Supporting Information

Au/Ag/Cu-Mixed Catalysts for the Eco-Friendly Oxidation of 5-Hydroxymethylfurfural and Related Compounds to Carboxylic Acids under Atmospheric Oxygen in Water

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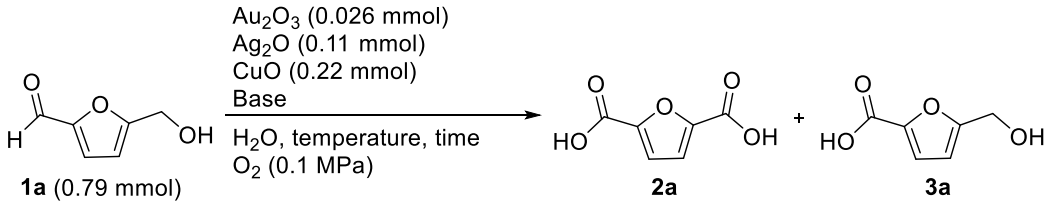
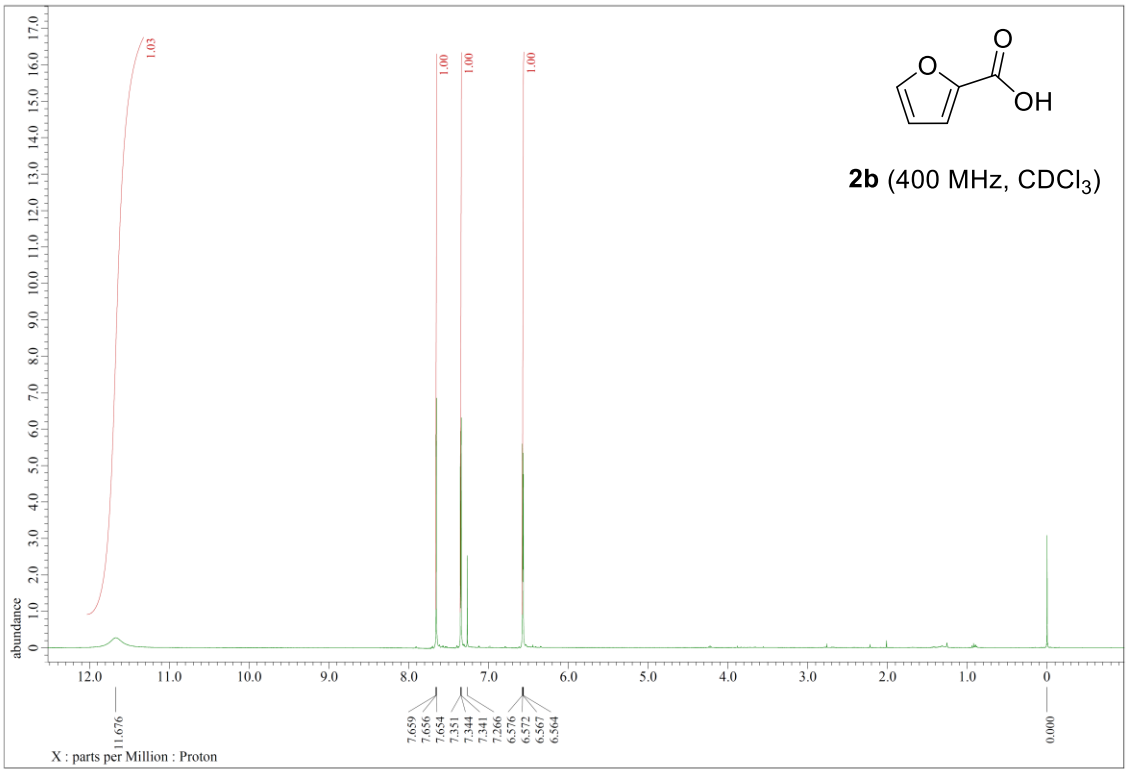
Table S1. Optimization of the base for Au/Ag/Cu mixed catalytic system



Entry	Base (mmol)	Temperature (°C)	H_2O (mL)	Time (h)	Yield (%)[a]	
					2a	**3a**
1	$NaHCO_3$ (2.5)	42	0.75	16	N.D.	N.D.
2	K_2CO_3 (1.25)	42	0.75	16	N.D.	N.D.
3	NaOH (2.5)	42	1.5	16	78	12
4	NaOH (2.5)	60	0.75	16	41	trace
5	NaOH (2.5)	42	0.75	24	73	16

[a]Yields were determined by ^{1}H NMR.

Figure S1 ^{1}H and $^{13}C\{^{1}H\}$ NMR spectra of compound **2b**



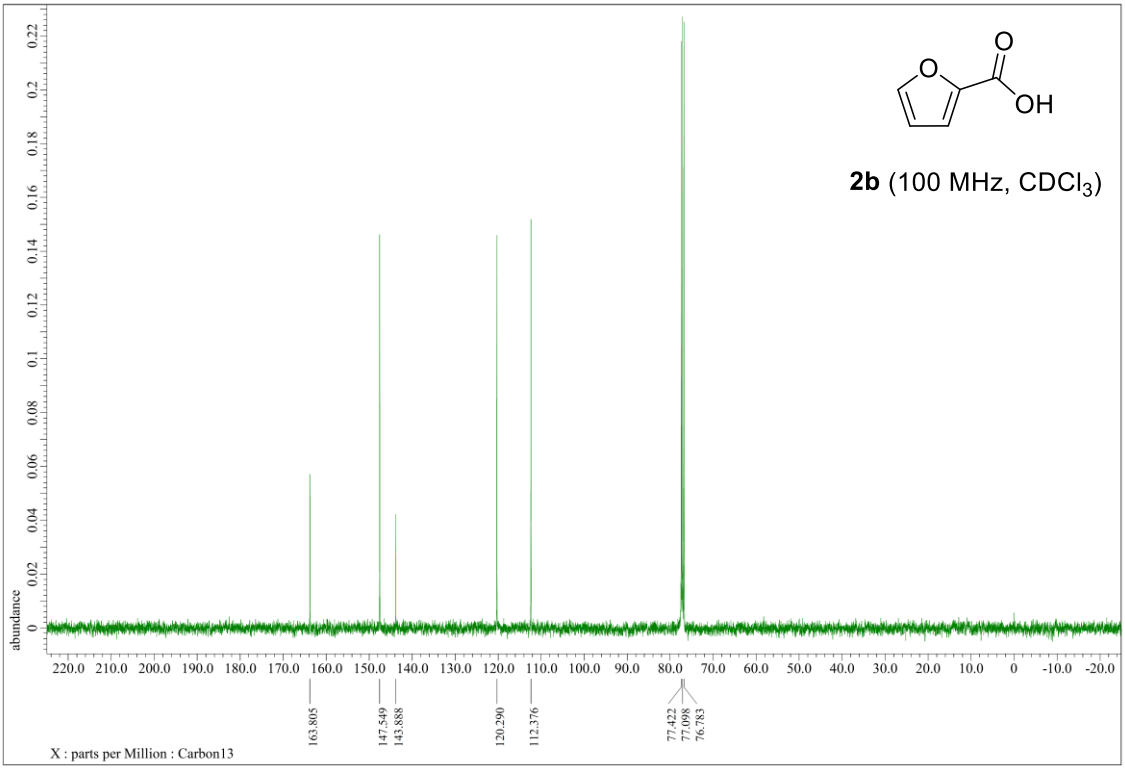
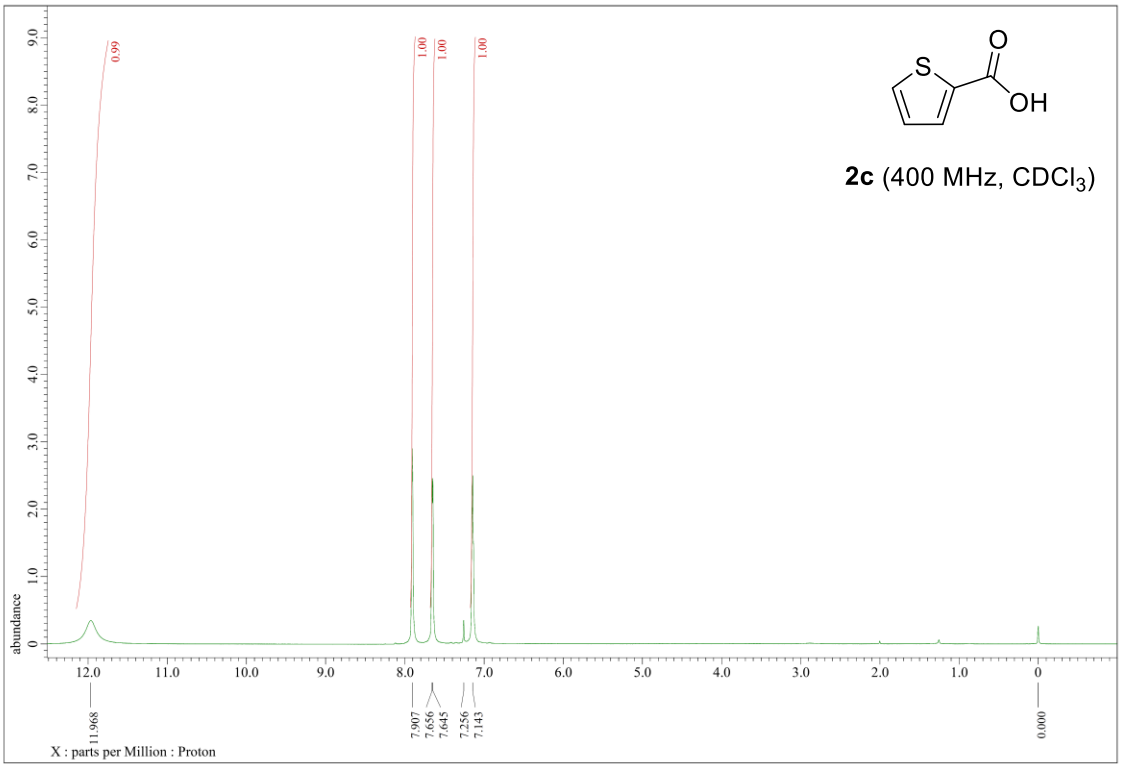


