A divergent approach to benzylisoquinoline-type and oxoaporphine alkaloids via regioselective direct ring metalation of alkoxy isoquinolines

Benedikt Melzer and Franz Bracher*

Department of Pharmacy - Center for Drug Research, Ludwig-Maximilians University, Butenandtstr. 5-13, D-81377 Munich, Germany

*Corresponding author. Email: Franz.Bracher@cup.uni-muenchen.de, Phone: +49-89-2180-77301, Fax: +49-89-2180-77802

Supporting Information

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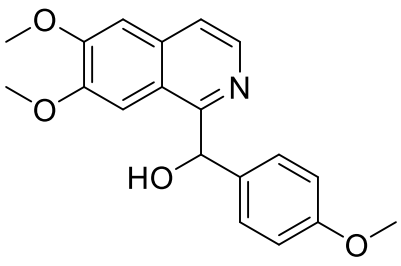
^{1}H NMR spectrum of (±)-(6,7-dimethoxyisoquinolin-1-yl)(4-methoxyphenyl)methanol (3a)



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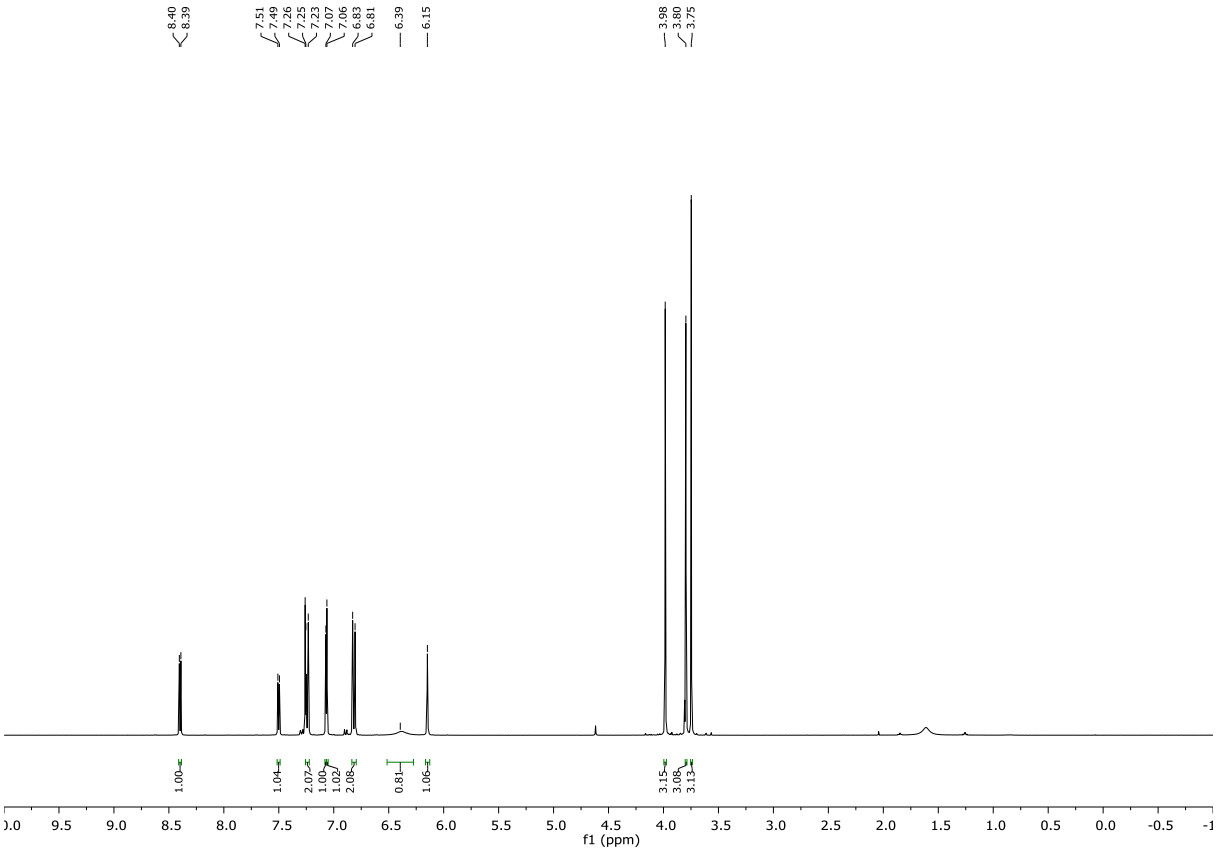
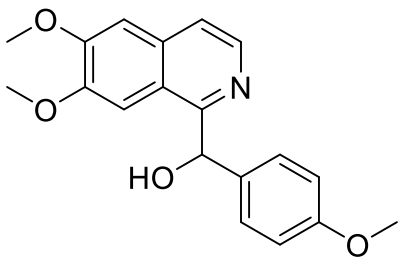
Solvent: $CDCl_3$



^{13}C NMR spectrum of (±)-(6,7-dimethoxyisoquinolin-1-yl)(4-methoxyphenyl)methanol (3a)



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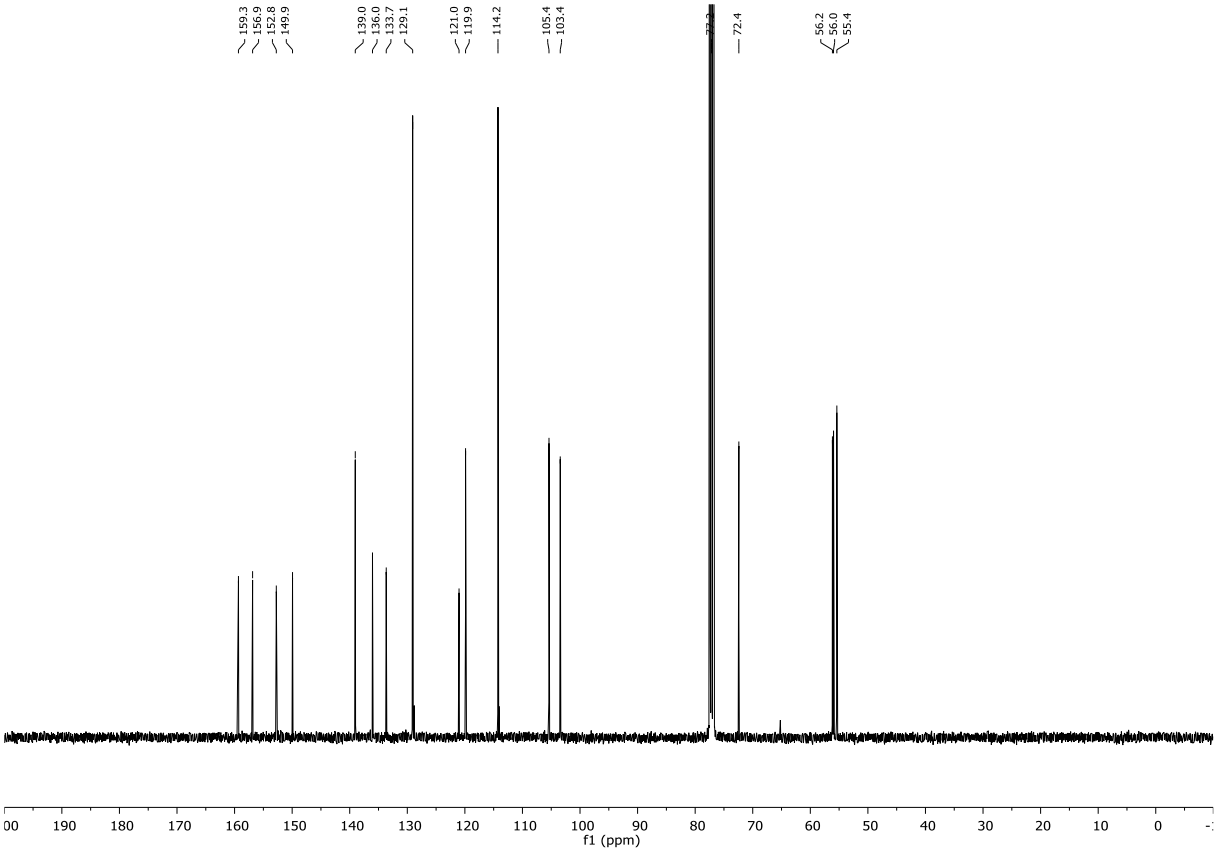
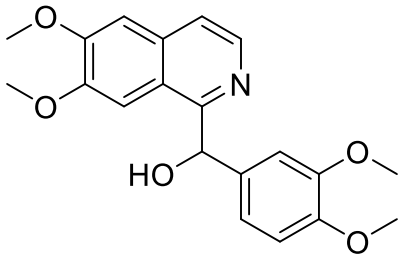


^{1}H NMR spectrum of (±)-(6,7-dimethoxyisoquinolin-1-yl)(3,4-dimethoxyphenyl)methanol (3b), racemic Papaverinol



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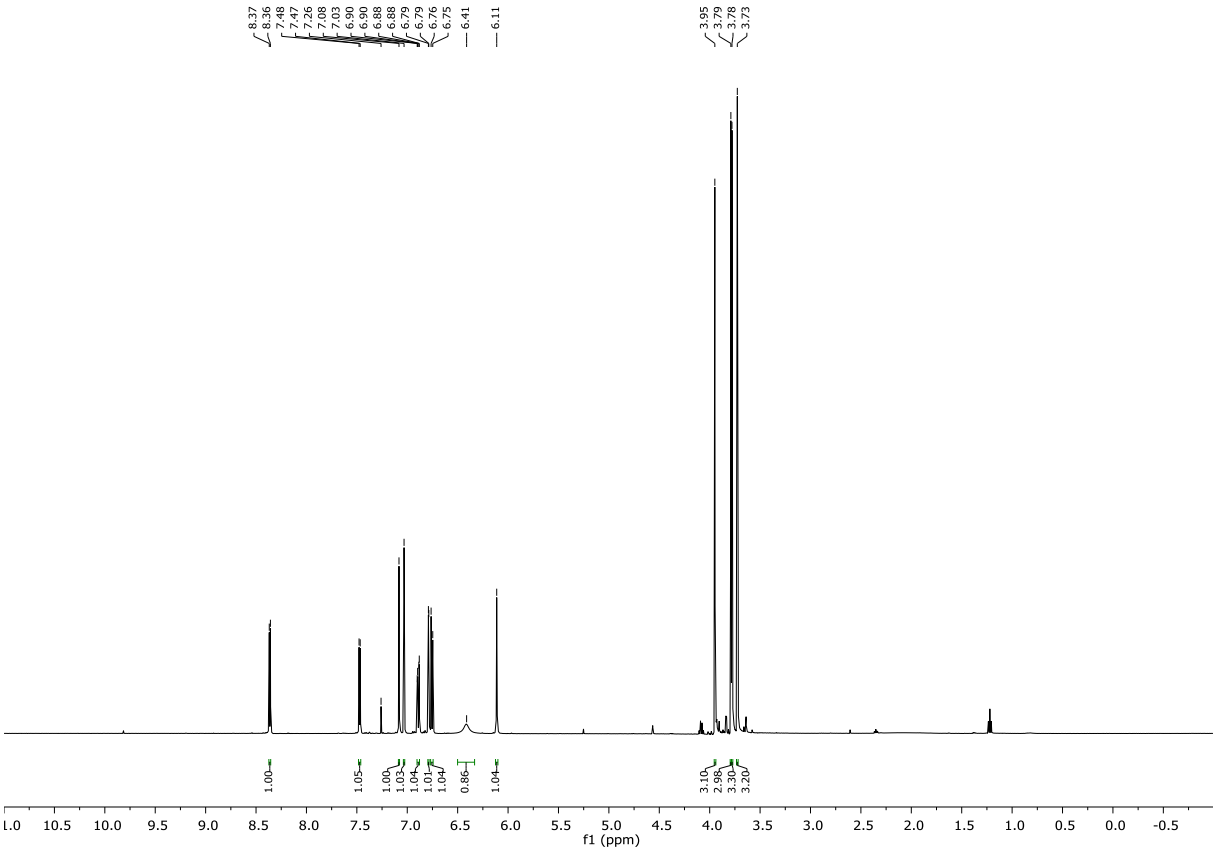
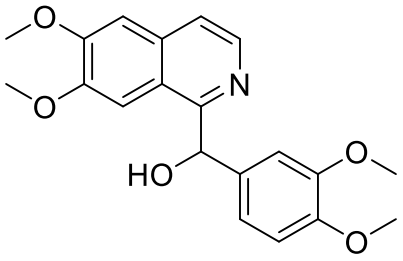


^{13}C NMR spectrum of (±)- (6,7-dimethoxyisoquinolin-1-yl)(3,4-dimethoxyphenyl)methanol (3b), racemic Papaverinol



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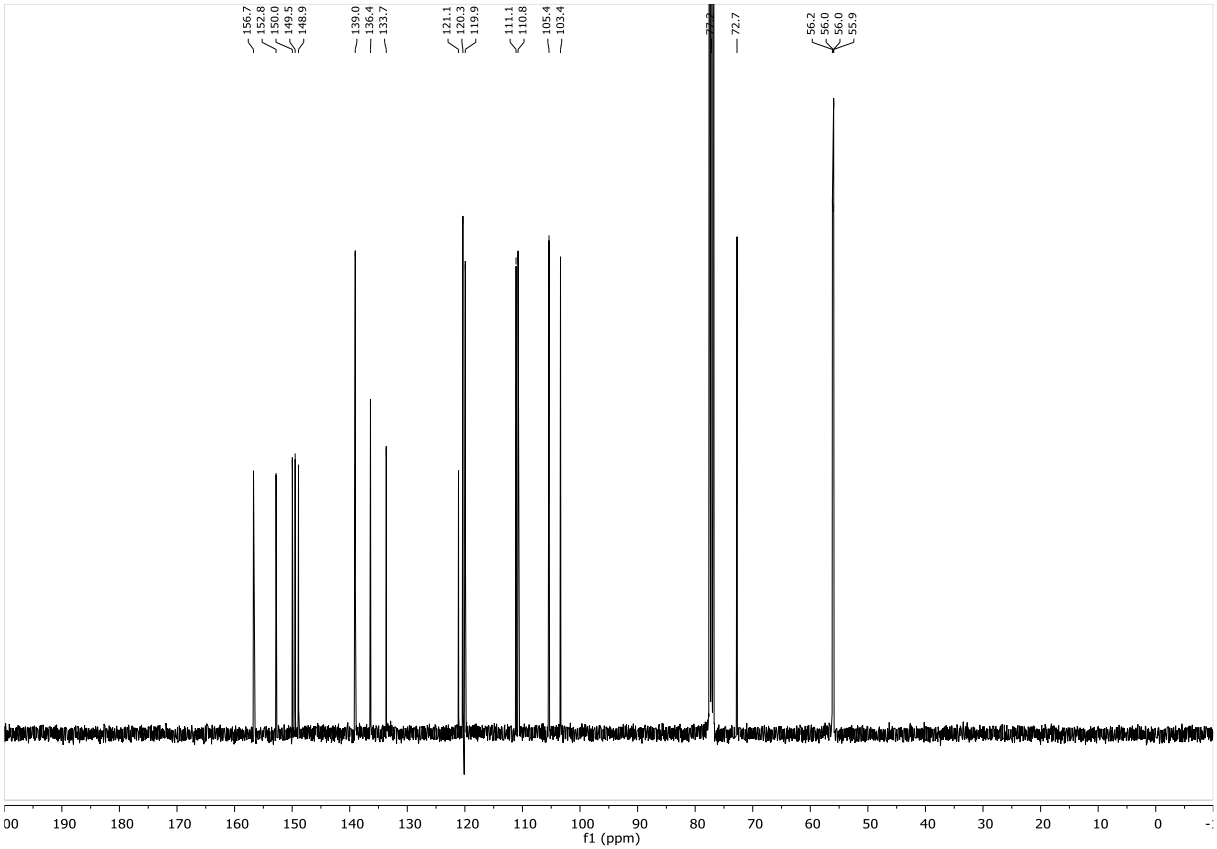
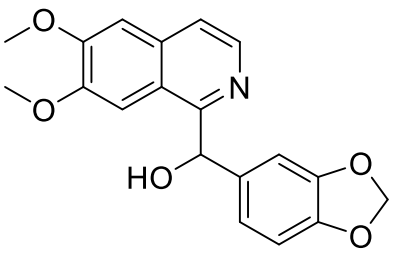


^{1}H NMR spectrum (±)-benzo[*d*][1,3]dioxol-5-yl(6,7-dimethoxyisoquinolin-1-yl)methanol (3c)



