Electronic Supplementary Material (ESI) for RSC Advances.

A practical iodine-catalyzed oxidative conversion of aldehydes to nitriles

Chaojie Fang, Meichao Li,* Xinquan Hu, Weimin Mo, Baoxiang Hu, Nan Sun, Liqun Jin, and Zhenlu Shen*

College of Chemical Engineering, Zhejiang University of Technology, Hangzhou 310014, PR China

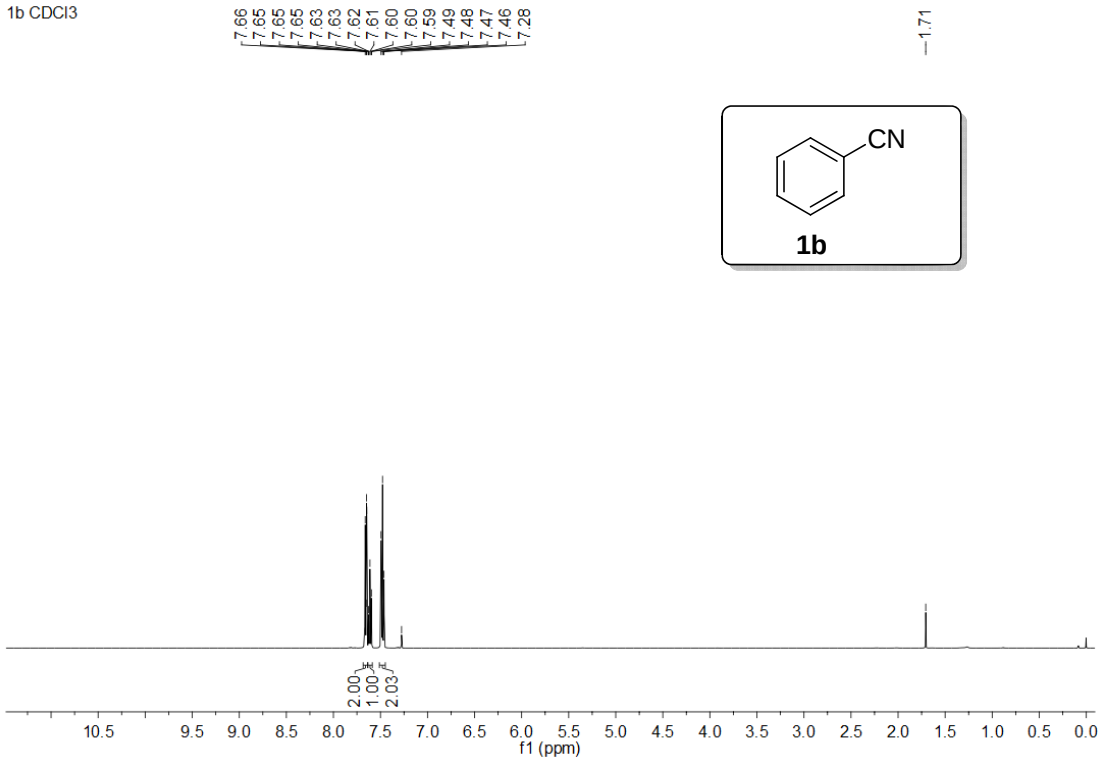
General Remarks

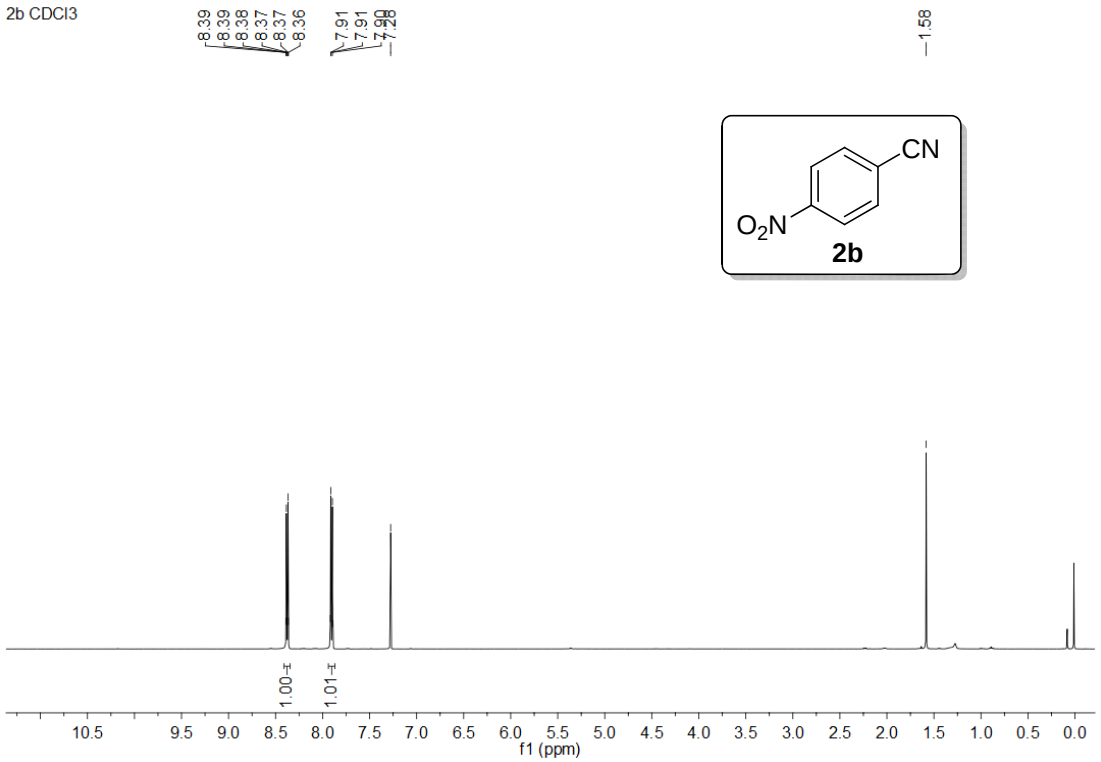
GC analyses were conducted on an Agilent GC 7890A system with a flame ionization detector (FID) and a PEG-20 capillary column. Phenylacetonitrile was selected as the internal standard for GC internal standard method in the optimization experiment. ^{1}H NMR spectra were carried out on a Bruker Avance III (500M Hz) spectrometer. $CDCl_3$ was used as the solvent with tetramethylsilane (TMS) as the internal standard. GC-MS was performed on a Finnigan Trace GC Ultra-Finnigan Trace DSQ instrument. ESI-MS was performed on an Agilent 6210 LC/TOF mass spectrometer. Melting points were measured using BUCHI M-565 melting point instrument.

Aldehydes **1a-20a**, **24a-26a, 28a** were purchased from commercial suppliers. Substrates **21a-23a, 29a** and **30a** were prepared in-house according to the previous work of us.[1] All the products were isolated from the reaction mixtures, and characterized by ^{1}H NMR

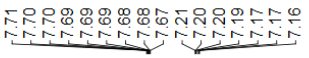
1. C. Fang, M. Li, X. Hu, W. Mo, B. Hu, N. Sun, L. Jin and Z. Shen, *Adv. Synth. Catal.*, 2016, **358**, 1157-1163.

