

Supplementary information

Knoevenagel condensation catalyzed by a tertiary-amine functionalized polyacrylonitrile fiber

Guowei Li, Jia Xiao, Wenqin Zhang*

Department of Chemistry, School of Sciences, Tianjin University, No.92 Weijin Road,
Tianjin 300072, P. R. China.

* Corresponding author. Tel.: ++86-22-27890922; fax: ++86-22-27403475; e-mail:
zhangwenqin@tju.edu.cn

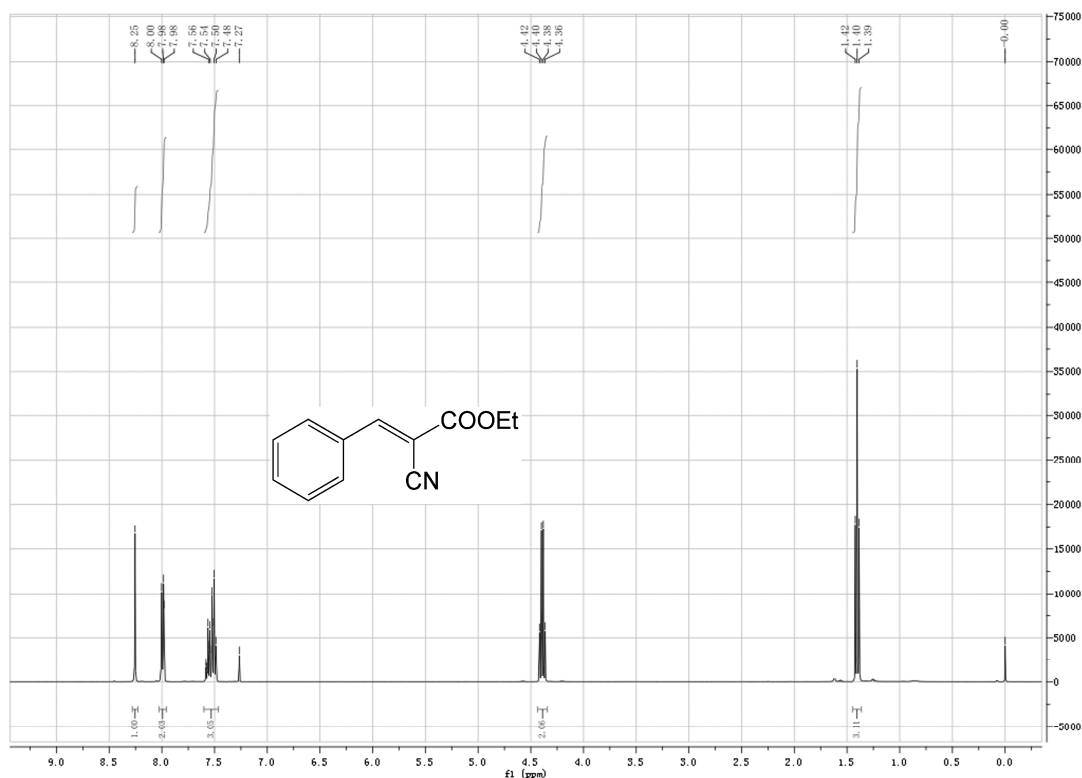


Fig. S1 The ¹H-NMR spectrum of ethyl (*E*)-2-cyano-3-phenyl-2-propenoate (Table 4, Entry a).

