

Supporting Information

Photoredox catalyzed ketyl-olefin coupling for the synthesis of substituted chromanols

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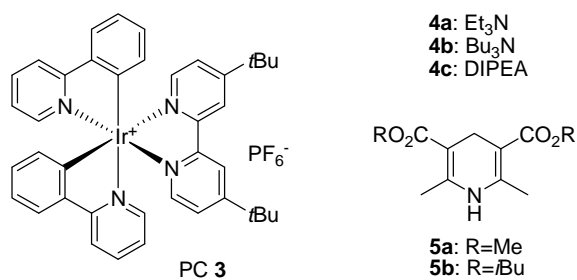
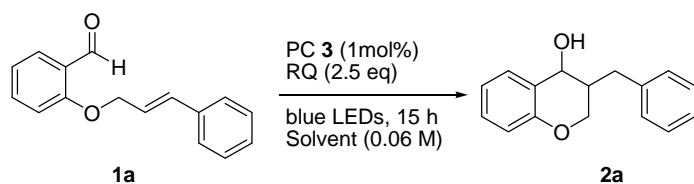
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Table S1. Photocatalytic Ketyl-Olefin Cyclization of Unsubstituted 2-(Cinnamyloxy)benzaldehyde (**1a**)^a

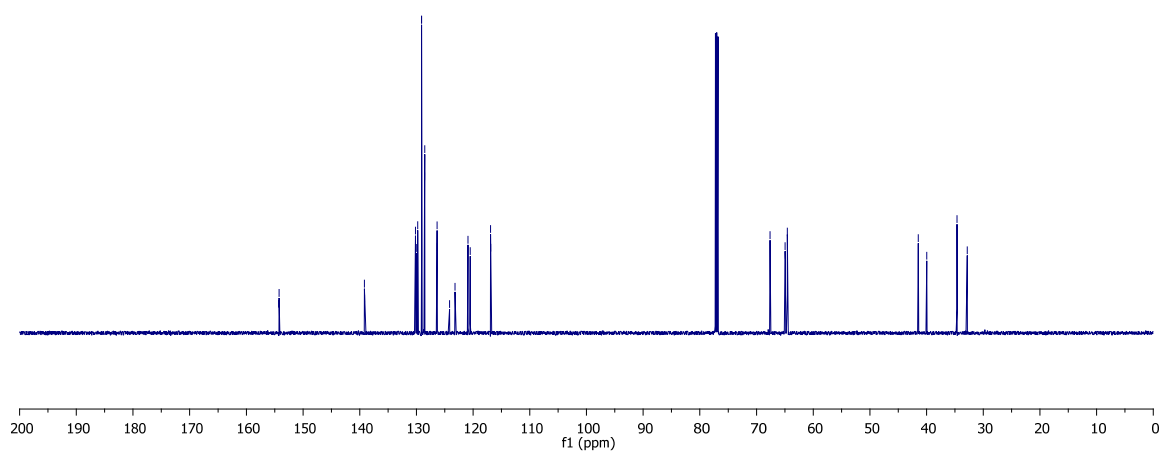
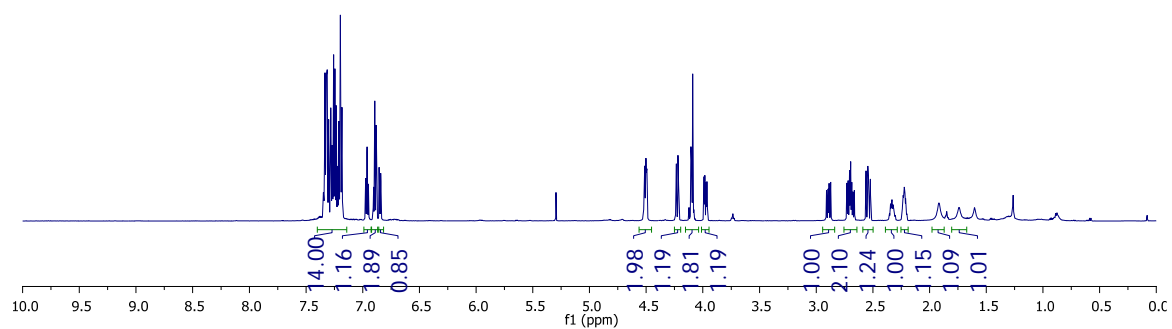
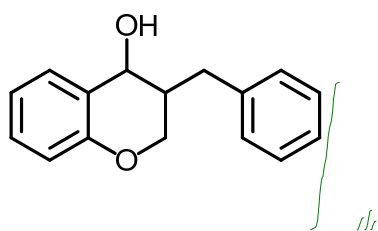


Entry	RQ	Solvent	Yield ^b %
1	Et ₃ N (4a)	DMF	36
2	Et ₃ N (4a)	DMSO	0
3	Et ₃ N (4a)	MeOH	0
4	Et ₃ N (4a)	CH ₃ CN	50
5	Bu ₃ N (4b)	CH ₃ CN	56
6	DIPEA (4c)	CH ₃ CN	81(80) ^c
7	5a	CH ₃ CN	0
8	5b	CH ₃ CN	0
9	5a +DPP (10 mol%)	CH ₃ CN	0
10	5a +DPP (10 mol%)	THF	0

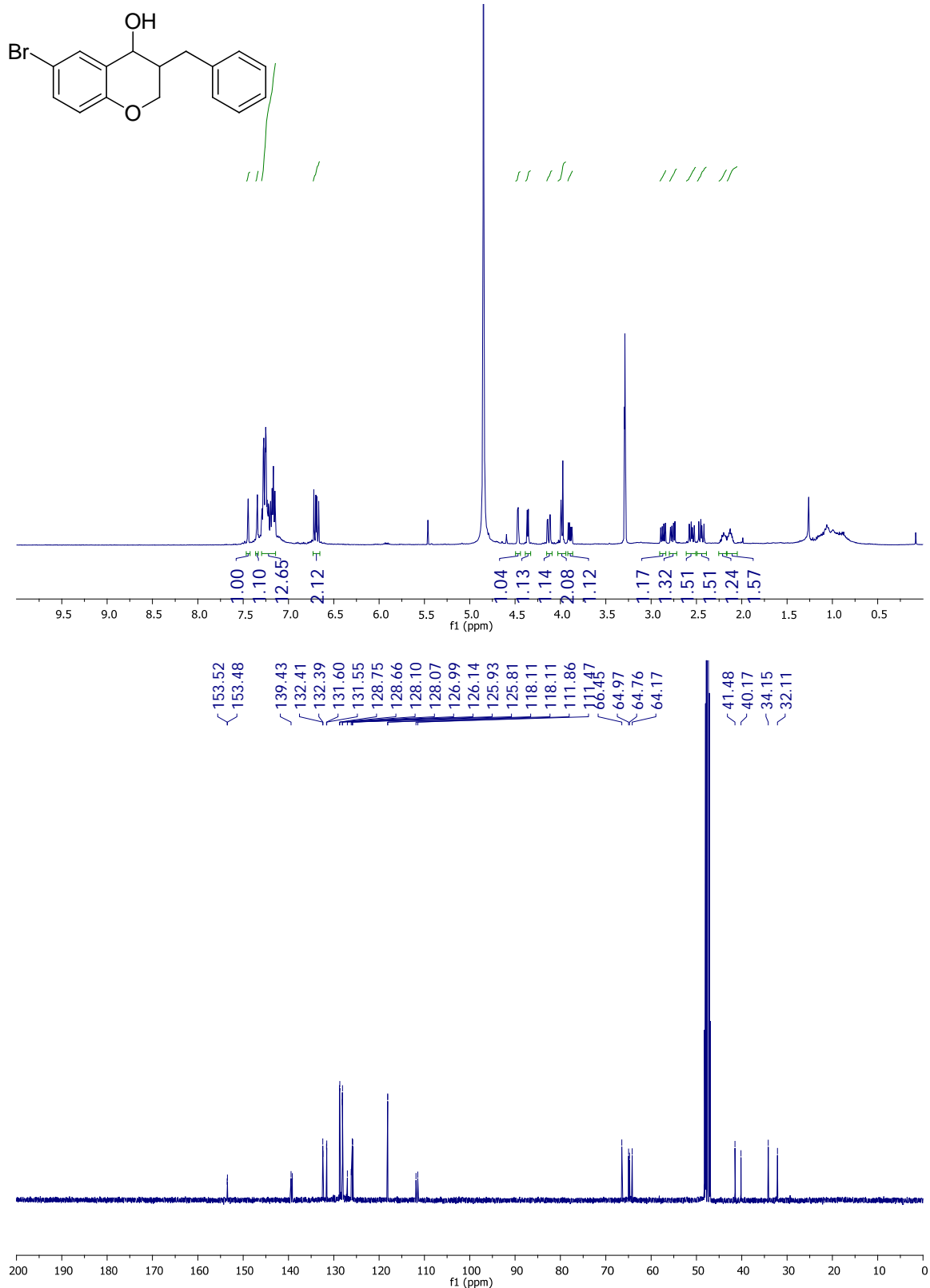
^aAll reactions of **1a** (0.12 mmol) with **4** (0.3 mmol) were carried out in the presence of the photocatalyst PC **3** (1 mol%) in the indicated solvent (2.0 ml) under irradiation with blue LEDs (11 W, 450 nm) for 15 h at 25 °C. ^bYields were determined by ¹H-NMR analysis of the crude mixture relative to an internal standard. ^cIsolated yields are reported in parentheses.

