

SUPPORTING INFORMATION

WHEN HYDRAZONOYL CHLORIDES MEET TERMINAL ALKYNES: REGIOSELECTIVE COPPER (I)-CATALYSED "CLICK" SEQUENTIAL REACTIONS TO 5-SUBSTITUTED PYRAZOLES

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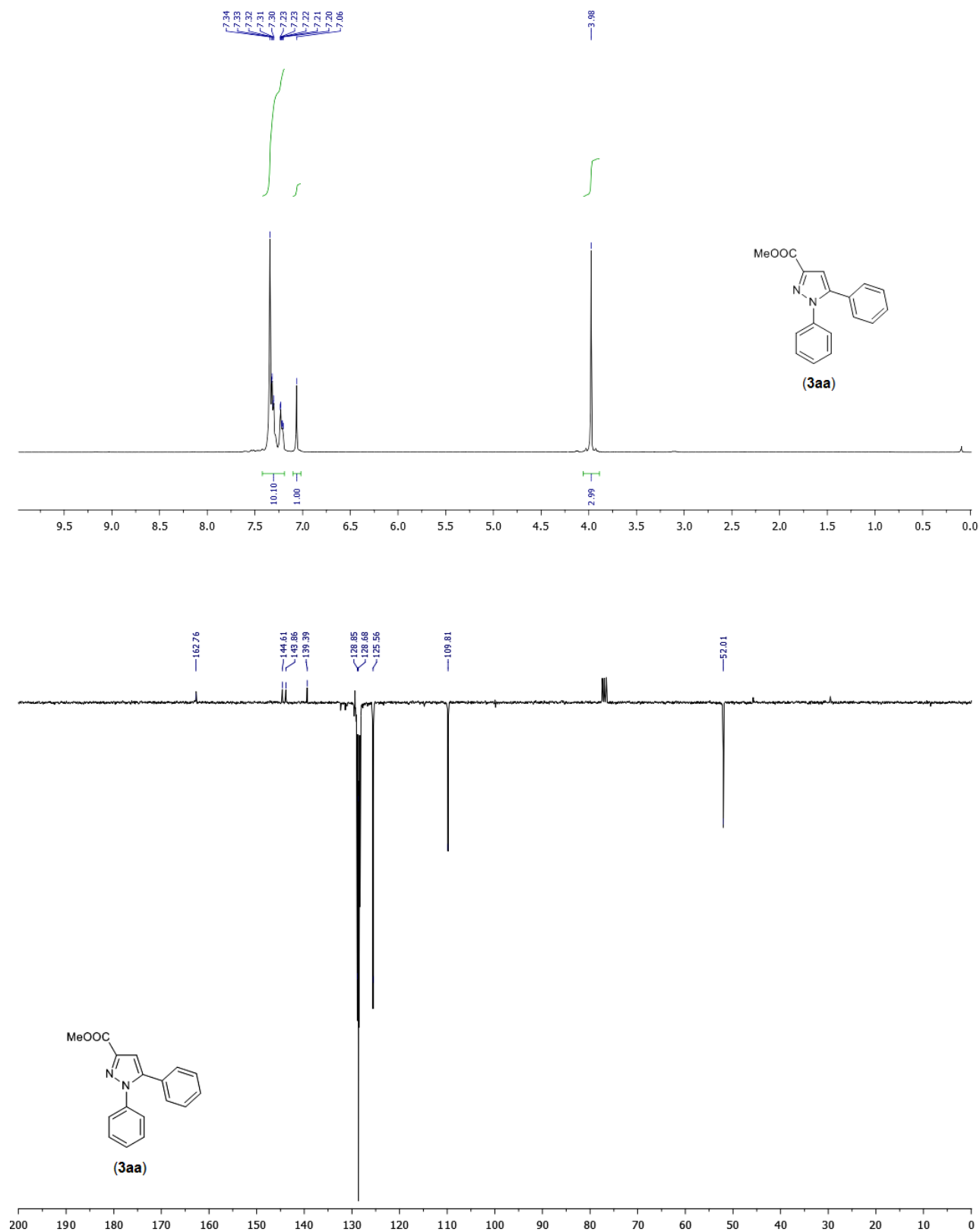
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1. Literature references of known 1,3,5-trisubstituted pyrazoles (3).

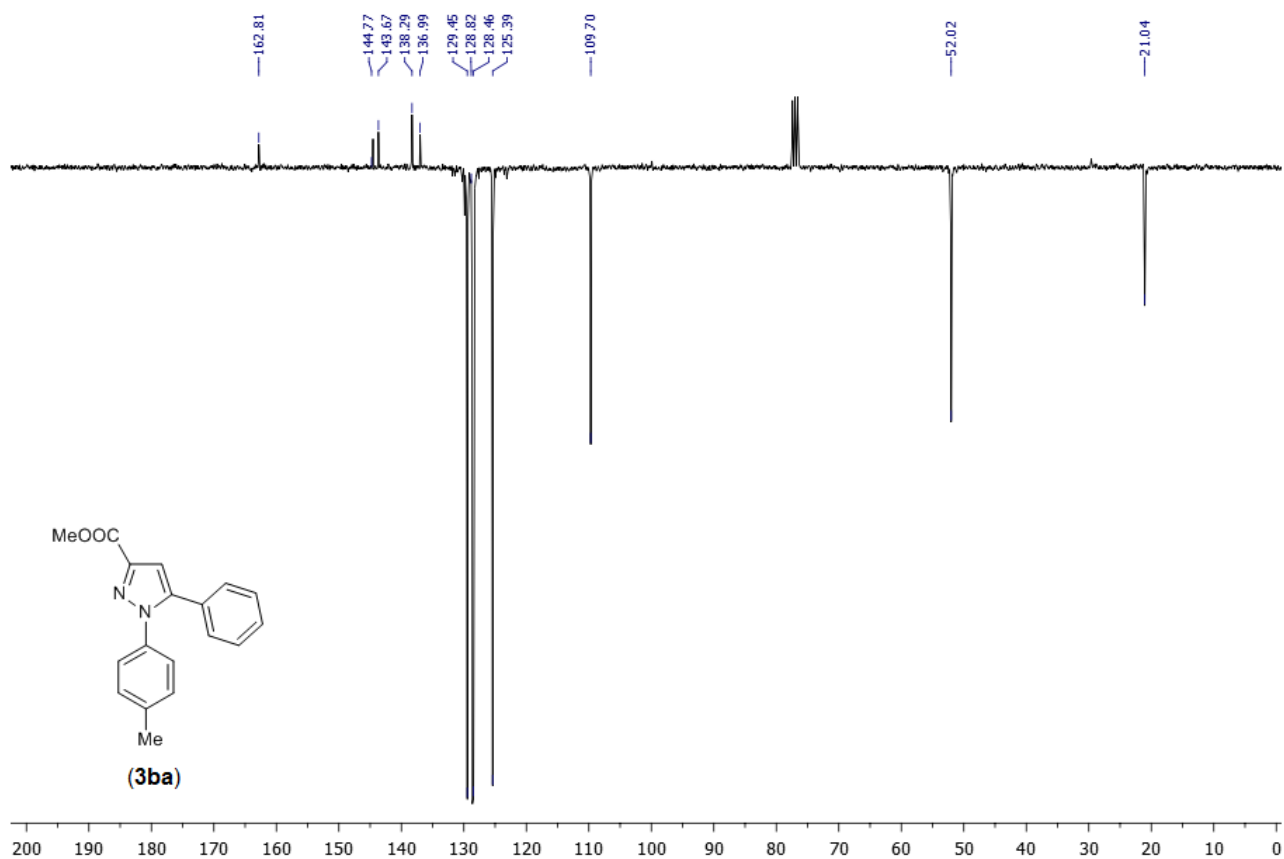
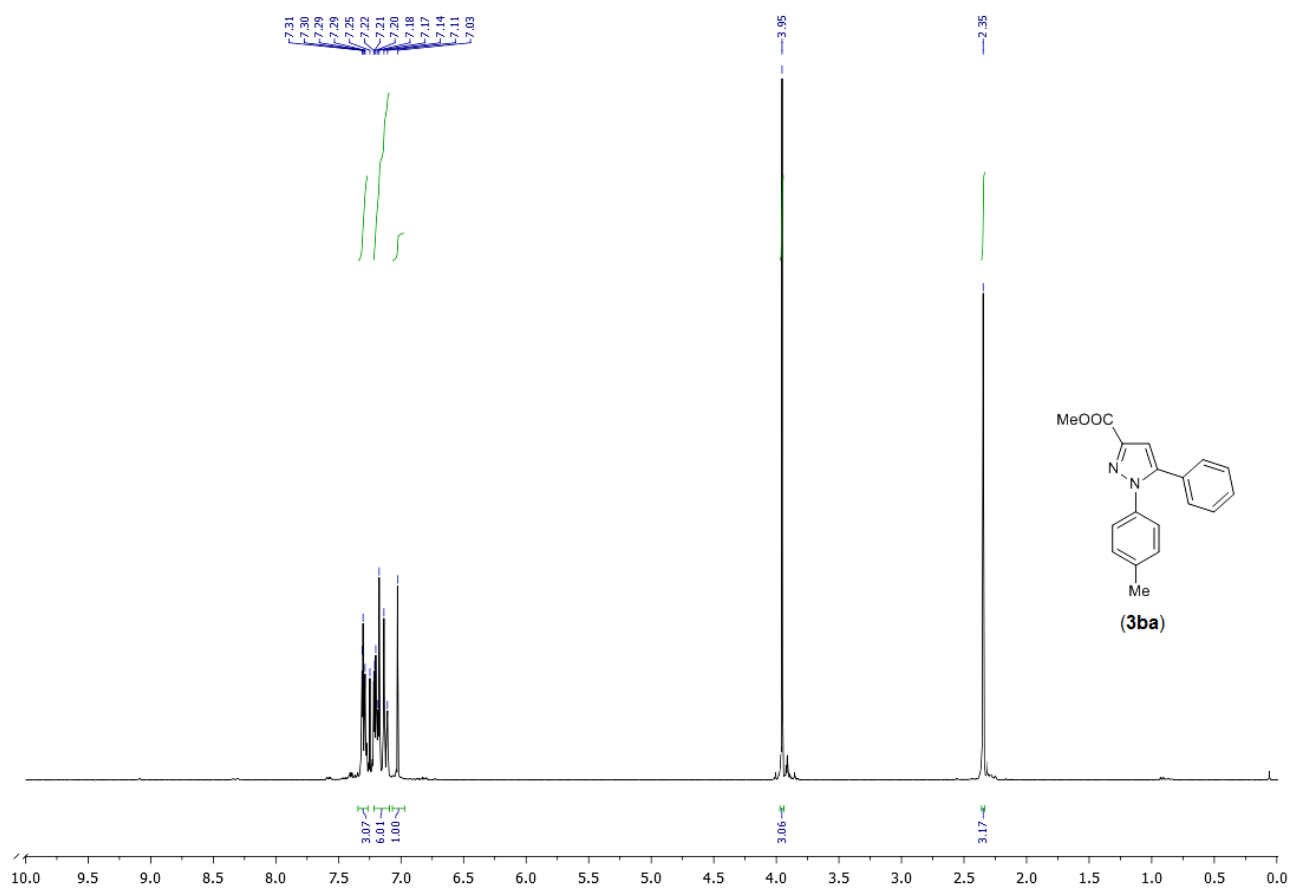
- (a) Pyrazoles **3aa** and **3ba**: H. Guo, D. Zhang, C. Zhu, J. Li, and G. Xu, G.; J. Sun, *J. Org. Lett.*, 2014, **16**, 3110-3113.
- (b) Pyrazoles **3ca** and **3da**: N. Kudo, S. Furuta, M. Taniguchi, T. Endo, and K. Sato, *Chem. Pharm. Bull.*, 1999, **47**, 857-868.
- (c) Pyrazole **3ab**: G. Molteni, A. M. Ferretti, S. Mondini, A. Ponti, *J. Nanoparticle Res.*, 2018, **20**, 1-11.
- (d) Pyrazole **3ac**: L. Bruchè and G. Zecchi, *J. Heterocycl. Chem.*, 1983, **20**, 1705-1706.
- (e) Pyrazole **3ag**: G. Brogini and G. Molteni, *J. Chem. Soc., Perkin Trans. 1*, 2000, 1685-1689.