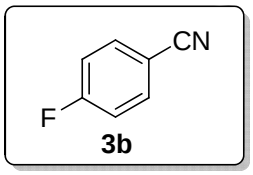
Copies of ^{1}H NMR spectrum for products 1b-30b

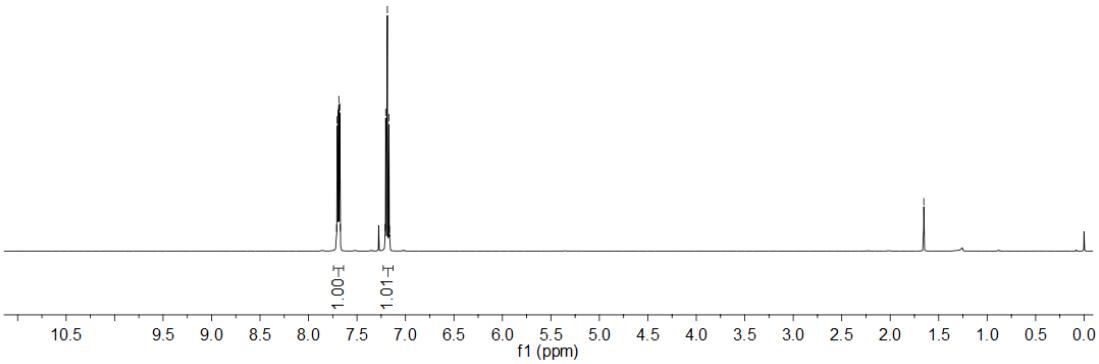




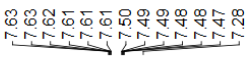
3b CDCl3

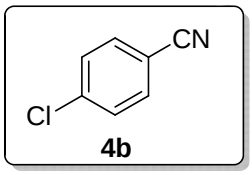


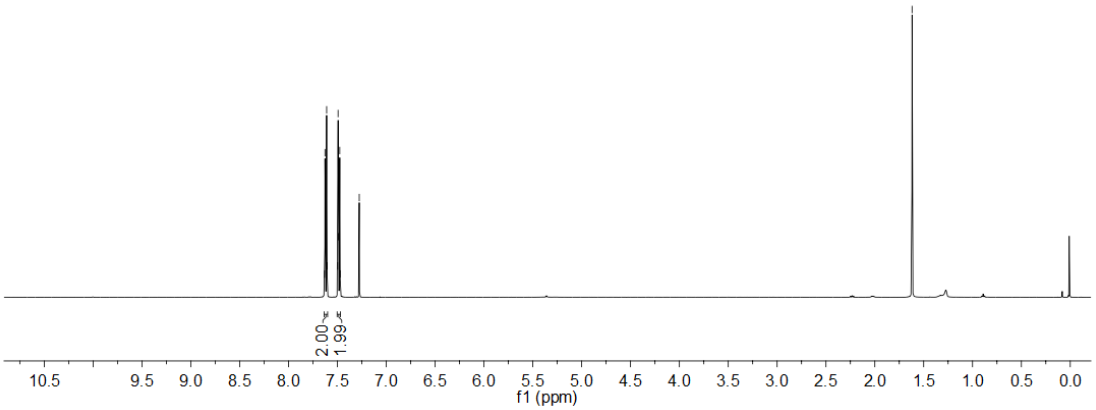