Figure S2 ^{1}H and $^{13}C\{^{1}H\}$ NMR spectra of compound **2c**



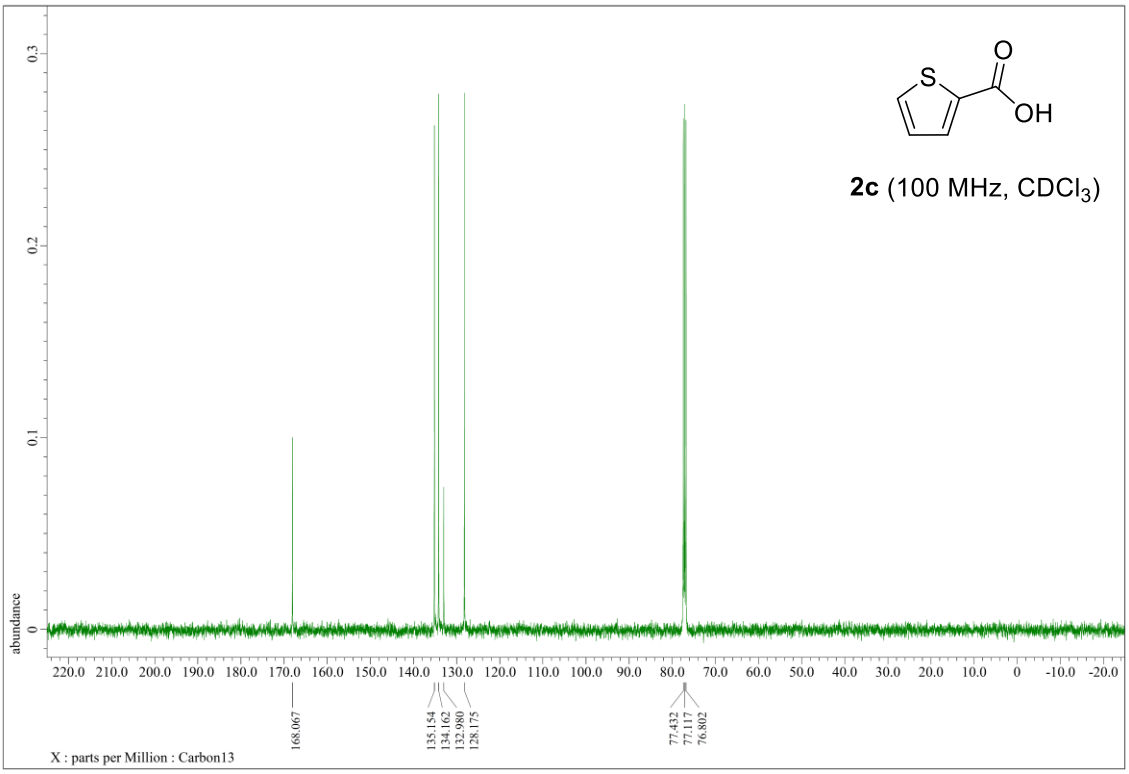
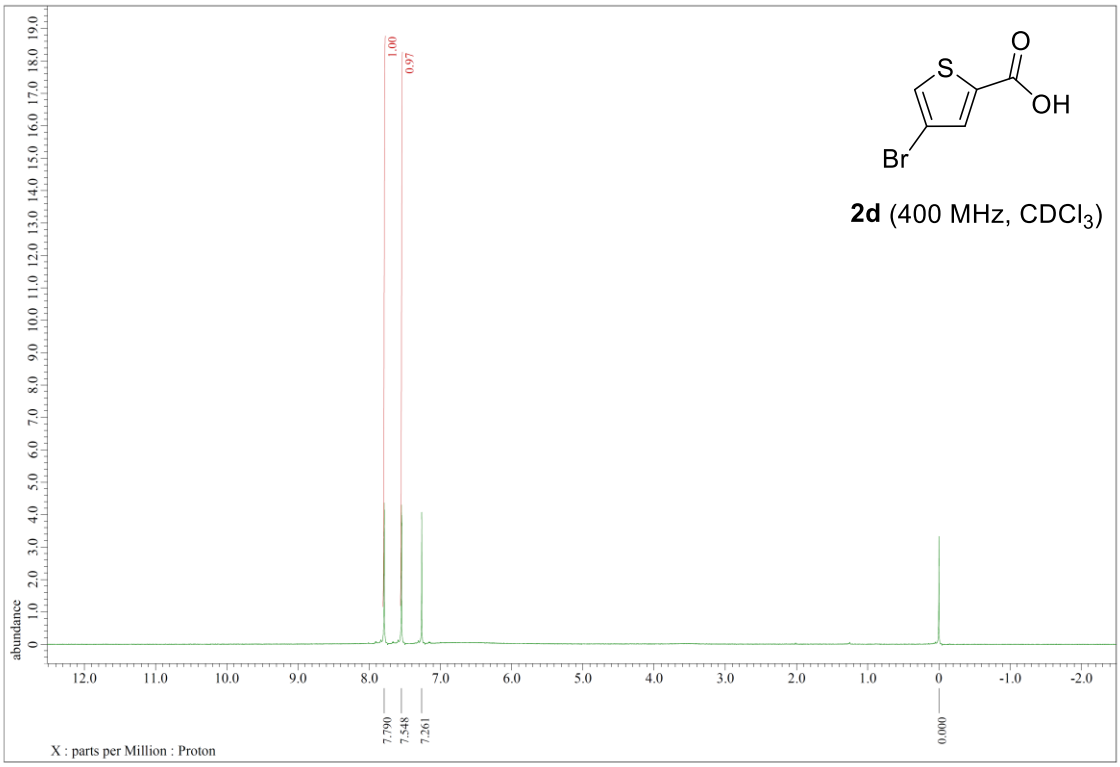