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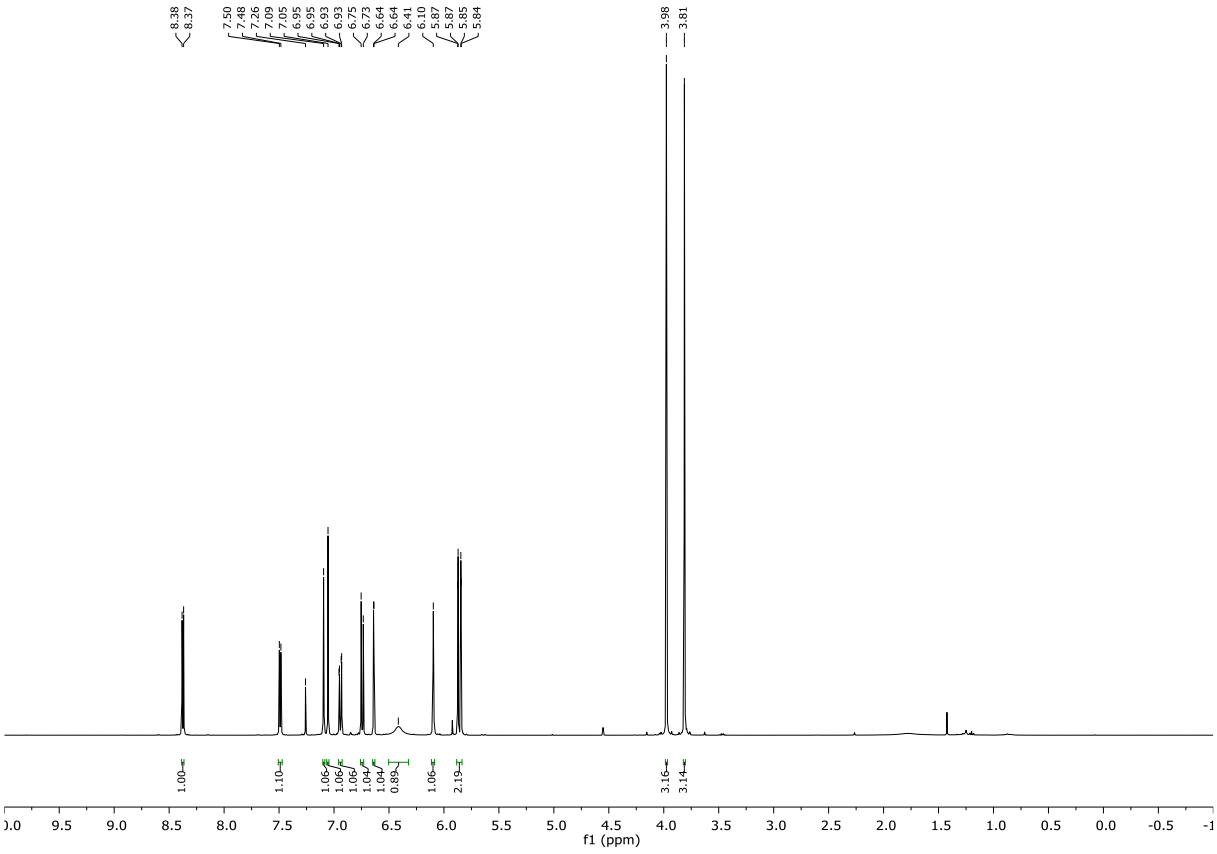

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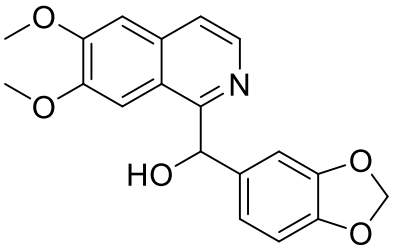

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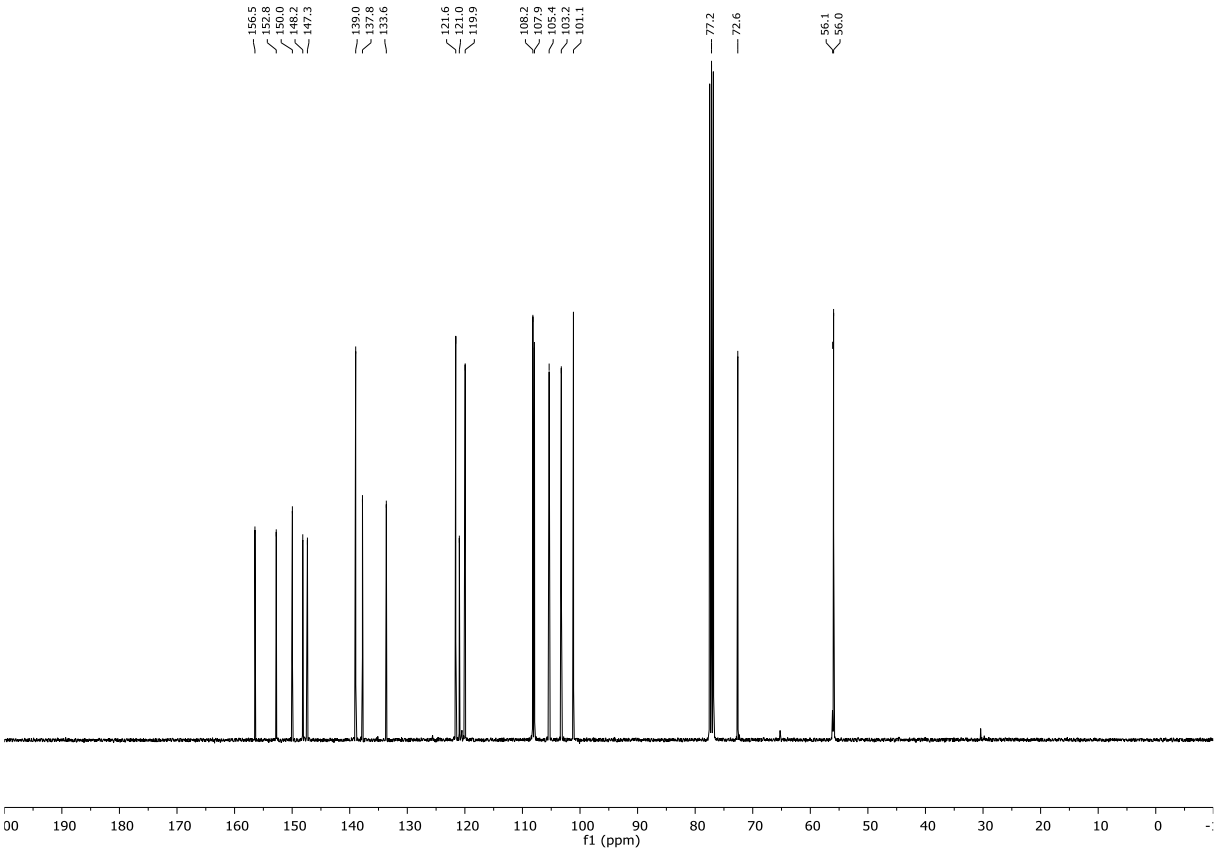

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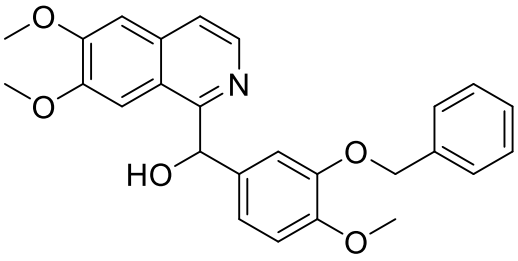

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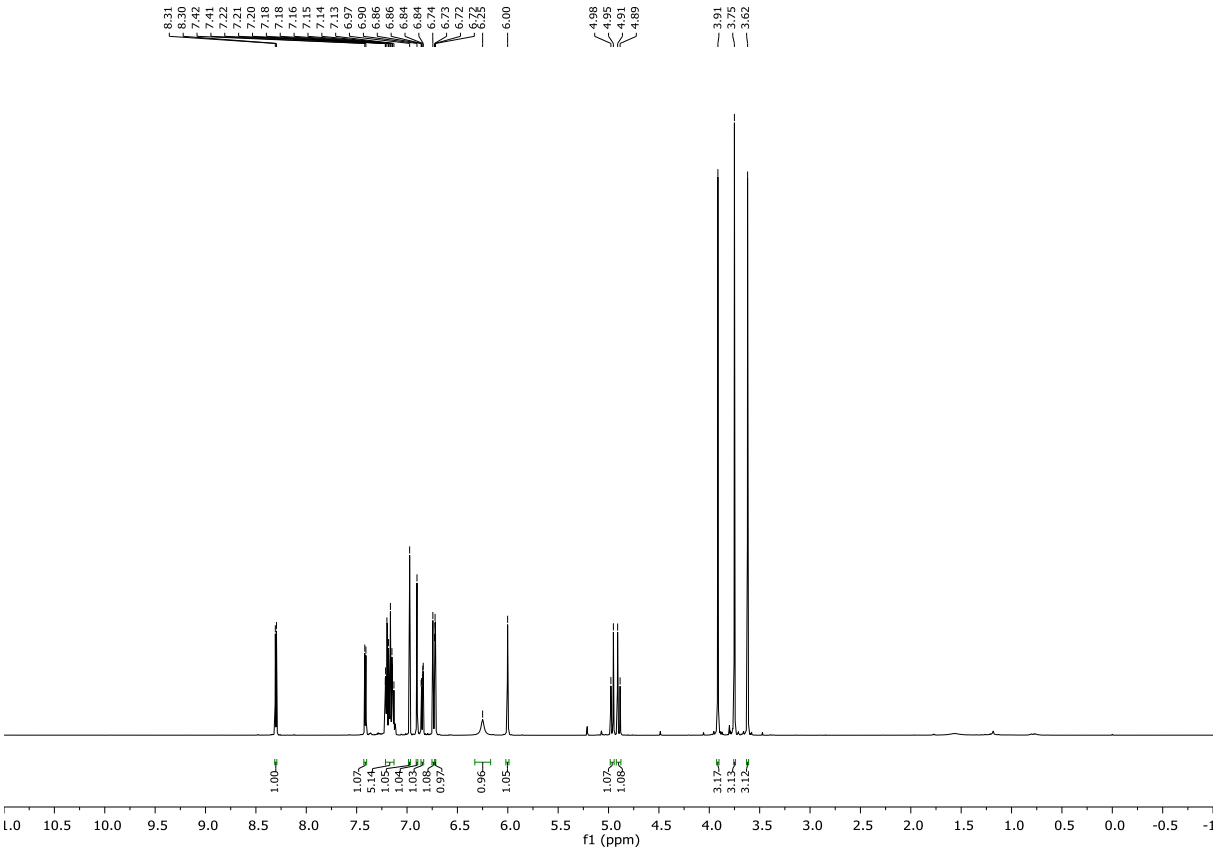

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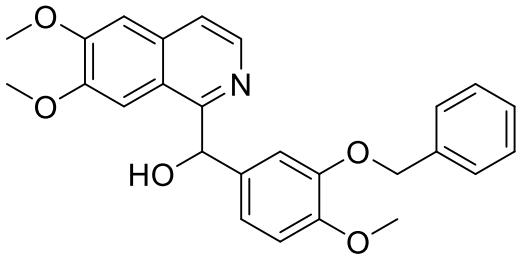

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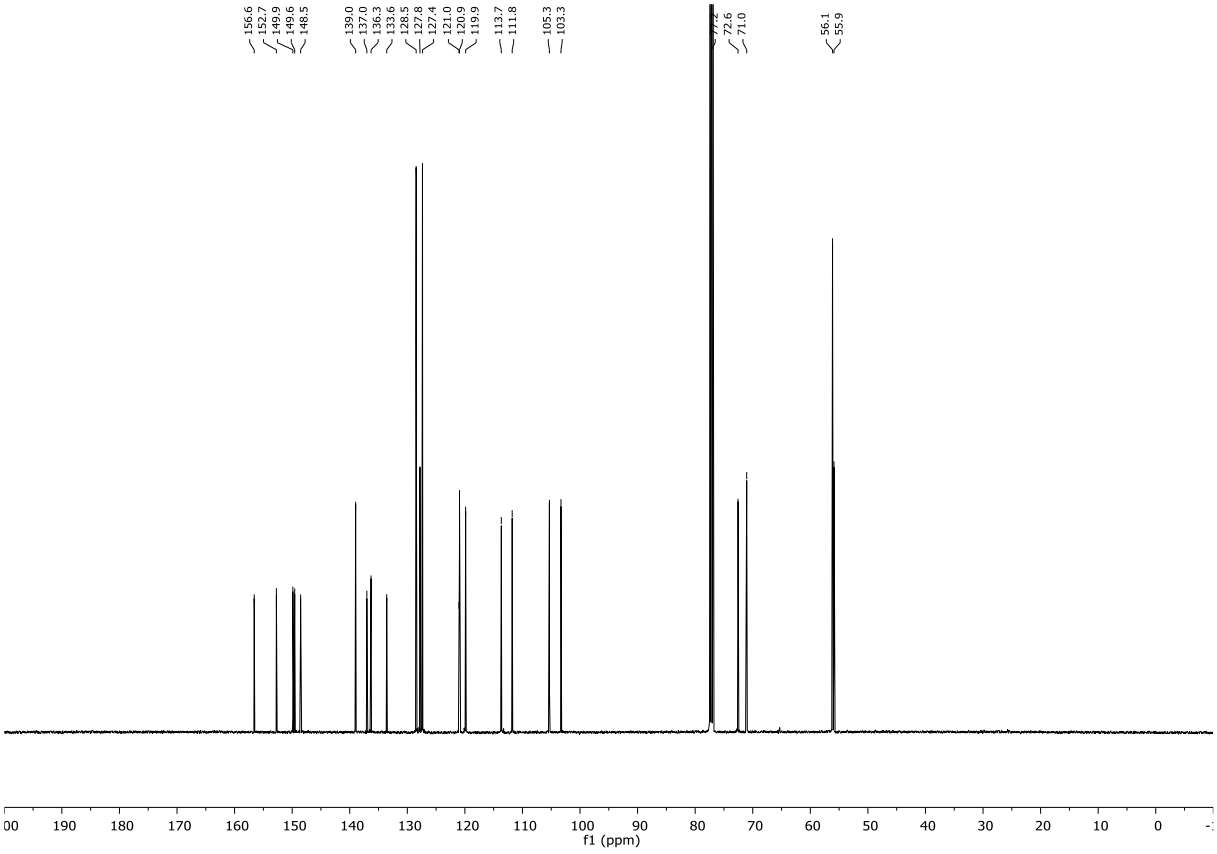

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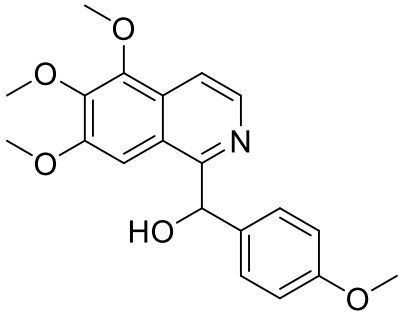

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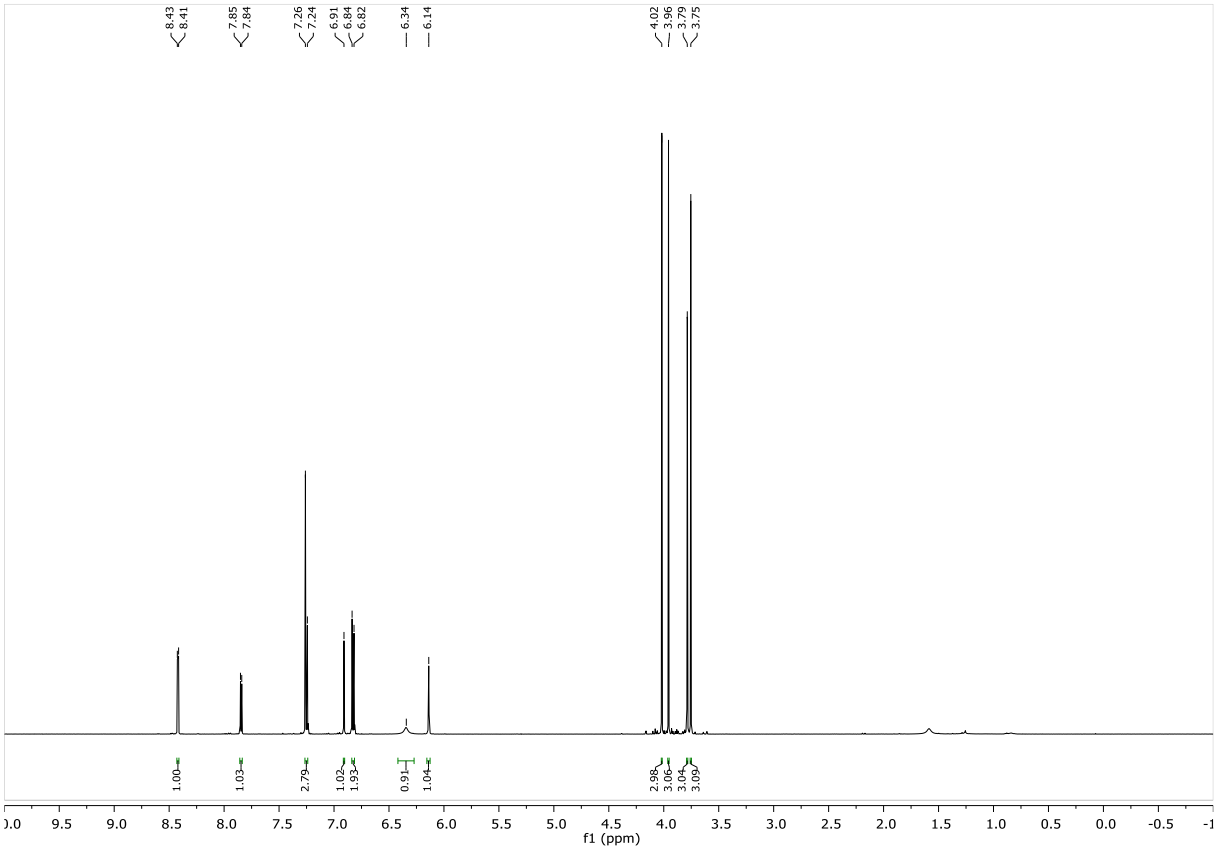