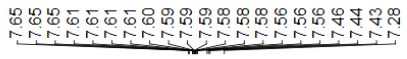
4b CDCl3

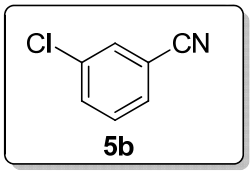


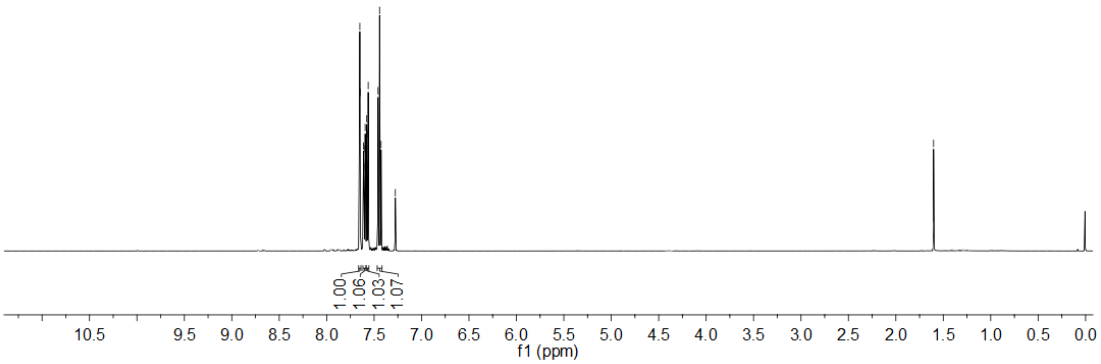




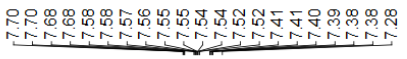
5b-CDCl3

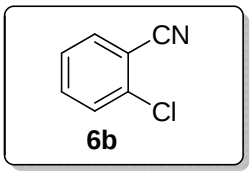


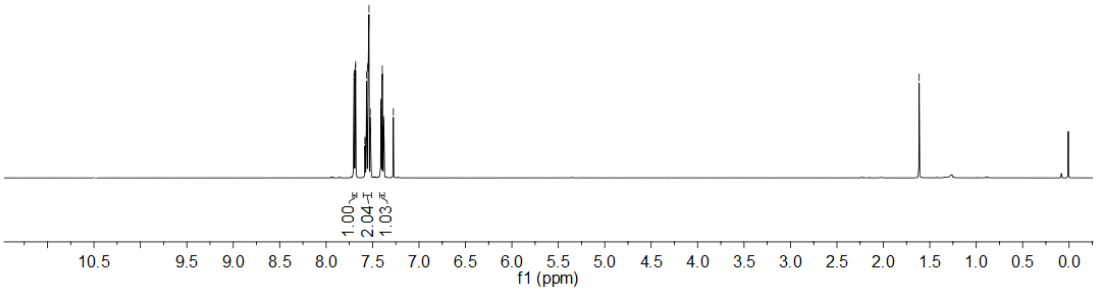




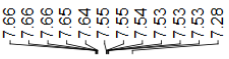