Figure S3 ^{1}H and $^{13}C\{^{1}H\}$ NMR spectra of compound **2d**



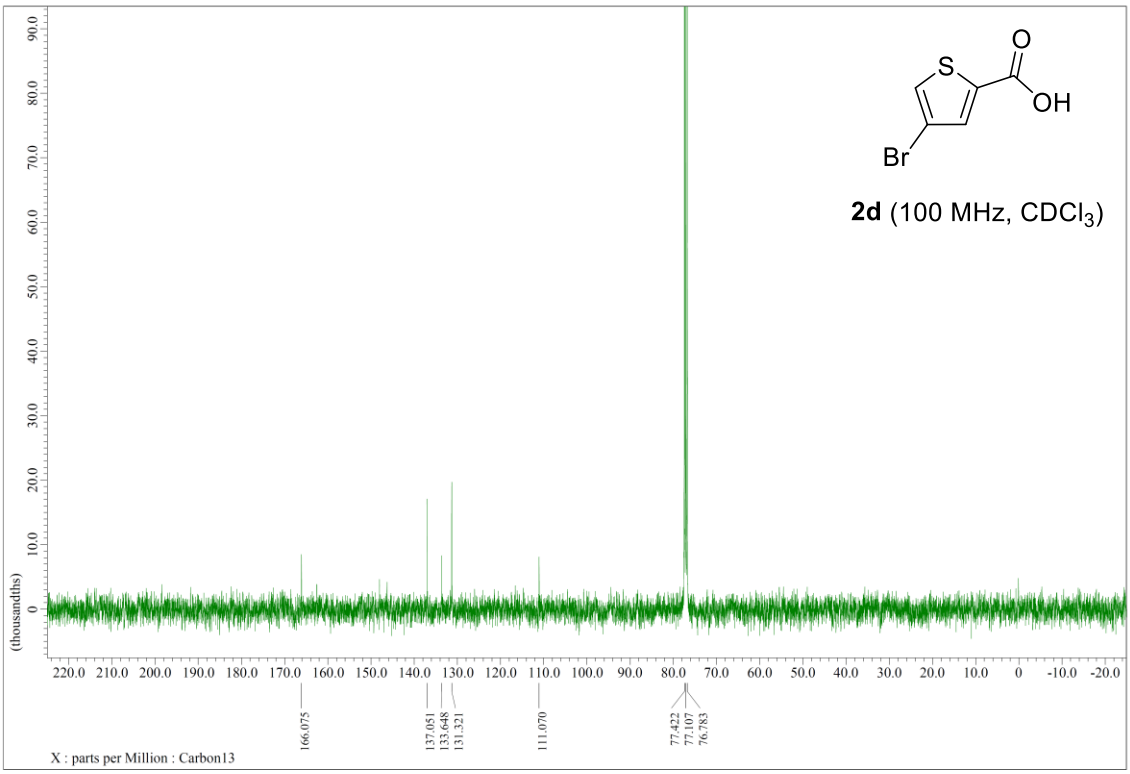
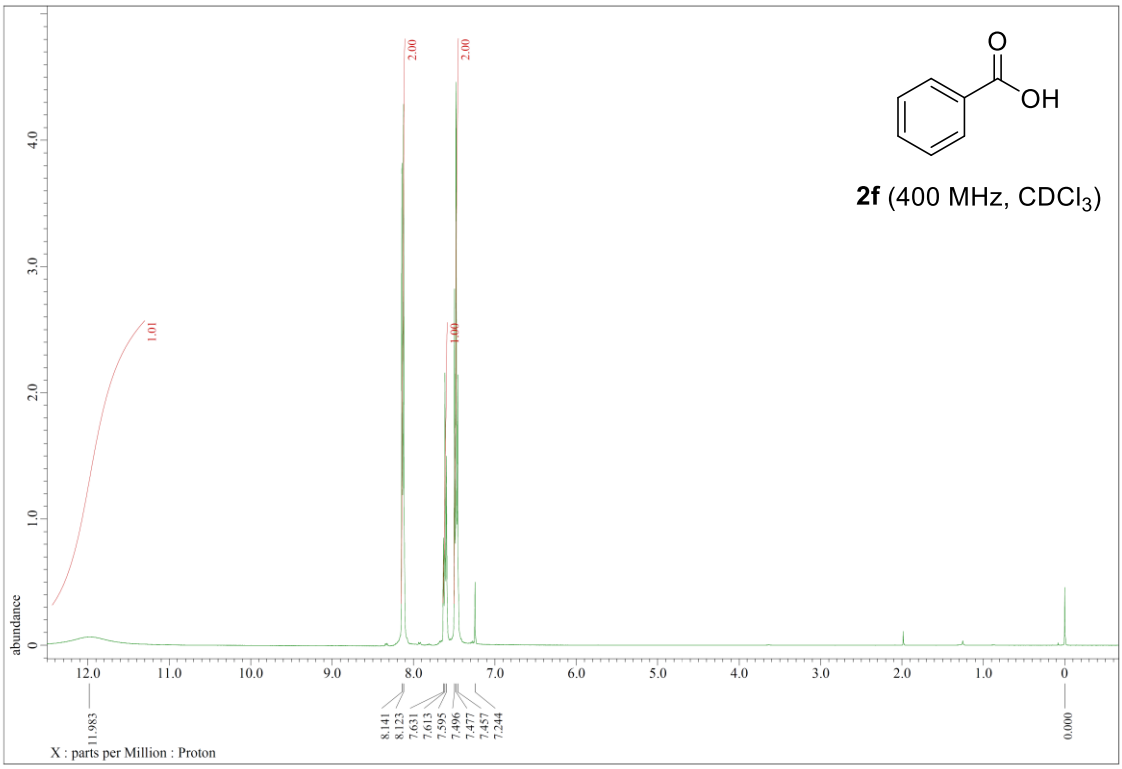


