

Efficient and divergent synthesis of polyfunctionalized 2-pyridones from β -keto Amides

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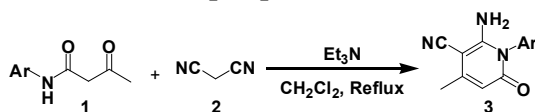
Supporting Information

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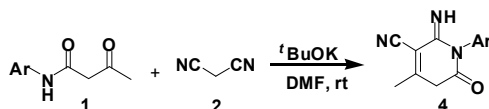
I. Experimental section

1. General procedure for the preparation of 3a-h



To a solution of β -Keto Amides **1** (1.0 mmol) and malononitrile **2** (1.1 mmol) in CH_2Cl_2 (10 mL) was added Et_3N (1.0 mmol) in one portion. The mixture was well stirred for 6 hours at reflux. When consumption of **1** was complete (TLC), the mixture was washed with saturated sodium chloride solution (10 mL \times 3) and dried over anhydrous MgSO_4 . The organic solvent CH_2Cl_2 was then removed under reduced pressure and the residue was purified by recrystallization from ethanol to give product **3a-h**.

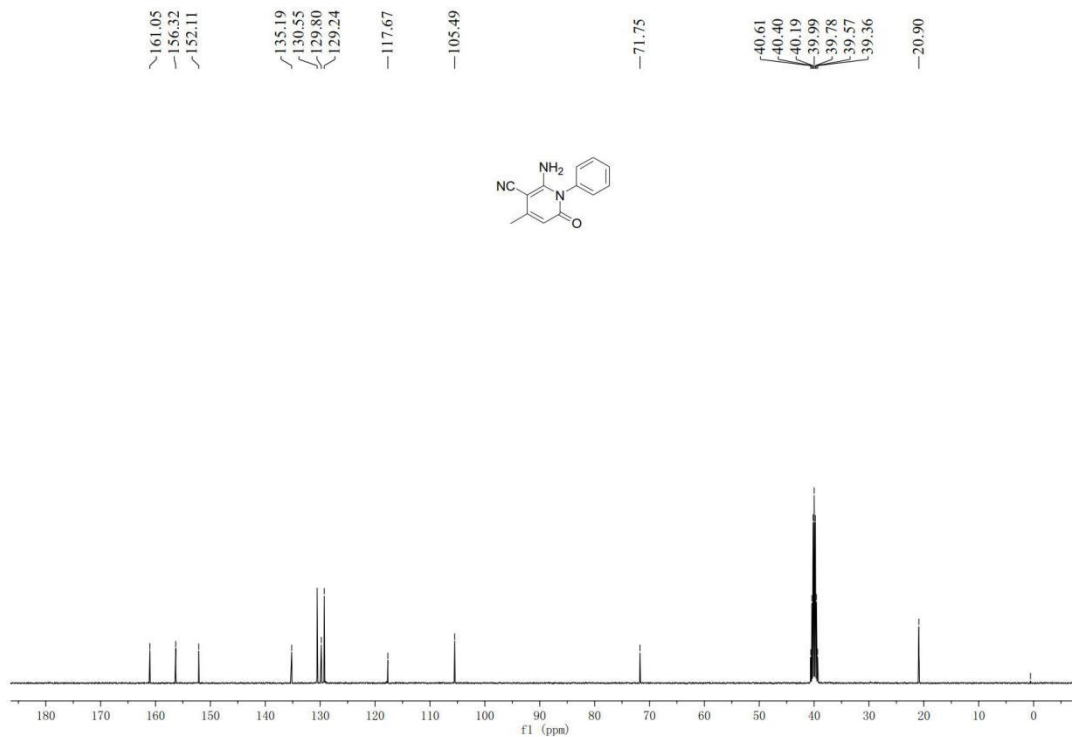
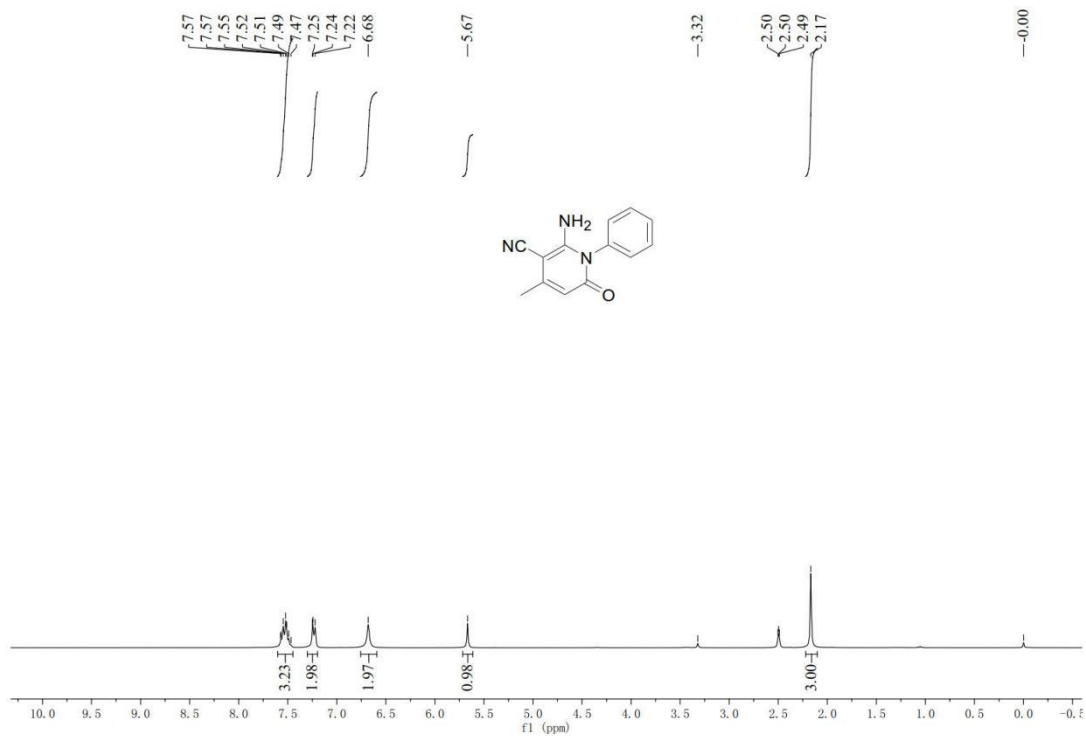
2. General procedure for the preparation of 4a-h



