

## Supplementary Material

Title: Synthesis, kinetic evaluation and molecular docking studies of donepezil-based acetylcholinesterase inhibitors

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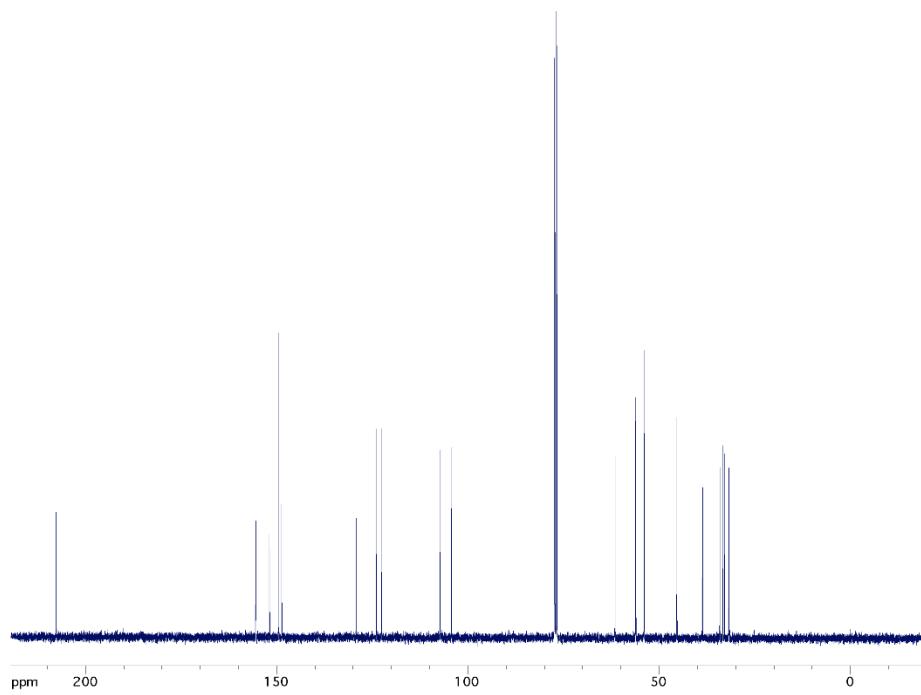
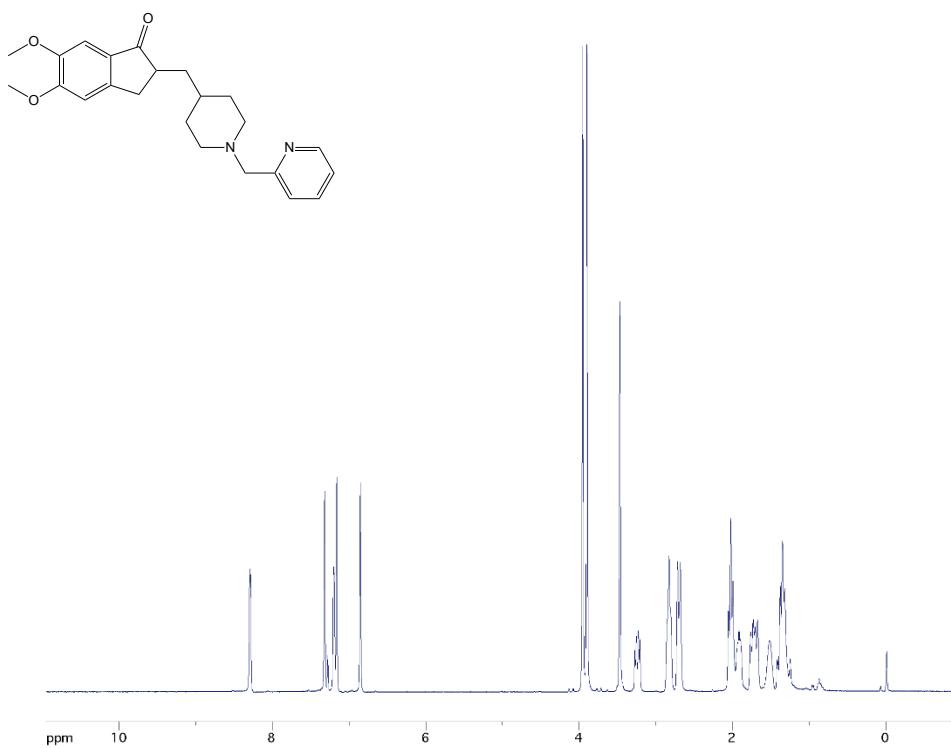
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<sup>2</sup>Department of Human Anatomy and Cell Science, Rady Faculty of Health Sciences, Max Rady College of Medicine, University of Manitoba, Winnipeg, MB R3E 0J9, Canada.

