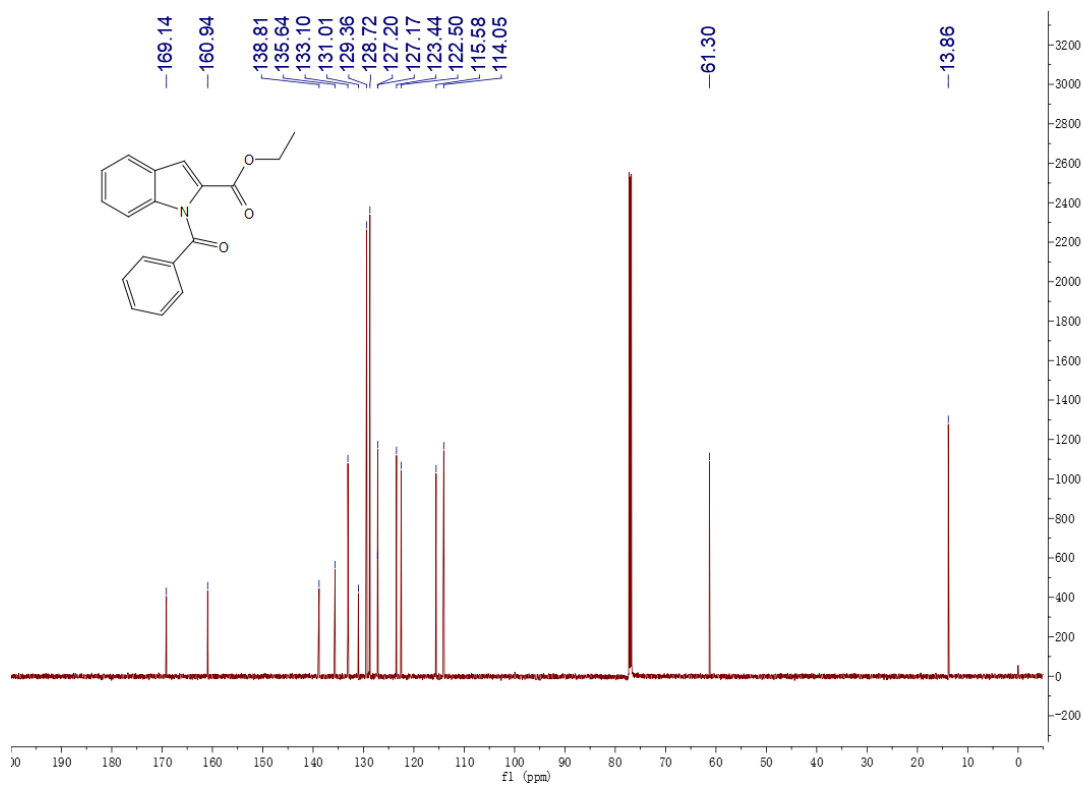
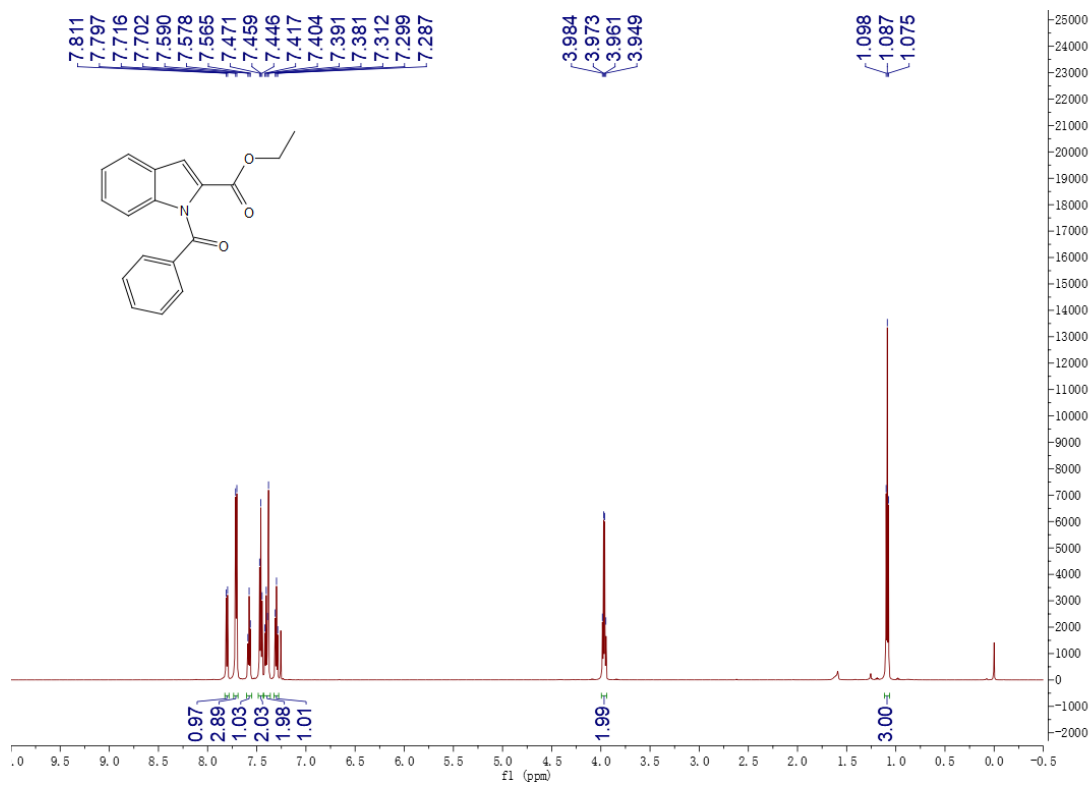
Isopropyl 4*H*-thieno[3,2-*b*]pyrrole-5-carboxylate (2l)



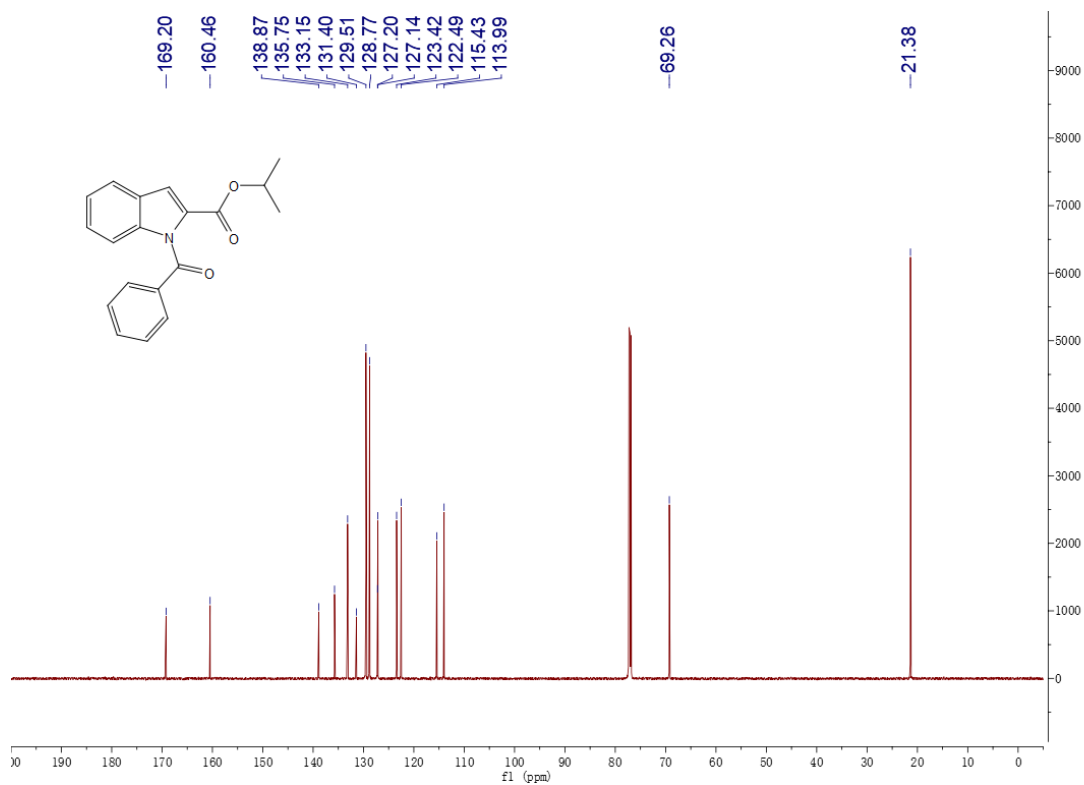