6b CDCl3

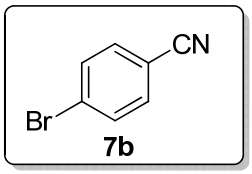


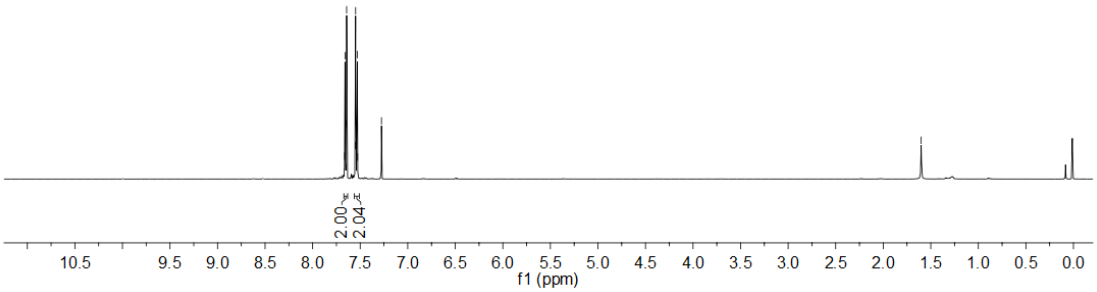




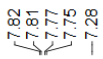
7b CDCl3

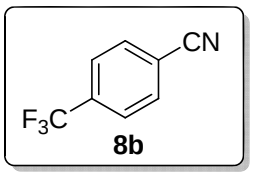


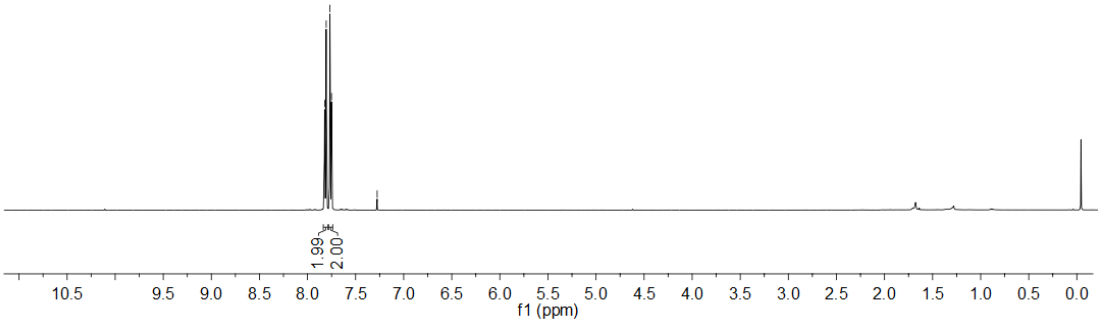




8b CDCl3

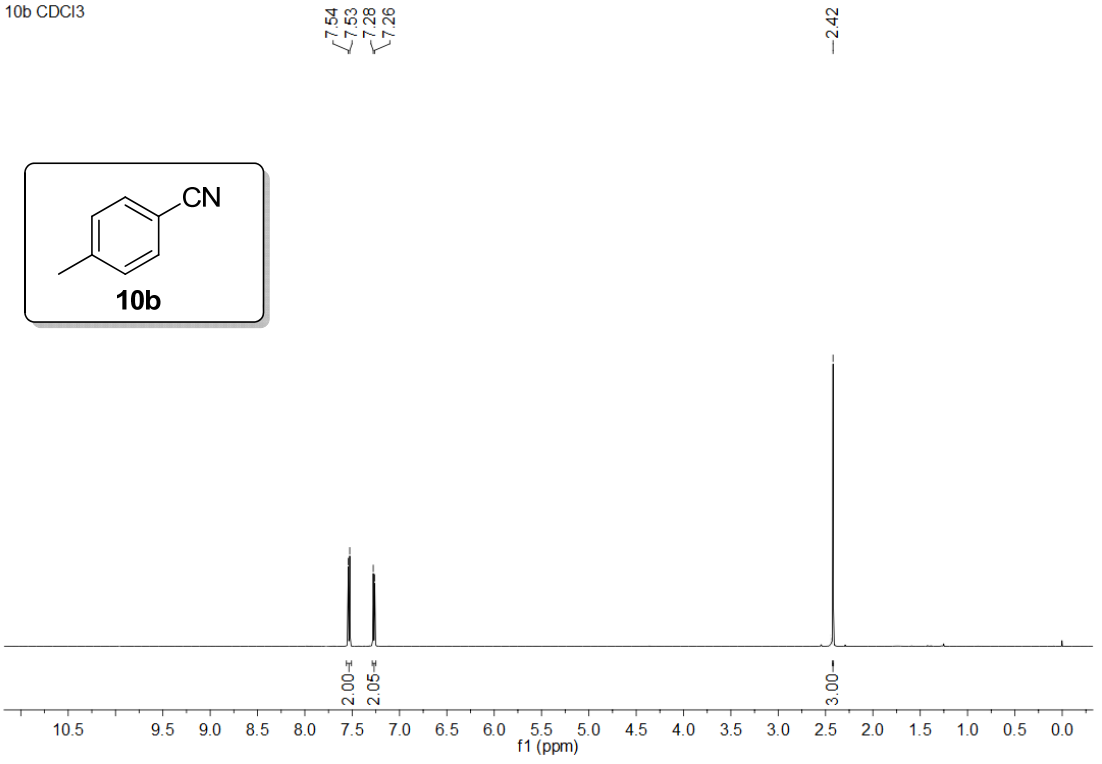