2. ^1H and ^{13}C NMR spectra of 1,3,5-trisubstituted pyrazoles (3).

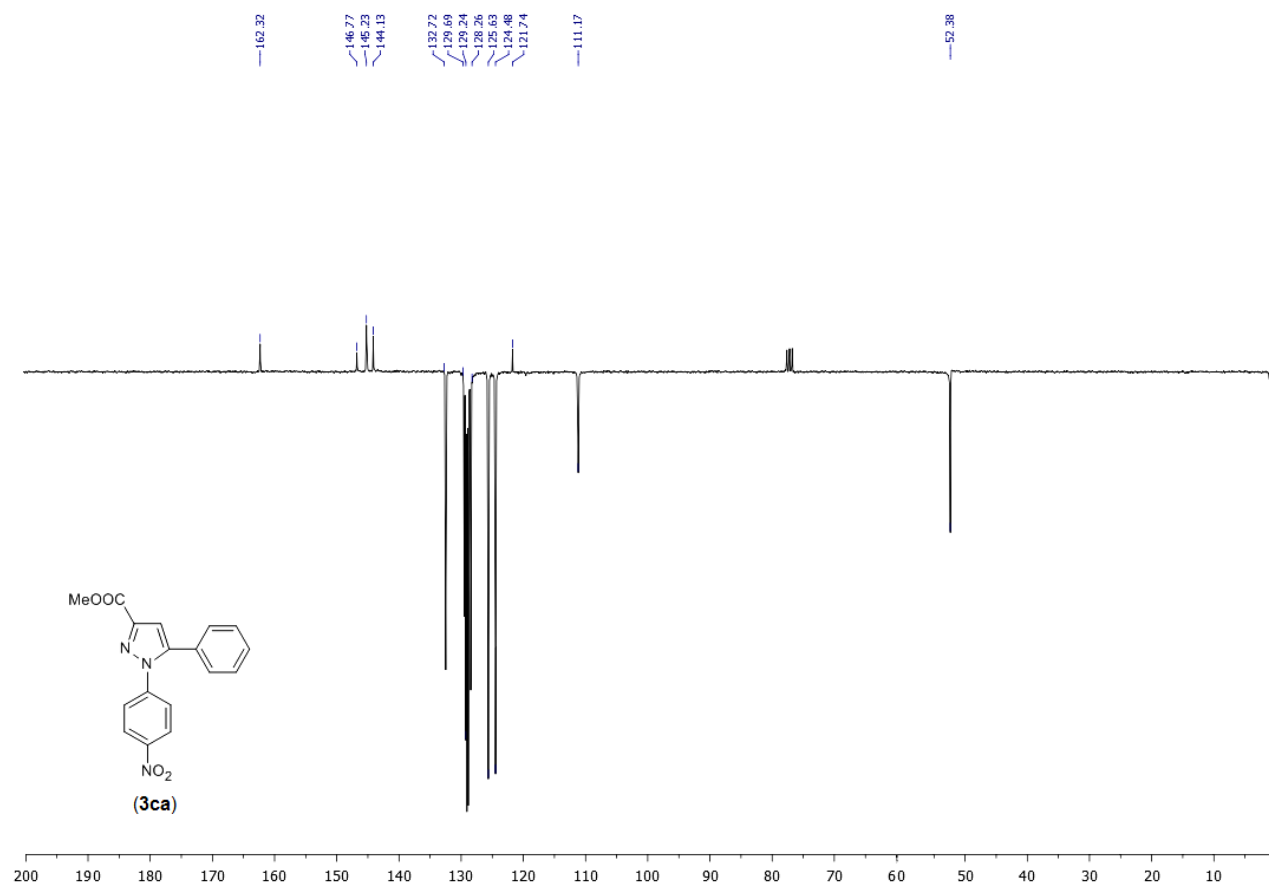
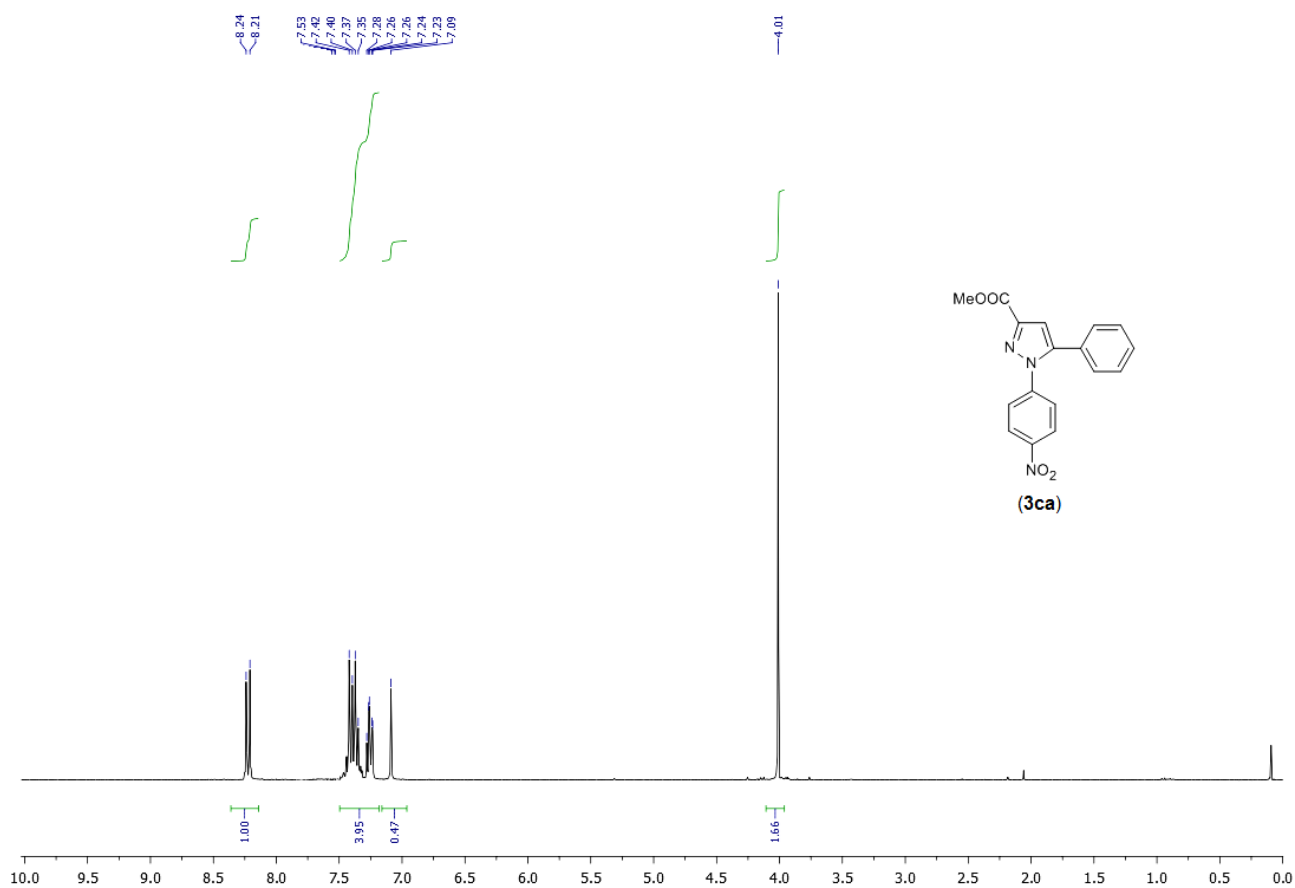
1,5-Diphenyl-3-methoxycarbonylpyrazole (**3aa**)



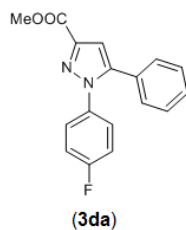
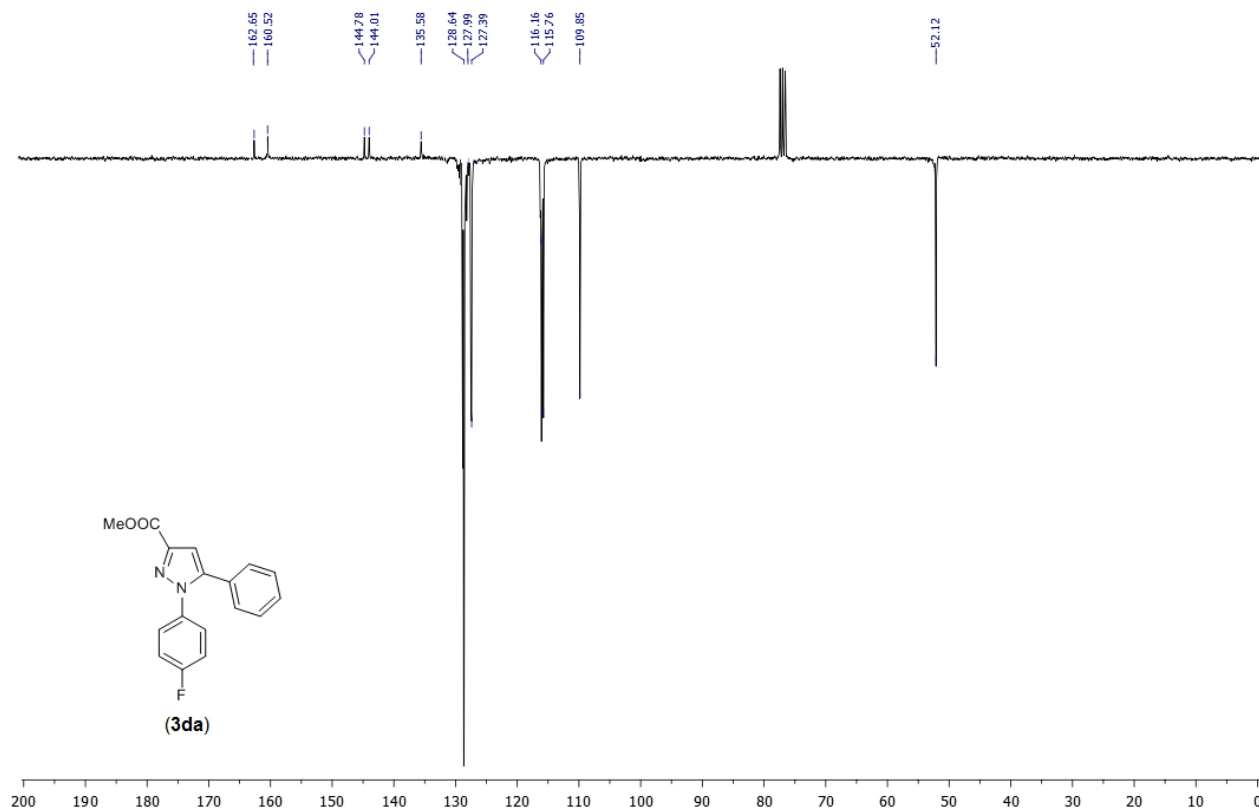
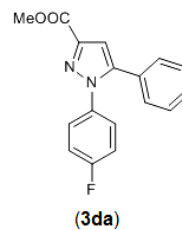
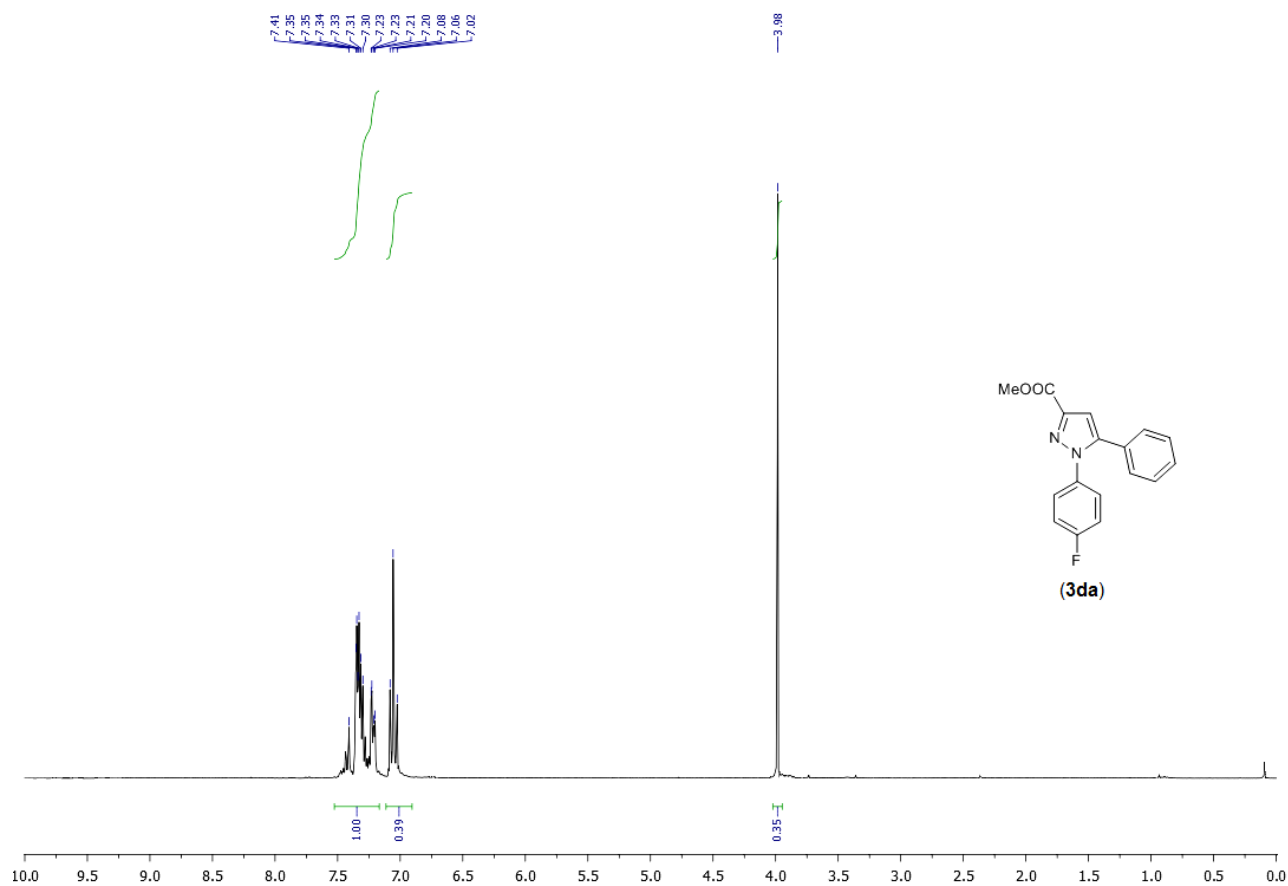
1-(4-Methylphenyl)-3-methoxycarbonyl-5-phenylpyrazole (**3ba**)