Figure S4 ^{1}H and $^{13}C\{^{1}H\}$ NMR spectra of compound **2f**



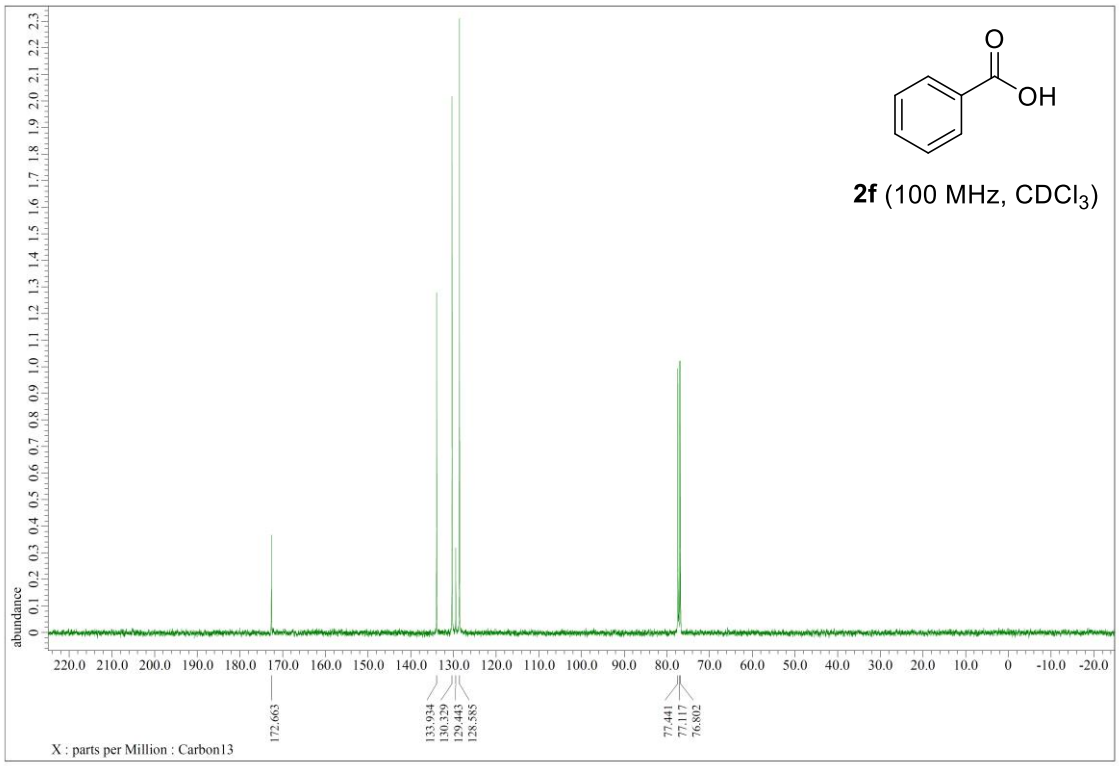
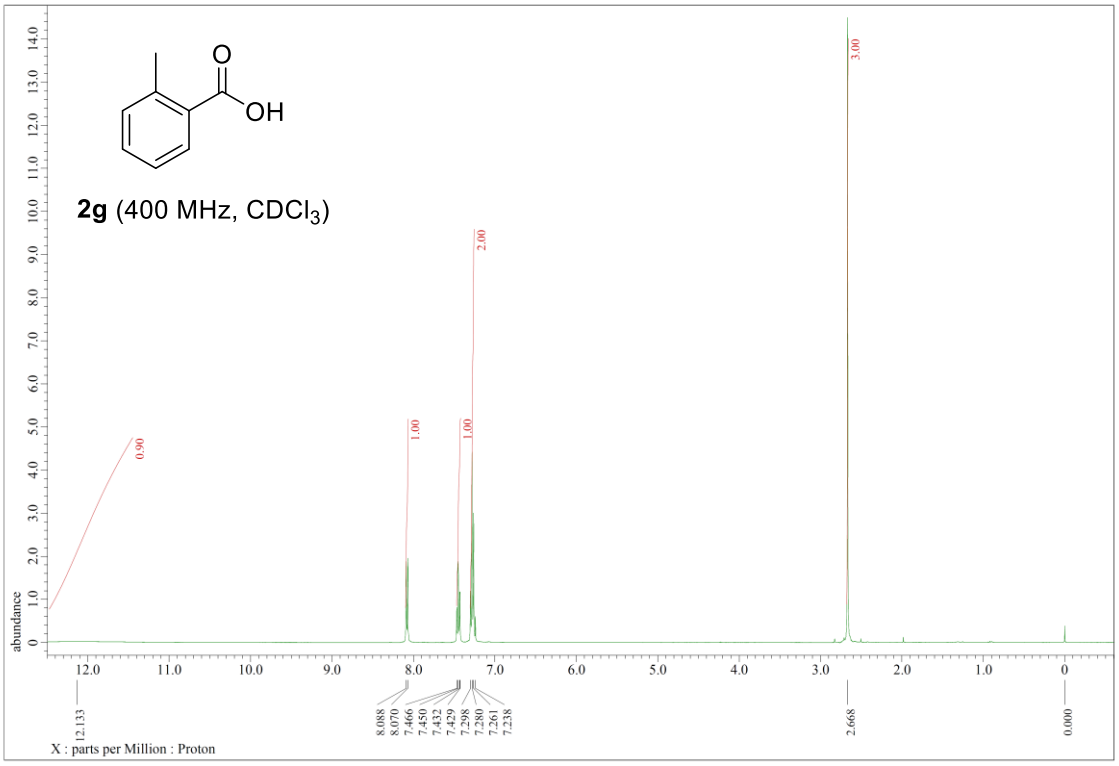