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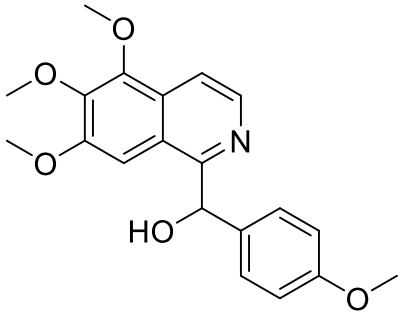
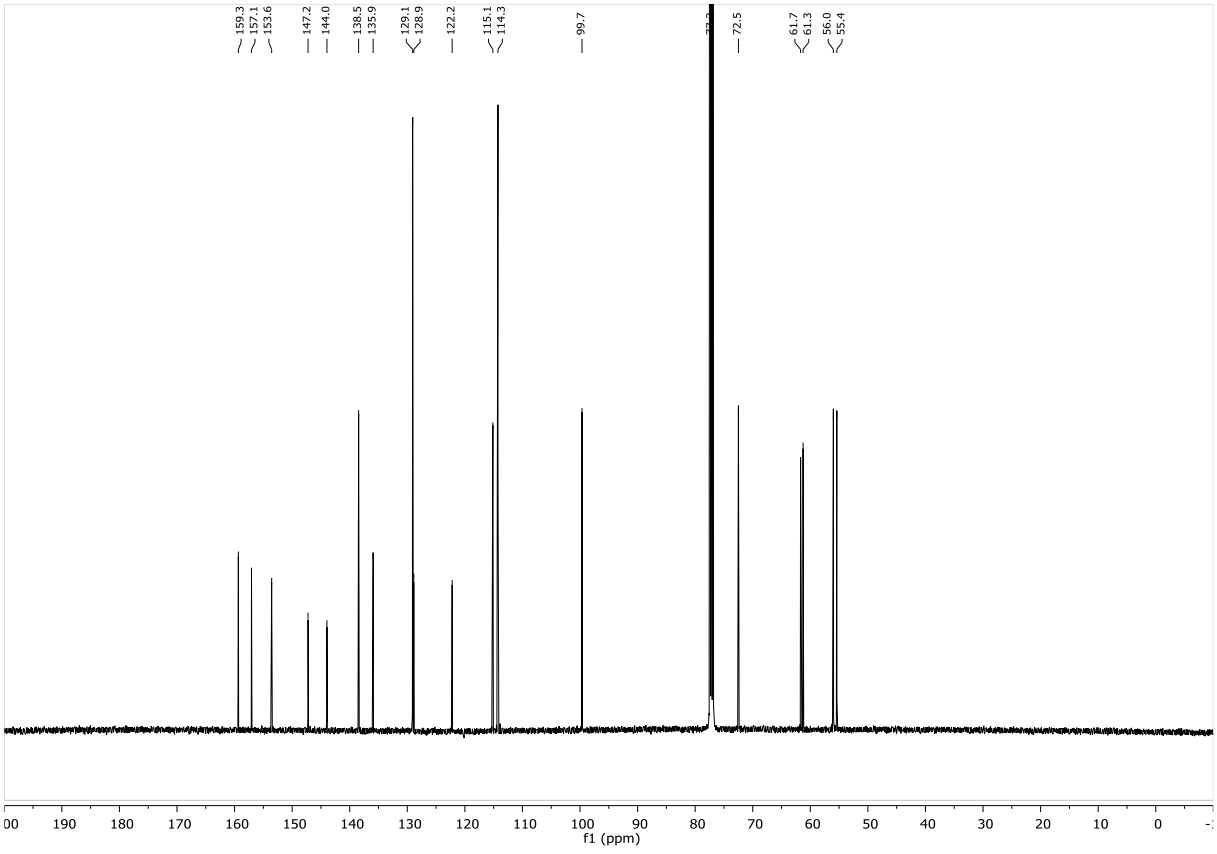


Frequency: 126 MHz

Solvent: $CDCl_3$



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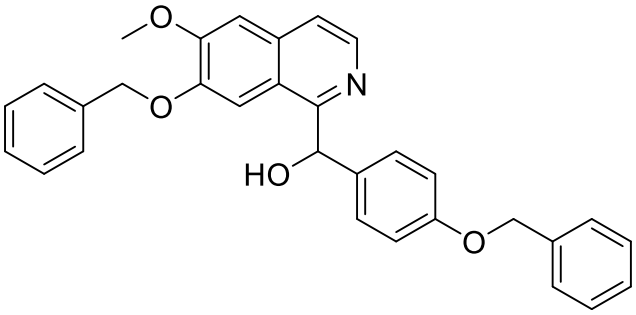

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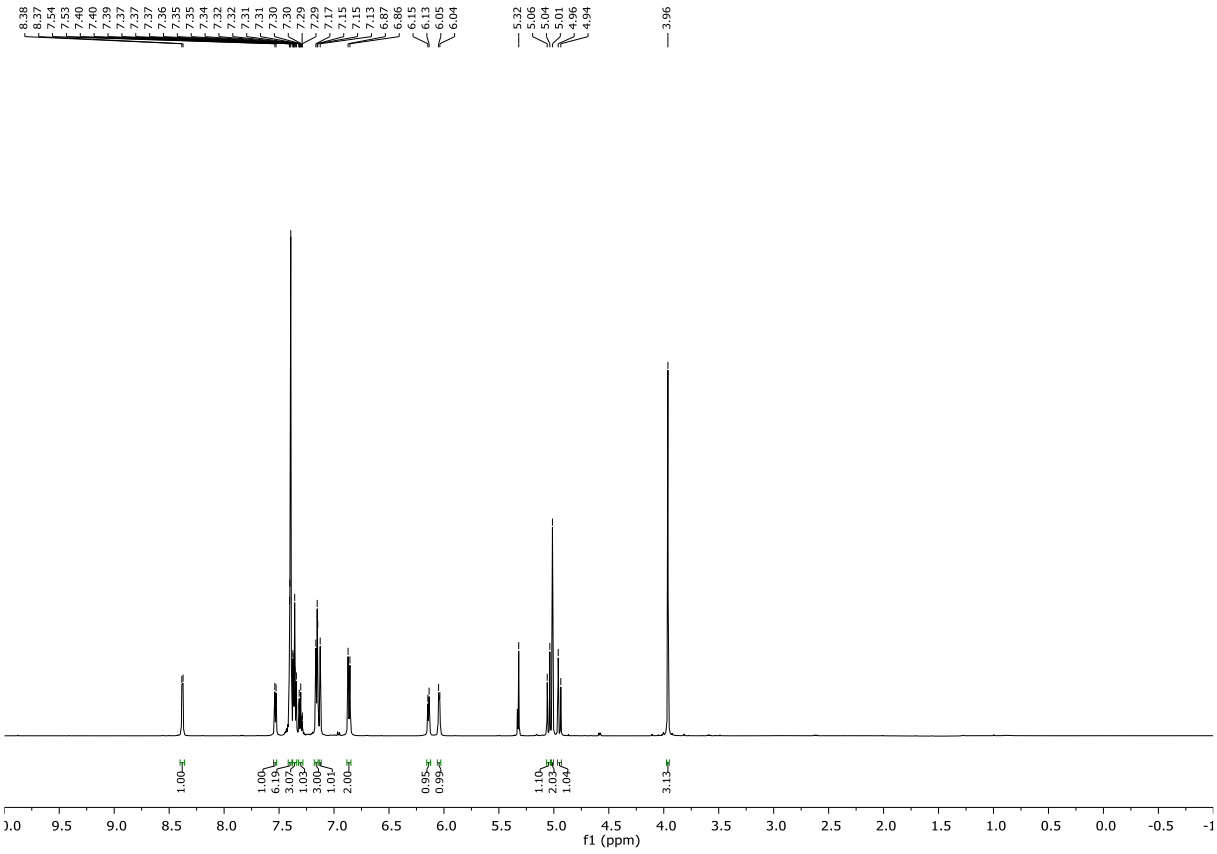

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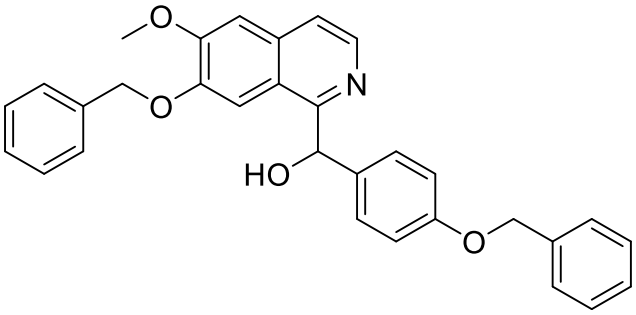

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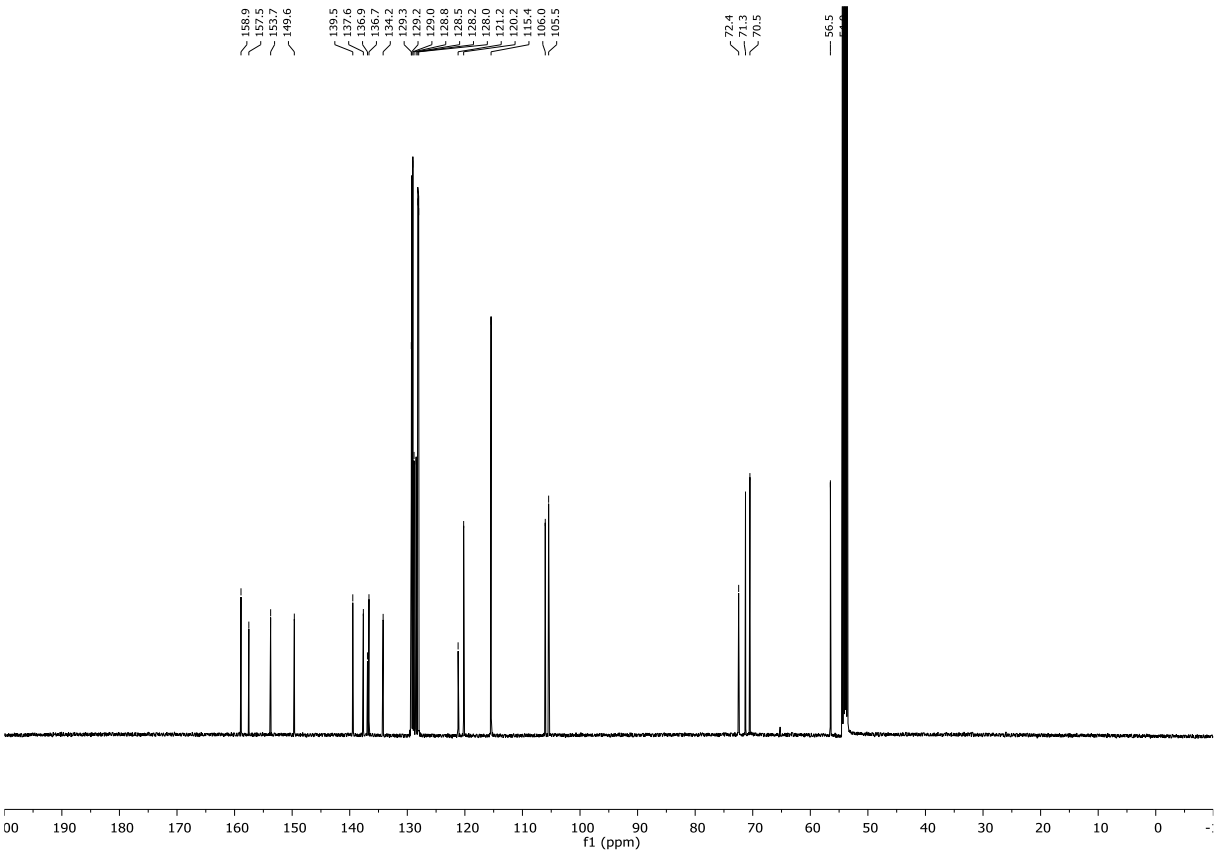

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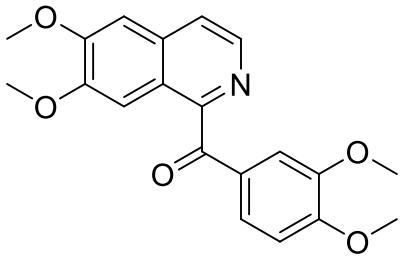

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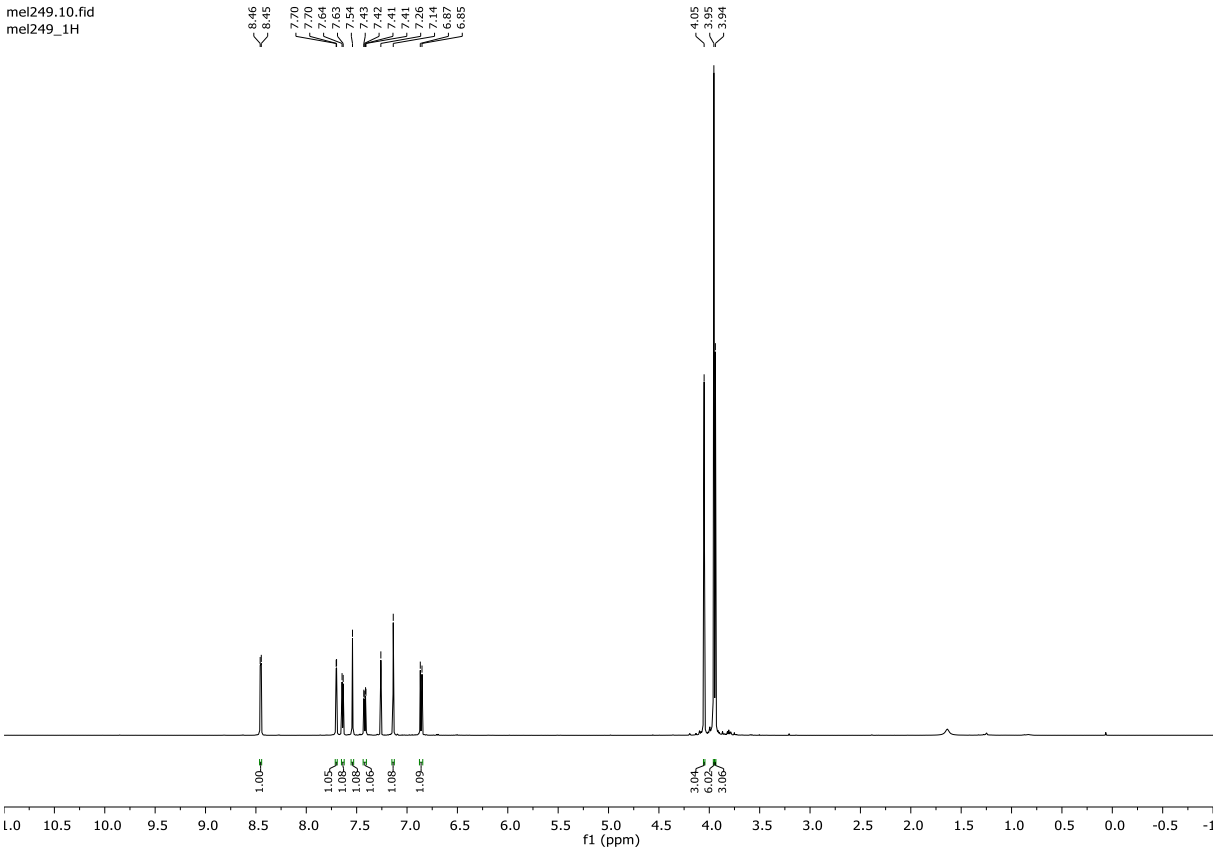

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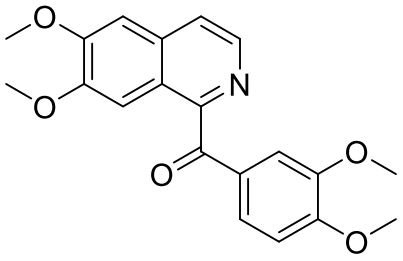

Frequency: 126 MHz

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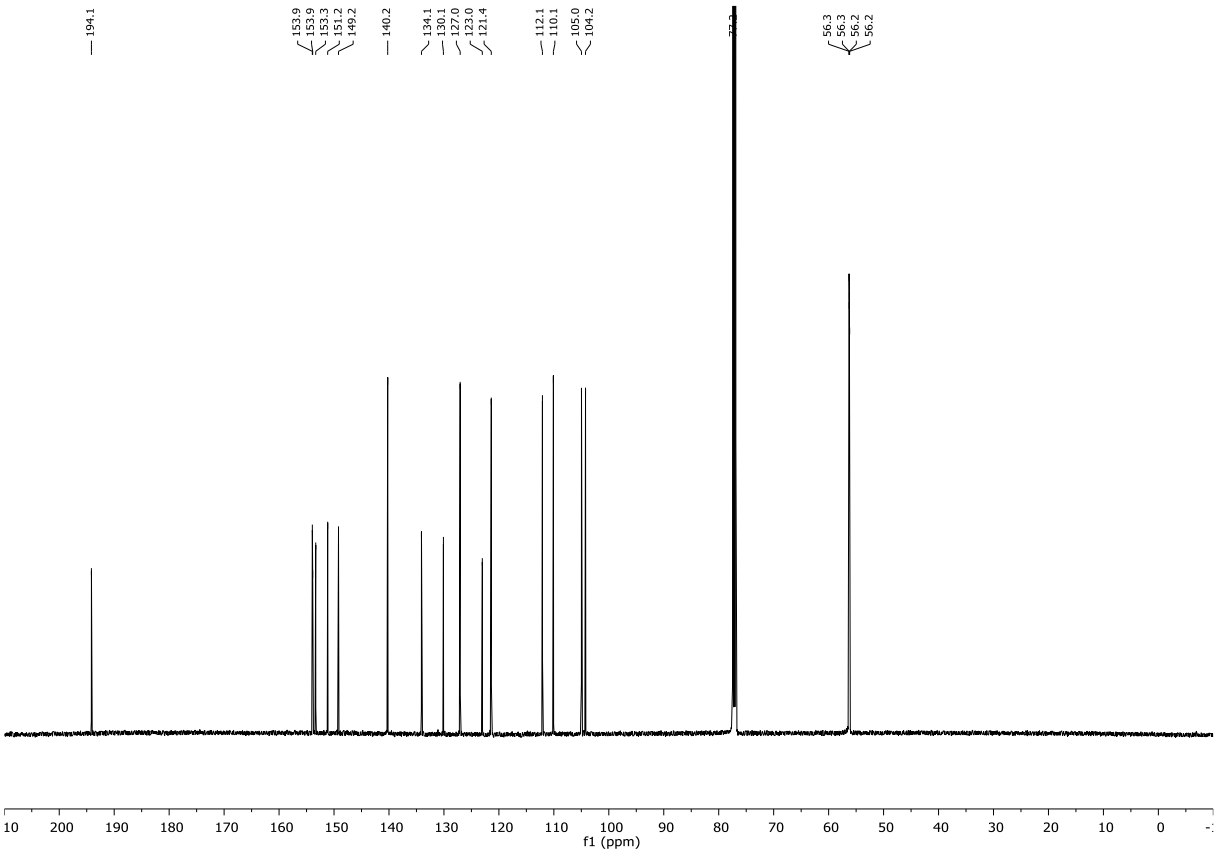