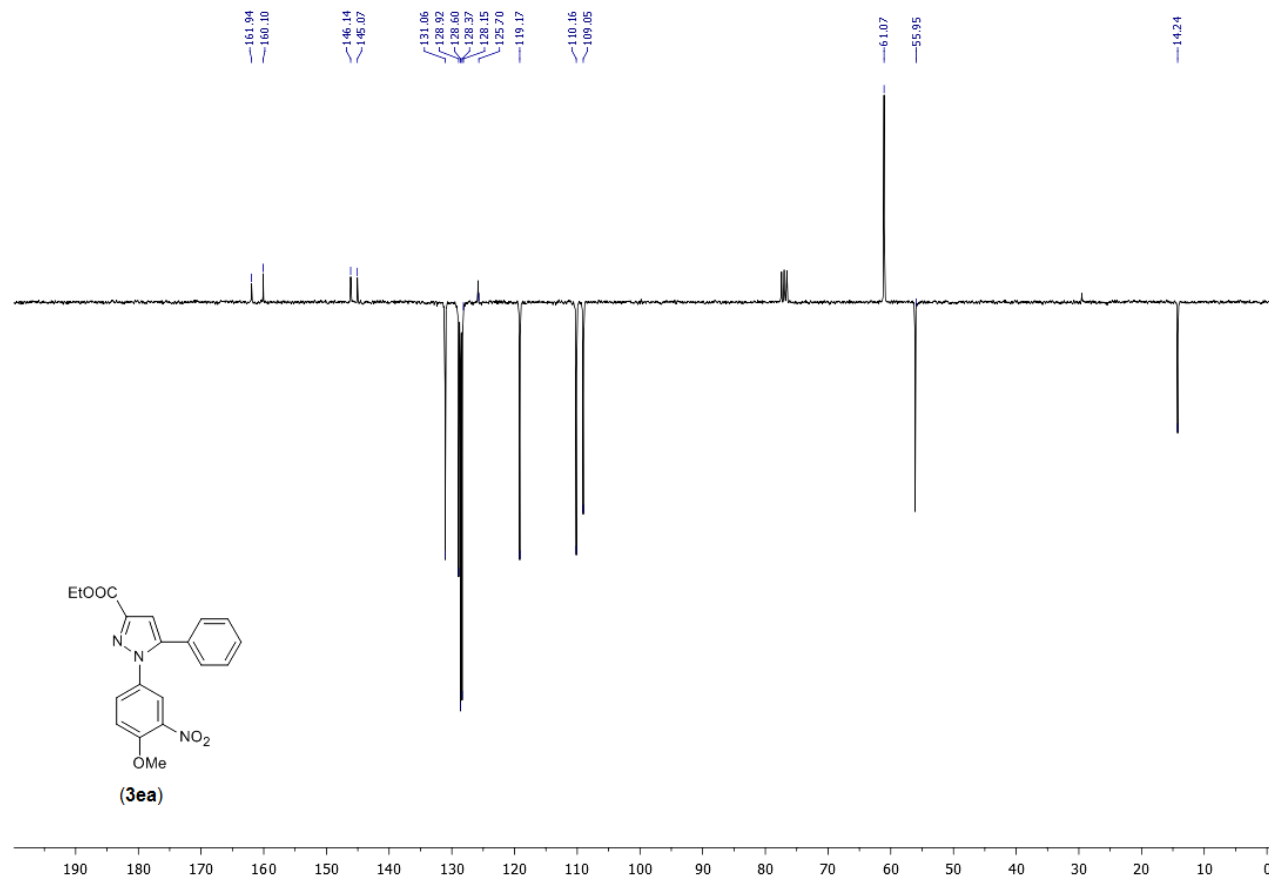
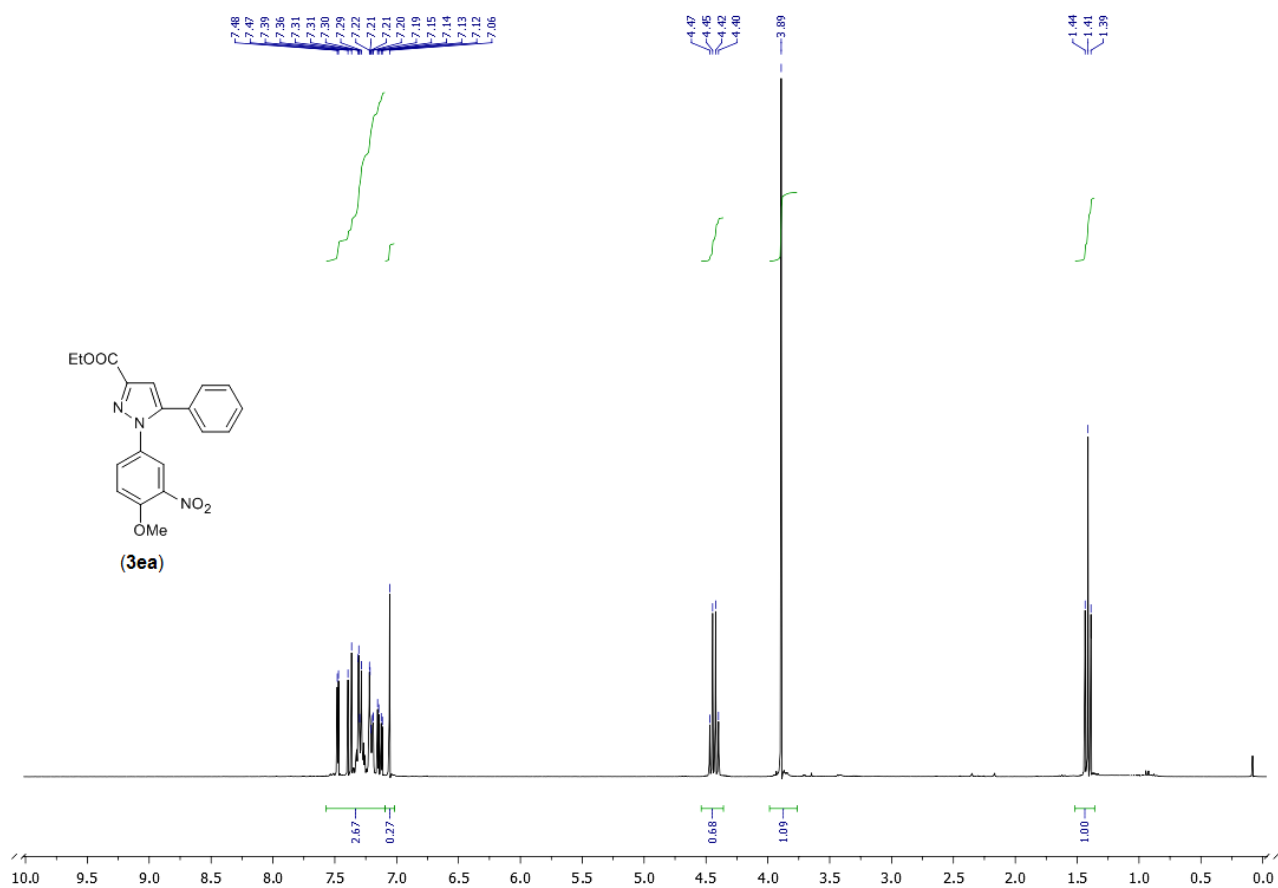
1-(4-Nitrophenyl)-3-methoxycarbonyl-5-phenylpyrazole (**3ca**)