NMR spectra

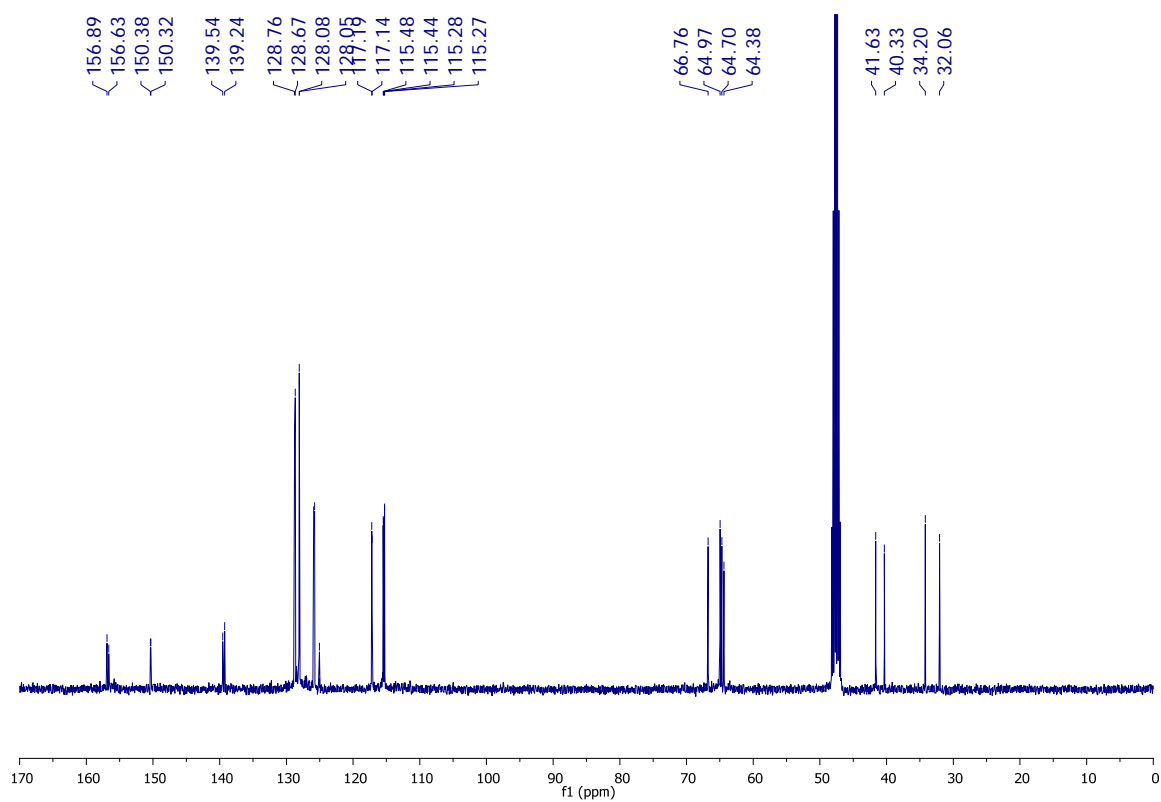
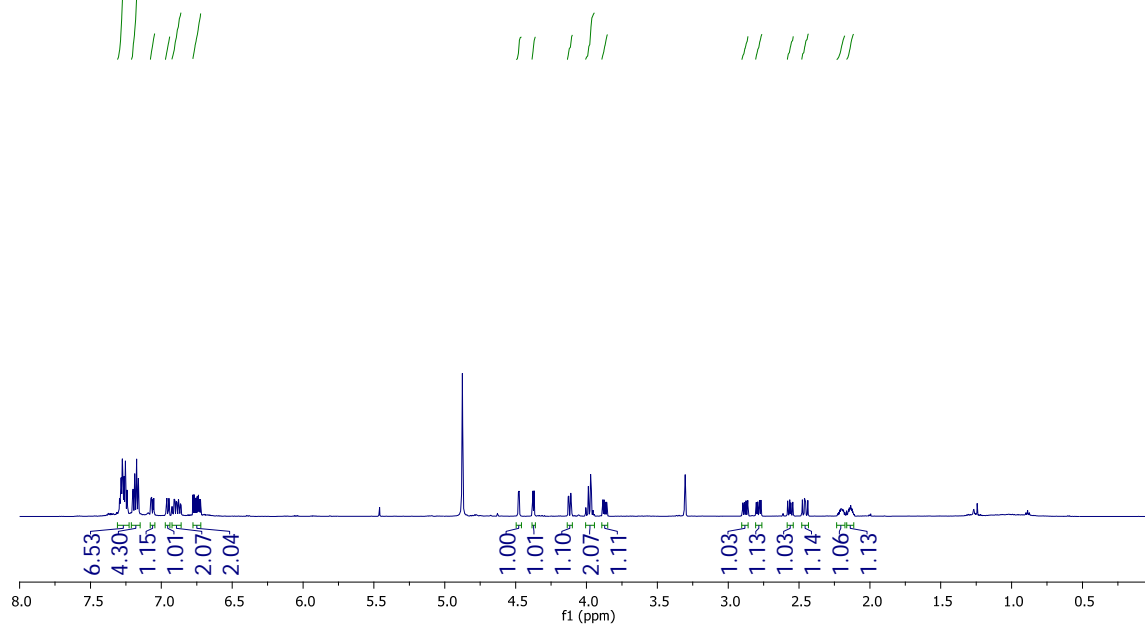
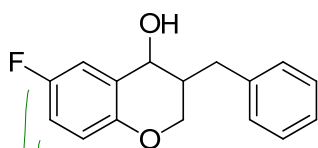
3-benzylchroman-4-ol (2a)

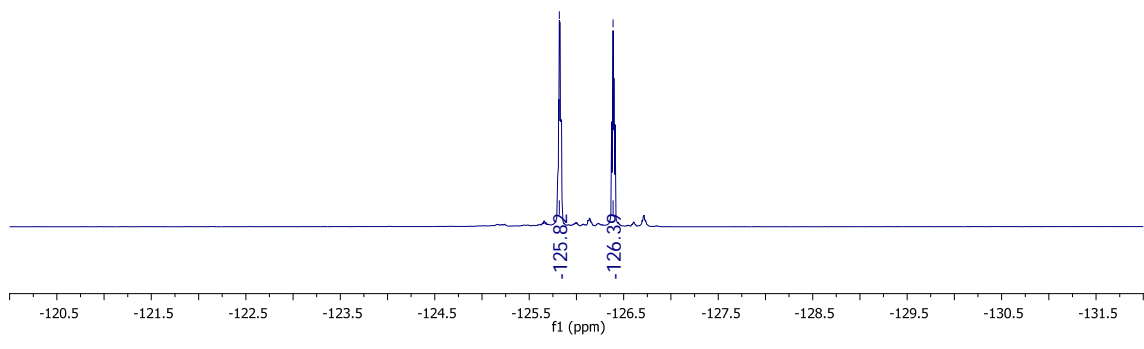


3-benzyl-6-bromochroman-4-ol (2b)

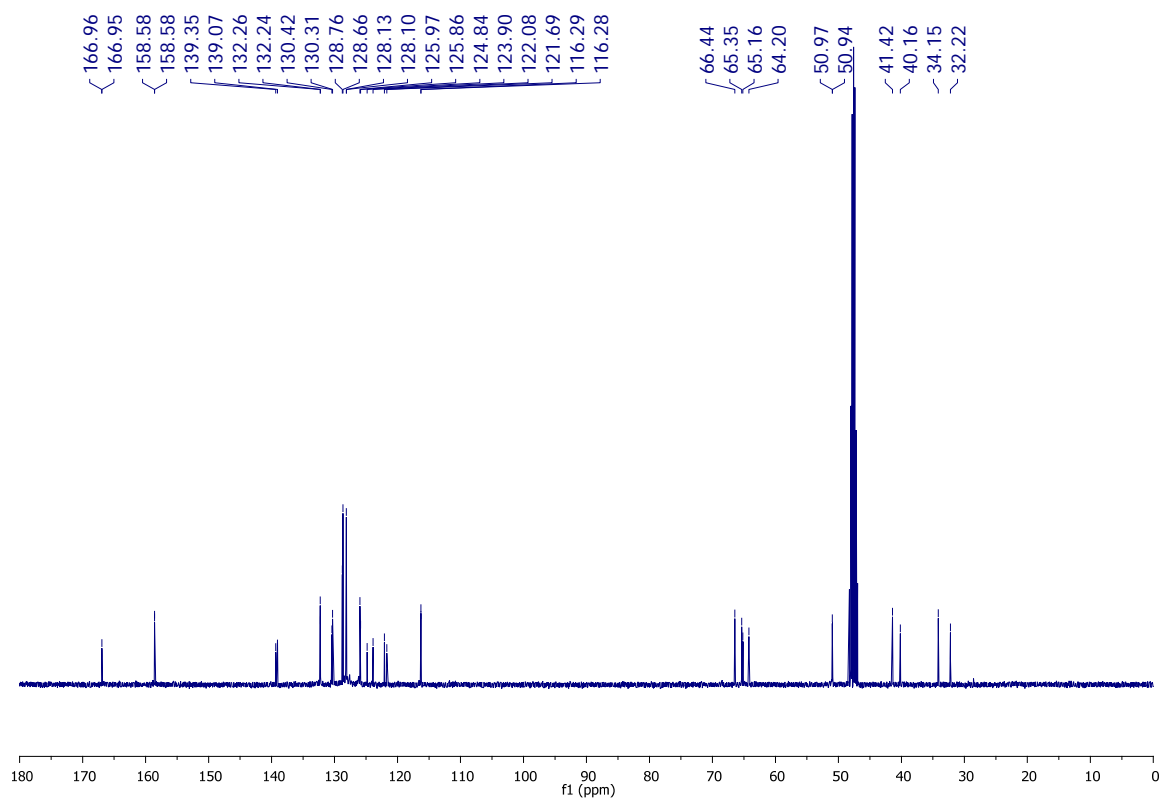
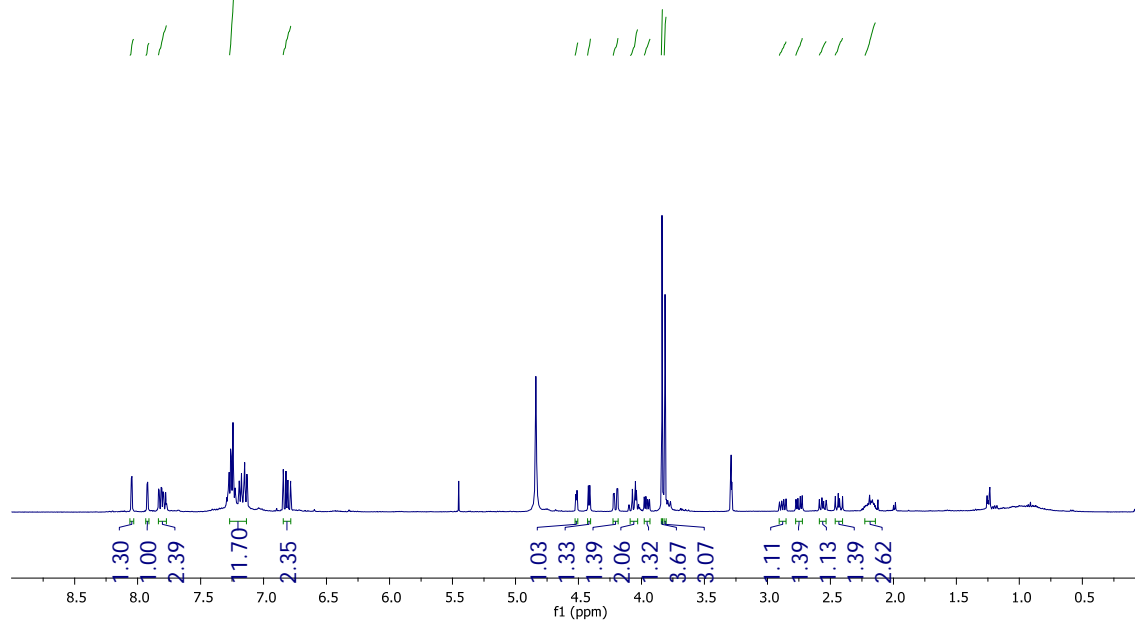
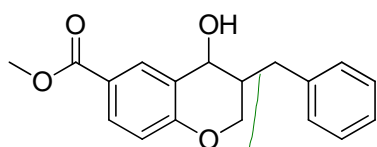