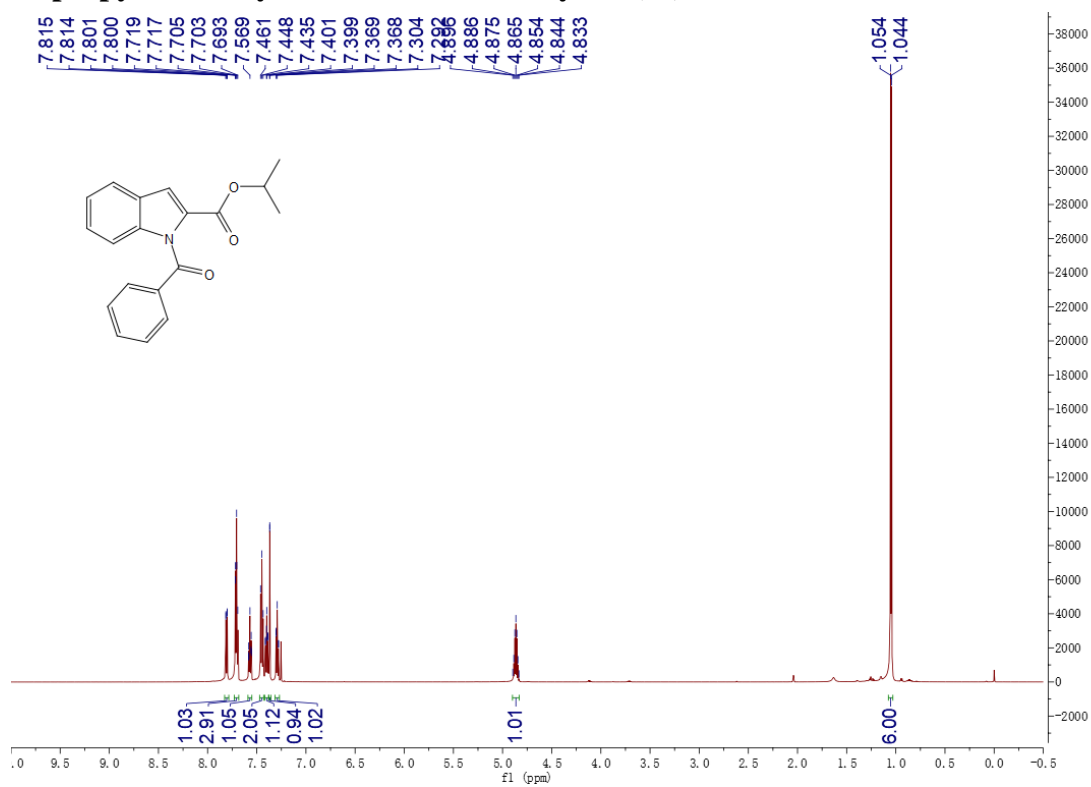
Methyl 1-benzoyl-1H-indole-2-carboxylate (4a)



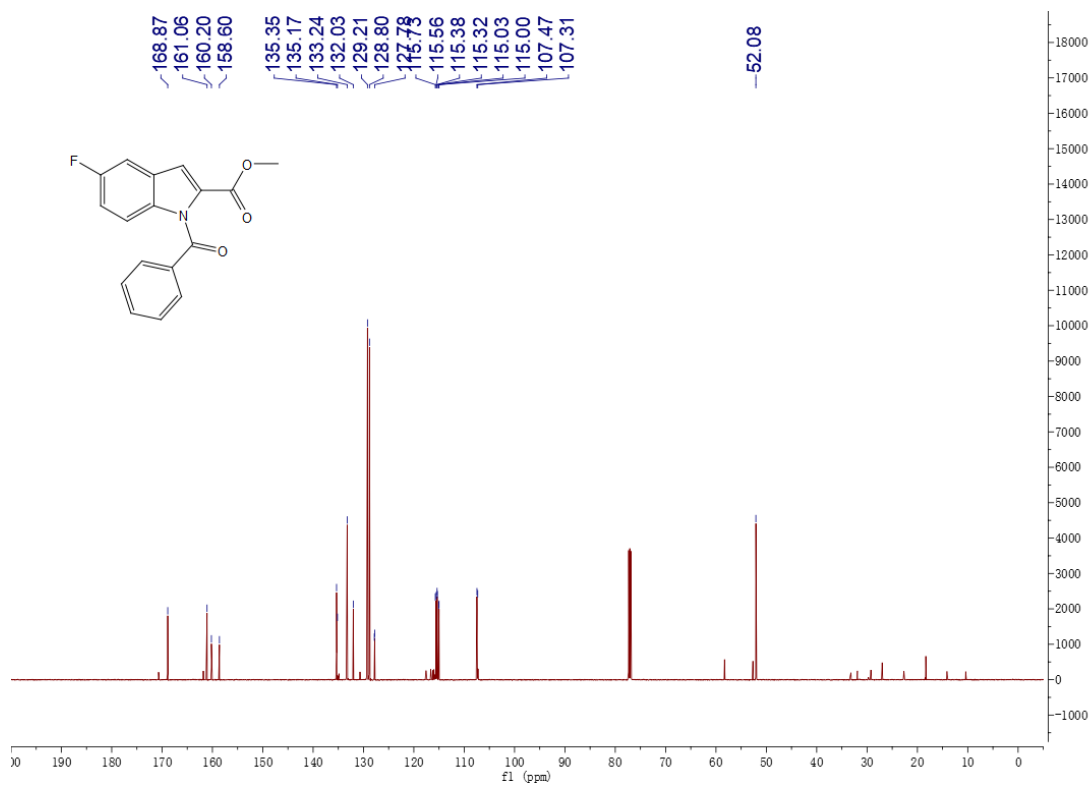
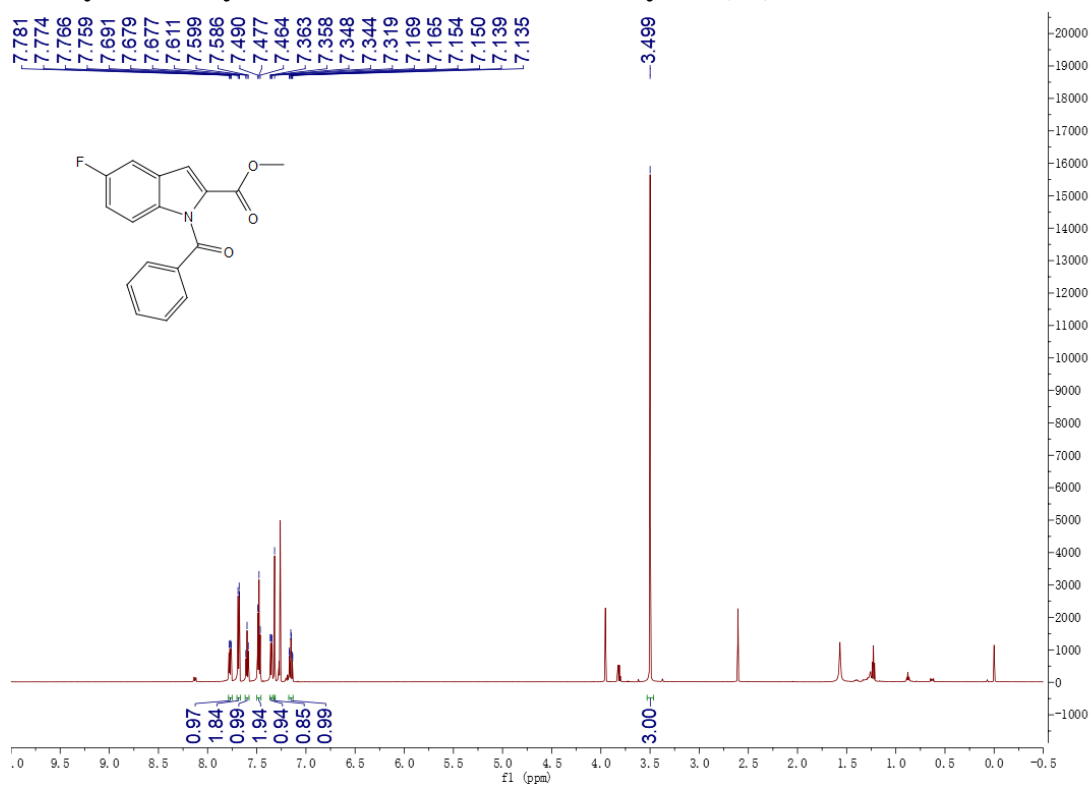
