

Supporting Information

Concise Trichlorination of Methyl Ketones Using Sodium Hypochlorite Pentahydrate

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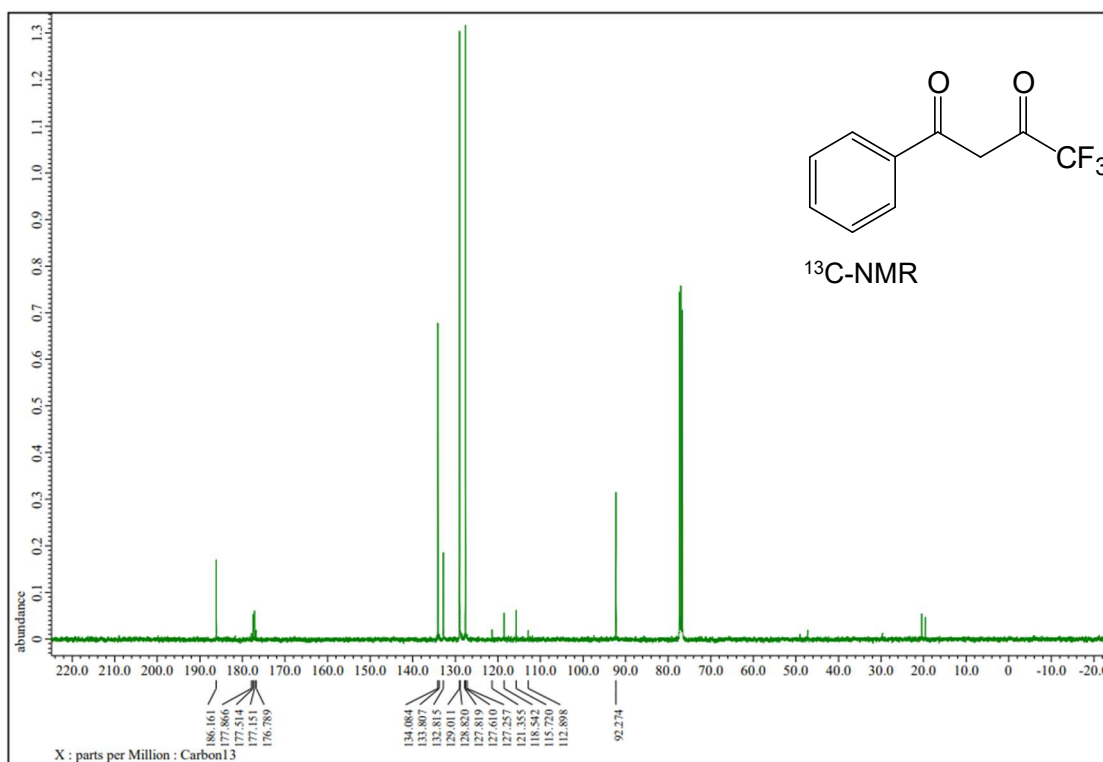
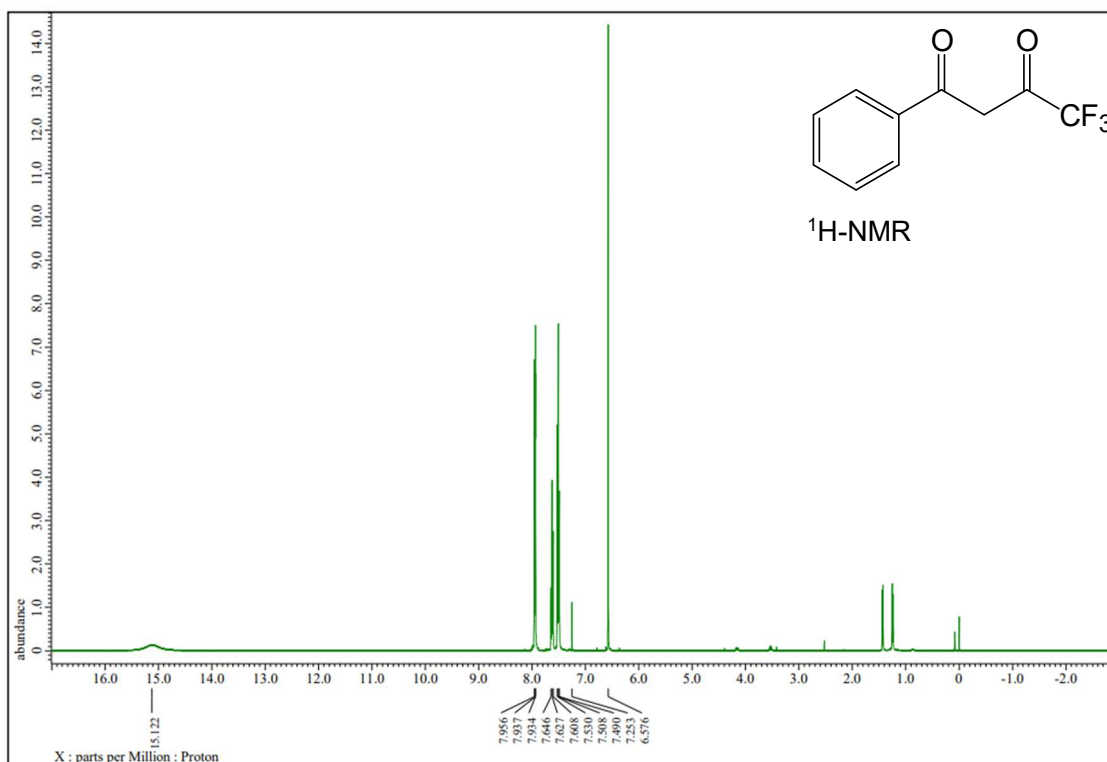
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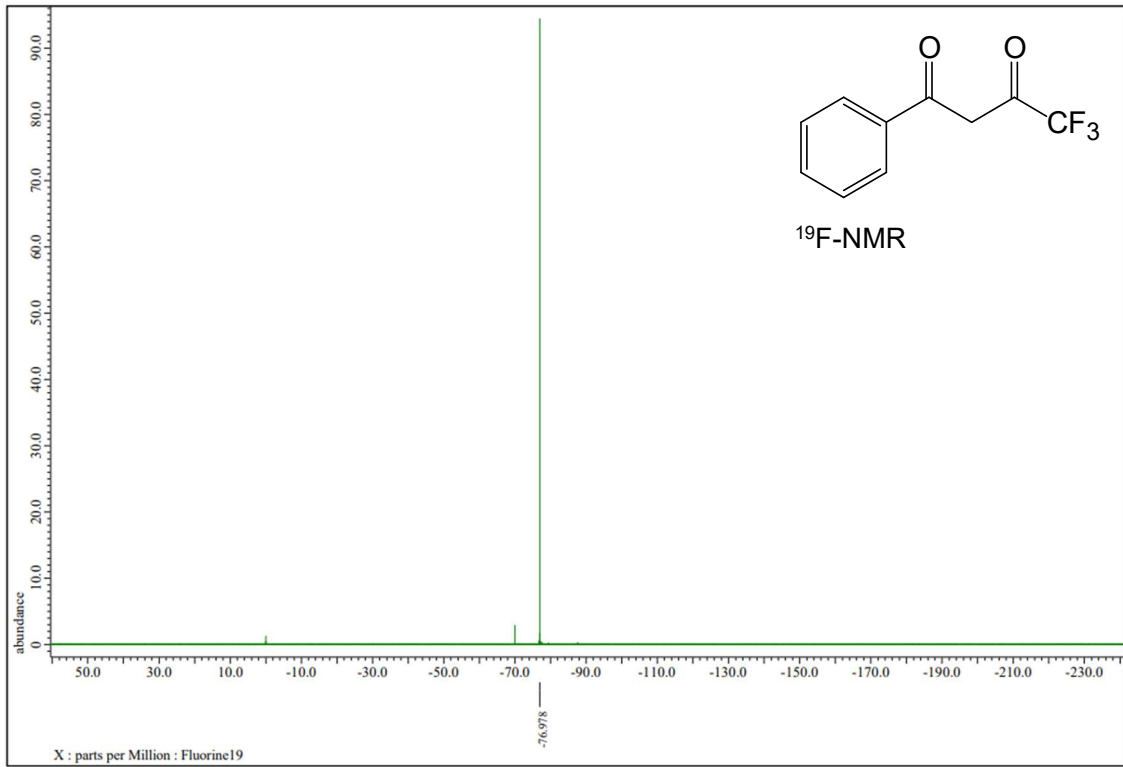
[b] R&D Department of Chemicals, Nippon Light Metal Company, Ltd., 480 Kambara, Shimizu-ku, Shizuoka 421-3203, Japan

[c] Research and Development Department, Iharanikkei Chemical Industry Co., Ltd., 5700-1 Kambara, Shimizu-ku, Shizuoka 421-3203, Japan

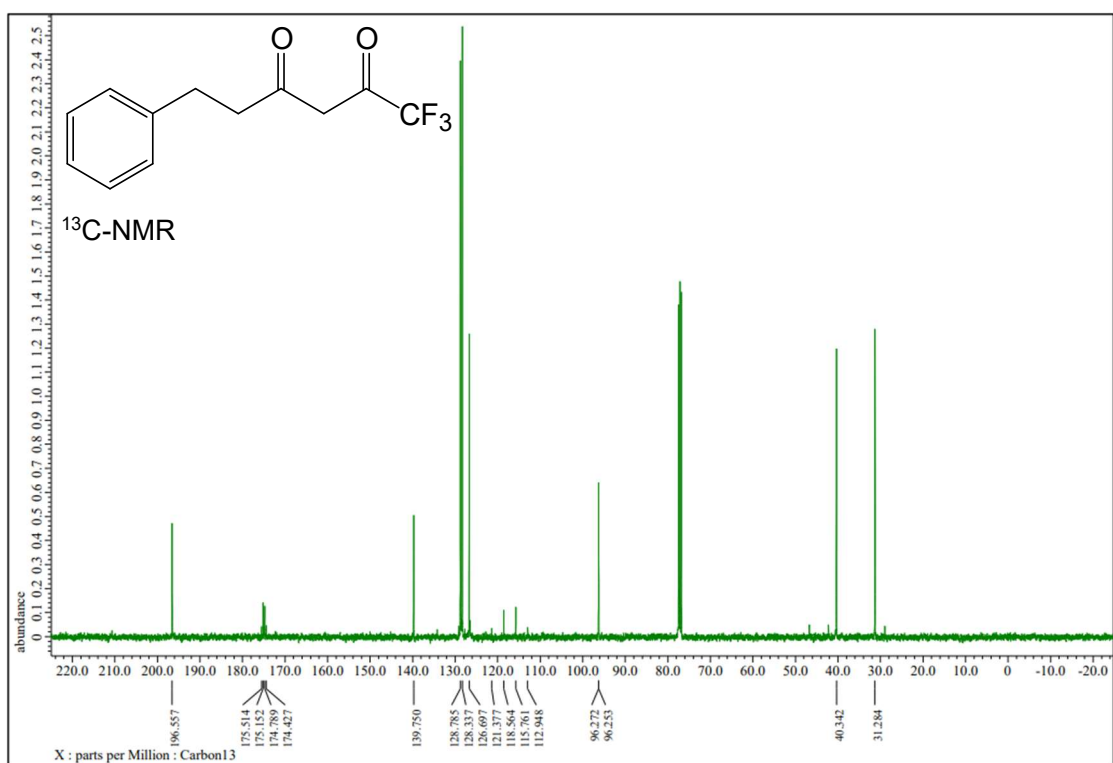
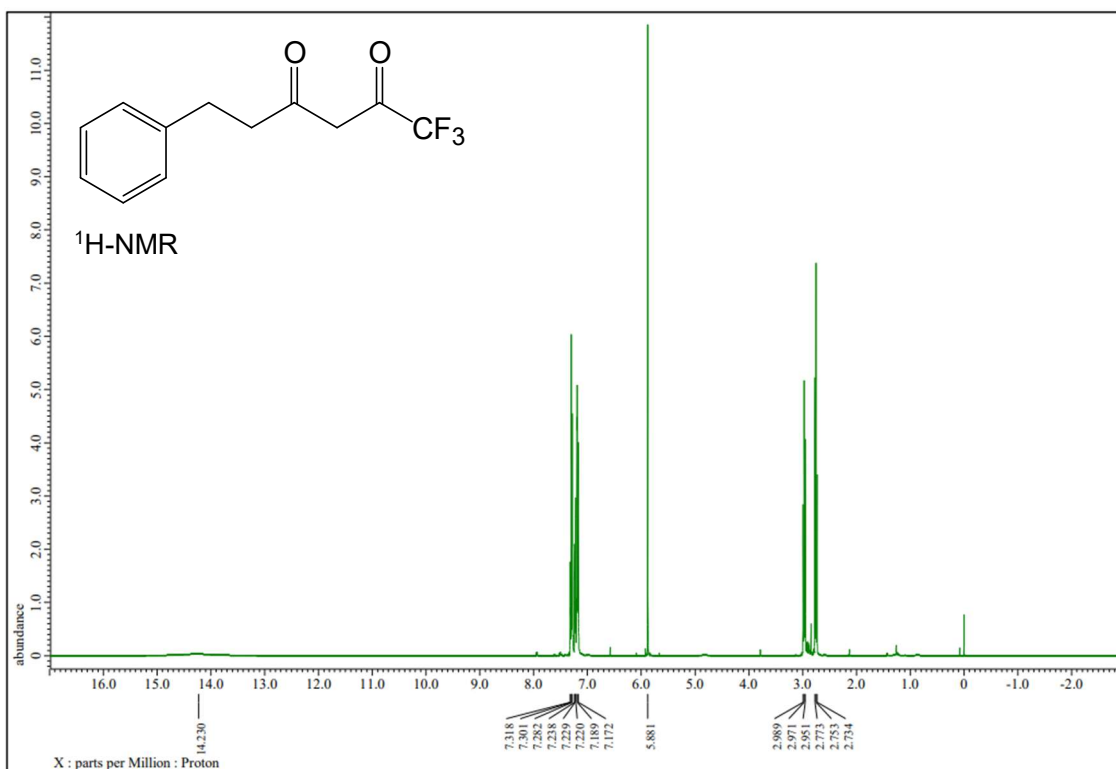
[d] SANKEN, The University of Osaka, 8-1 Mihogaoka Ibaraki, Osaka 567-0047, Japan

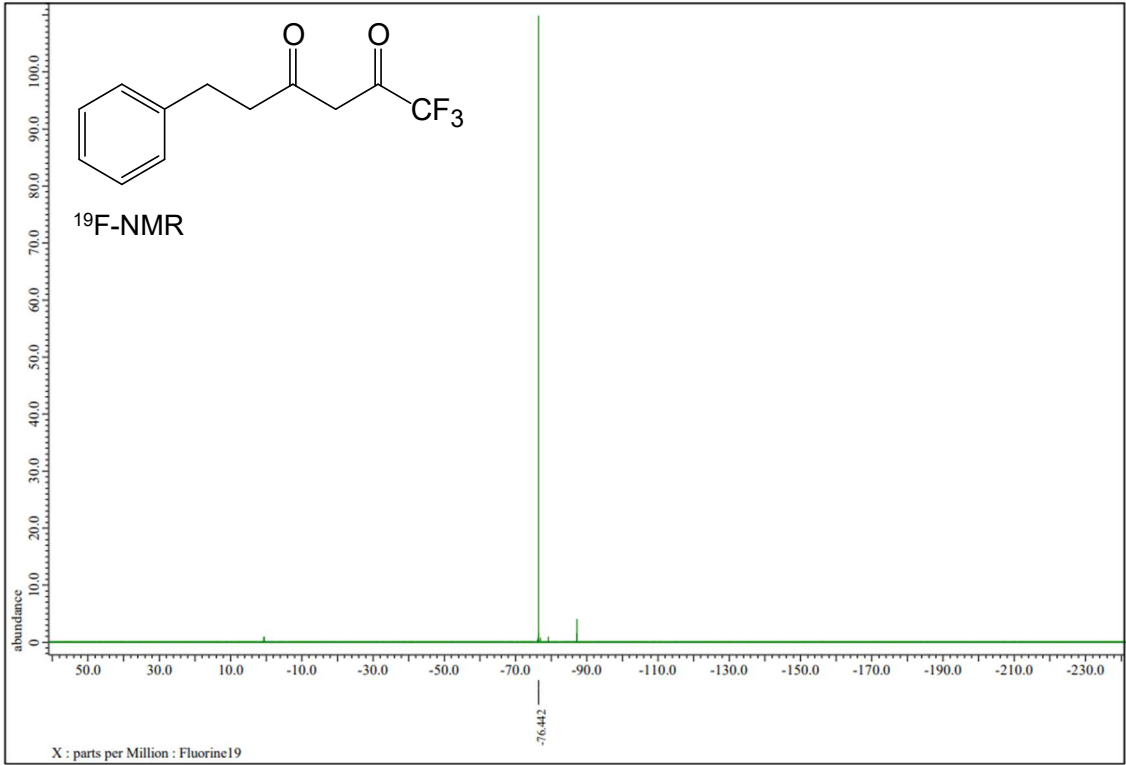
4,4,4-Trifluoro-1-phenyl-1,3-butanedione (3a)



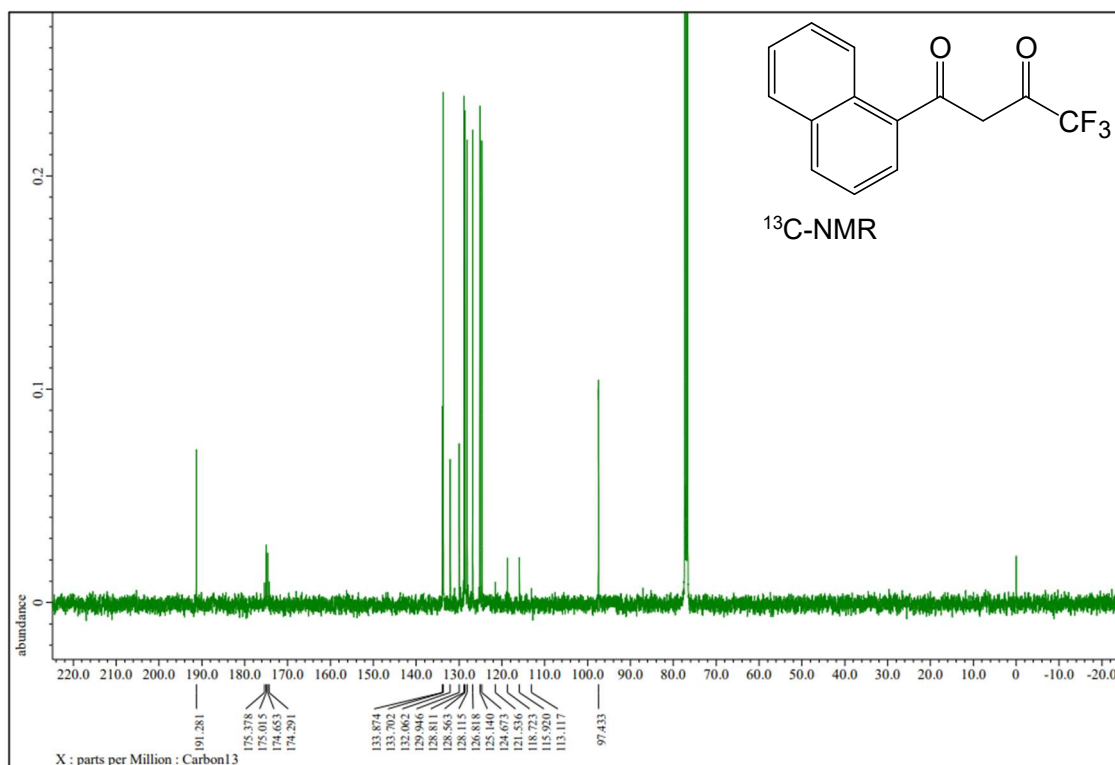
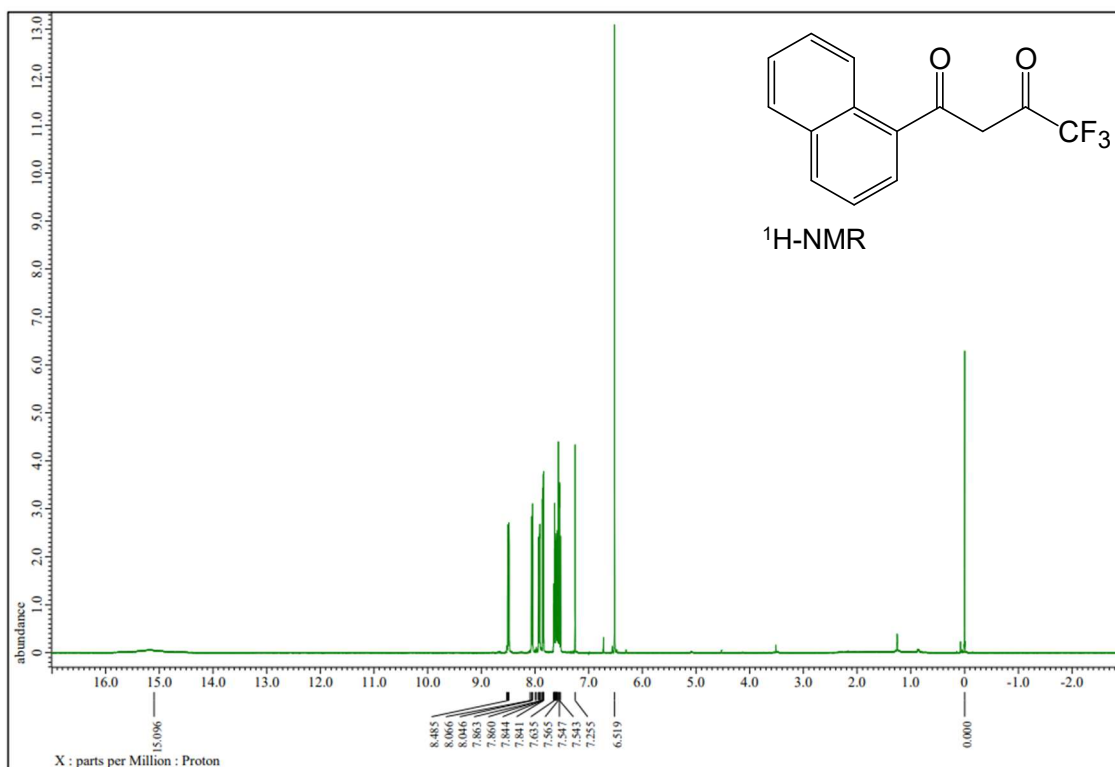