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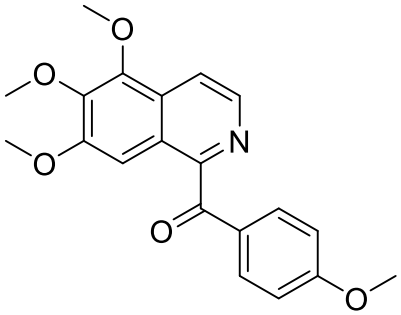

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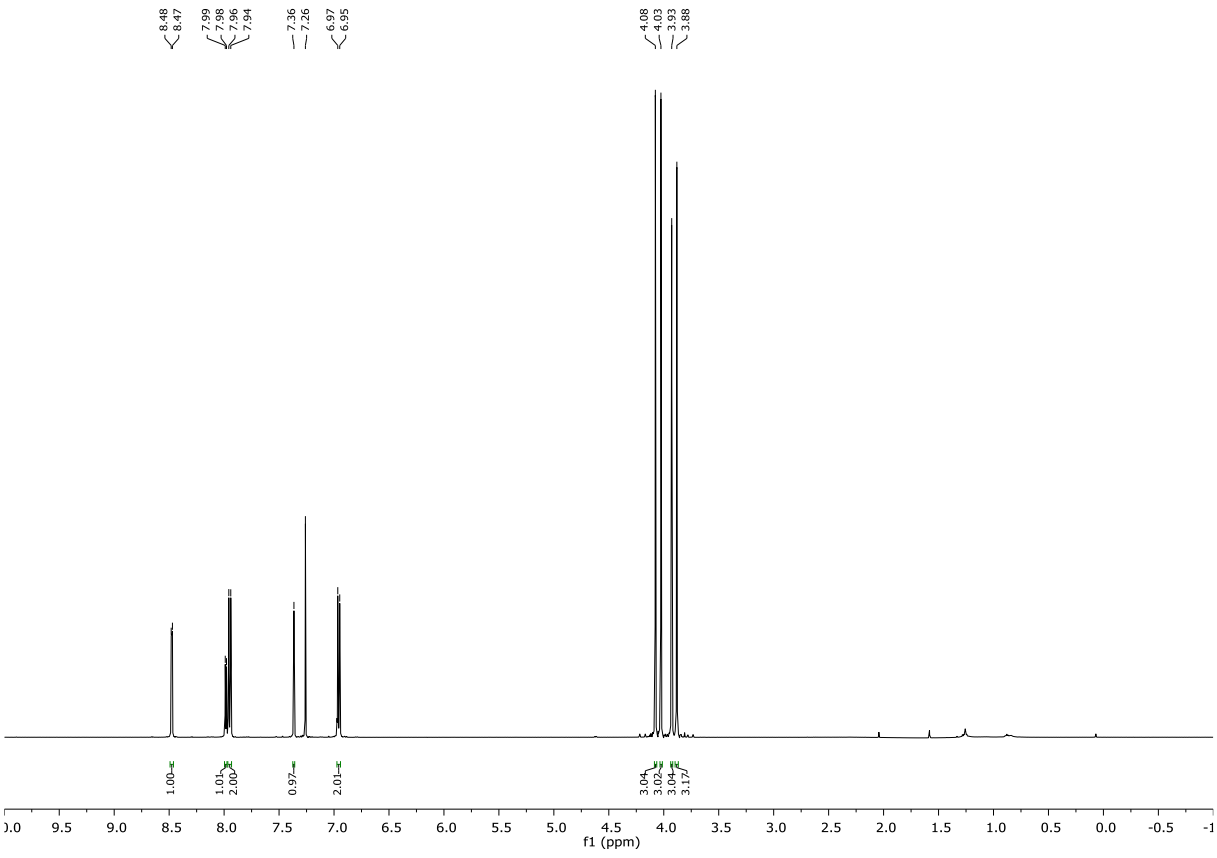

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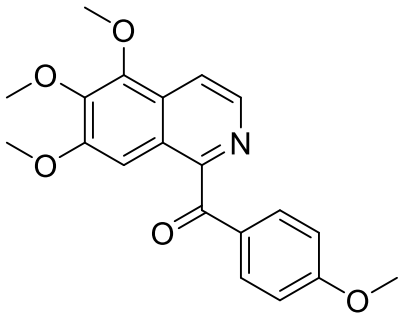

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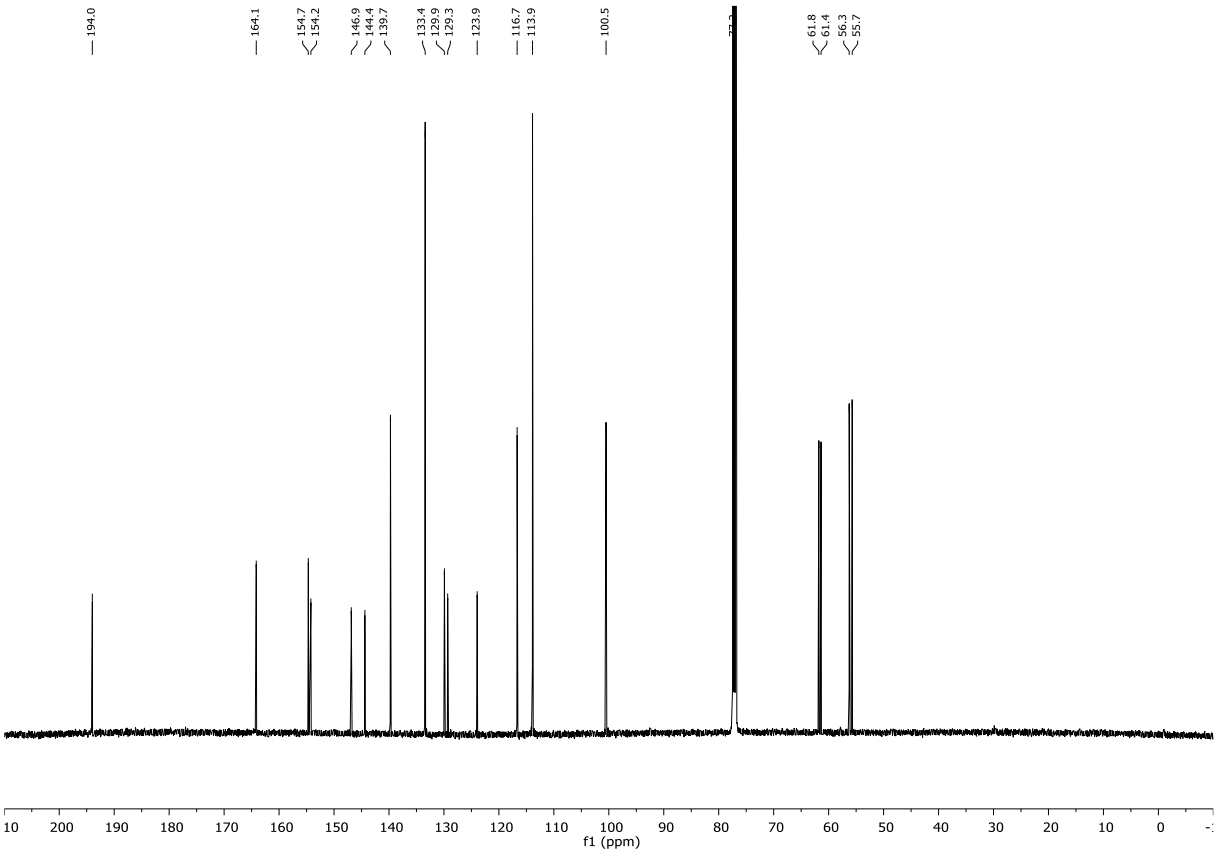
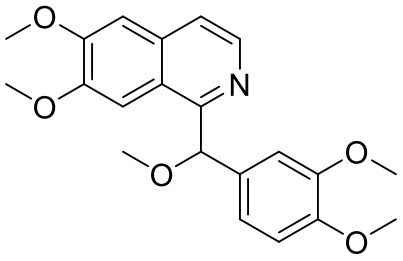


^{1}H NMR spectrum of (±)-1-((3,4-dimethoxyphenyl)(methoxy)methyl)-6,7-dimethoxyisoquinoline (6a), Setigerine



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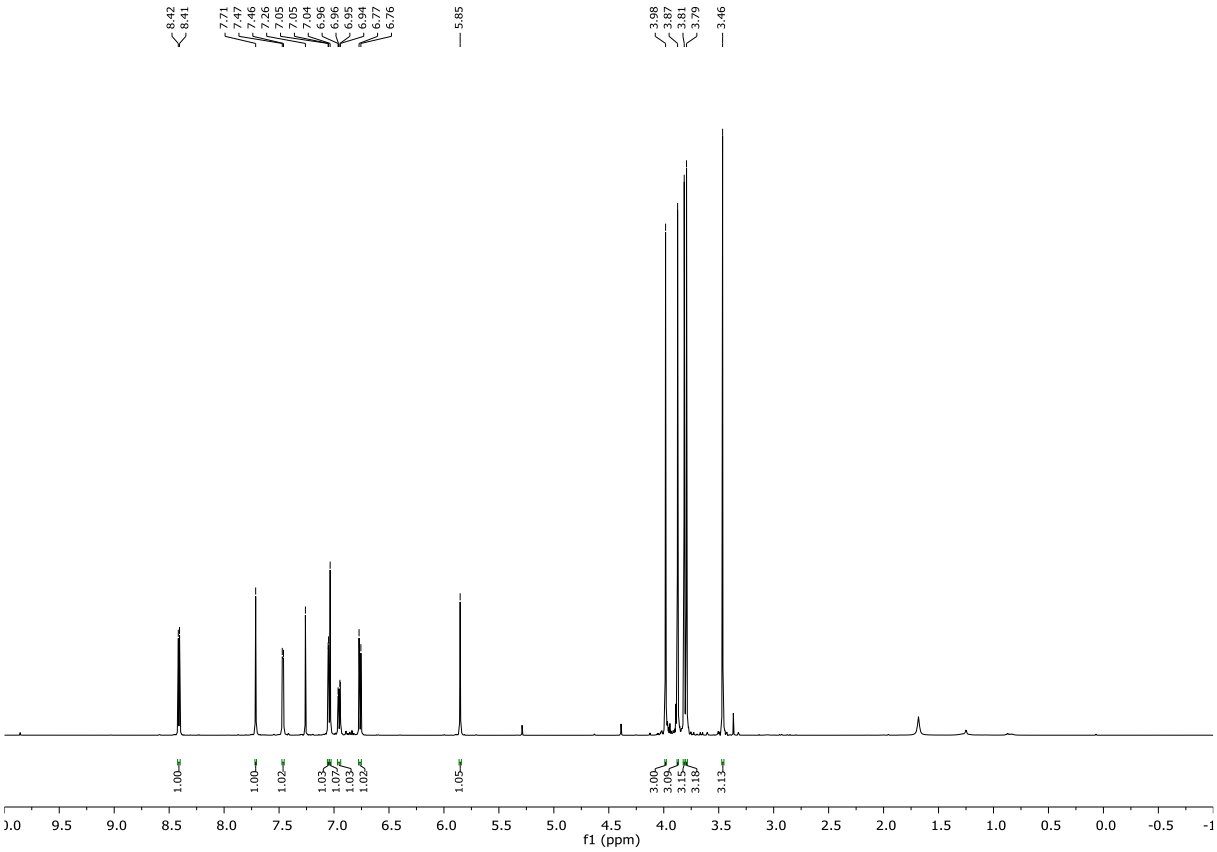

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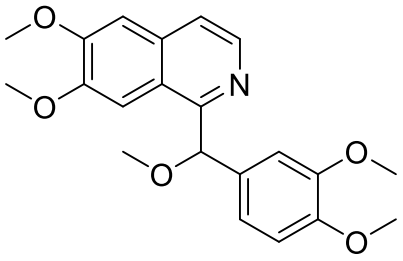

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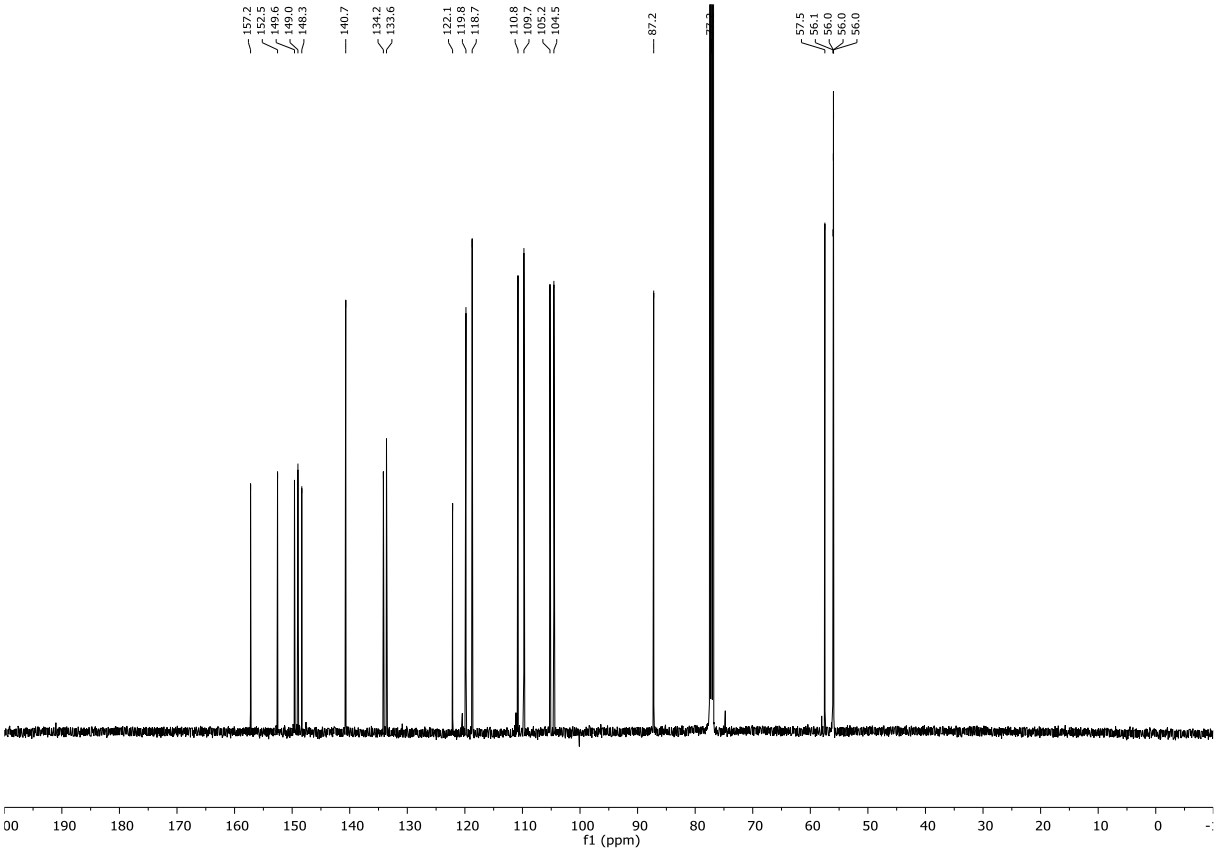
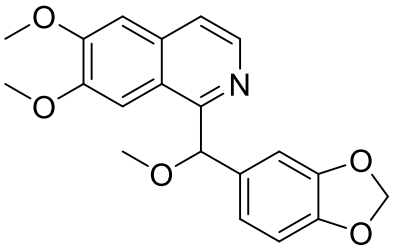


^{1}H NMR spectrum of (±)-1-(benzo[*d*][1,3]dioxol-5-yl(methoxy)methyl)-6,7-dimethoxyisoquinoline (6b), Setigeridine



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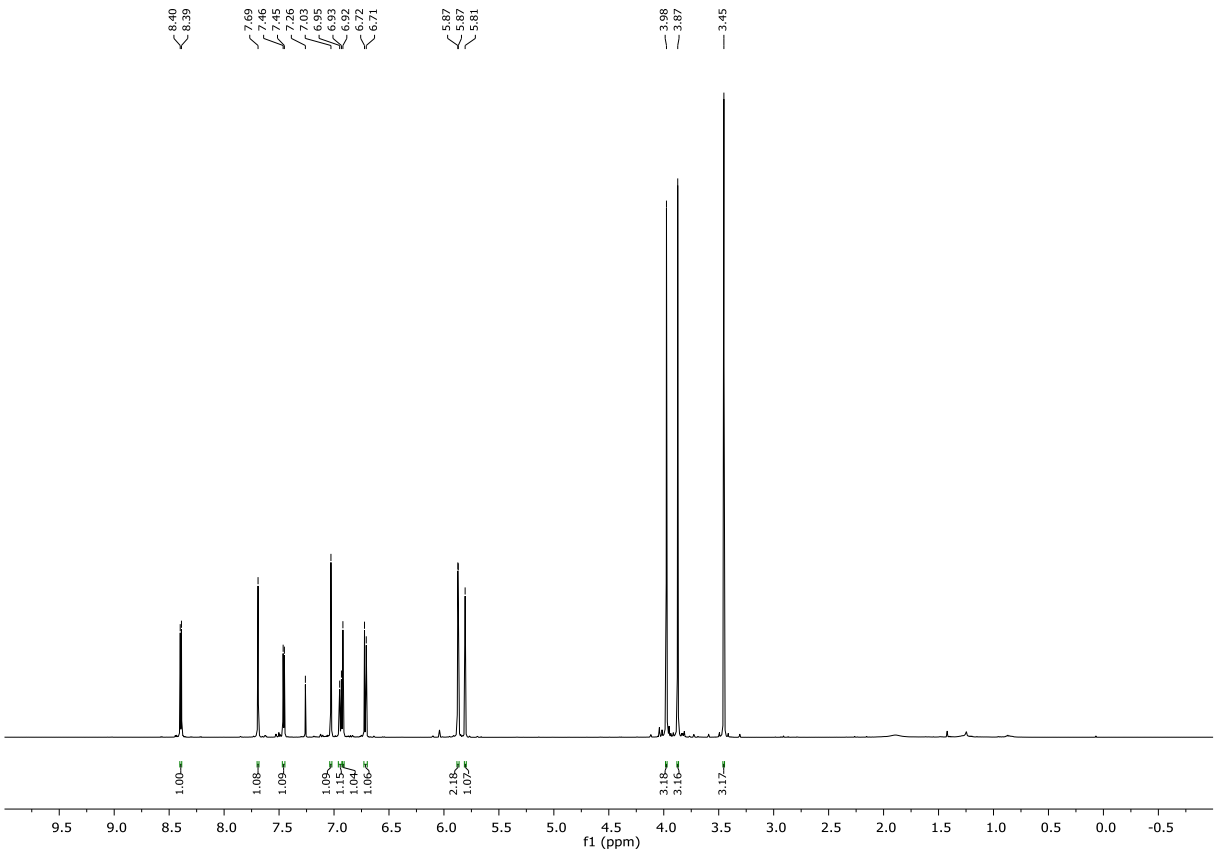