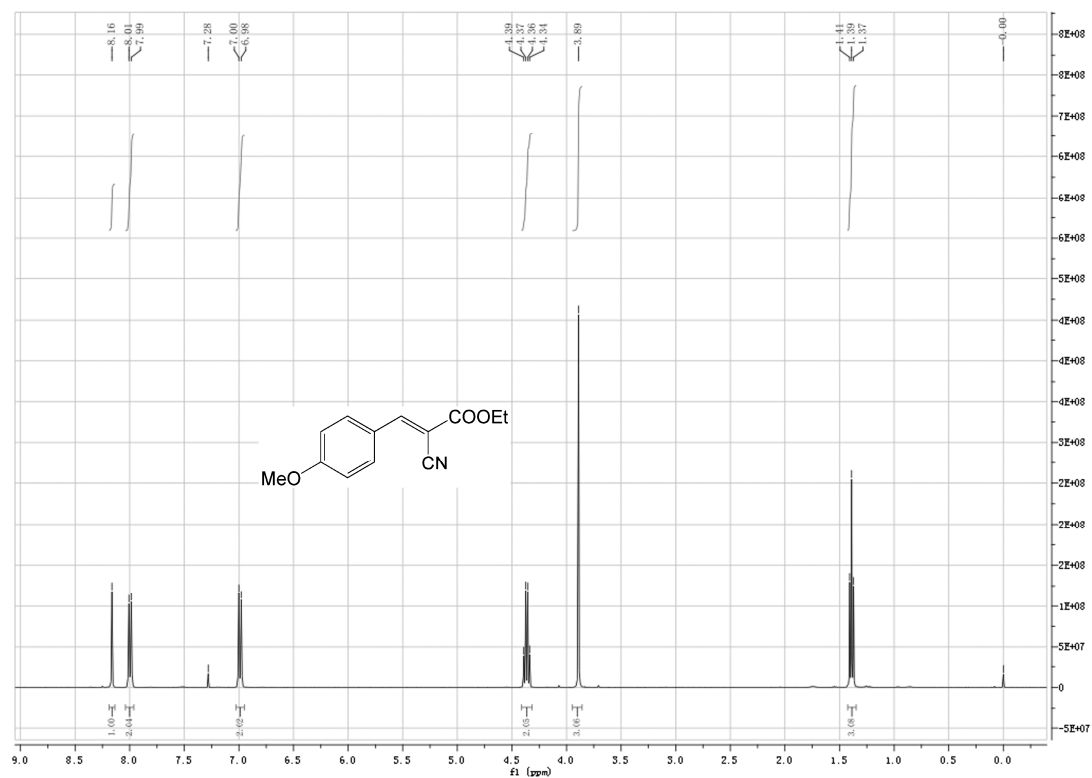


Fig. S2 The ¹H-NMR spectrum of ethyl (*E*)-2-cyano-3-(4-methoxyphenyl)-2-propenoate (Table 4, Entry b).

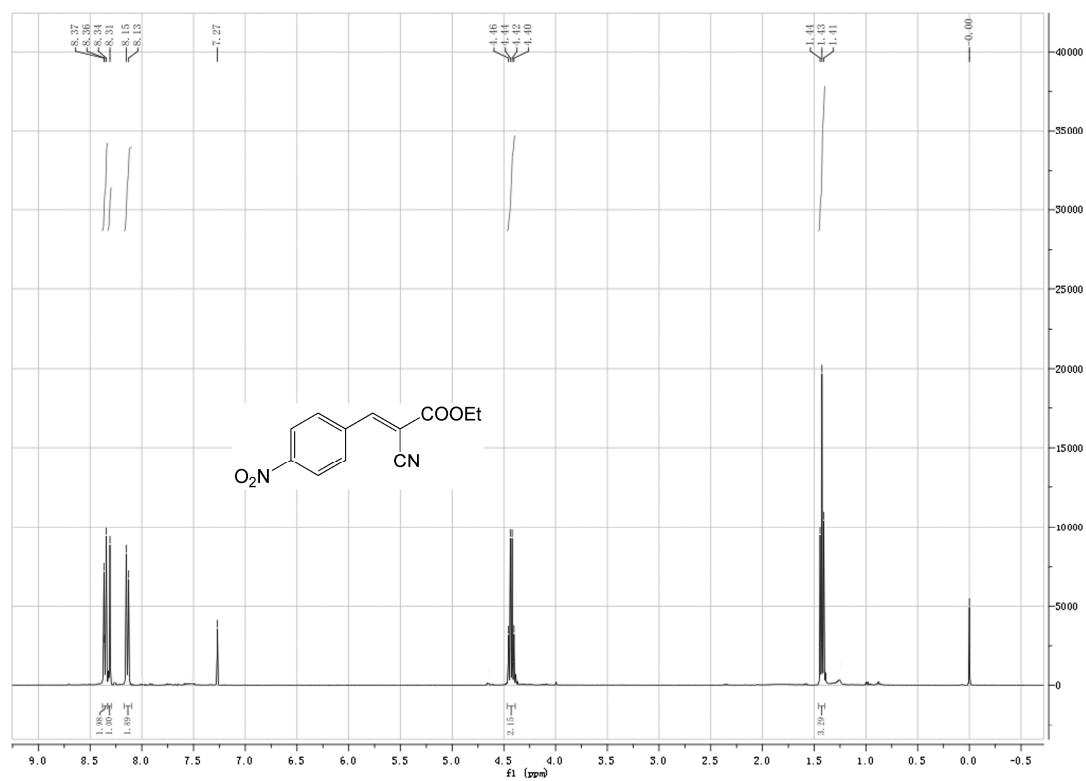


Fig. S3 The ¹H-NMR spectrum of ethyl (*E*)-2-cyano-3-(4-nitrophenyl)-2-propenoate (Table 4, Entry c).