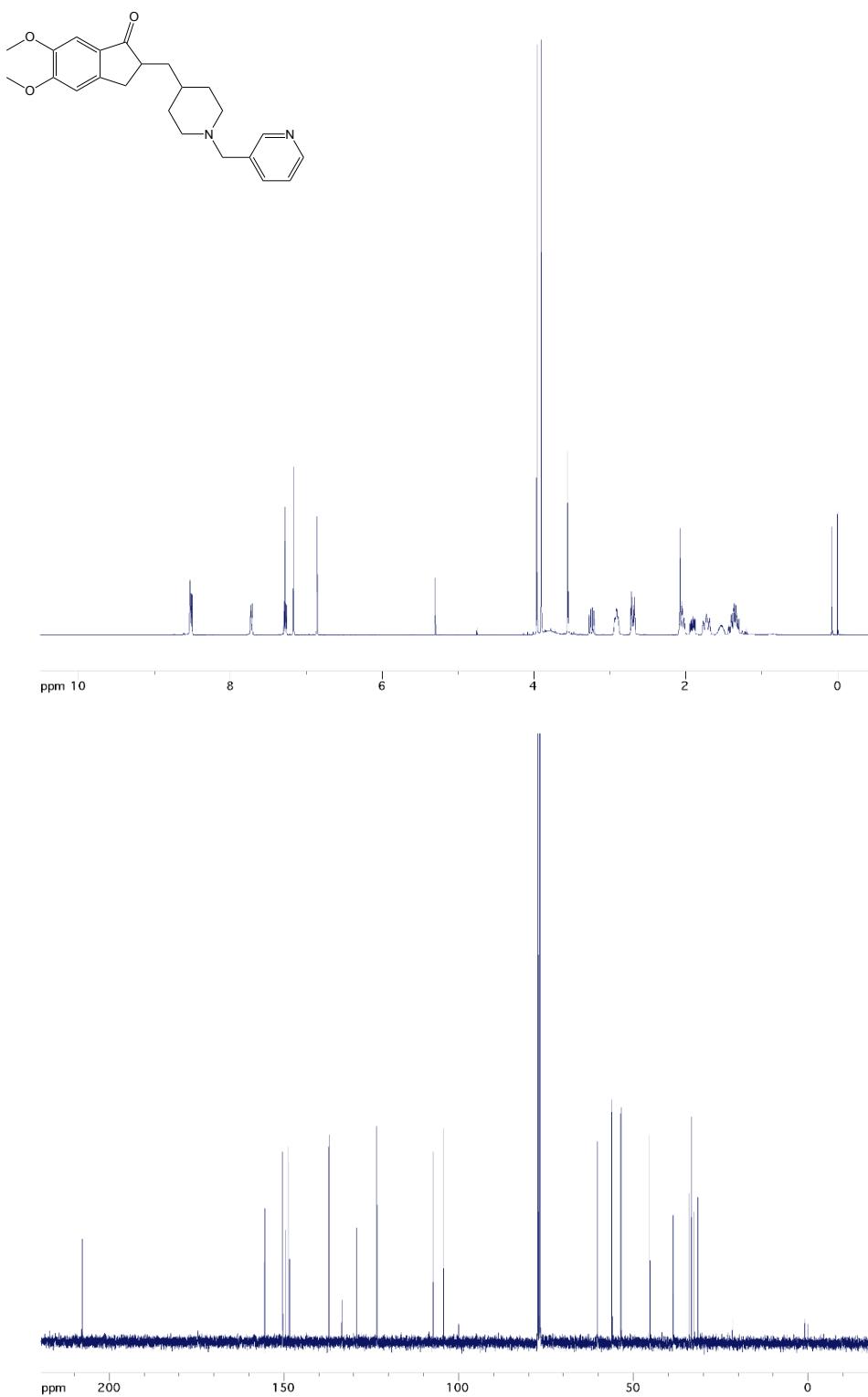
### Proton and Carbon NMR spectra Analogs 1-12

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5,6-dimethoxy-2-((1-(pyridin-2-ylmethyl)piperidin-4-yl)methyl)-2,3-dihydro-1H-inden-1-one, Analog 1	2
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5,6-dimethoxy-2-((1-(pyridin-4-ylmethyl)piperidin-4-yl)methyl)-2,3-dihydro-1H-inden-1-one, Analog 3	4
5,6-dimethoxy-2-((1-(quinolin-4-ylmethyl)piperidin-4-yl)methyl)-2,3-dihydro-1H-inden-1-one, Analog 4	5
2-((1-((2-chloropyridin-4-yl)methyl)piperidin-4-yl)methyl)-5,6-dimethoxy-2,3-dihydro-1H-inden-1-one, Analog 5	6
2-((1-((2-bromopyridin-4-yl)methyl)piperidin-4-yl)methyl)-5,6-dimethoxy-2,3-dihydro-1H-inden-1-one, Analog 6	7
2-((1-((3-chloropyridin-4-yl)methyl)piperidin-4-yl)methyl)-5,6-dimethoxy-2,3-dihydro-1H-inden-1-one, Analog 7	8
2-((1-((3,5-dichloropyridin-4-yl)methyl)piperidin-4-yl)methyl)-5,6-dimethoxy-2,3-dihydro-1H-inden-1-one, Analog 8	9
2-((1-((2-fluoropyridin-3-yl)methyl)piperidin-4-yl)methyl)-5,6-dimethoxy-2,3-dihydro-1H-inden-1-one, Analog 9	10
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5,6-dimethoxy-2-((1-((6-methylpyridin-3-yl)methyl)piperidin-4-yl)methyl)-2,3-dihydro-1H-inden-1-one, Analog 12	13
<b>Figure S1.</b> Sequence Alignment – electric eel and human AChE enzymes	<b>14</b>