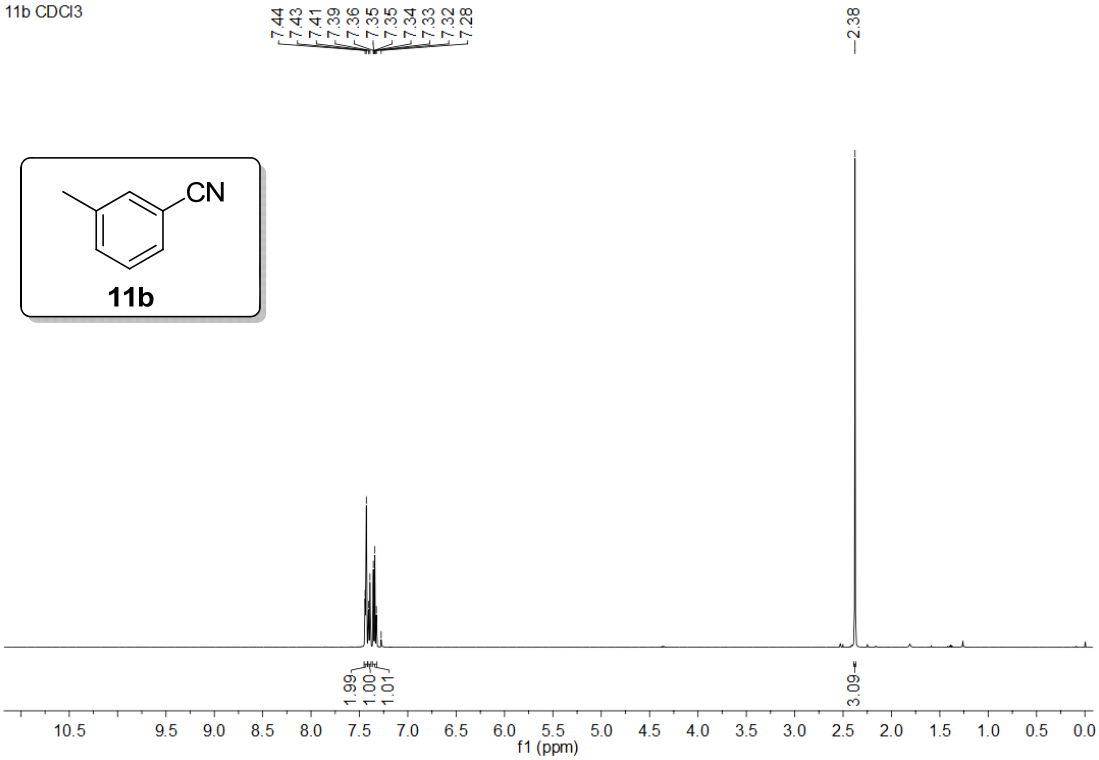


9b CDCl3

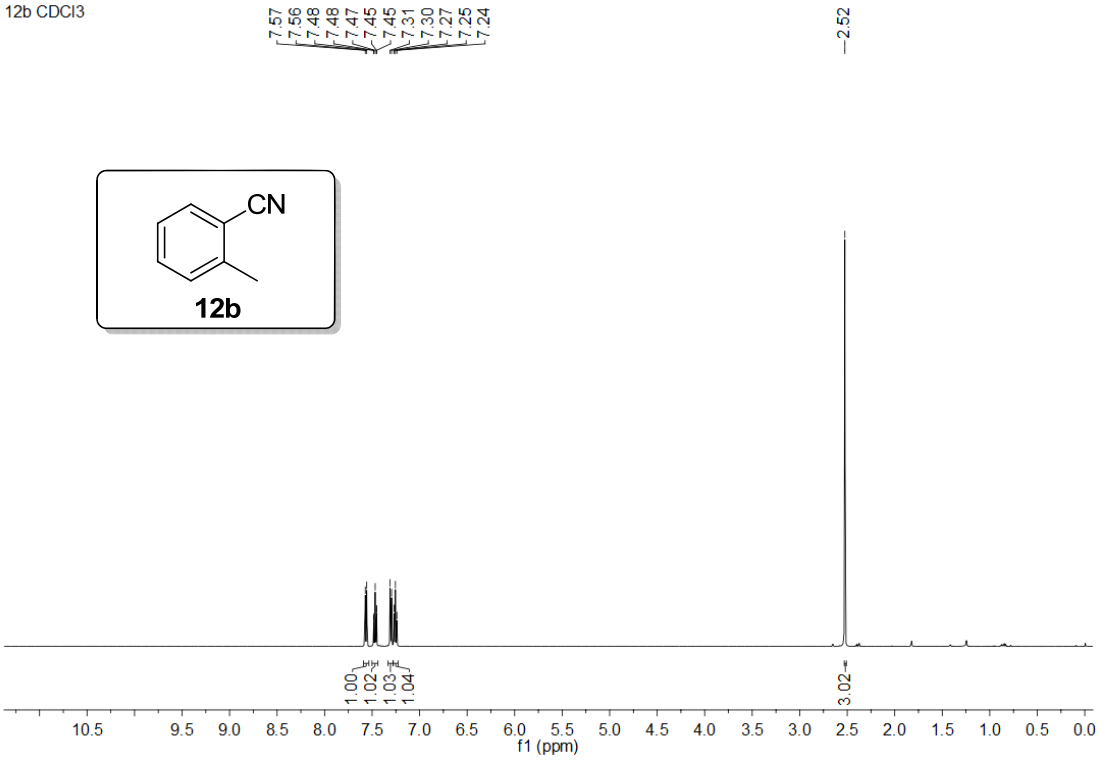
10b CDCl3



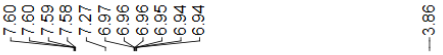
11b CDCl3

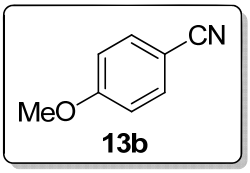


12b CDCl3



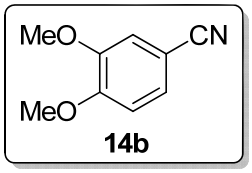
13b CDCl3



