

Supporting Information

“Unexpected formation of 4,4-dimethyl-1,2-disubstituted- dicarbonyl cyclopentanes from ketone enolate anions and 1,3-diiodo-2,2-dimethylpropane”

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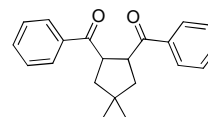
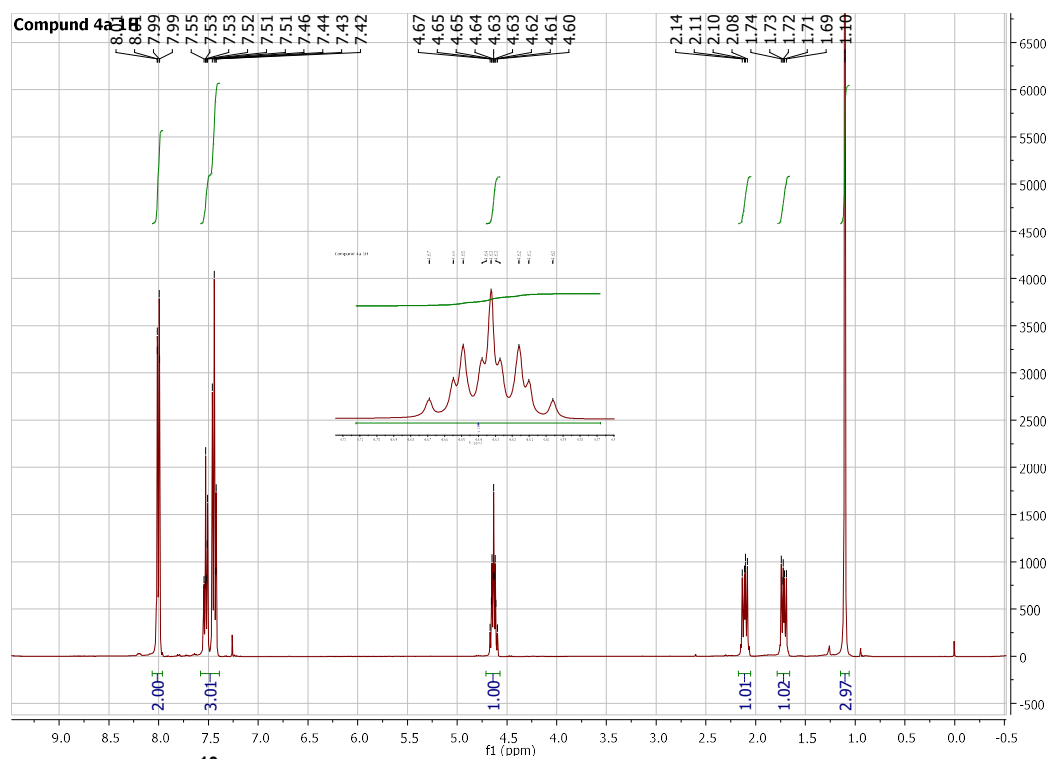
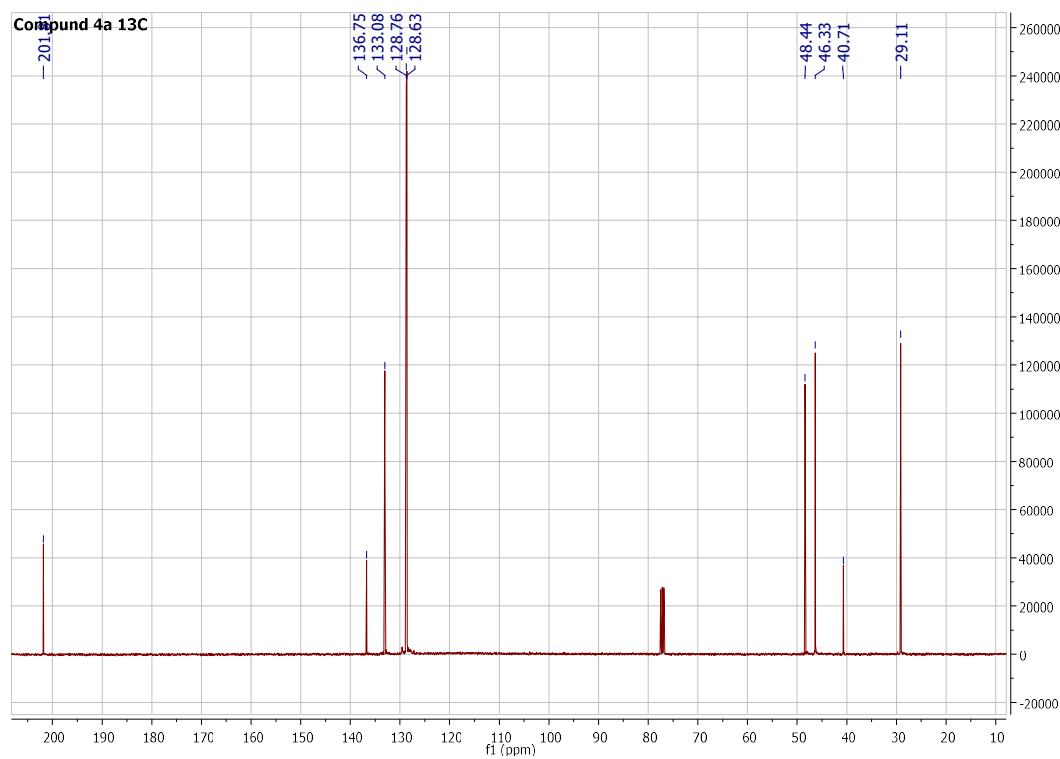
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Copies of ¹H NMR, ¹³C NMR, COSY, 2D NOESY, HMBC and HSQC DEPT
spectra compounds **4a**, **4b**, **4c**, **4d**, **4e**, **4g**, **4h**.....S2-S21

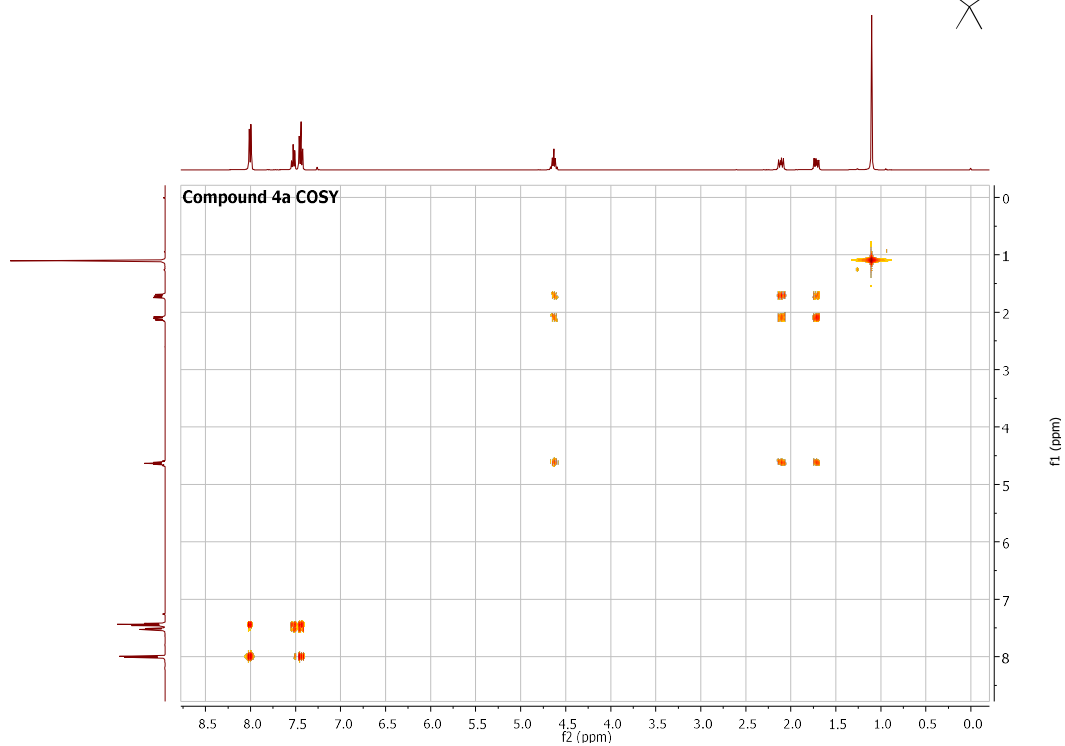
The spectroscopic data of 4a-h are consistent with a trans relative conformation
of both benzoyl groups. The relative stereochemistry was assigned based in the
specific comparison to previously published similar compounds.¹

¹ Y. Ashikari, T. Nokami, J. Yoshida, *Org. Biomol. Chem.* 2013, **11**, 3322–31.

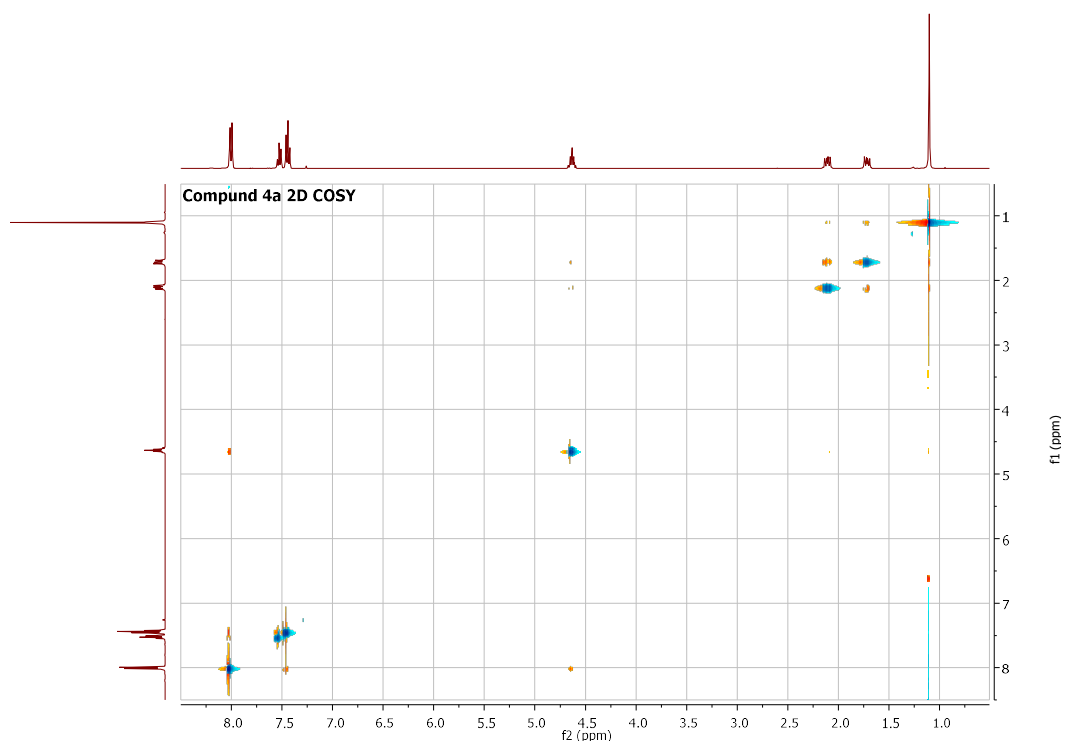
4,4-dimethyl-1,2-dibenzoylcyclopentane (4a)