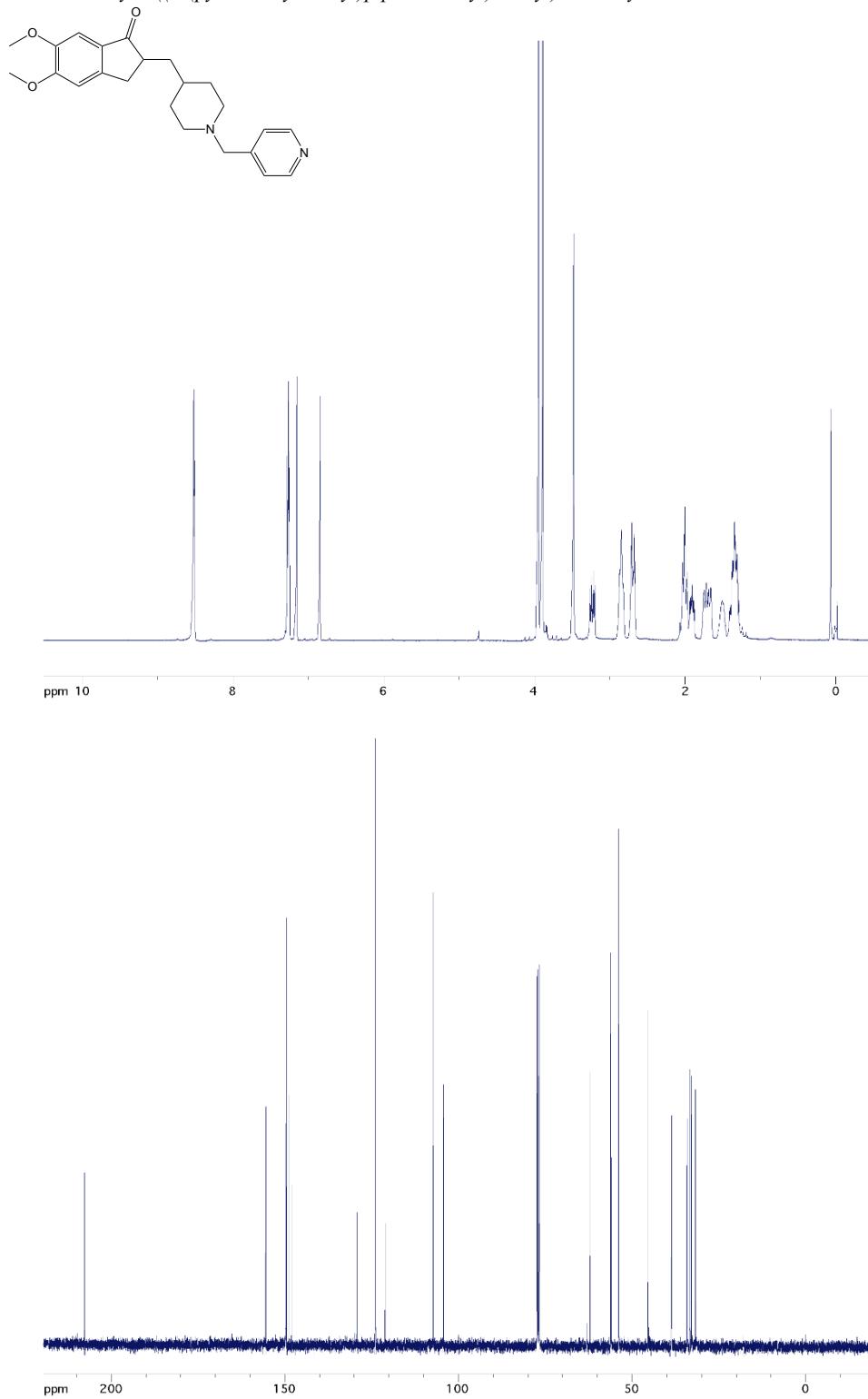
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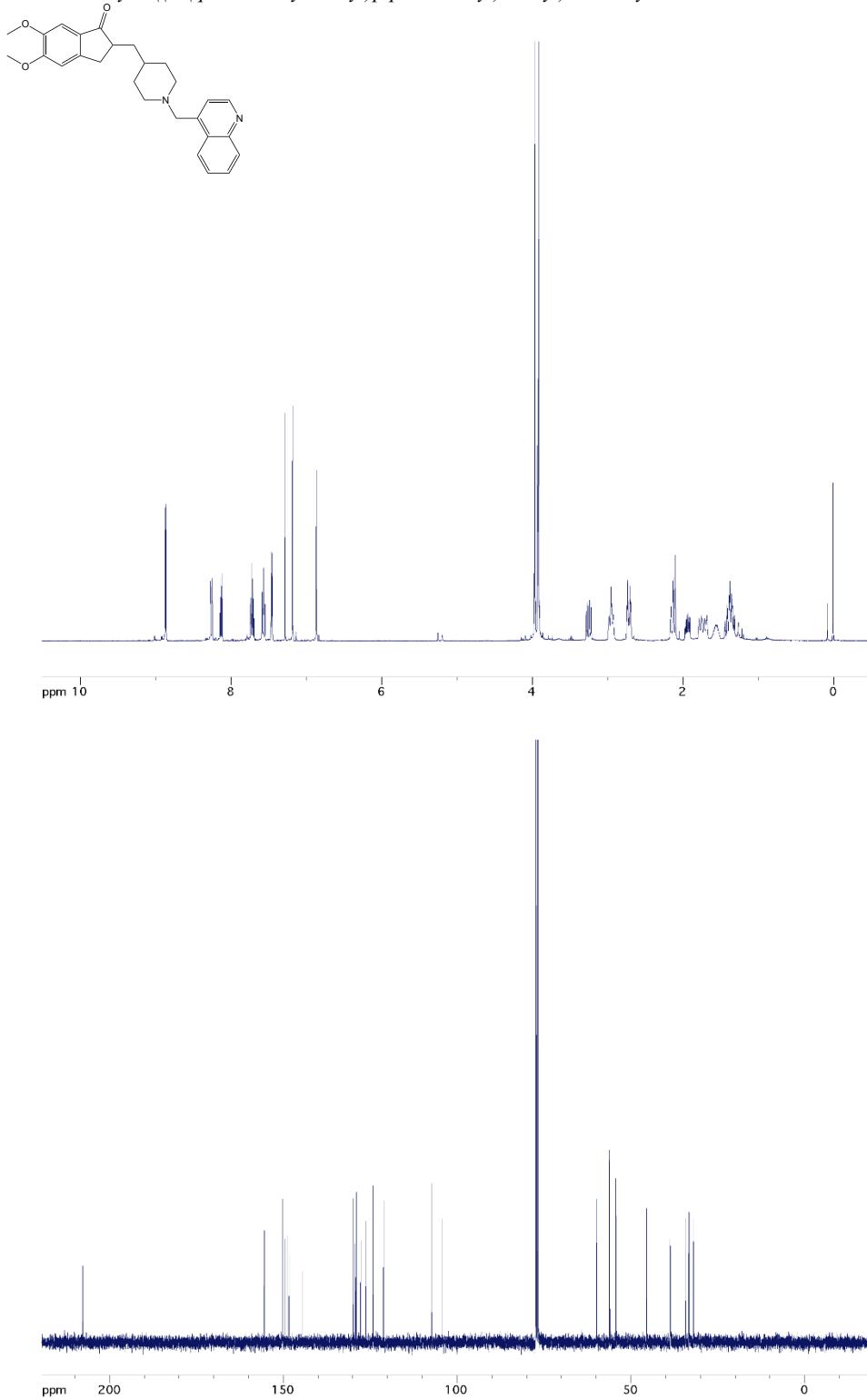
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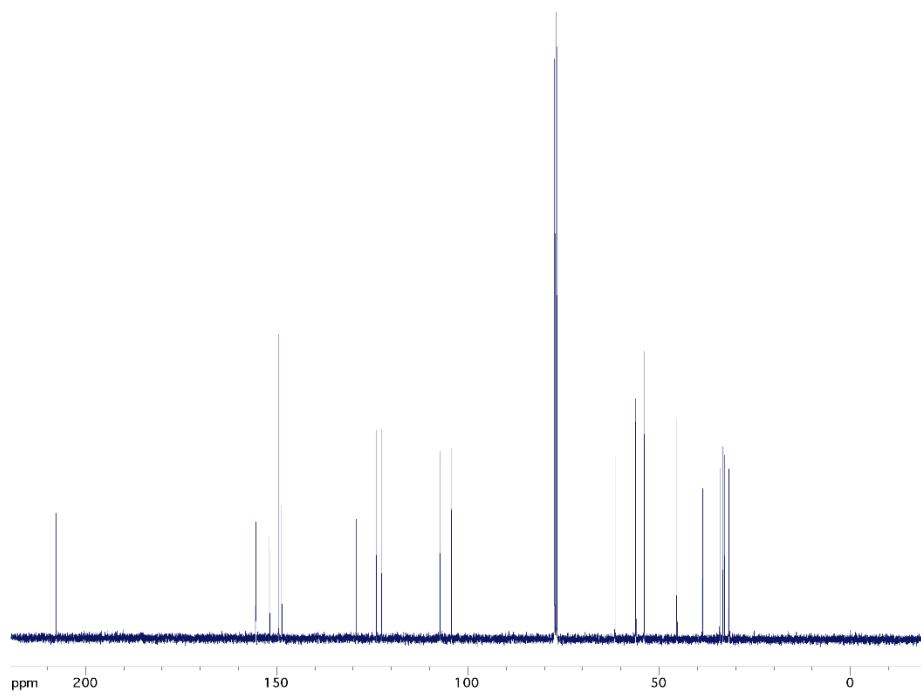
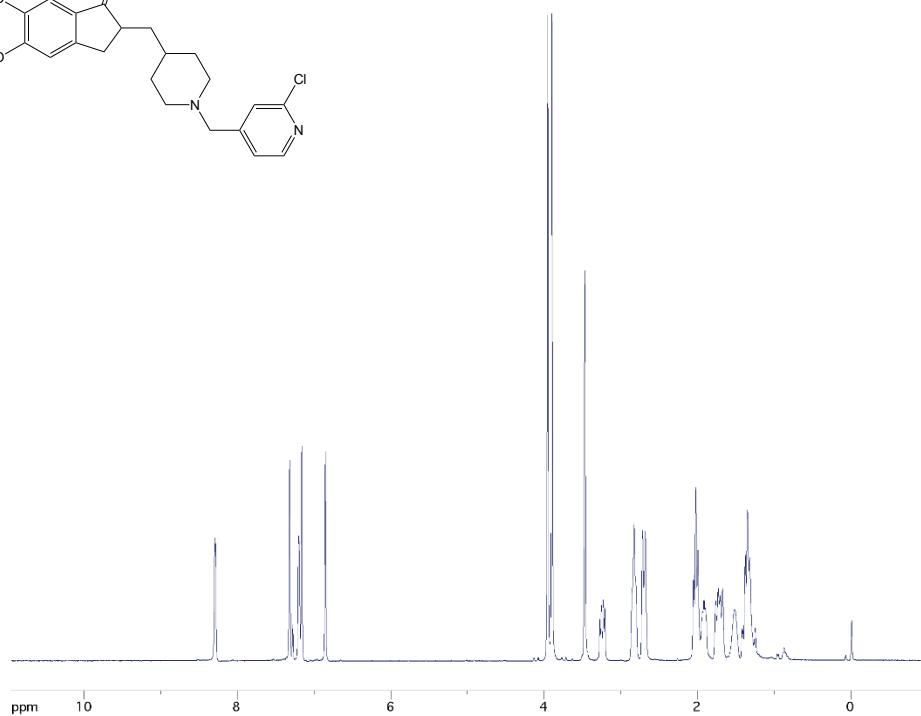
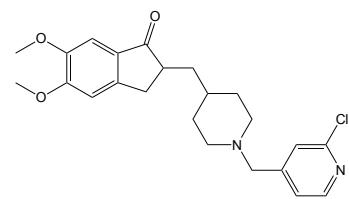
5,6-dimethoxy-2-((1-(pyridin-4-ylmethyl)piperidin-4-yl)methyl)-2,3-dihydro-1H-inden-1-one, **Analog 3**