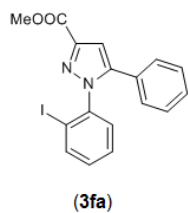
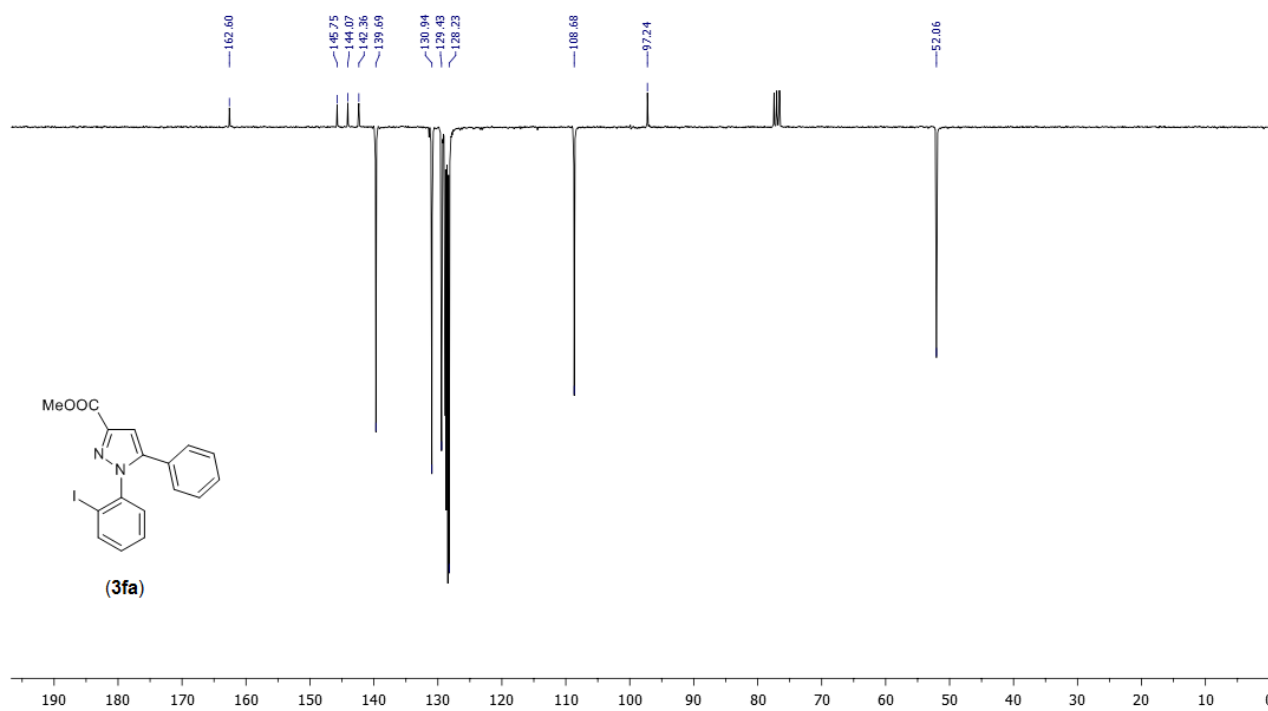
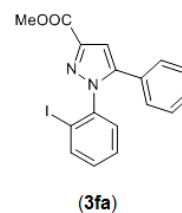
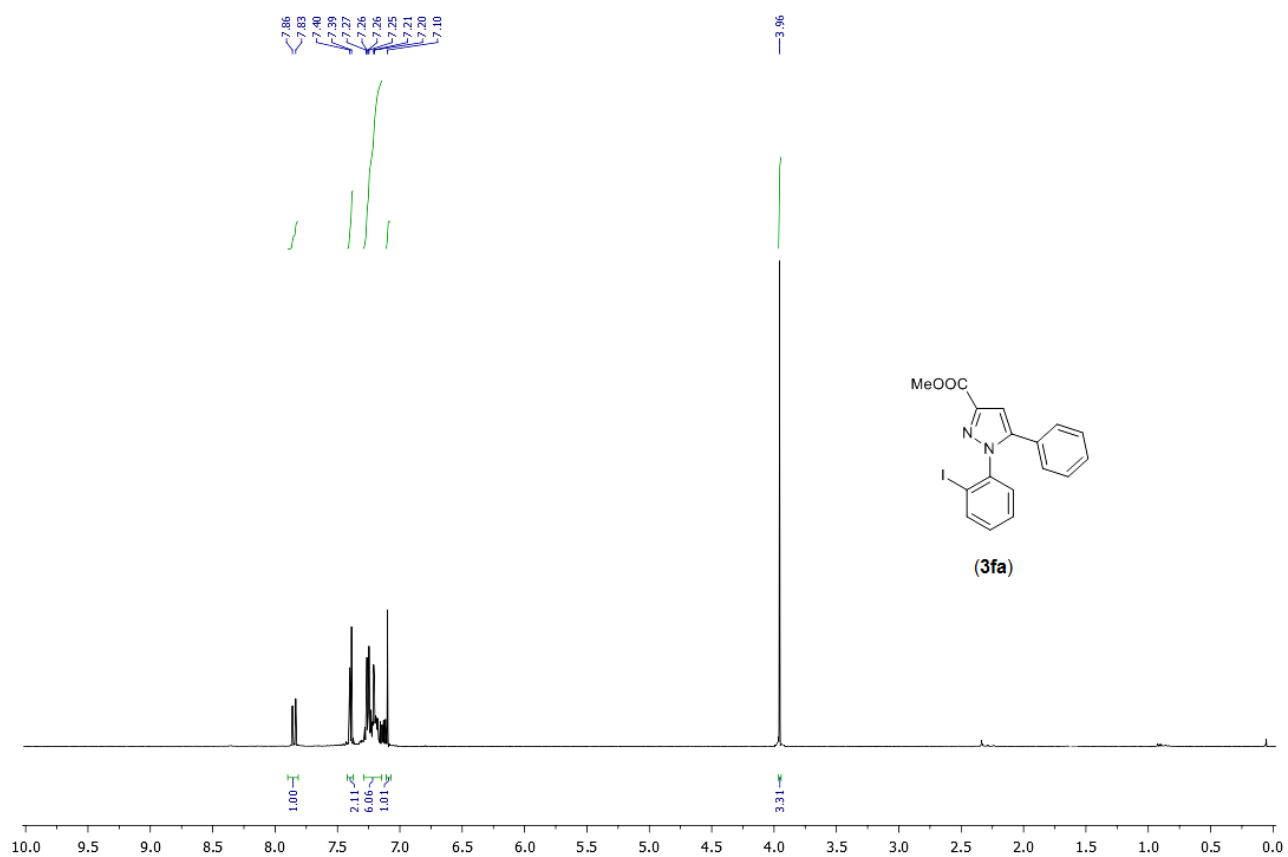
1-(4-Fluorophenyl)-3-methoxycarbonyl-5-phenylpyrazole (**3da**)



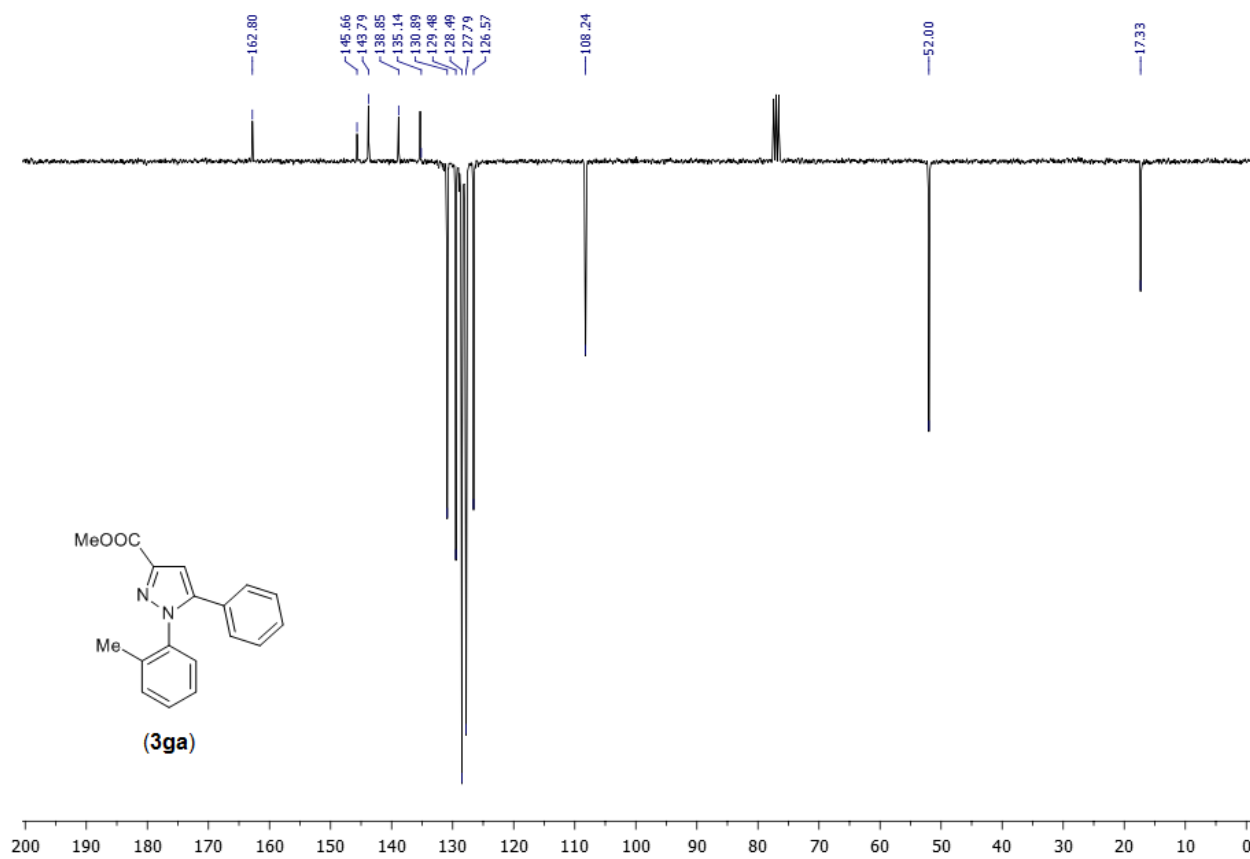
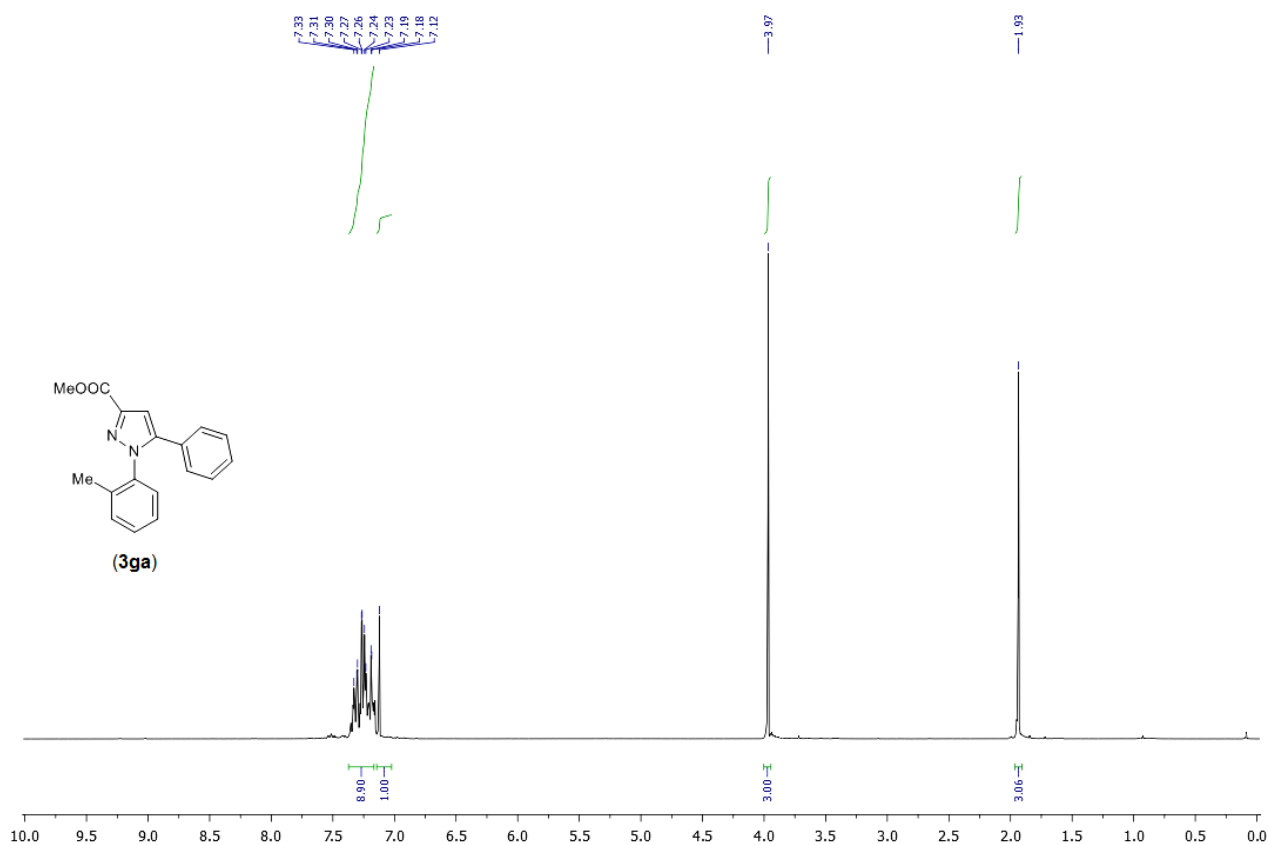
1-(4-Nitro-3-methoxy)phenyl-3-ethoxycarbonyl-5-phenylpyrazole (**3ea**)