Figure S5 ^{1}H and $^{13}C\{^{1}H\}$ NMR spectra of compound **2g**



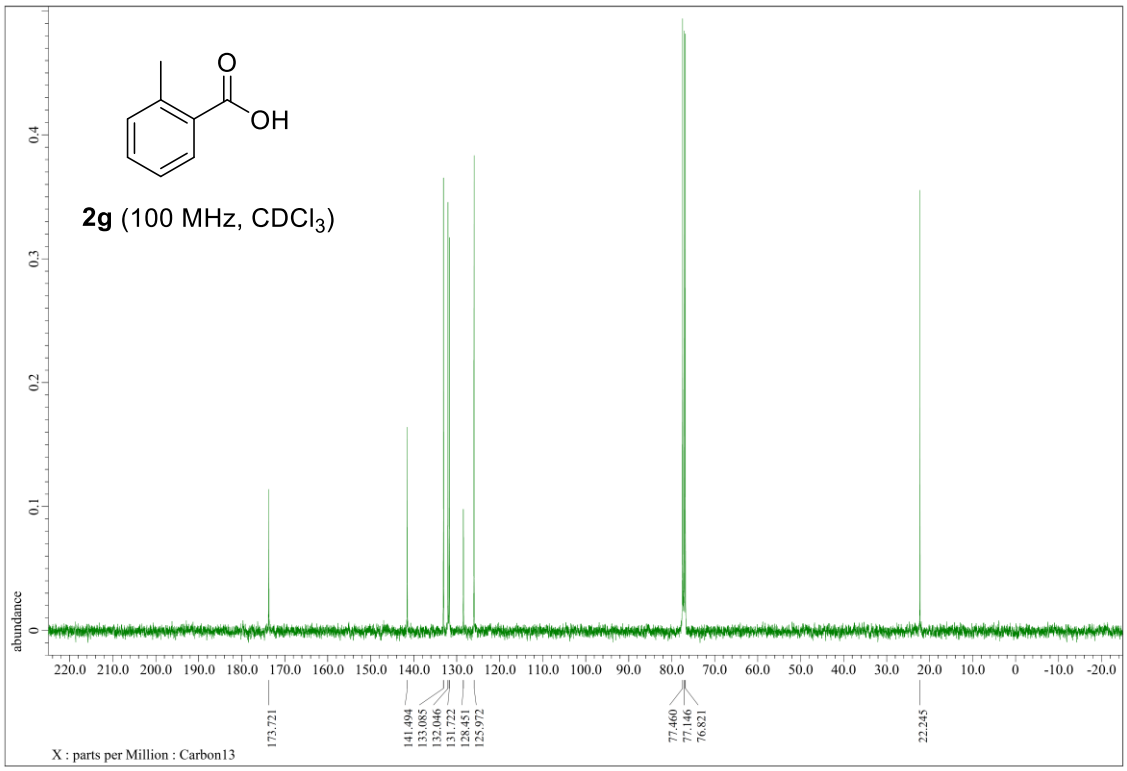
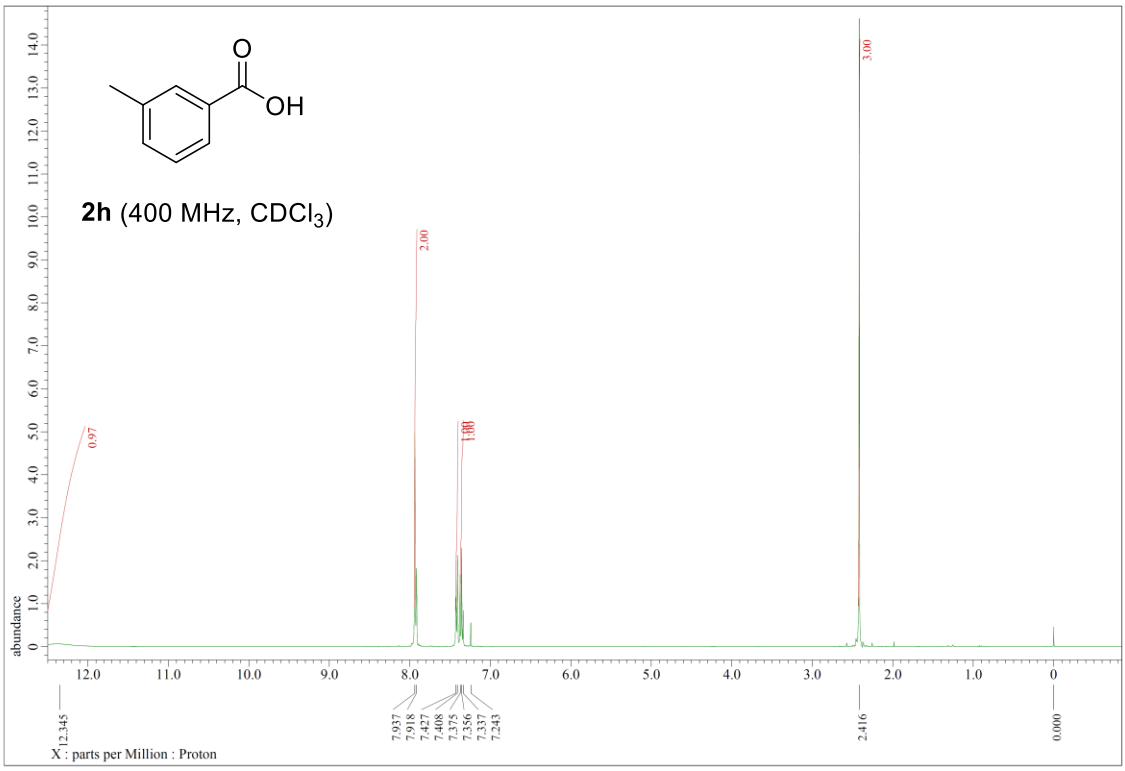


Figure S6 ^{1}H and $^{13}C\{^{1}H\}$ NMR spectra of compound **2h**



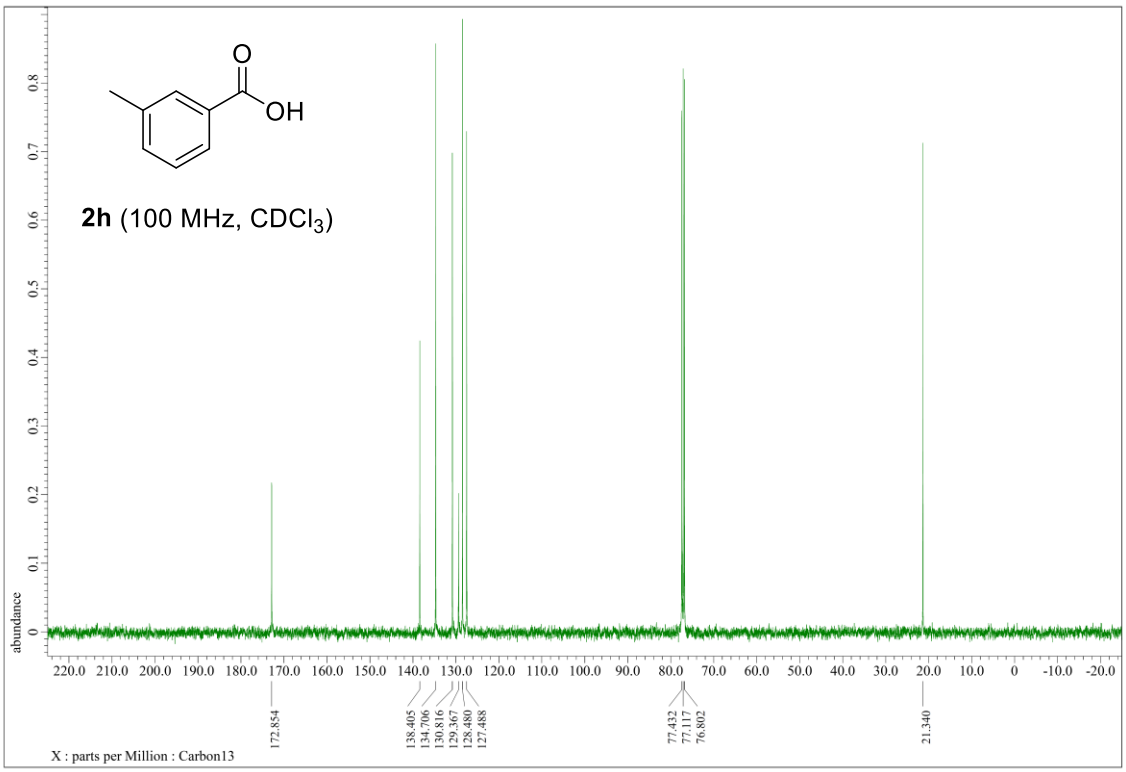
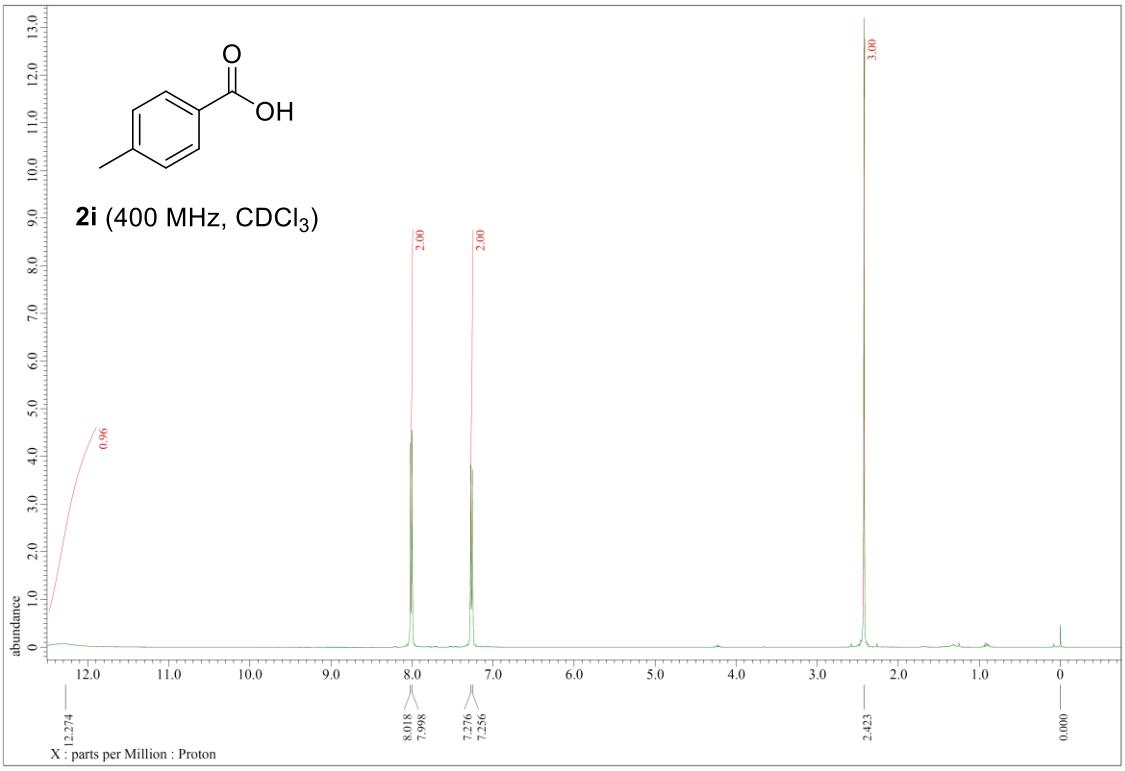