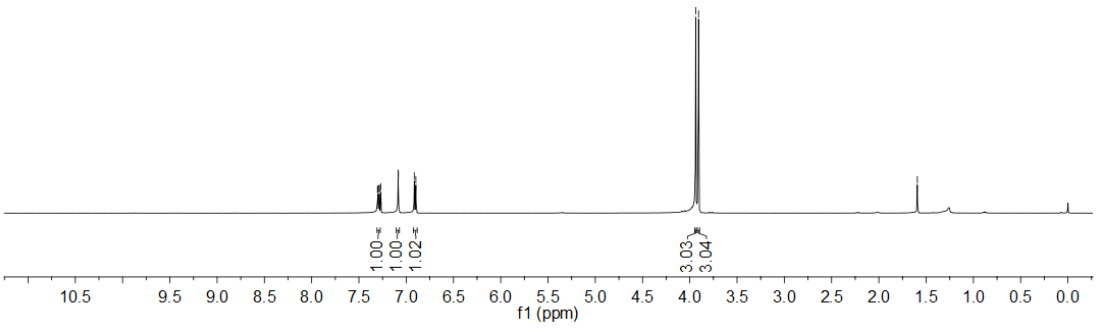


13b

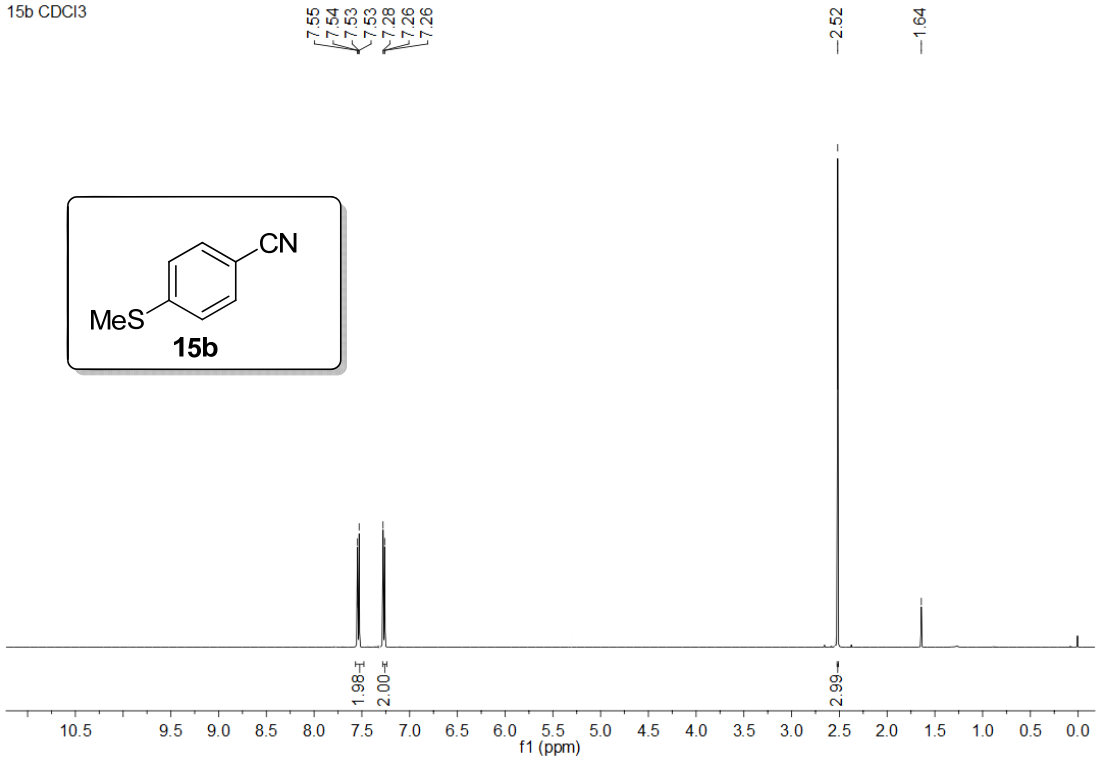
14b CDCl3



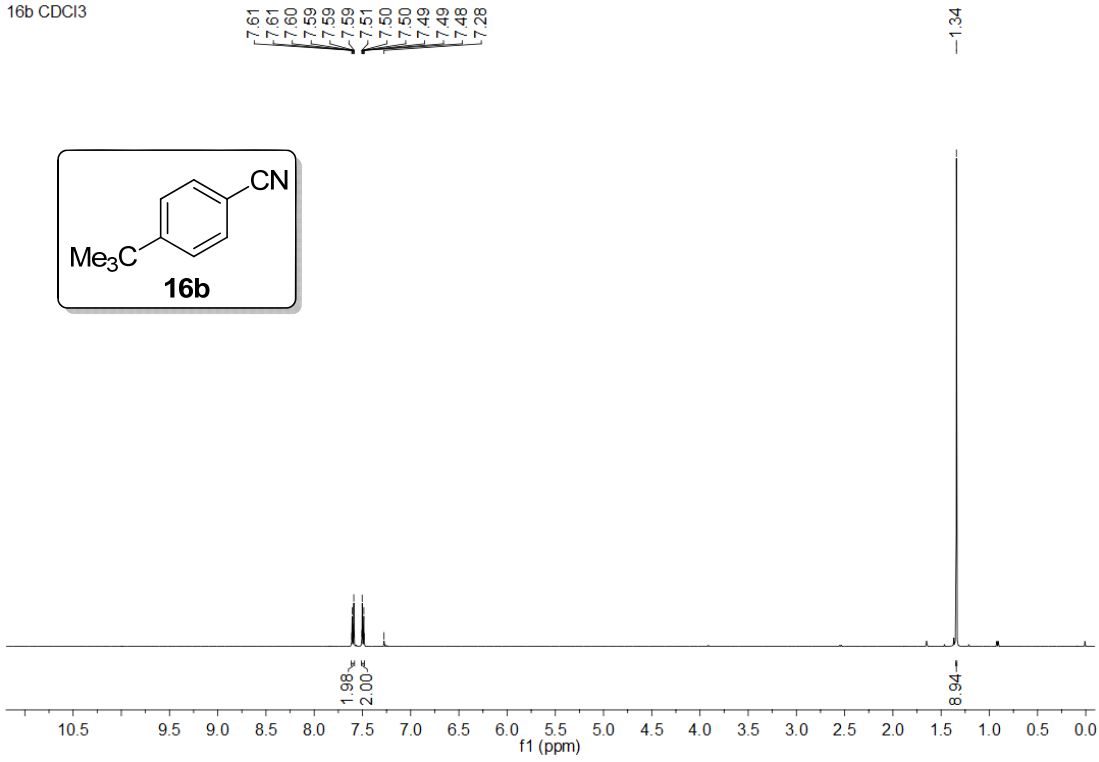
14b



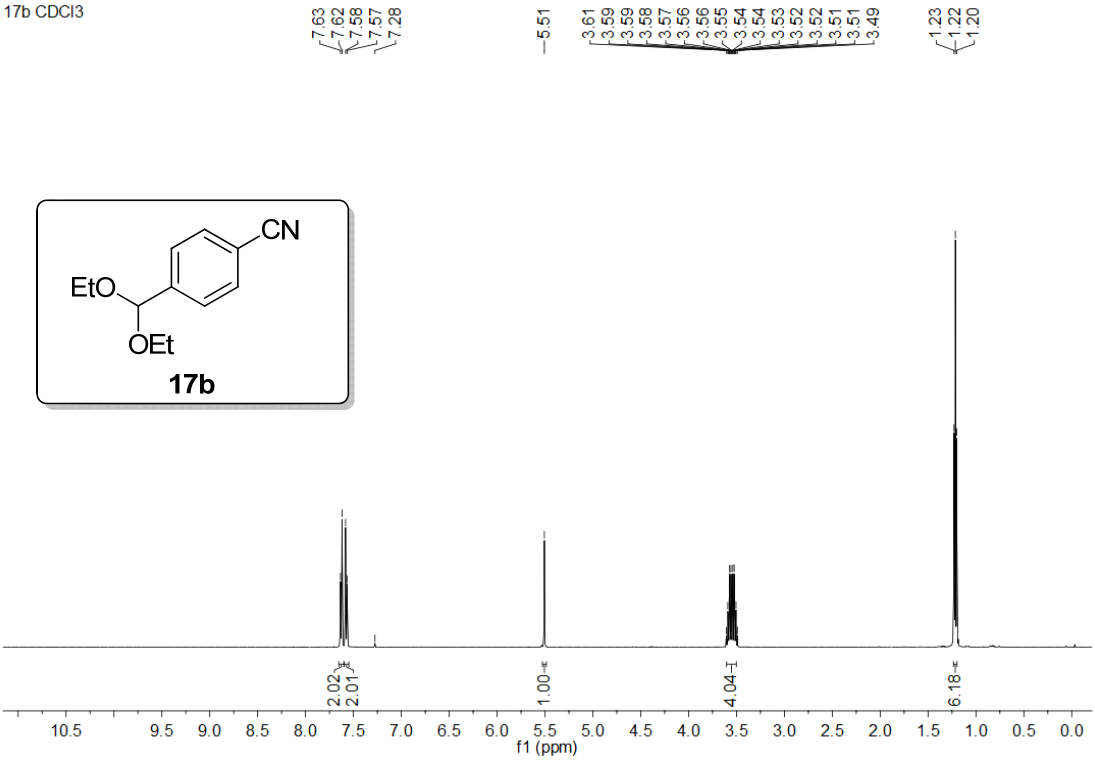
15b CDCl3



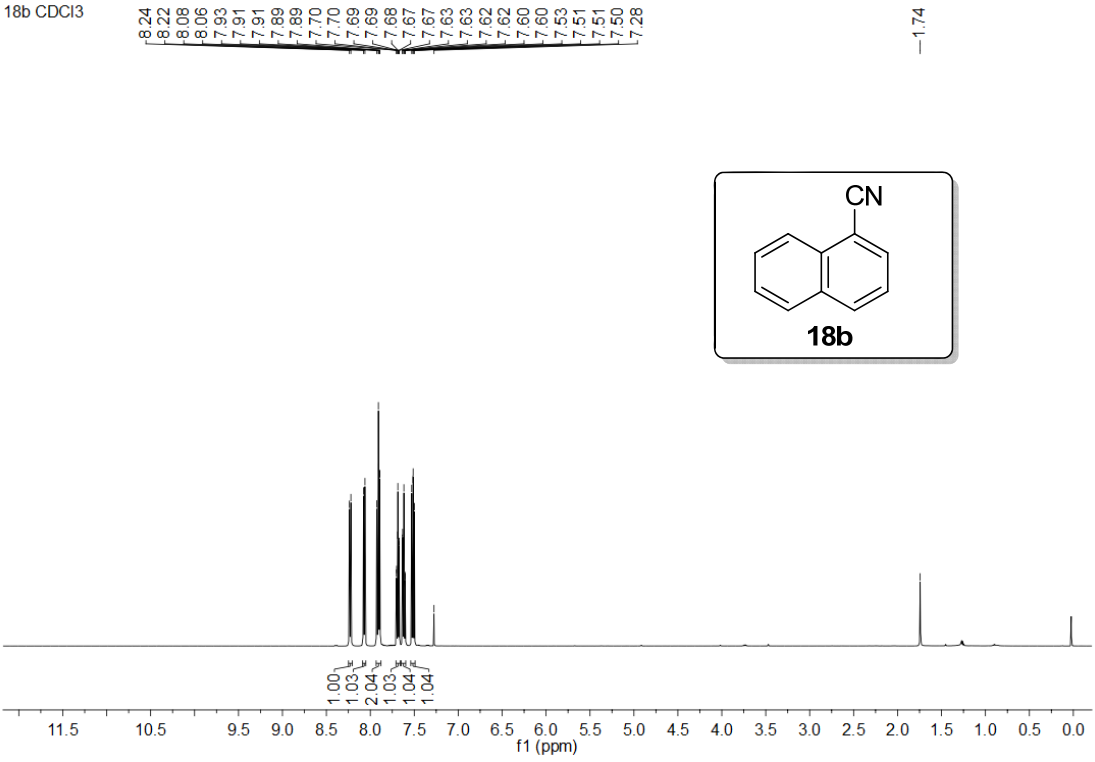
16b CDCl3



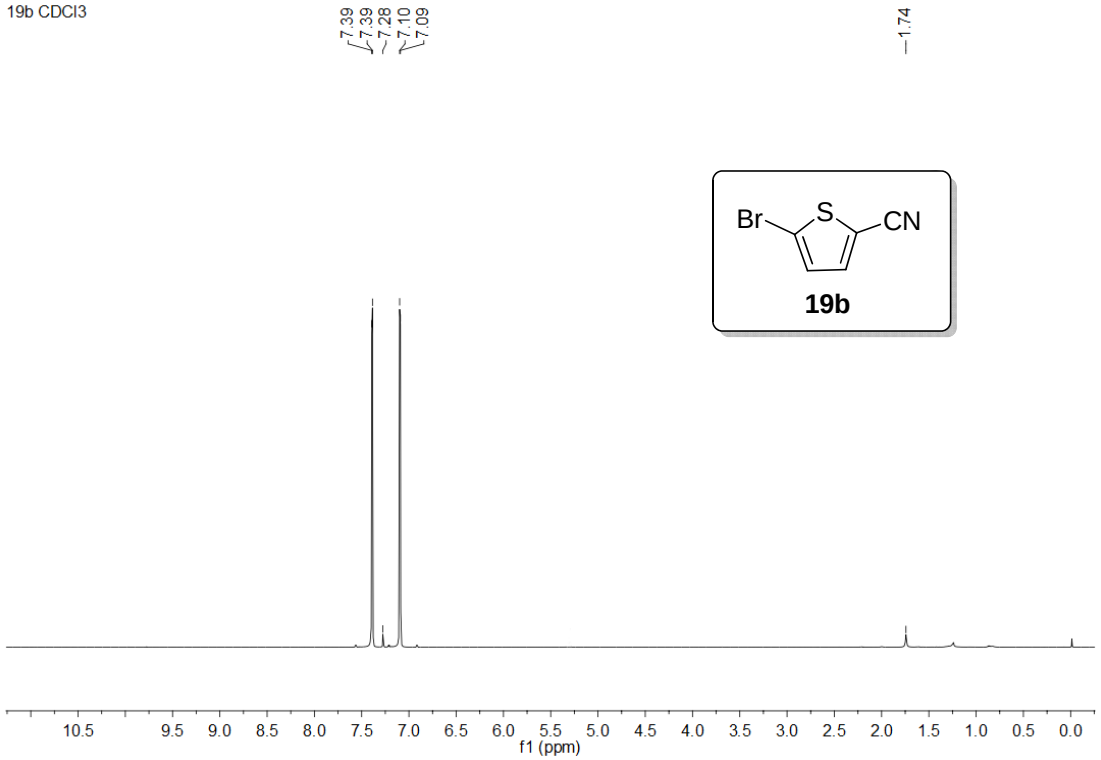
17b CDCl3