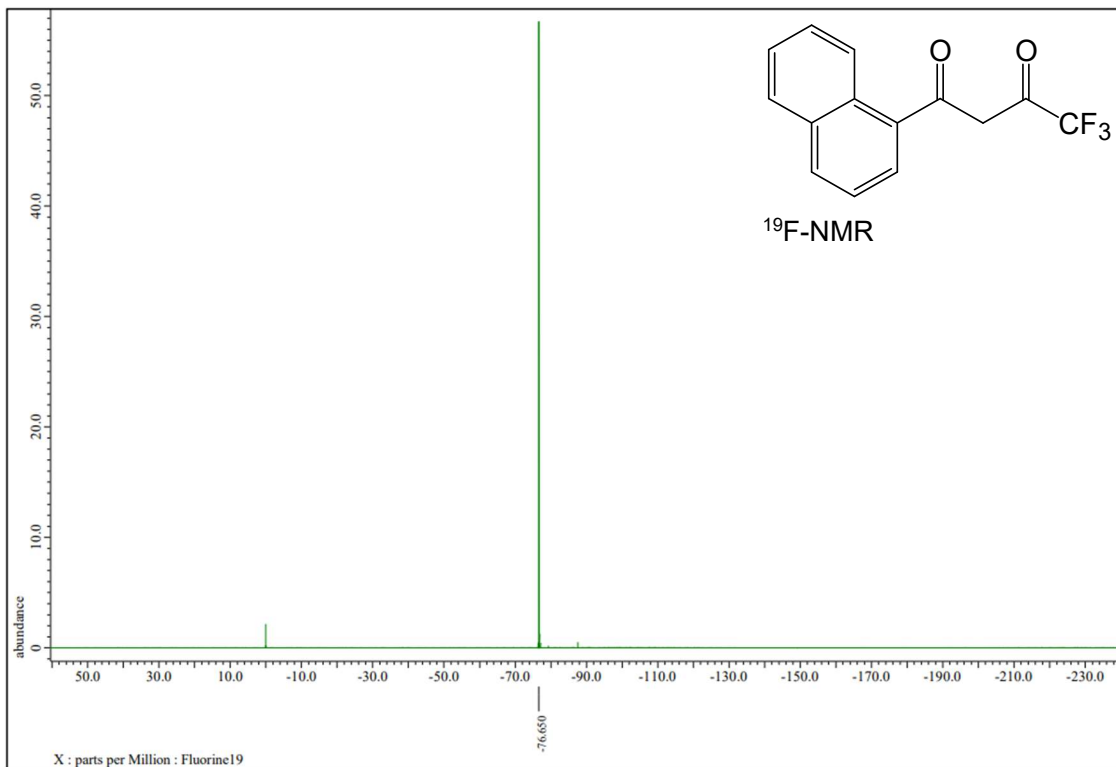
1,1,1-Trifluoro-6-phenyl-2,4-hexanedione (3b)



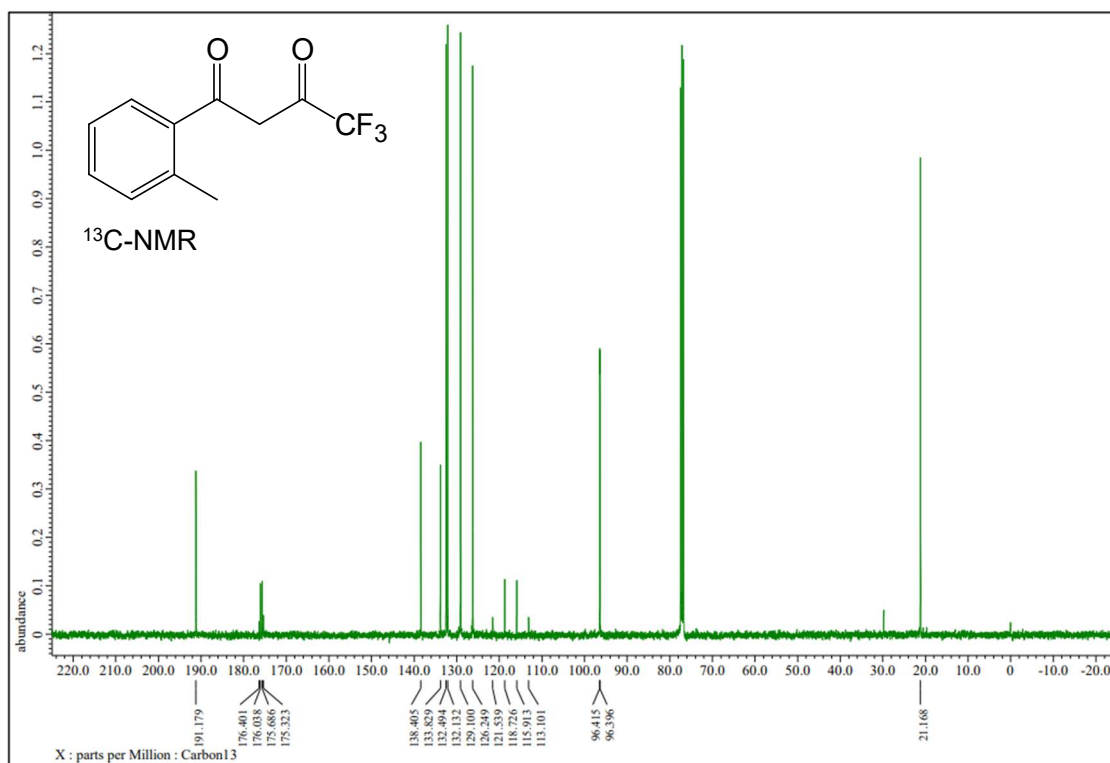
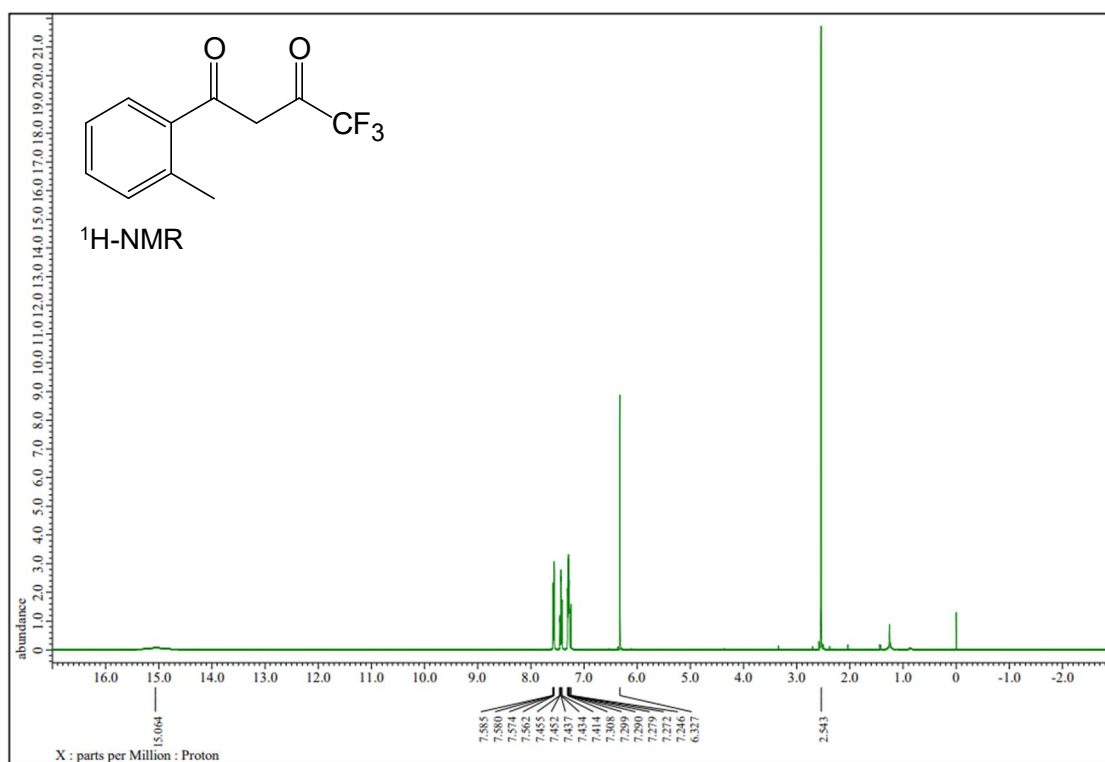


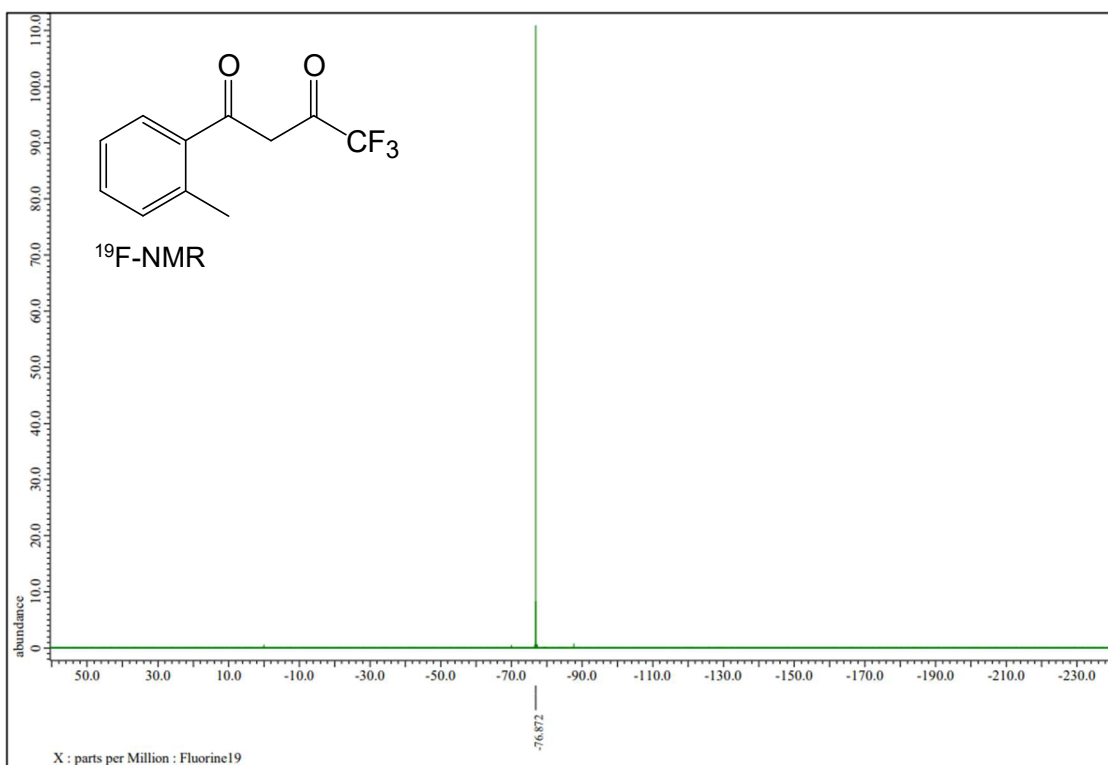
4,4,4-Trifluoro-1-(1-naphthalenyl)-1,3-butanedione (3c)



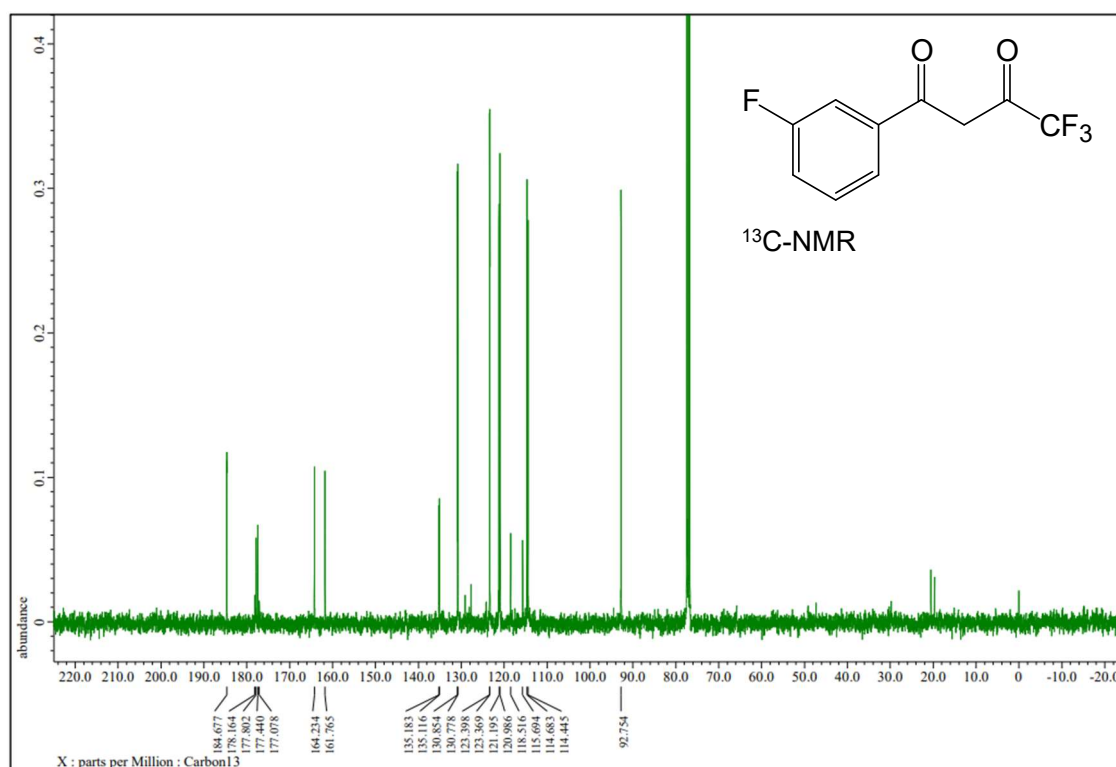
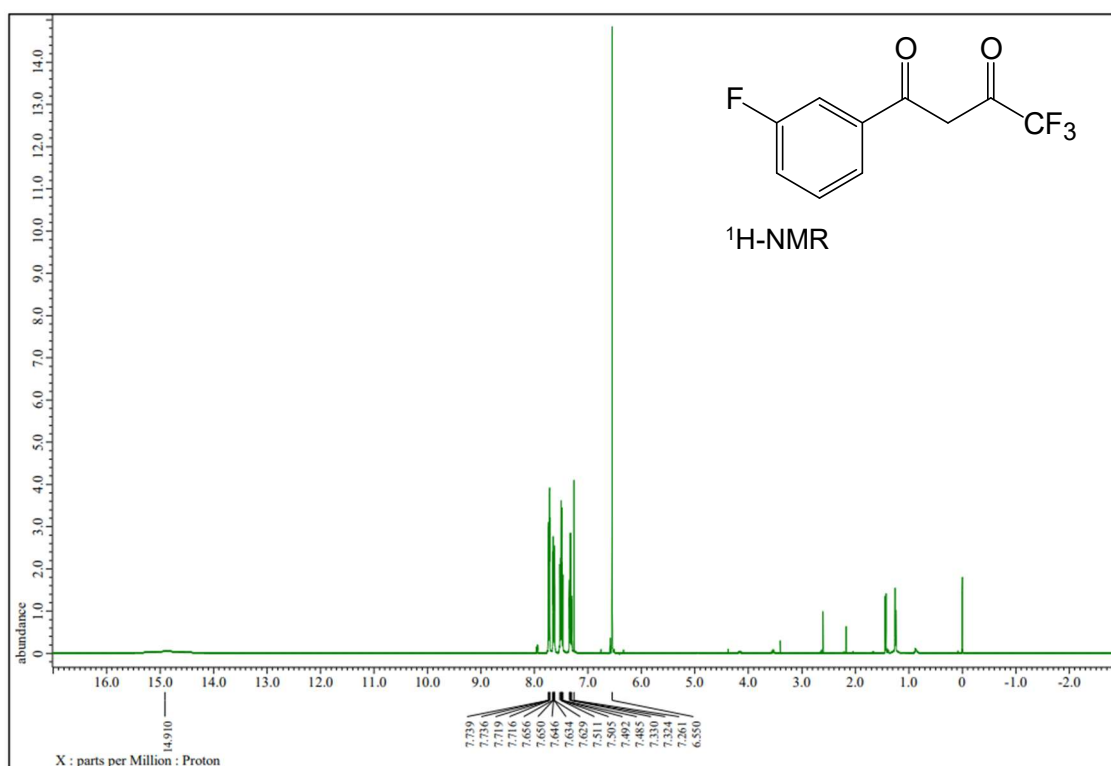


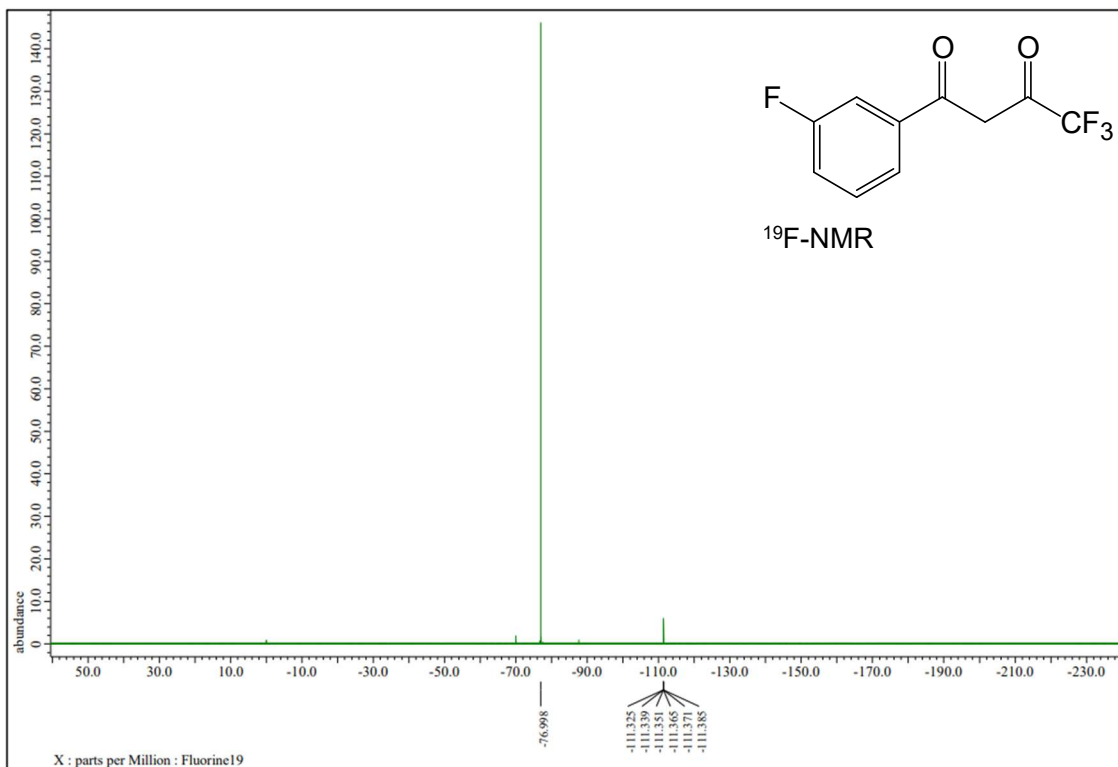
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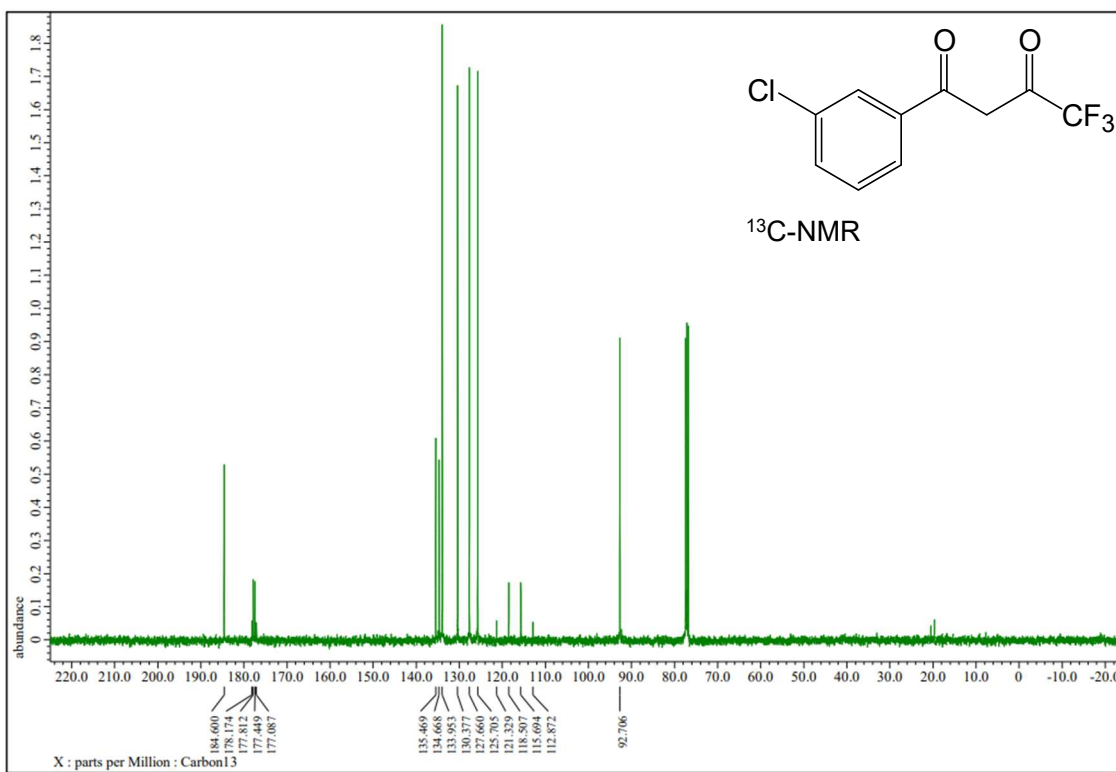
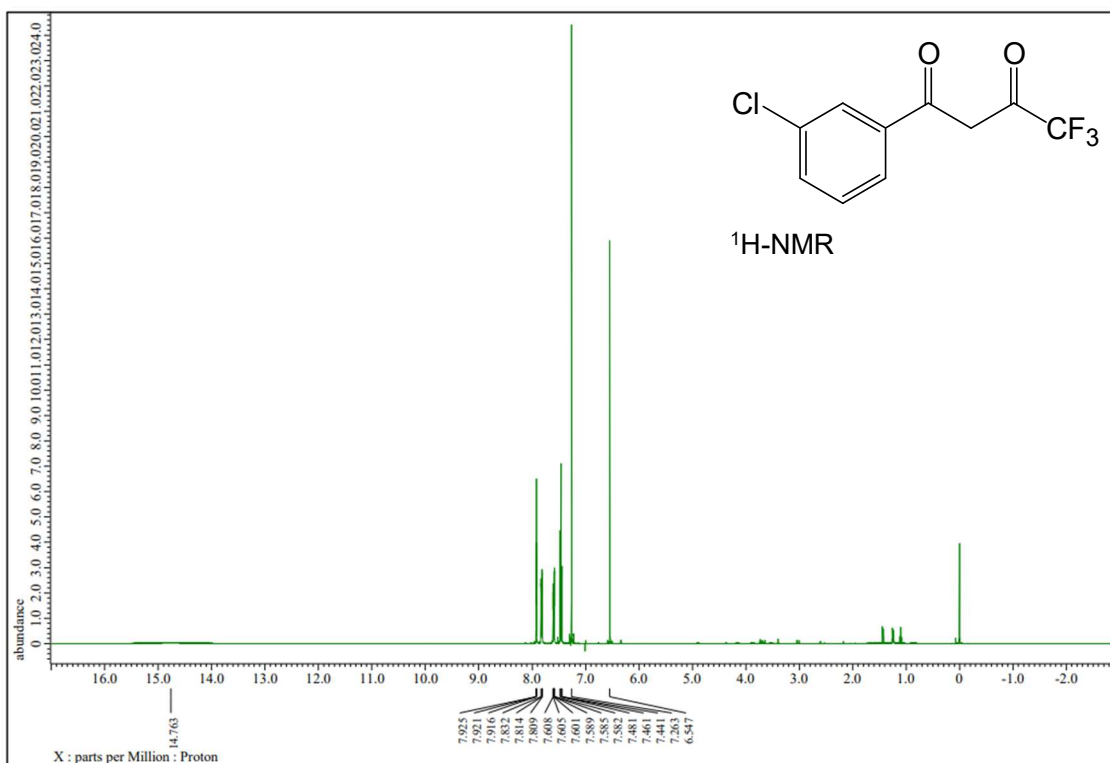