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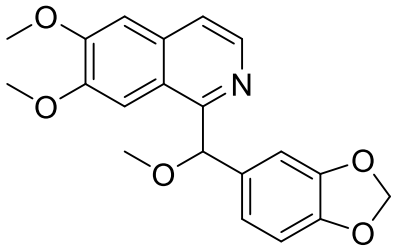

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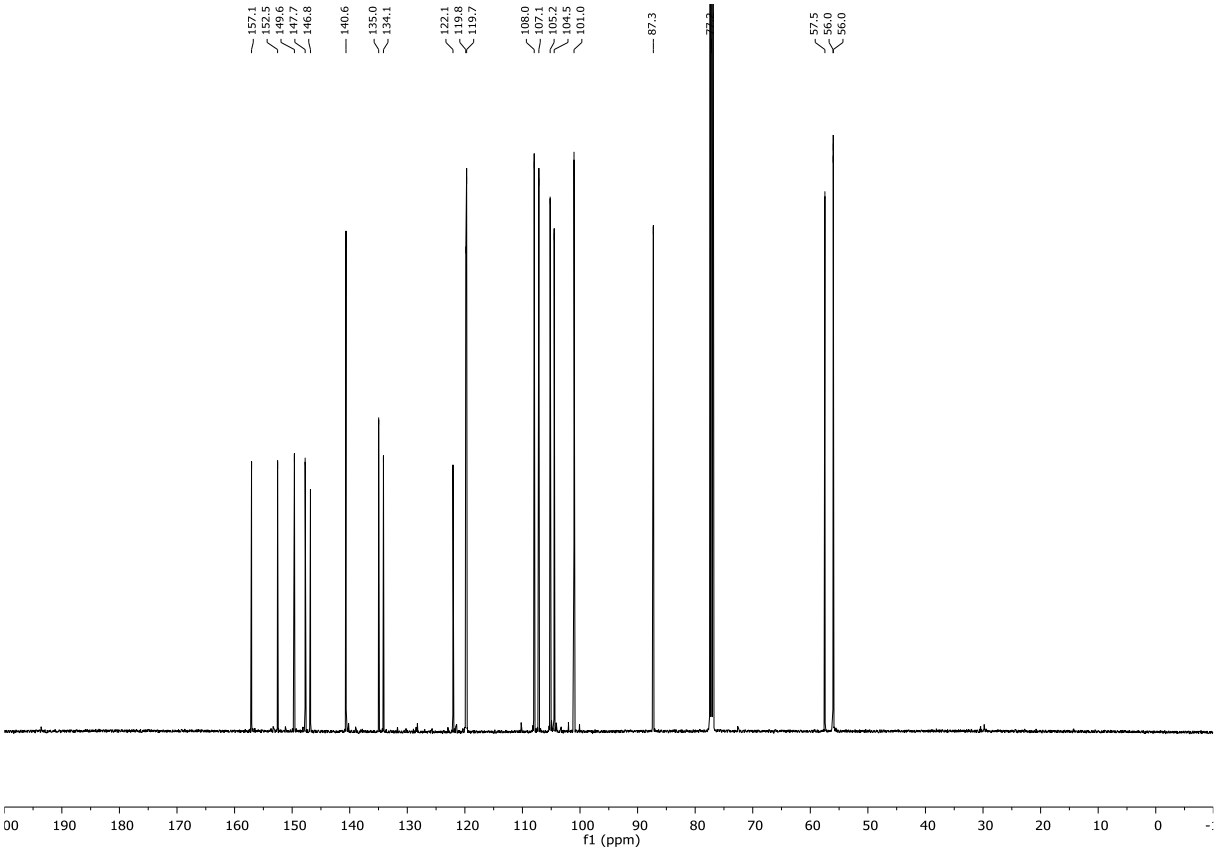

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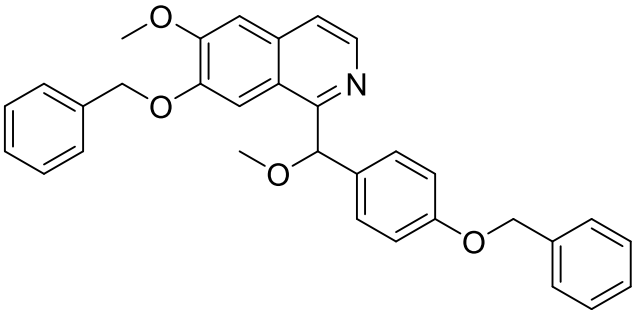

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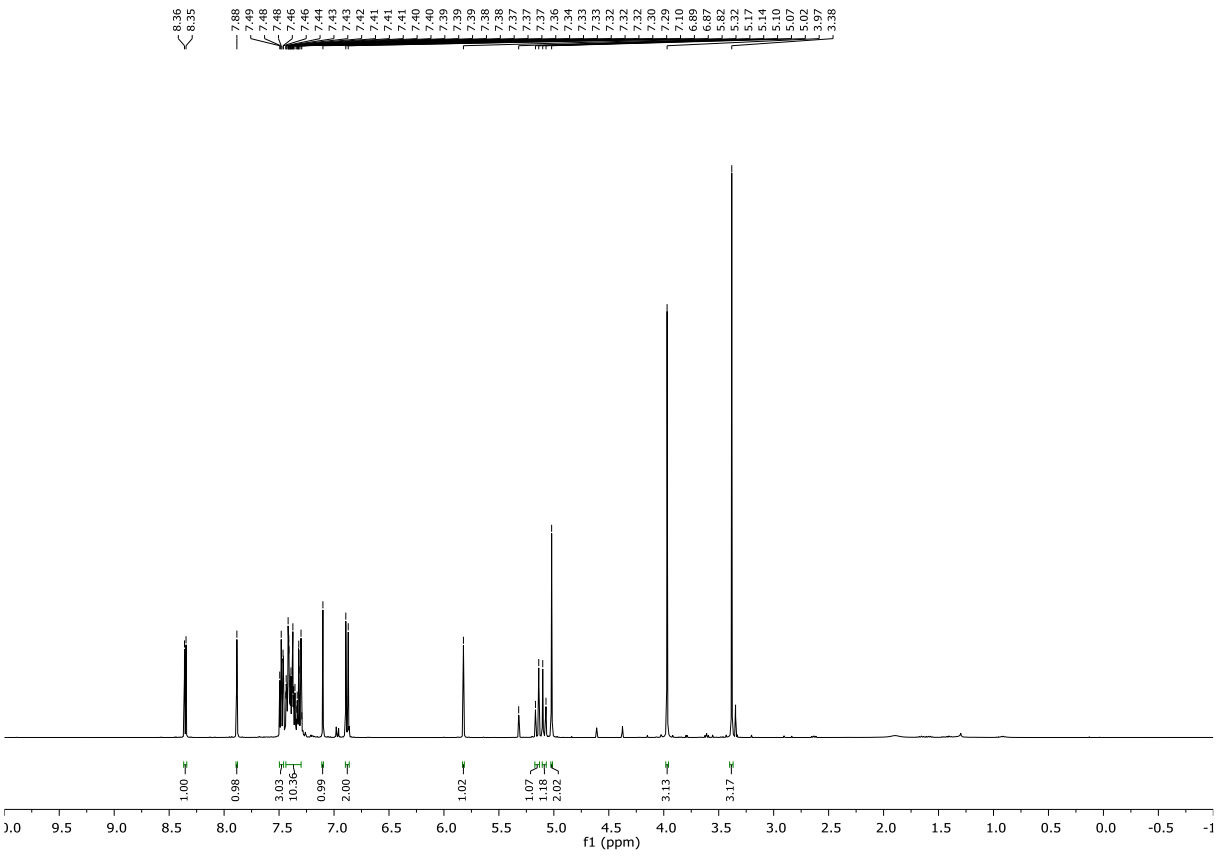

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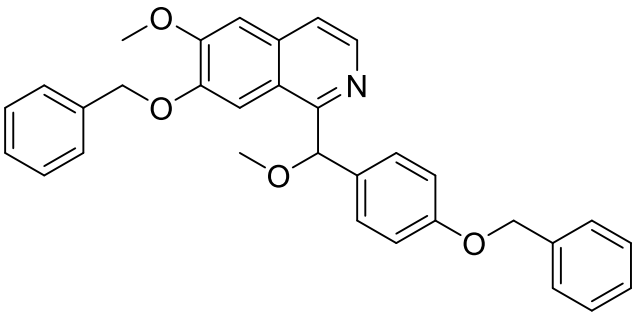
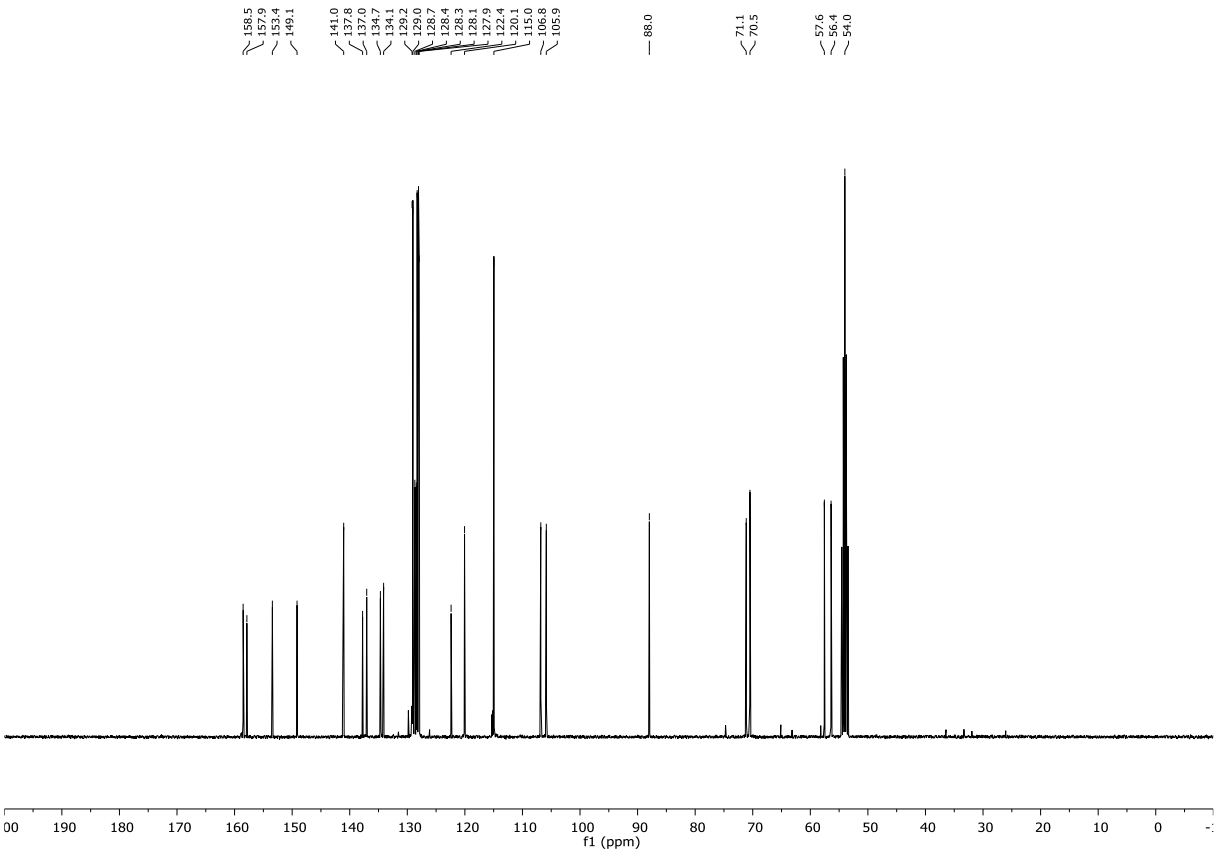
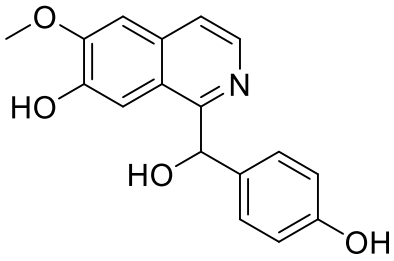


Frequency: 101 MHz

Solvent: CD_2Cl_2



^{1}H NMR spectrum of (±)-1-(hydroxy(4-hydroxyphenyl)methyl)-6-methoxyisoquinolin-7-ol (7), racemic Annocherin A



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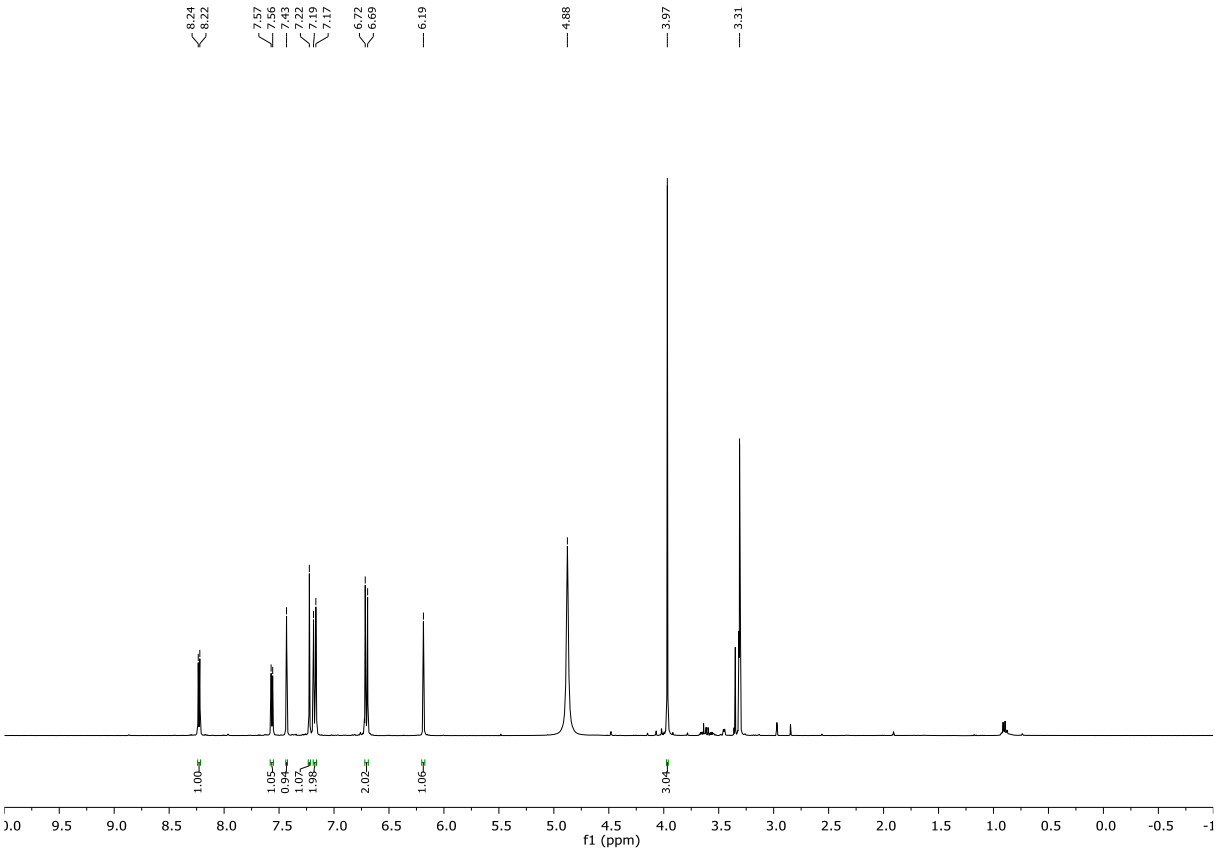
Solvent: MeOD



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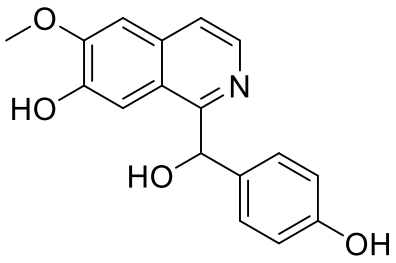