Compound 4a ^1H NMRCompound 4a ^{13}C NMR

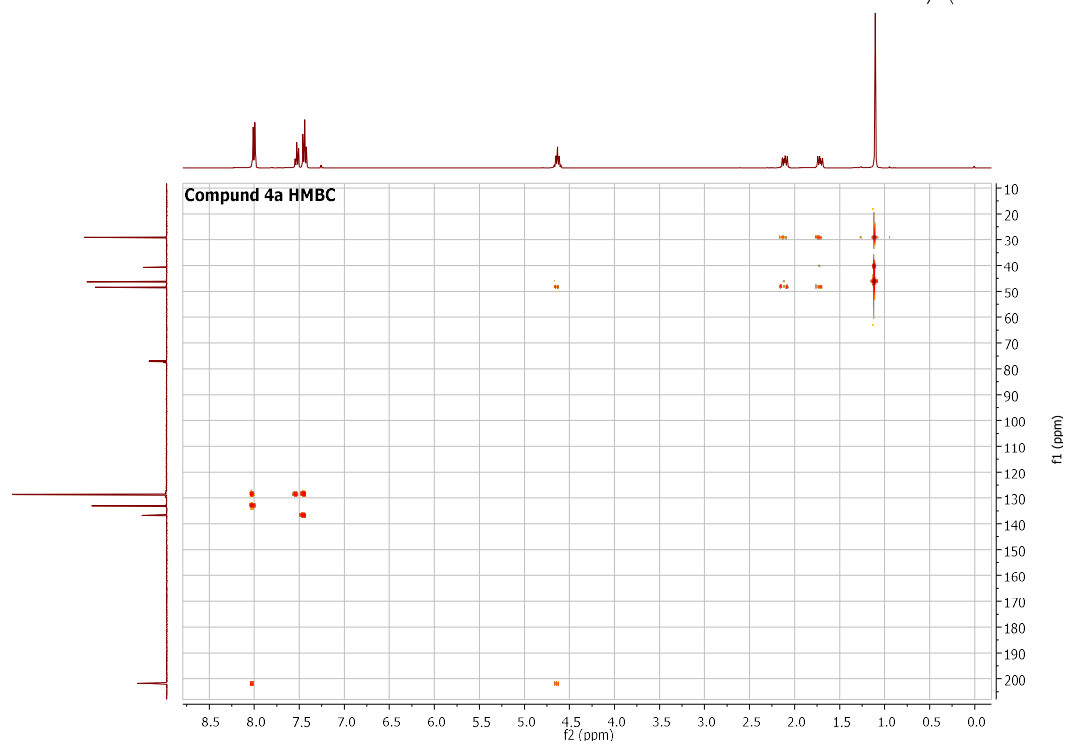
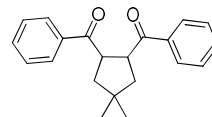
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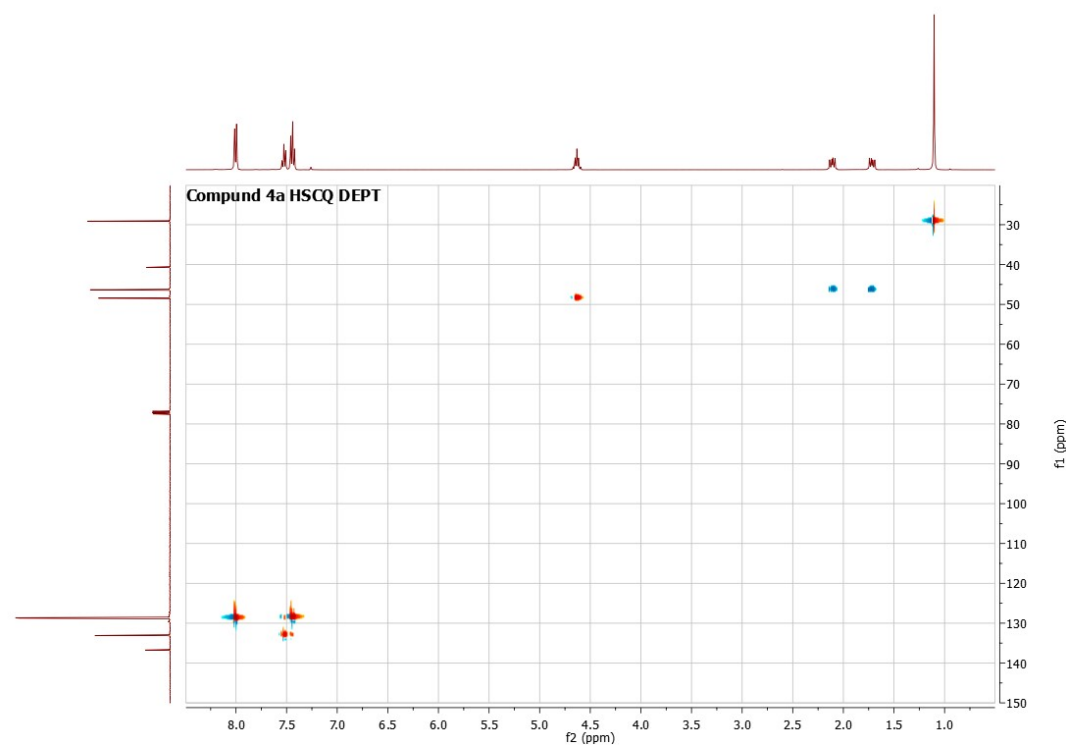
Compound 4a 2D NOESY NMR



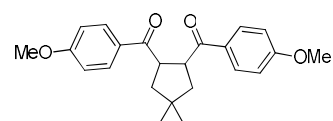
Compound 4a HMBC NMR



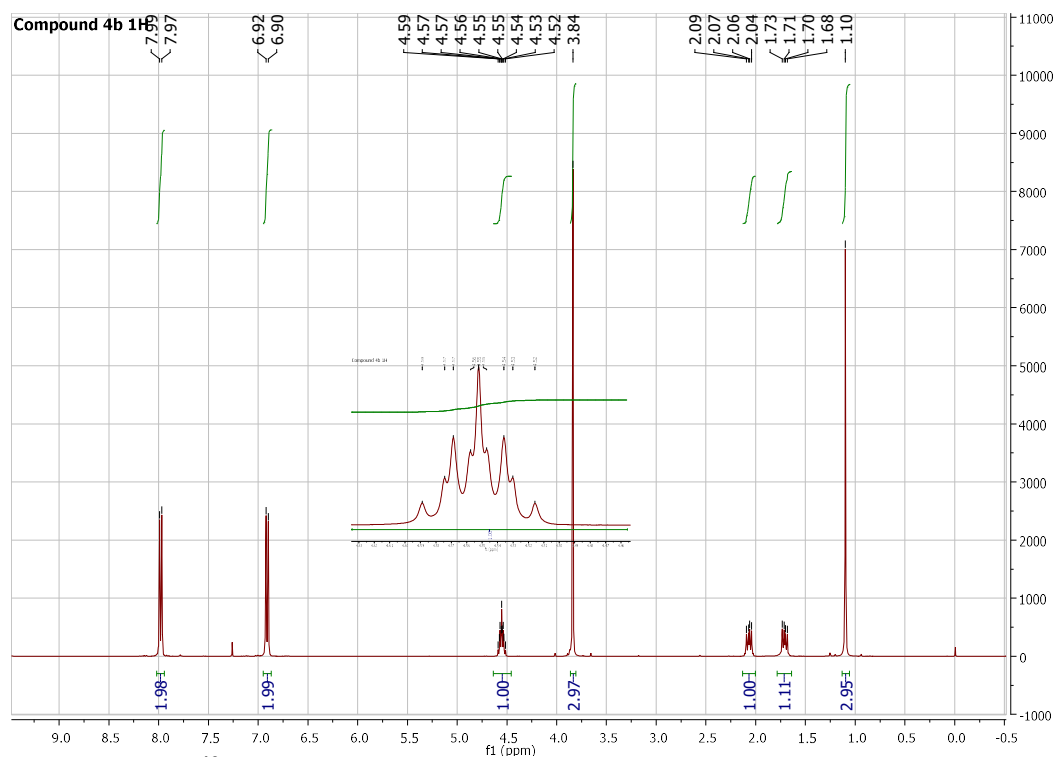
Compound 4a HSQC DEPT NMR



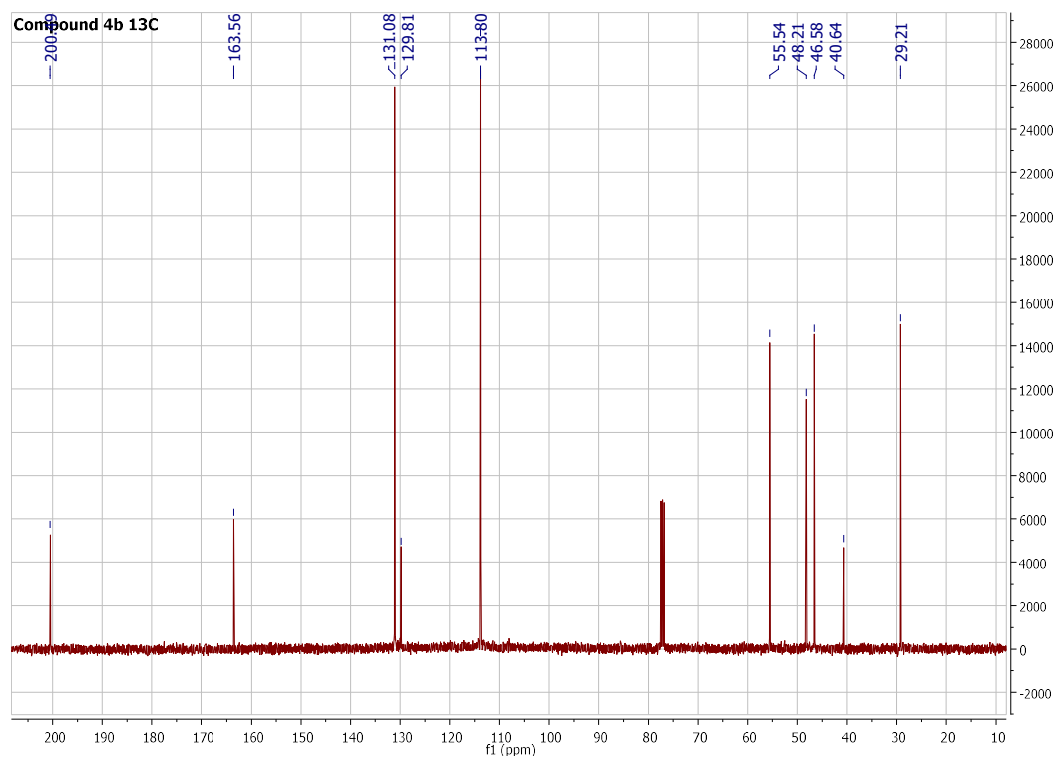
4,4-dimethyl-1,2-di(4-methoxybenzoyl)cyclopentane (4b)