Figure S7 ^{1}H and $^{13}C\{^{1}H\}$ NMR spectra of compound **2i**



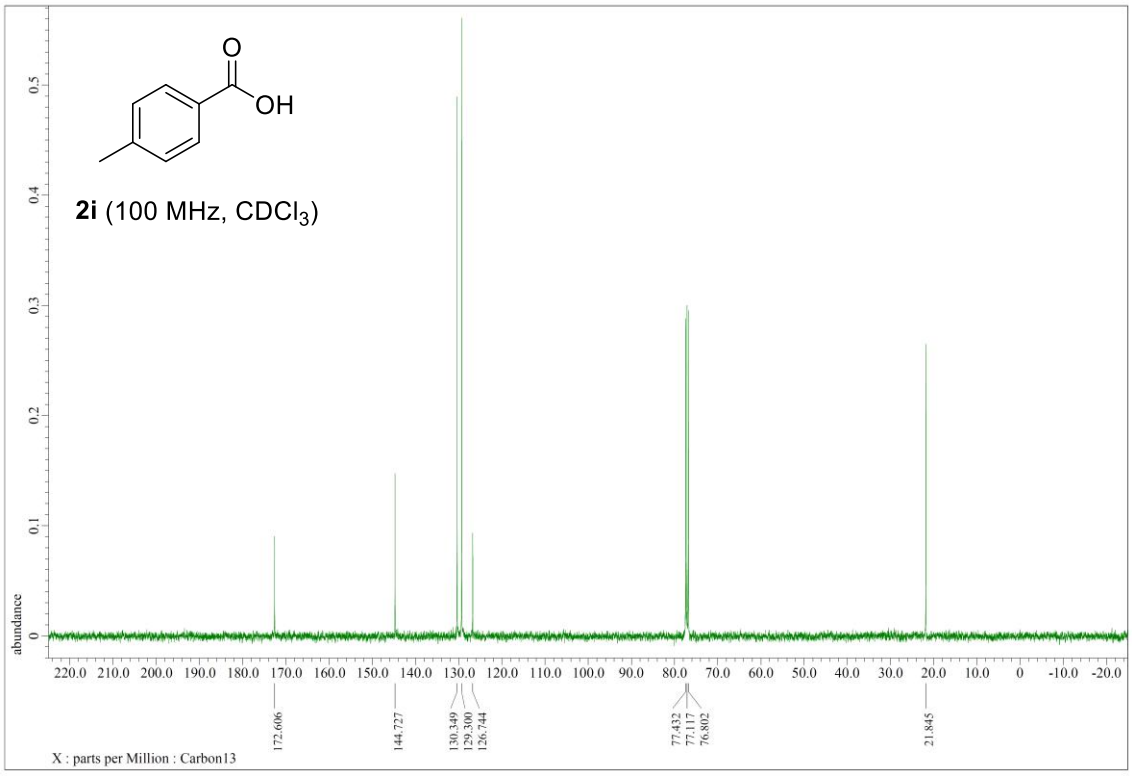
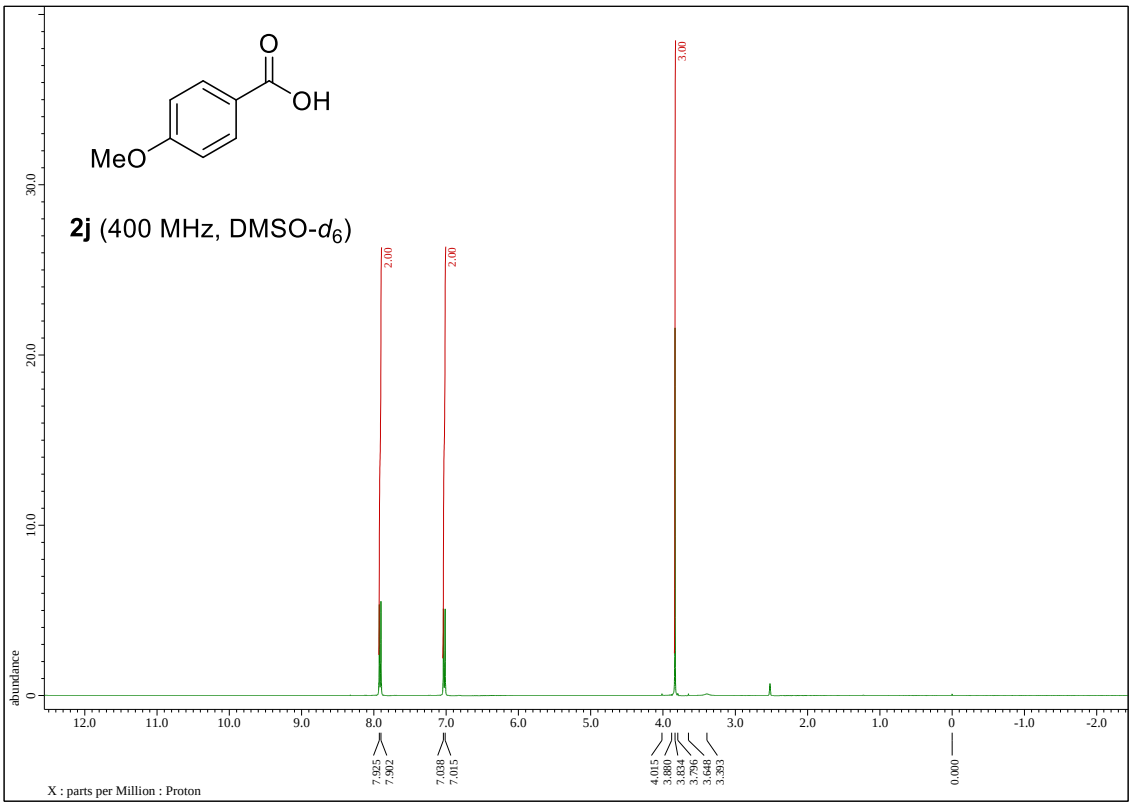