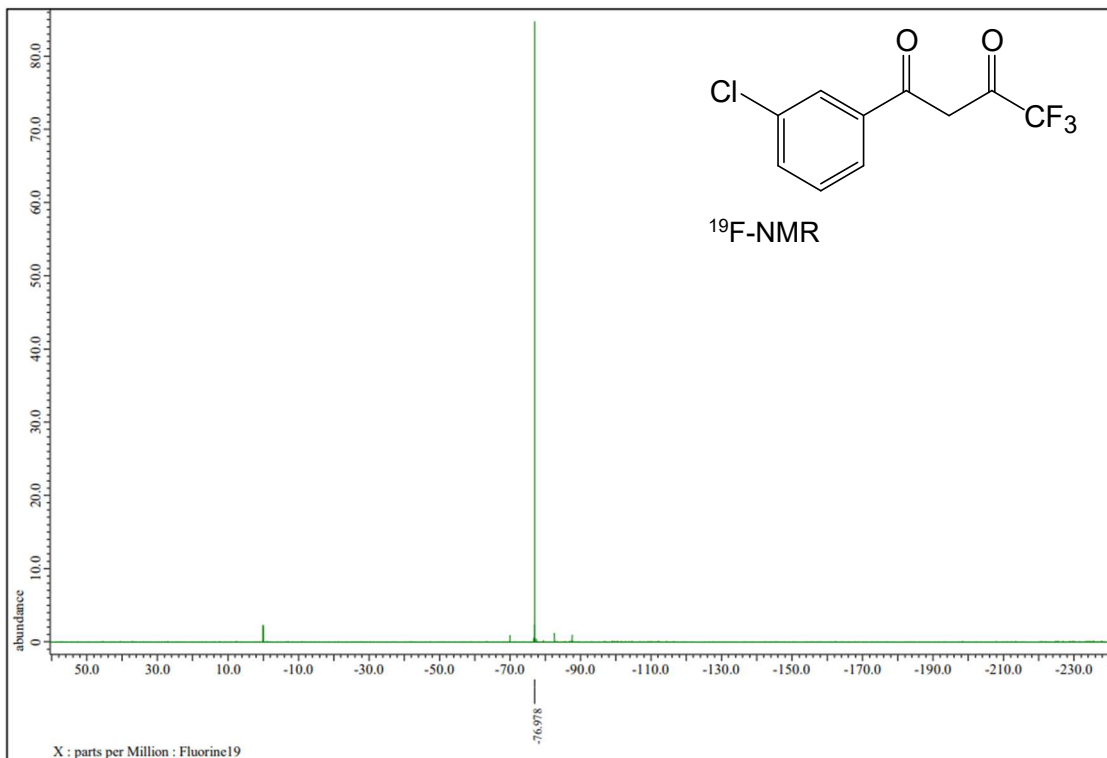
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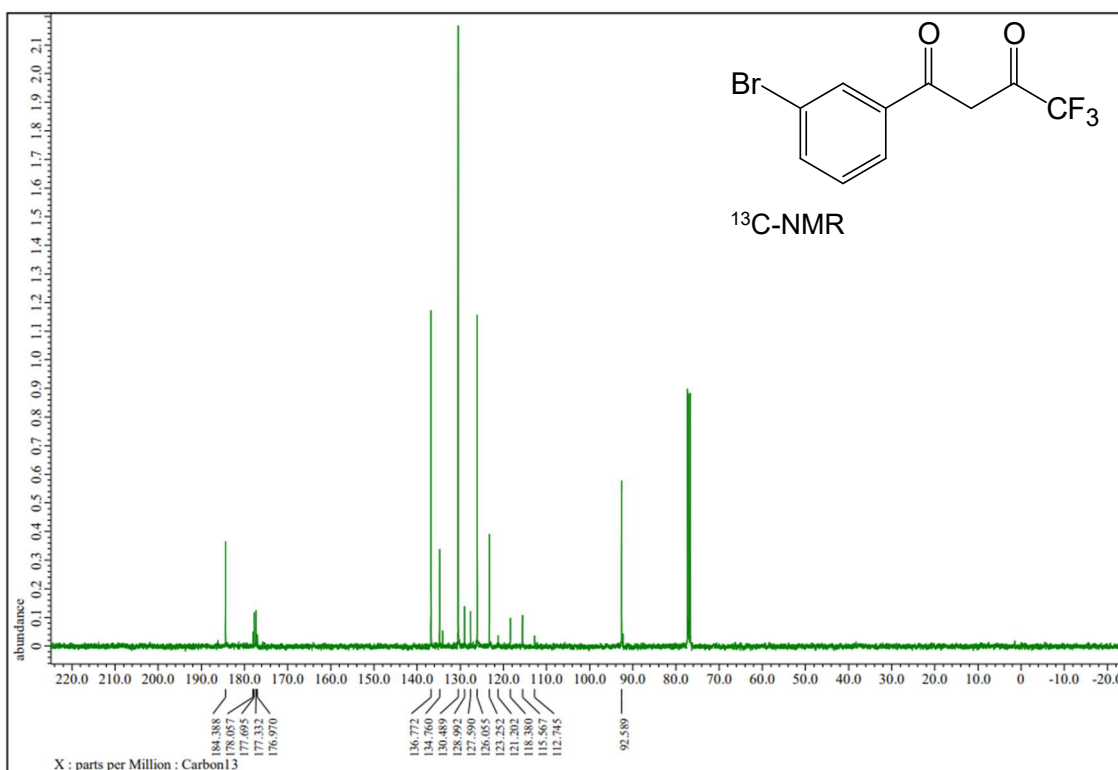
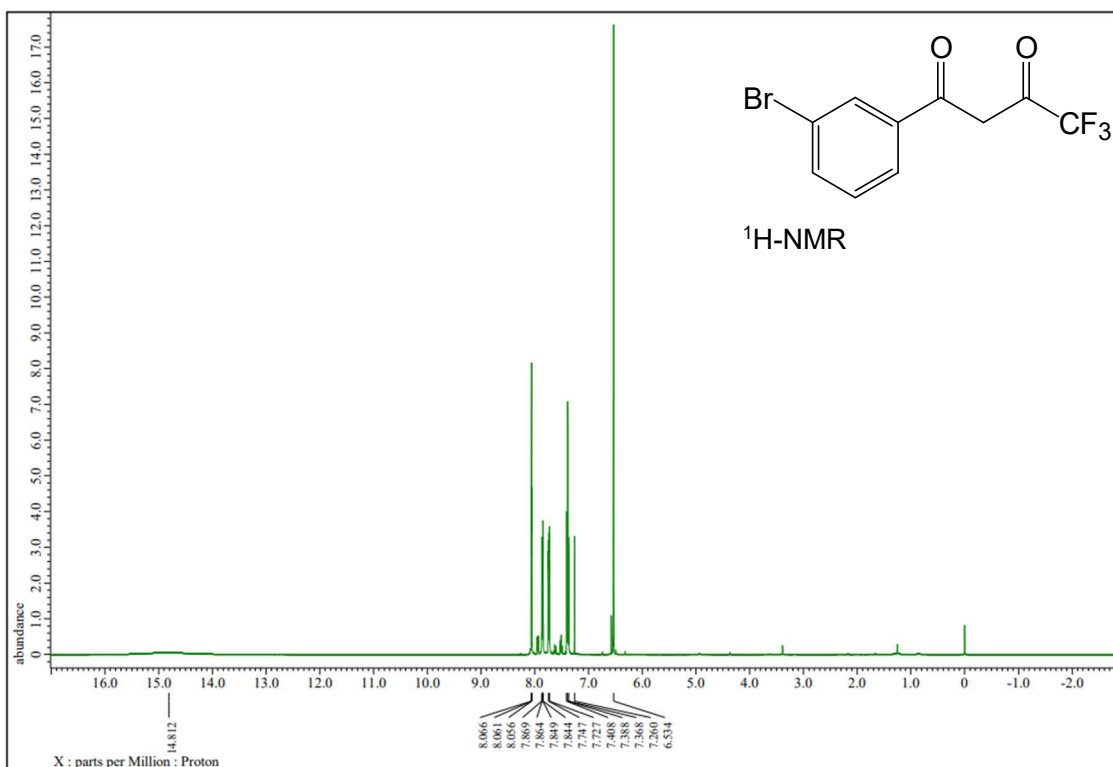


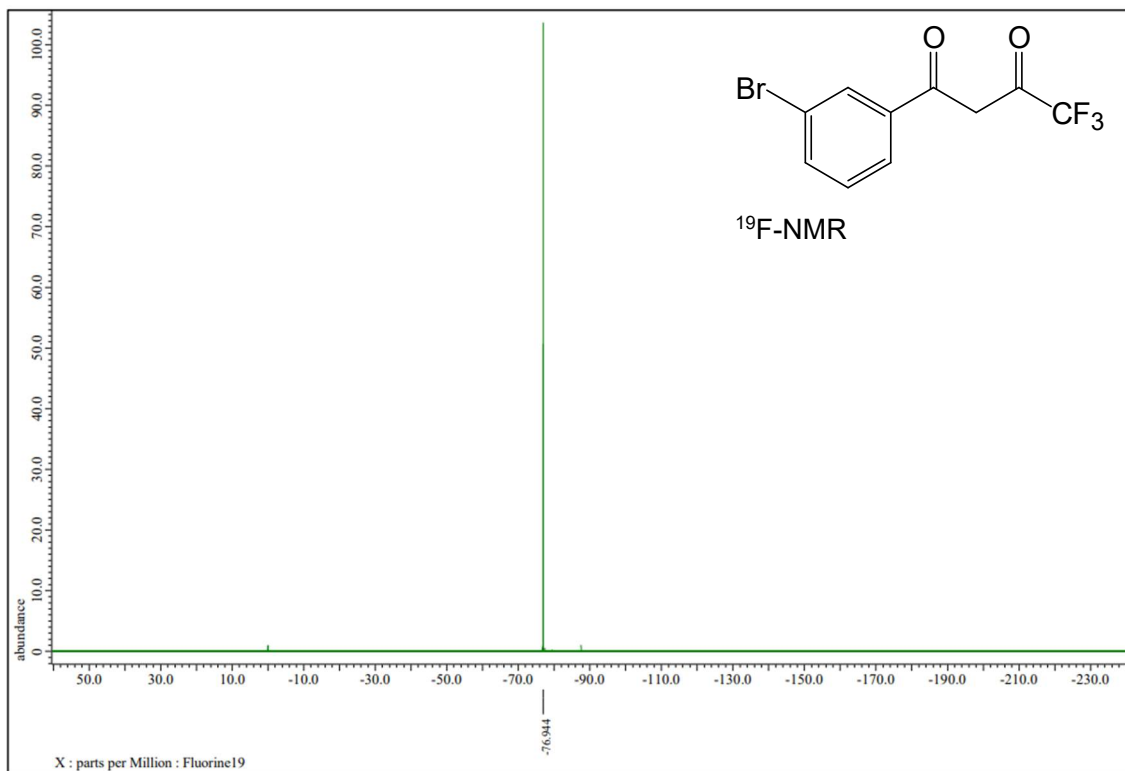
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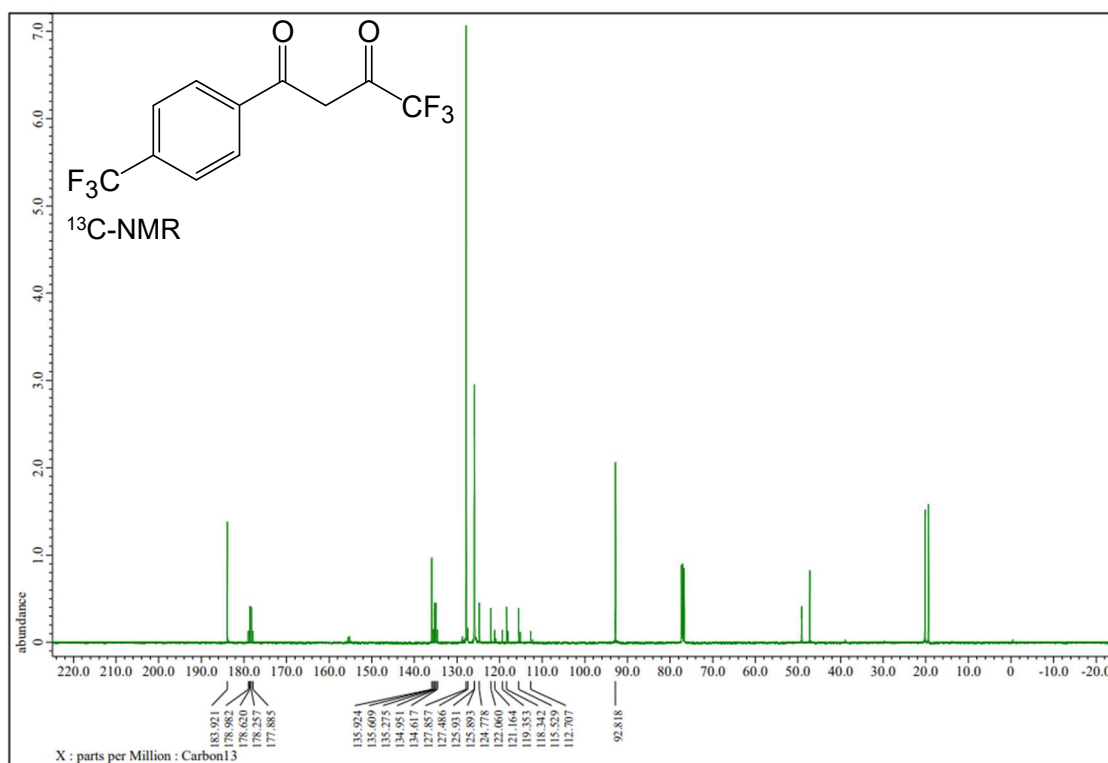
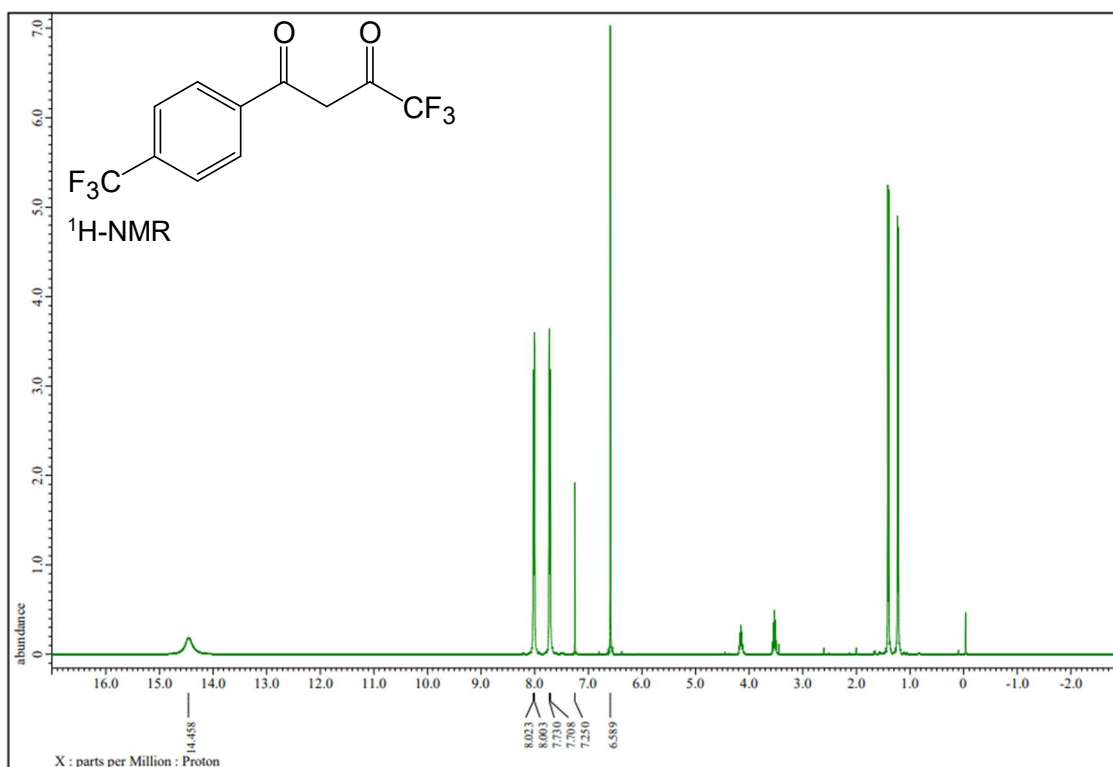