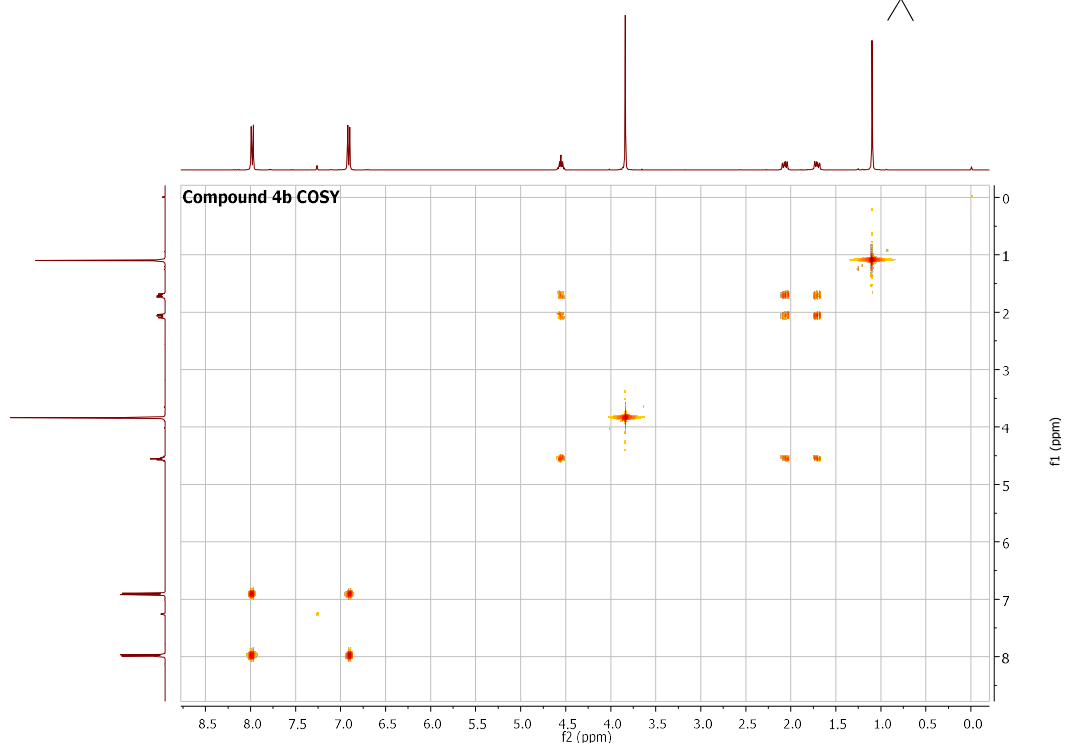
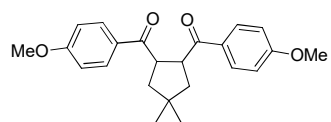
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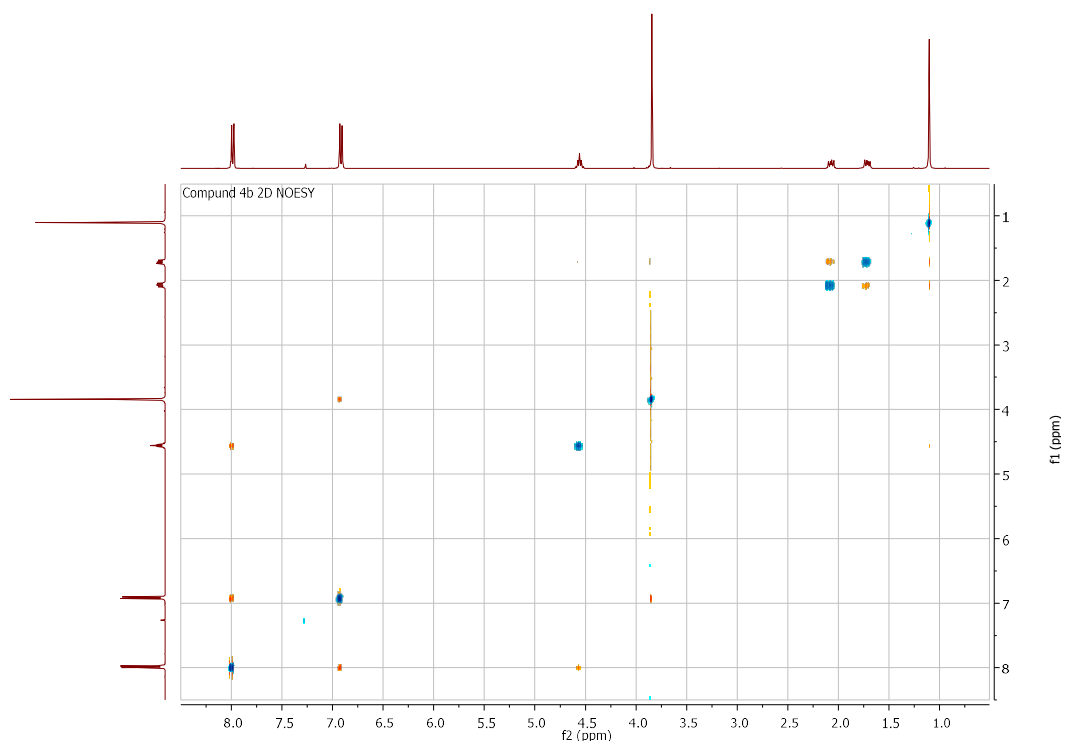
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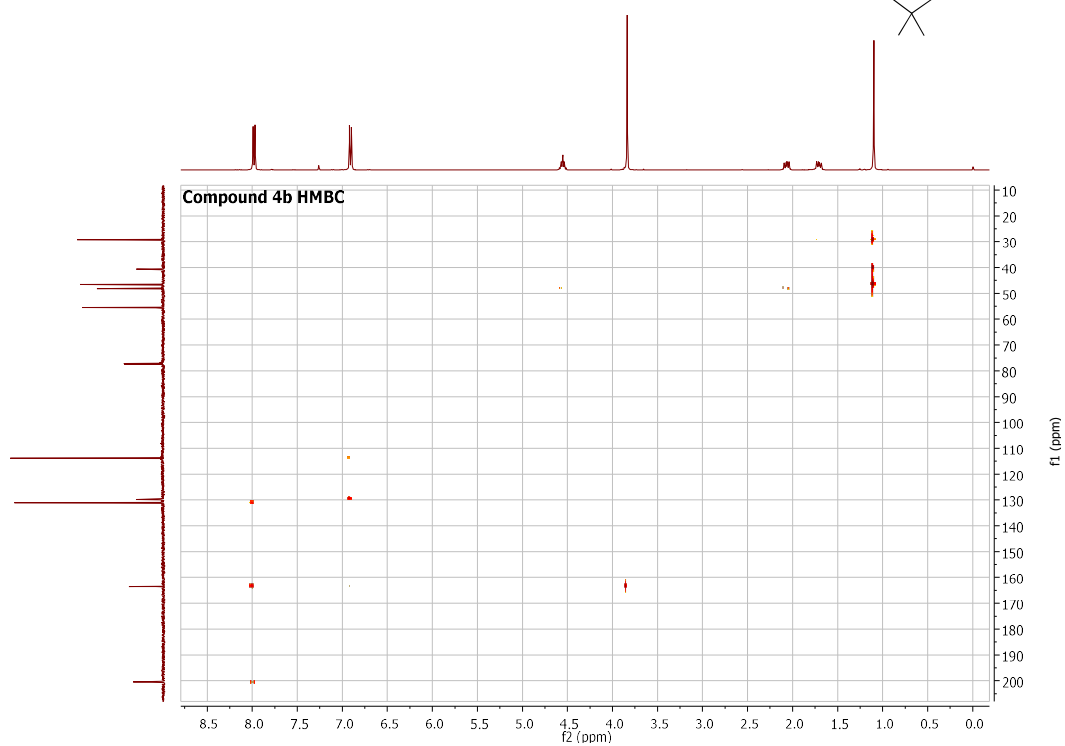
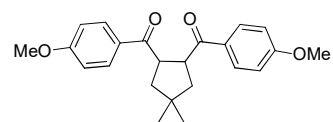
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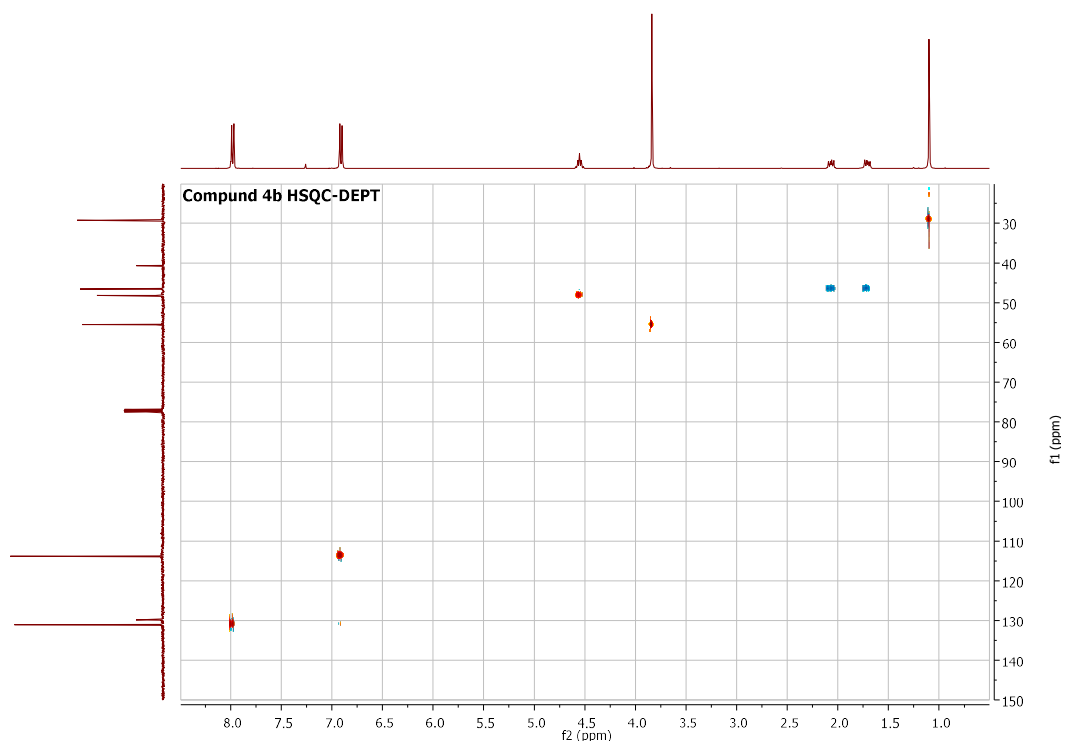
Compound 4b 2DNOESY NMR



Compound 4b HMBC NMR

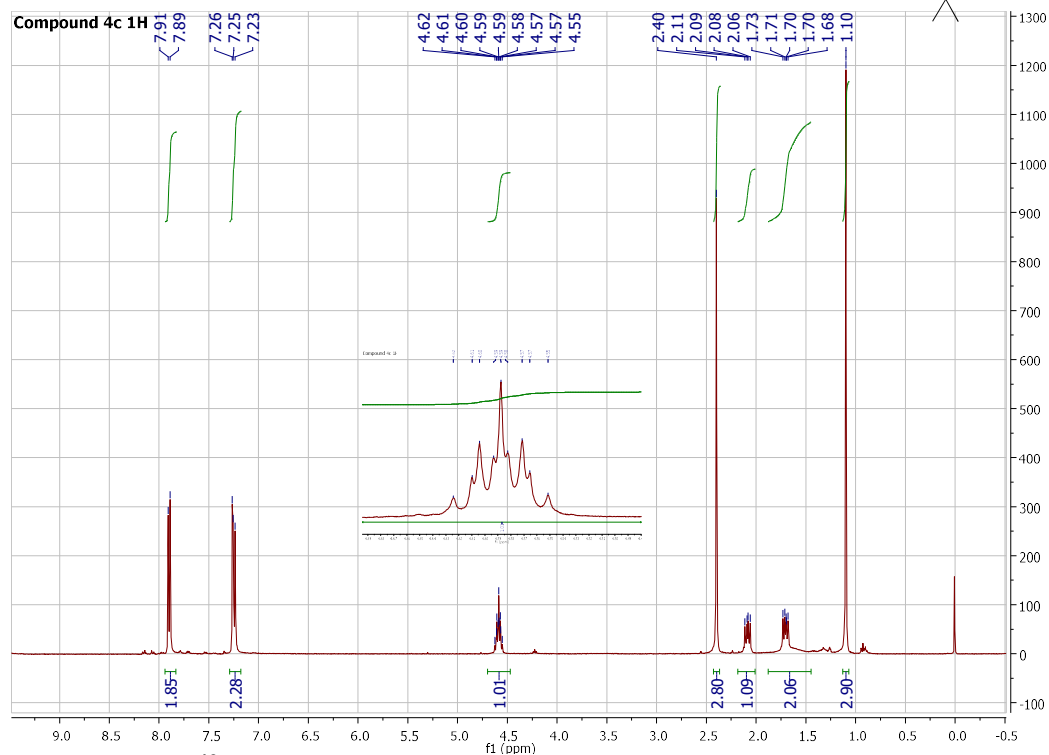
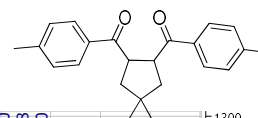


Compound 4b HSQC DEPT NMR

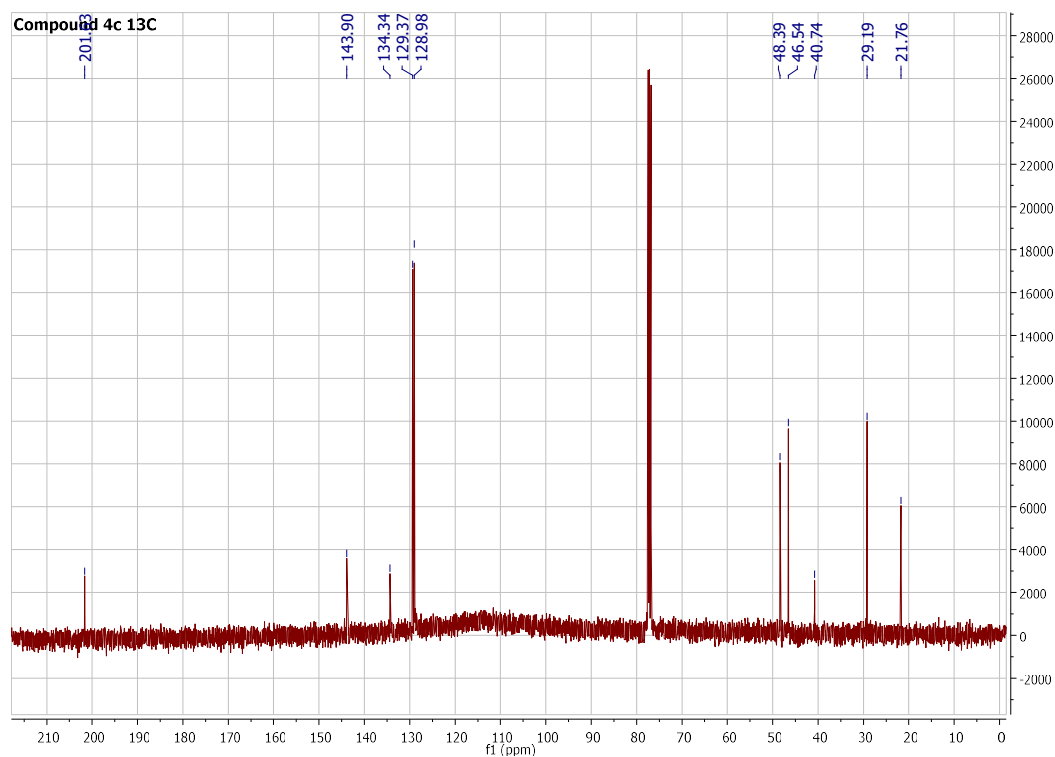


4,4-dimethyl-1,2-di(4-methylbenzoyl)cyclopentane (4c).