3-benzyl-6-fluorochroman-4-ol (2c)

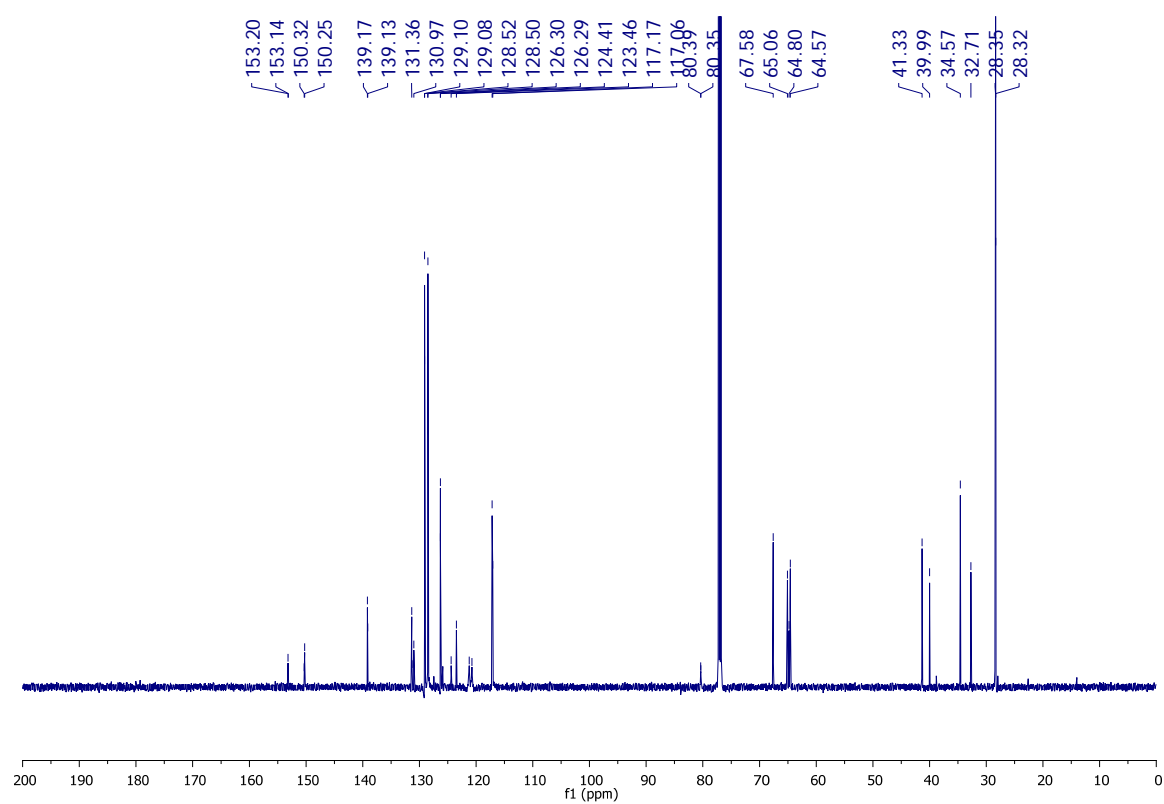
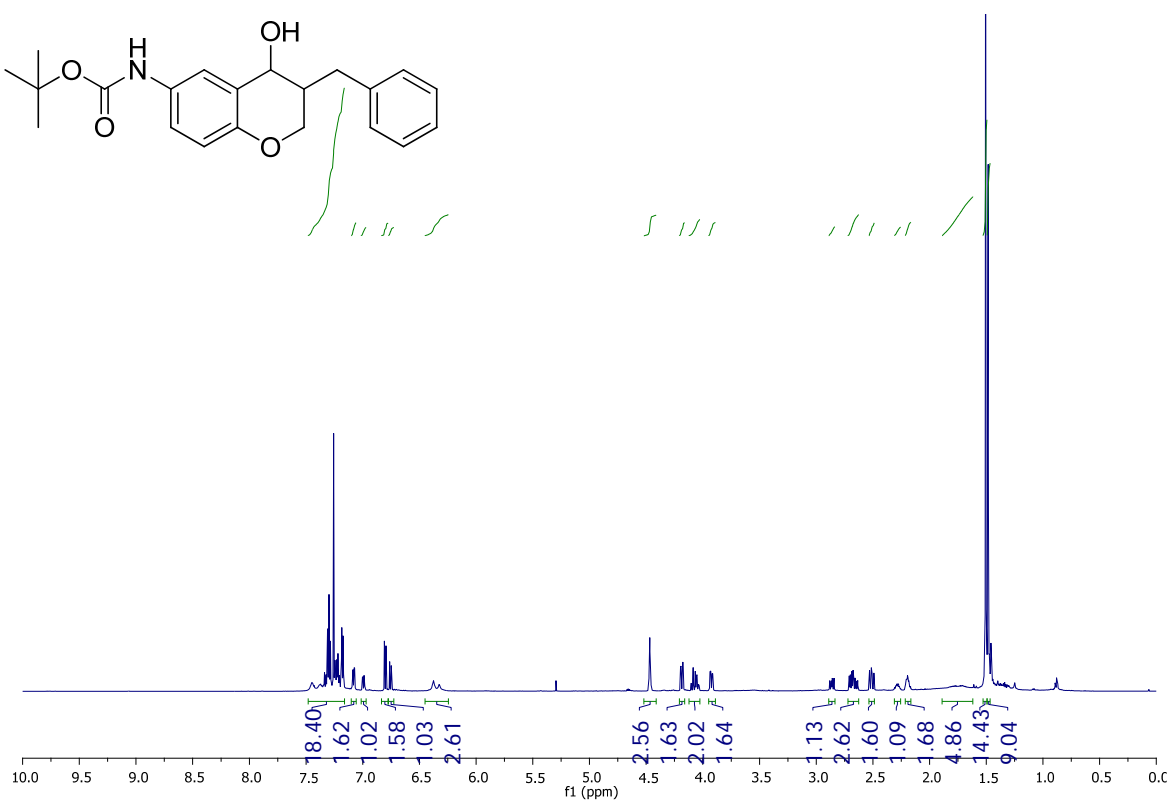
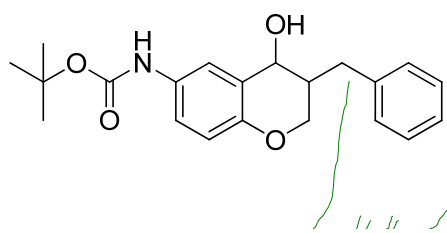




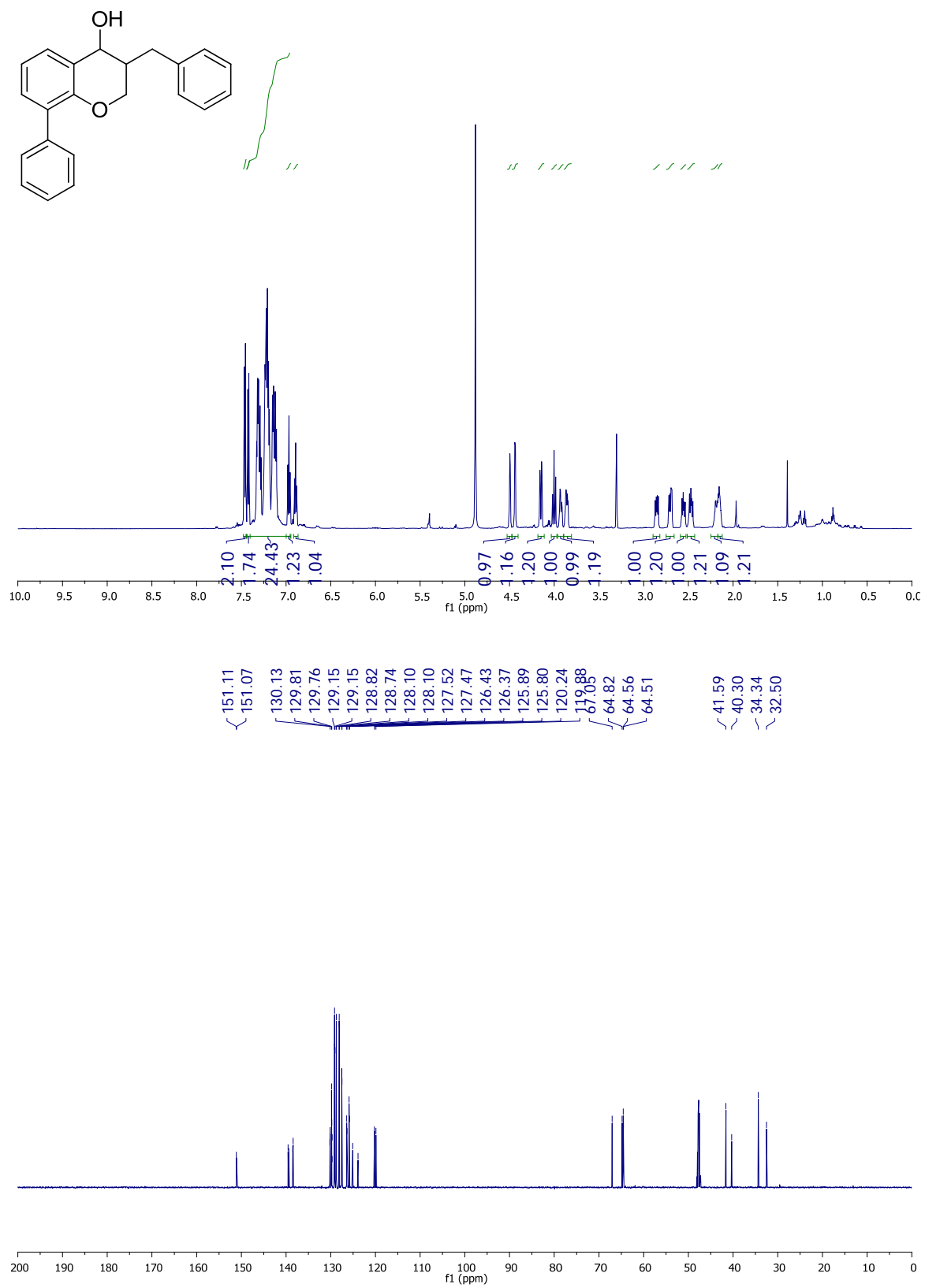
Methyl 3-benzyl-4-hydroxychroman-6-carboxylate (2d)