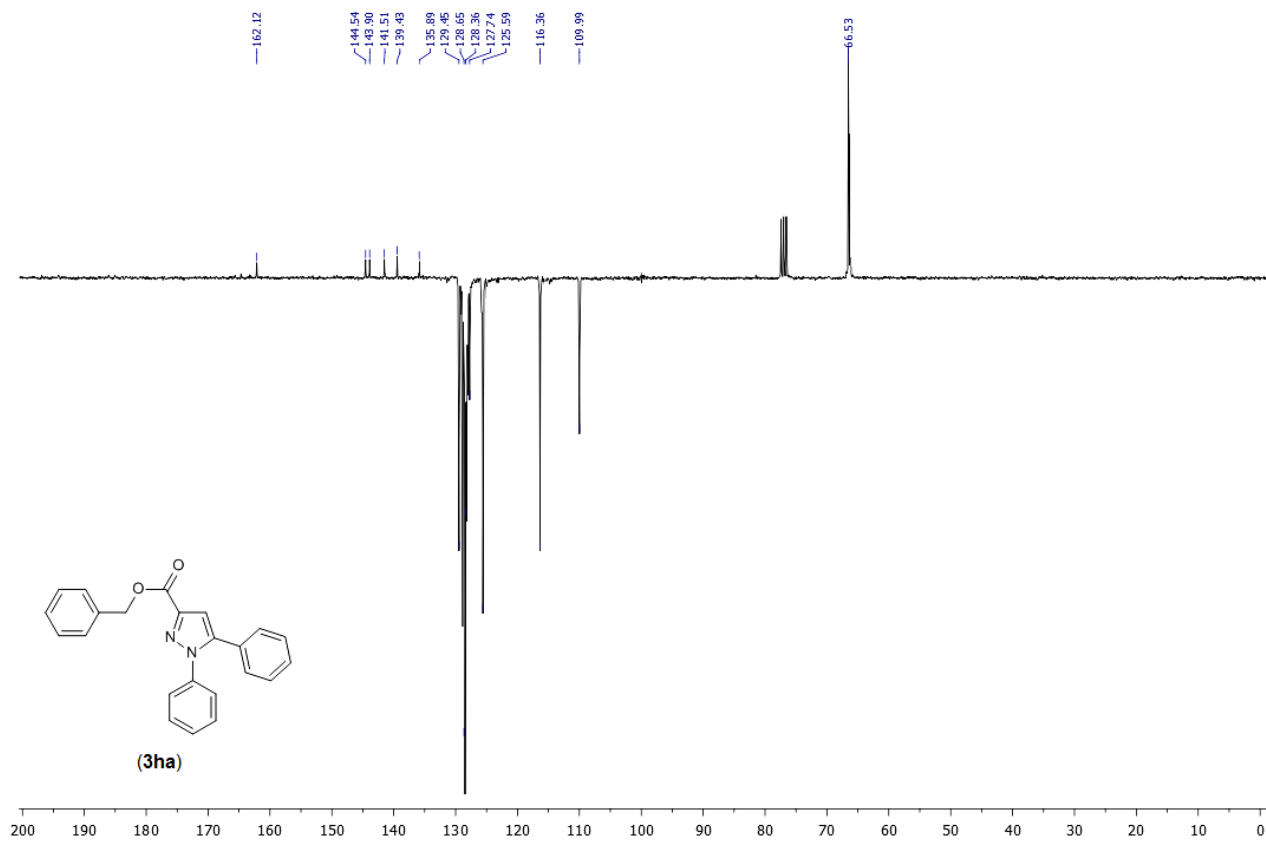
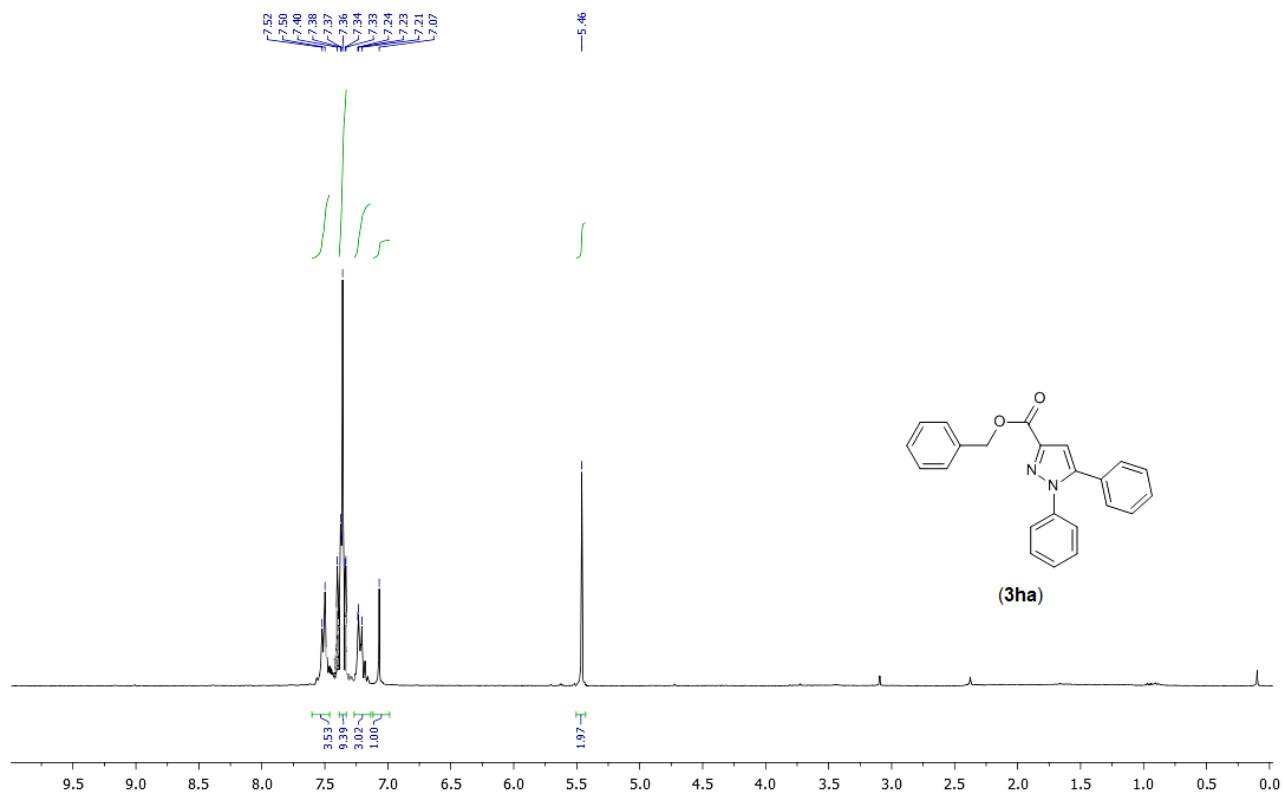
1-(2-Iodophenyl)-3-methoxycarbonyl-5-phenylpyrazole (**3fa**)



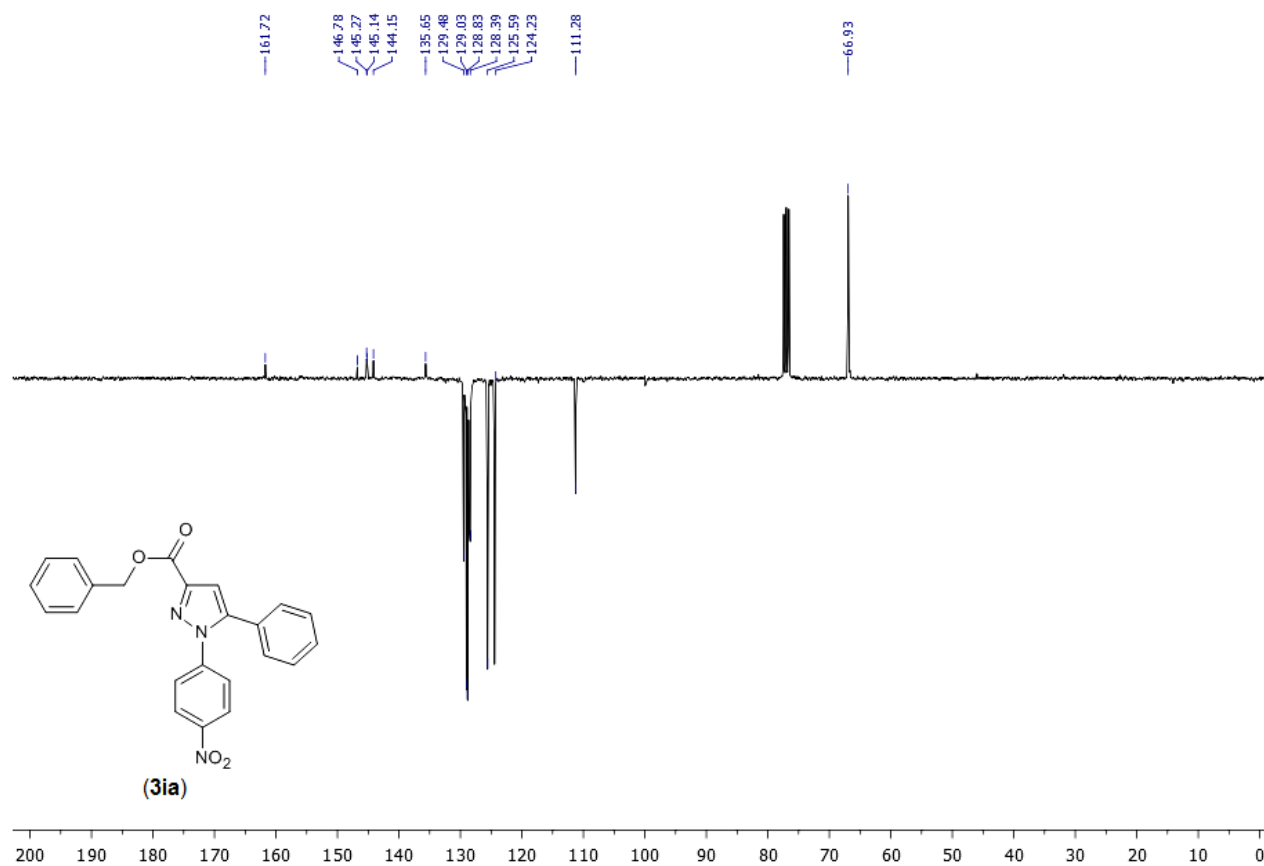
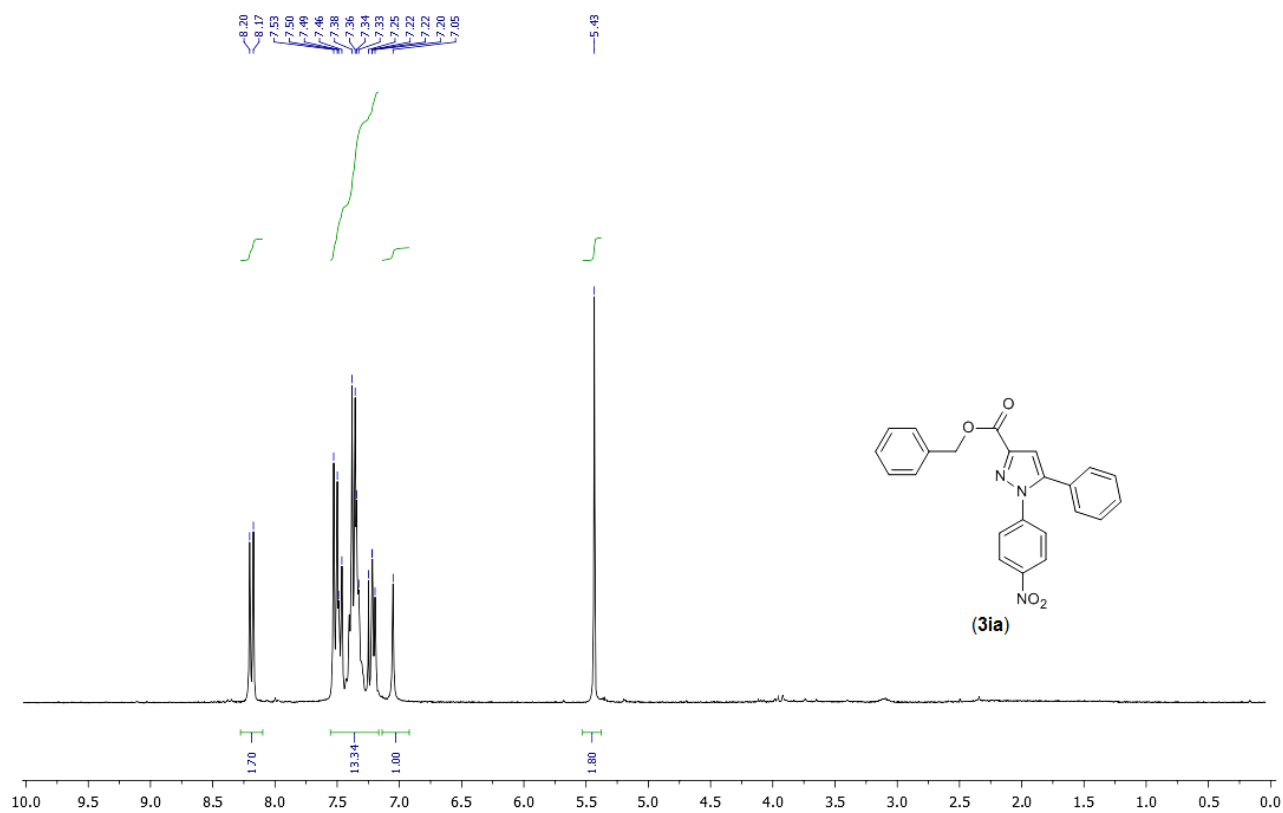
1-(2-Methylphenyl)-3-methoxycarbonyl-5-phenylpyrazole (**3ga**)