Frequency: 101 MHz

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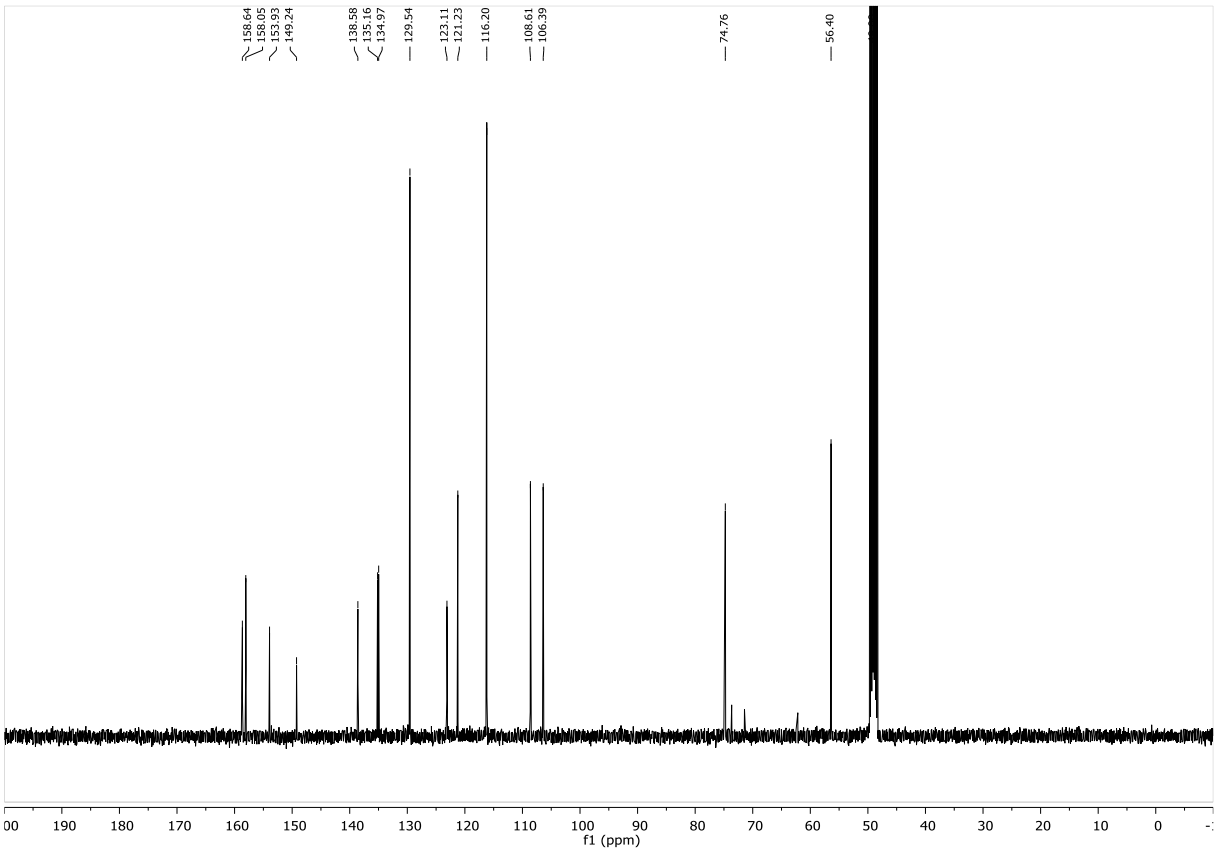
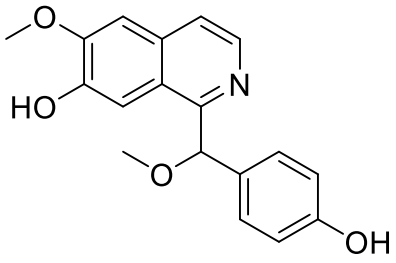
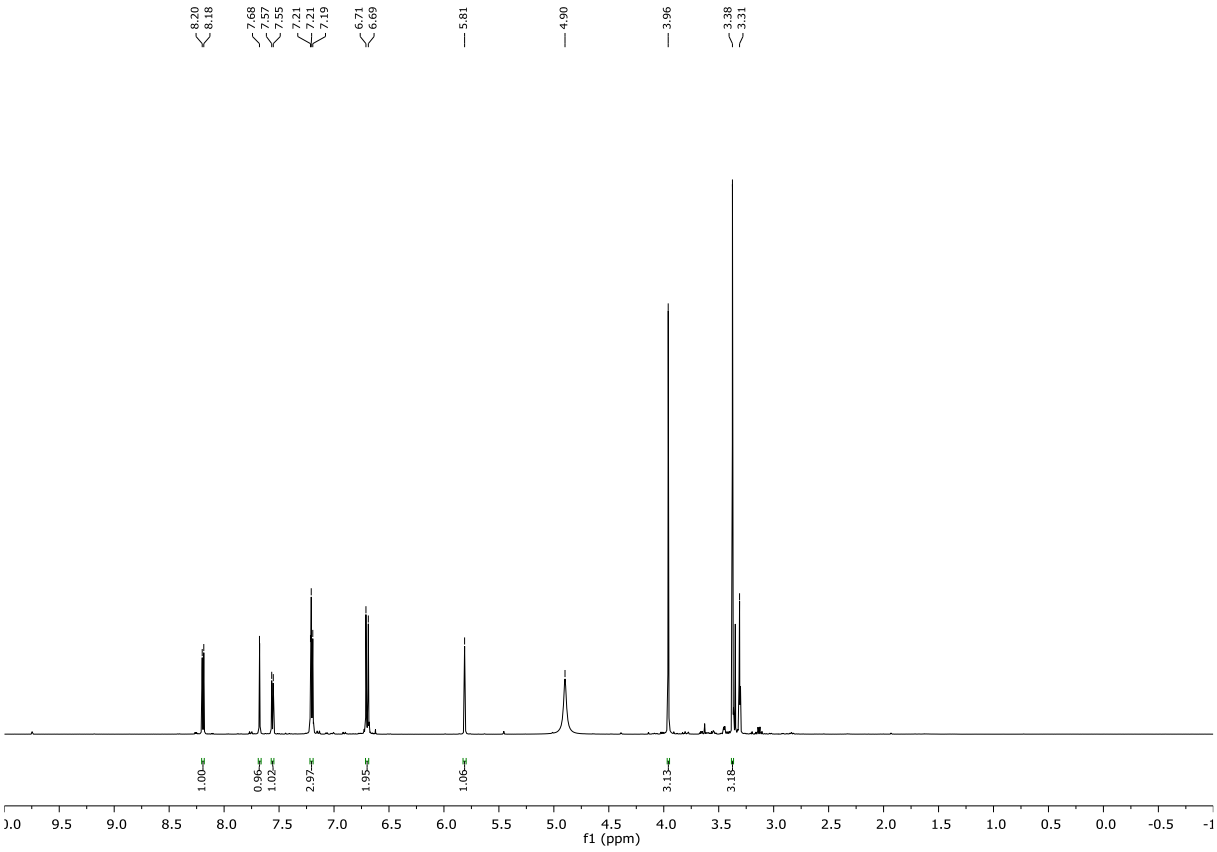


^{1}H NMR spectrum of (±)-1-((4-hydroxyphenyl)(methoxy)methyl)-6-methoxyisoquinolin-7-ol (8), racemic Annocherin B

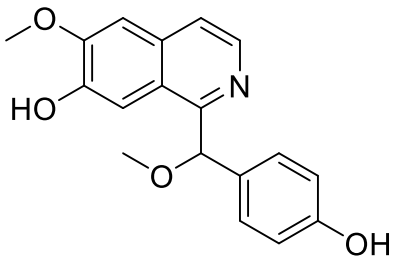


Frequency: 400 MHz

Solvent: MeOD

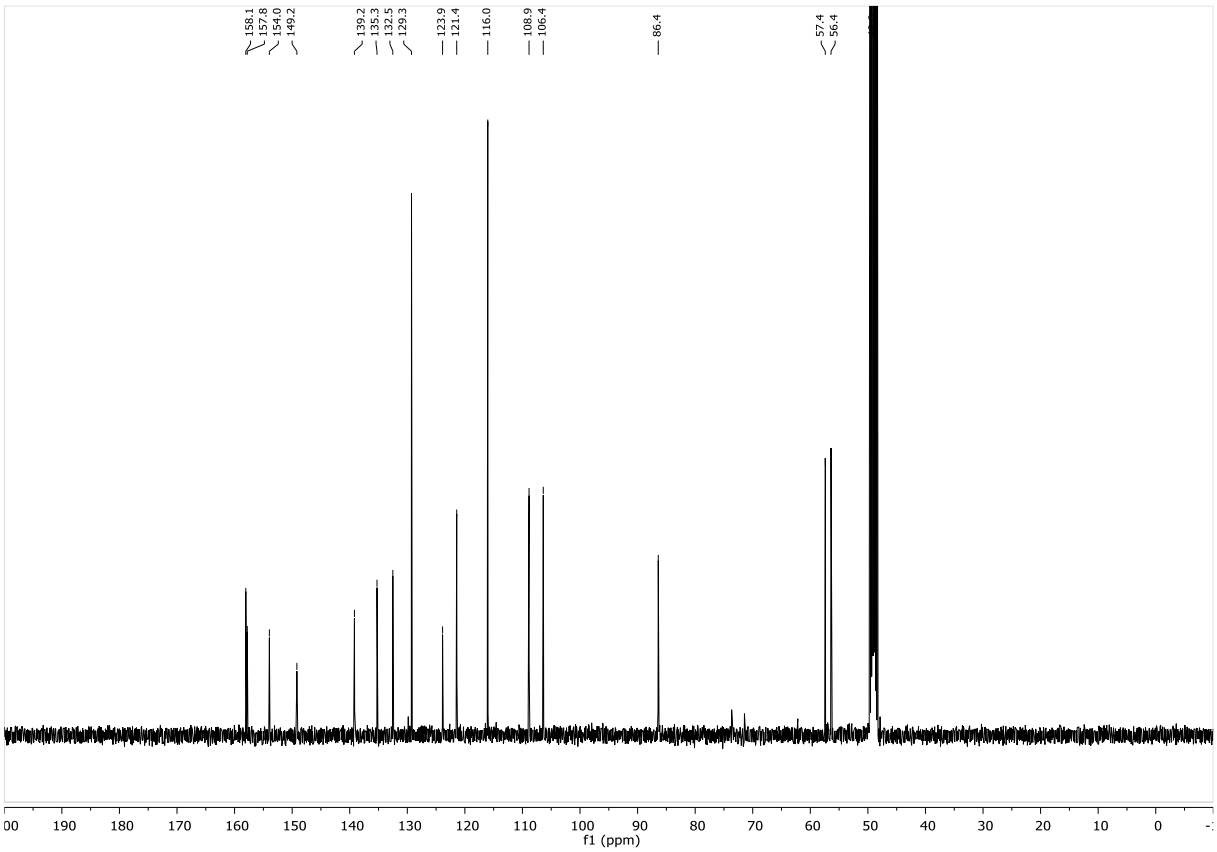


^{13}C NMR spectrum of (±)-1-((4-hydroxyphenyl)(methoxy)methyl)-6-methoxyisoquinolin-7-ol (8), racemic Annocherin B

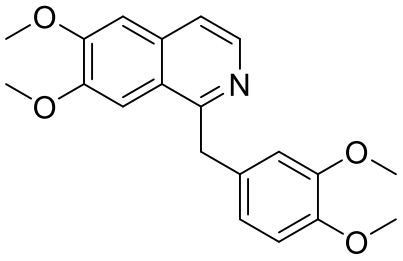


Frequency: 101 MHz

Solvent: MeOD

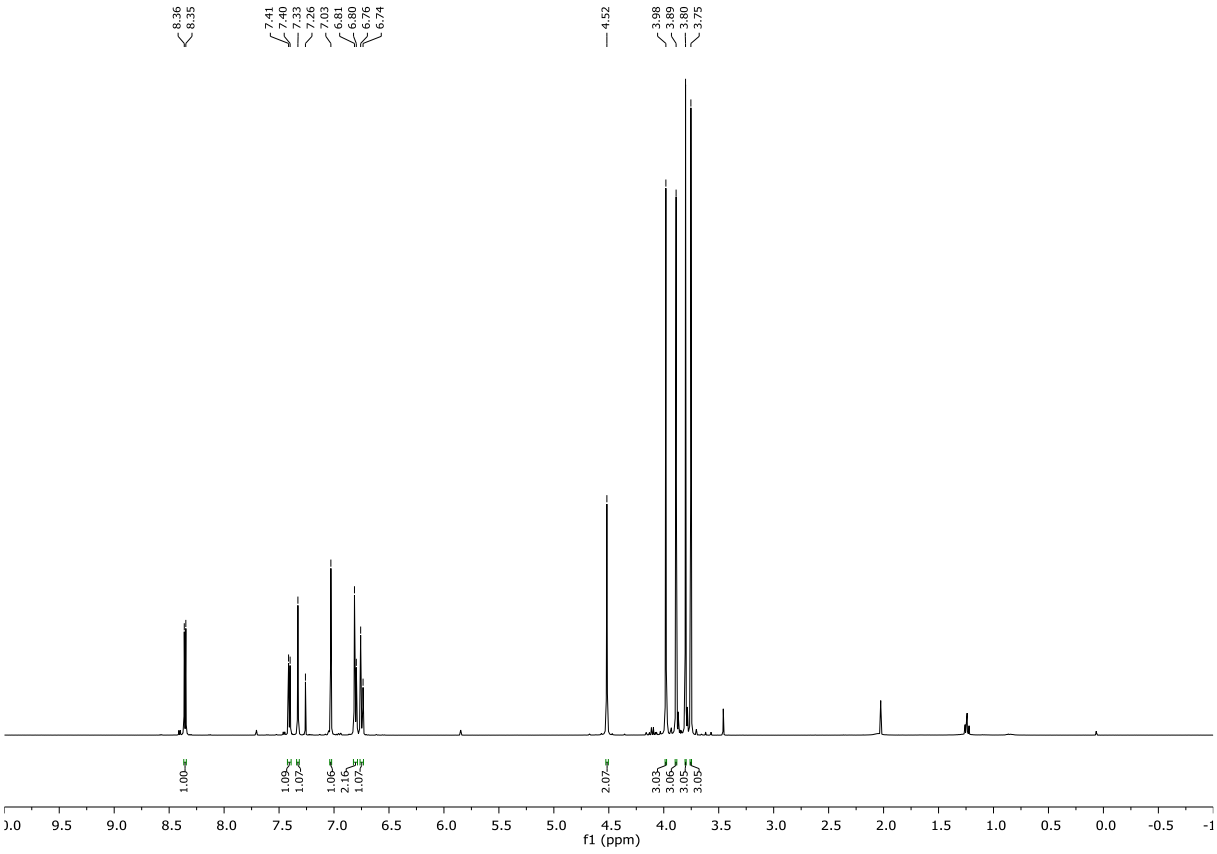


^{1}H NMR spectrum of 1-(3,4-dimethoxybenzyl)-6,7-dimethoxyisoquinoline (9), Papaverine

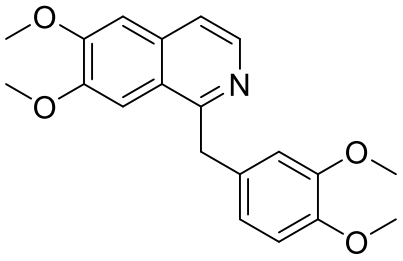


Frequency: 400 MHz

Solvent: $CDCl_3$

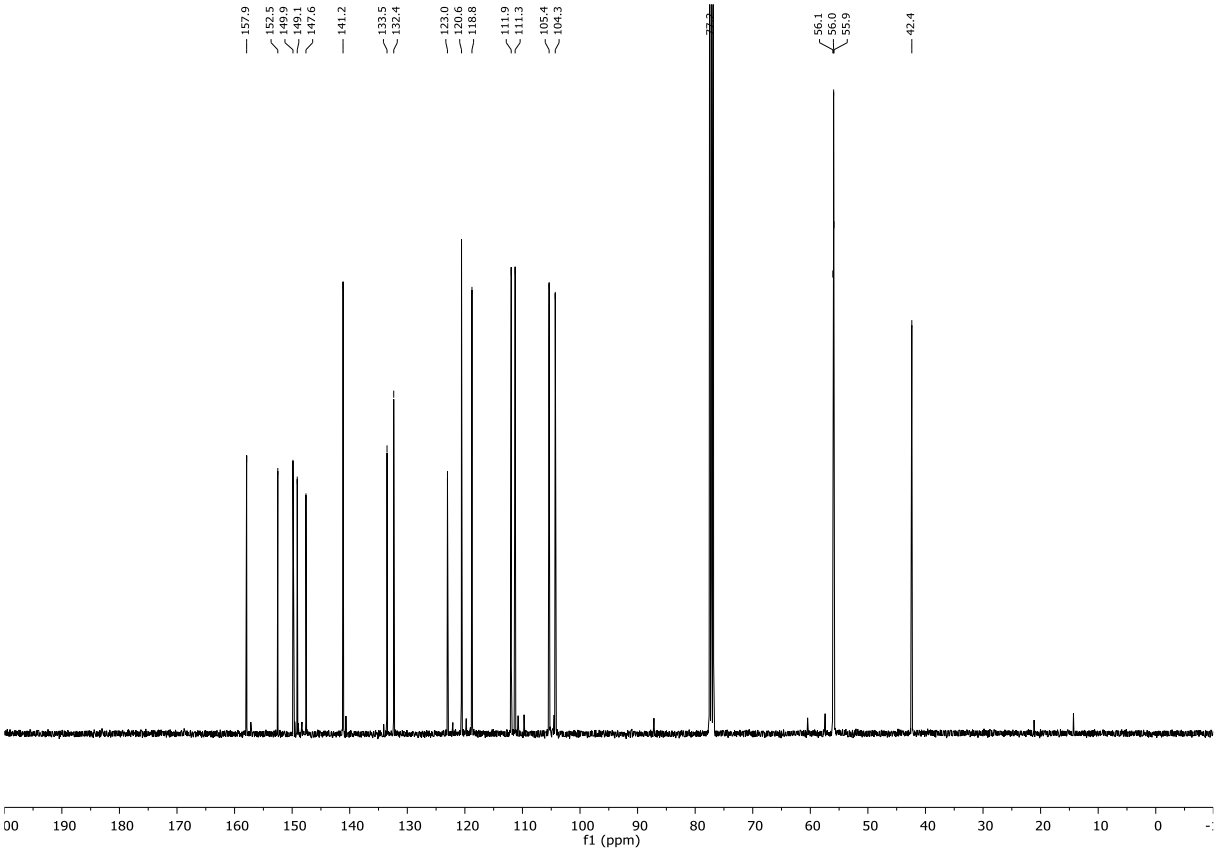


^{13}C NMR spectrum of 1-(3,4-dimethoxybenzyl)-6,7-dimethoxyisoquinoline (9), Papaverine