Ethyl 1-benzoyl-1*H*-indole-2-carboxylate (4b)



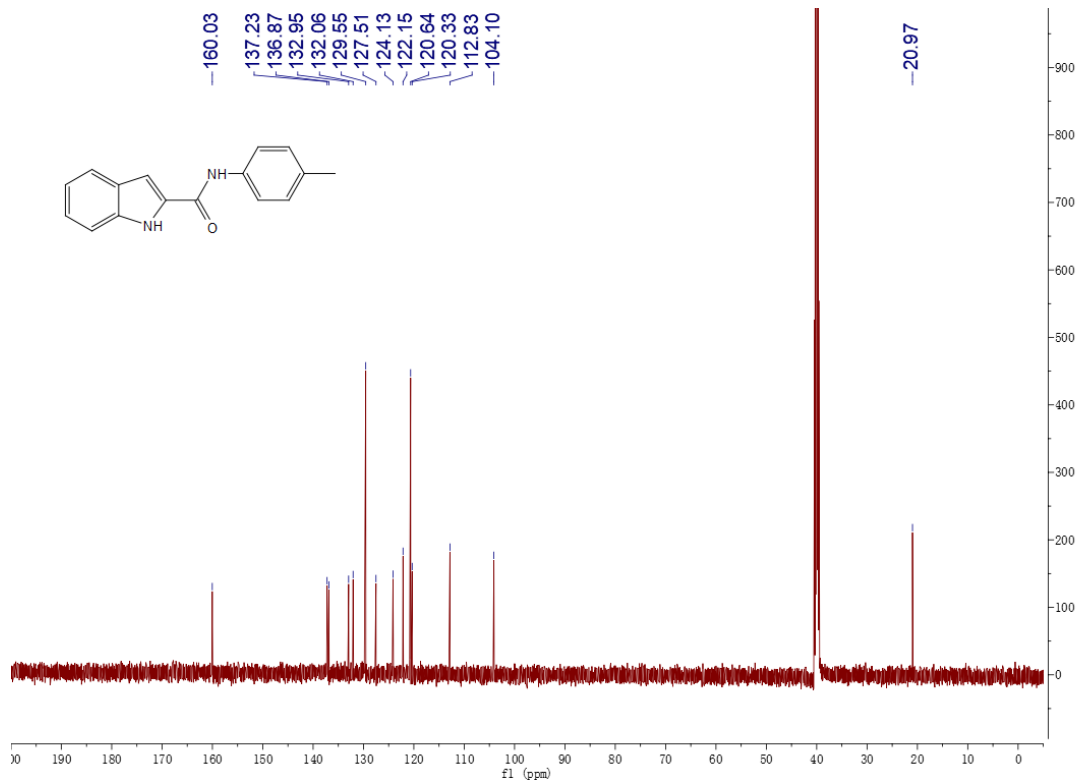
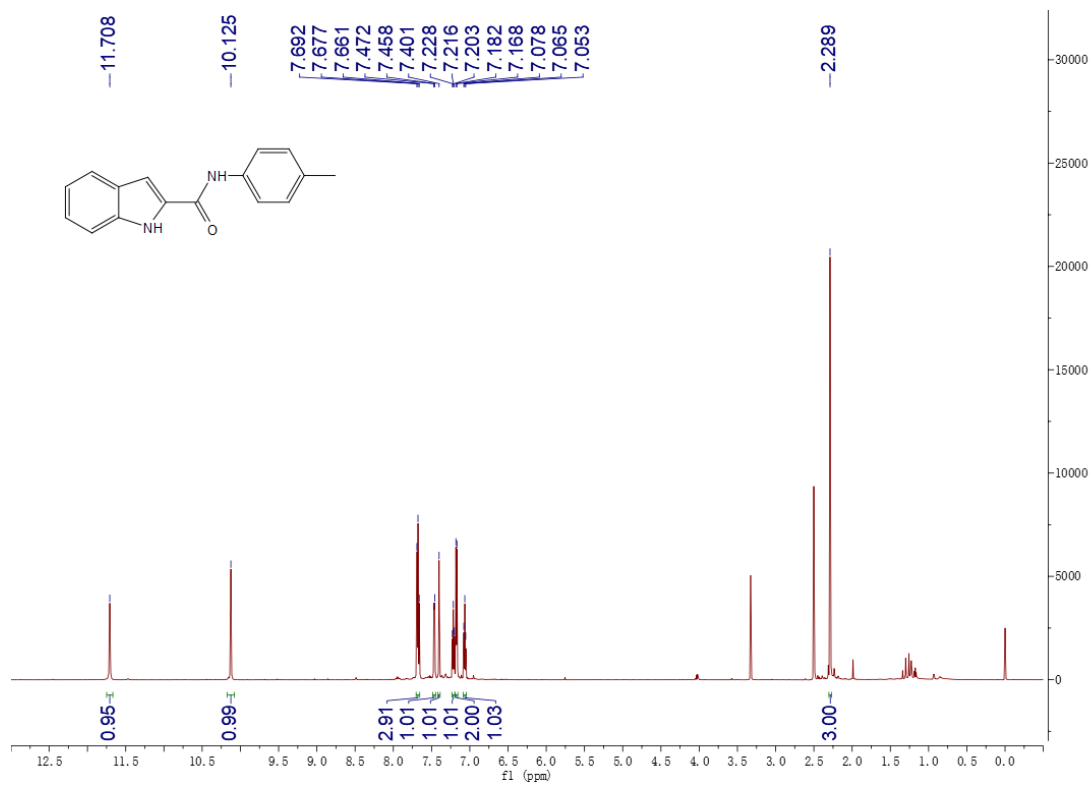
Isopropyl 1-benzoyl-1*H*-indole-2-carboxylate (4c)