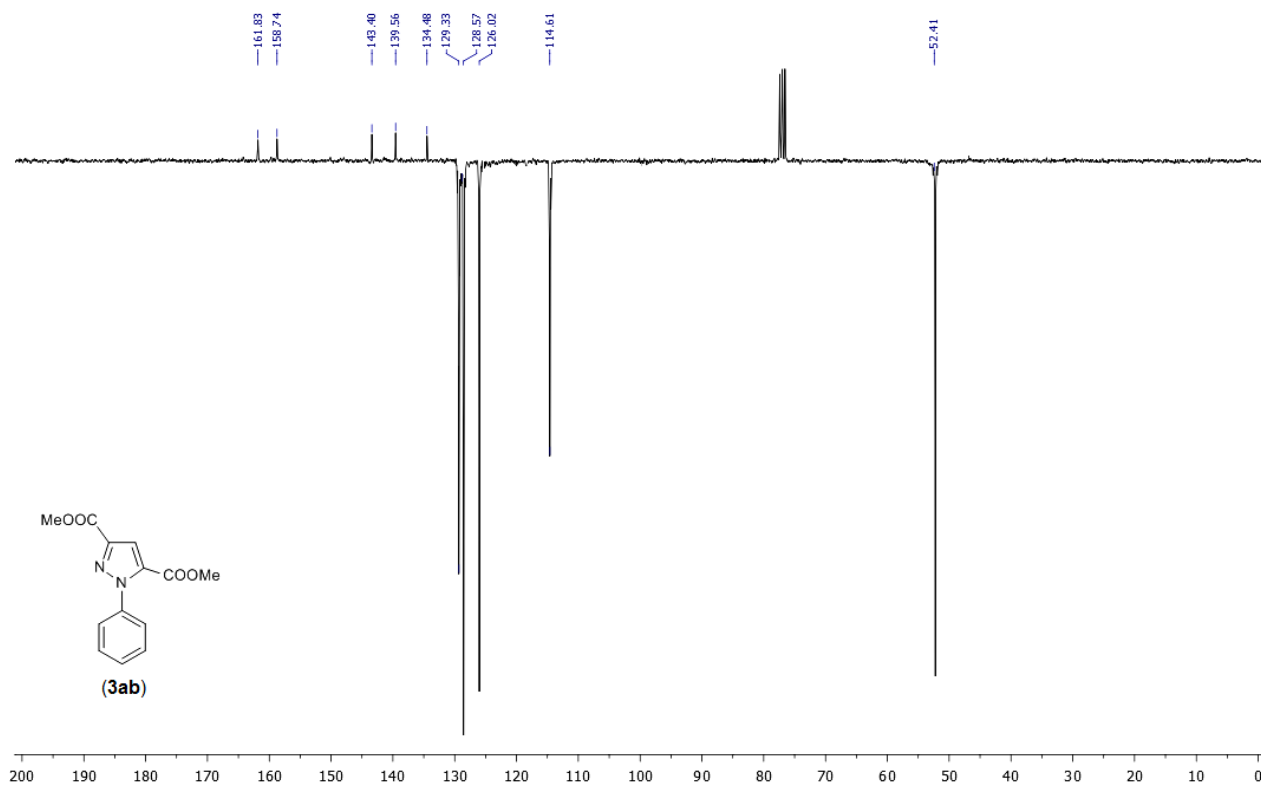
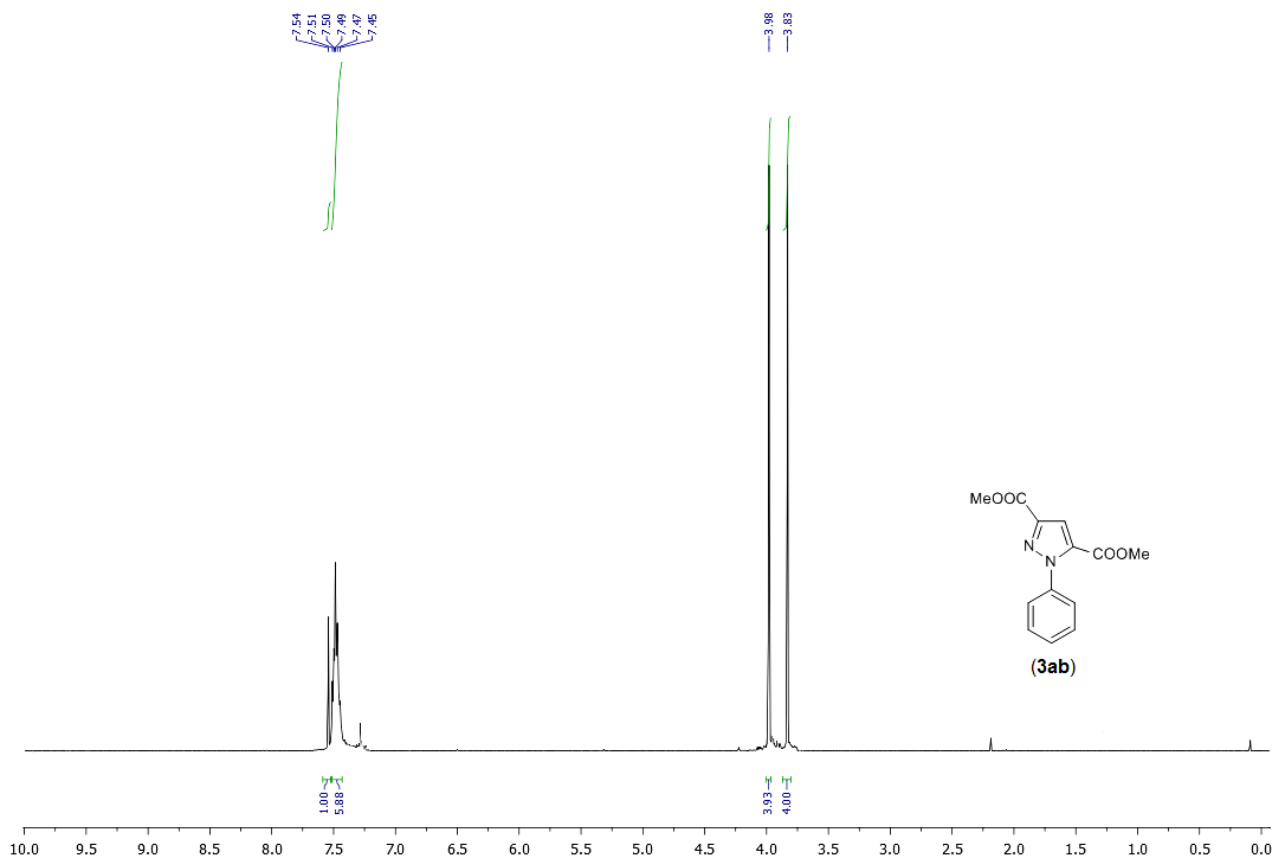
1,5-Diphenyl-3-benzoyloxycarbonylpyrazole (**3ha**)