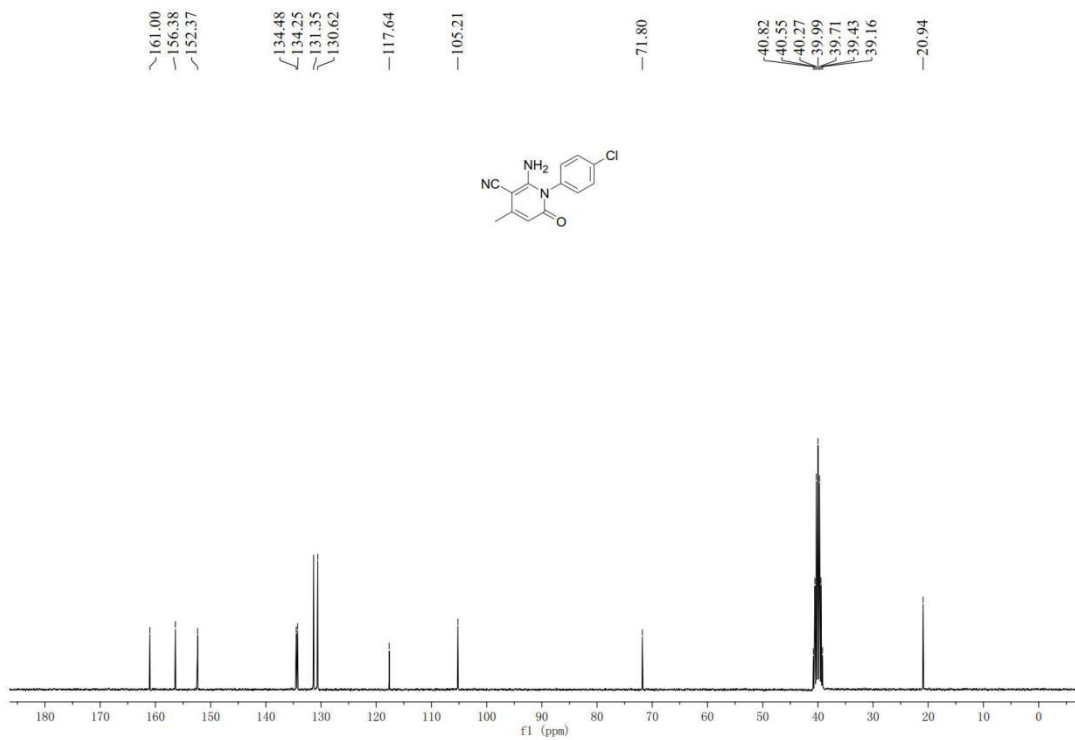
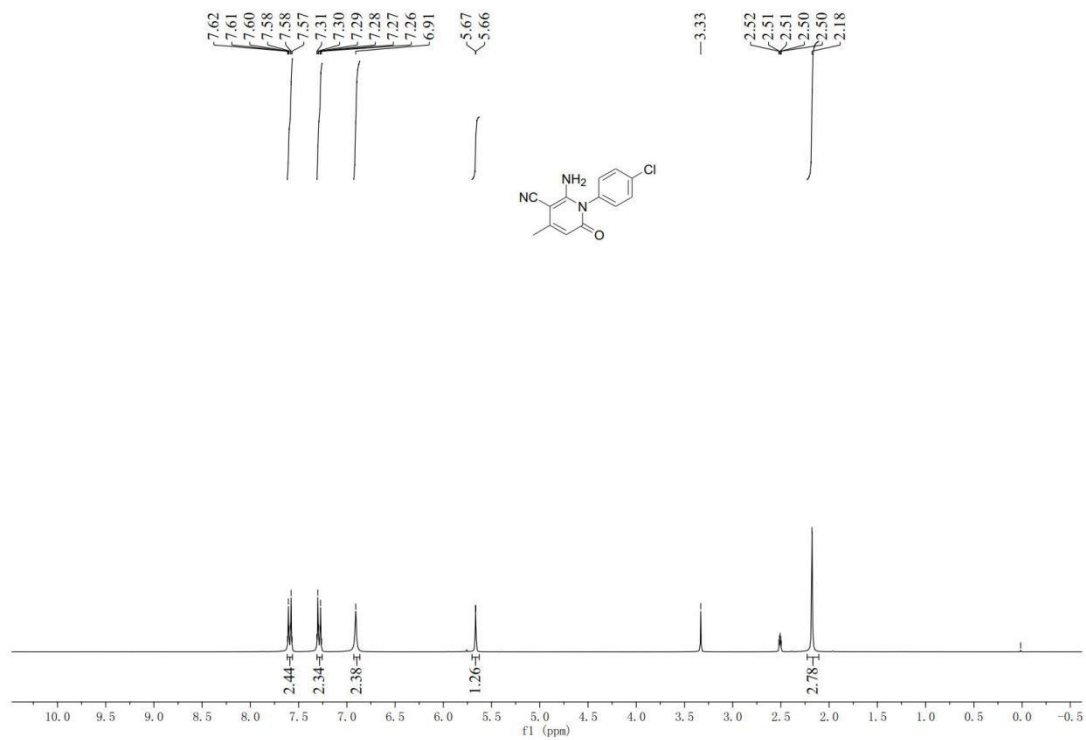
To a solution of β -Keto Amides **1** (1.0 mmol) and malononitrile **2** (1.1 mmol) in DMF (10 mL) was added $t\text{BuOK}$ (1.0 mmol) in one portion. The mixture was well stirred for 4 hours at room temperature. When consumption of **1** was complete (TLC), the mixture was poured into sat. aq NaCl (50 mL) under stirring. The precipitated solid was collected by filtration, washed with water (3 \times 20 mL) and dried in vacuo to afford the product **4a-h**.

II. ^1H NMR and ^{13}C NMR spectra copies

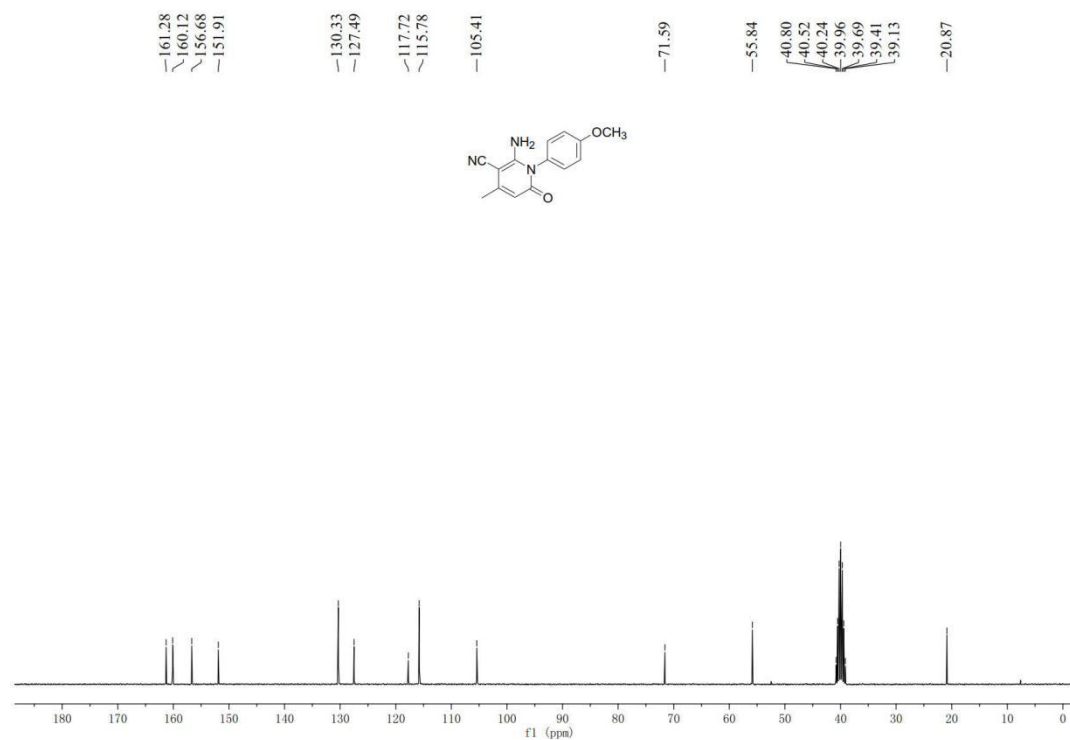
Compound 3a



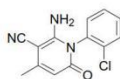
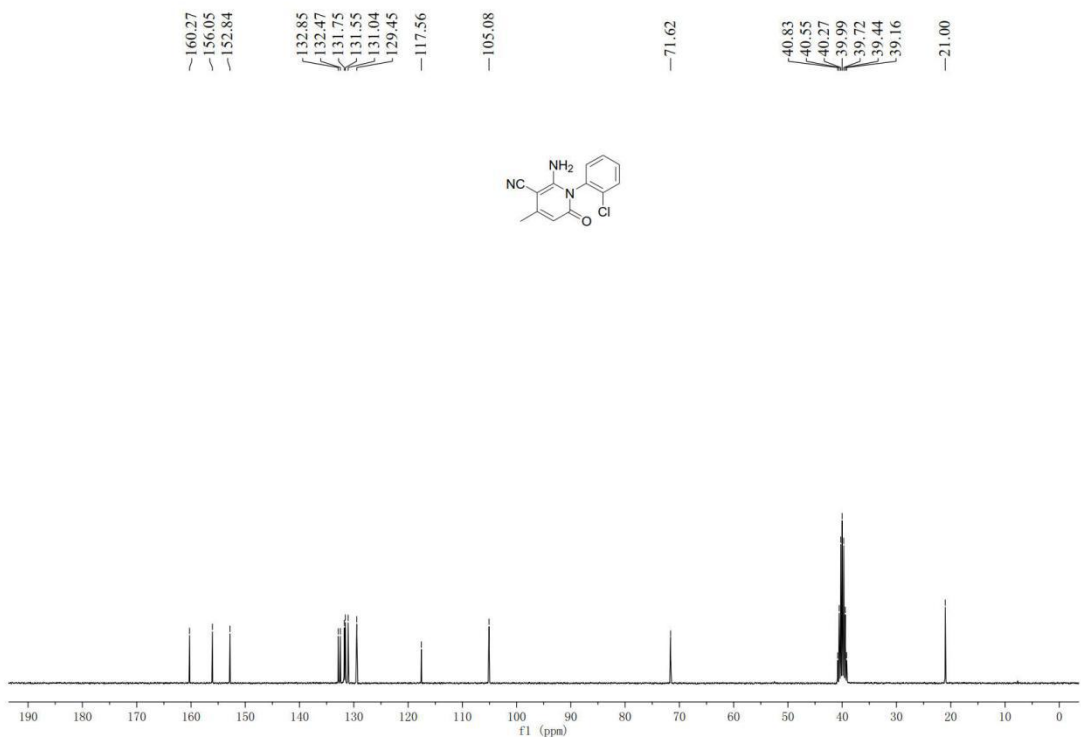
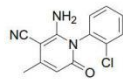
Compound 3b