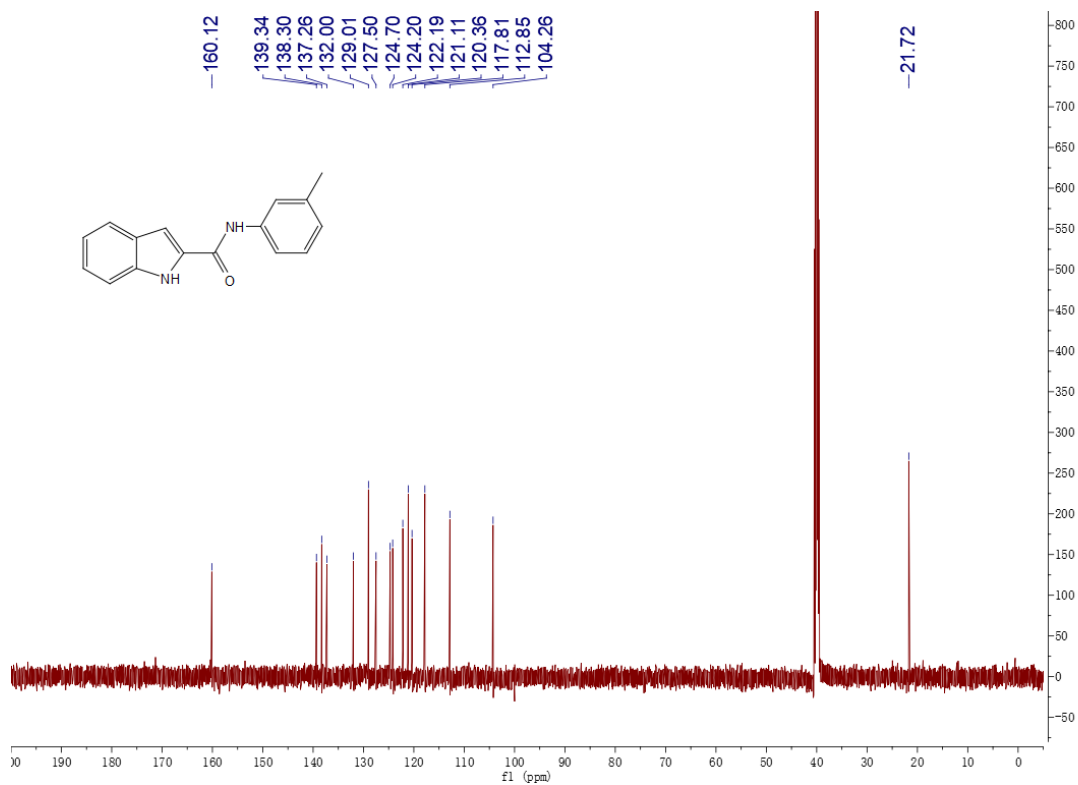
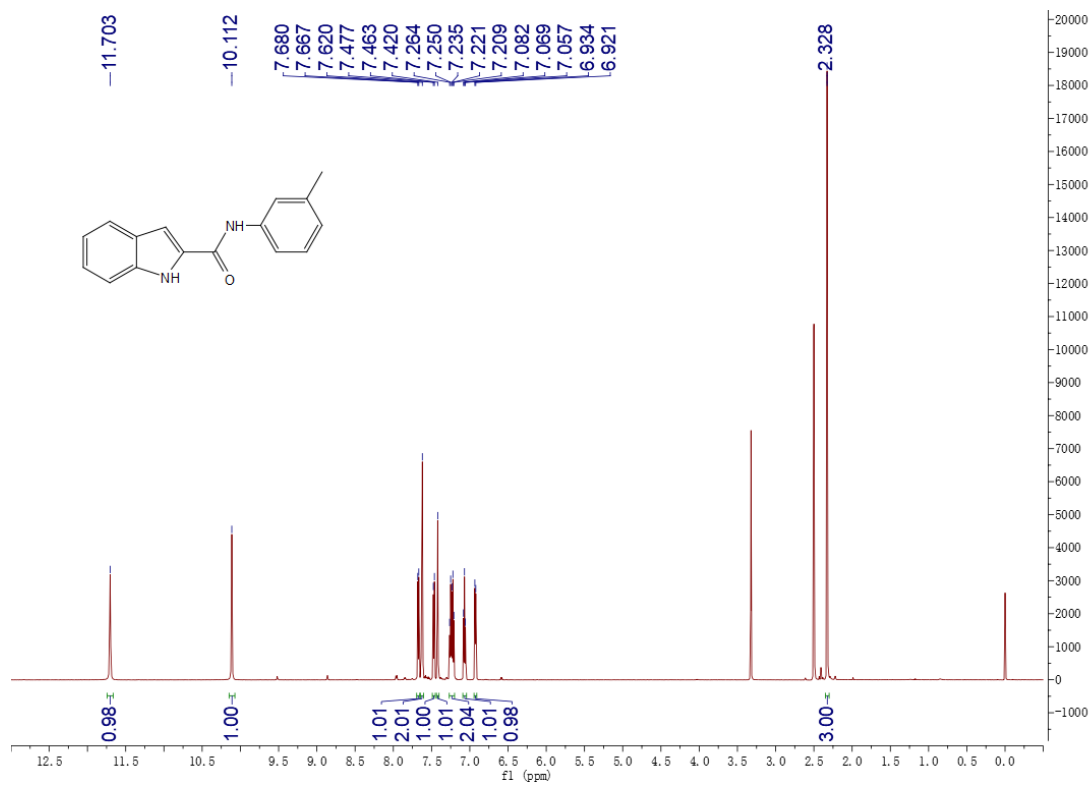
Methyl 1-benzoyl-5-fluoro-1*H*-indole-2-carboxylate (4d)