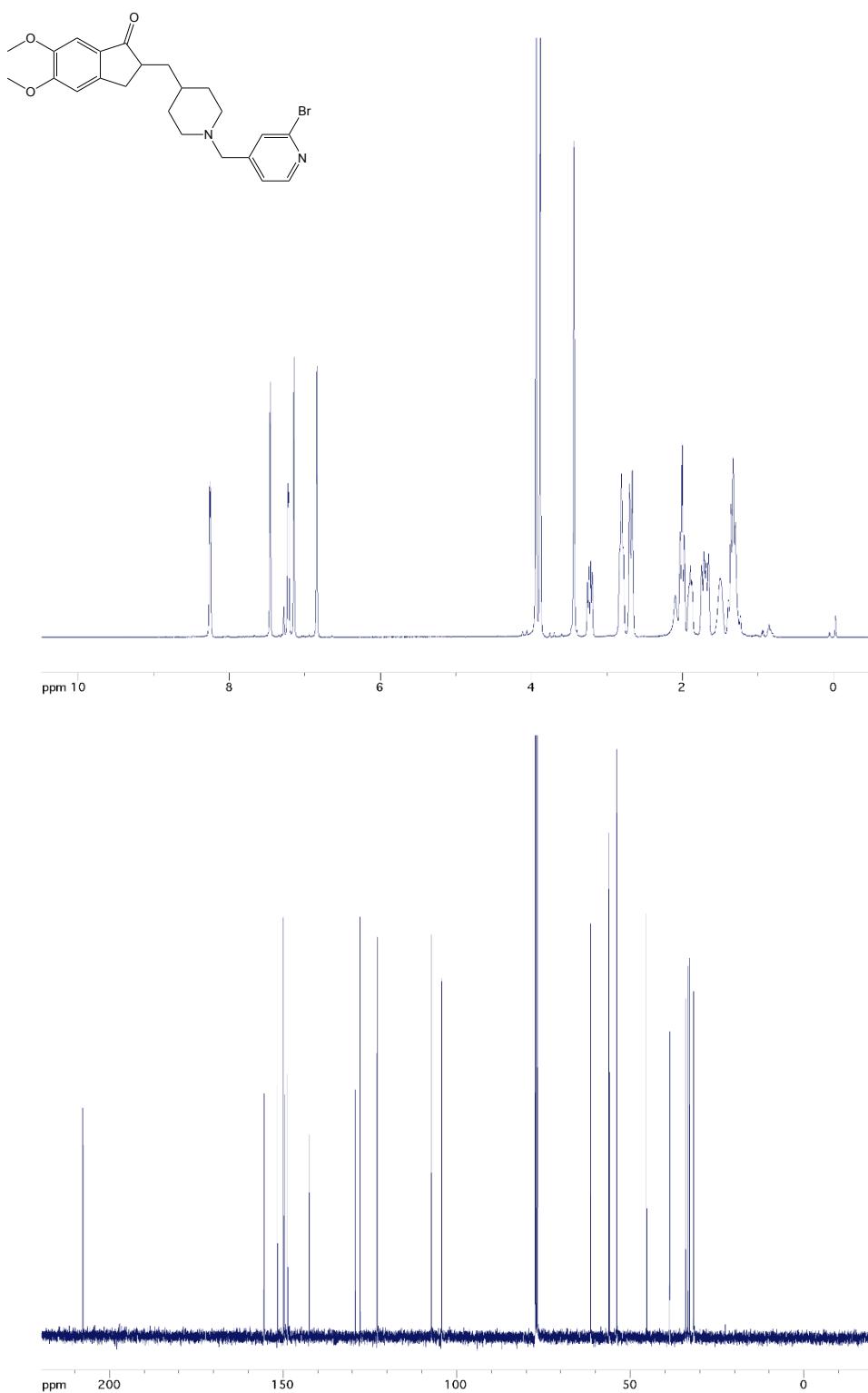
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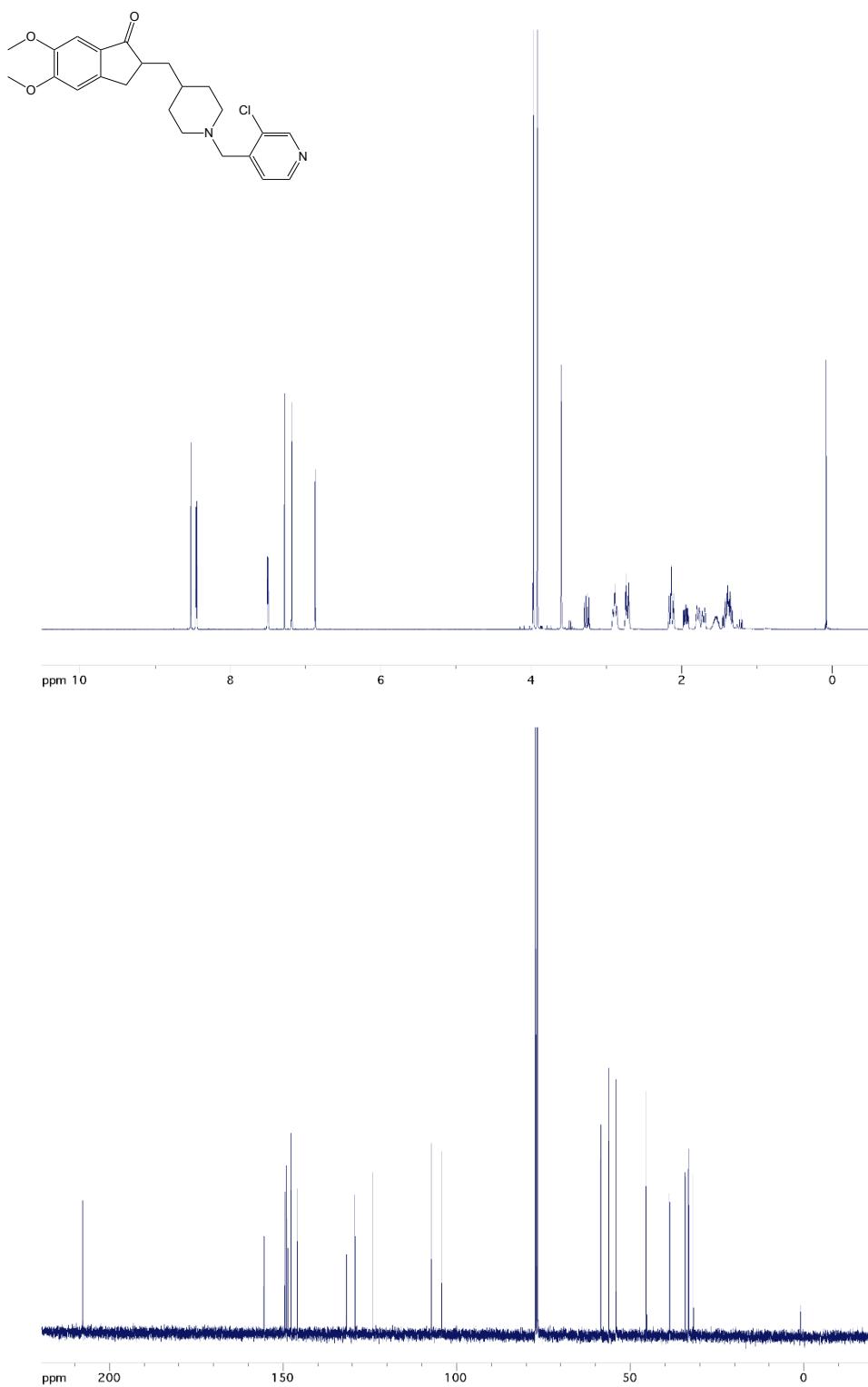
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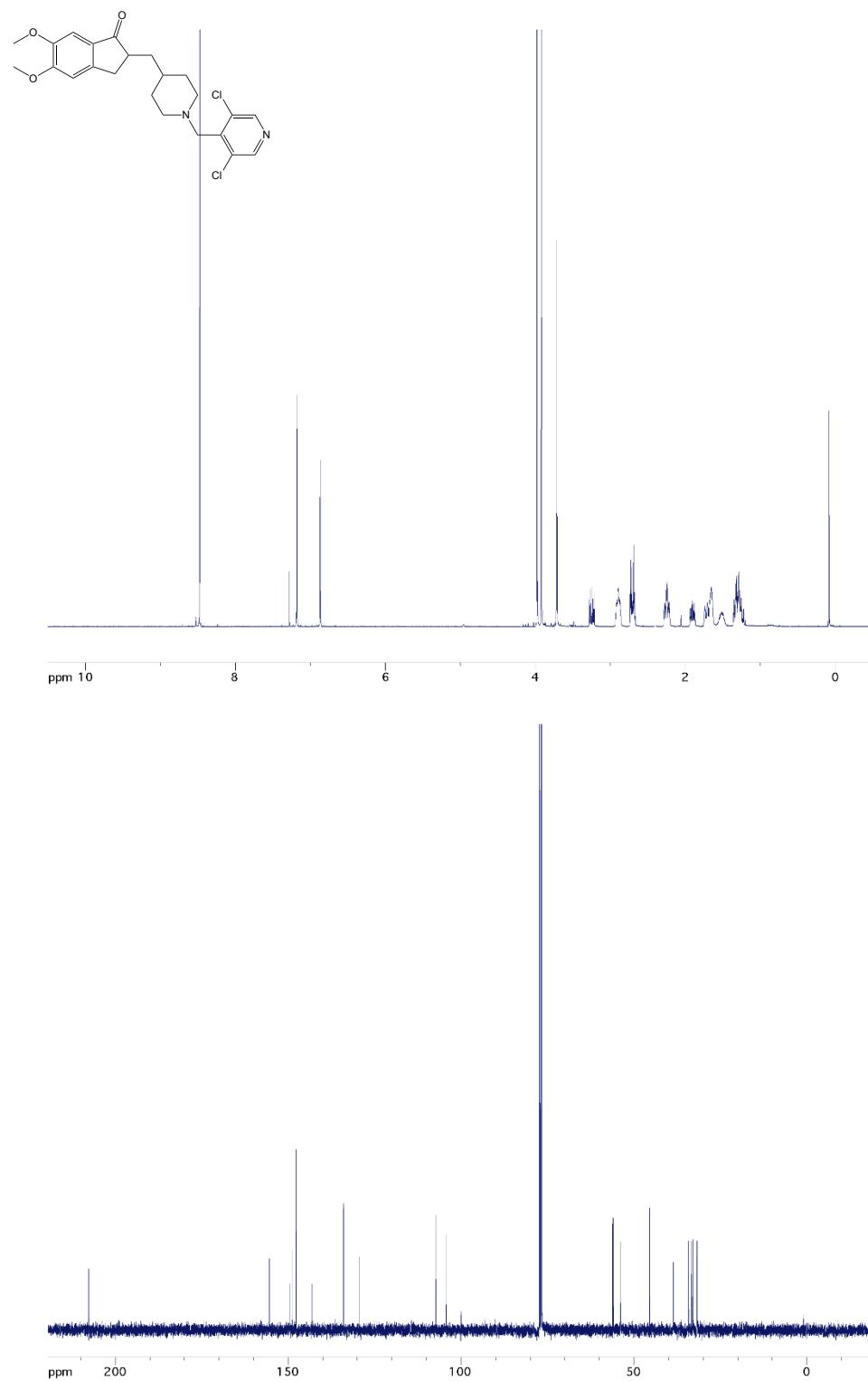