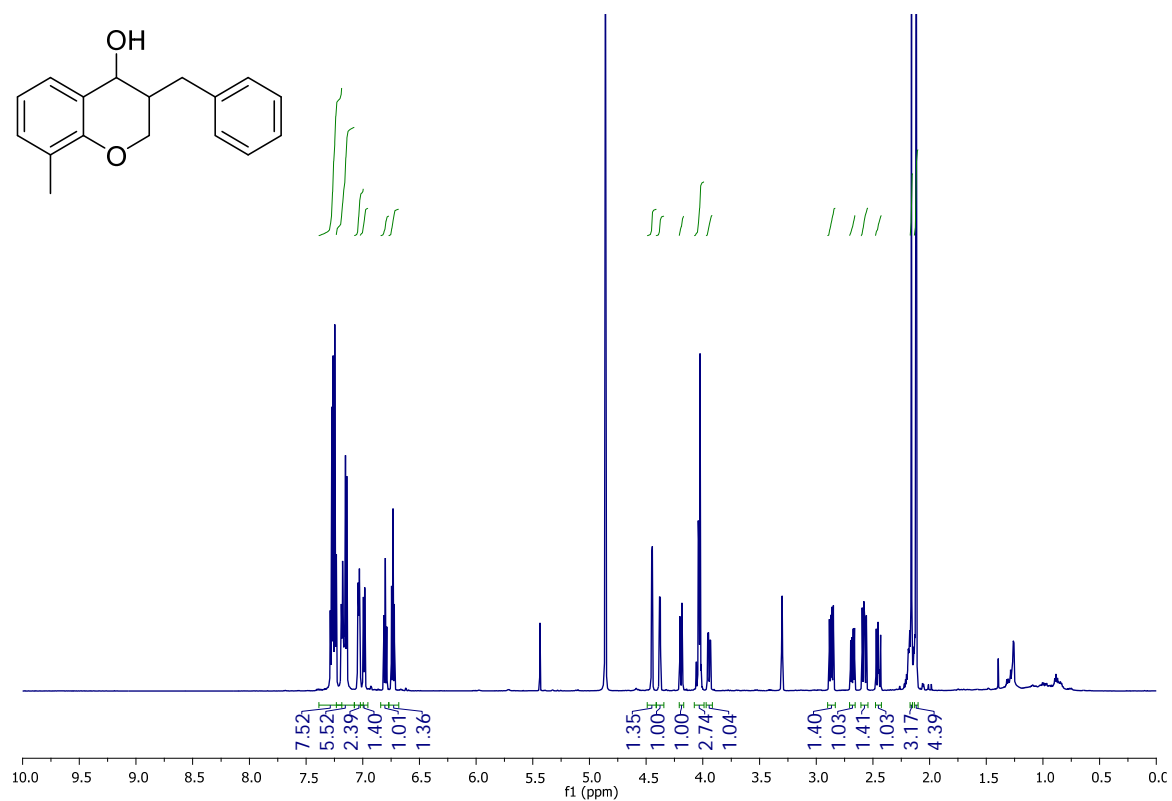
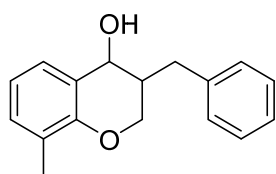
Tert-butyl (3-benzyl-4-hydroxychroman-6-yl)carbamate (2e)



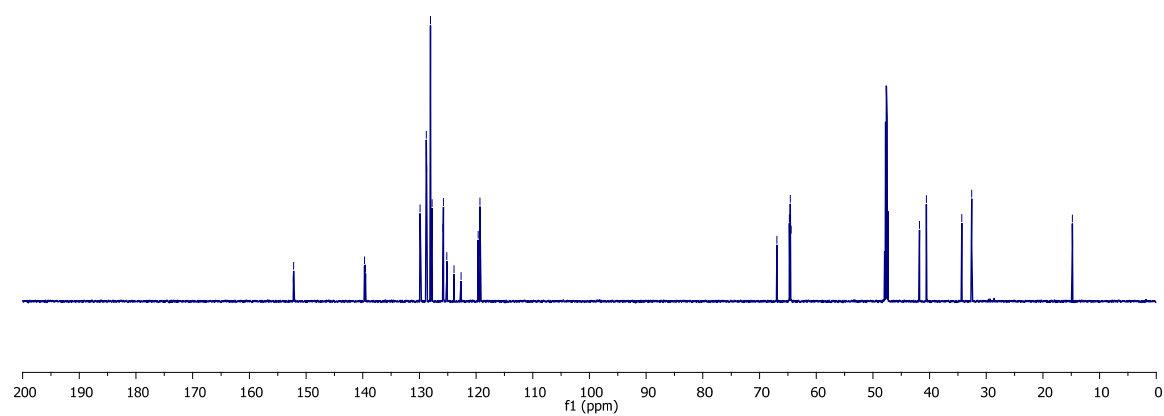
3-benzyl-8-phenylchroman-4-ol (2f)



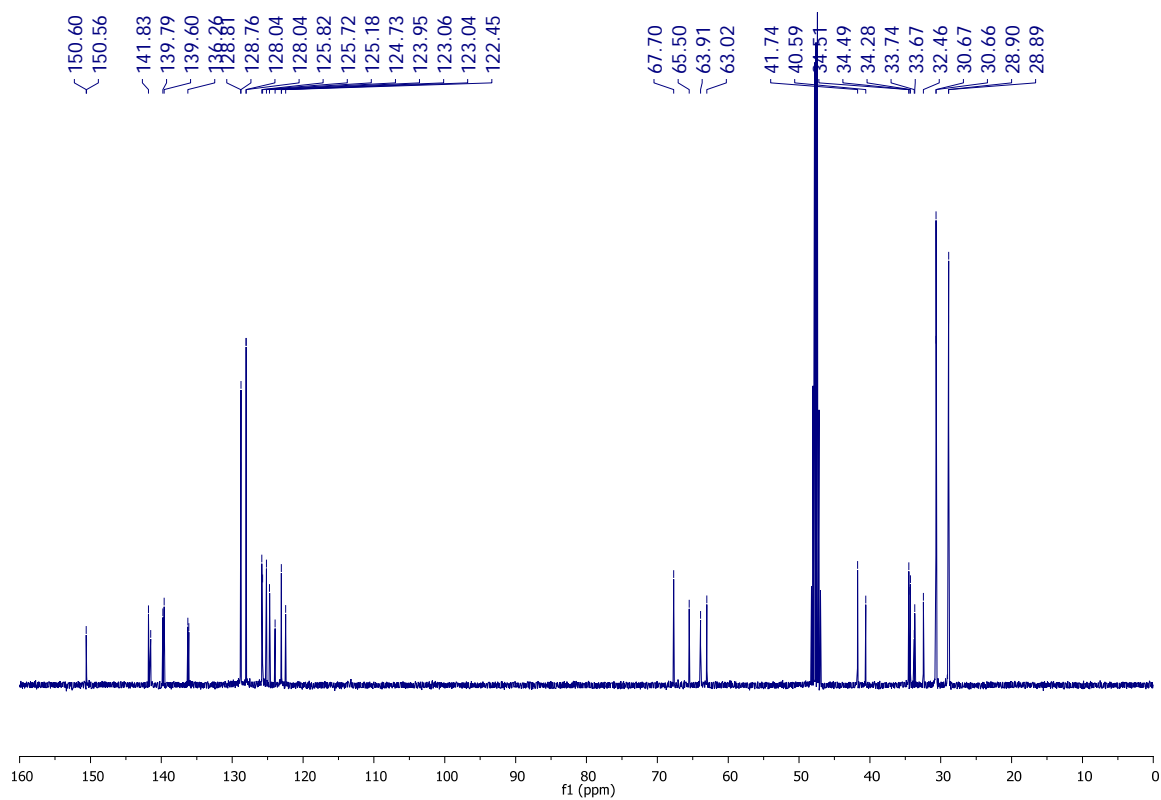
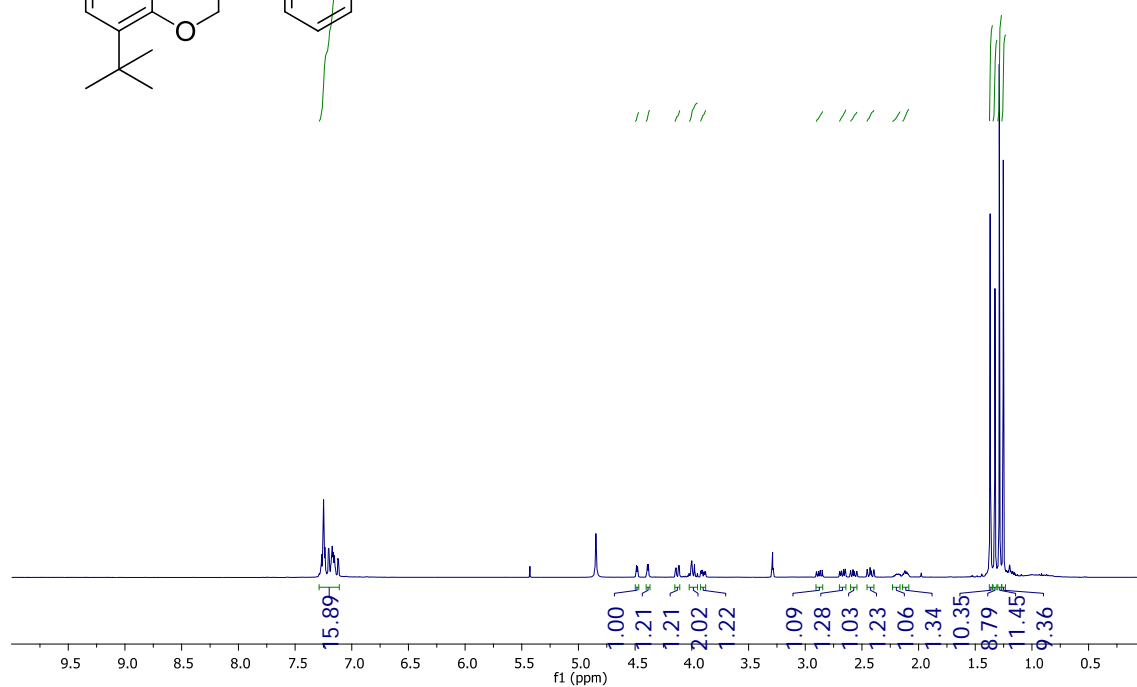
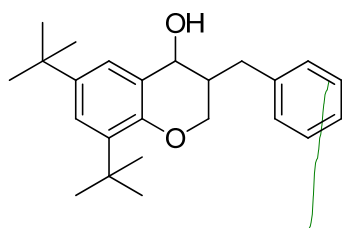
3-benzyl-8-methylchroman-4-ol (2g)