Figure S8 ^{1}H and ^{13}C{^{1}H} NMR spectra of compound **2j**



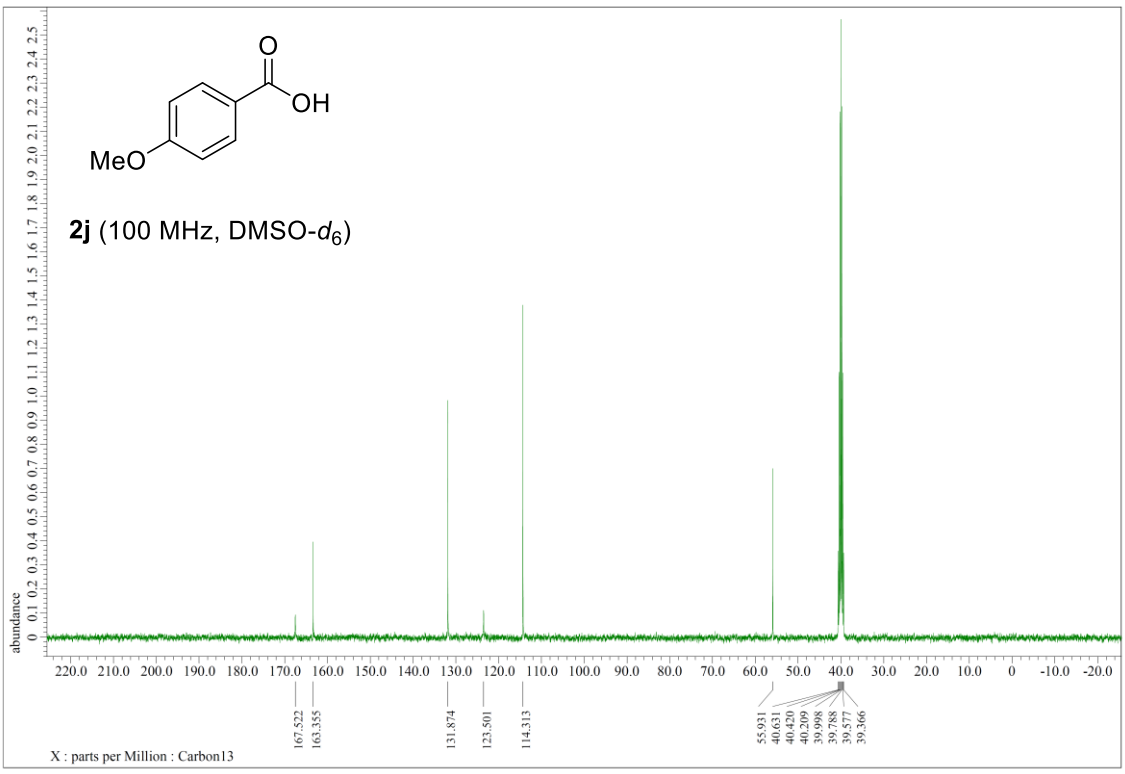
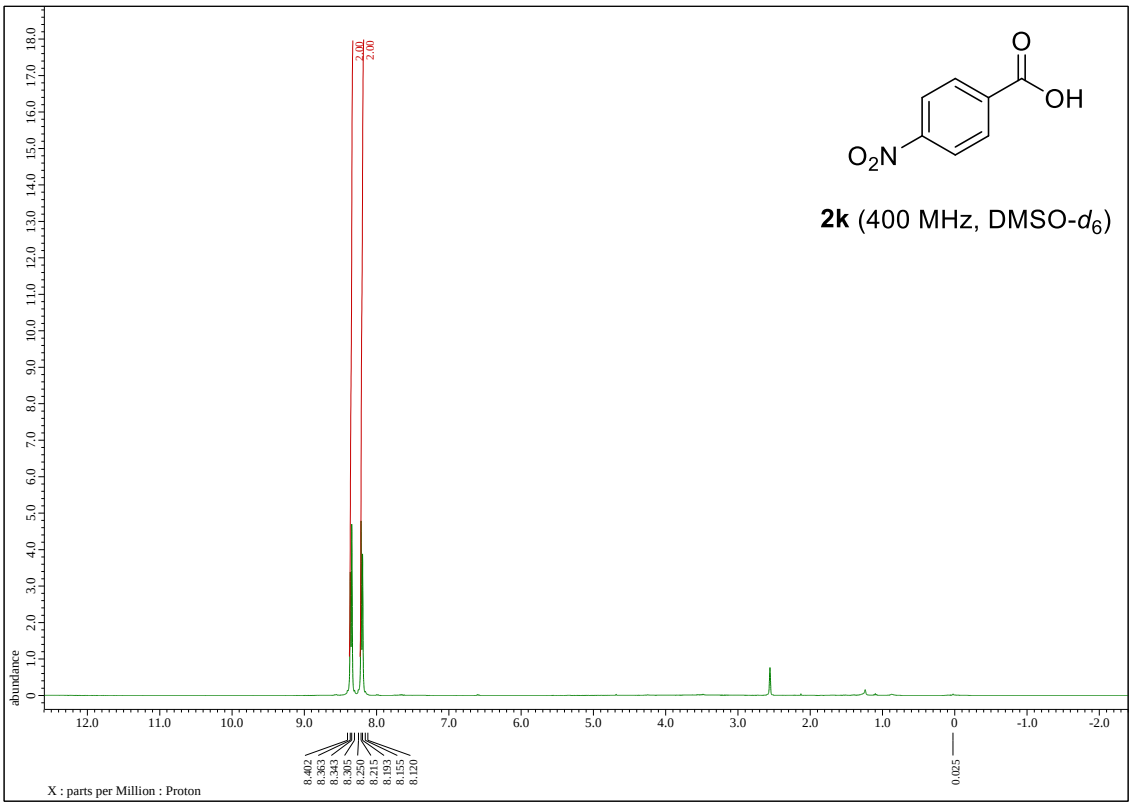