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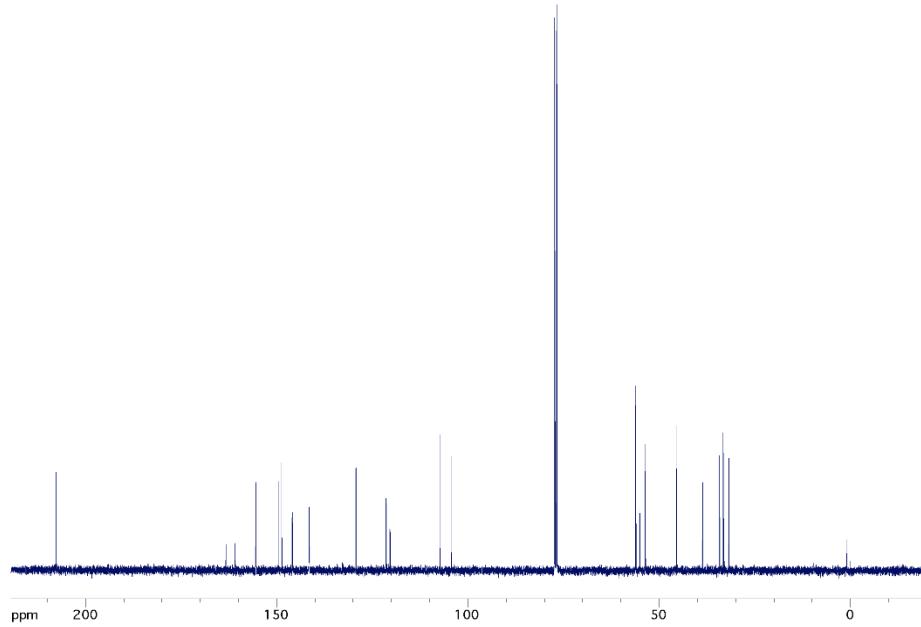
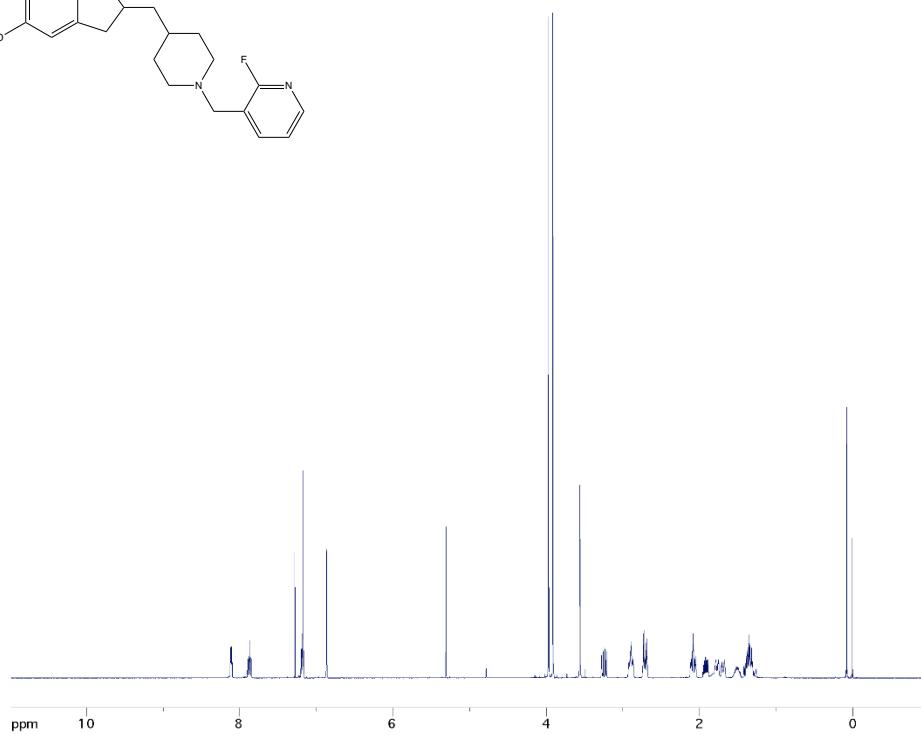
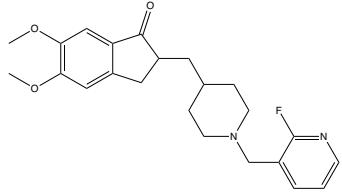
*2-((1-((3-chloropyridin-4-yl)methyl)piperidin-4-yl)methyl)-5,6-dimethoxy-2,3-dihydro-1*H*-inden-1-one, Analog 7*