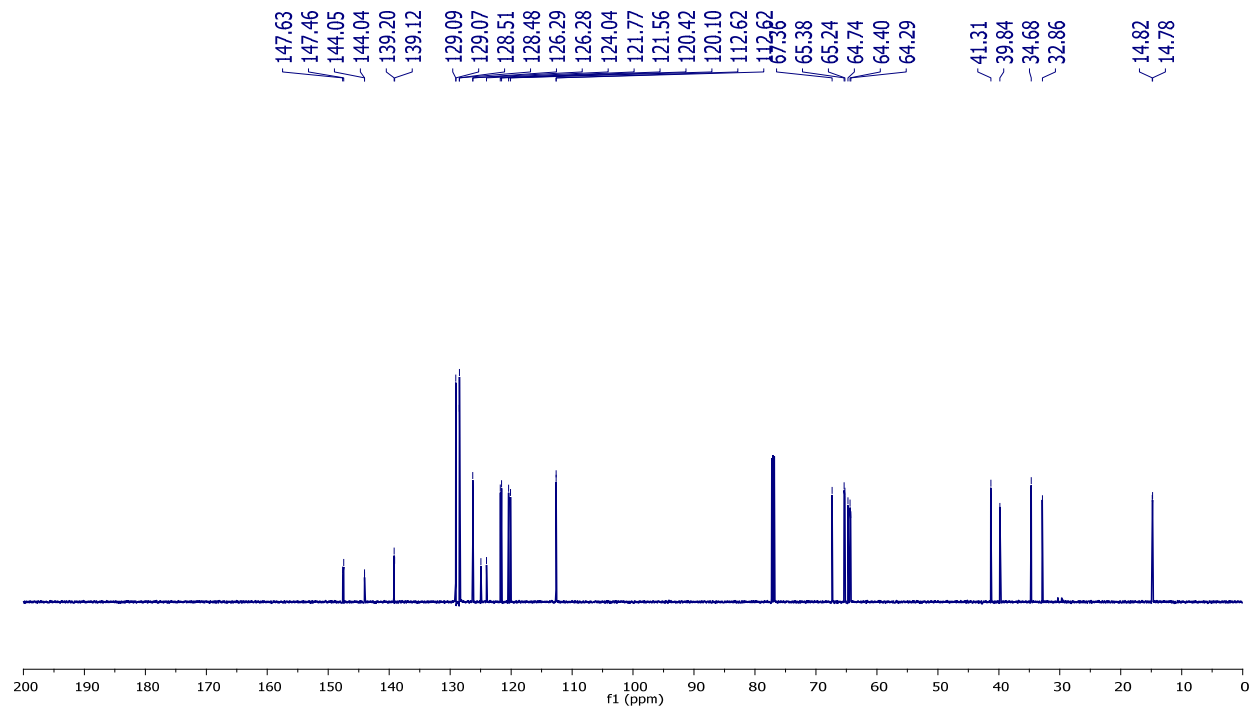
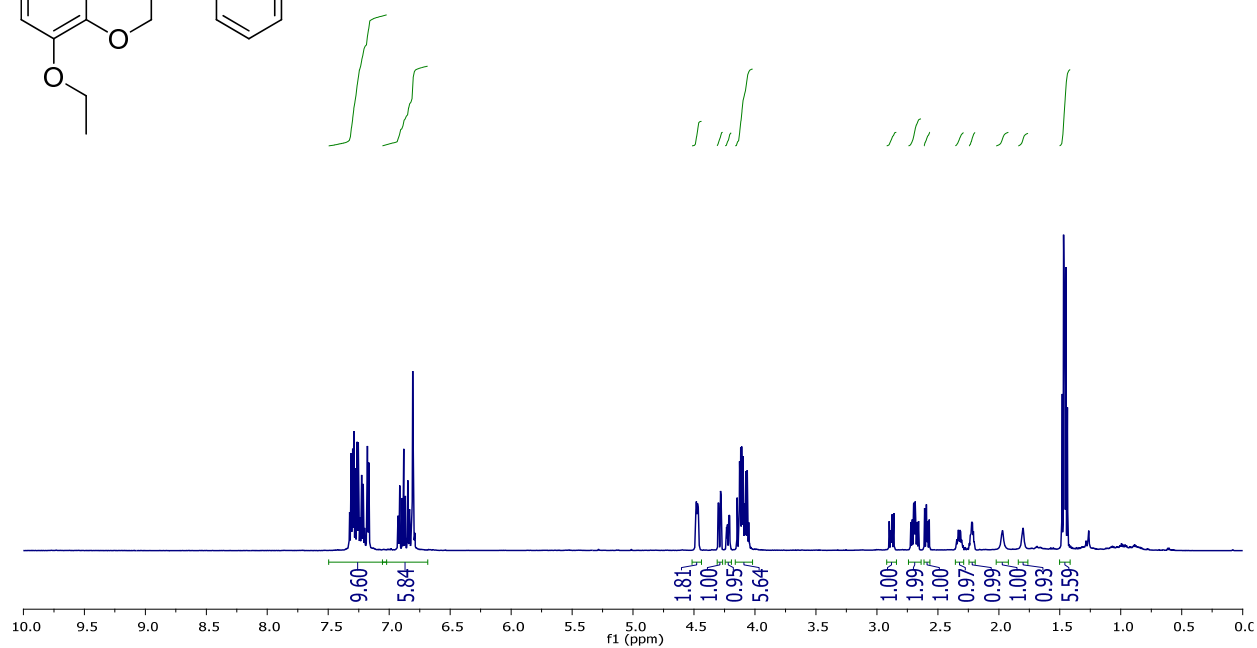
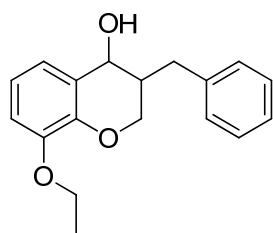
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128.72
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128.06
127.89
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125.84
125.76
125.17
125.17
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32.58
14.81
14.78



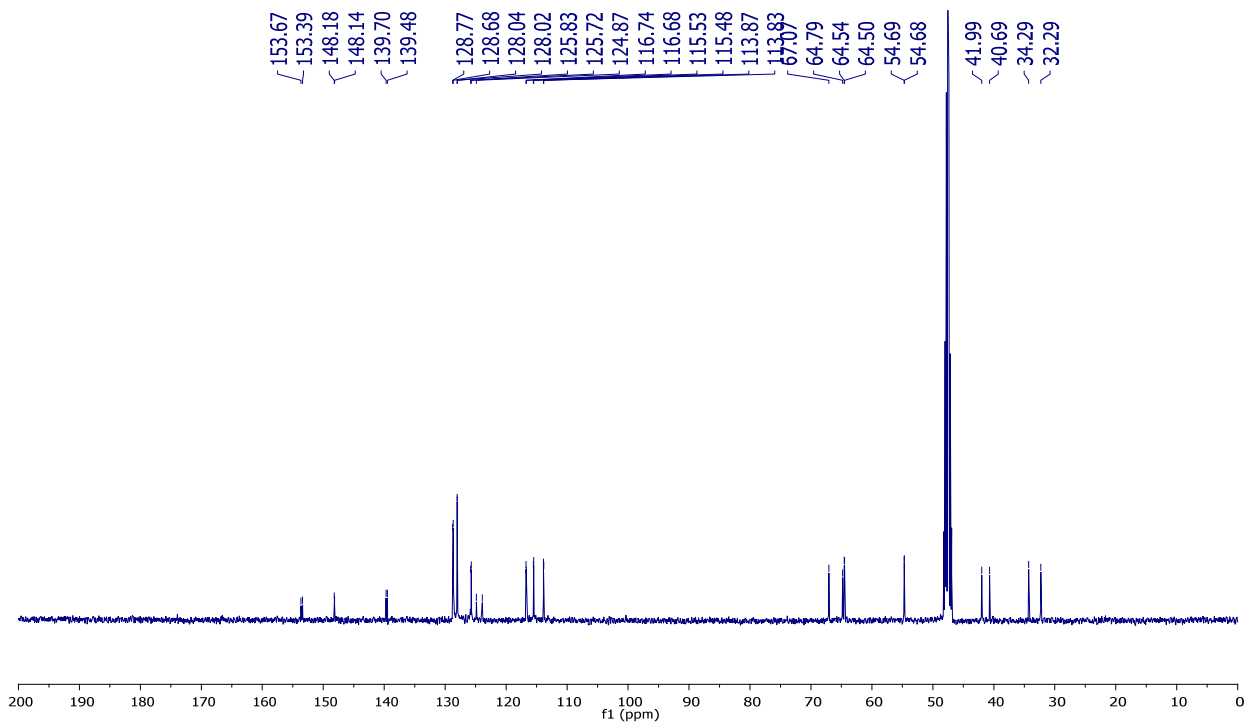
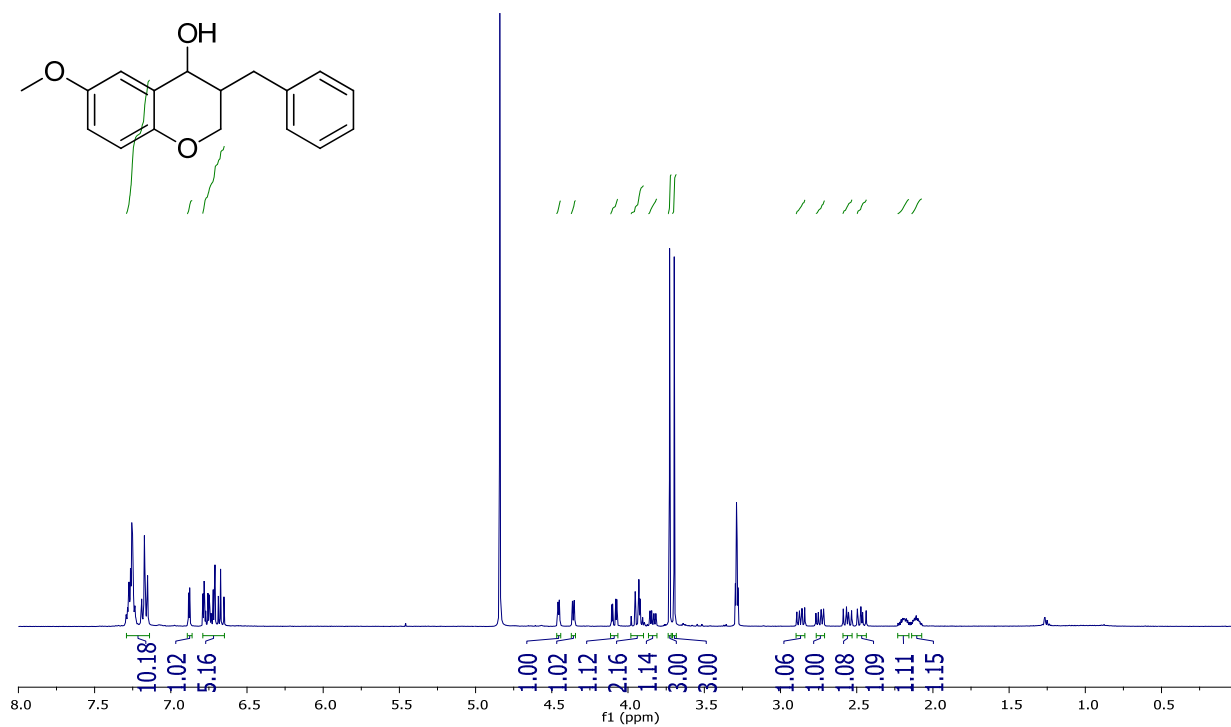
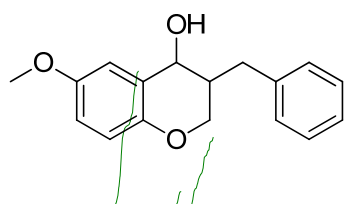
3-benzyl-6,8-di-tert-butylchroman-4-ol (2h)