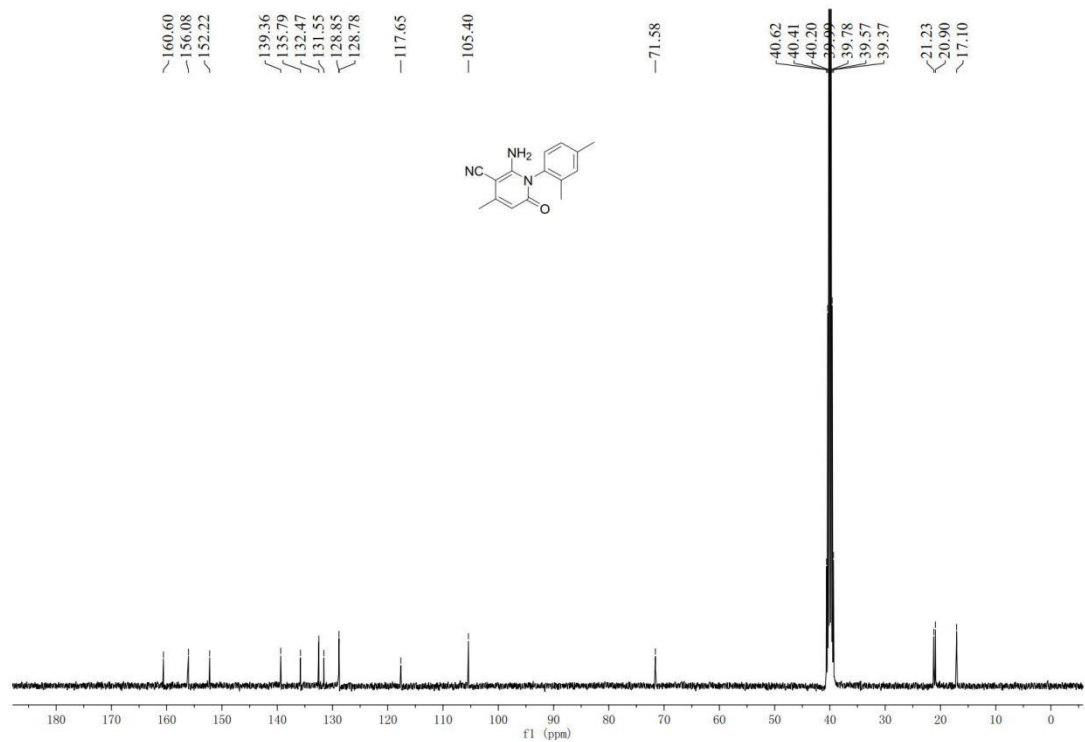
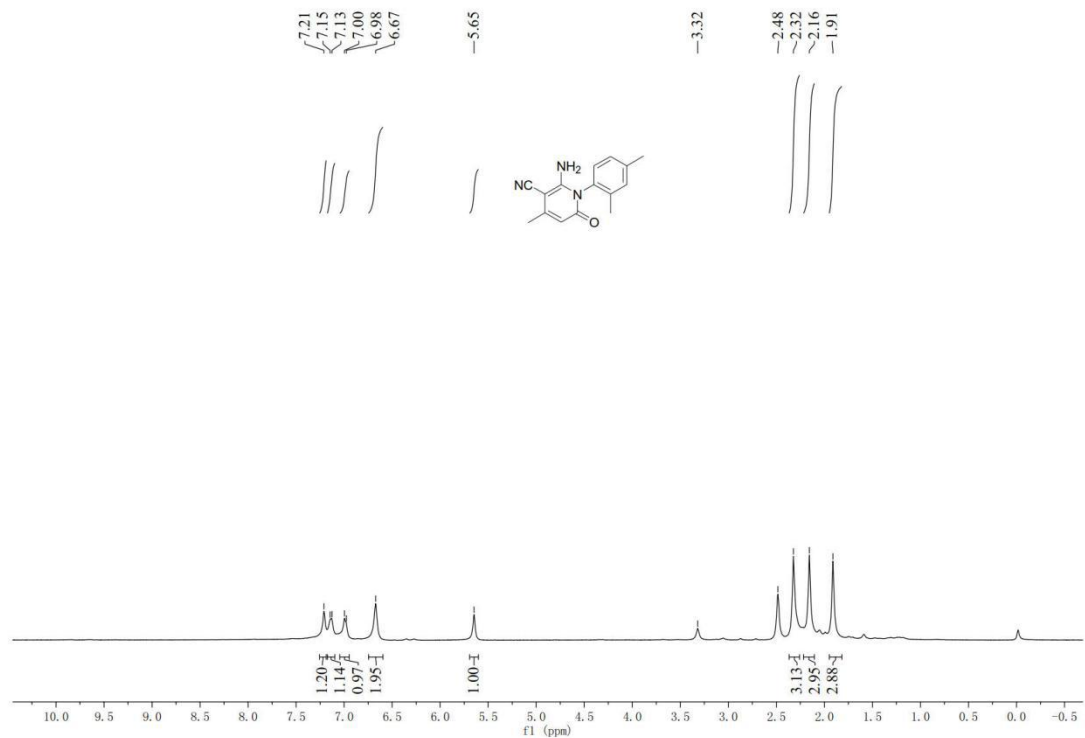
Compound 3c



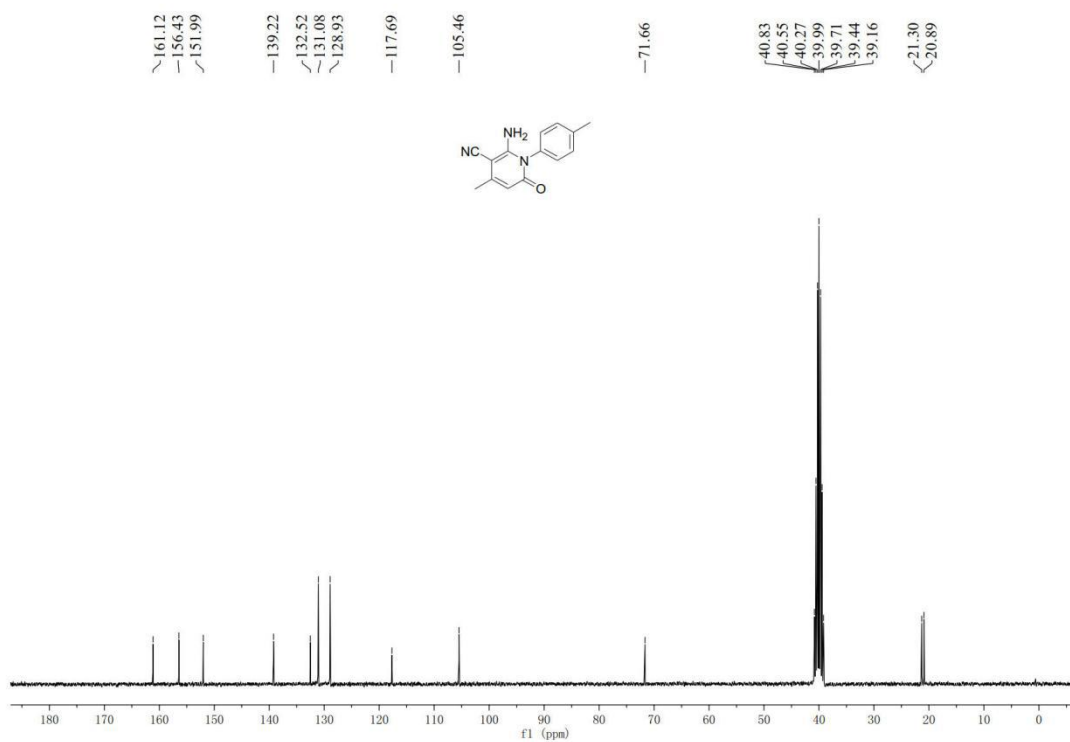
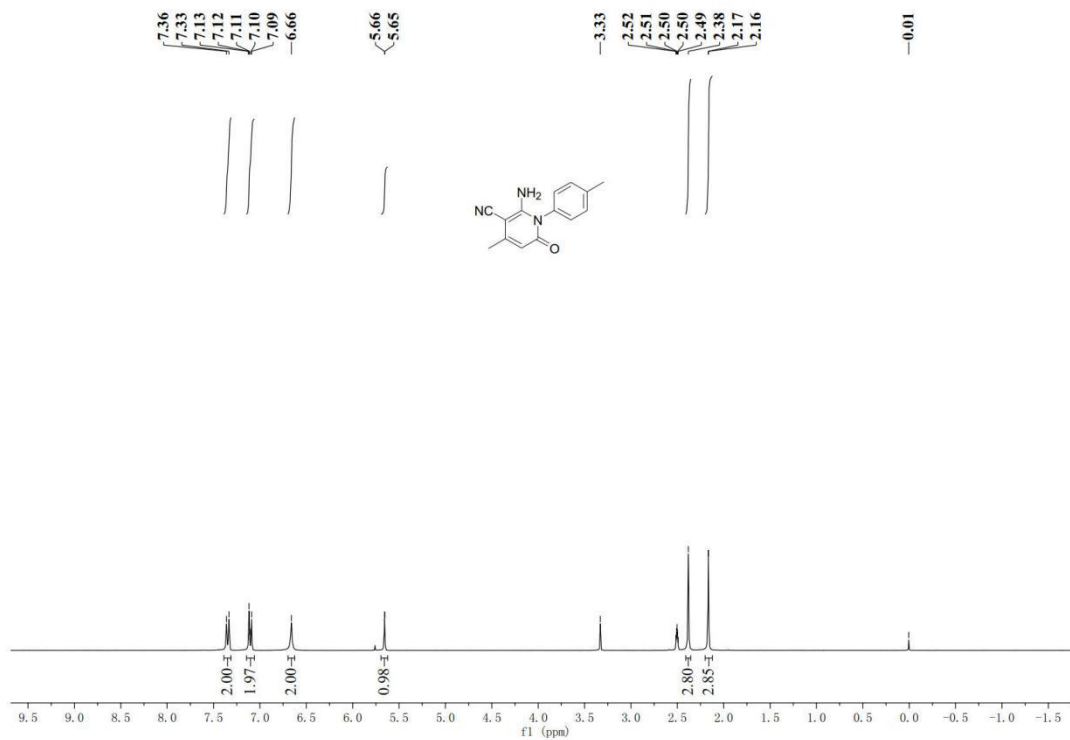
Compound 3d