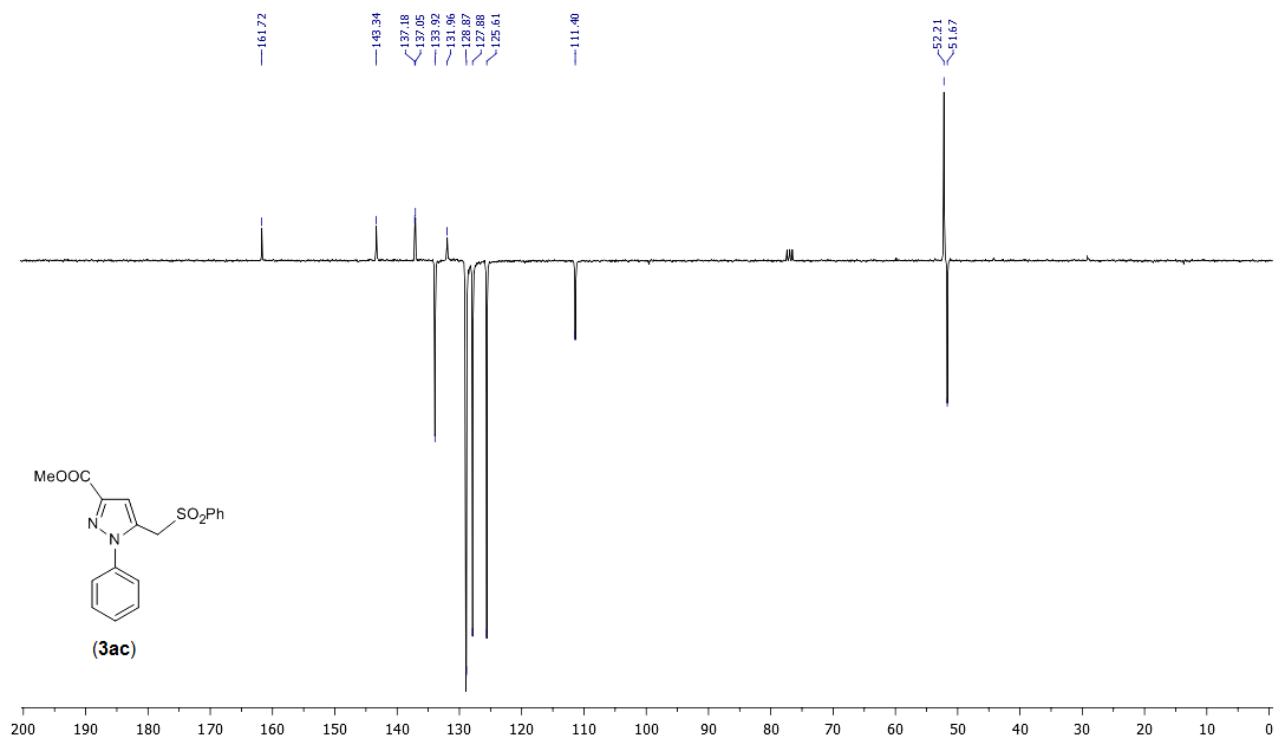
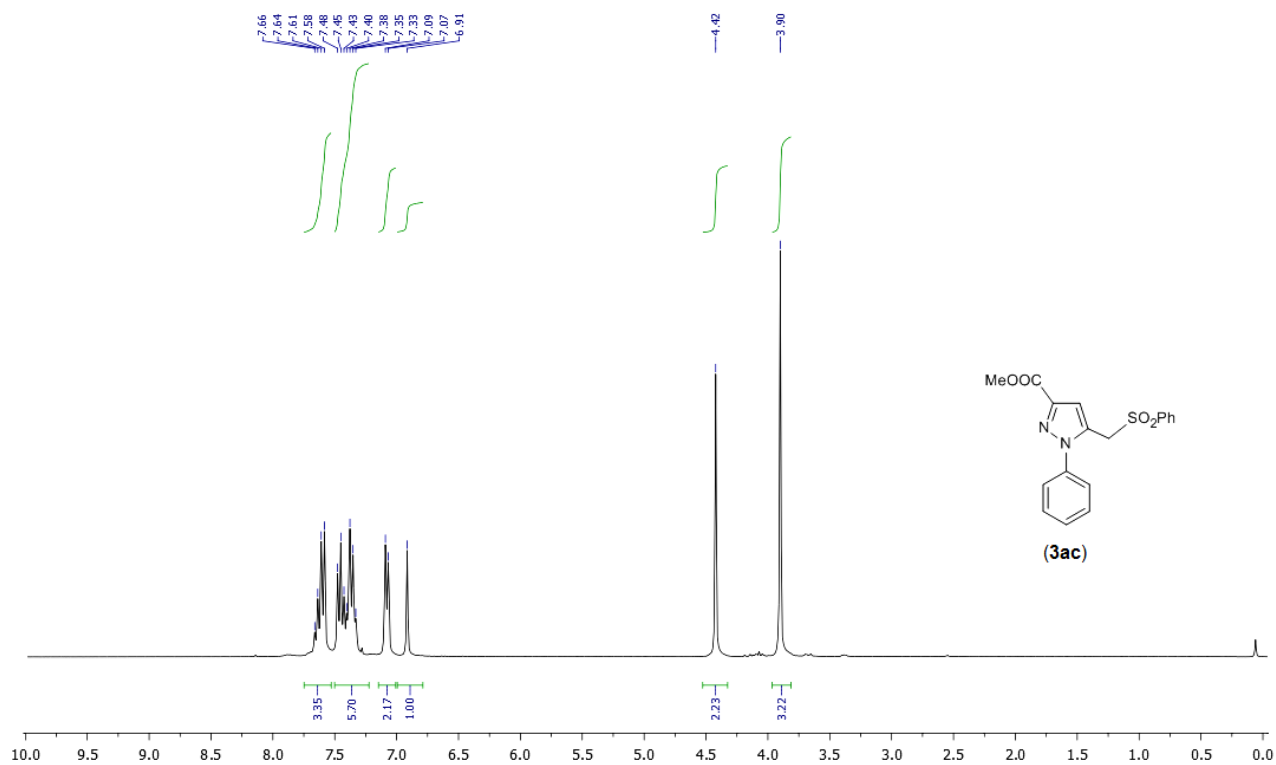
1-(4-Nitrophenyl)-3-benzyloxycarbonyl-5-phenylpyrazole (**3ia**)



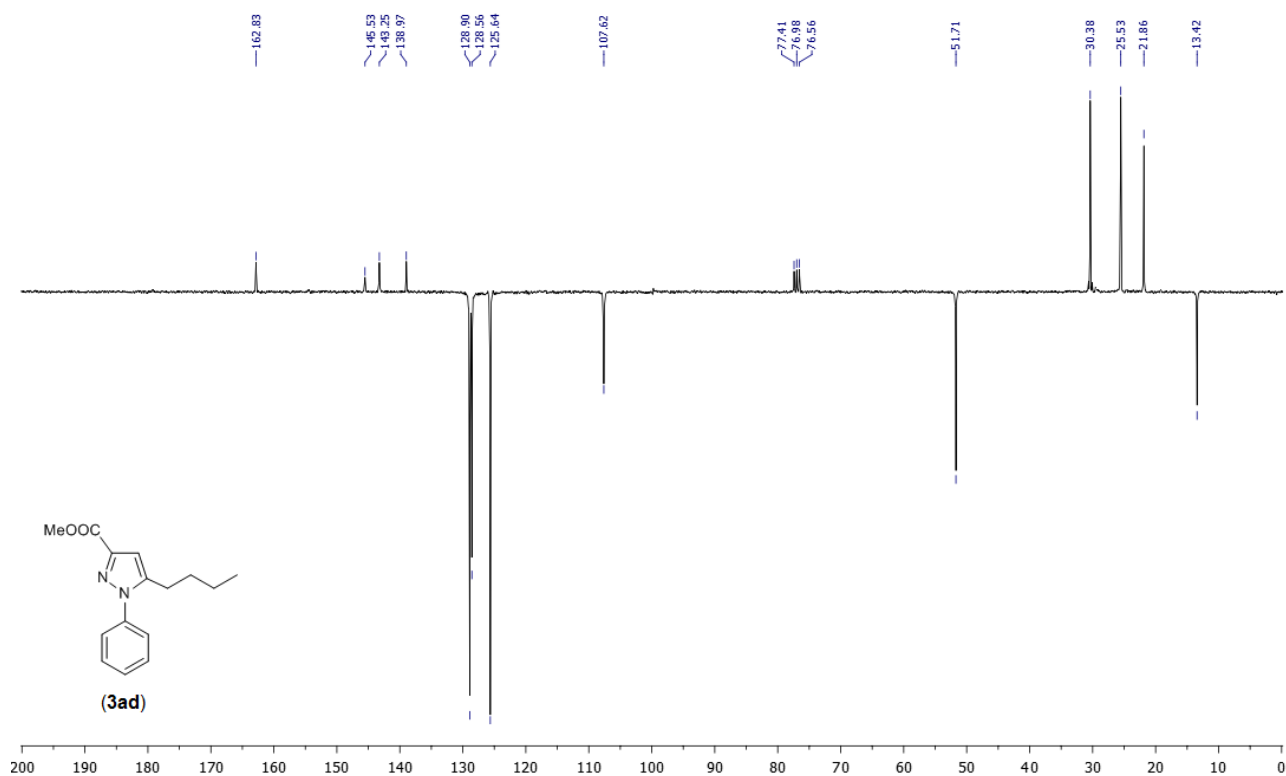
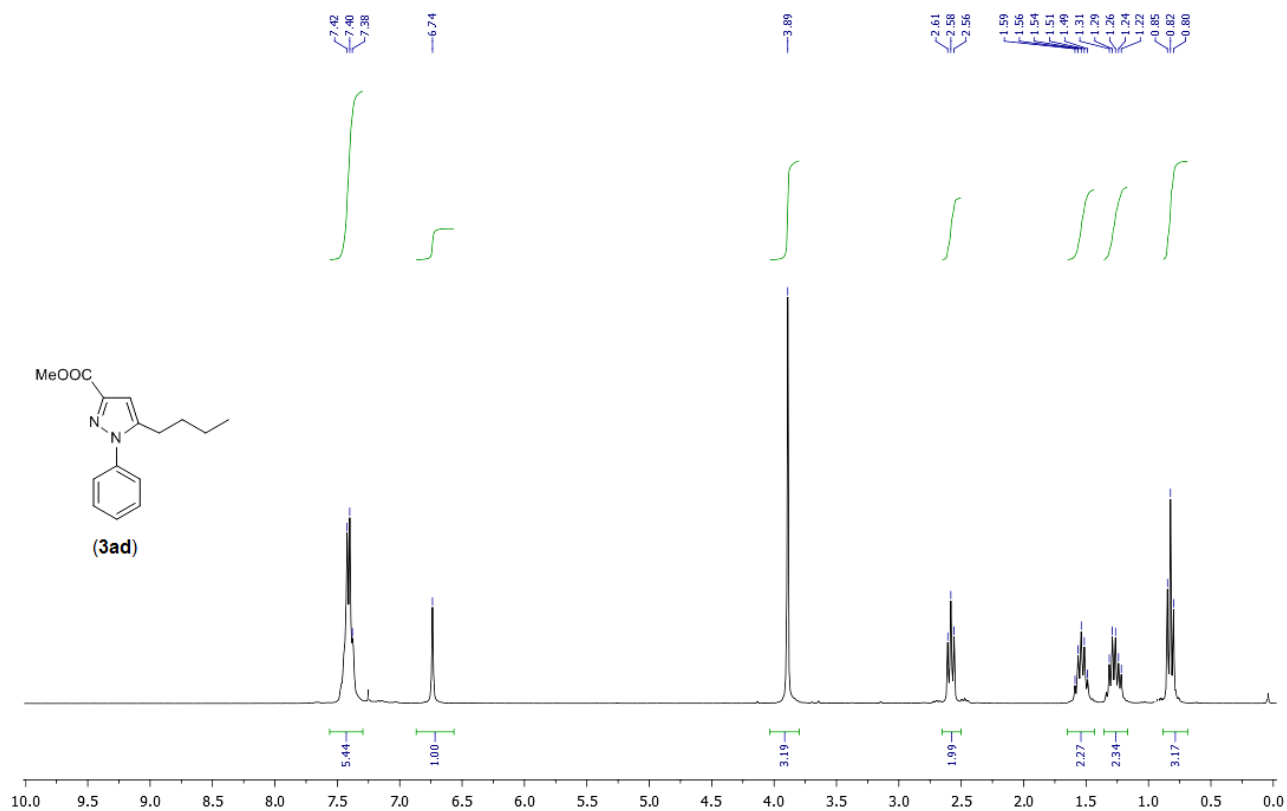
1-Phenyl-3,5-dimethoxycarbonylpyrazole (**3ab**)