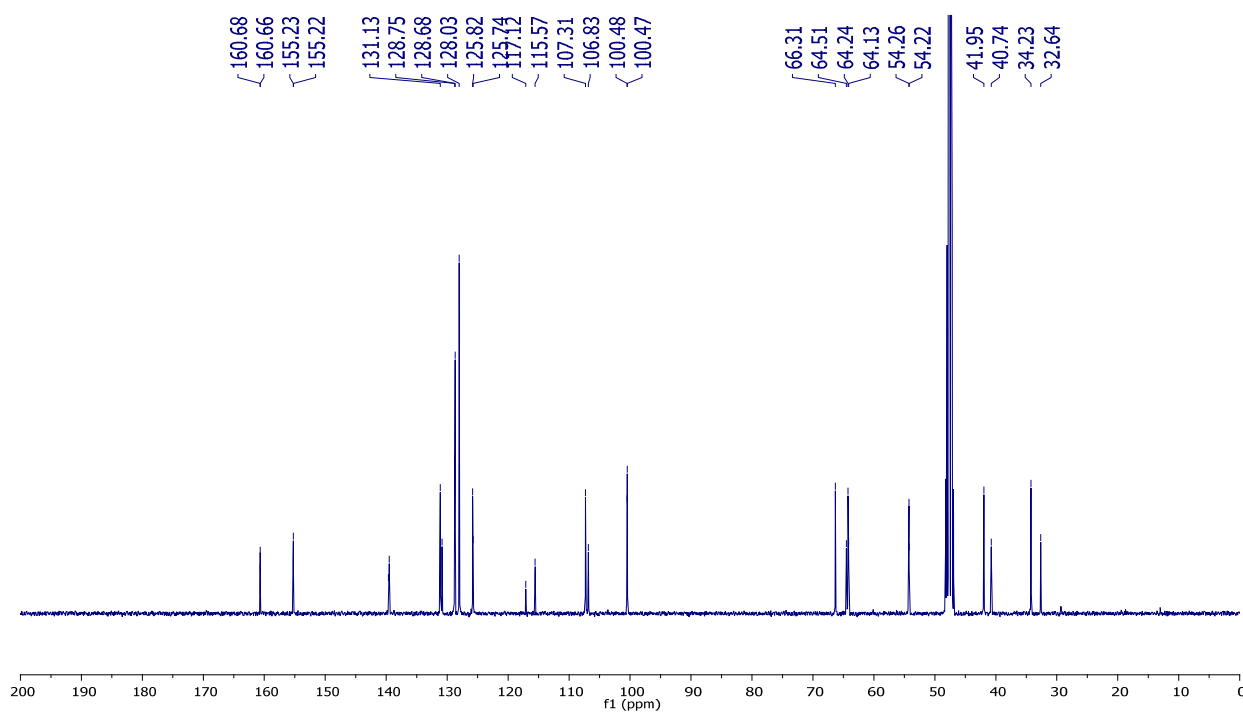
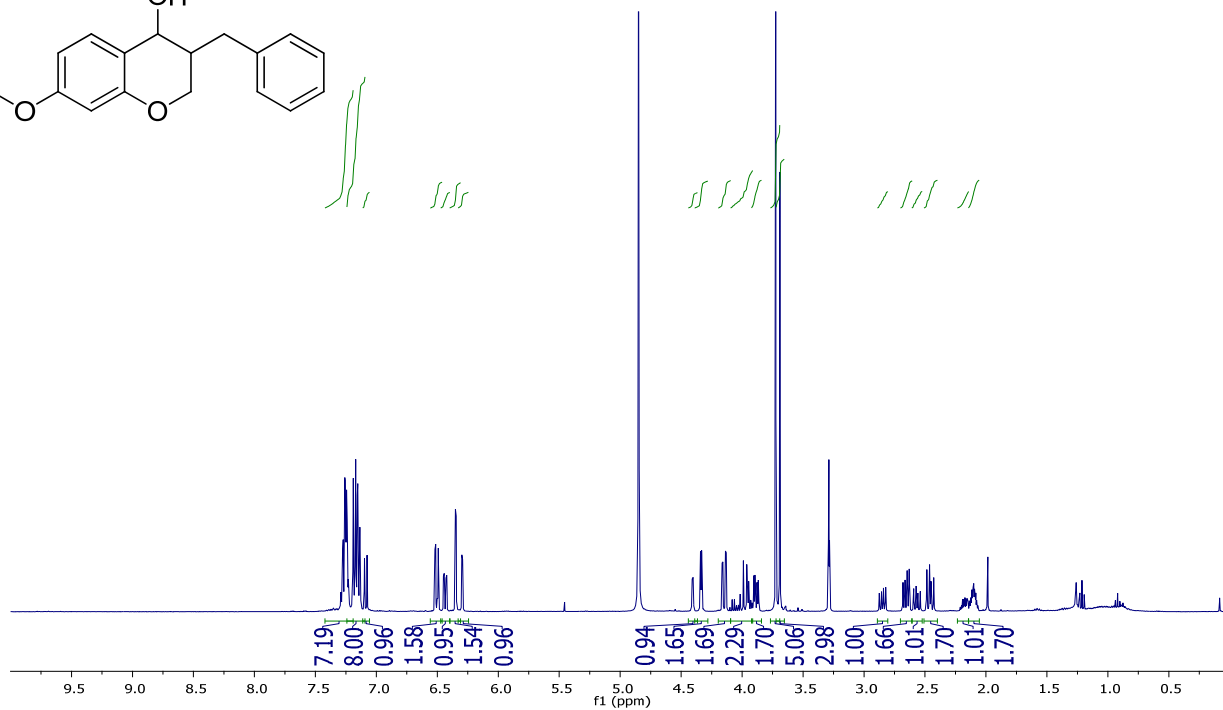
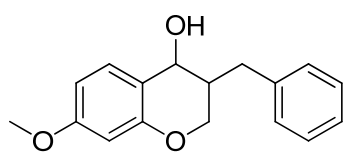
3-benzyl-8-ethoxychroman-4-ol (2i)