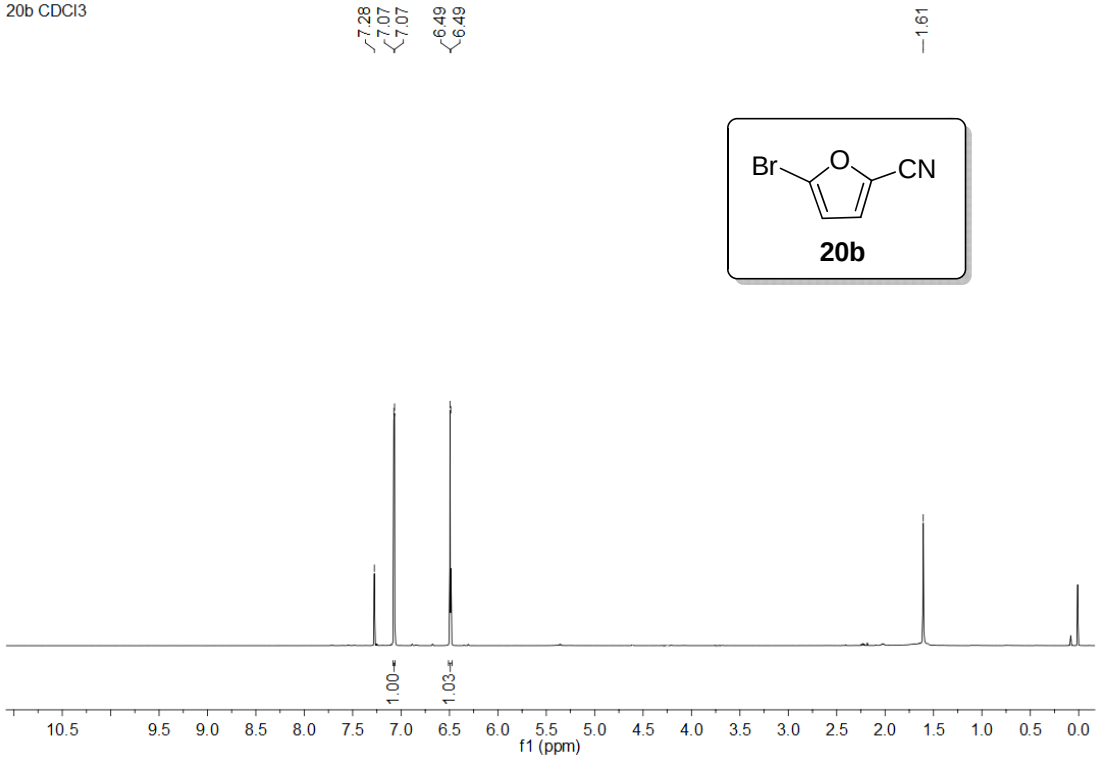
18b CDCl3



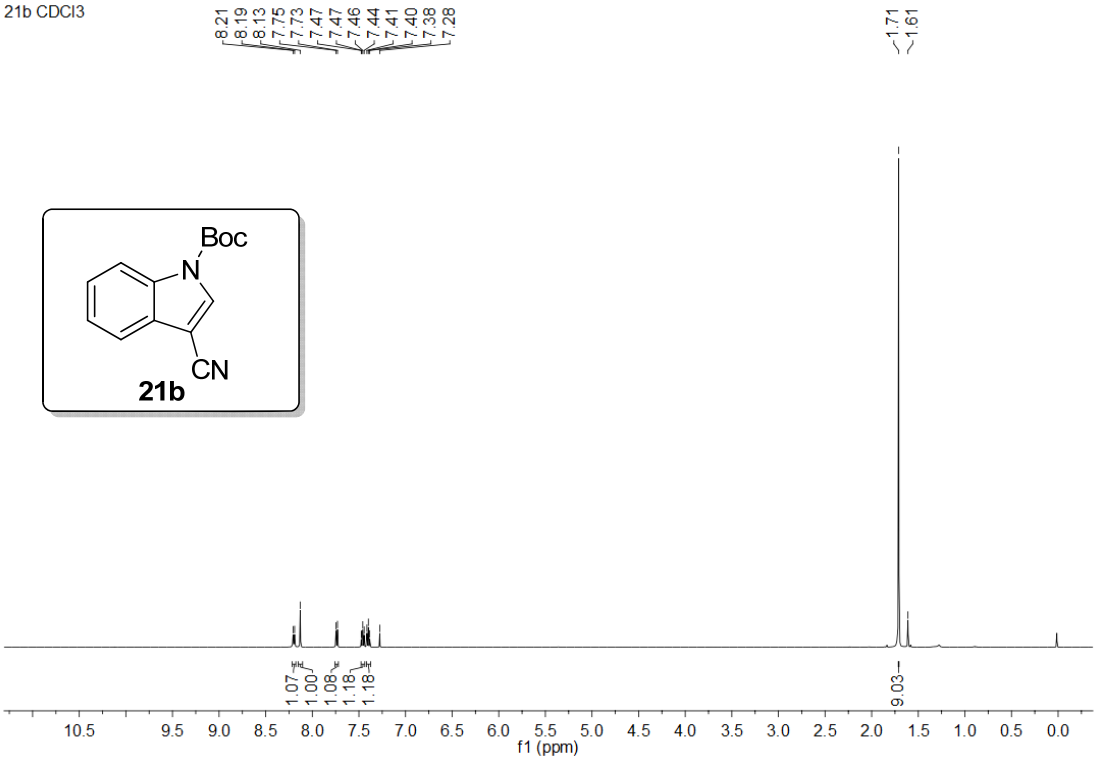
19b CDCl3



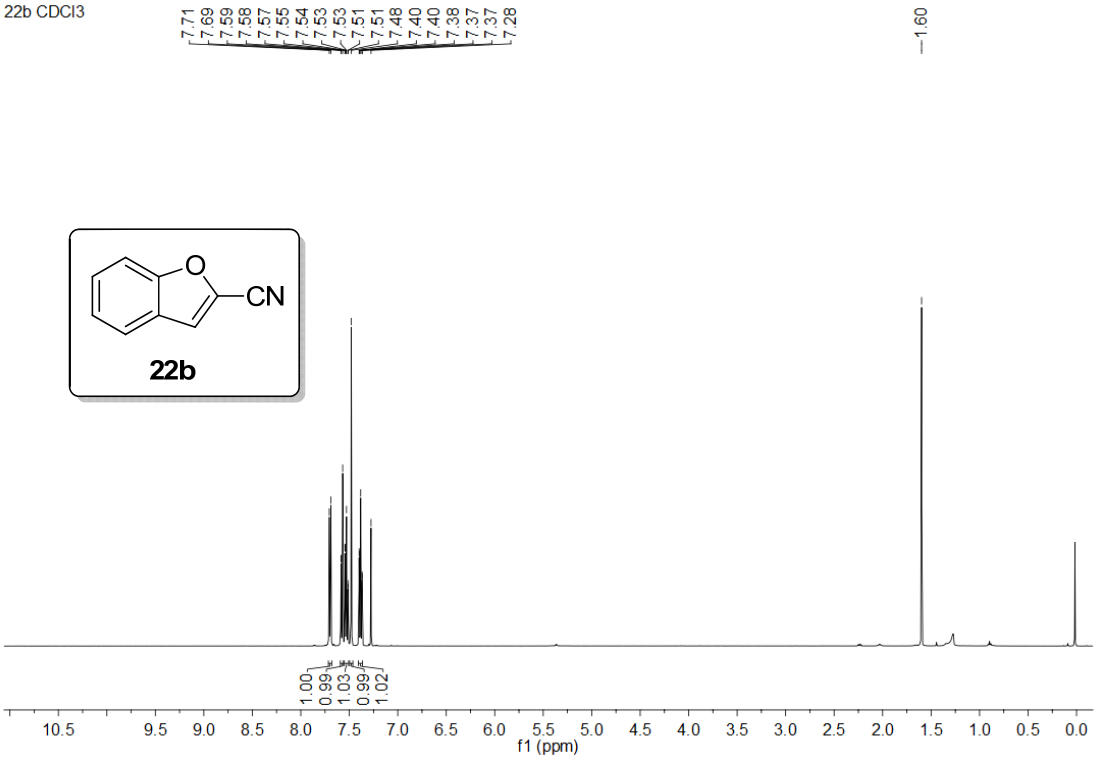
20b CDCl3



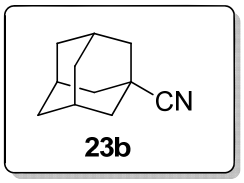
21b CDCl3



22b CDCl3

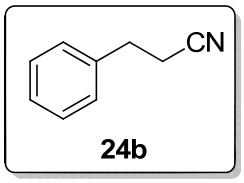


23b CDCl3