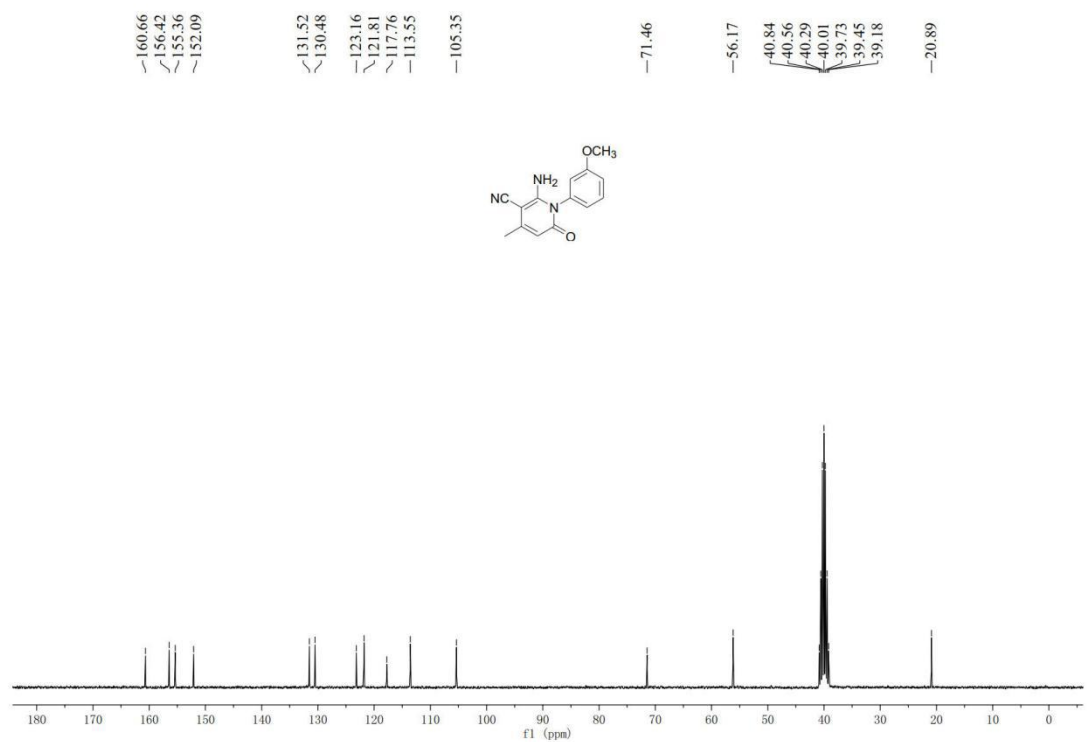
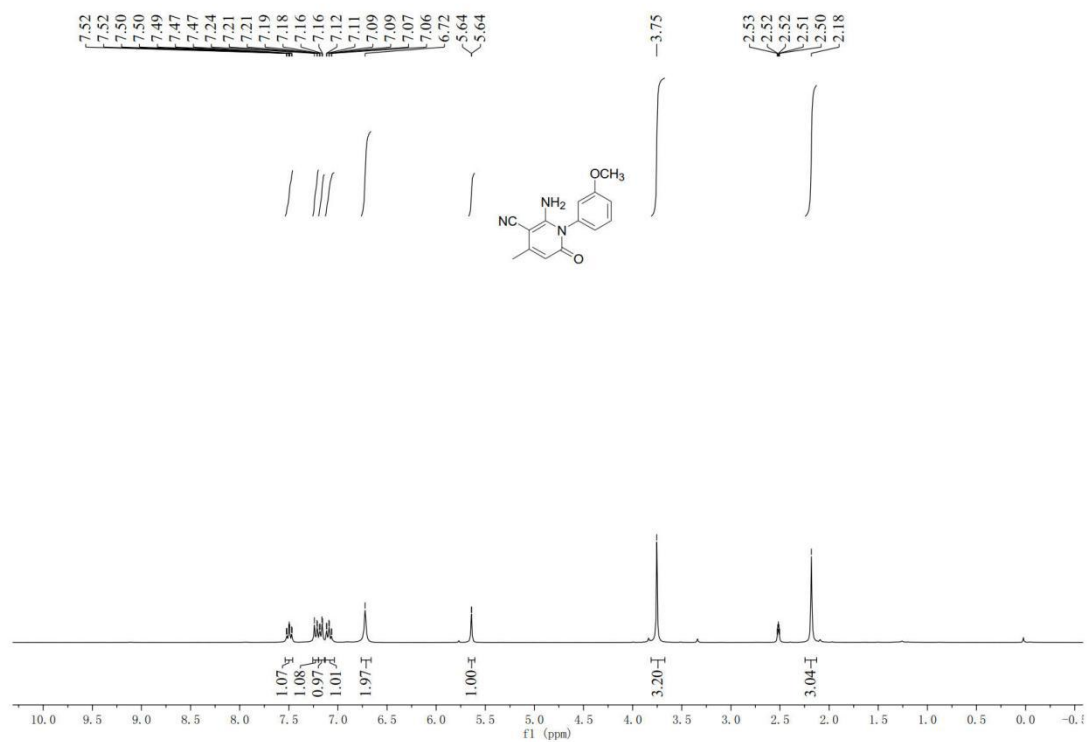
Compound 3e