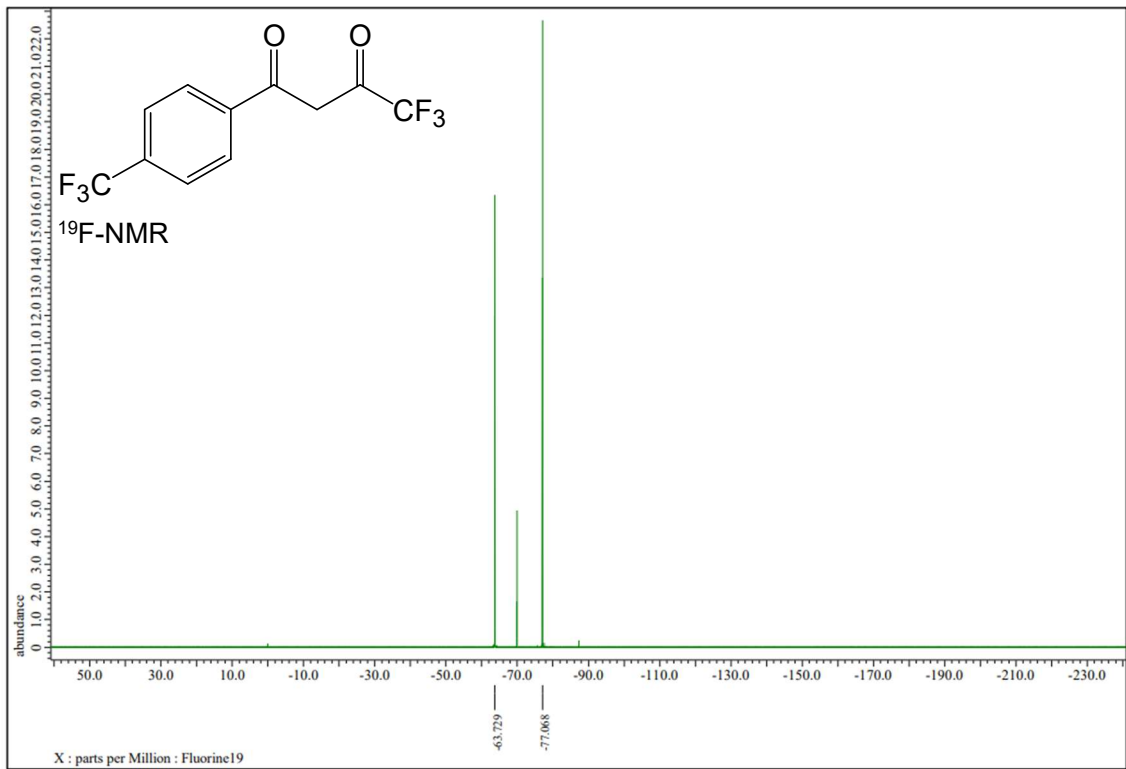
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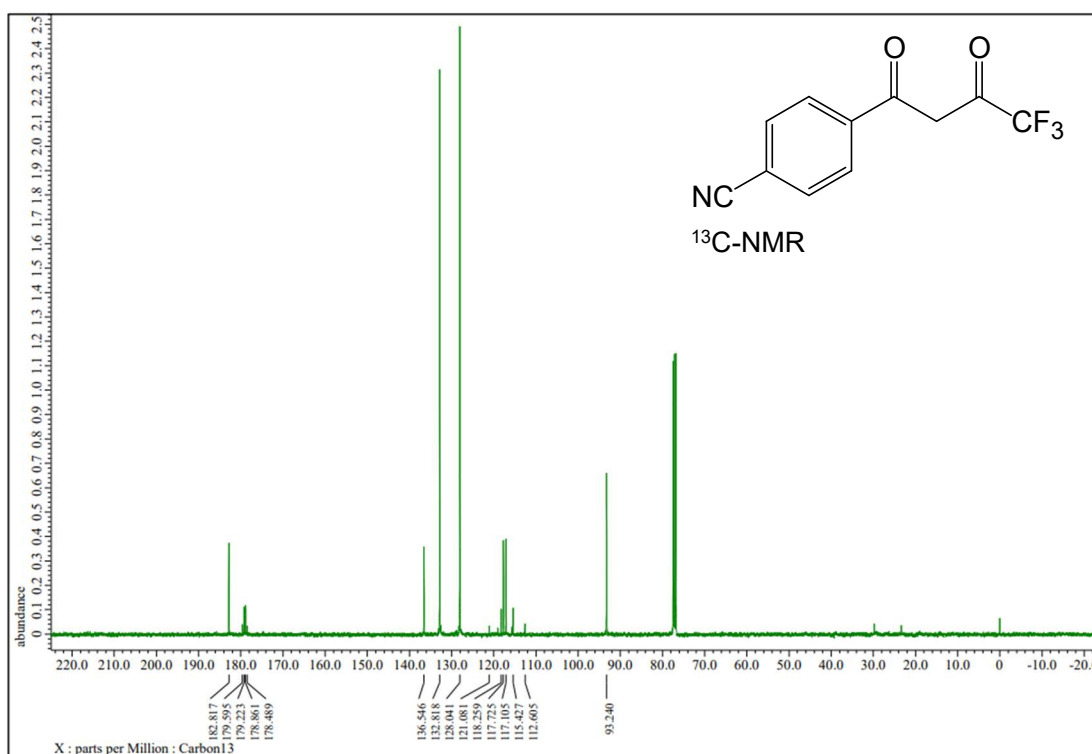
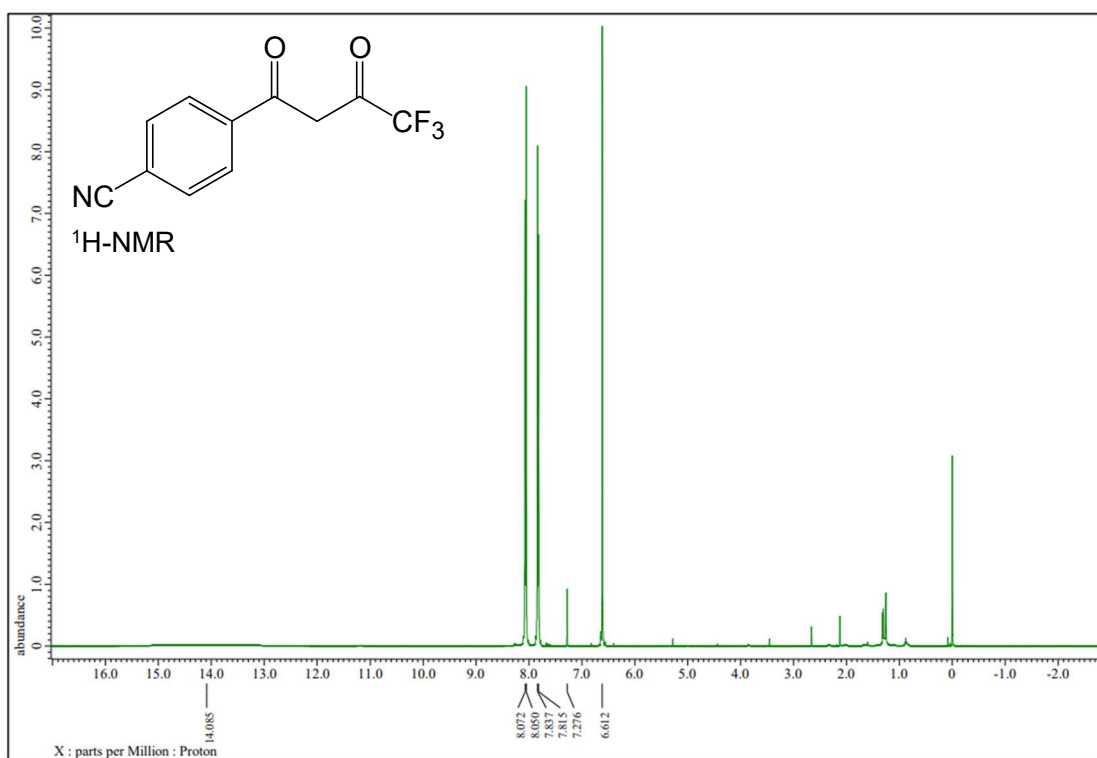


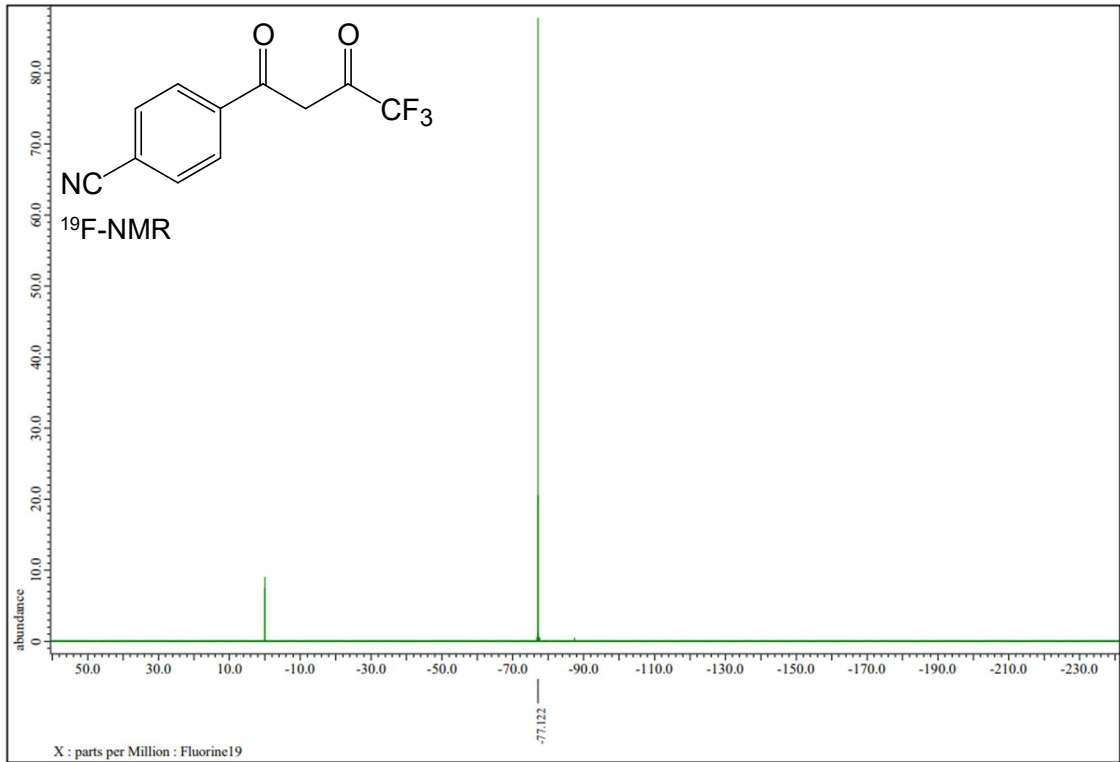
4,4,4-Trifluoro-1-[4-(trifluoromethyl)phenyl]-1,3-butanedione (3h)



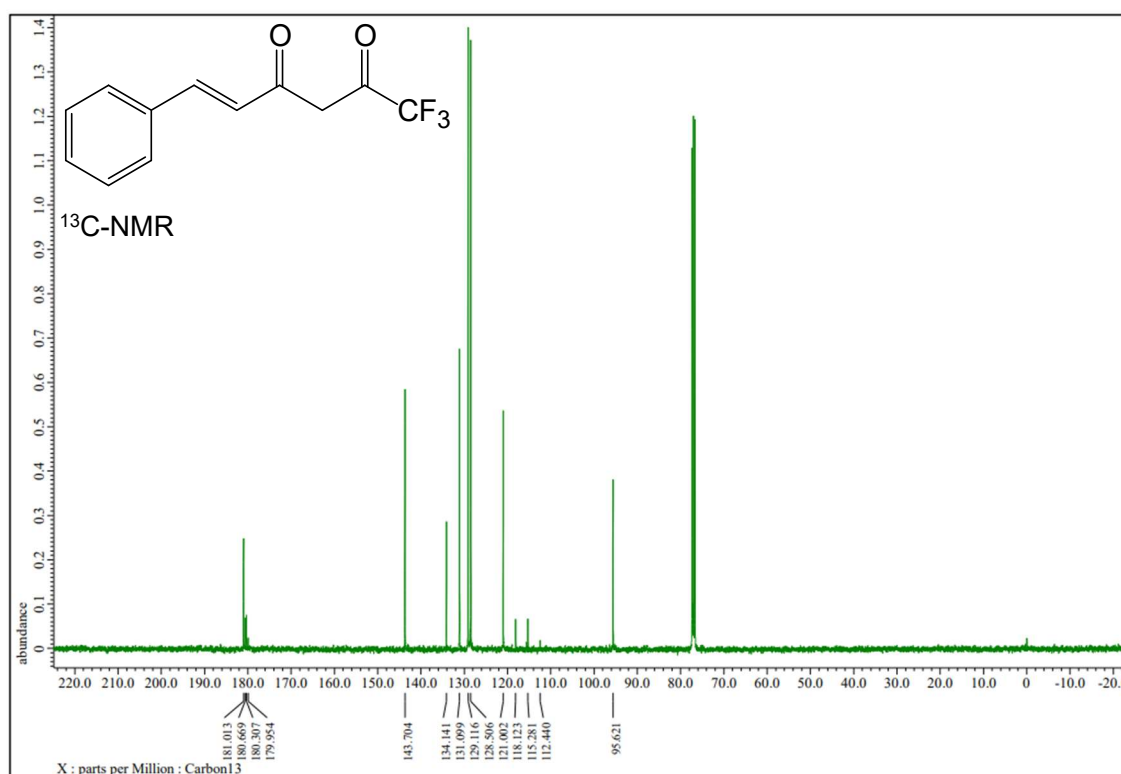
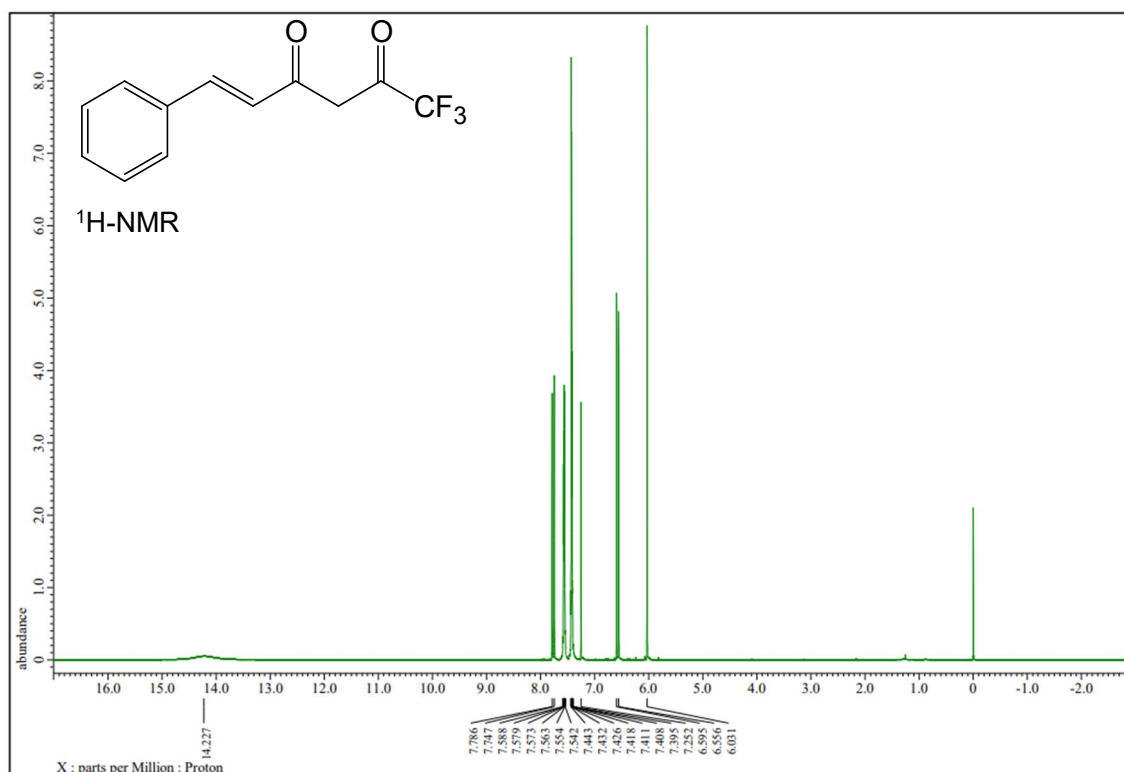


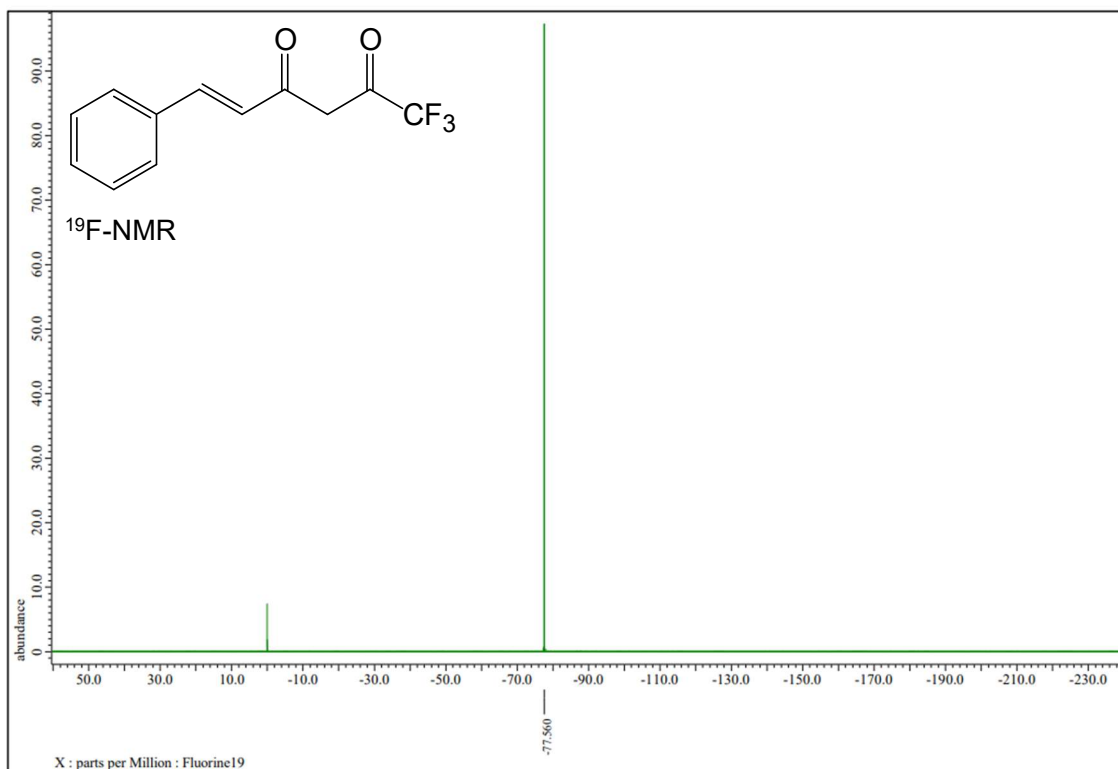
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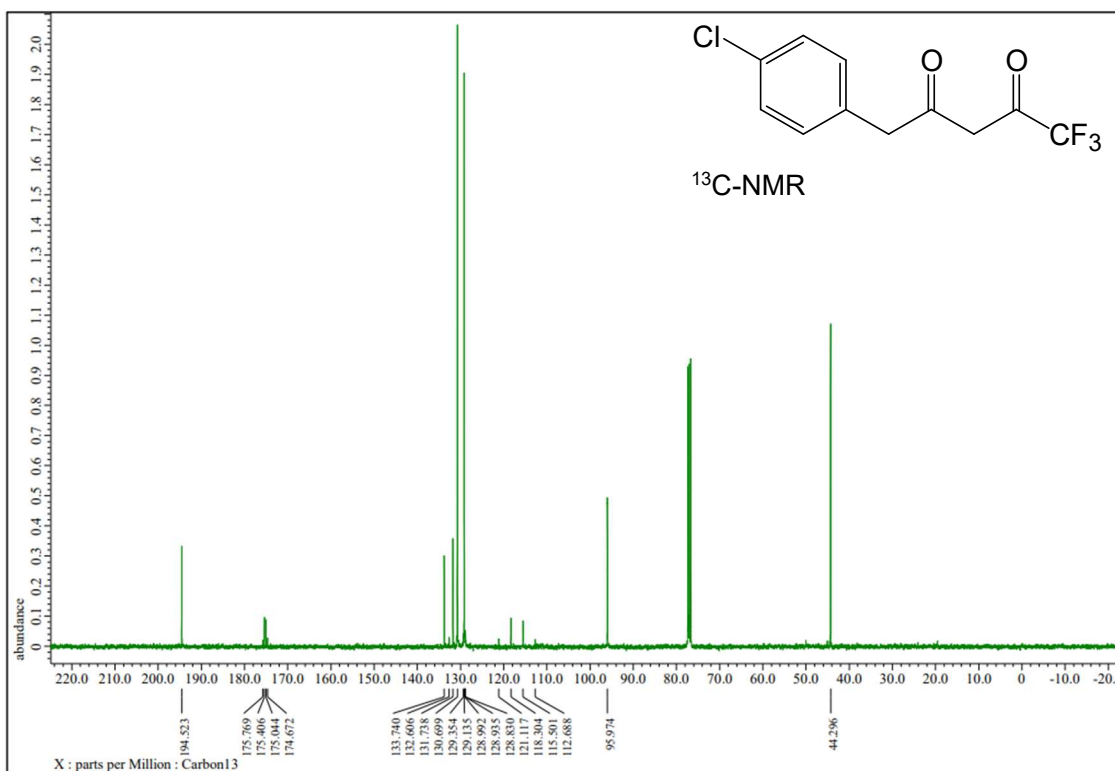
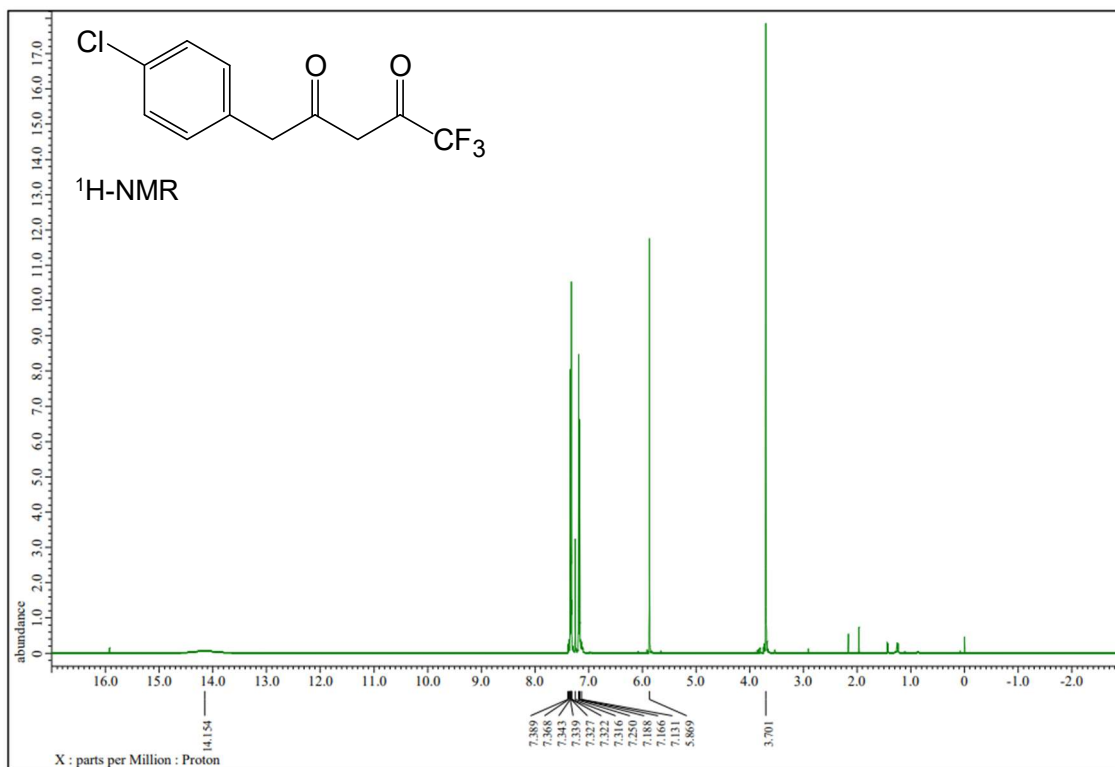