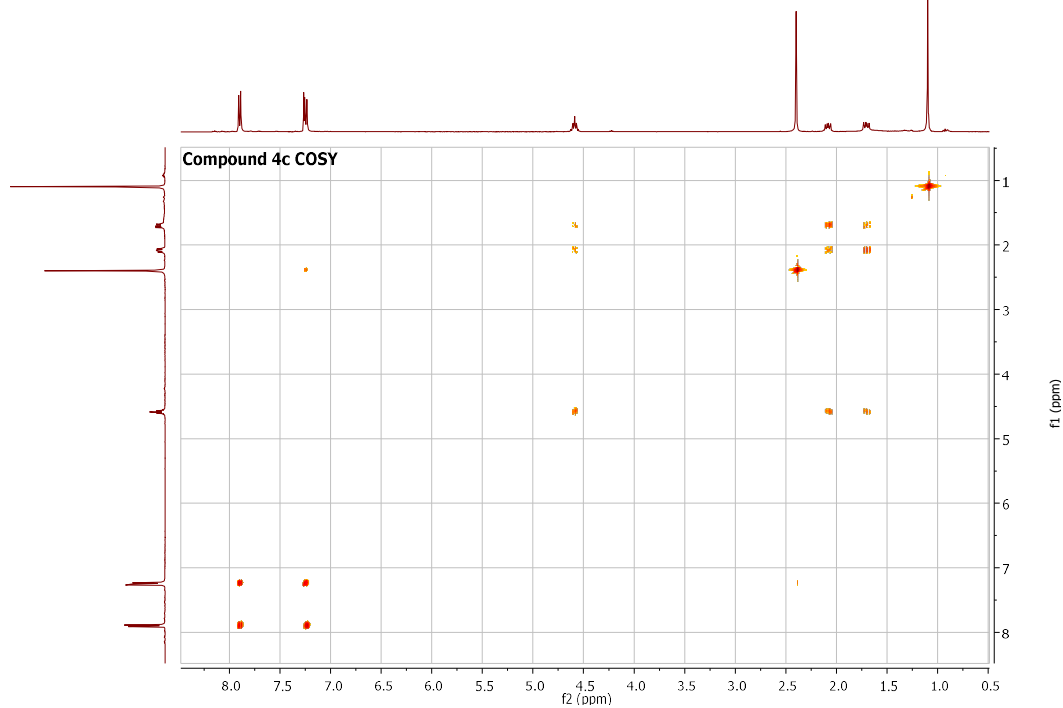
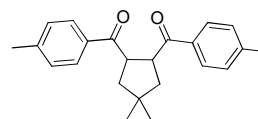
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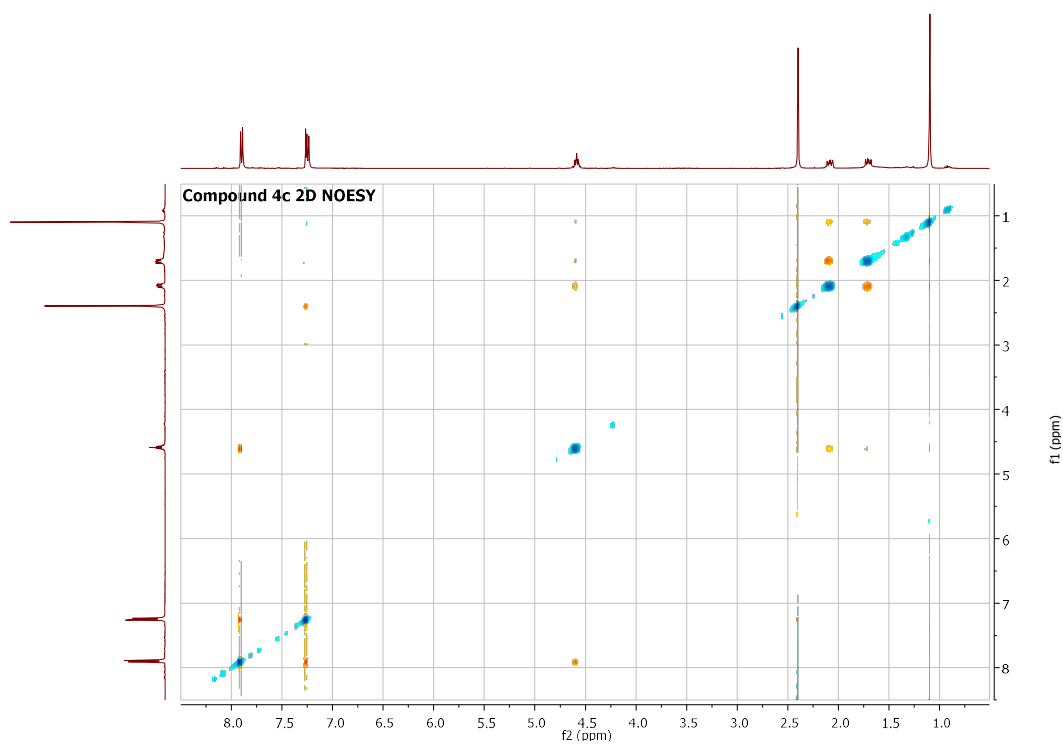
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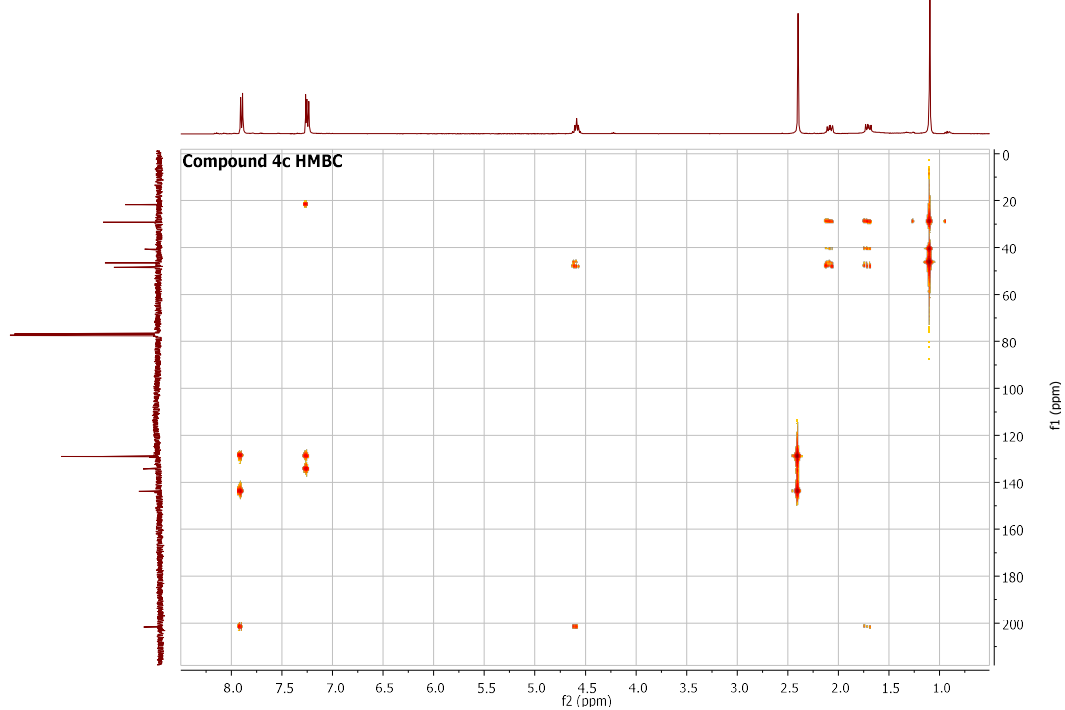
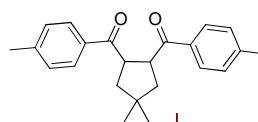
Compound 4c COSY NMR