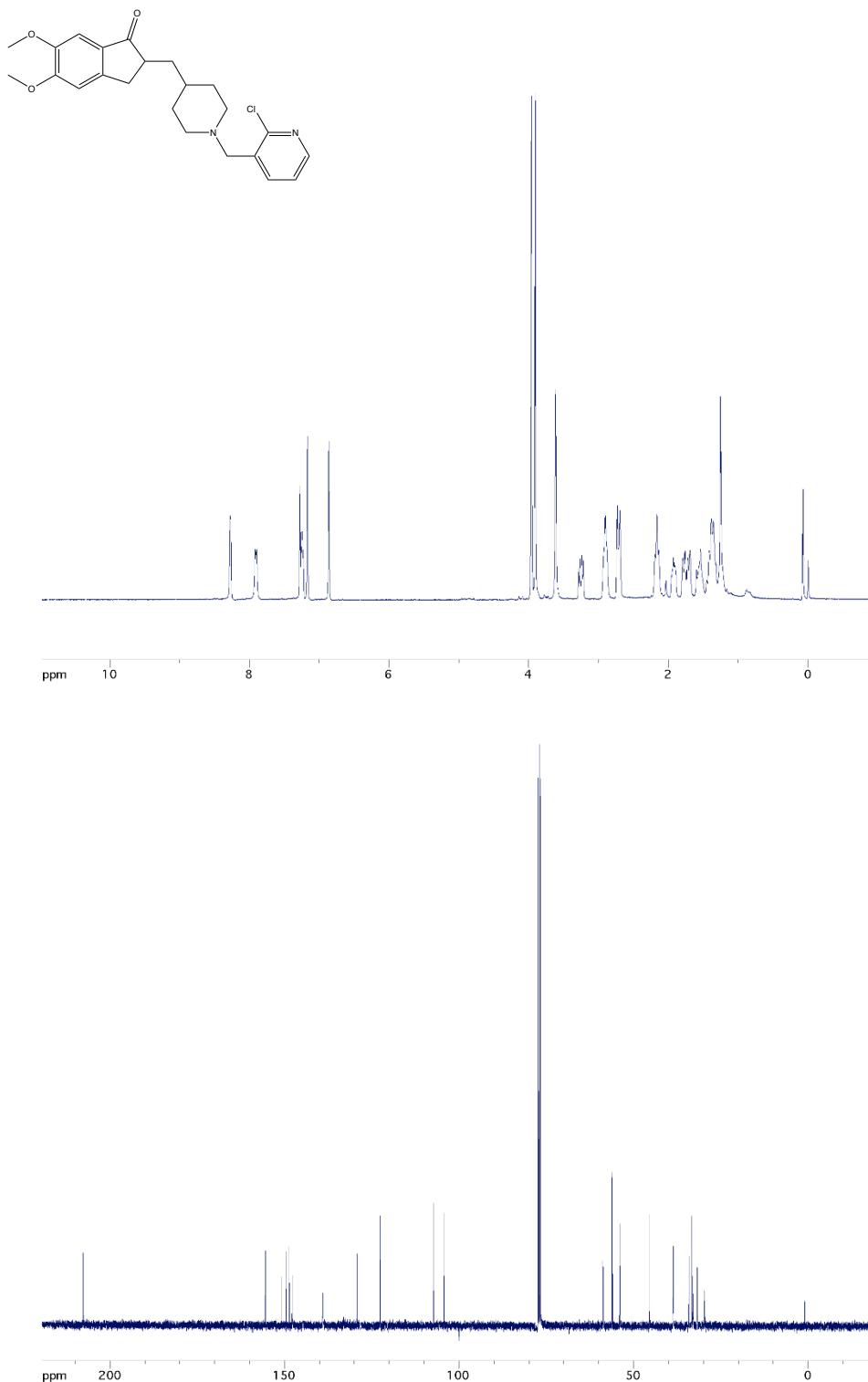
*2-((1-((3,5-dichloropyridin-4-yl)methyl)piperidin-4-yl)methyl)-5,6-dimethoxy-2,3-dihydro-1*H*-inden-1-one, Analog 8*