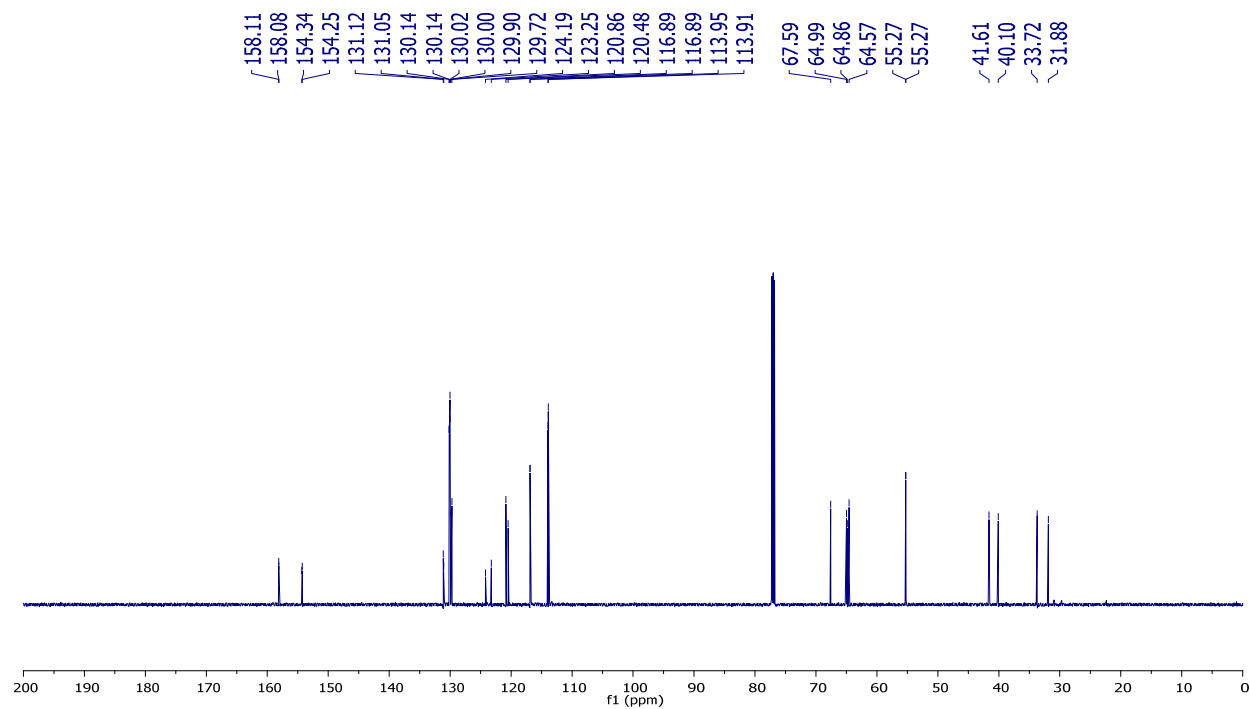
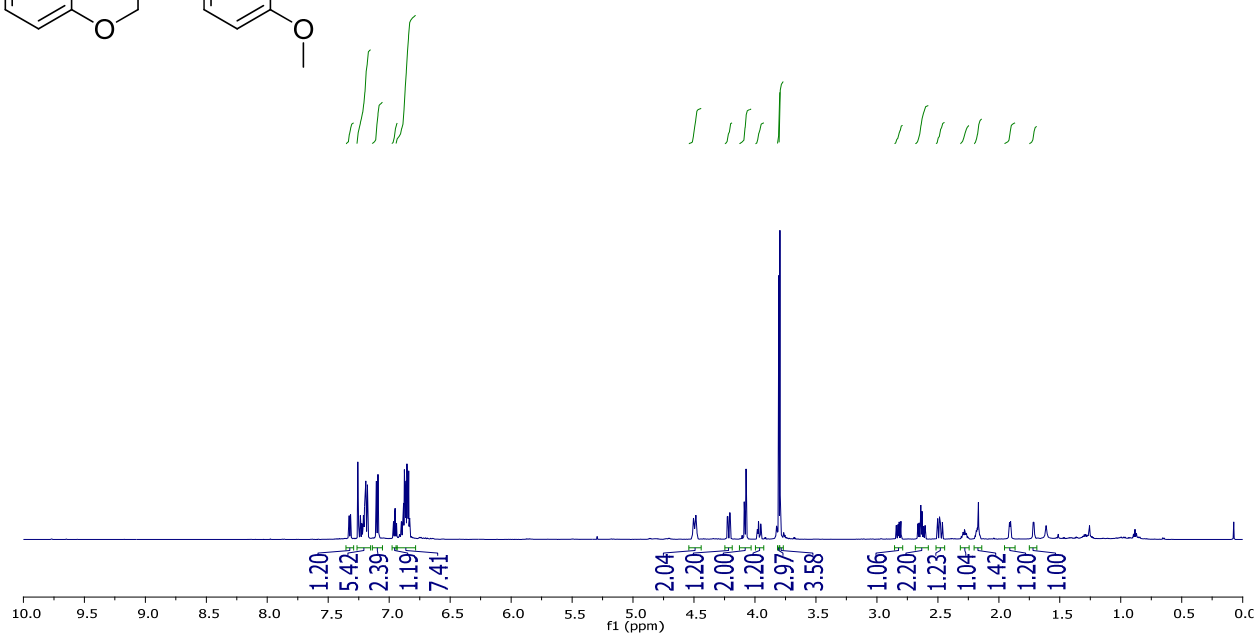
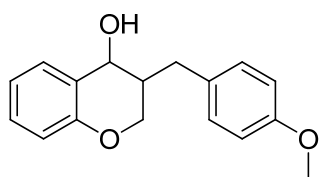
3-benzyl-6-methoxychroman-4-ol (2j)



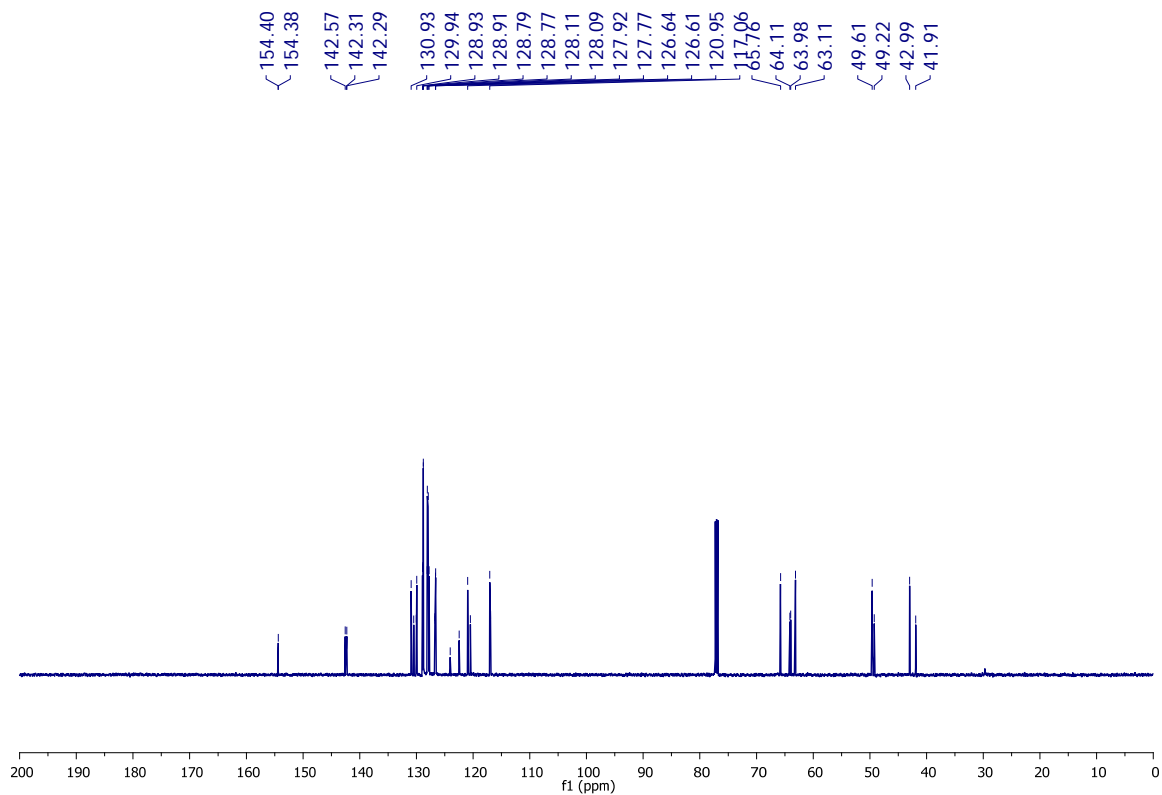
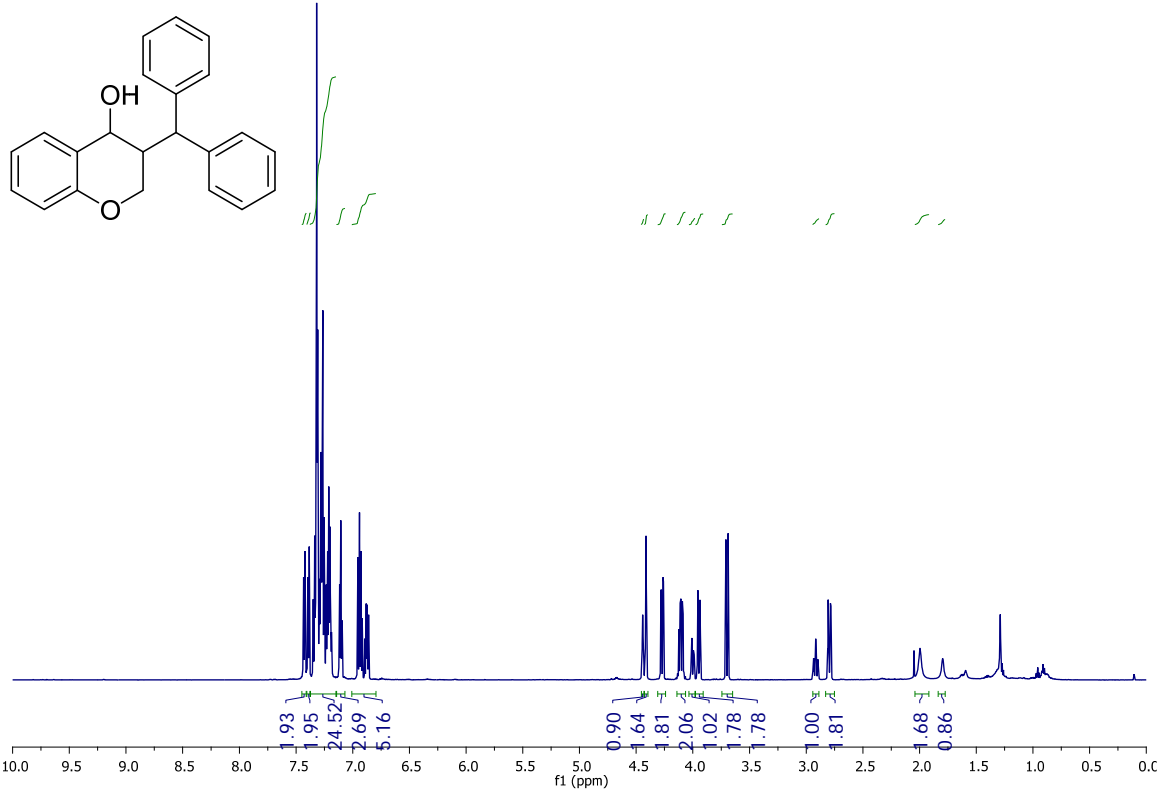
3-benzyl-7-methoxychroman-4-ol (2k)