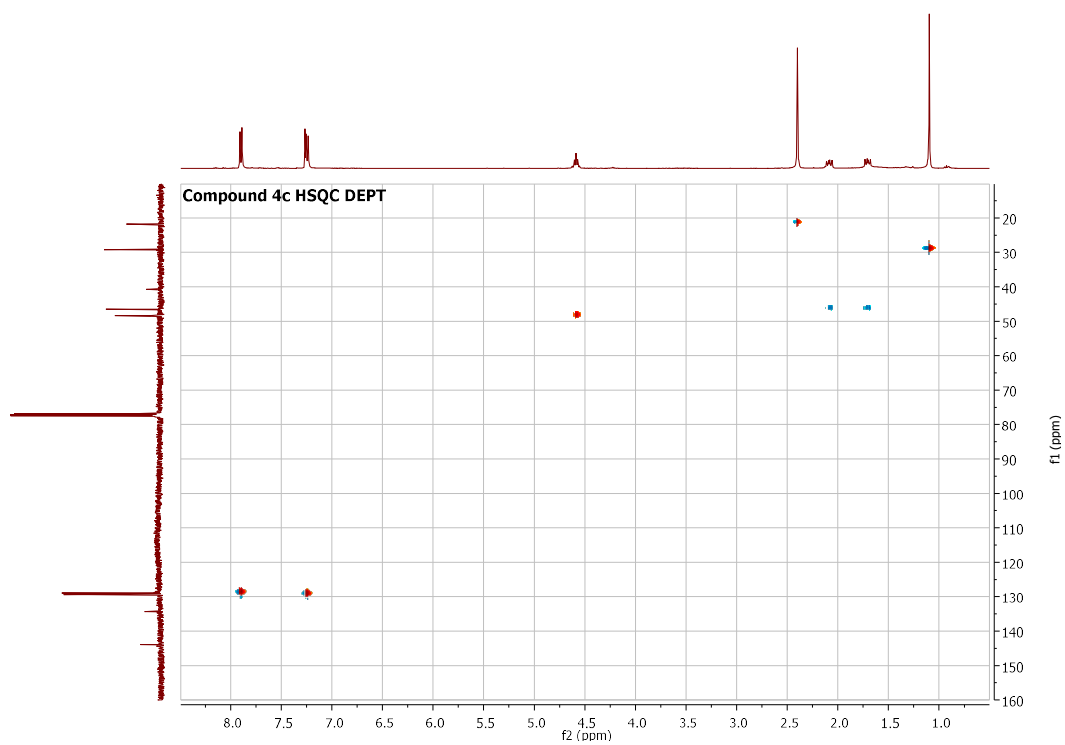
Compound 4c 2D NOESY NMR



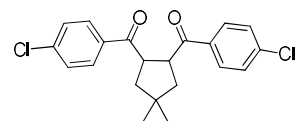
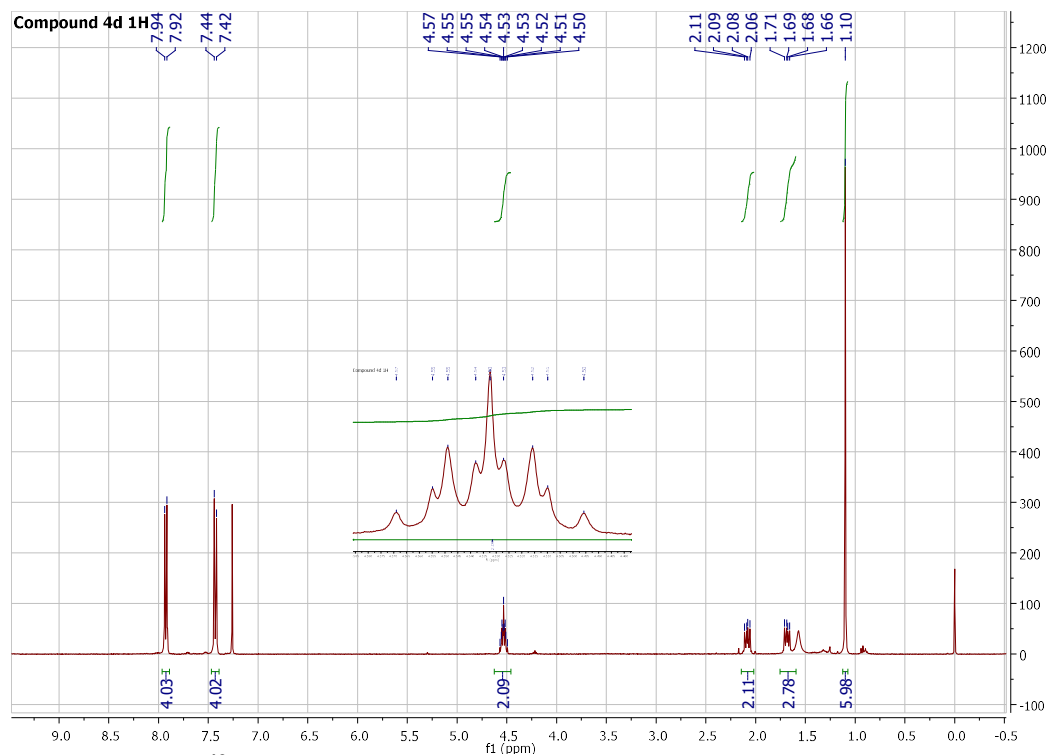
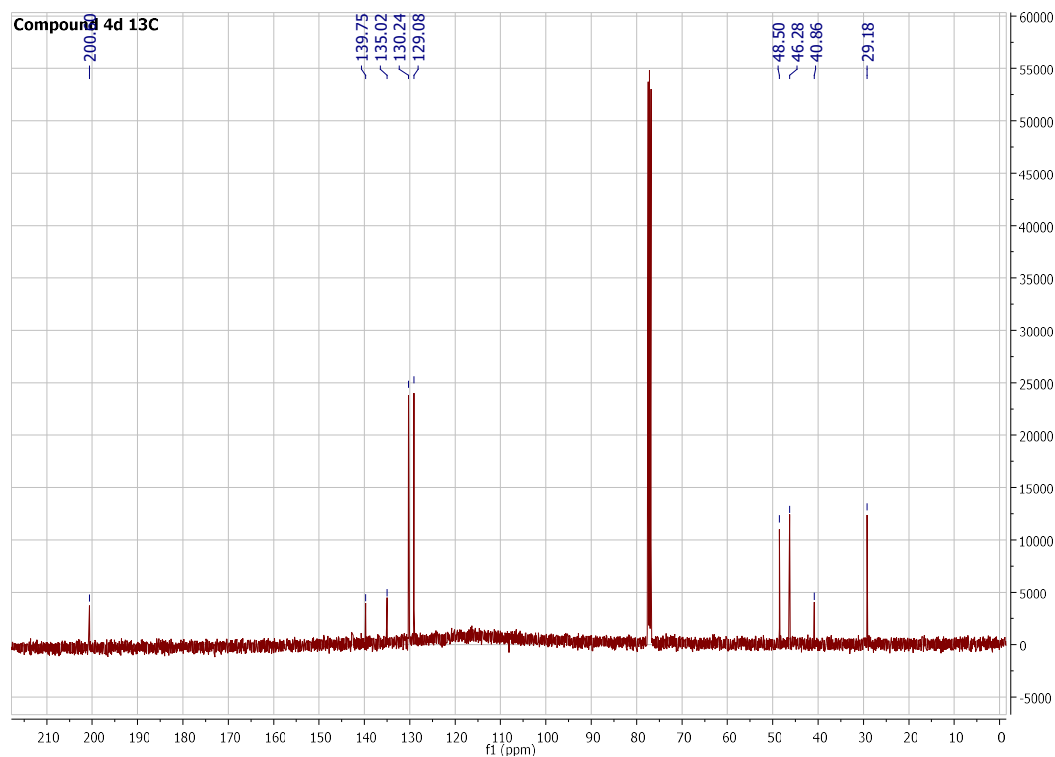
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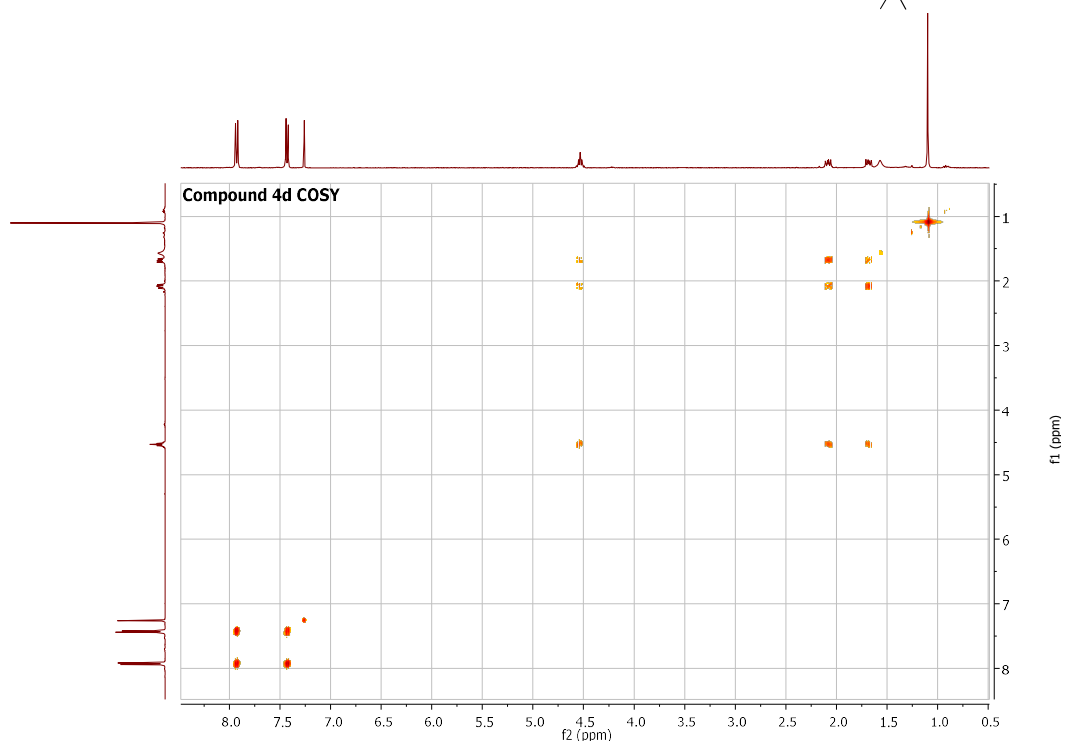
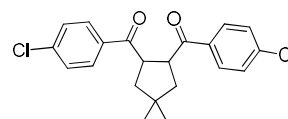
Compound 4c HSQC DEPT NMR



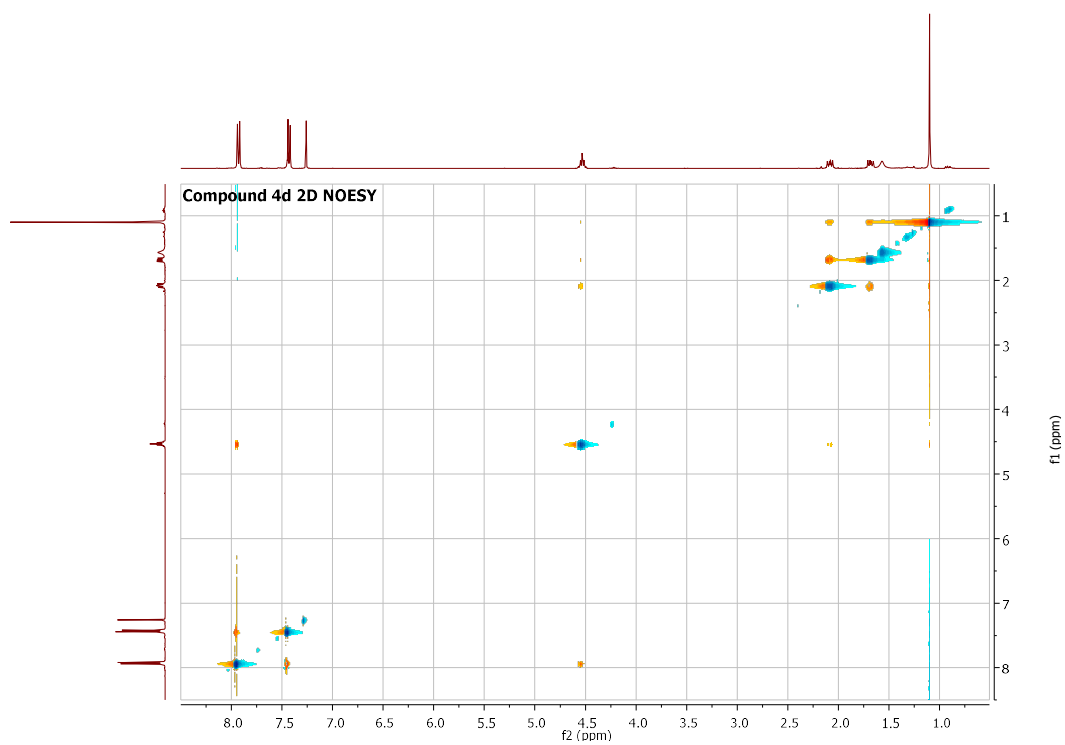
4,4-dimethyl-1,2-di(4-chlorobenzoyl)cyclopentane (4d).