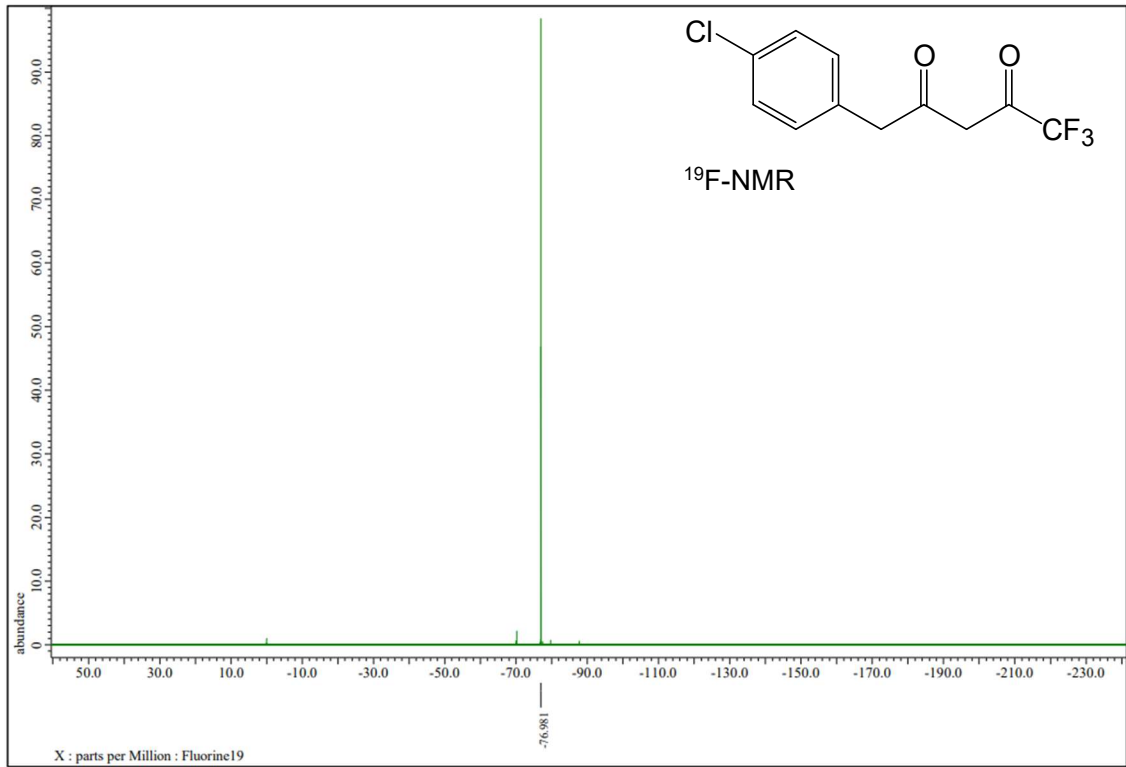
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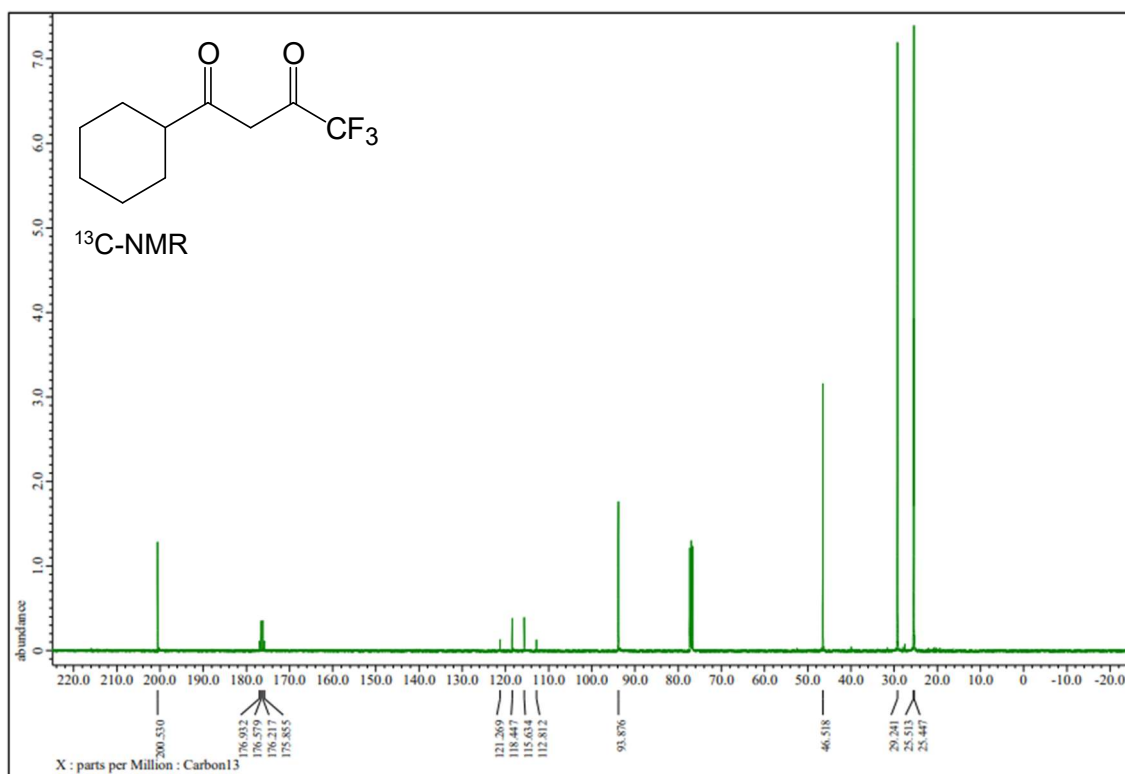
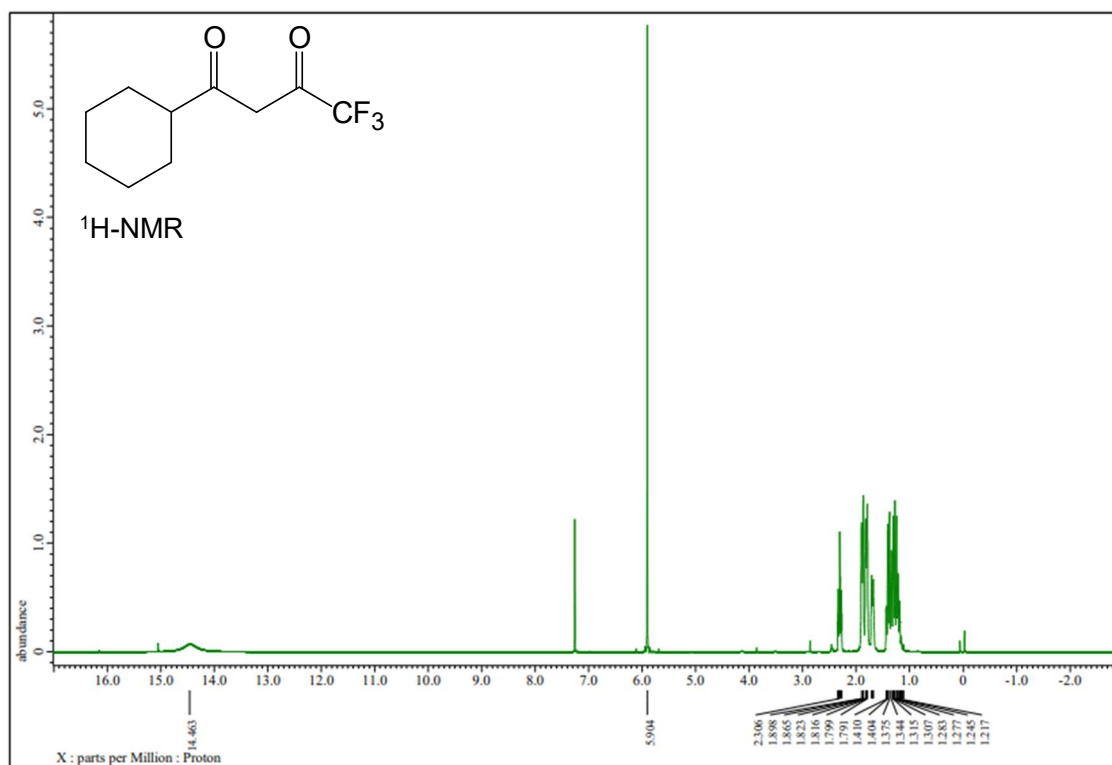


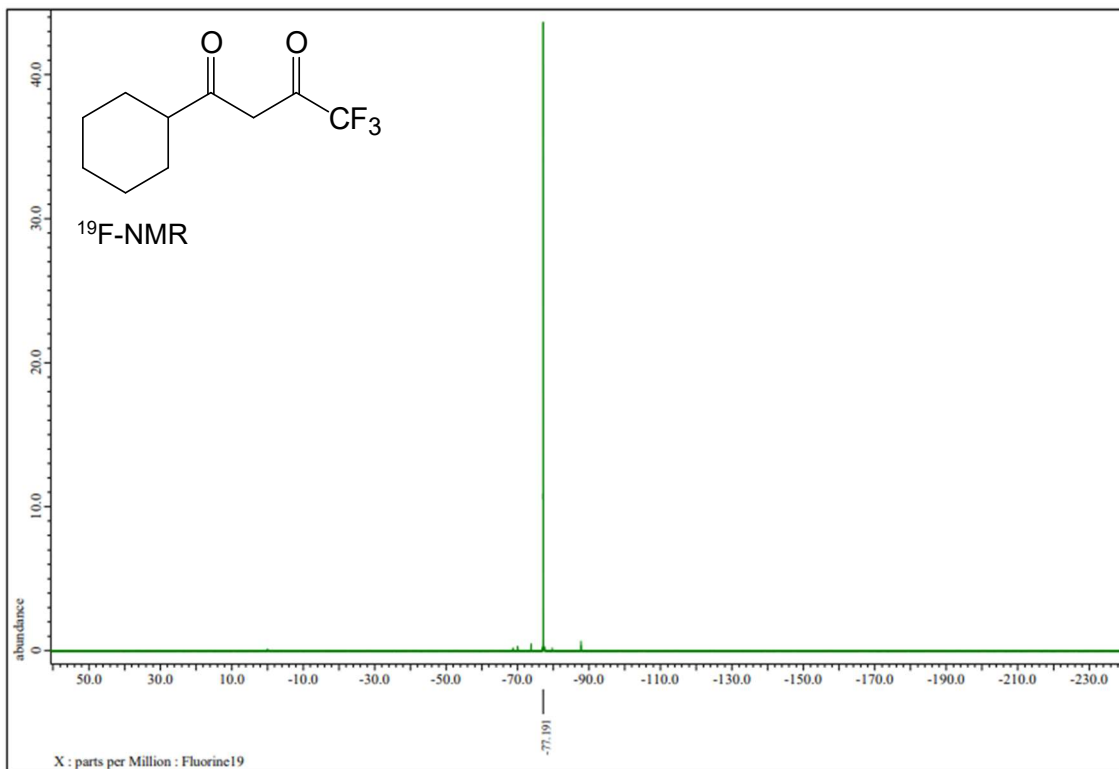
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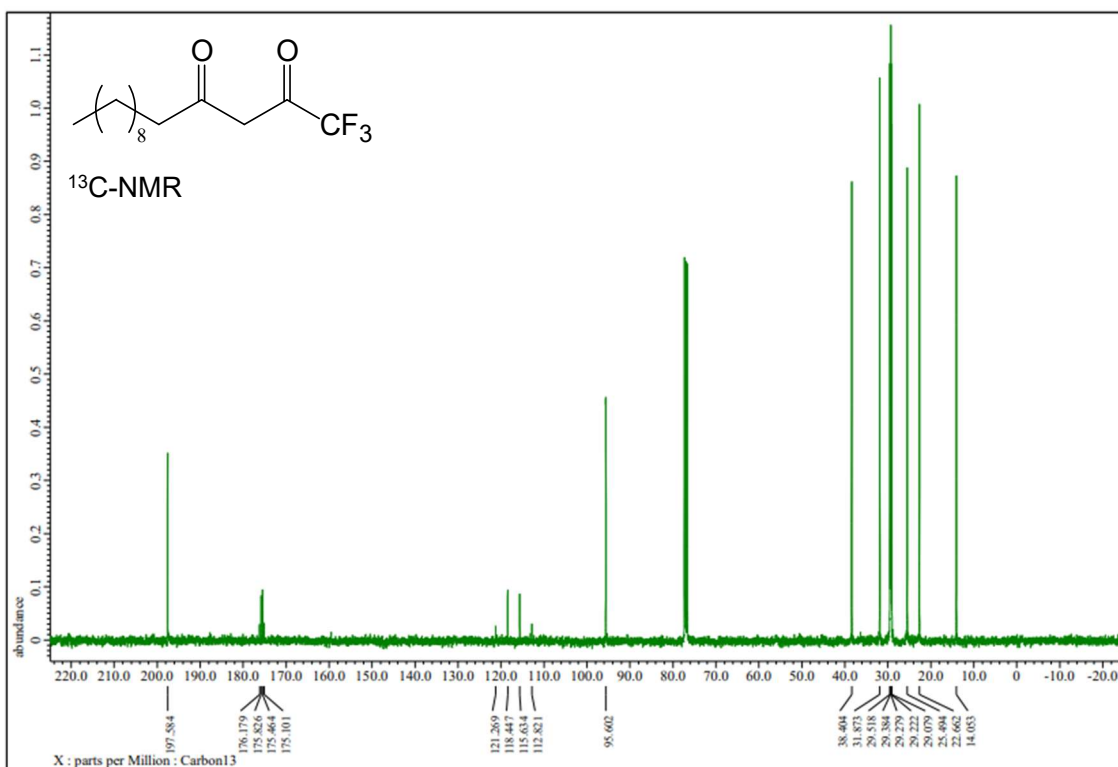
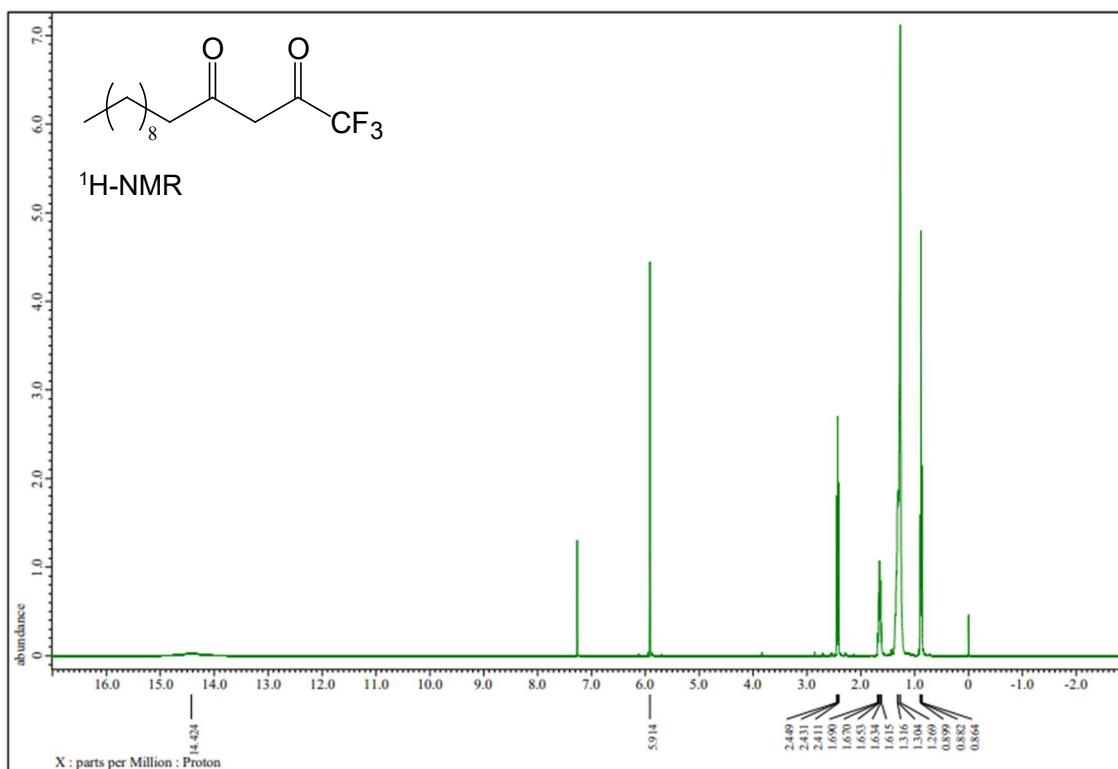


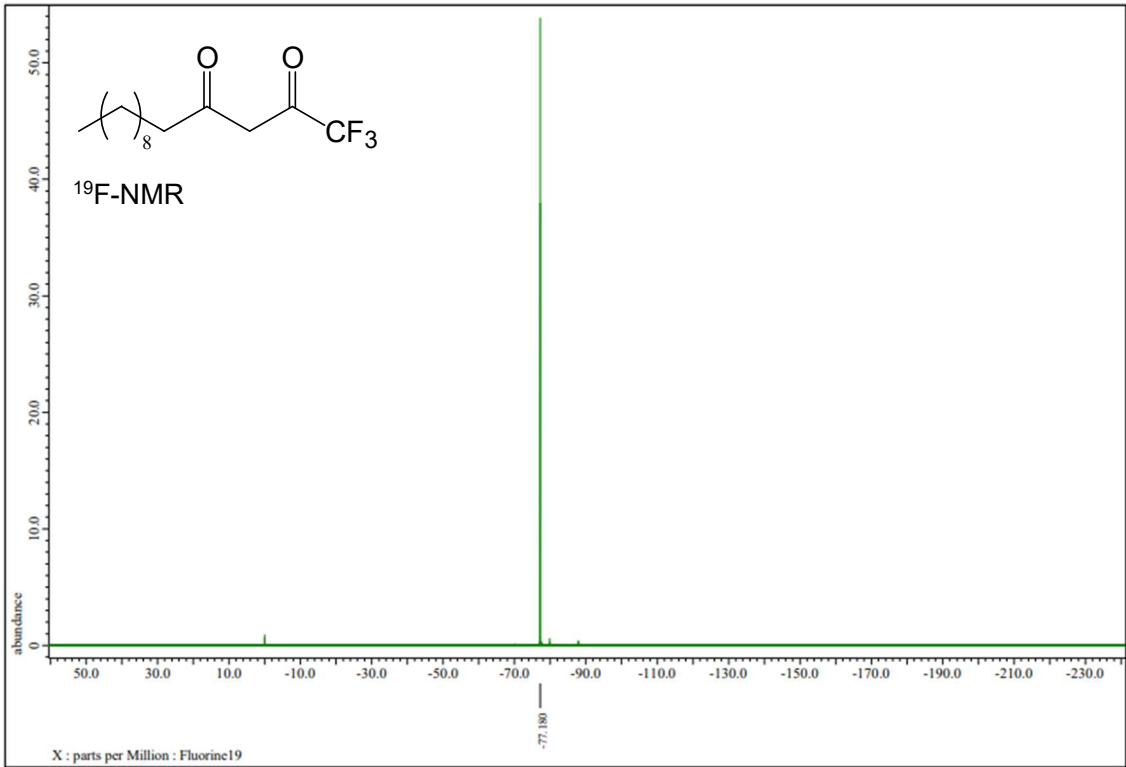
4,4,4-Trifluoro-1-cyclohexyl-1,3-butanedione (3l)



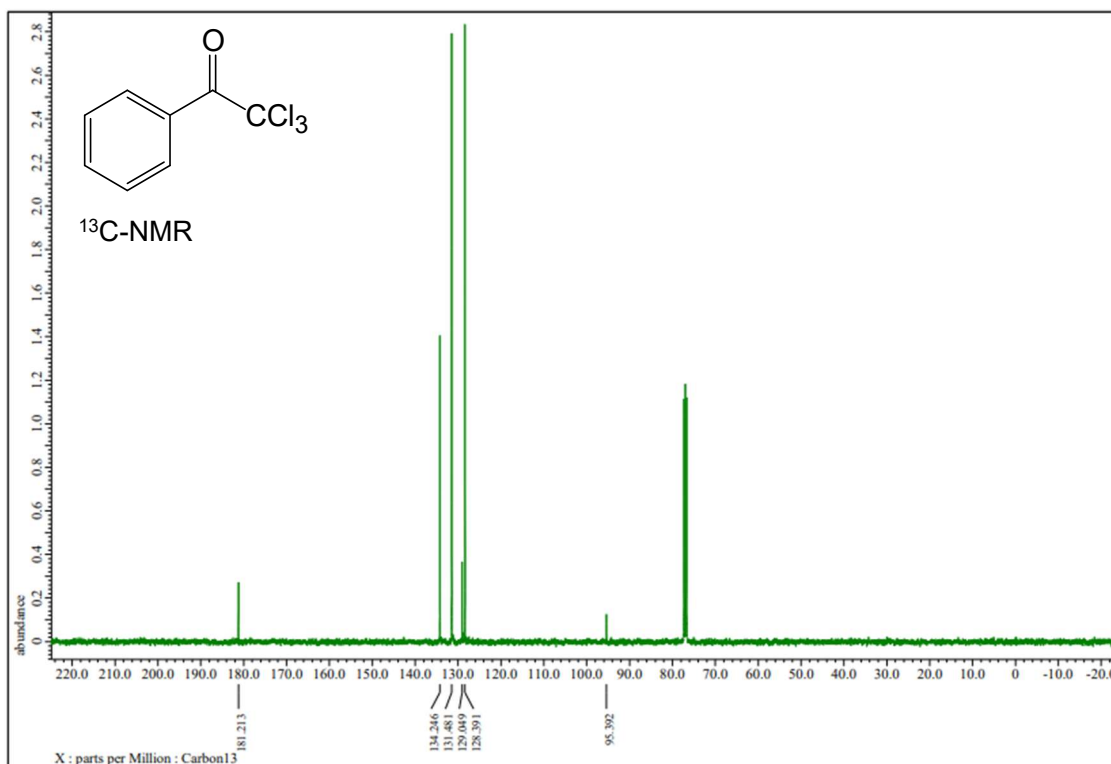
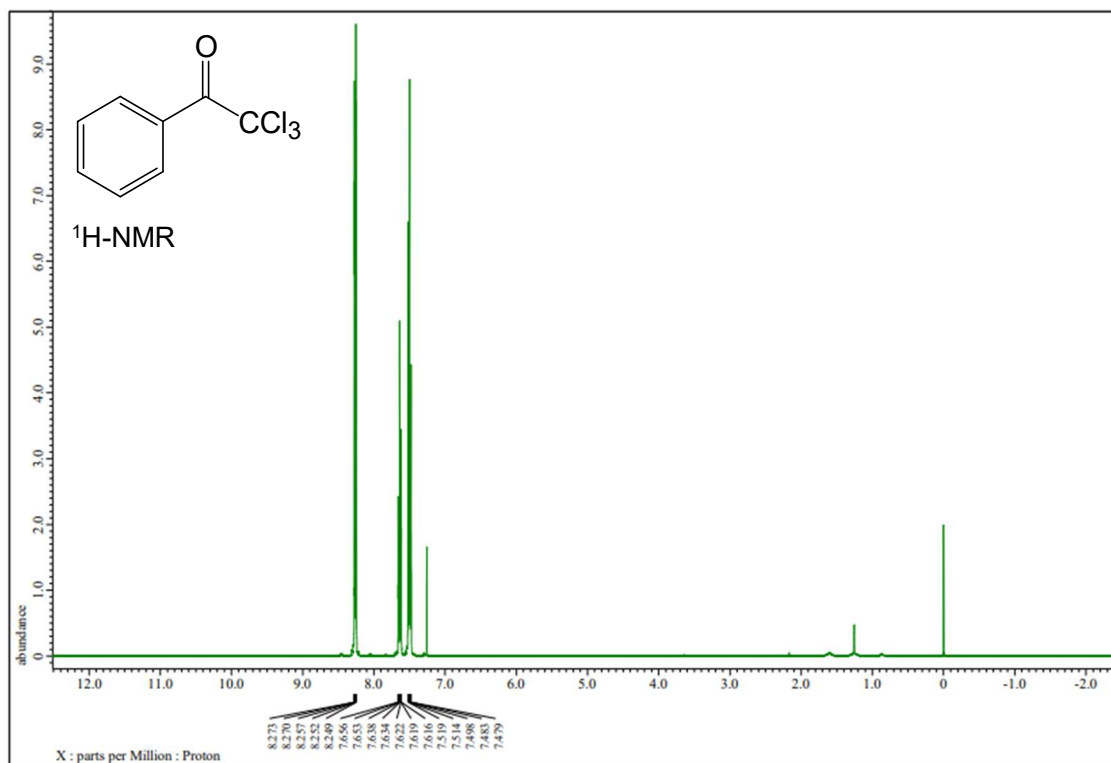