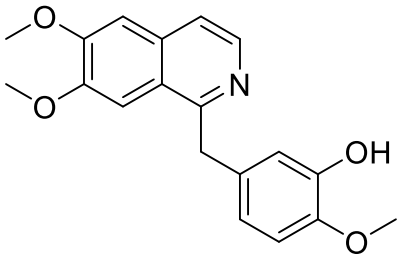


Frequency: 101 MHz

Solvent: $CDCl_3$

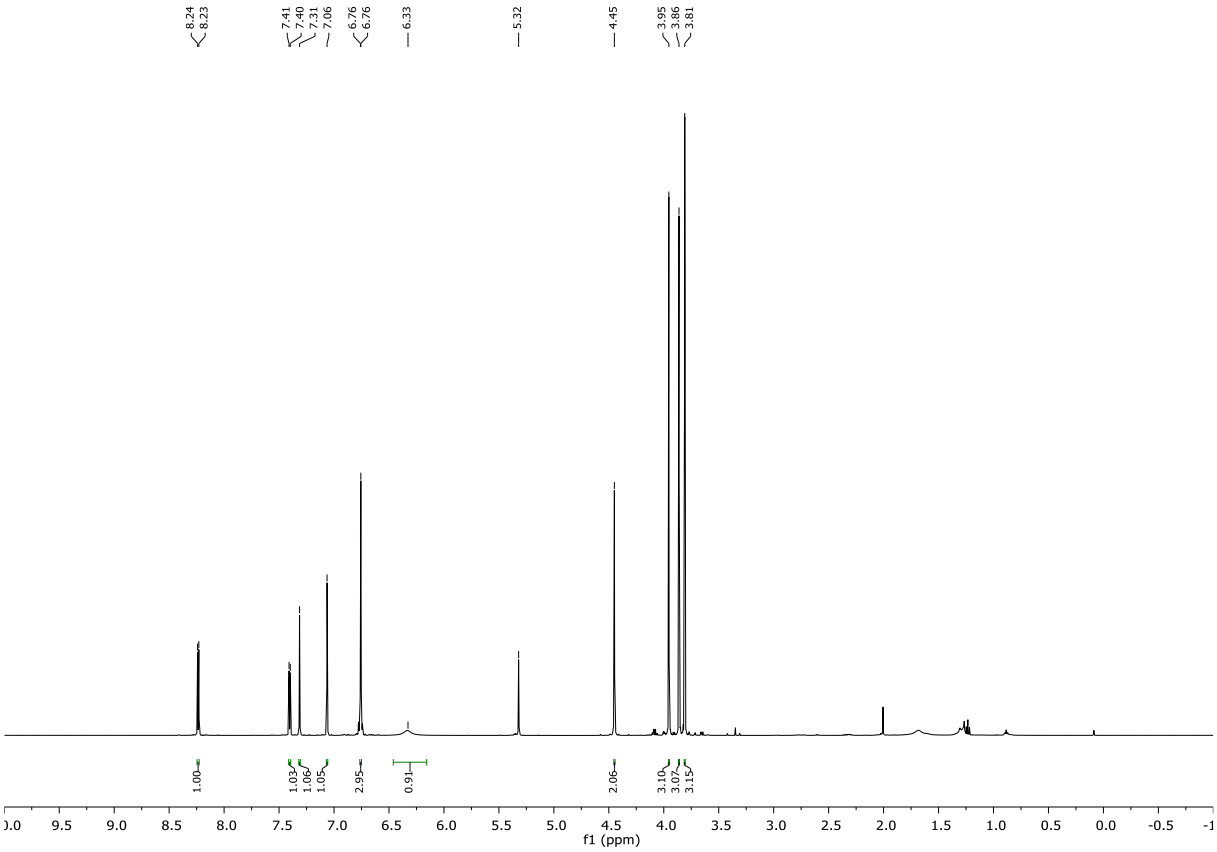


^{1}H NMR spectrum of 1-(3-hydroxy-4-methoxybenzyl)-6,7-dimethoxyisoquinoline (10), Palaudine

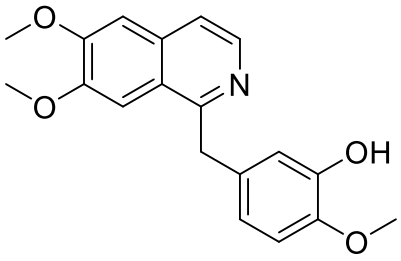


Frequency: 400 MHz

Solvent: CD_2Cl_2

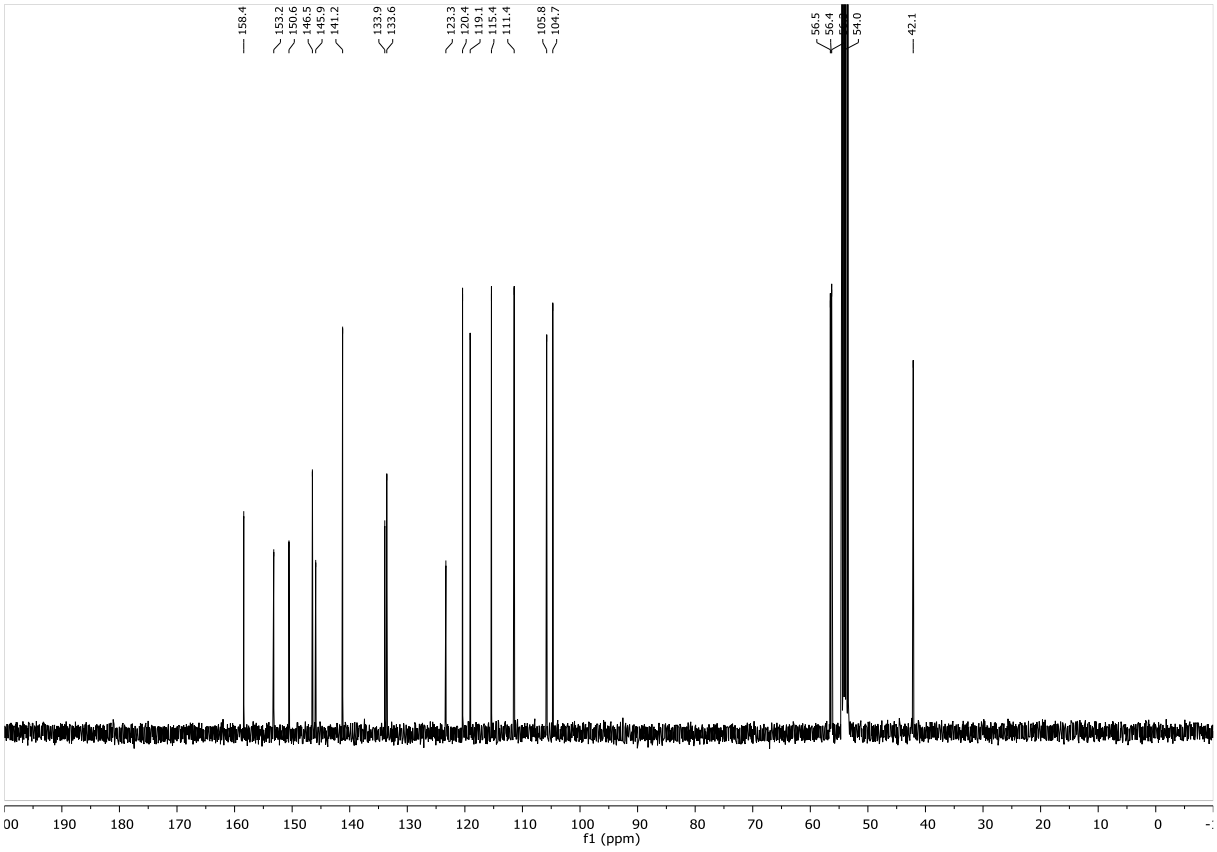


^{13}C NMR spectrum of 1-(3-hydroxy-4-methoxybenzyl)-6,7-dimethoxyisoquinoline (10), Palaudine

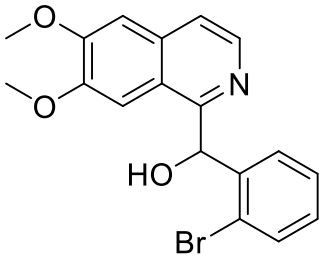


Frequency: 101 MHz

Solvent: CD_2Cl_2

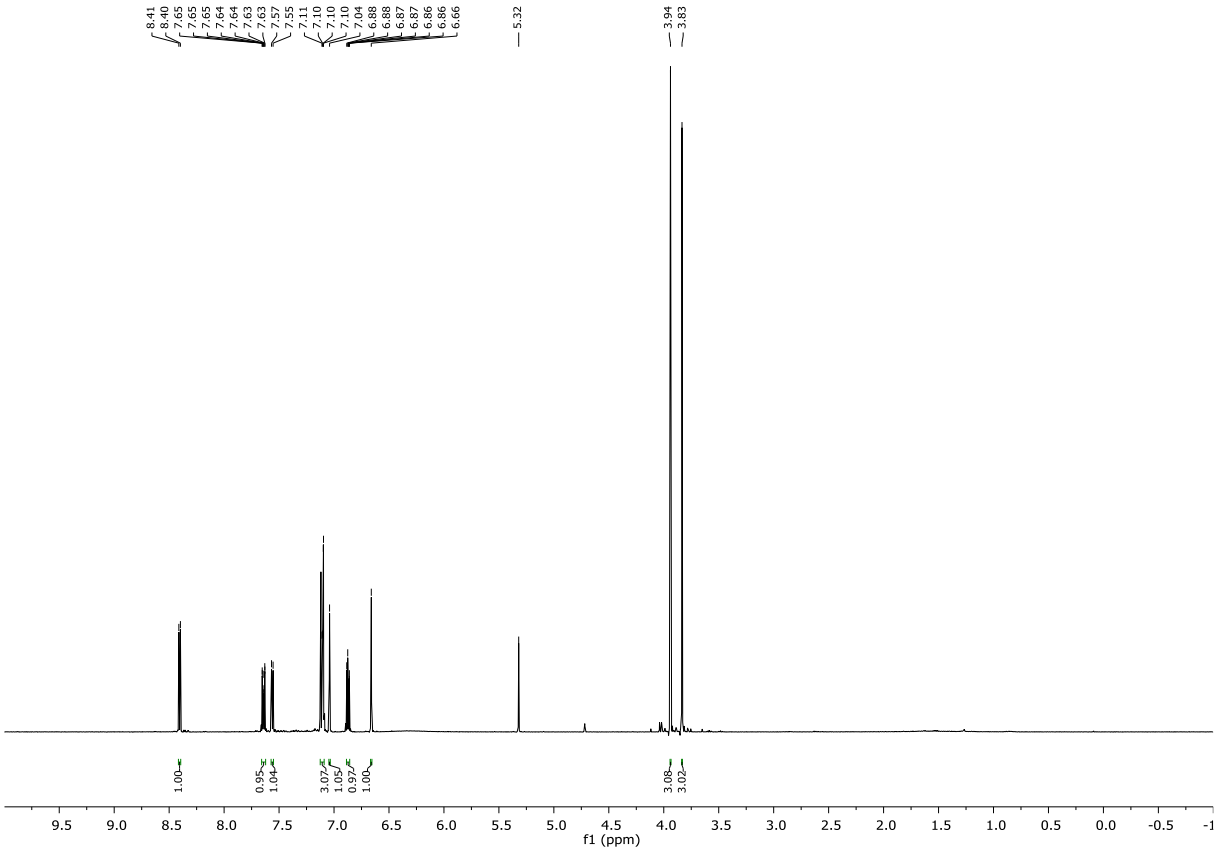


^{1}H NMR spectrum of (±)-(2-bromophenyl)(6,7-dimethoxyisoquinolin-1-yl)methanol (12a)

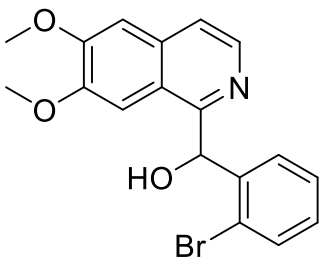


Frequency: 400 MHz

Solvent: CD_2Cl_2

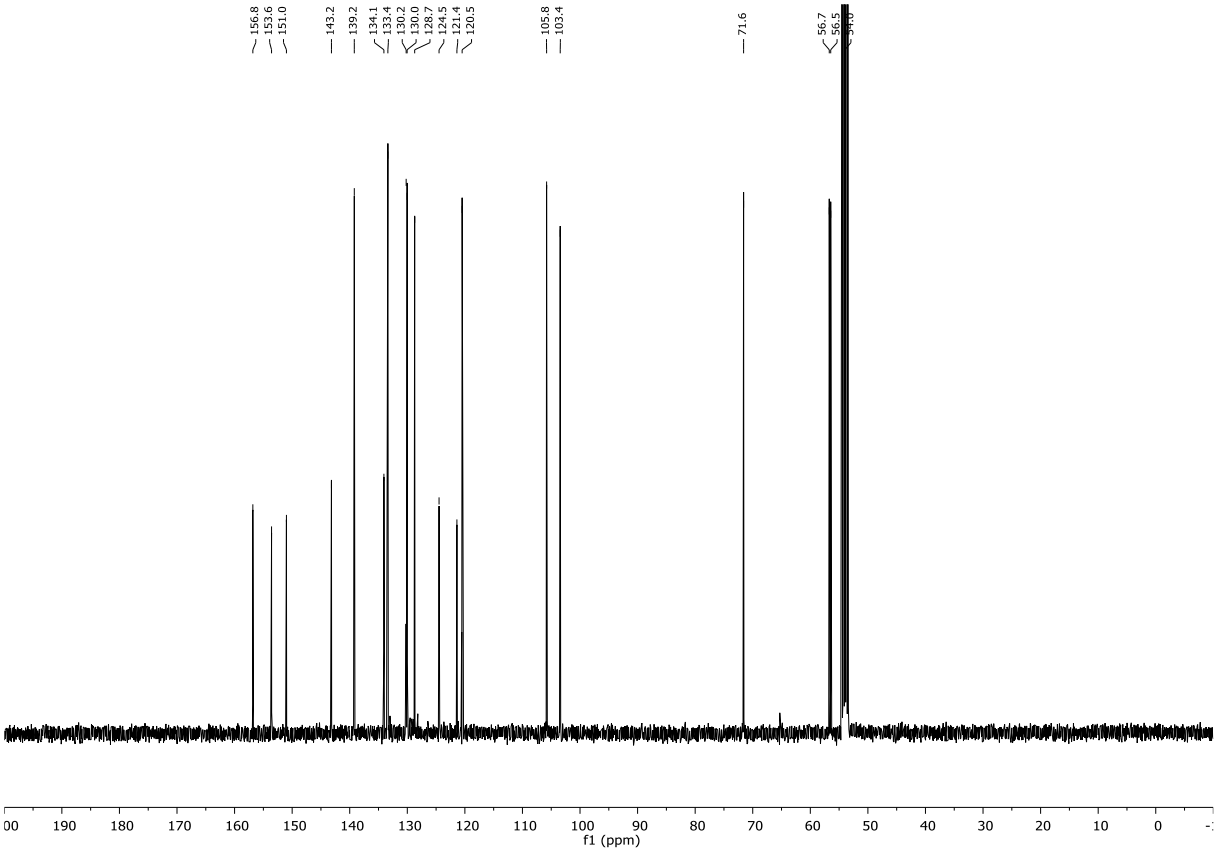


^{13}C NMR spectrum of (±)-(2-bromophenyl)(6,7-dimethoxyisoquinolin-1-yl)methanol (12a)