Compound 4d ^1H NMRCompound 4d ^{13}C NMR

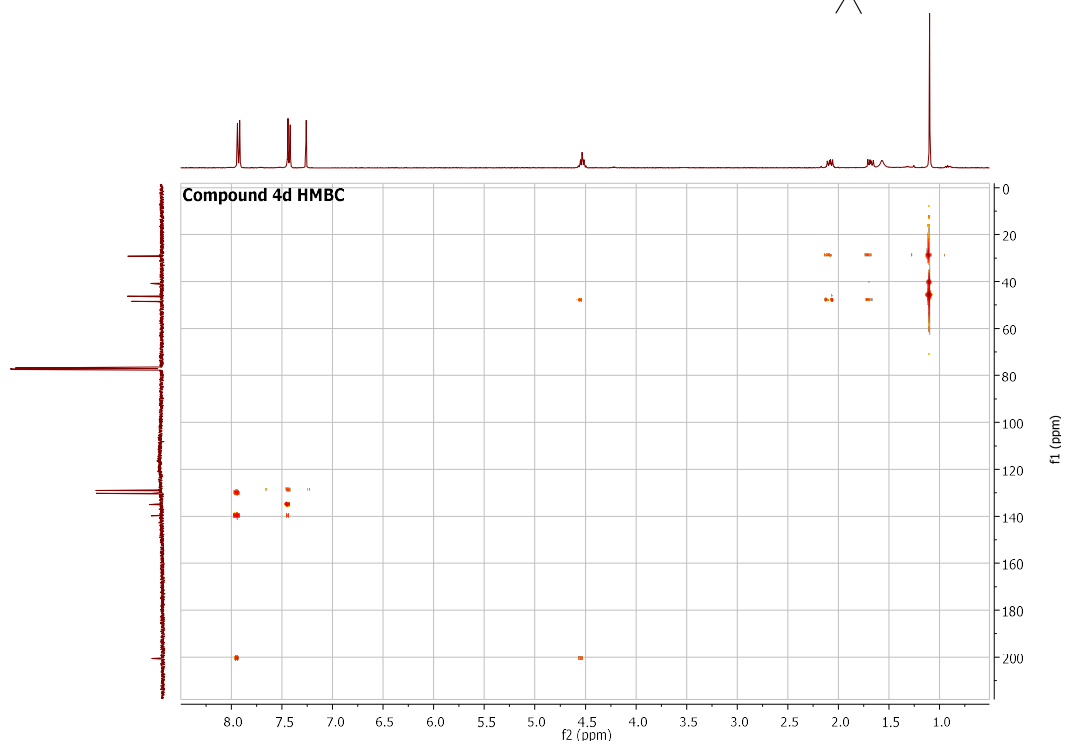
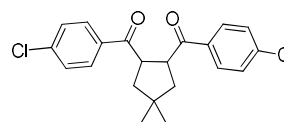
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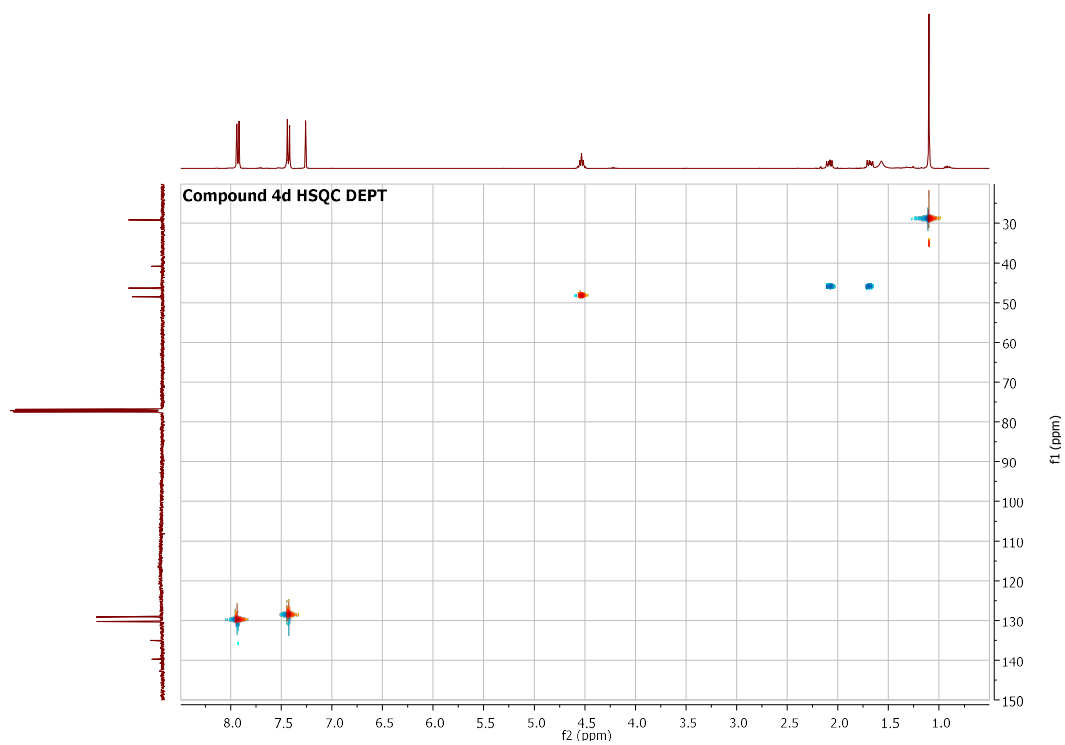
Compound 4d 2D NOESY NMR



Compound 4d HMBC NMR

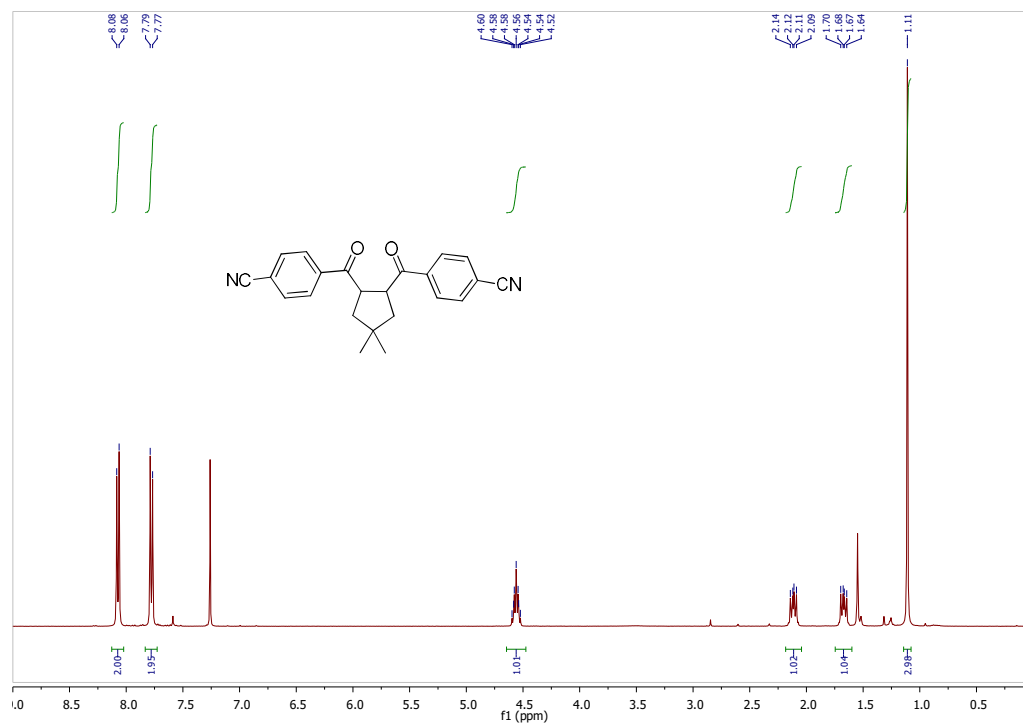


Compound 4d HSQC DEPT NMR

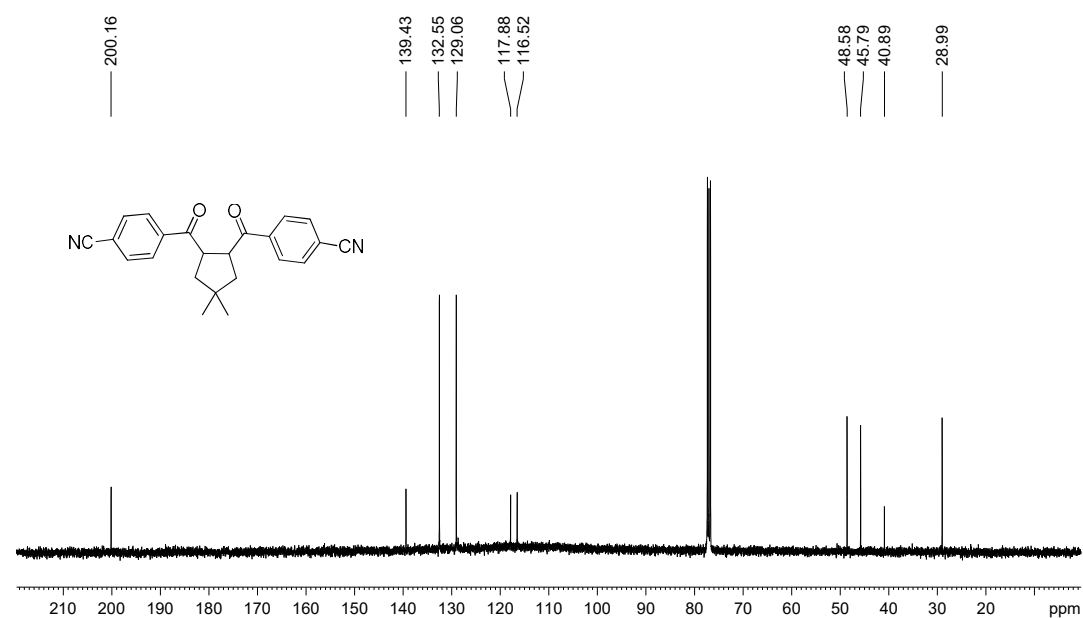


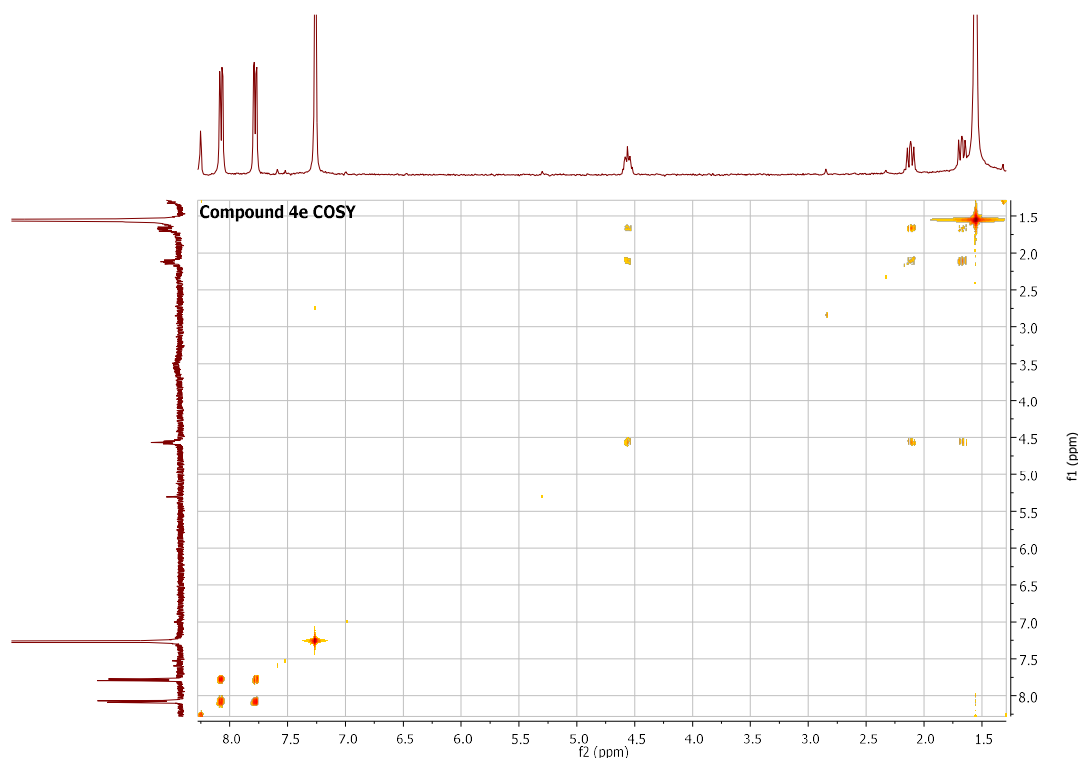
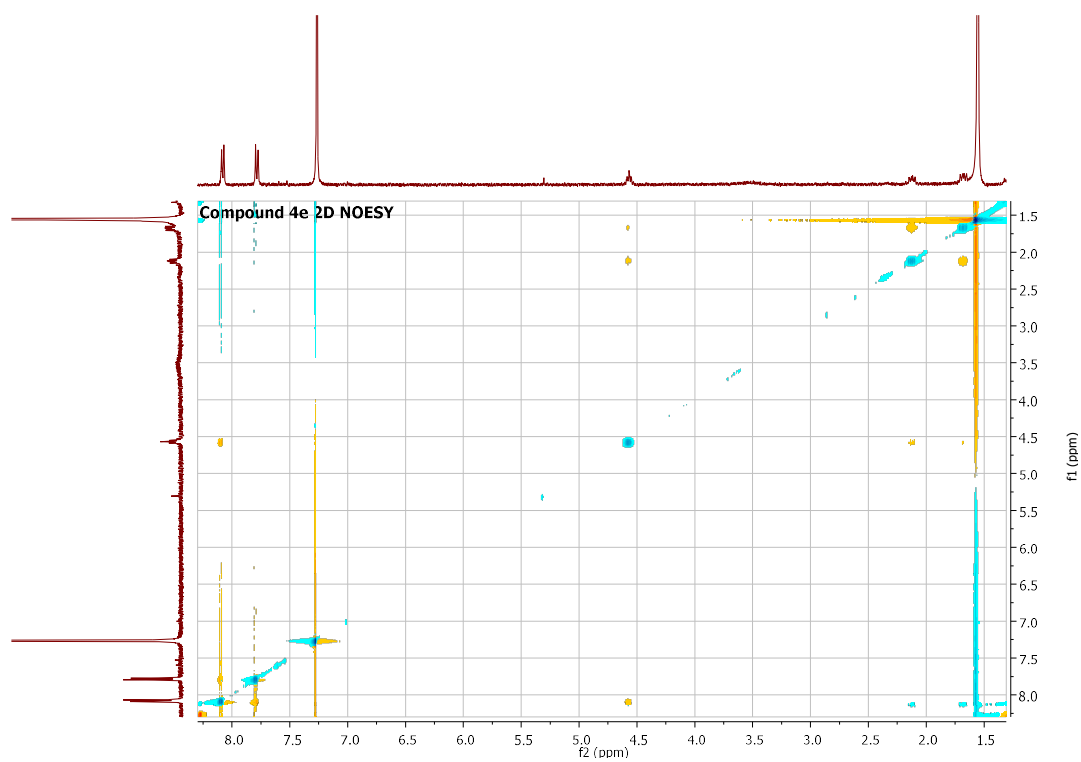
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Compound 4e ^1H NMR