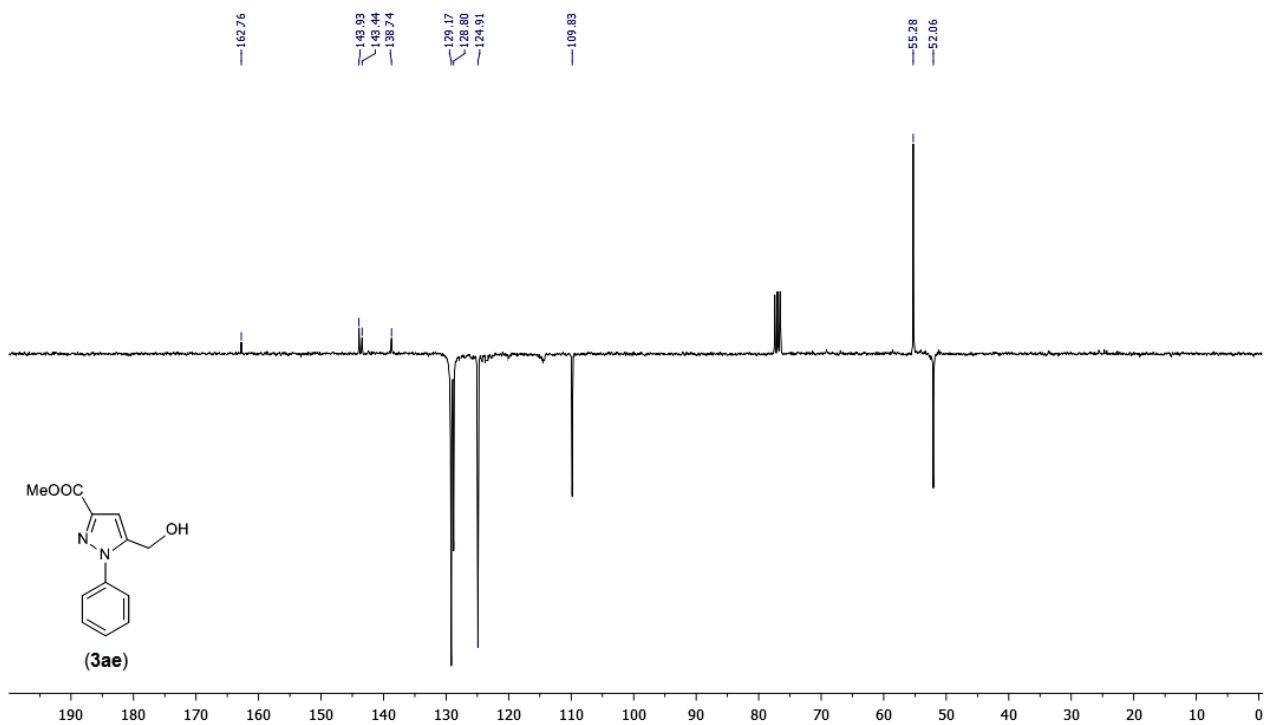
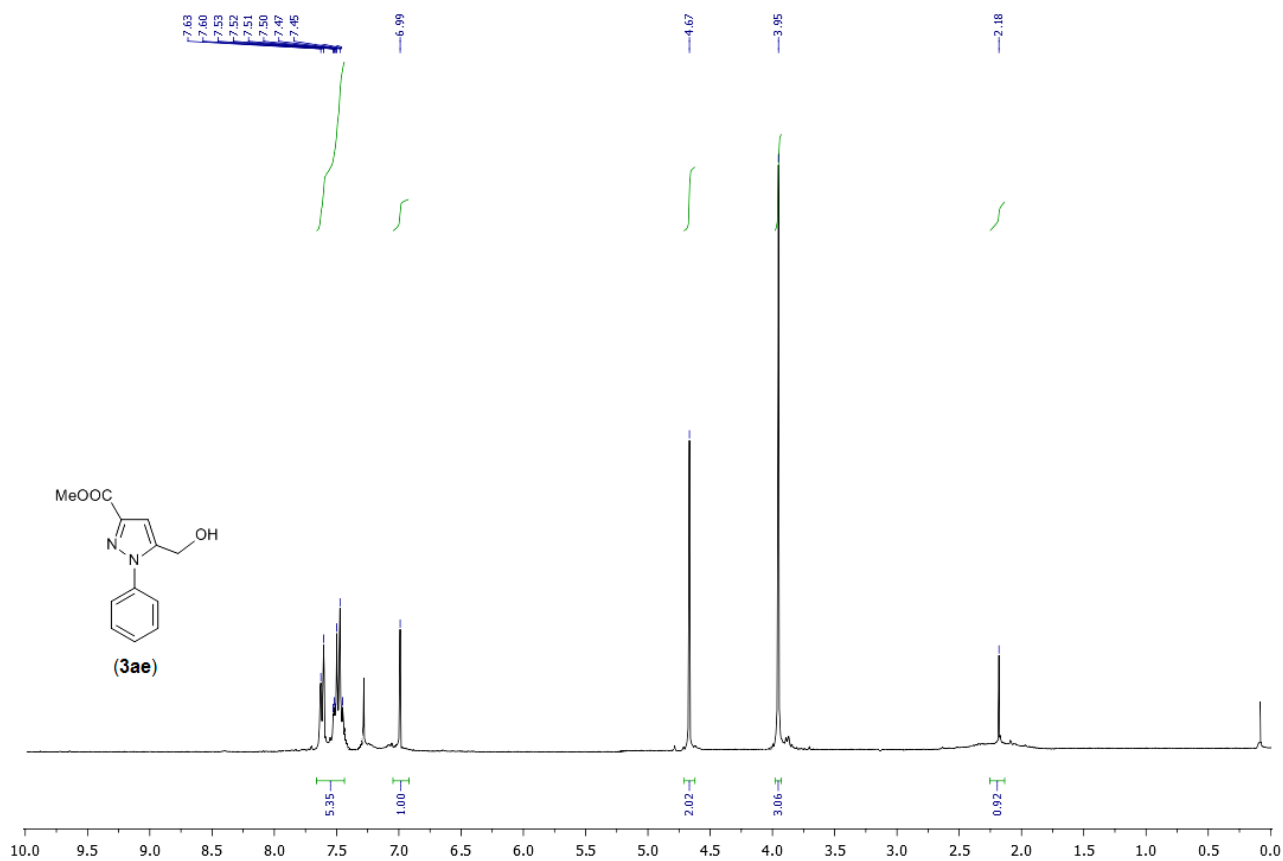
1-Phenyl-3-methoxycarbonyl-5-(phenylsulfonyl)methylpyrazole (**3ac**)



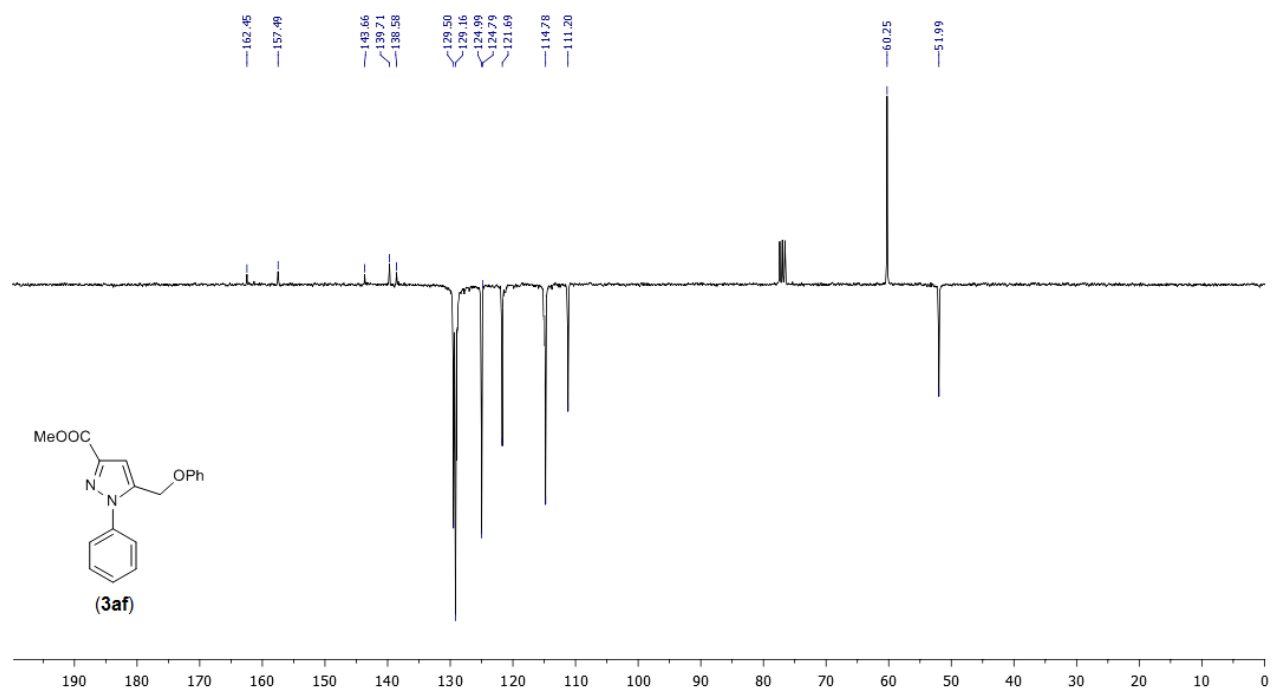
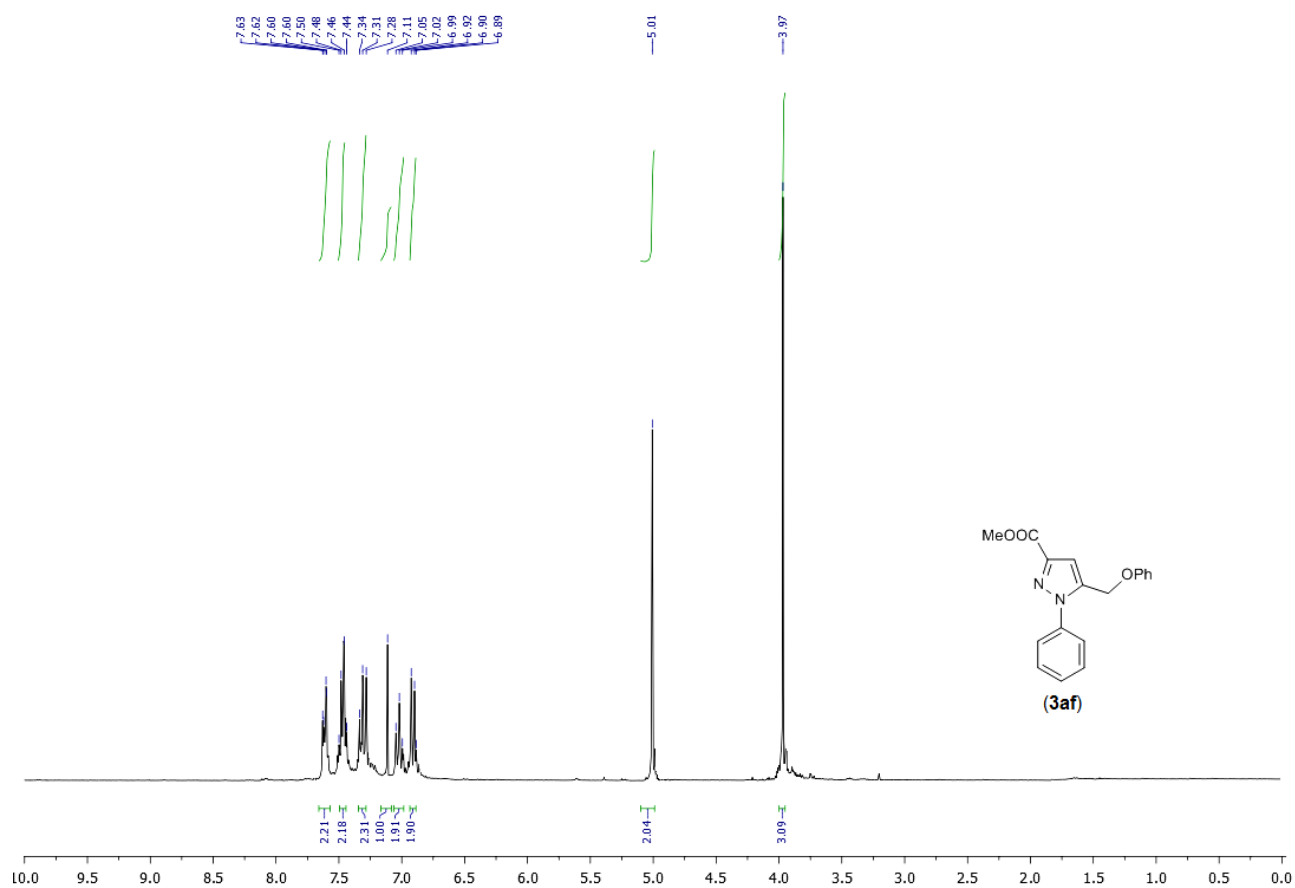
1-Phenyl-3-methoxycarbonyl-5-*n*-butylpyrazole (**3ad**)



1-Phenyl-3-methoxycarbonyl-5-hydroxymethylpyrazole (**3ae**)



1-Phenyl-3-methoxycarbonyl-5-phenoxymethylpyrazole (3af)



1-Phenyl-3-methoxycarbonyl-5-[(2-acetylamminophenyl)sulfonyl]methylpyrazole (**3ag**)