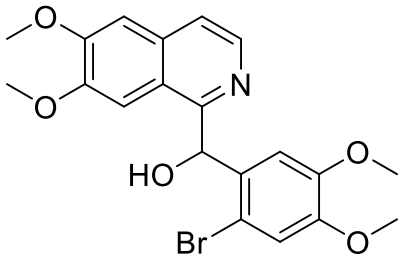


Frequency: 101 MHz

Solvent: CD_2Cl_2

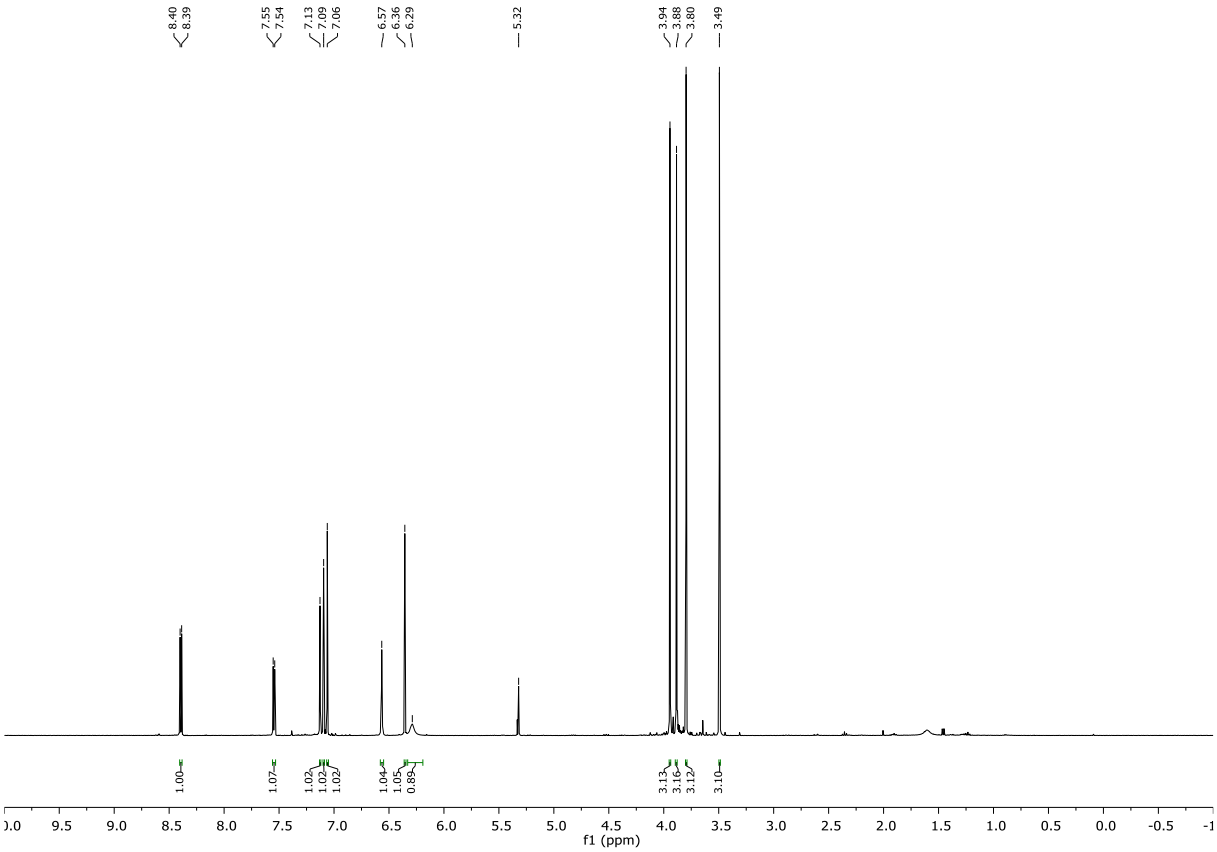


^{1}H NMR spectrum of (±)-(2-bromo-4,5-dimethoxyphenyl)(6,7-dimethoxyisoquinolin-1-yl)methanol (12b)

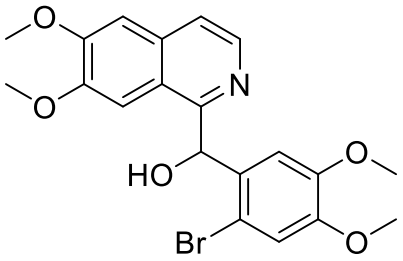


Frequency: 400 MHz

Solvent: CD_2Cl_2

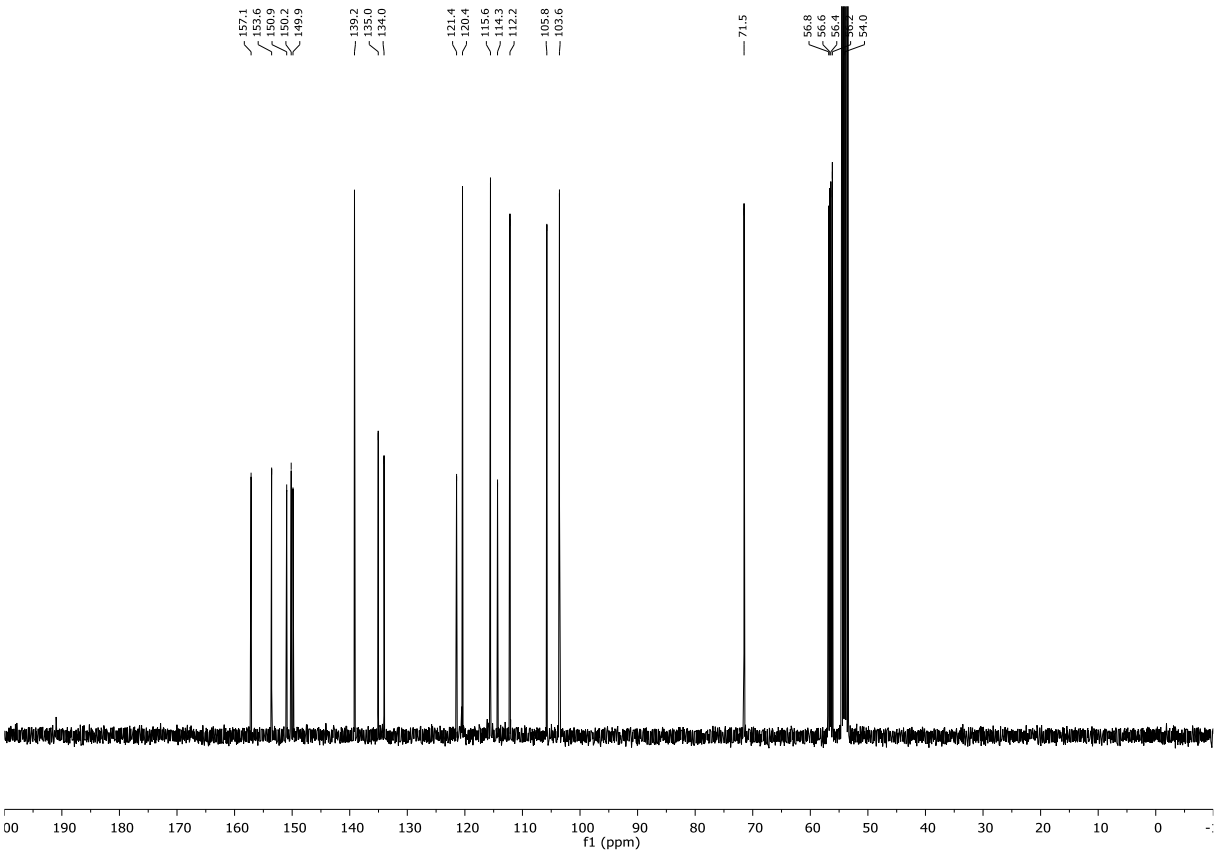


^{13}C NMR spectrum of (±)-(2-bromo-4,5-dimethoxyphenyl)(6,7-dimethoxyisoquinolin-1-yl)methanol (12b)

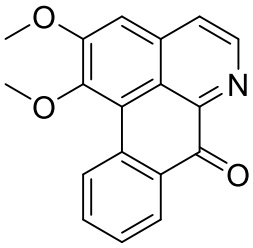


Frequency: 101 MHz

Solvent: CD_2Cl_2

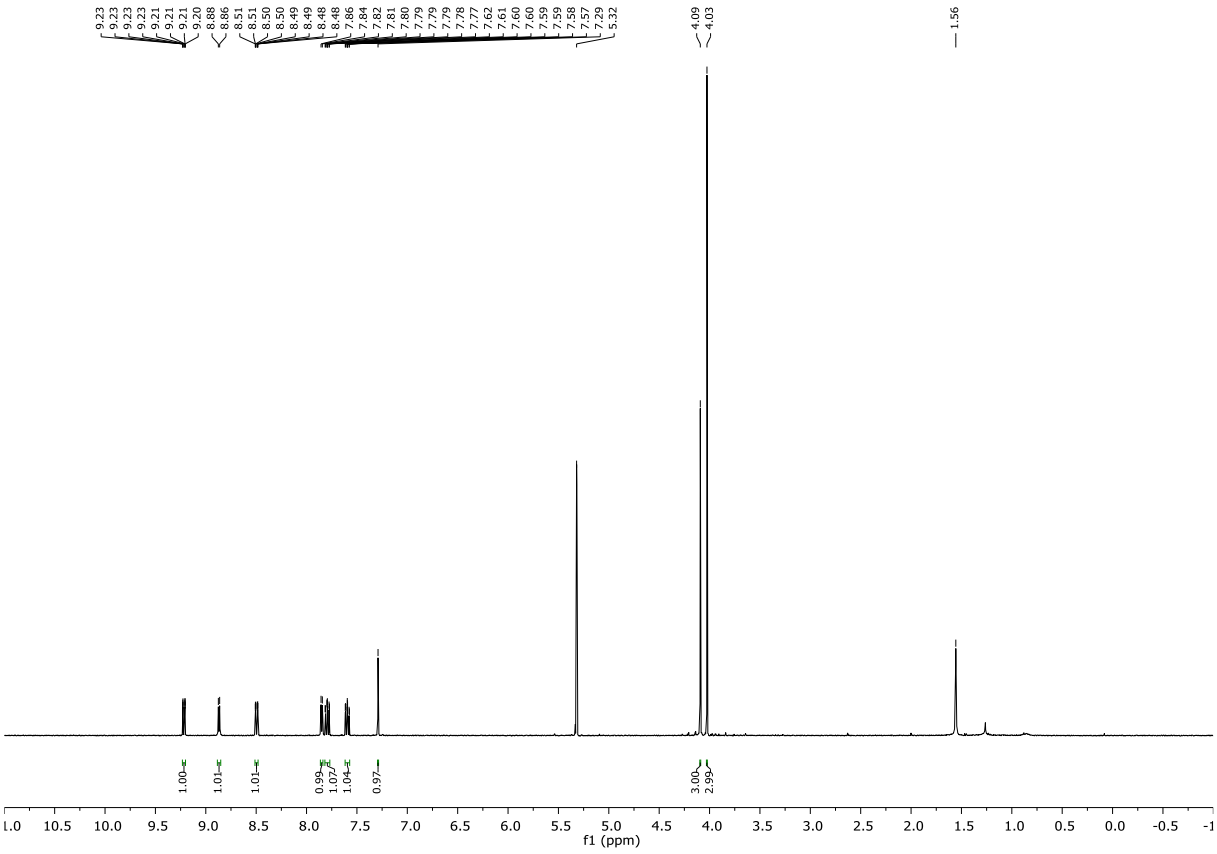


^{1}H NMR spectrum of 1,2-dimethoxy-7*H*-dibenzo[*de,g*]quinolin-7-one (13), Lysicamine

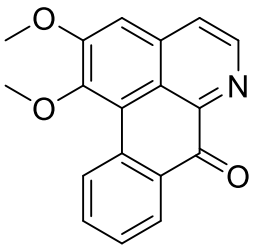


Frequency: 400 MHz

Solvent: CD_2Cl_2

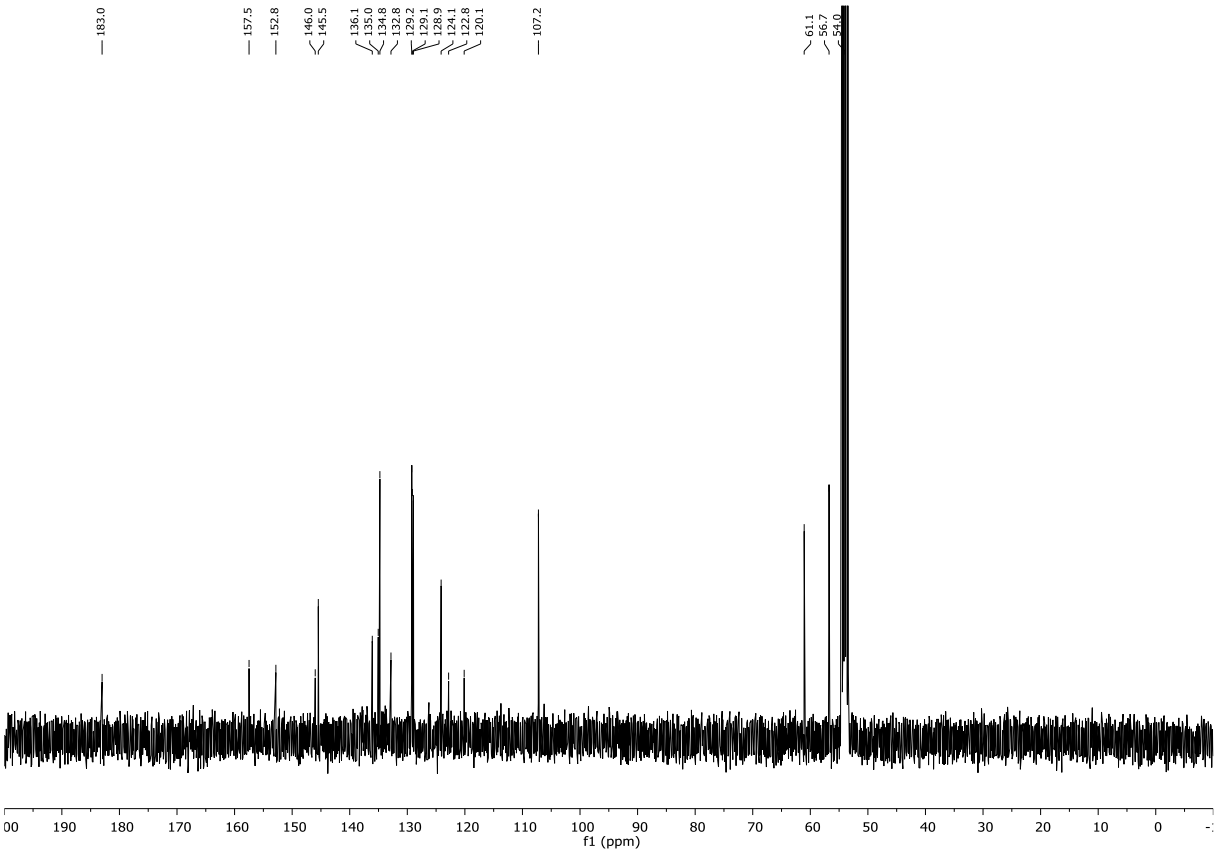


^{13}C NMR spectrum of 1,2-dimethoxy-7*H*-dibenzo[*de,g*]quinolin-7-one (13), Lysicamine

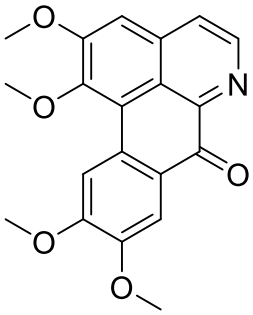


Frequency: 101 MHz

Solvent: CD_2Cl_2

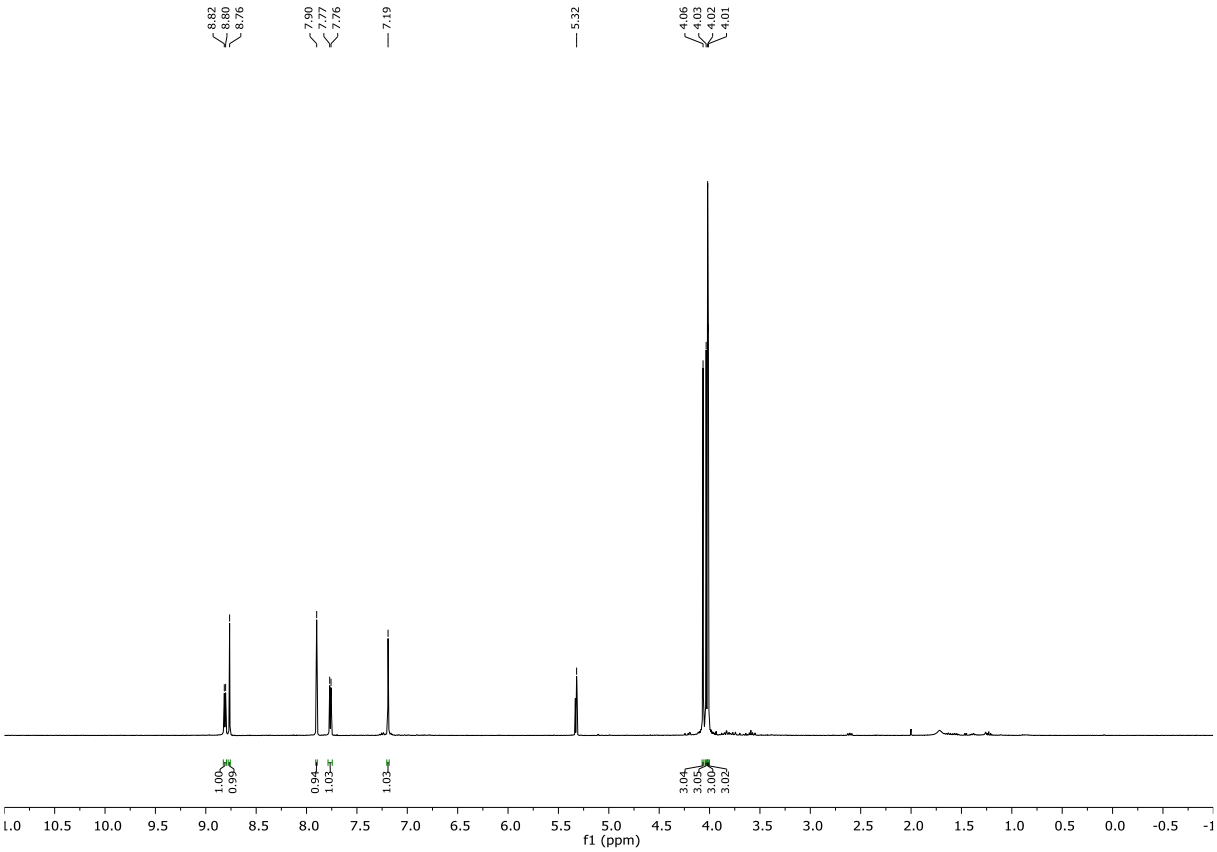


^{1}H NMR spectrum of 1,2,9,10-tetramethoxy-7*H*-dibenzo[*de,g*]quinolin-7-one (14), Oxoglaucine

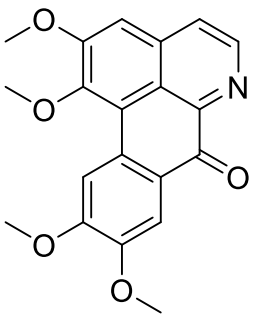


Frequency: 400 MHz

Solvent: CD_2Cl_2



^{13}C NMR spectrum of 1,2,9,10-tetramethoxy-7*H*-dibenzo[*de,g*]quinolin-7-one (14), Oxoglaucine



Frequency: 101 MHz

Solvent: CD_2Cl_2