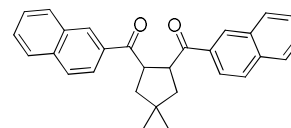


Compound 4e ^{13}C NMR

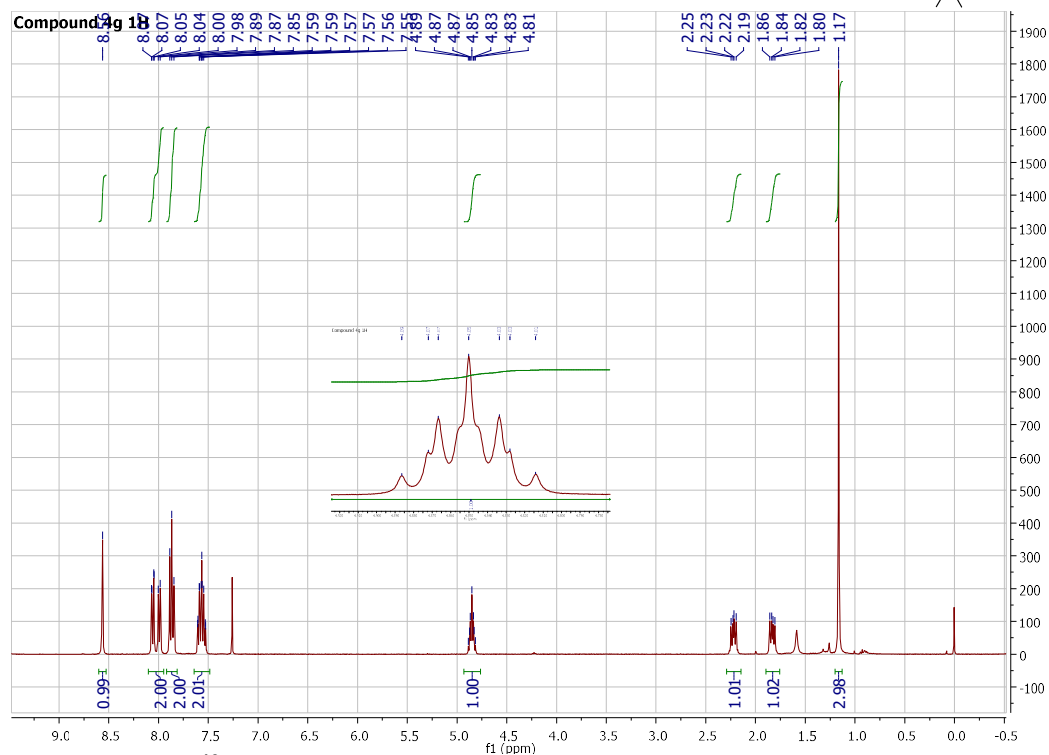


Compound 4e COSY NMR**Compound 4e 2D NOESY NMR**

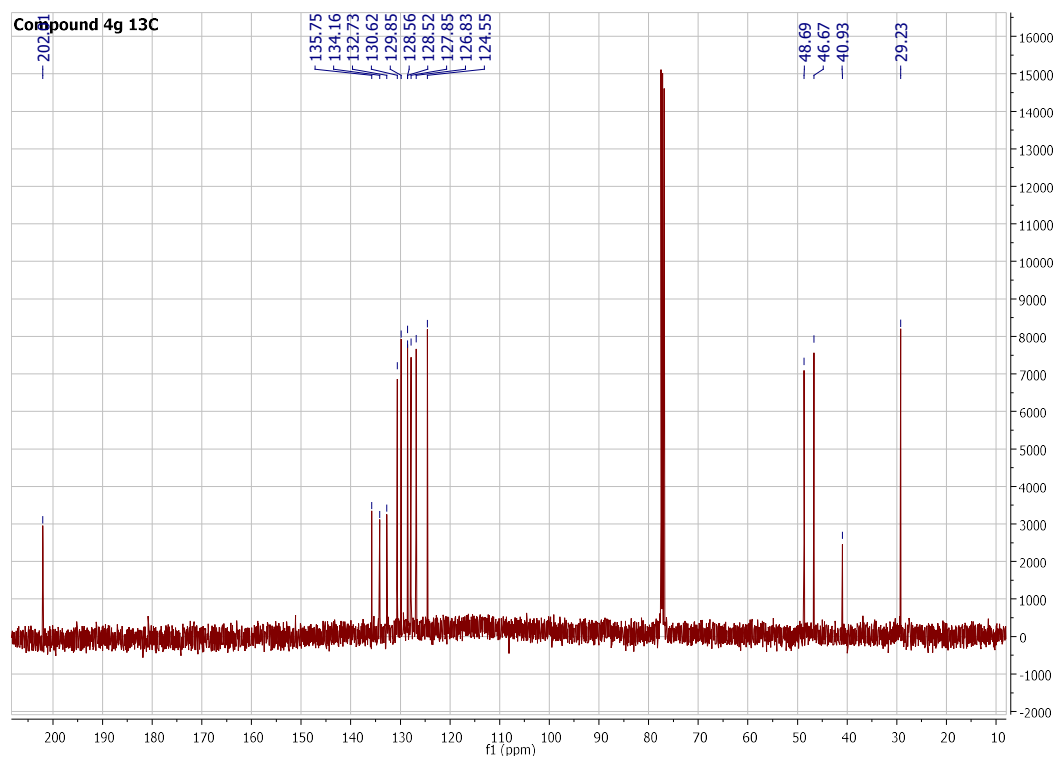
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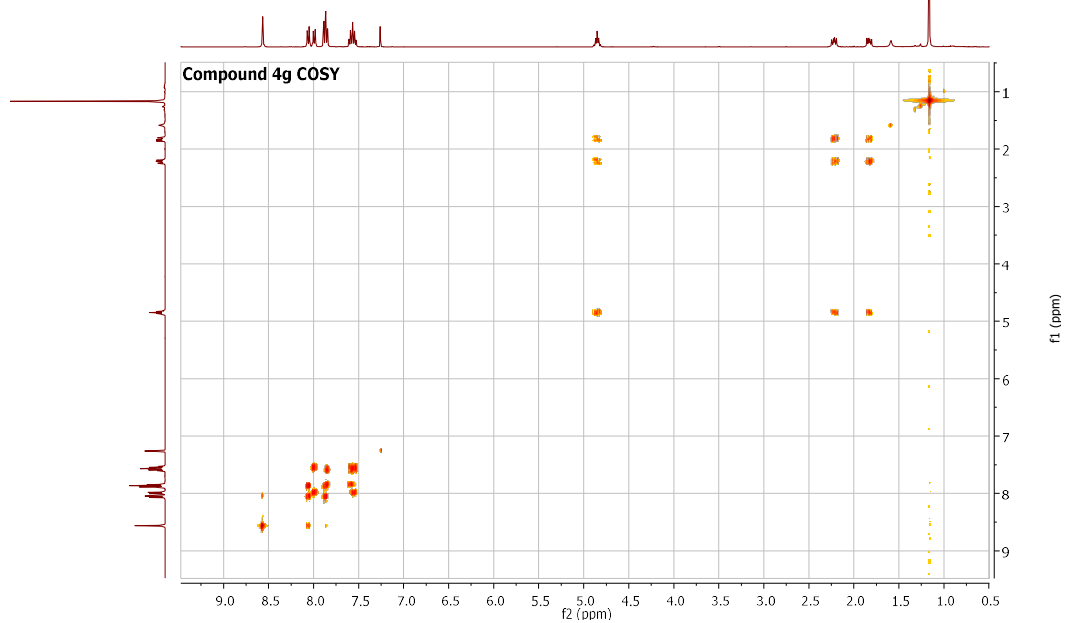
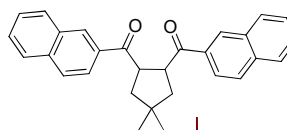
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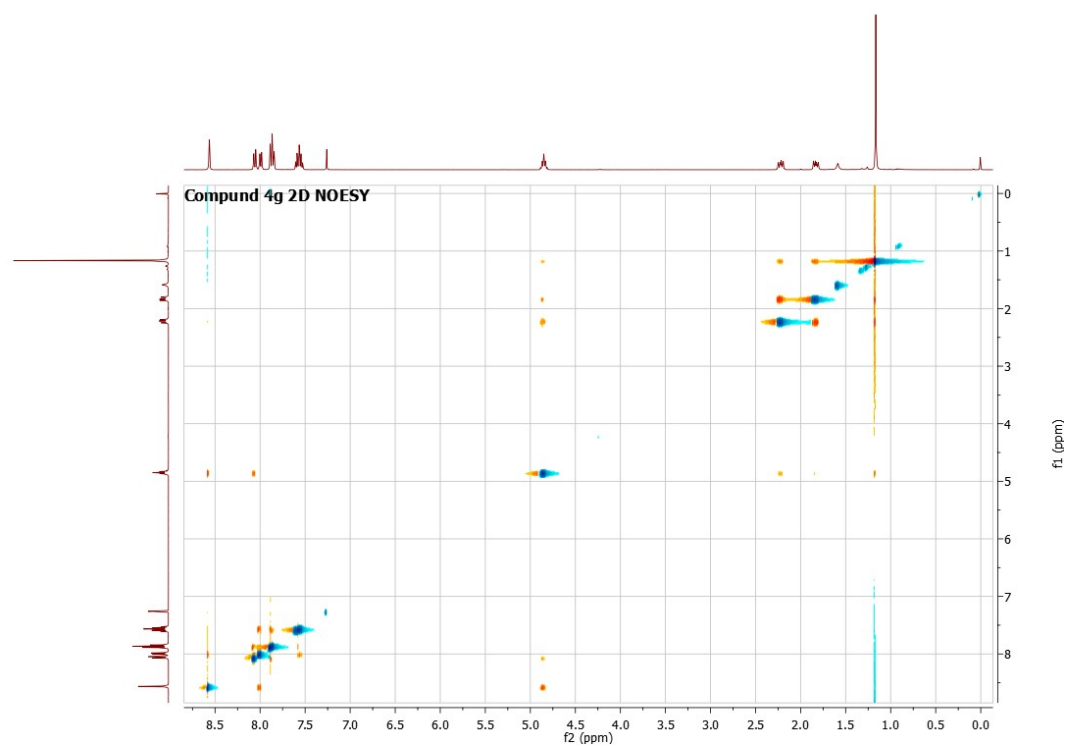
Compound 4g ^{13}C NMR