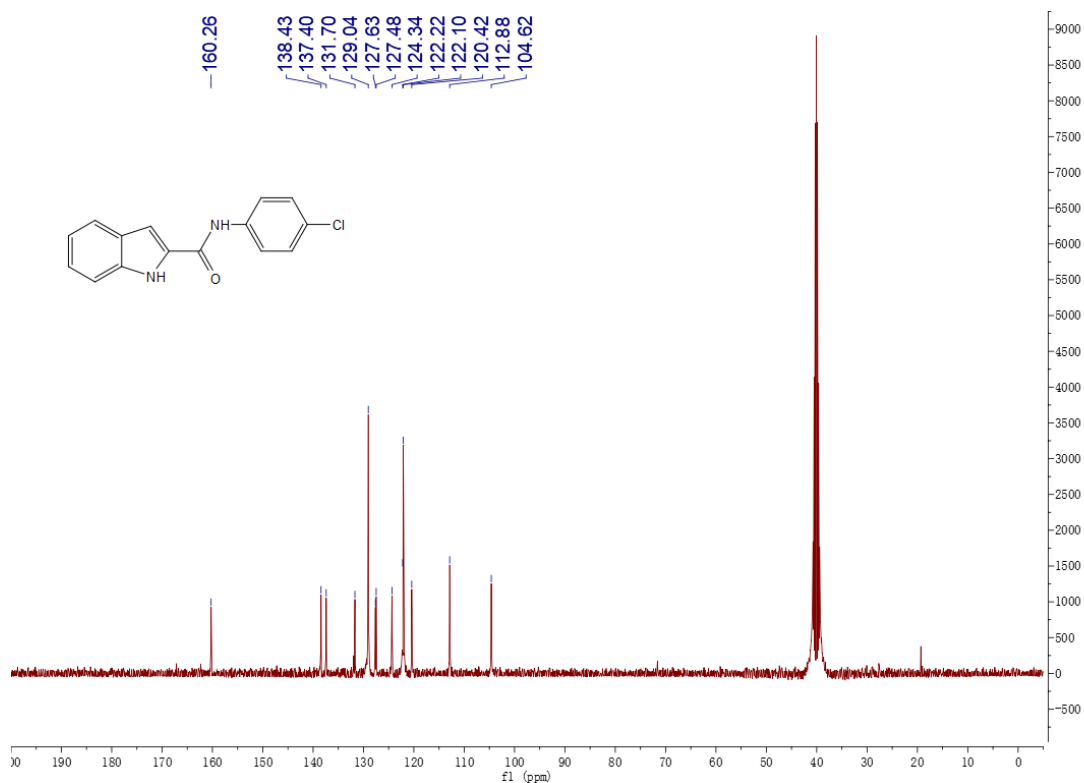
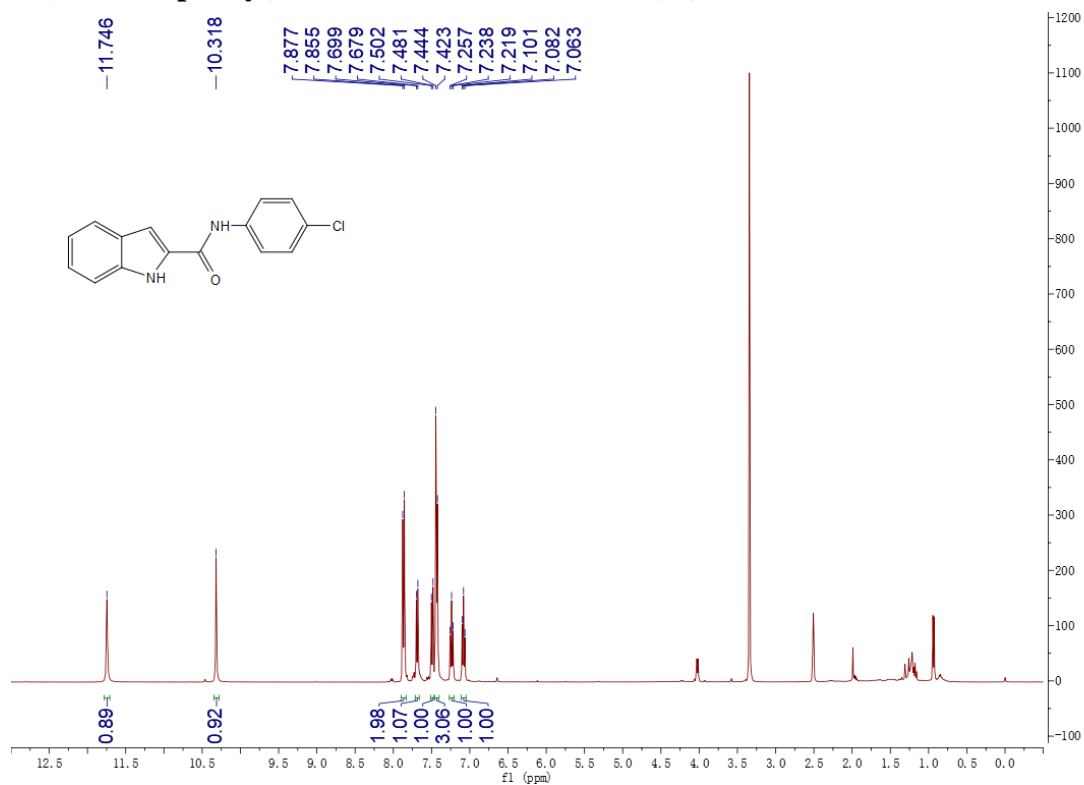
N-(*p*-Tolyl)-1*H*-indole-2-carboxamide (6a)



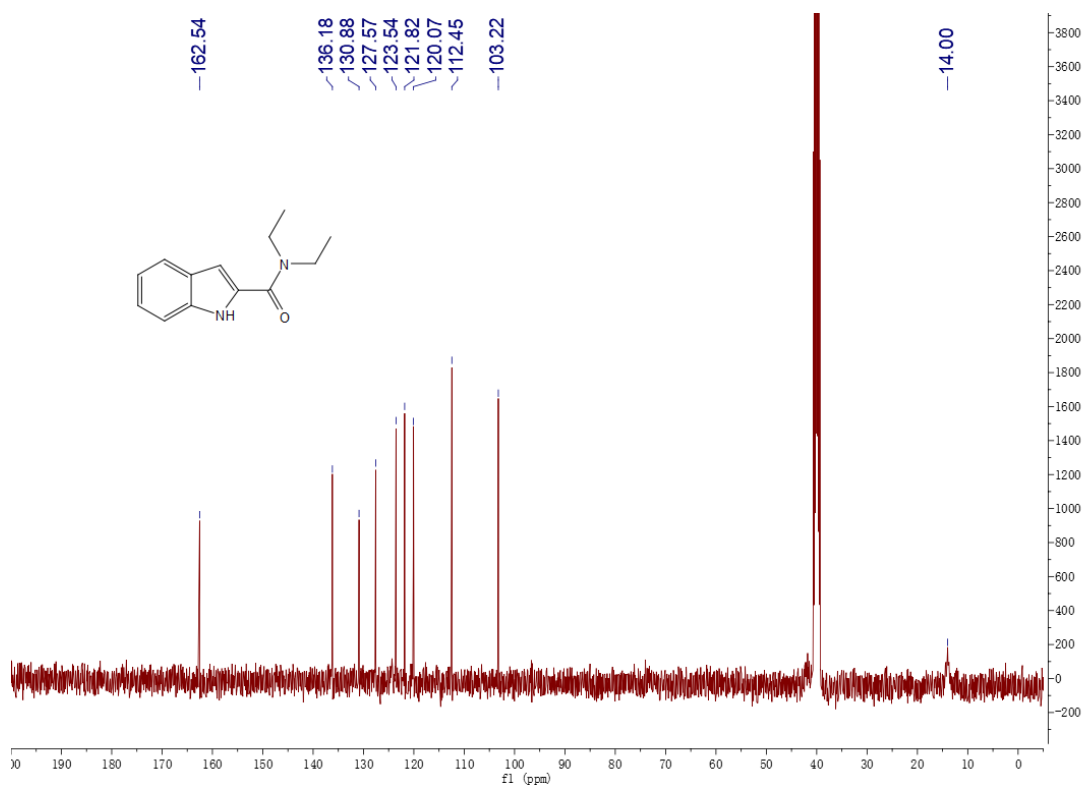