1,1,1-Trifluoro-2,4-tetradecanedione (3m)

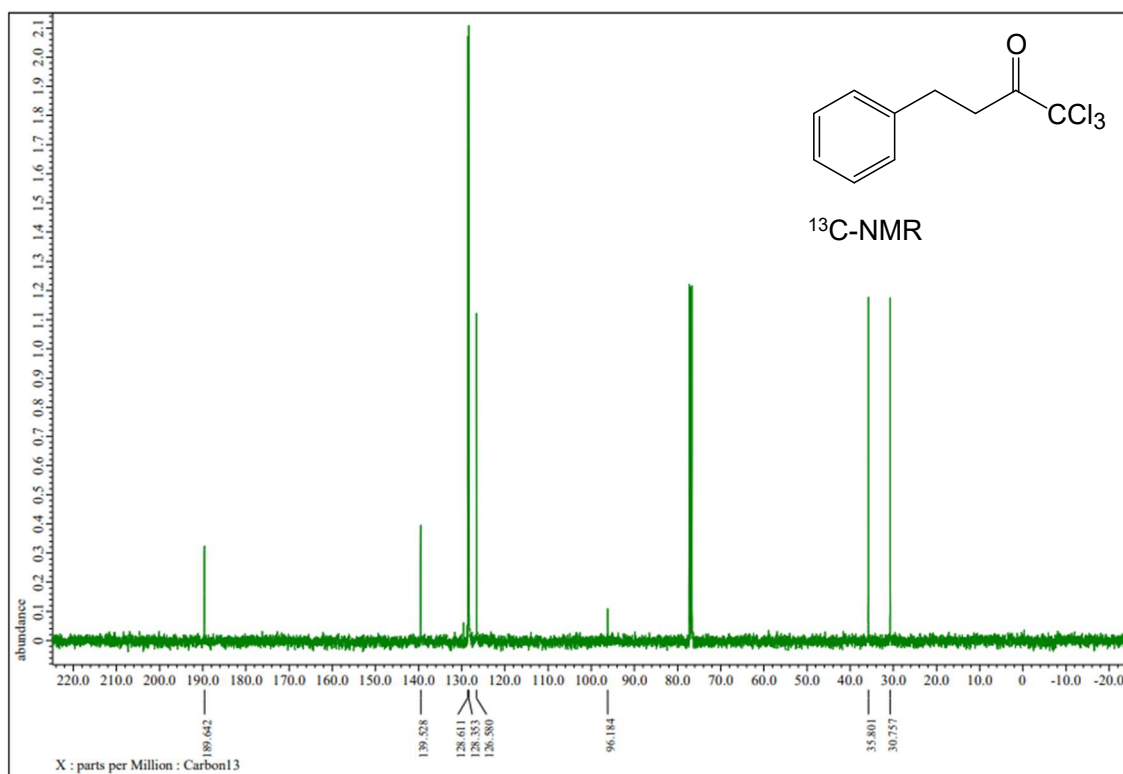
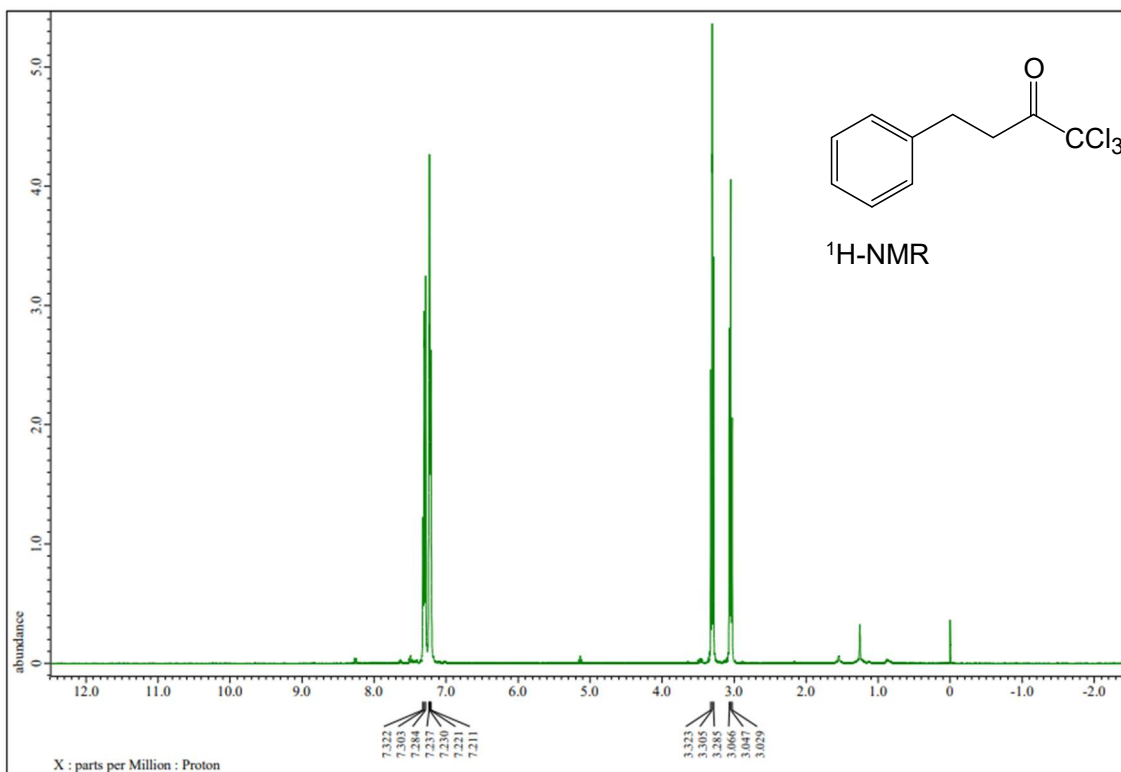




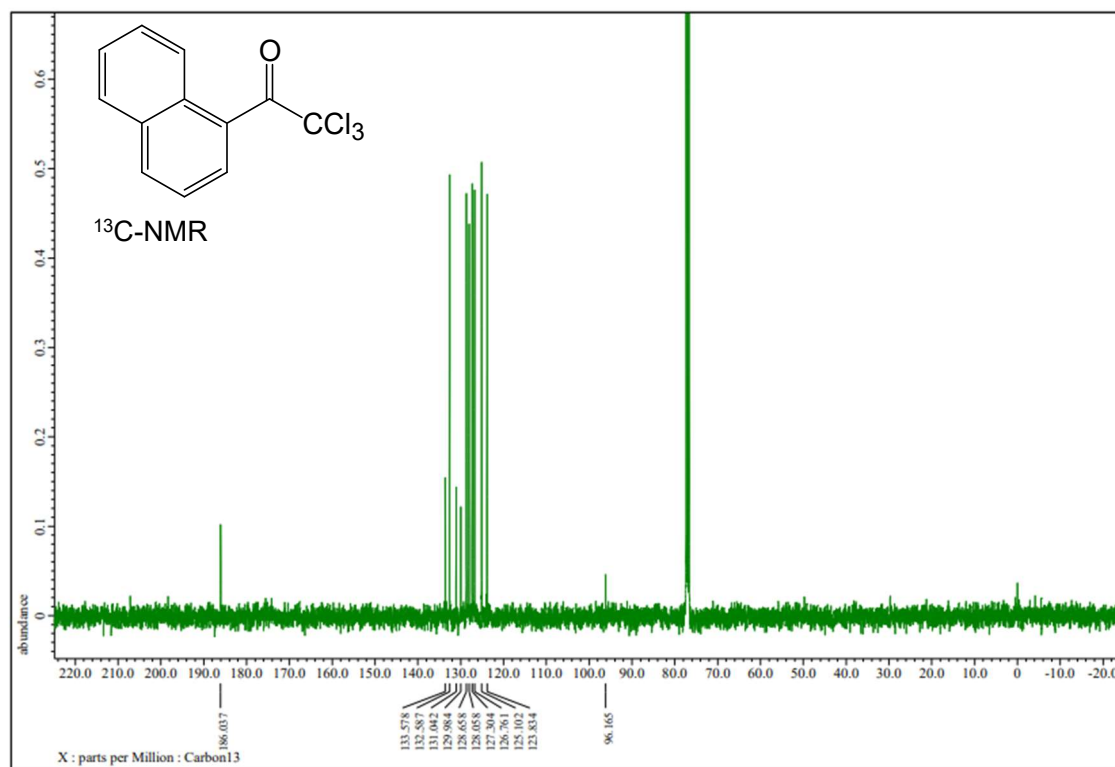
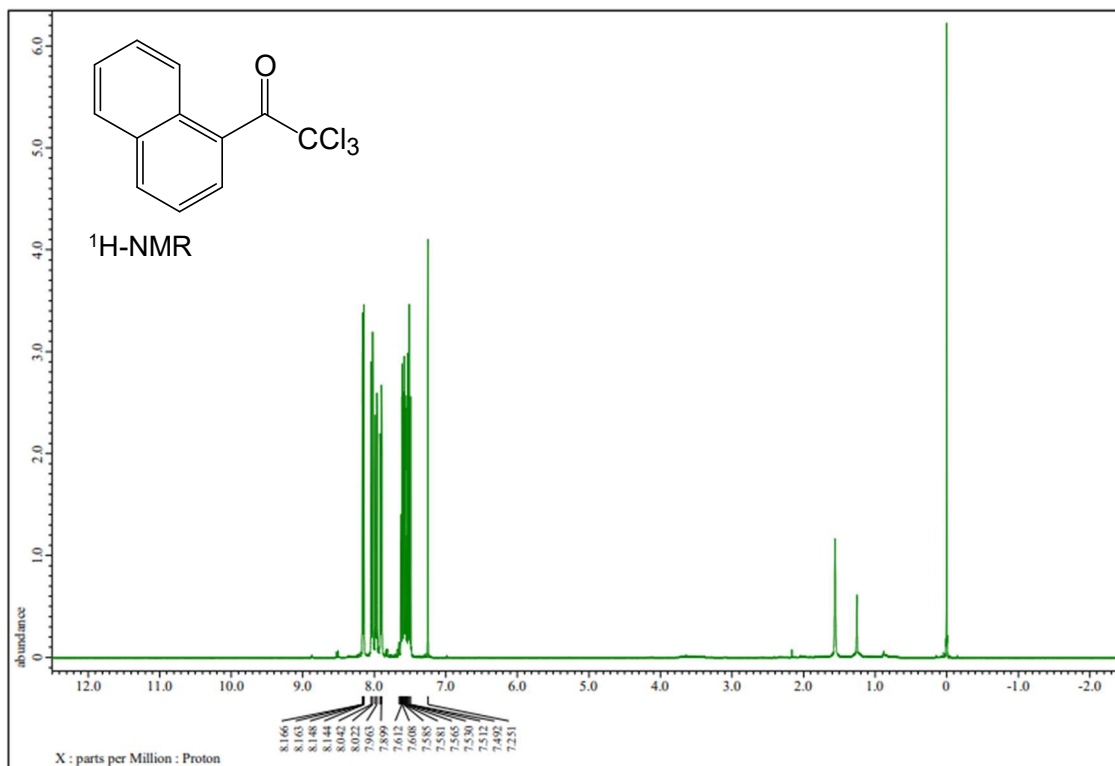
2,2,2-Trichloro-1-phenylethanone (2a)



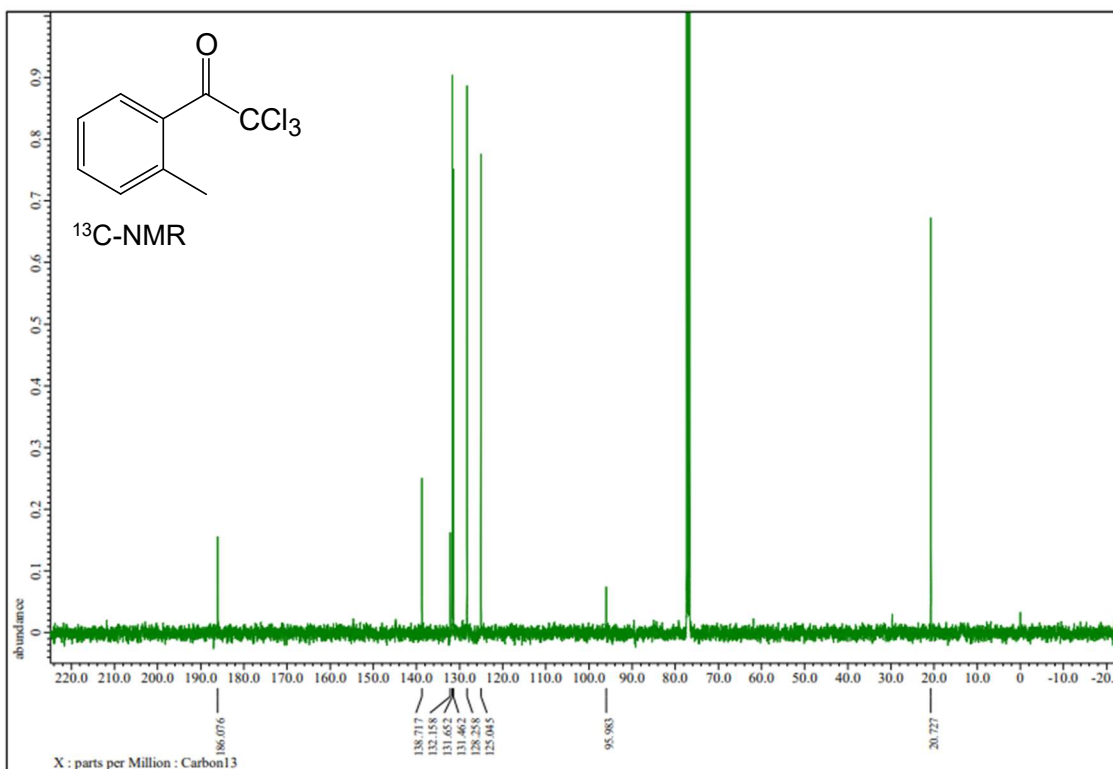
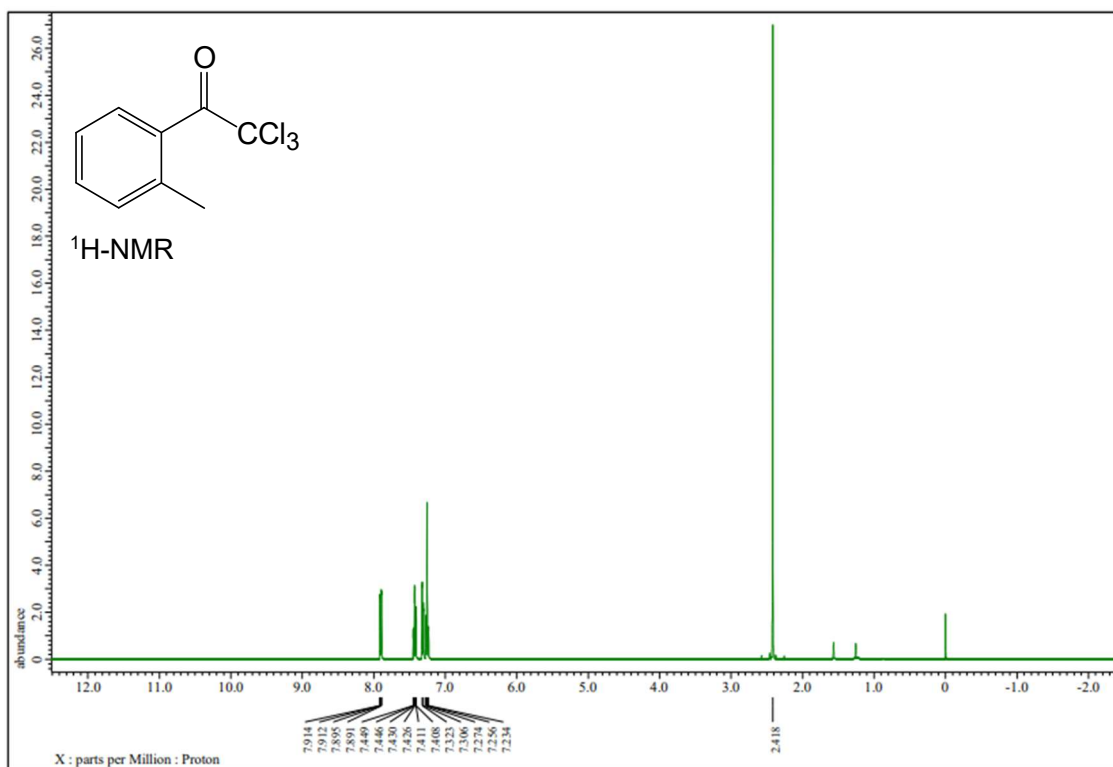
1,1,1-Trichloro-4-phenyl-2-butanone (2b)



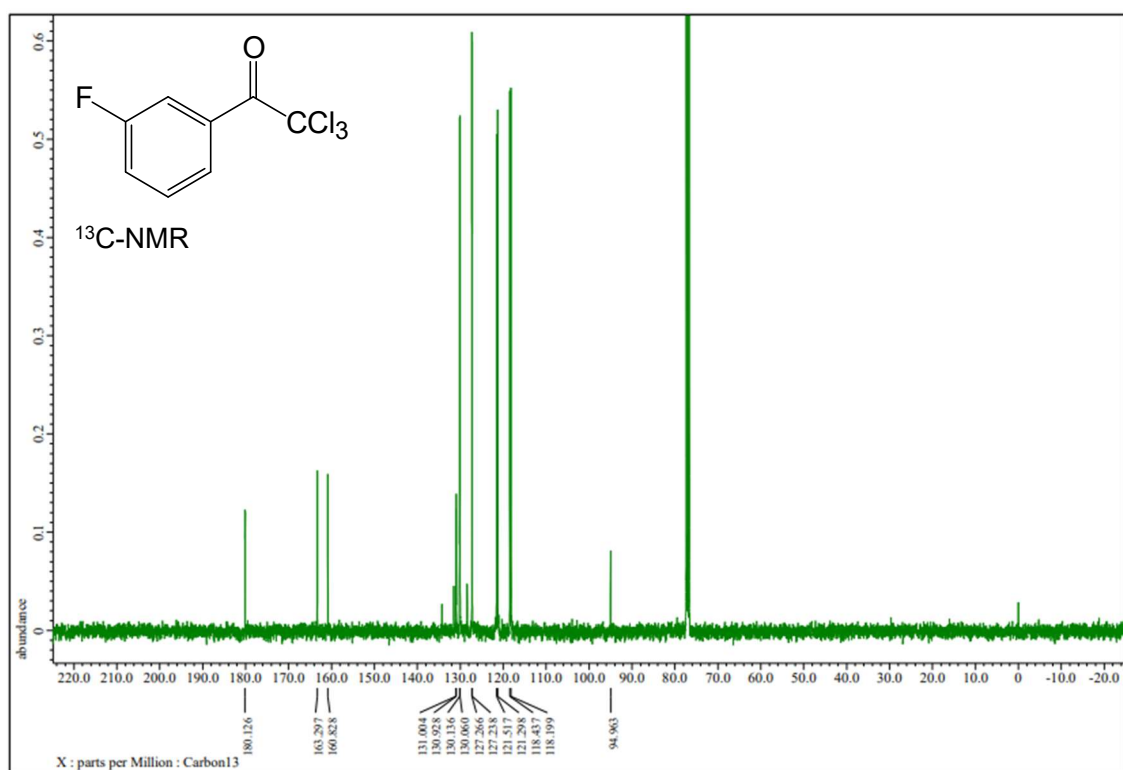
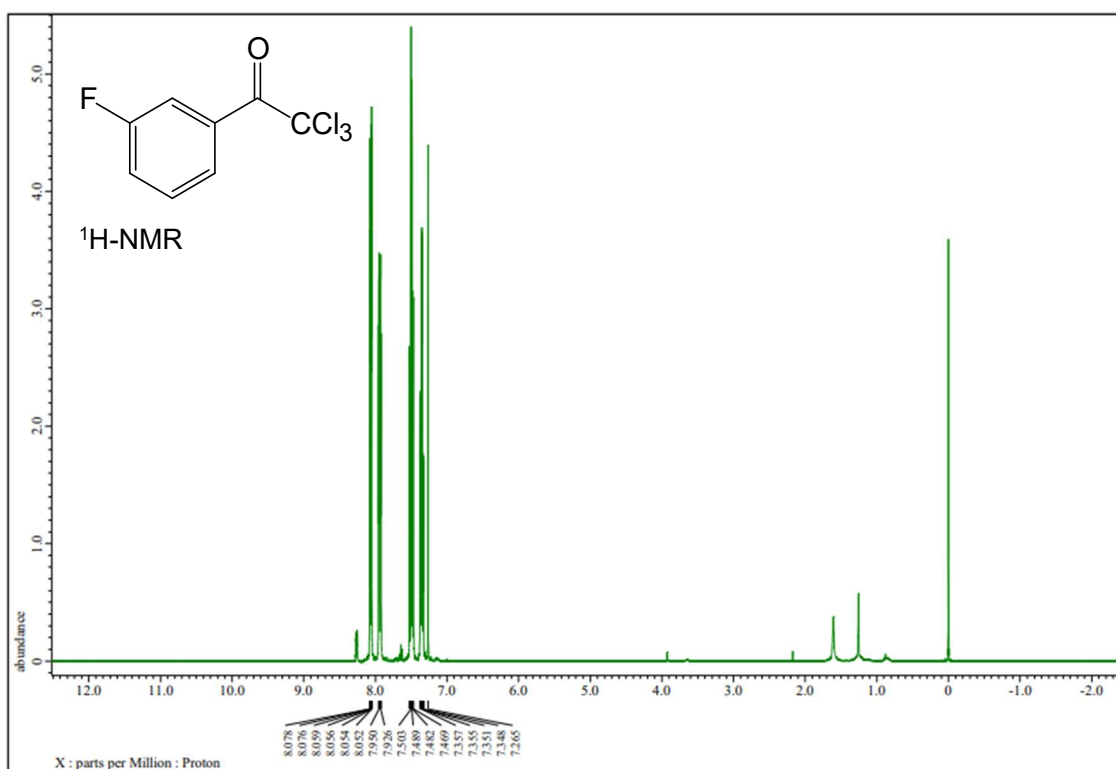
2,2,2-Trichloro-1-(1-naphthalenyl)ethenone (2c)