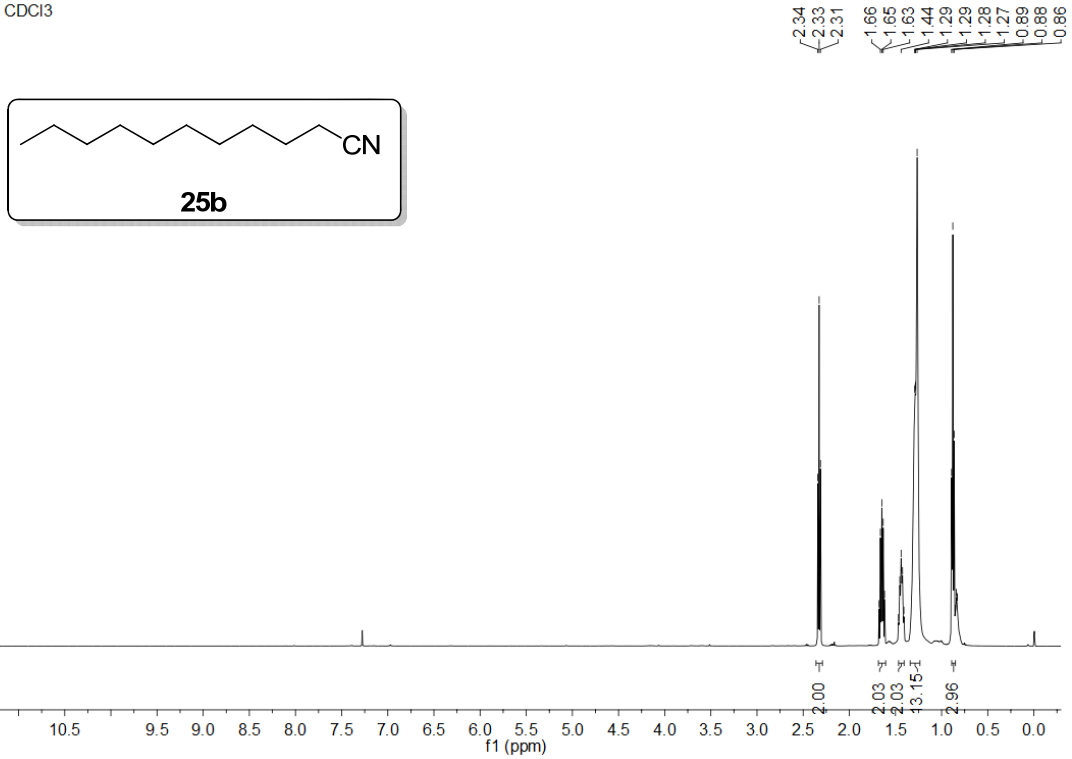
23b

24b CDCl3

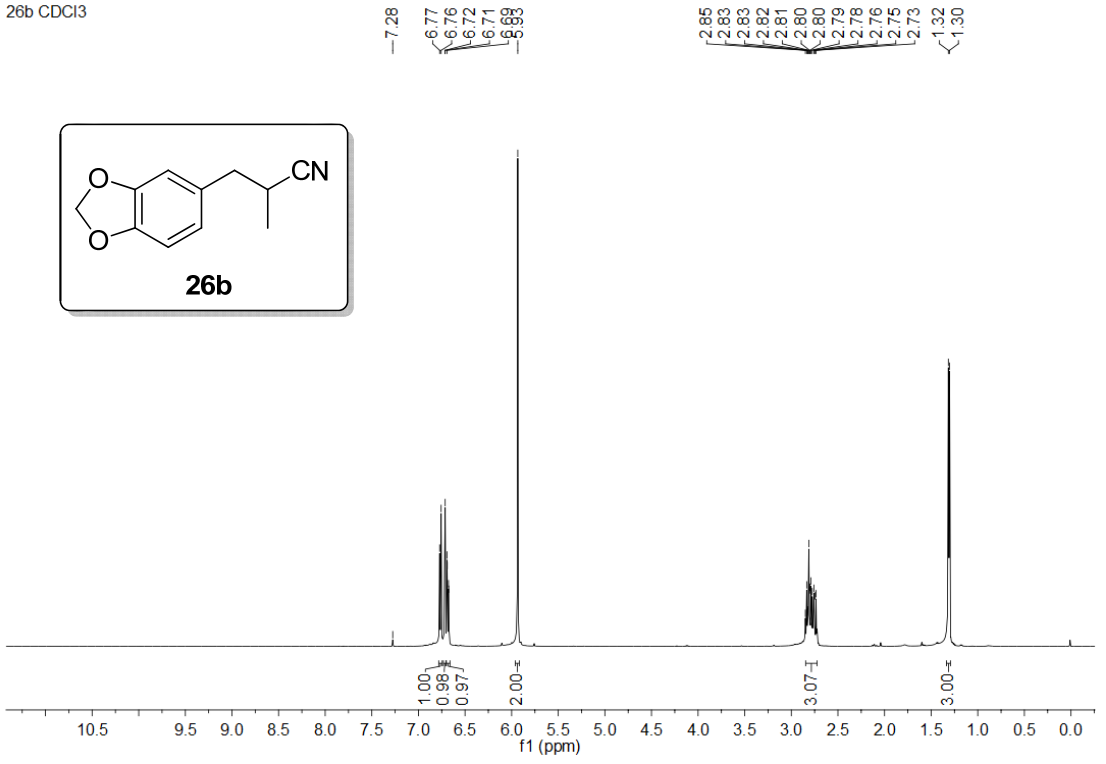


24b

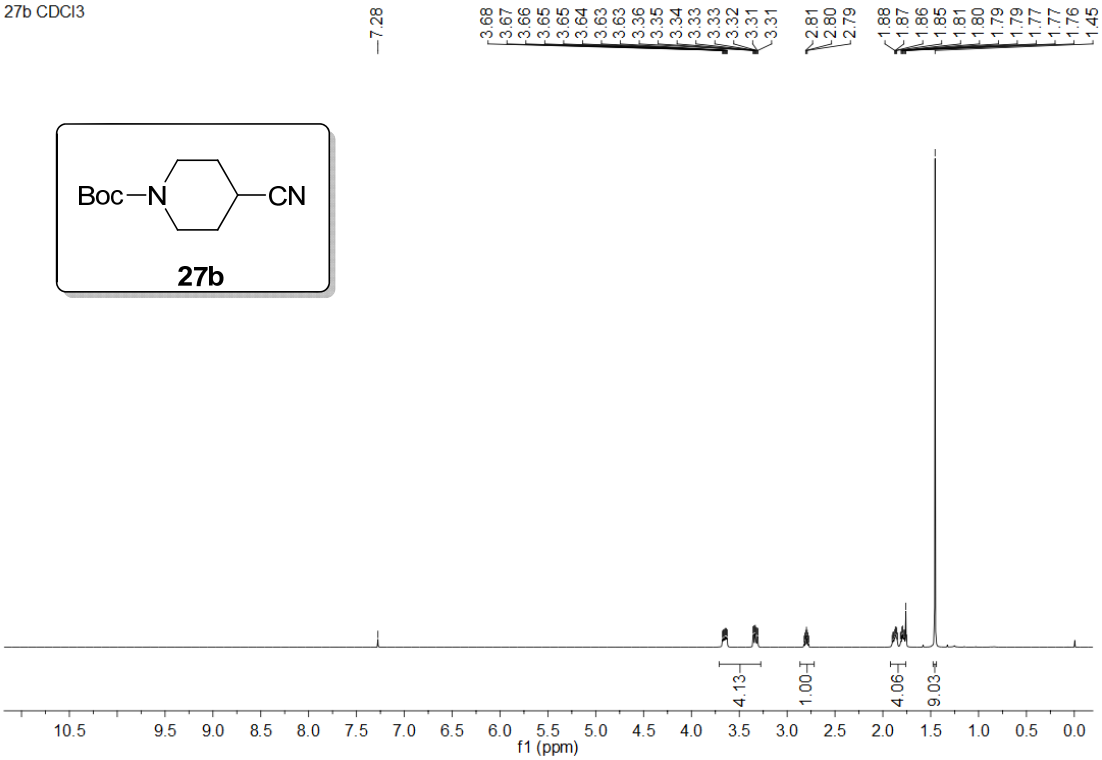
25b CDCl3



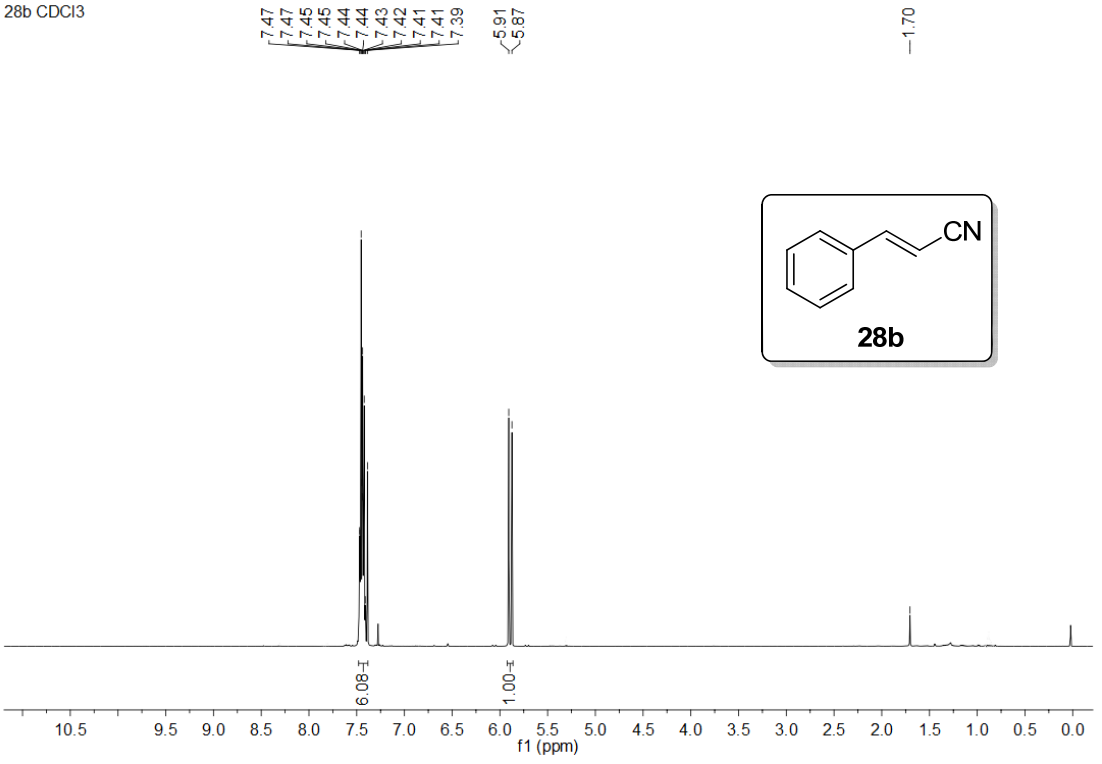
26b CDCl3



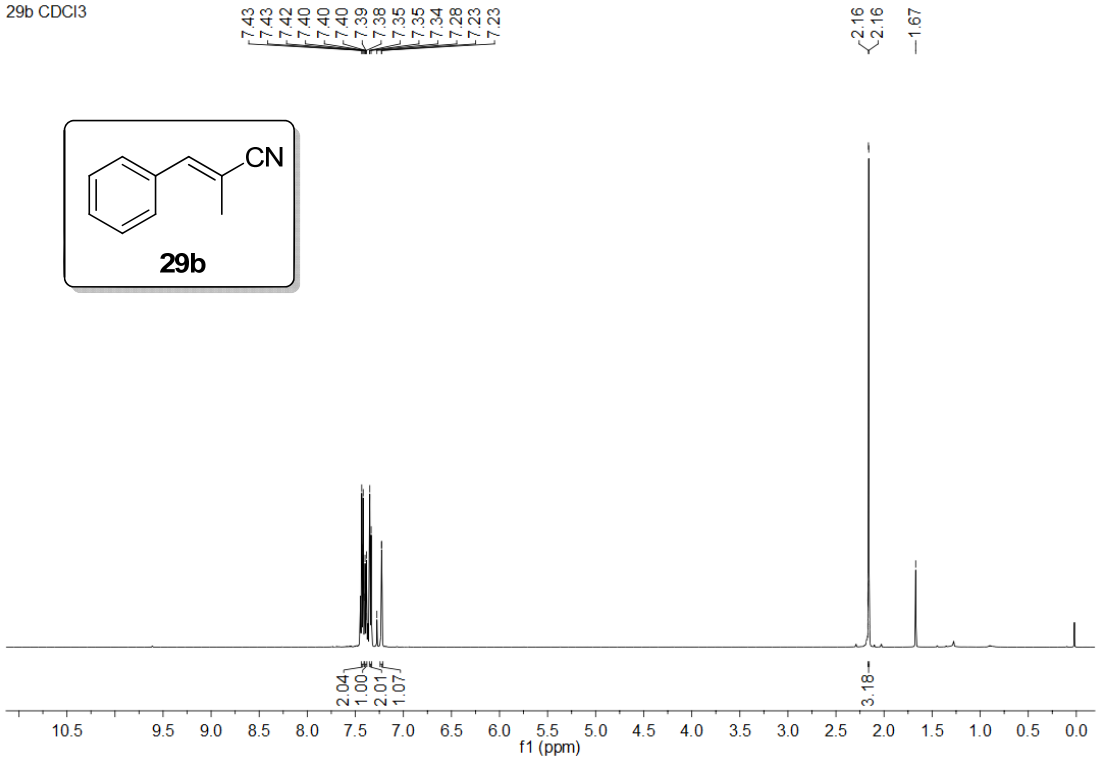
27b CDCl3



28b CDCl3



29b CDCl3



30b DMSO