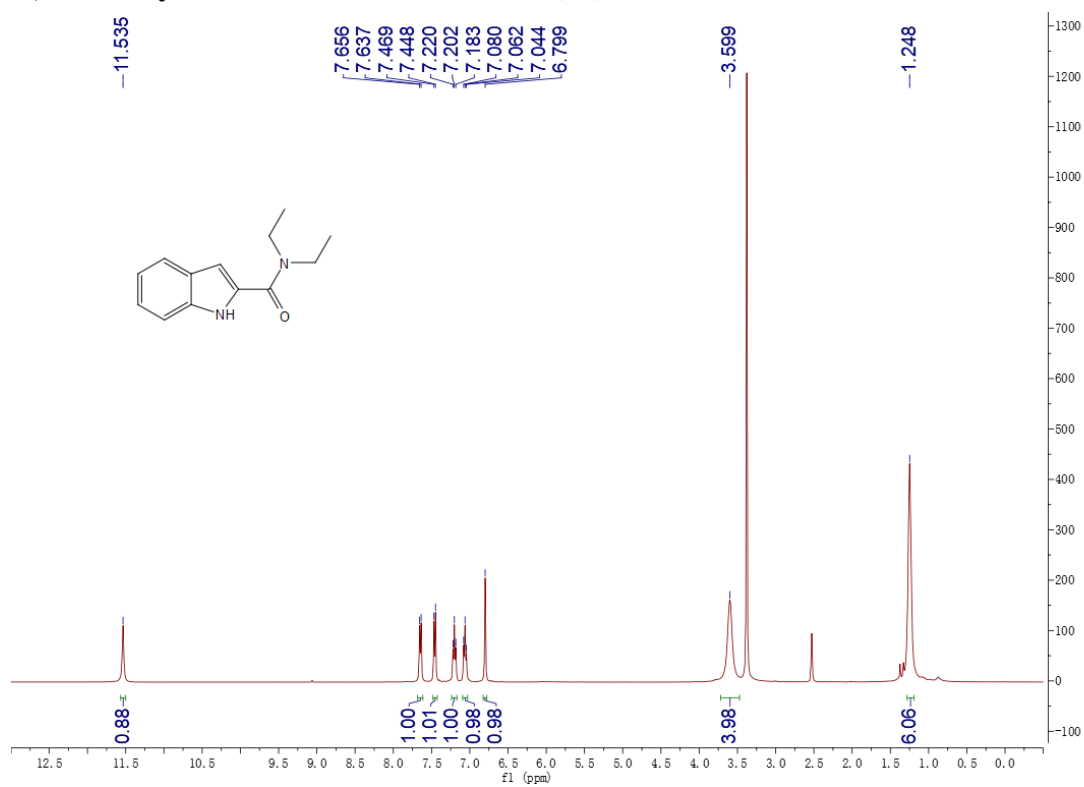
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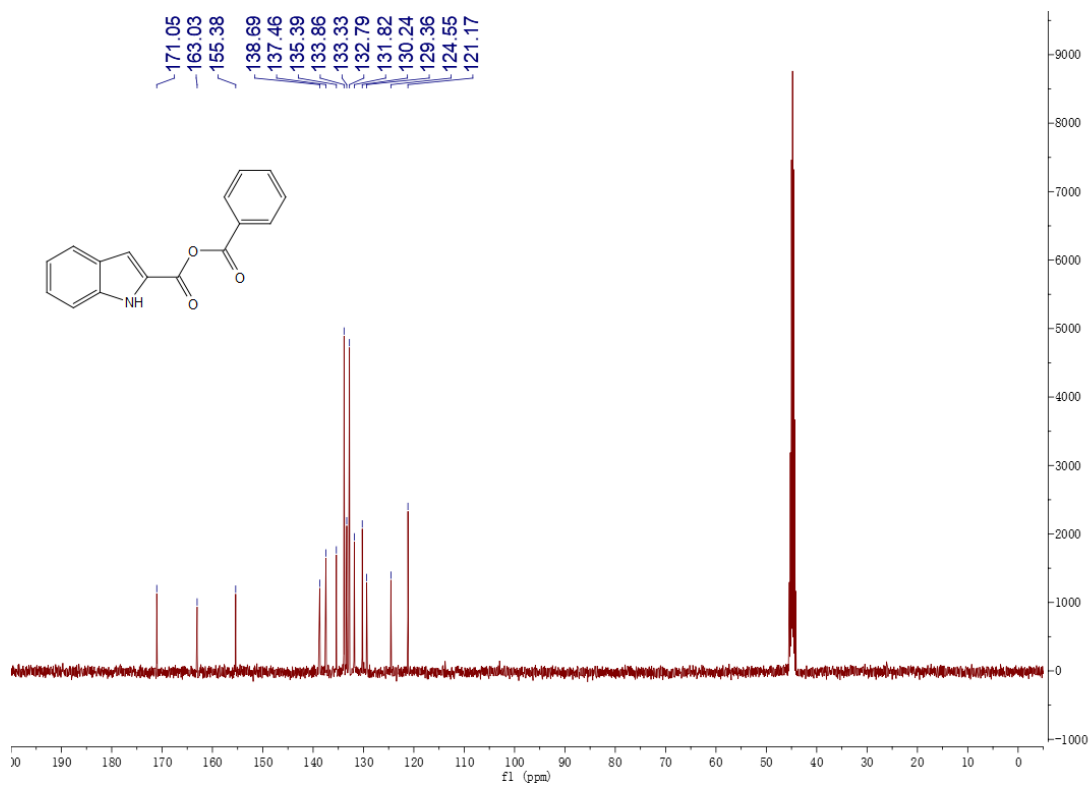
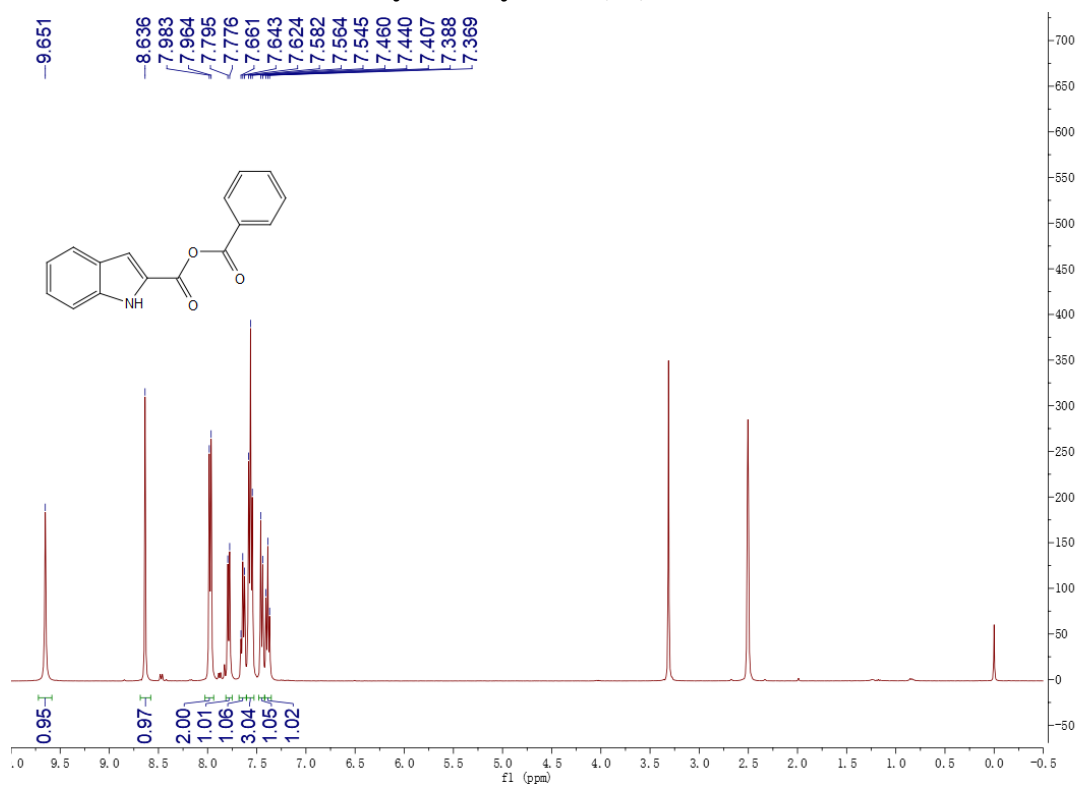