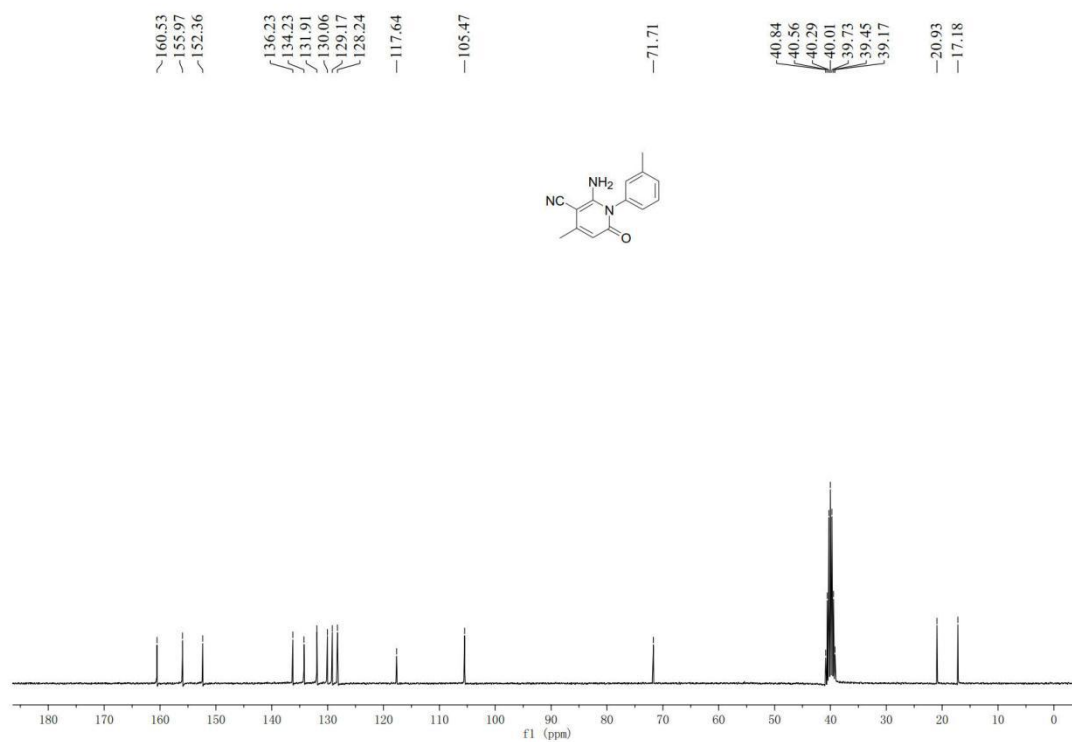
Compound 3f



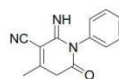
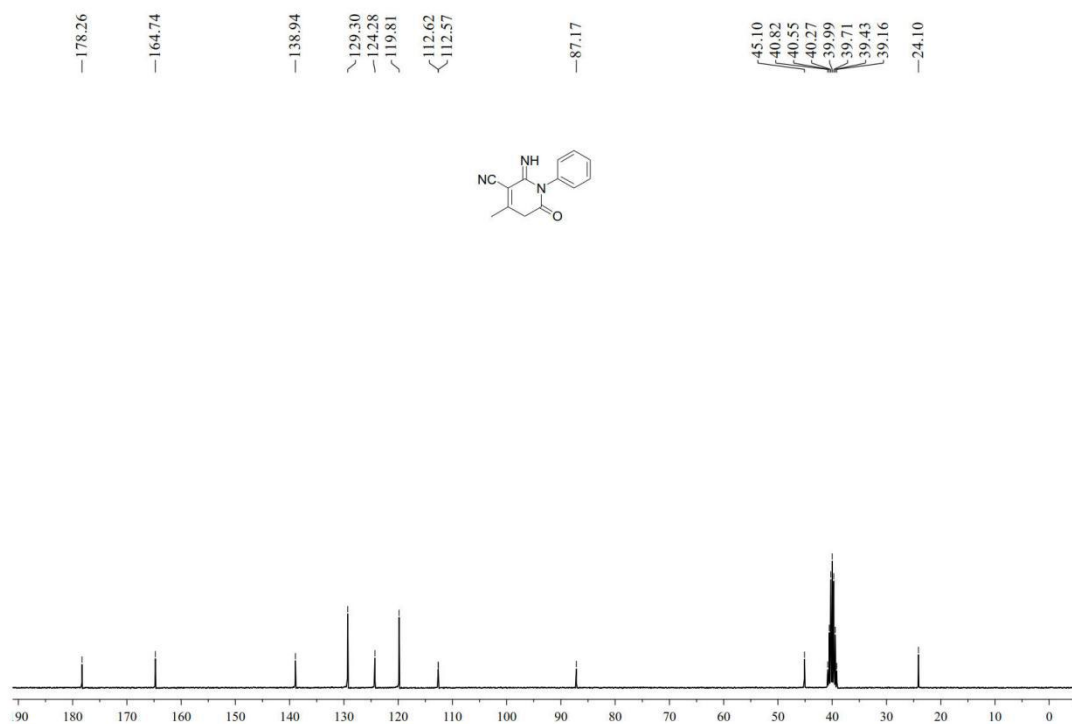
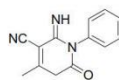
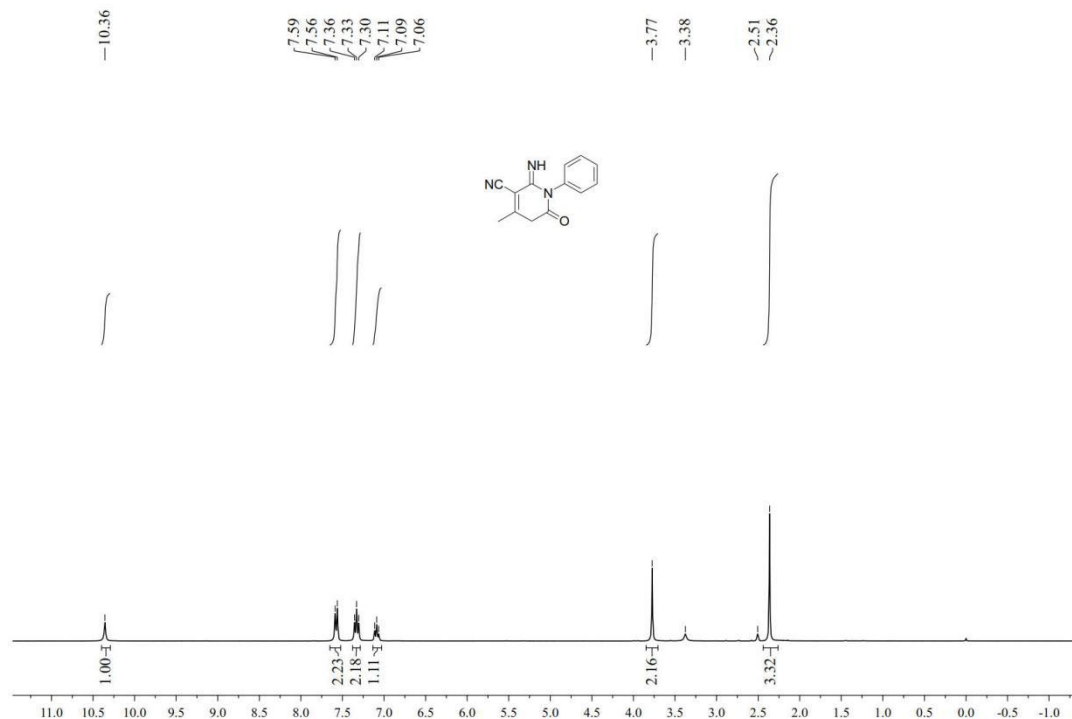
Compound 3g