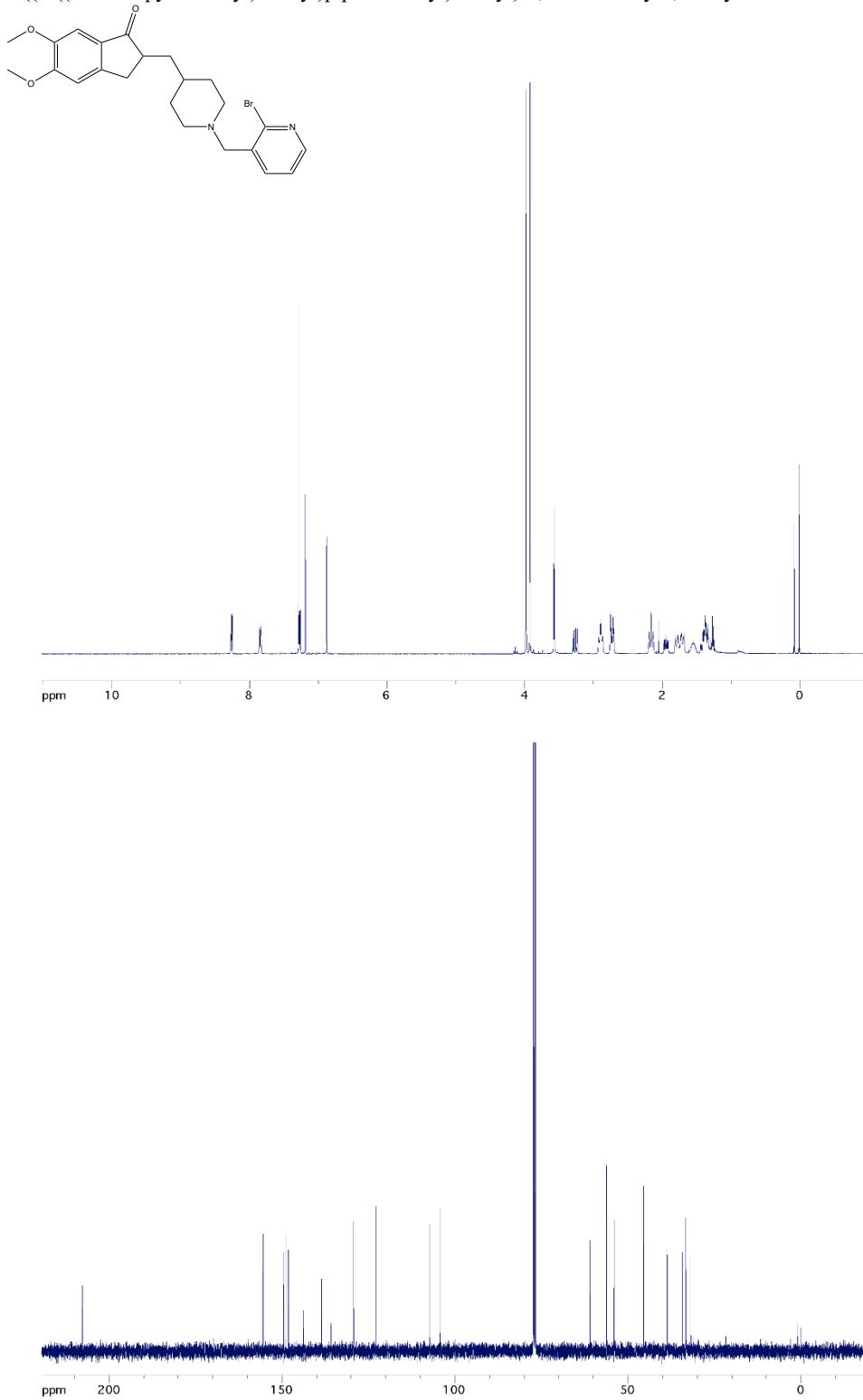
2-((1-((2-fluoropyridin-3-yl)methyl)piperidin-4-yl)methyl)-5,6-dimethoxy-2,3-dihydro-1*H*-inden-1-one, **Analog 9**