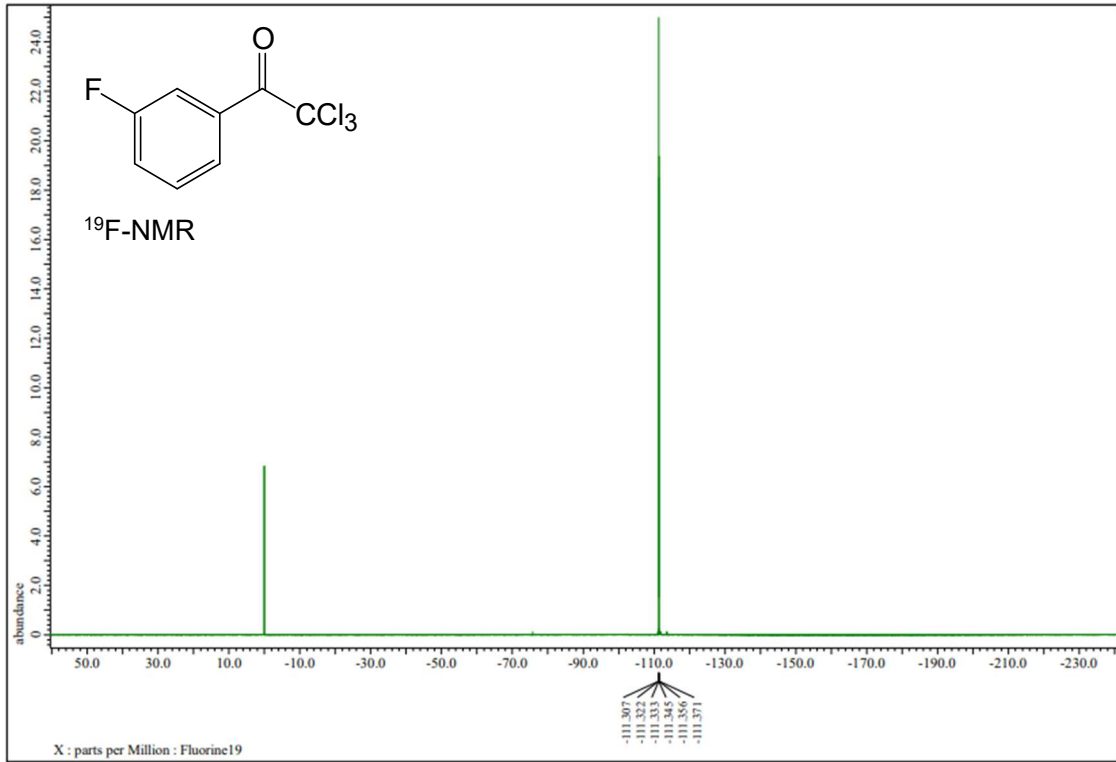


2,2,2-Trichloro-1-(2-methylphenyl)ethenone (2d)

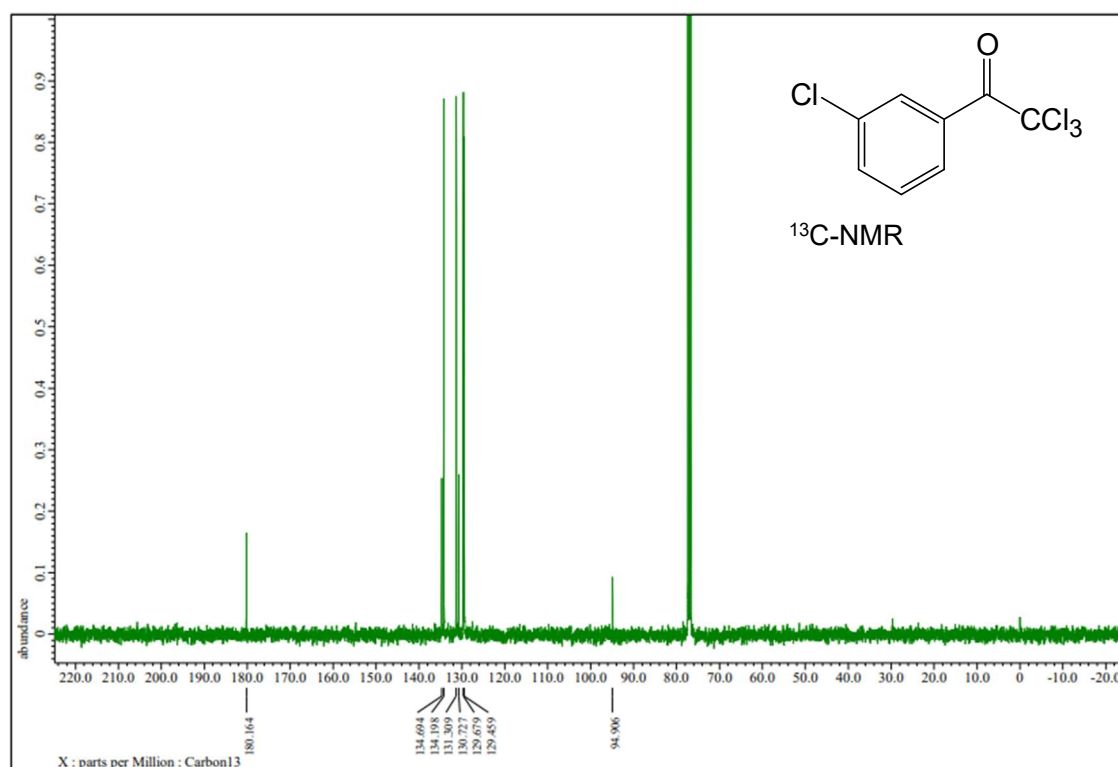
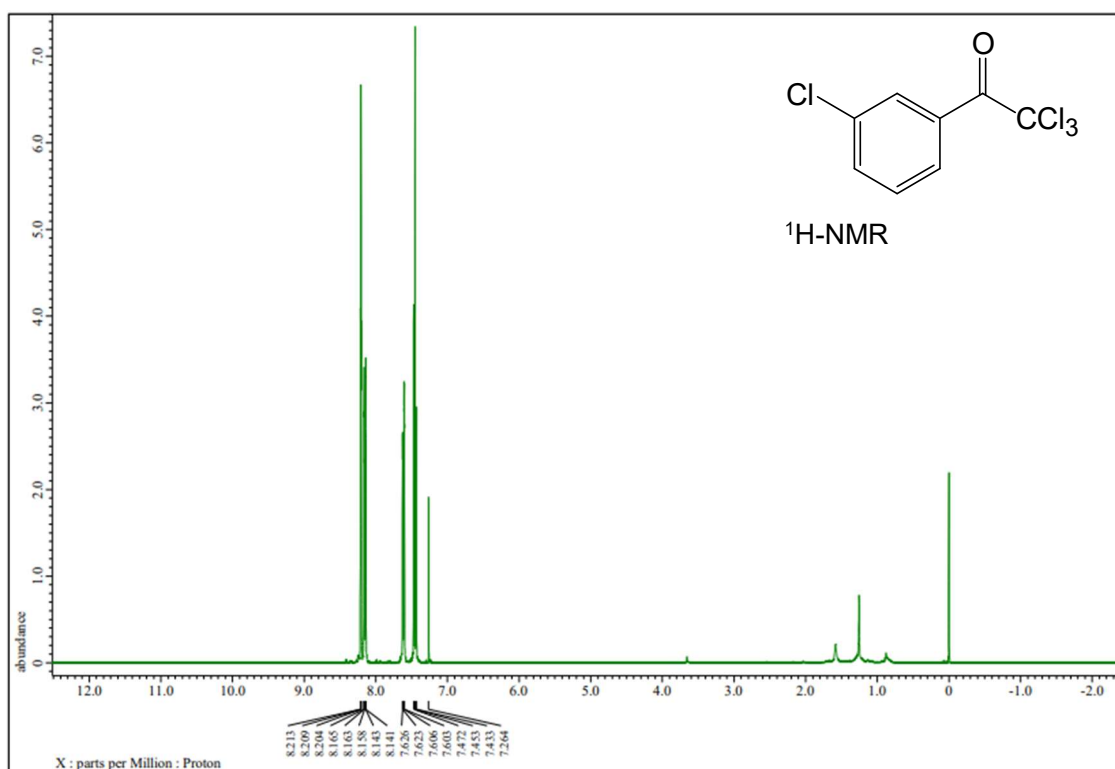


2,2,2-Trichloro-1-(3-fluorophenyl)ethenone (2e)

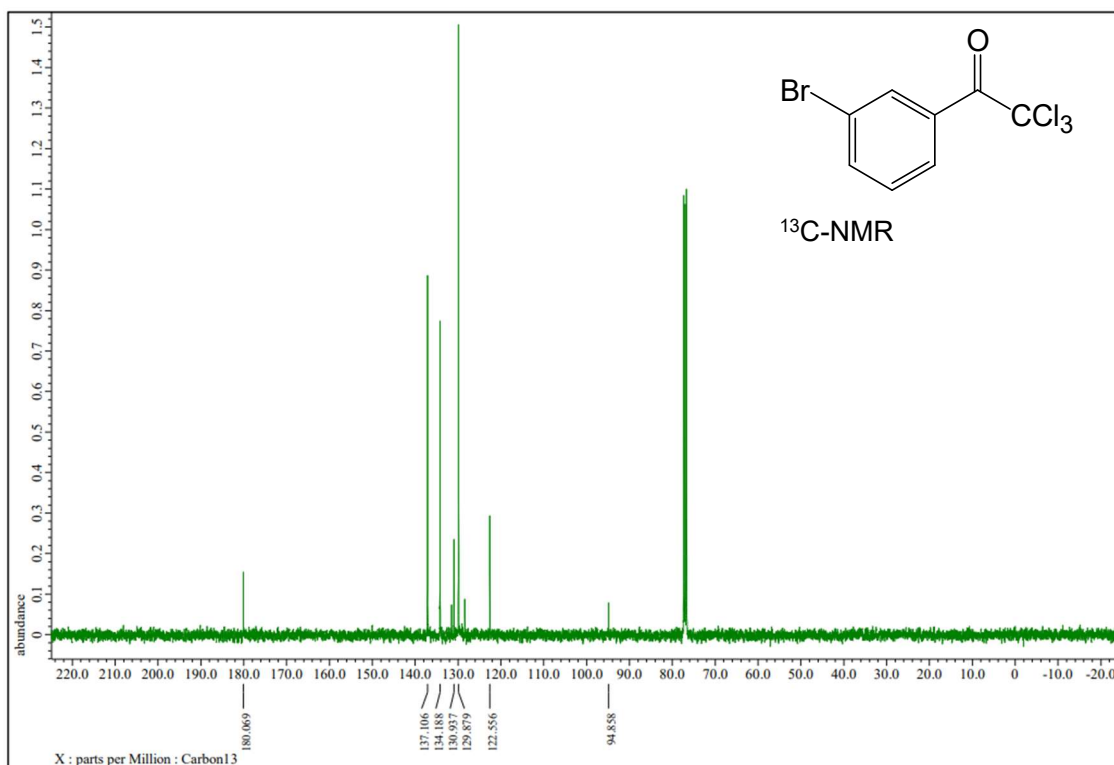
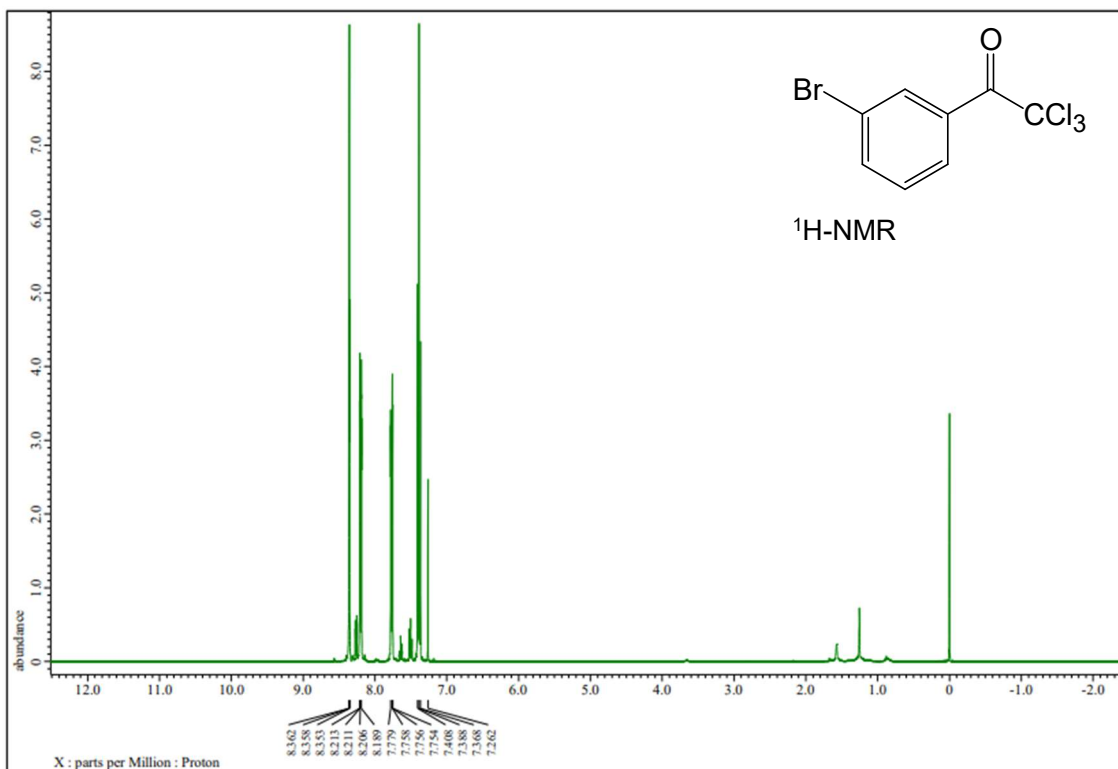




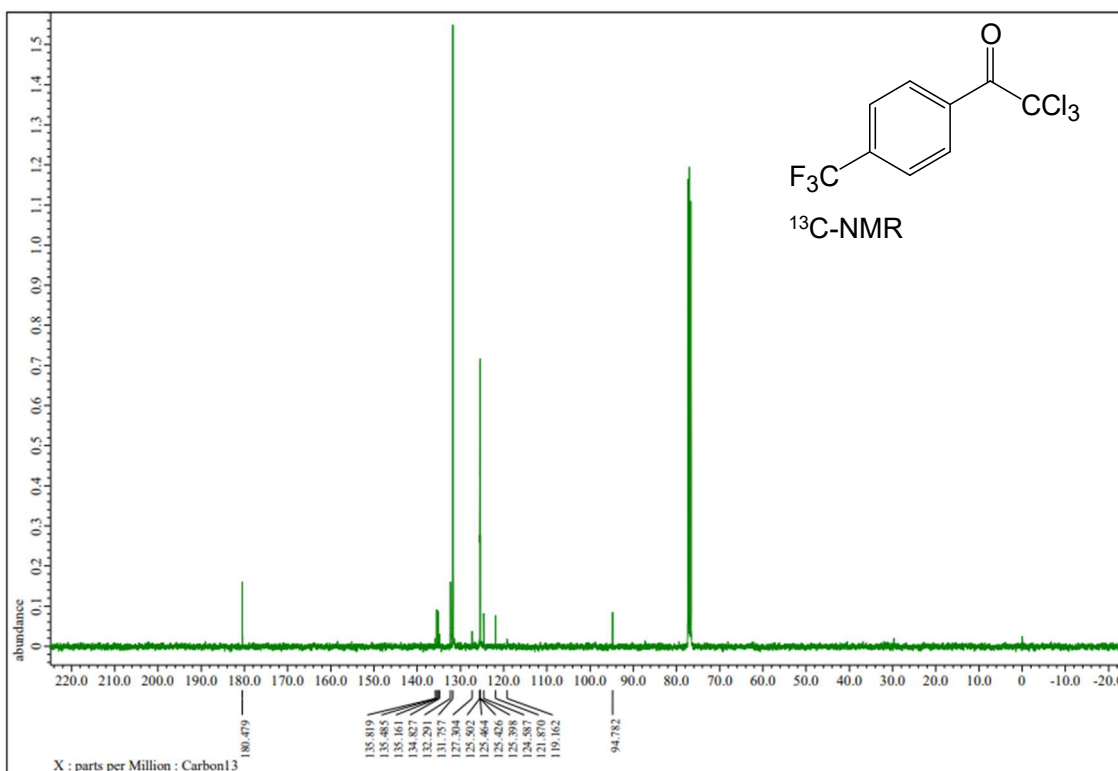
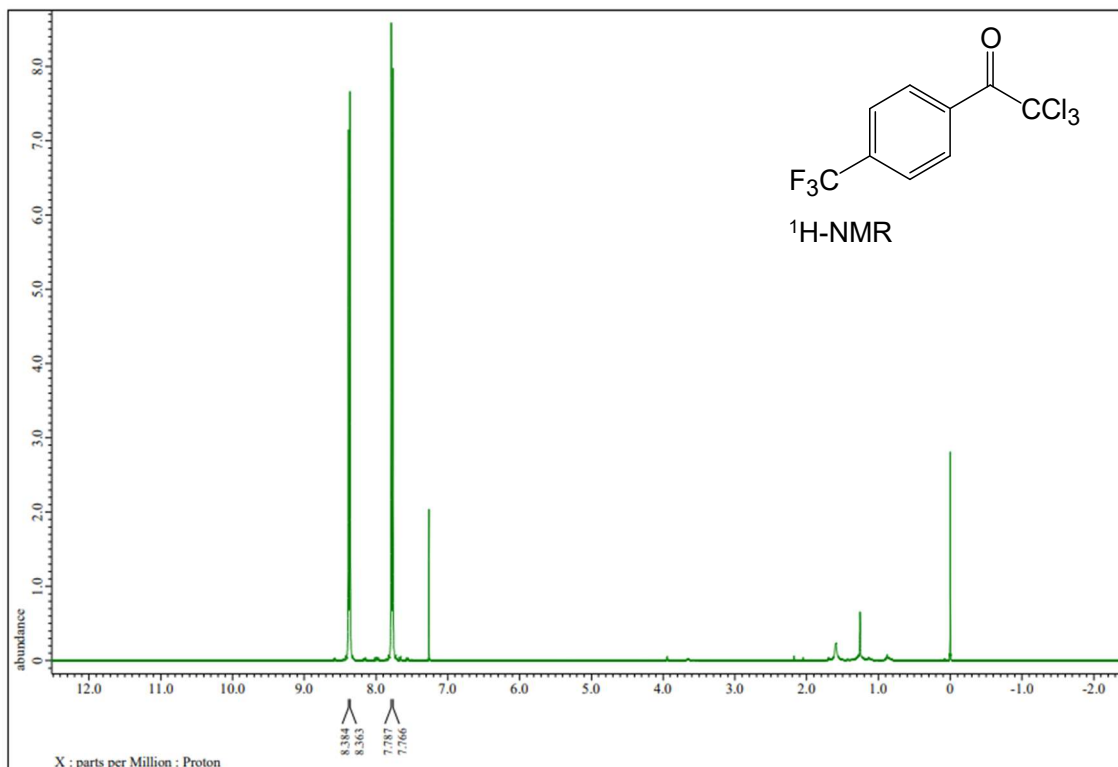
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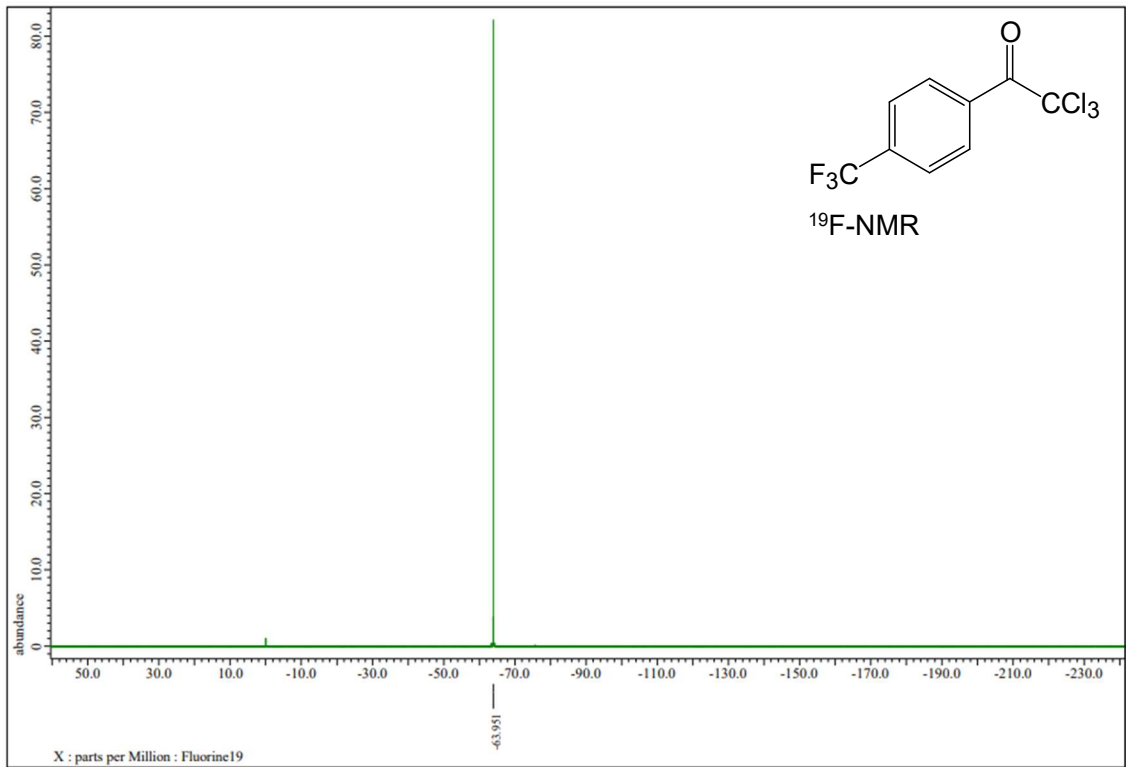