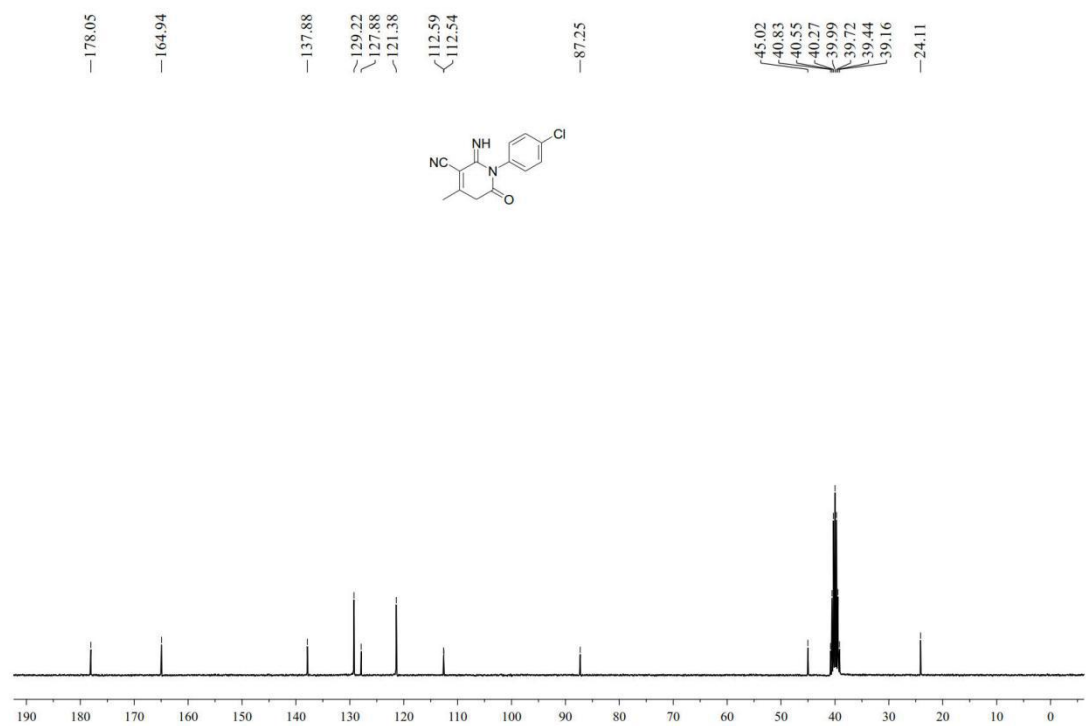
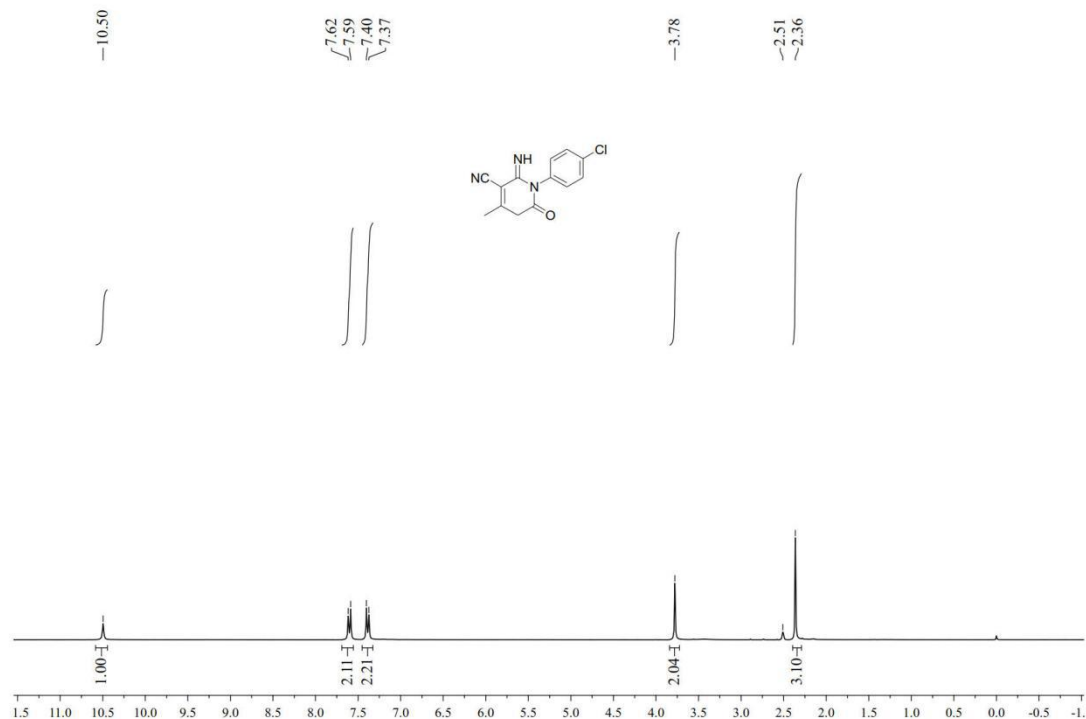
Compound 3h