Figure S9 ^{1}H and ^{13}C{^{1}H} NMR spectra of compound **2k**



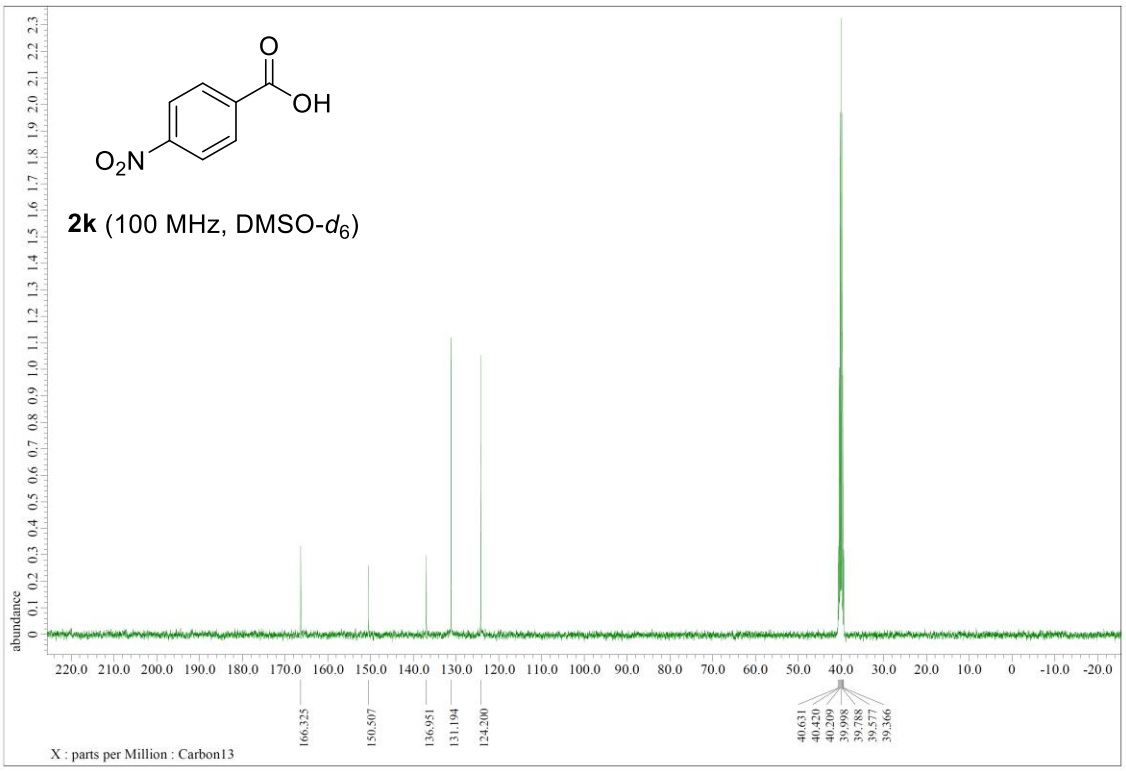
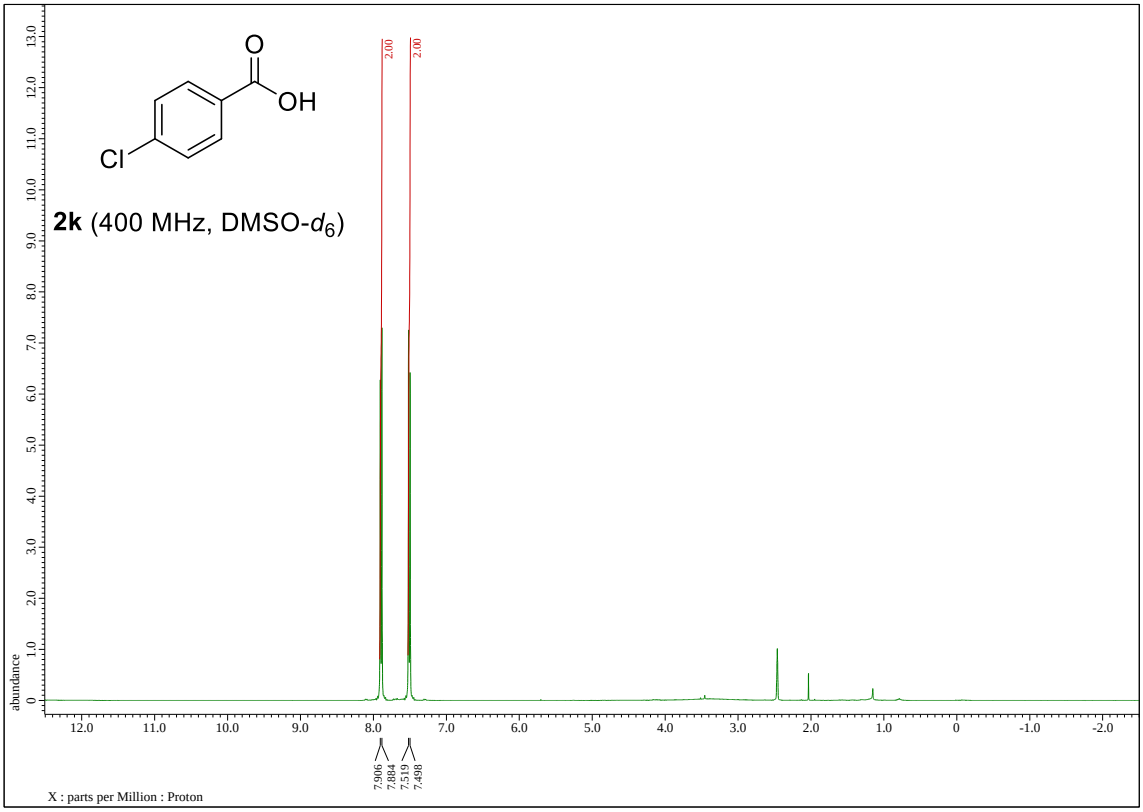
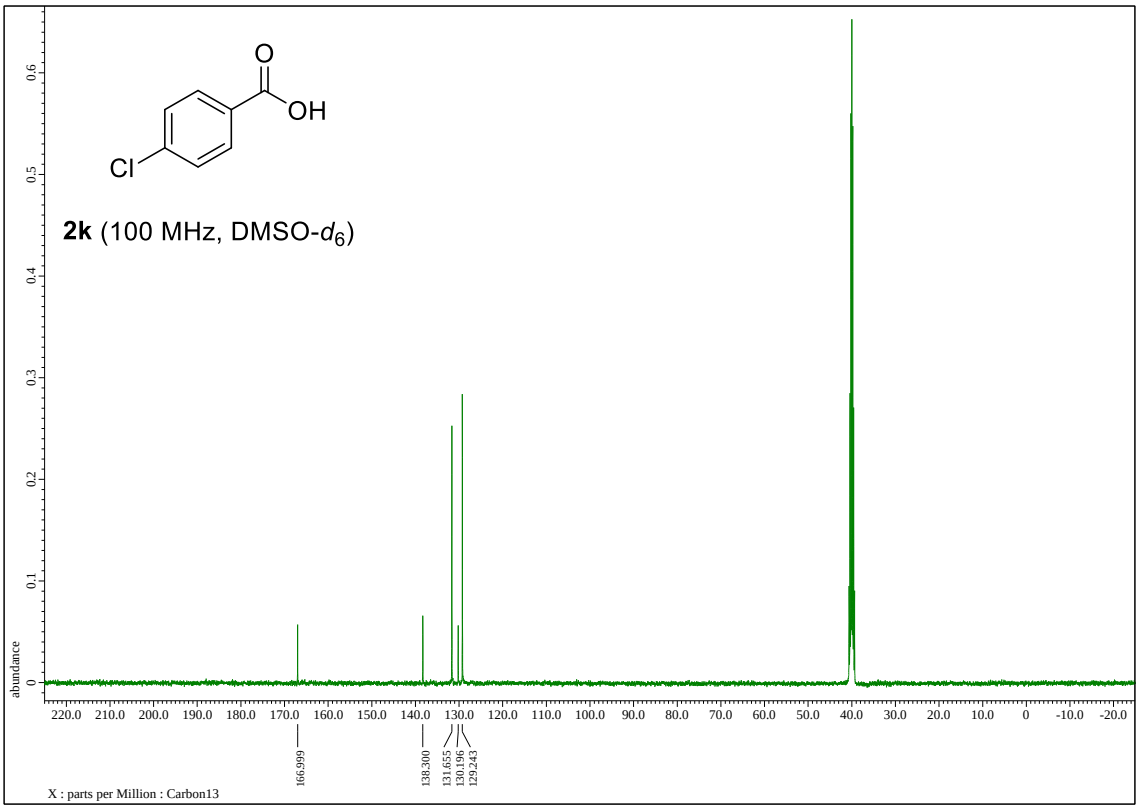



Figure S10 ^{1}H and ^{13}C{^{1}H} NMR spectra of compound **2l**