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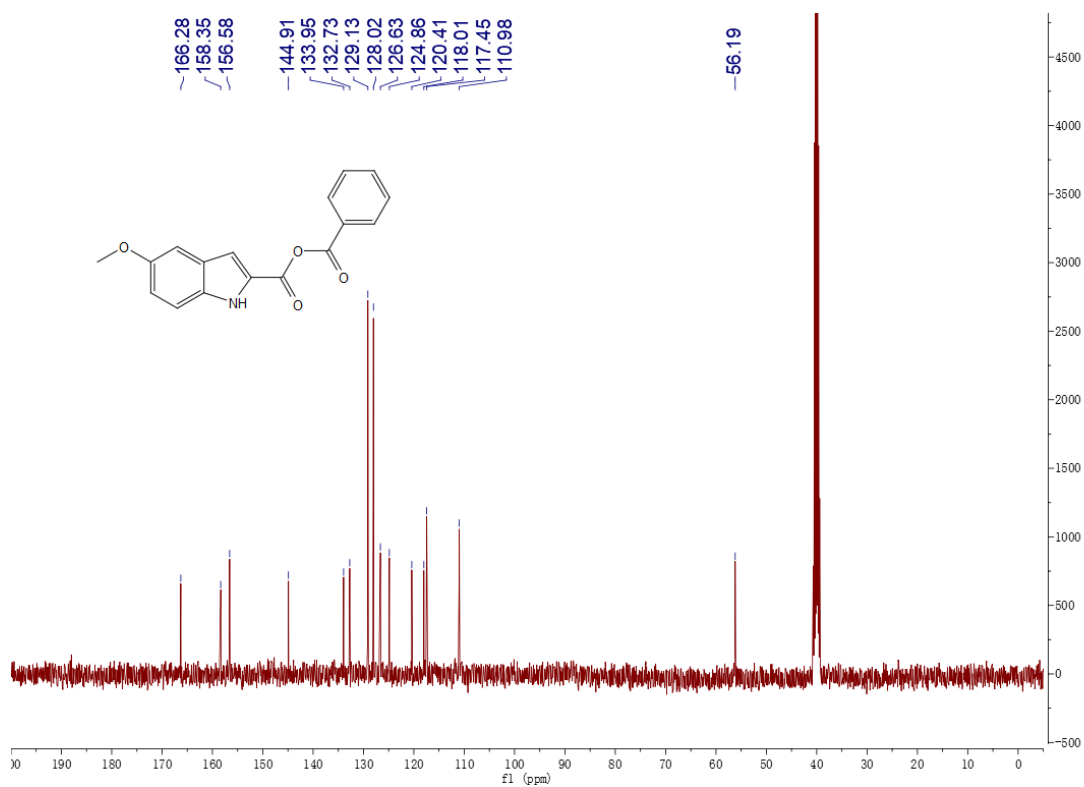
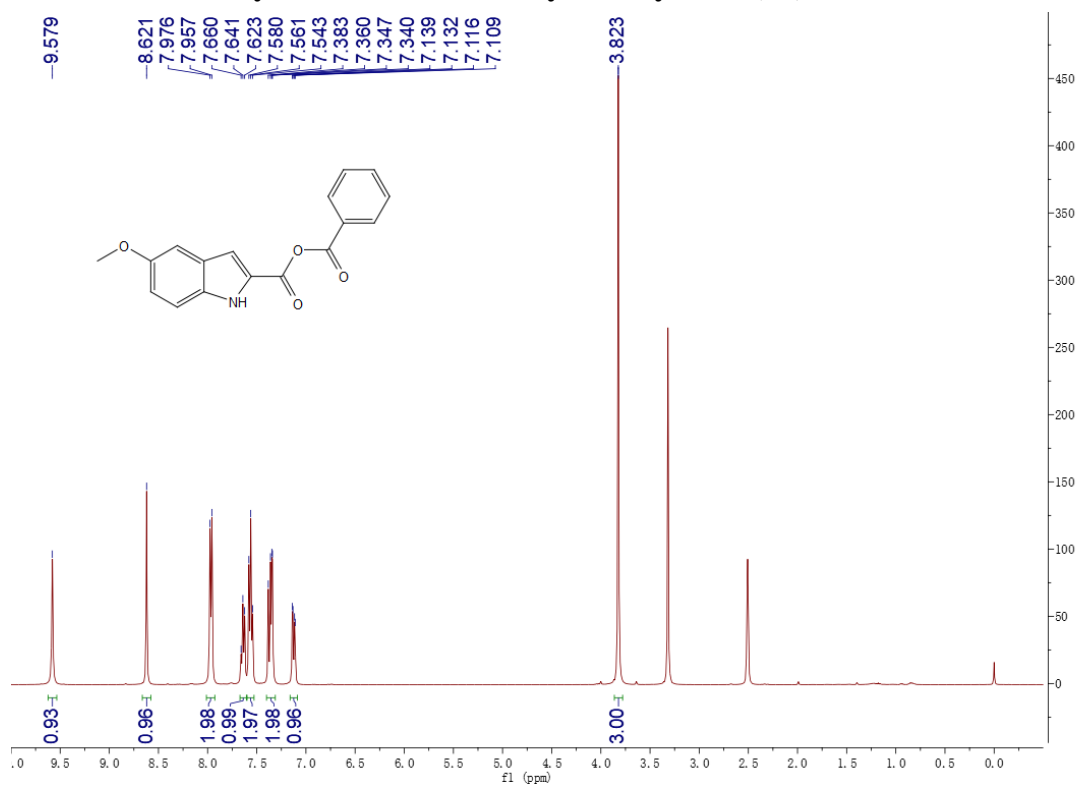
N,N-Diethyl-1*H*-indole-2-carboxamide (6d)



Benzoic 1H-indole-2-carboxylic anhydride (7a)



Benzoic 5-methoxy-1H-indole-2-carboxylic anhydride (7b)



Benzoic 5-fluoro-1H-indole-2-carboxylic anhydride (7c)