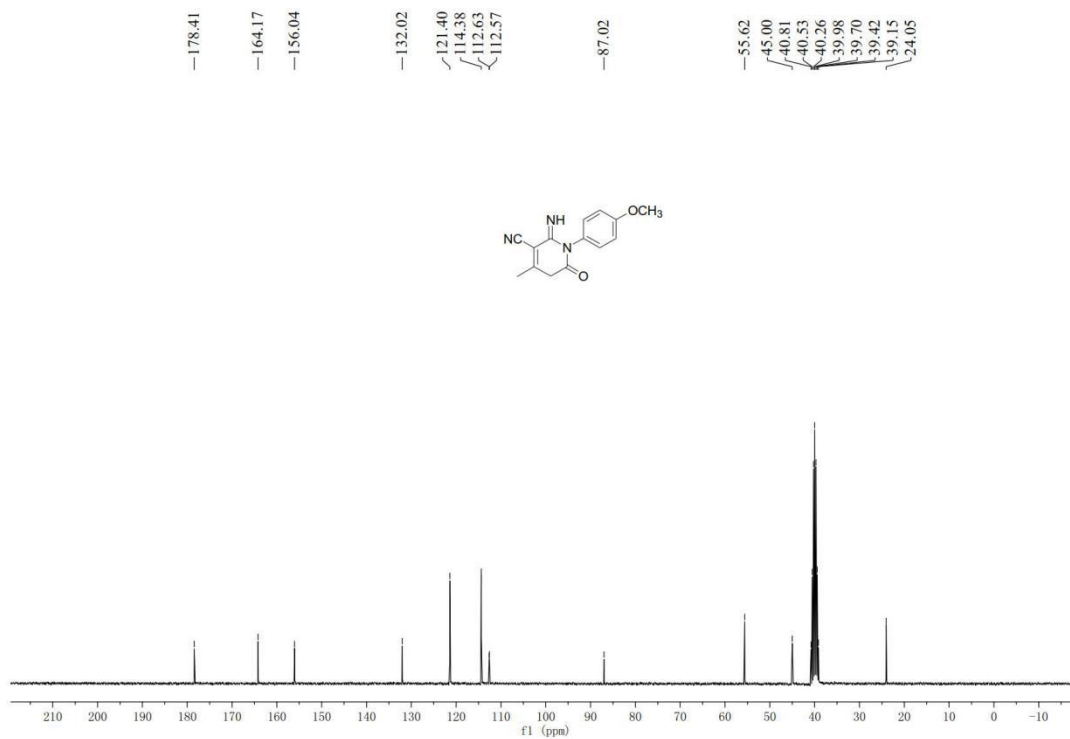
Compound 4a



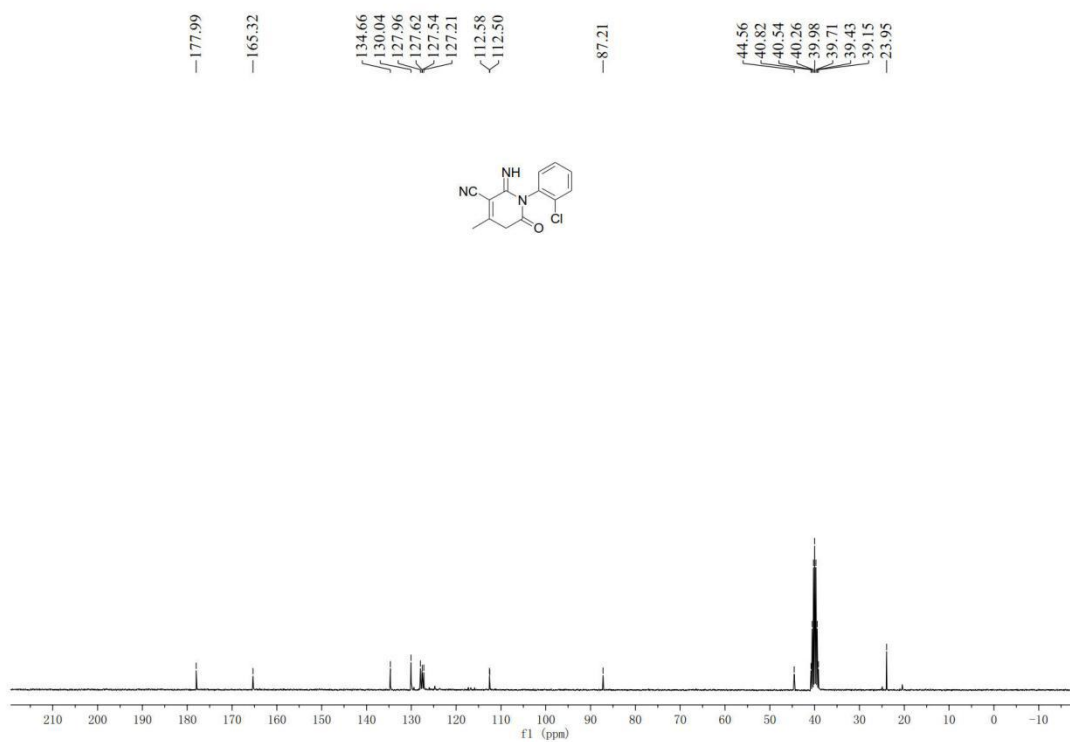
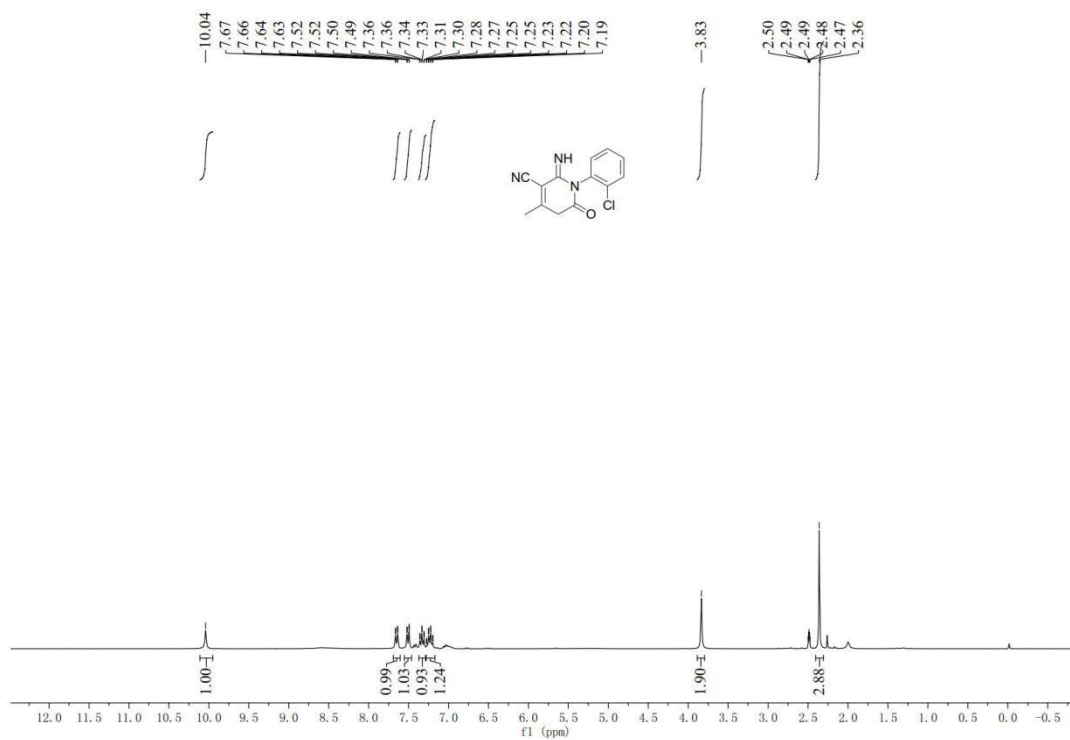
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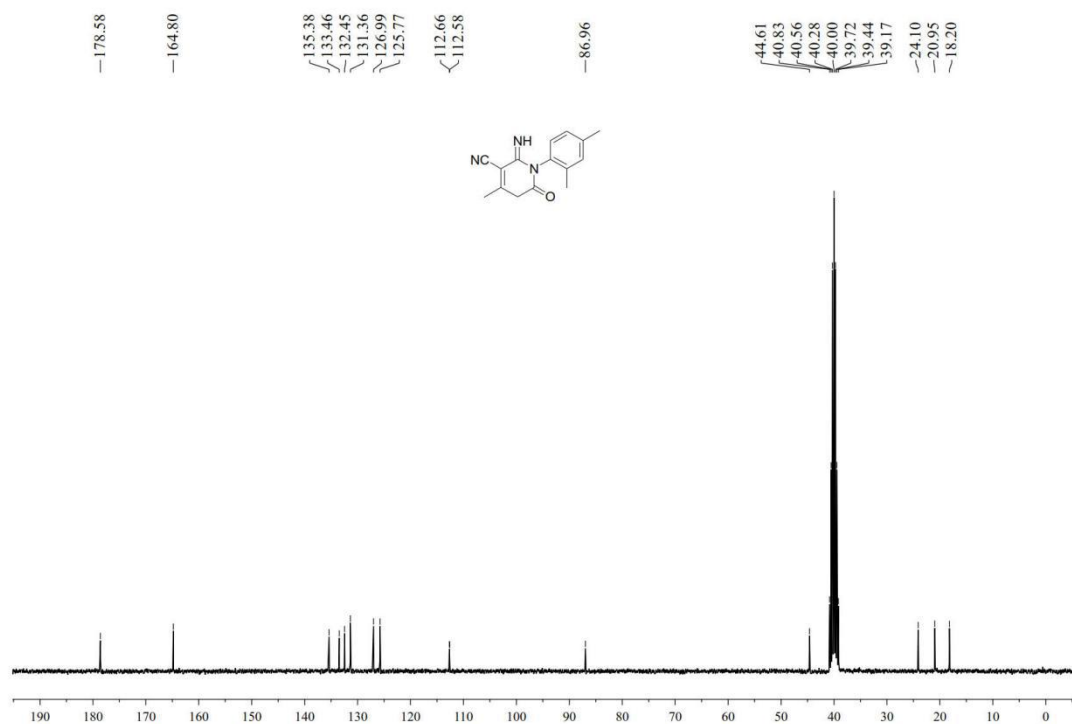
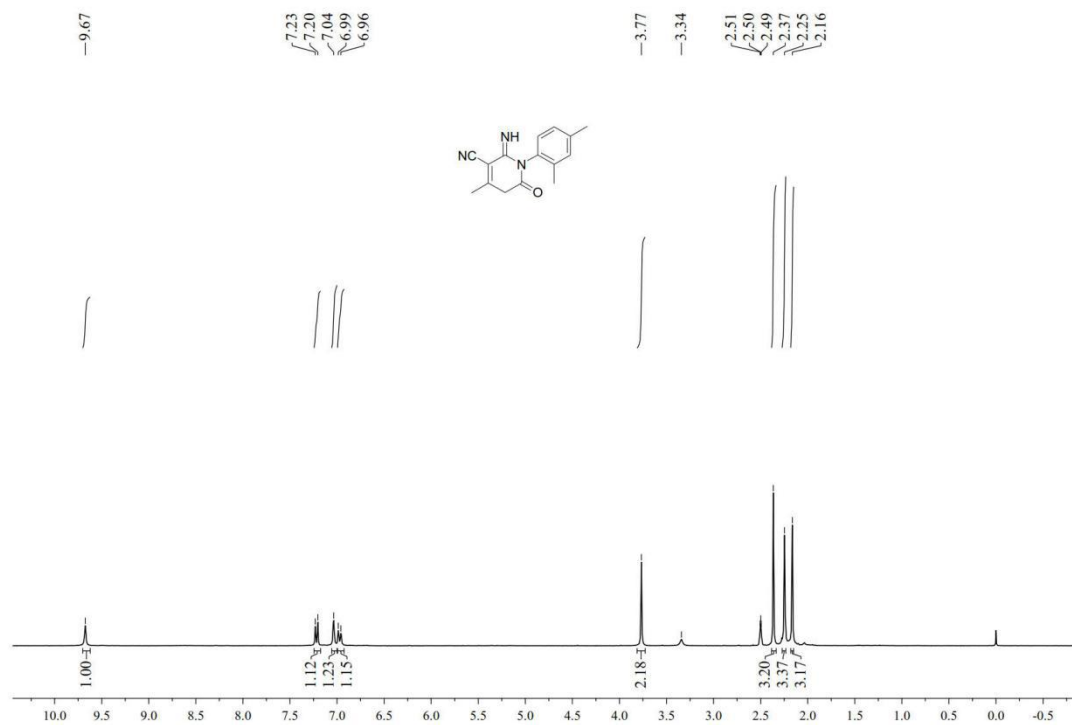
Compound 4c