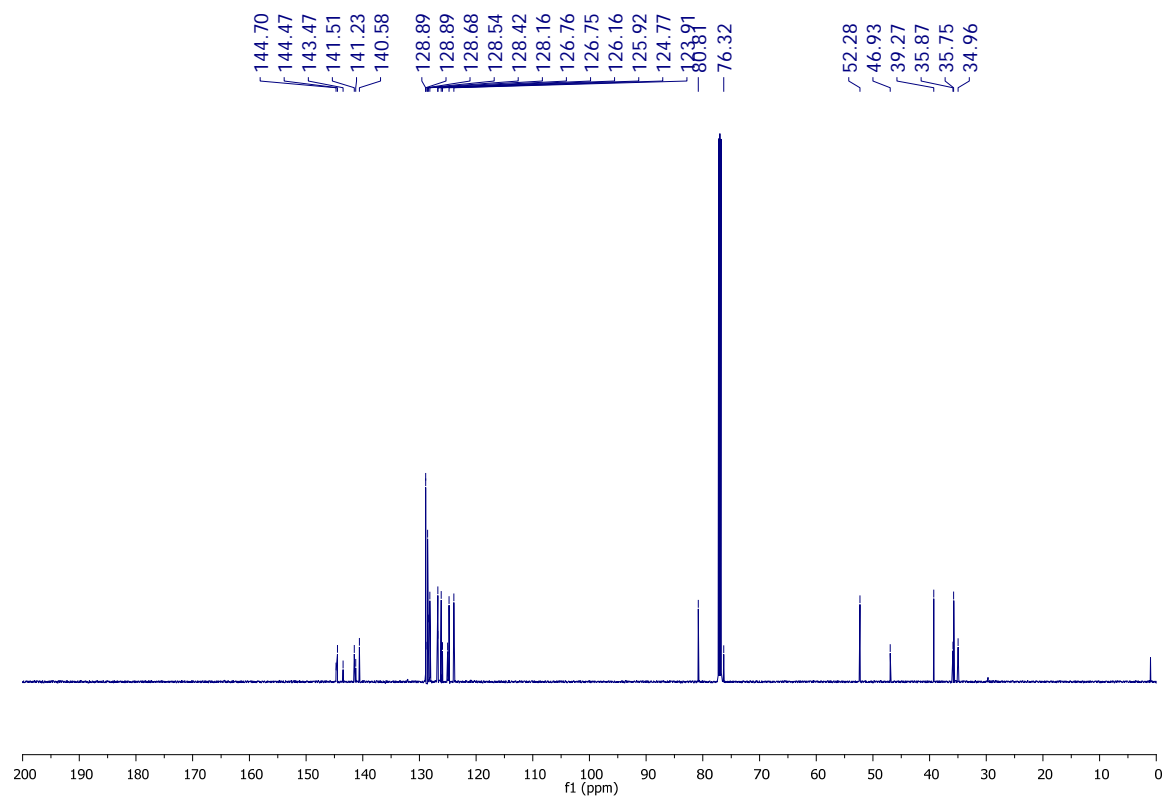
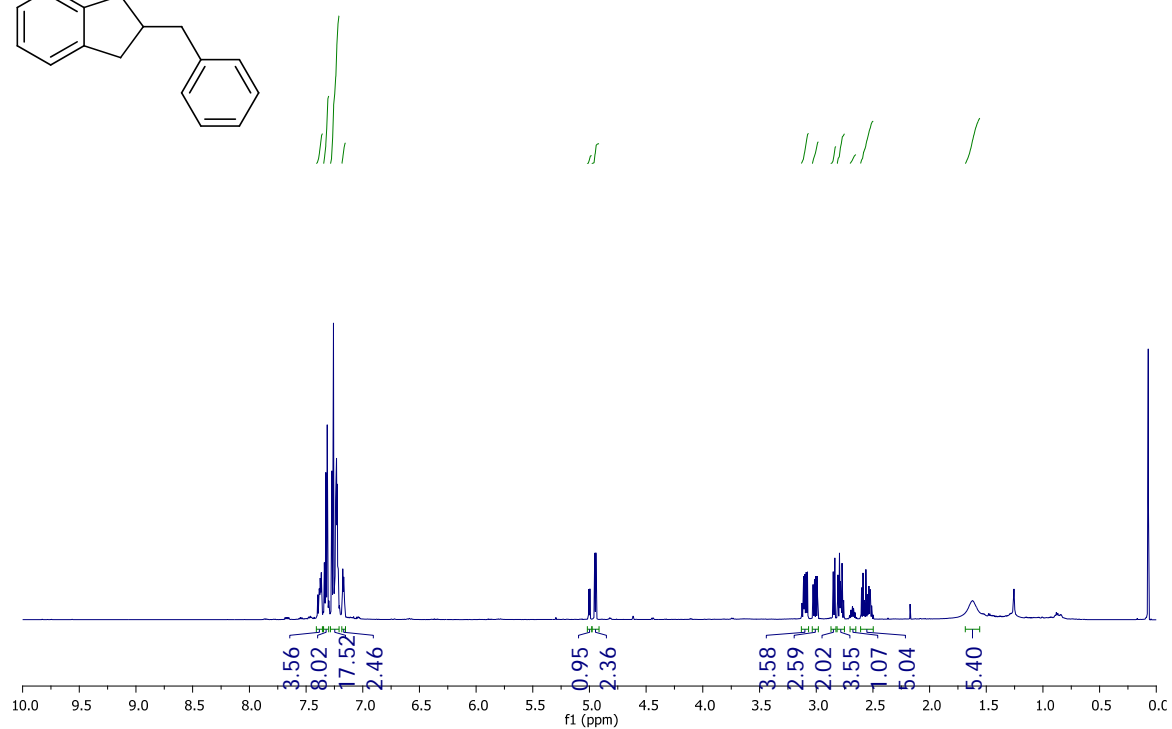
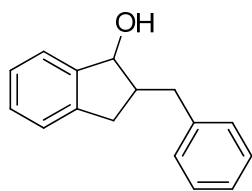
3-(4-methoxybenzyl)chroman-4-ol (2l)



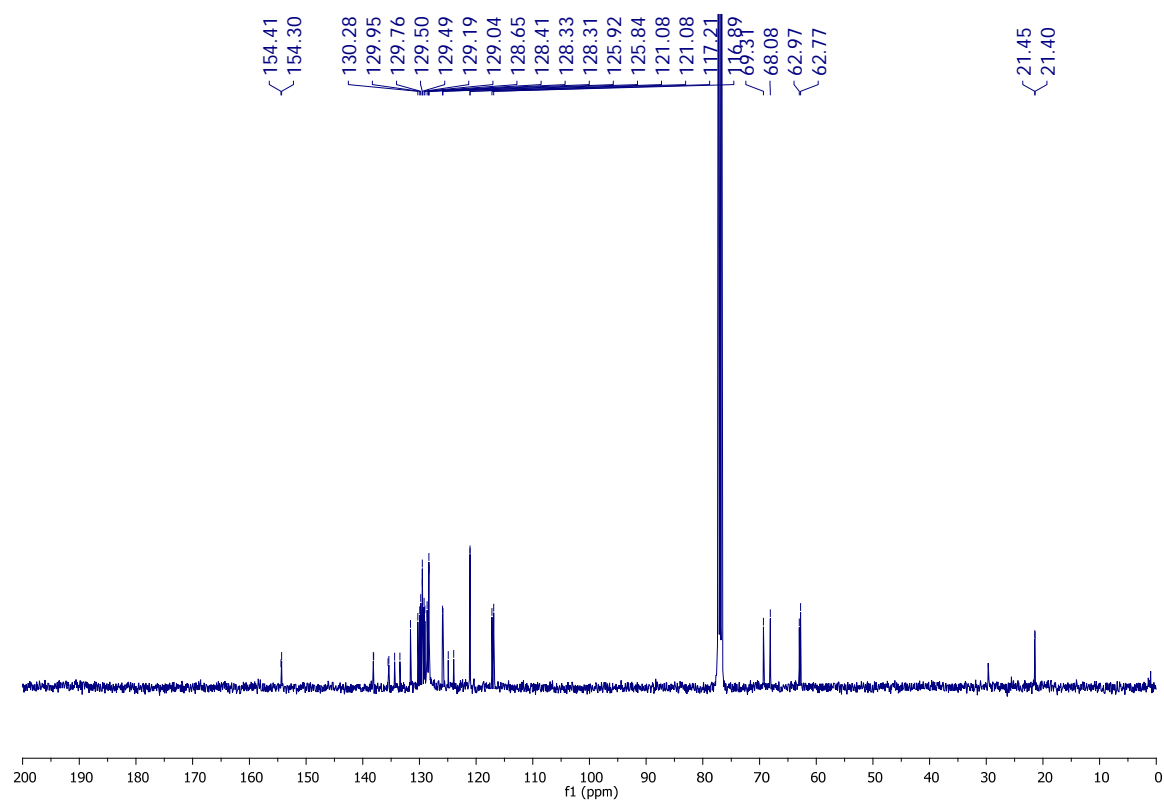
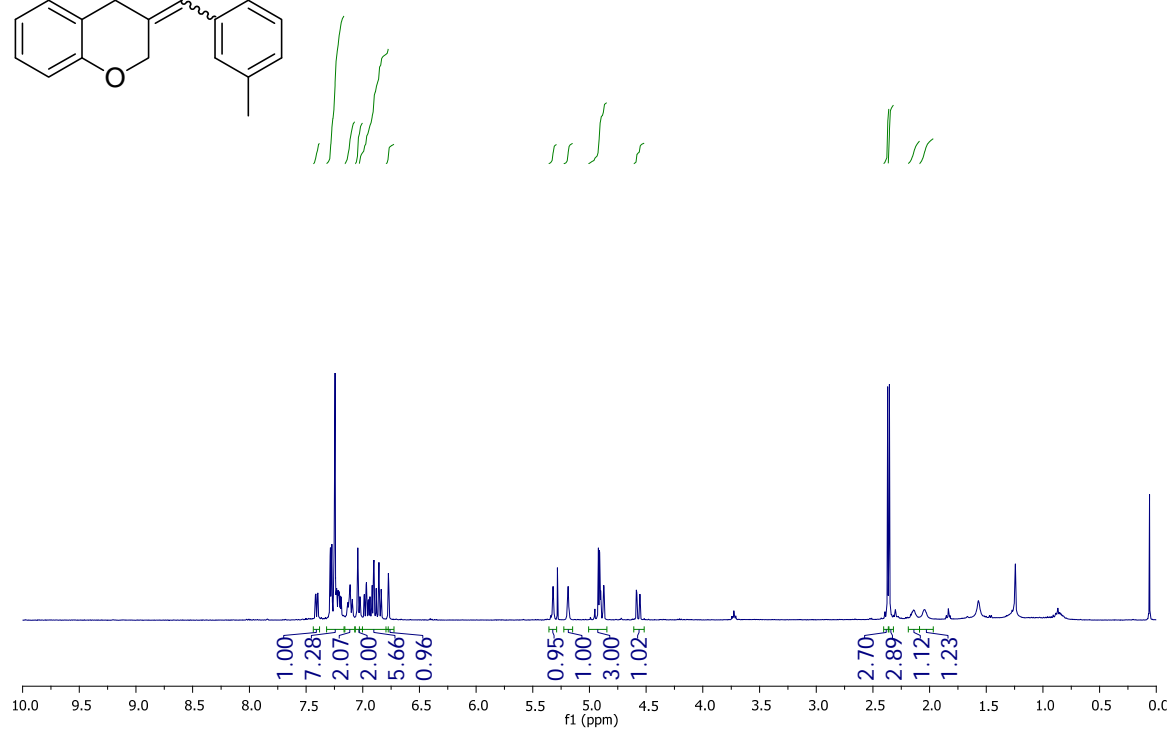
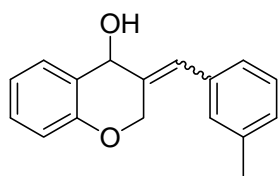
3-benzhydrylchroman-4-ol (2m)



2-benzyl-2,3-dihydro-1H-inden-1-ol (2n)



3-(3-methylbenzylidene)chroman-4-ol (2o)



3-(4-methoxybenzylidene)chroman-4-ol (2p)