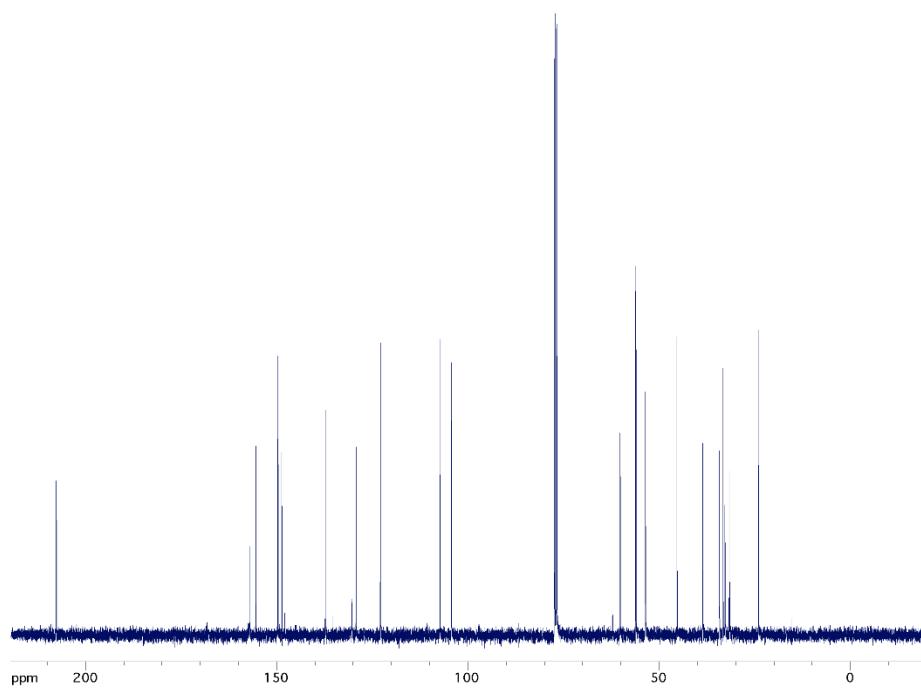
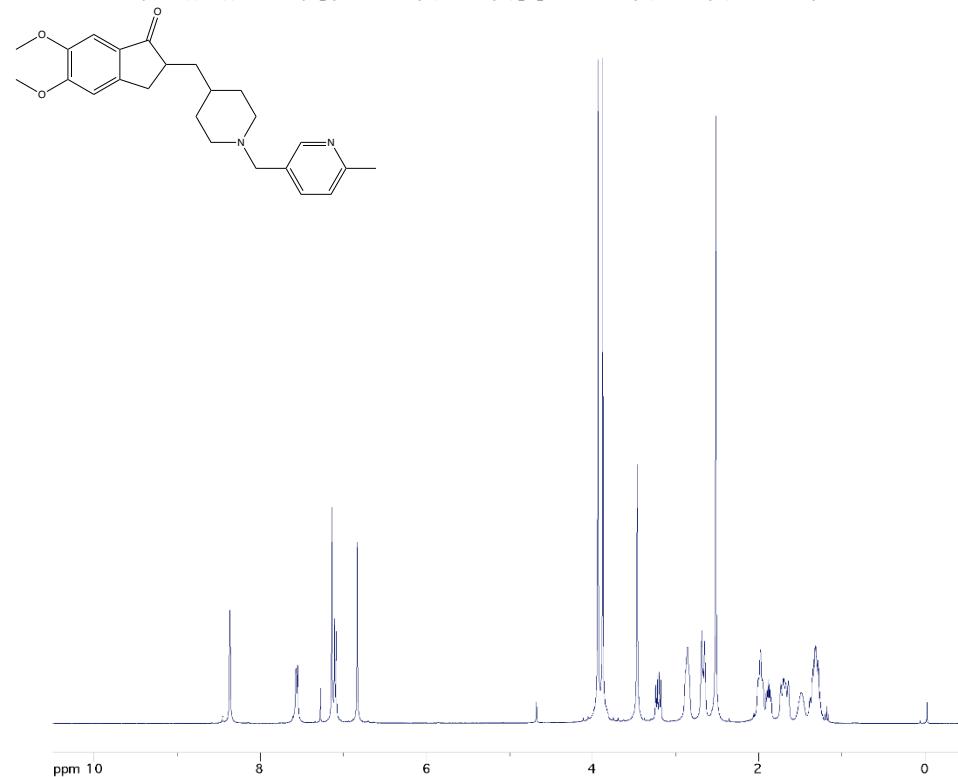
2-((1-((2-chloropyridin-3-yl)methyl)piperidin-4-yl)methyl)-5,6-dimethoxy-2,3-dihydro-1*H*-inden-1-one, **Analog 10**



2-((1-((2-bromopyridin-3-yl)methyl)piperidin-4-yl)methyl)-5,6-dimethoxy-2,3-dihydro-1*H*-inden-1-one, **Analog 11**



5,6-dimethoxy-2-((1-((6-methylpyridin-3-yl)methyl)piperidin-4-yl)methyl)-2,3-dihydro-1*H*-inden-1-one, **Analog 12**



**Figure S1.** Sequence alignment – electric eel and human AChE enzymes

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.R#M+YWANPARTG.PN...D.....W#T...Q.#V.L...L.V...GL+.OCAFWHRFLP.LL.#T-#D-AERQKAFFIRWSSYH#HWKNQFDHYSKQ-RC..L  

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