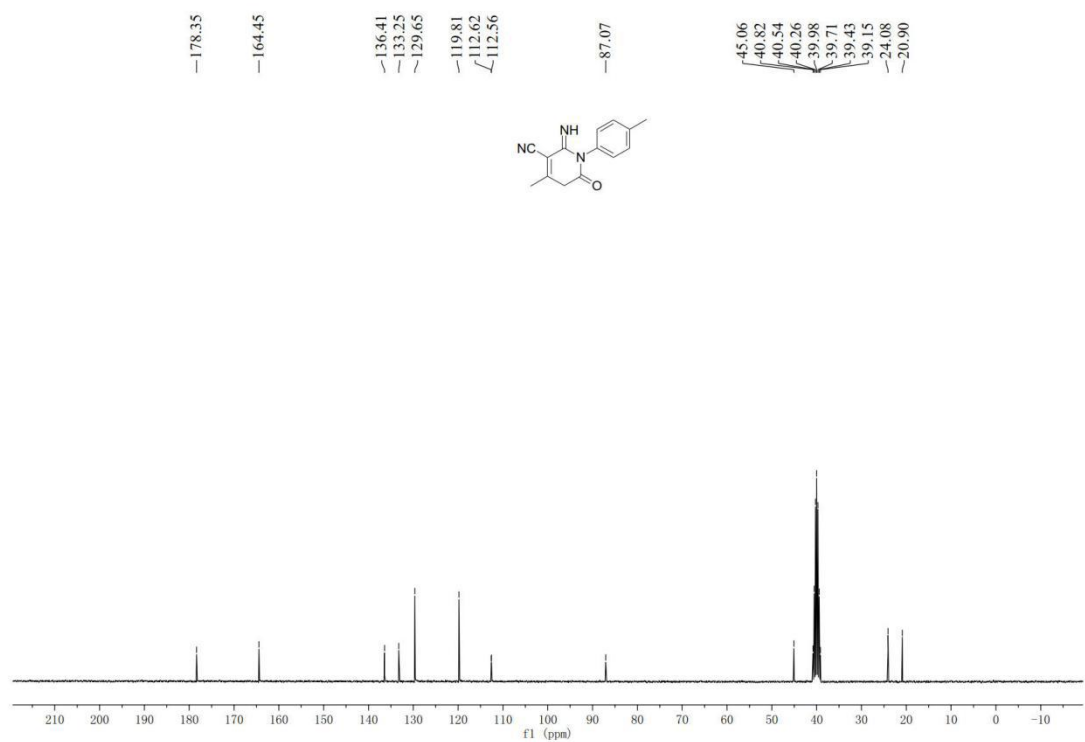
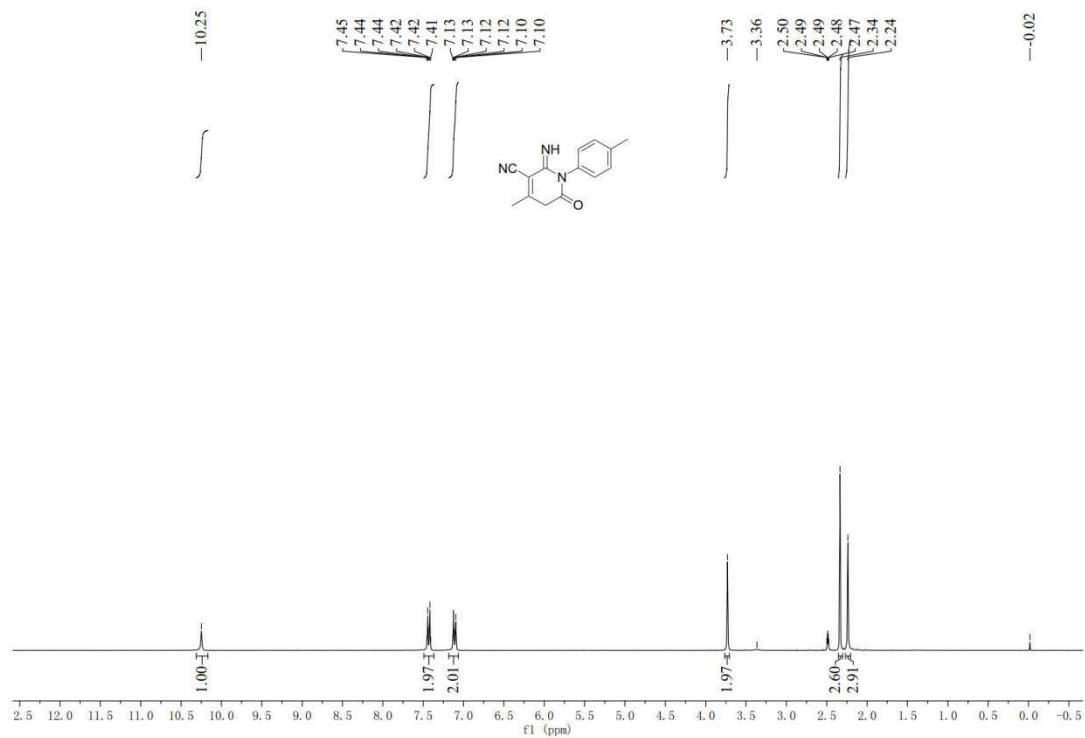
Compound 4d



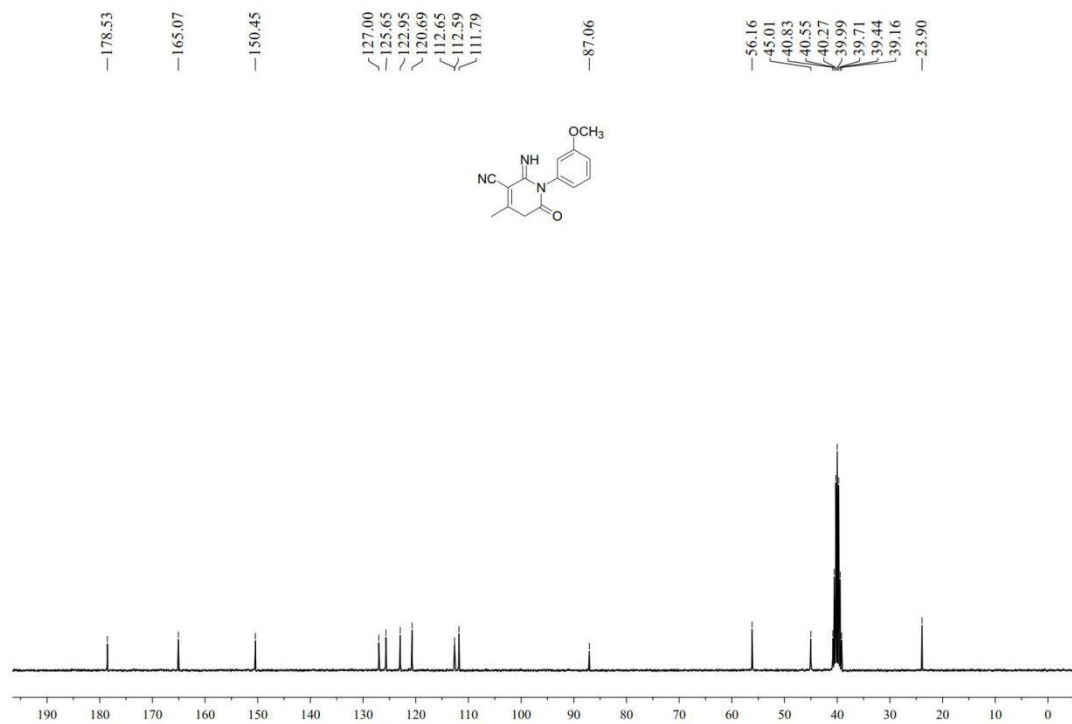
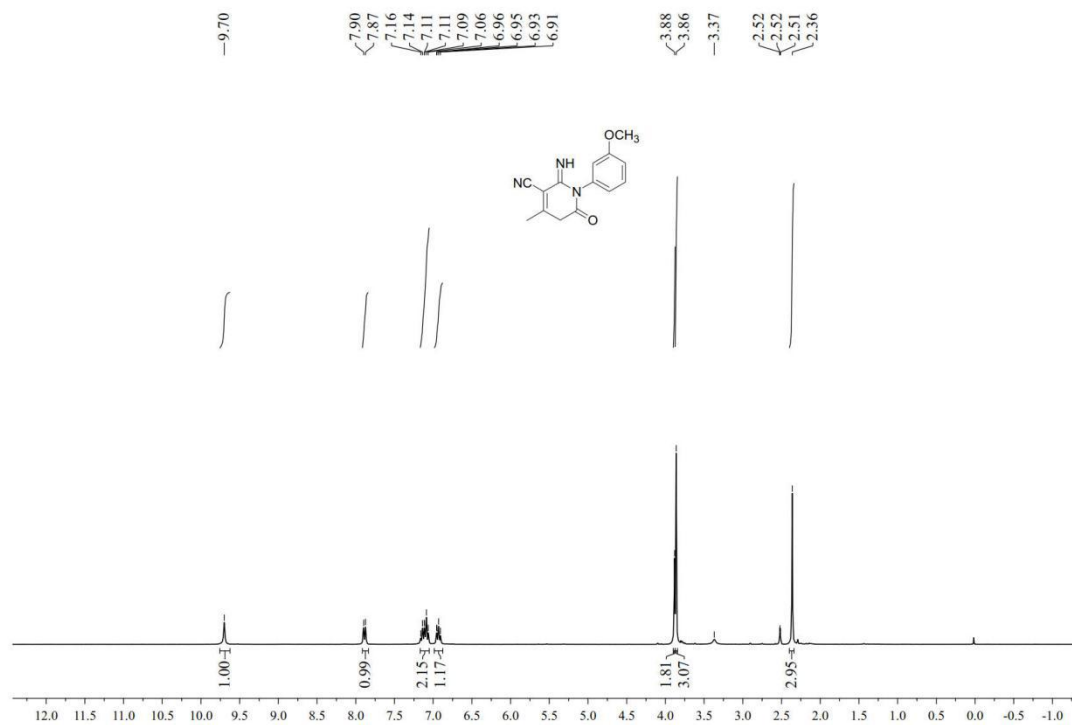
Compound 4e



Compound 4f



Compound 4g



Compound 4h