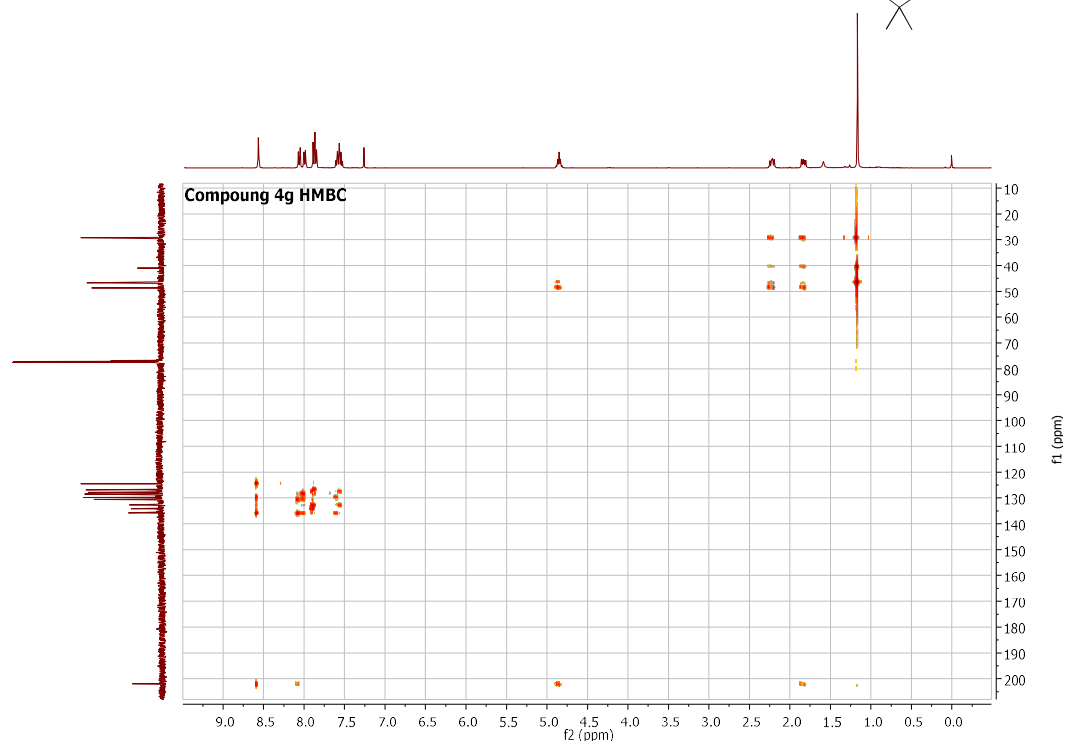
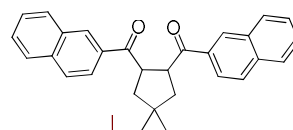
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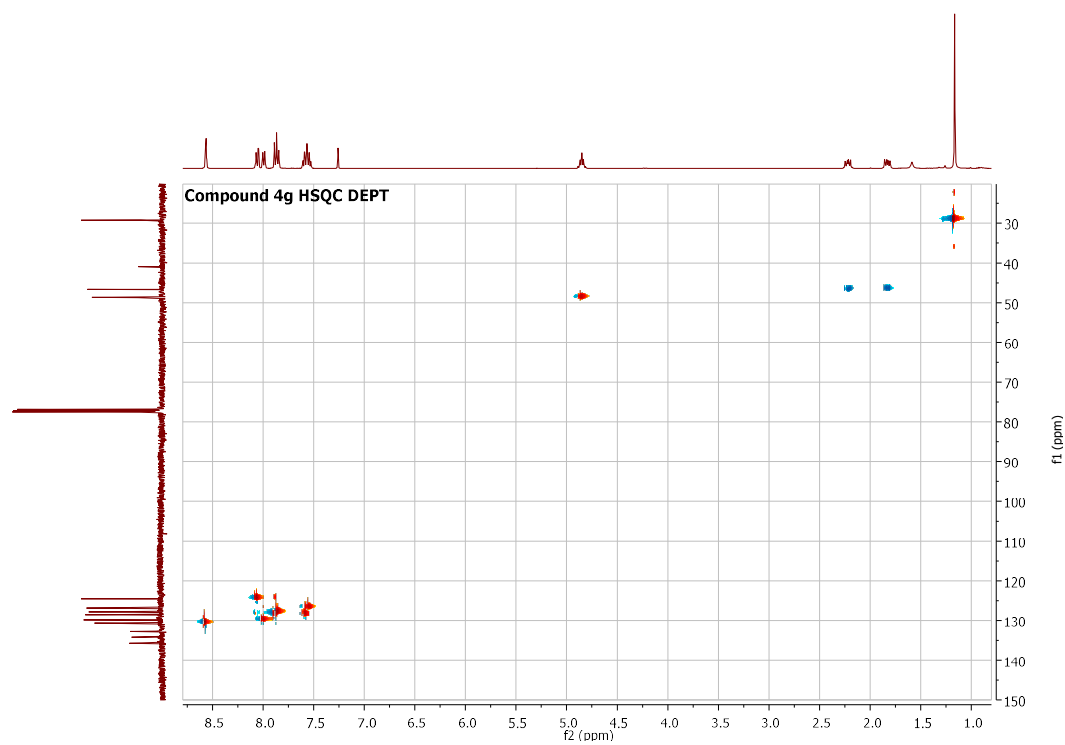
Compound 4g 2D NOESY NMR



Compound 4g HMBC NMR

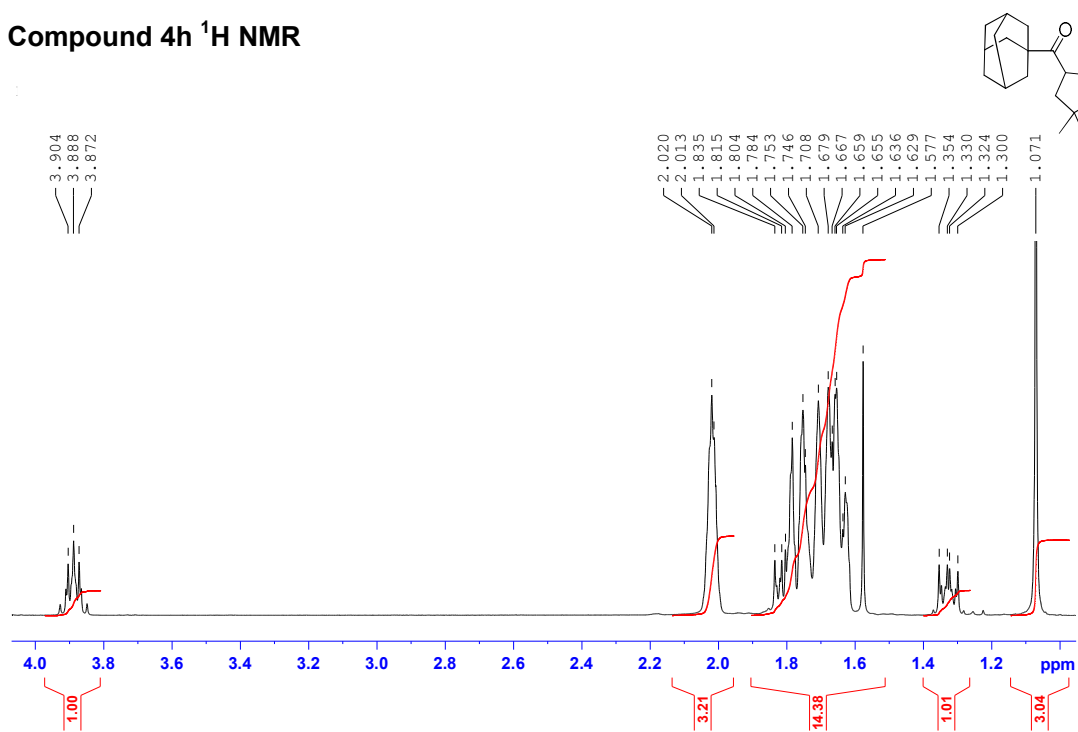


Compound 4g HSQC DEPT NMR

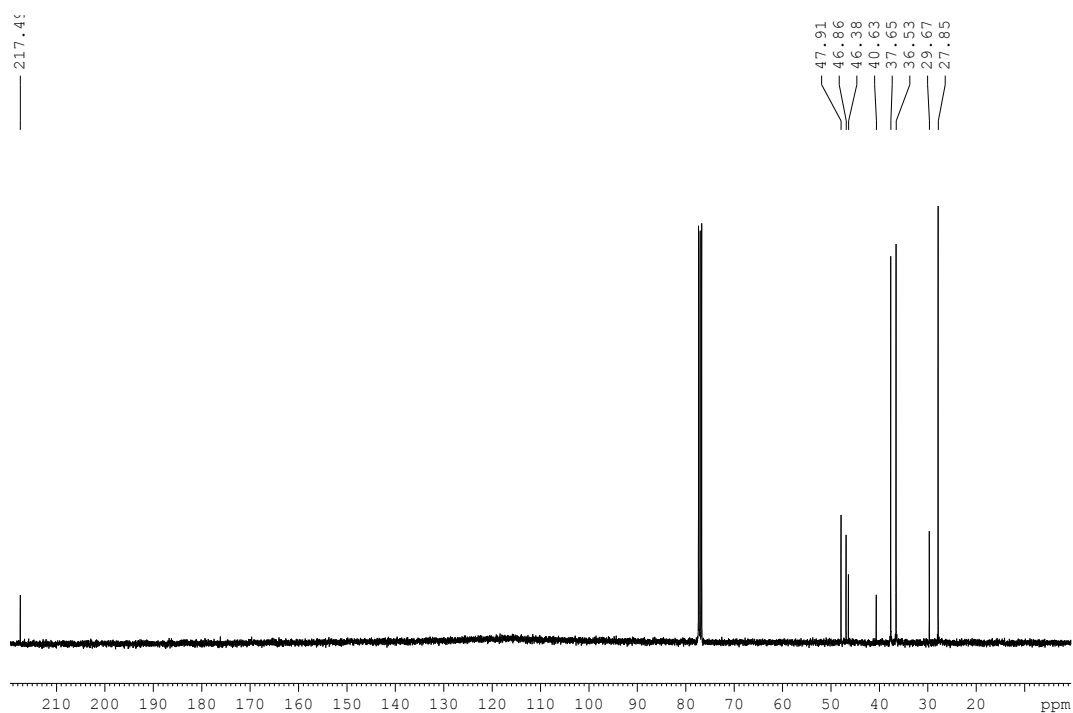


4,4-dimethyl-1,2-di(1-adamantylmethanone)cyclopentane (4h).

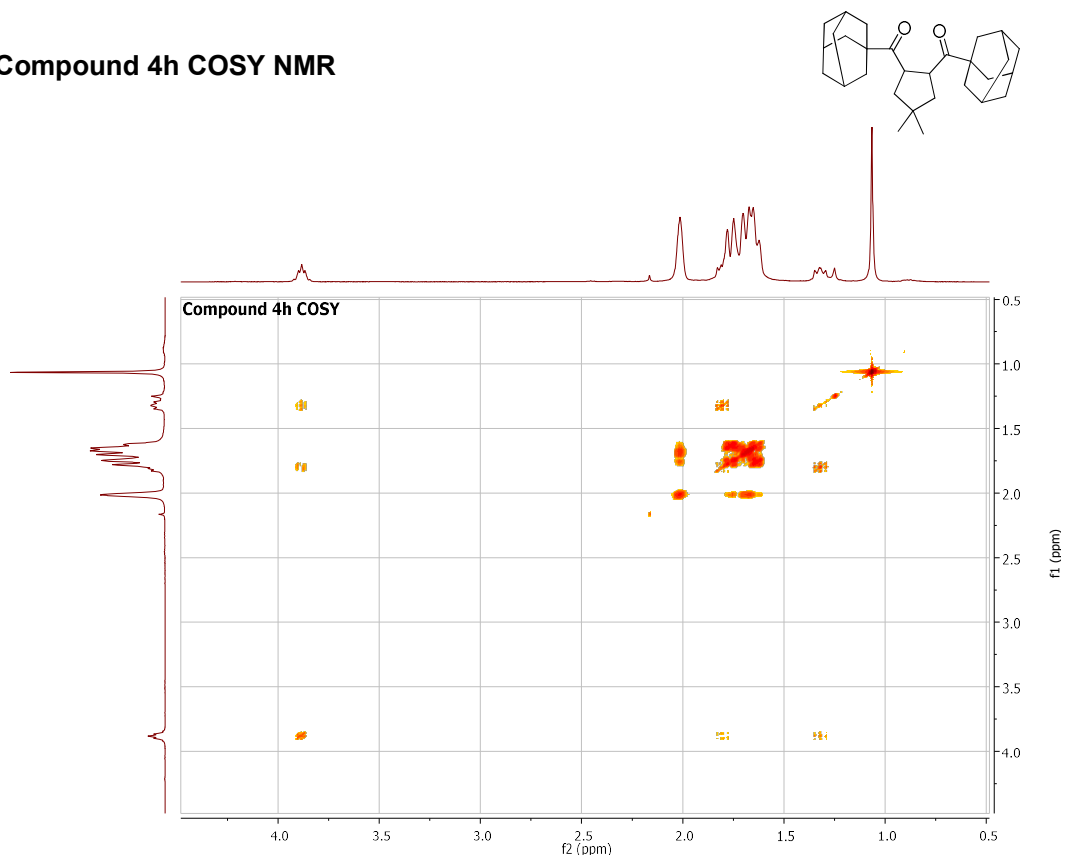
Compound 4h ^1H NMR



Compound 4h ^{13}C NMR



Compound 4h COSY NMR



Compound 4h HMBC NMR