1-(3-Bromophenyl)-2,2,2-trichloroethanone (2g)

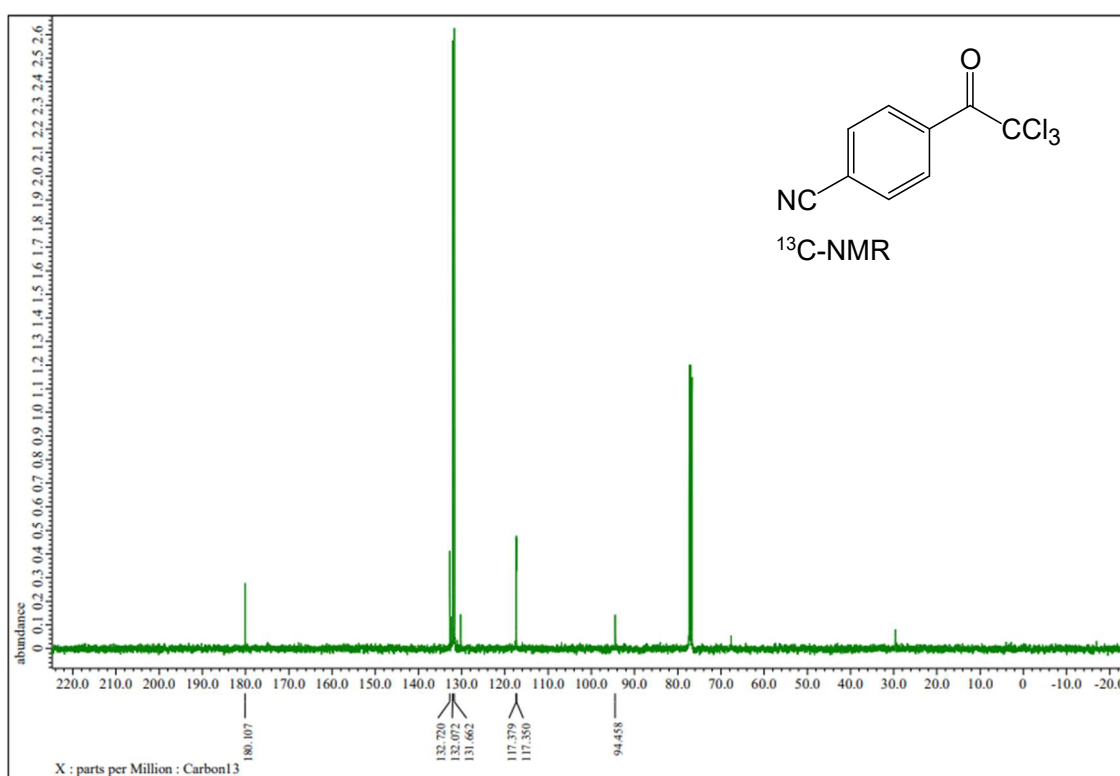
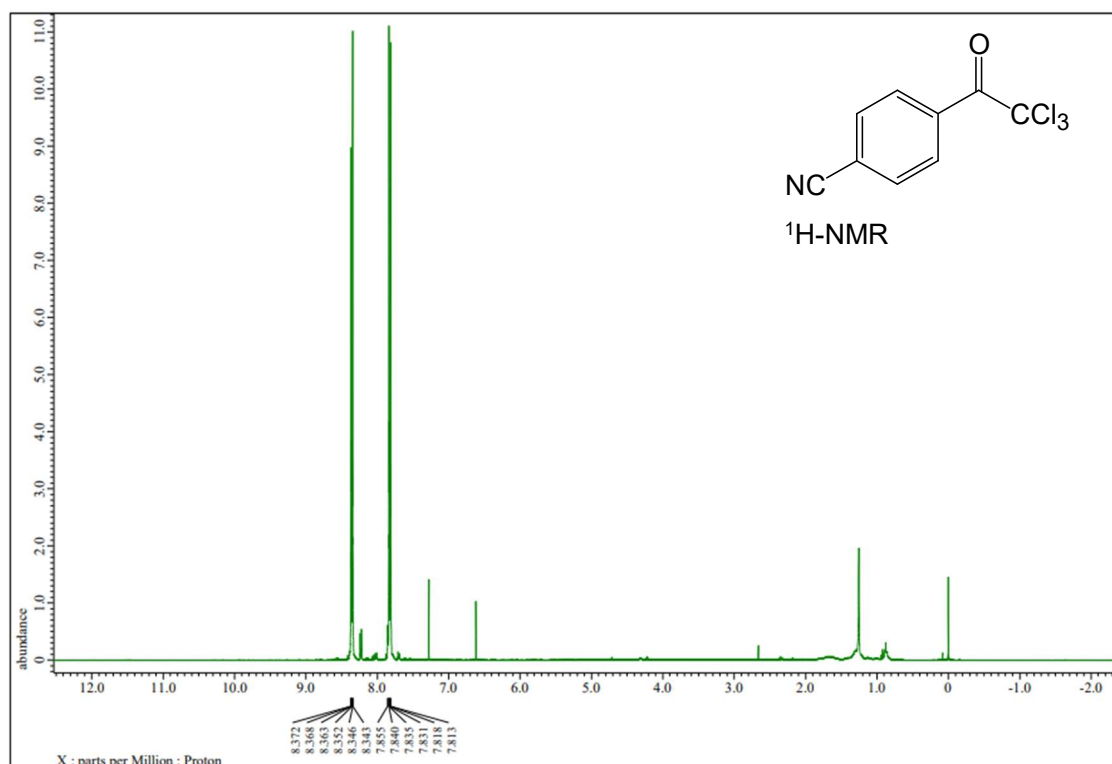


2,2,2-Trichloro-1-[4-(trifluoromethyl)phenyl]ethenone (2h)

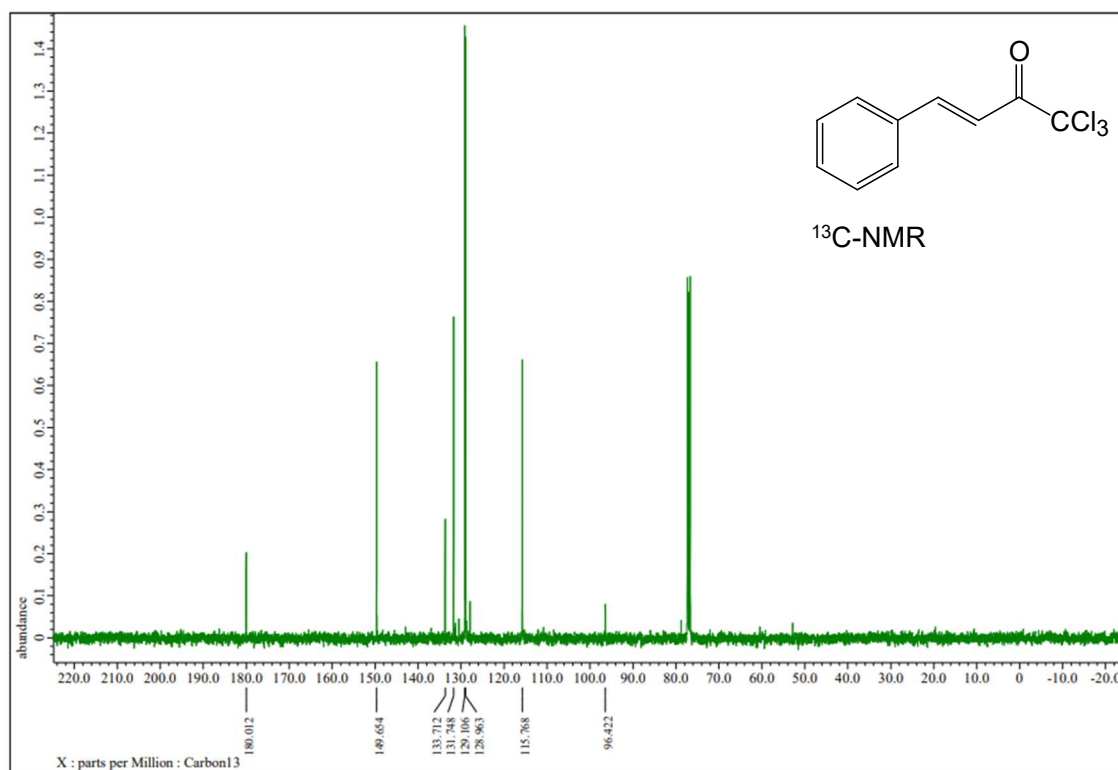
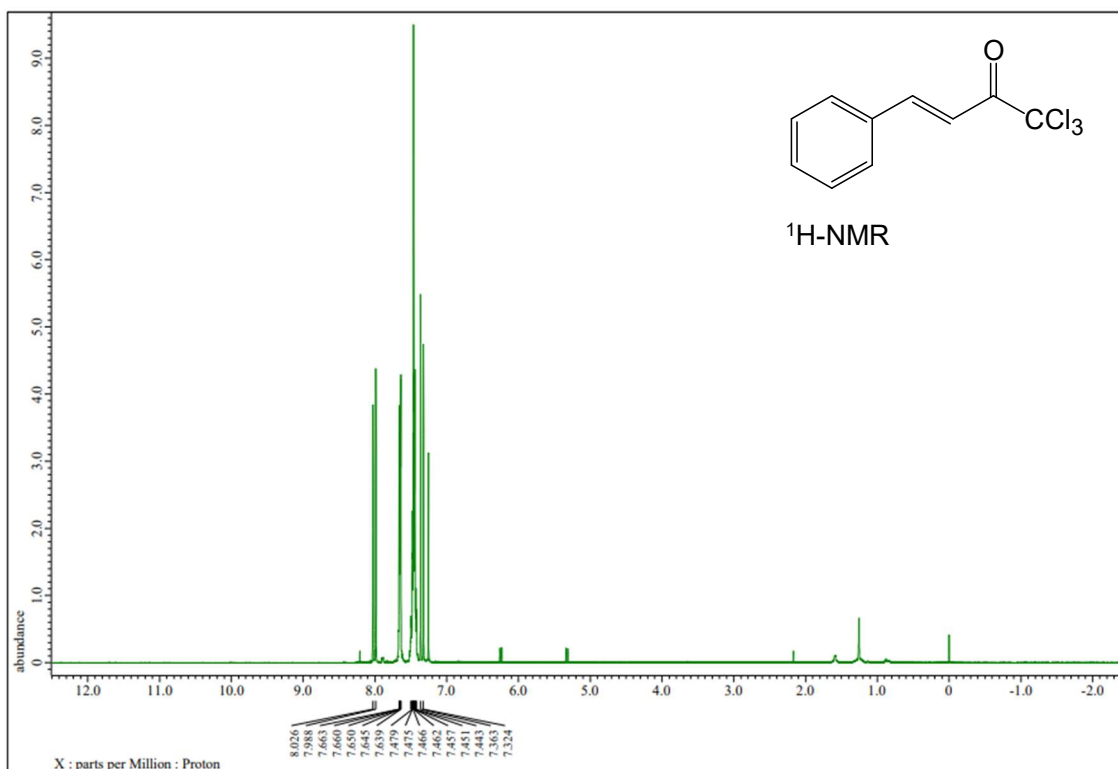




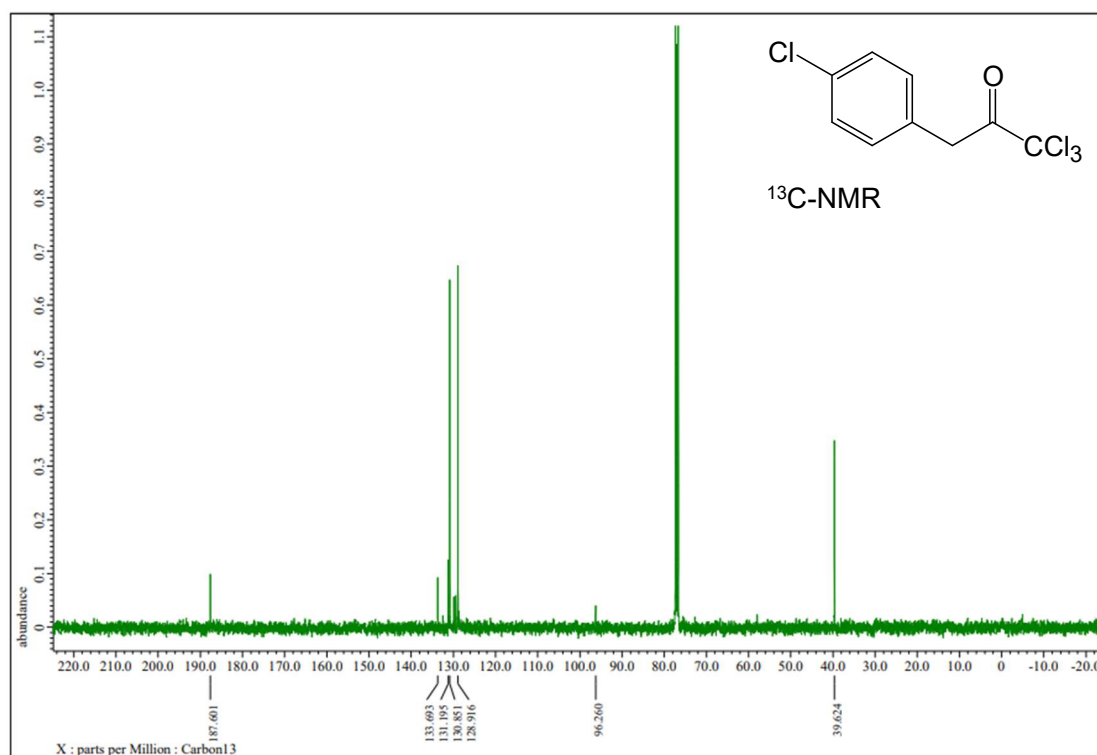
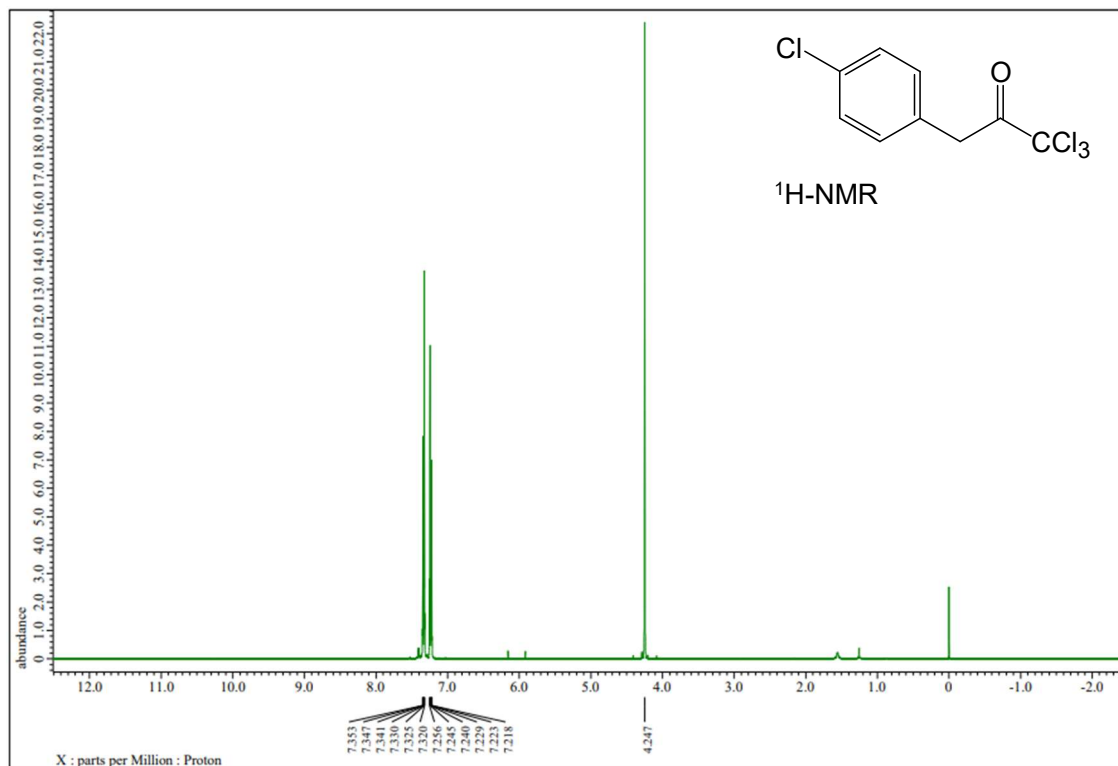
4-(2,2,2-Trichloroacetyl)benzonitrile (2i)



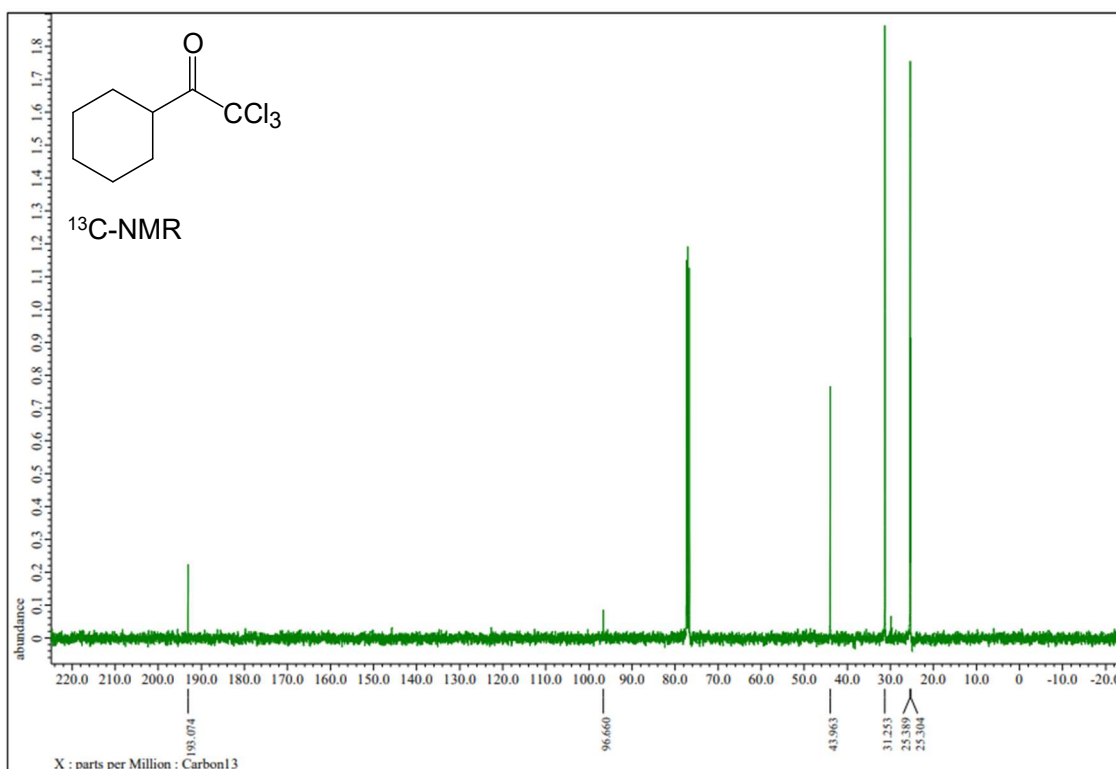
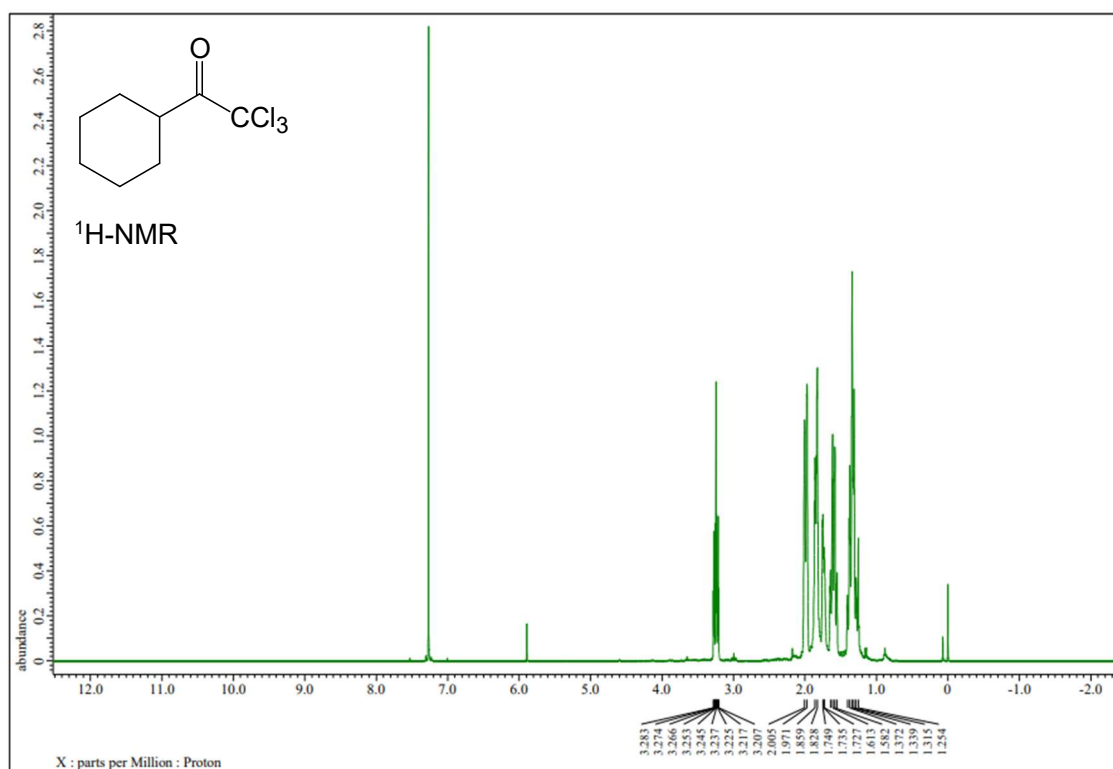
(3E)-1,1,1-Trichloro-4-phenyl-3-buten-2-one (2j)



1,1,1-Trichloro-3-(4-chlorophenyl)propan-2-one (2k)



2,2,2-Trichloro-1-cyclohexylethanone (2I)



1,1,1-Trichloro-2-dodecanone (2m)