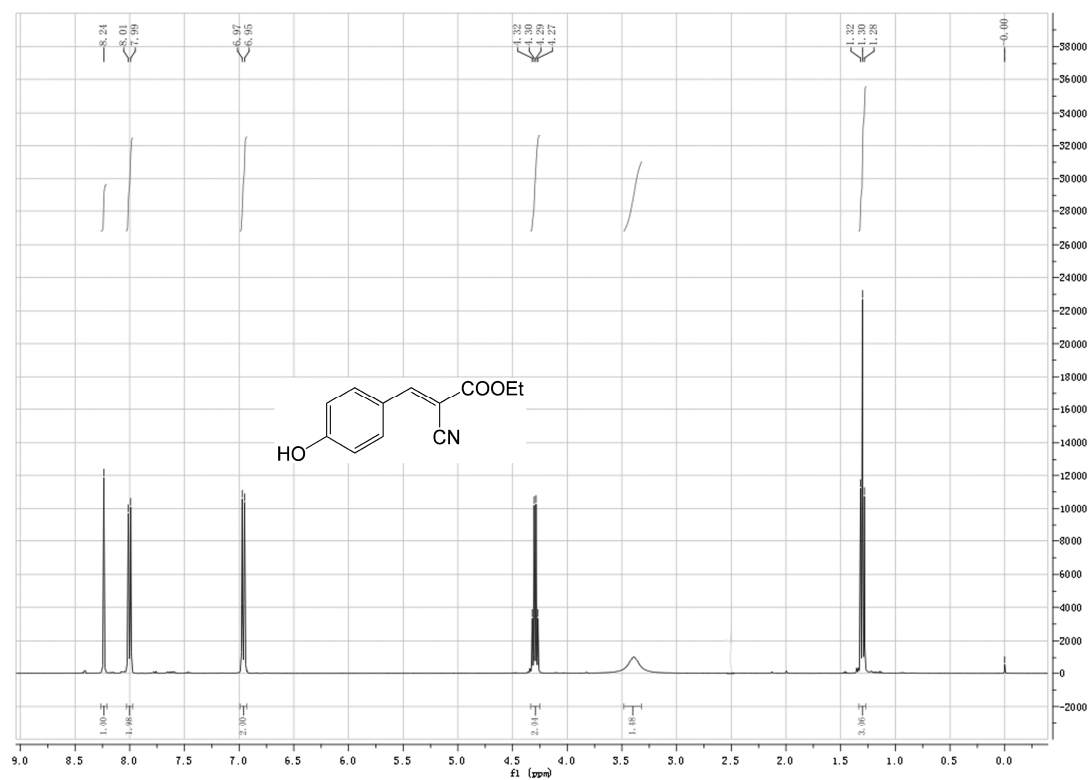


Fig. S4 The ^1H -NMR spectrum of ethyl (*E*)-2-cyano-3-(4-hydroxyphenyl)-2-propenoate (Table 4, Entry d).

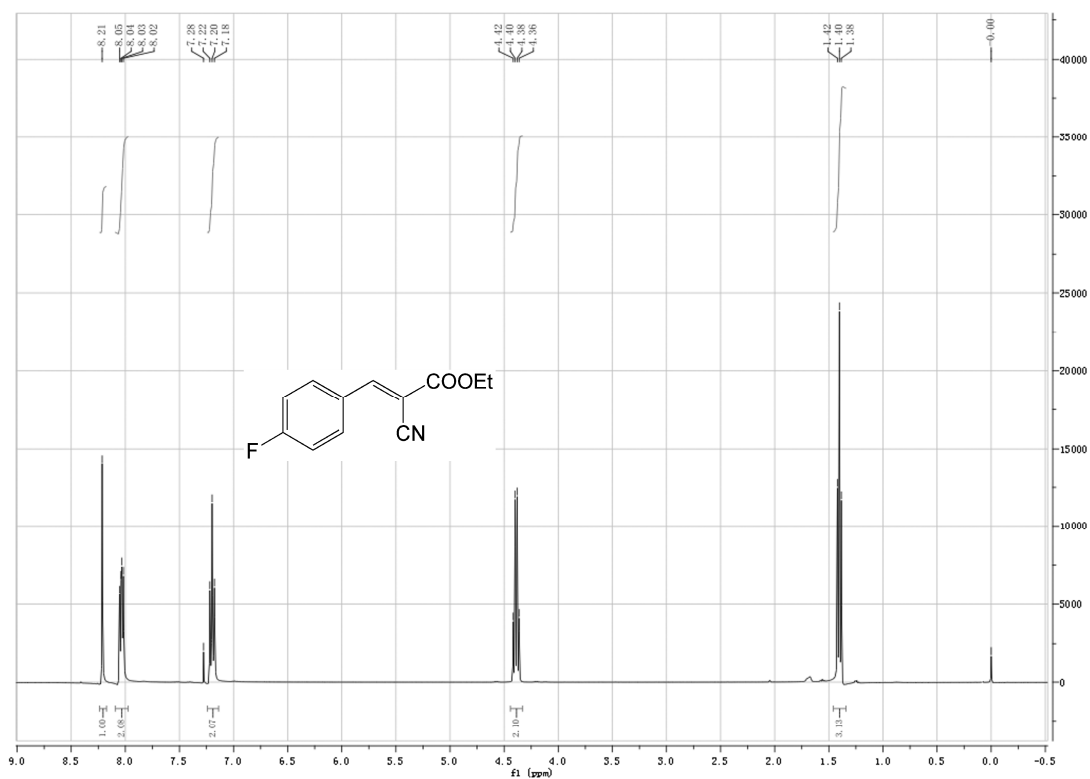


Fig. S5 The ^1H -NMR spectrum of ethyl (*E*)-2-cyano-3-(4-fluorophenyl)-2-propenoate (Table 4, Entry e).

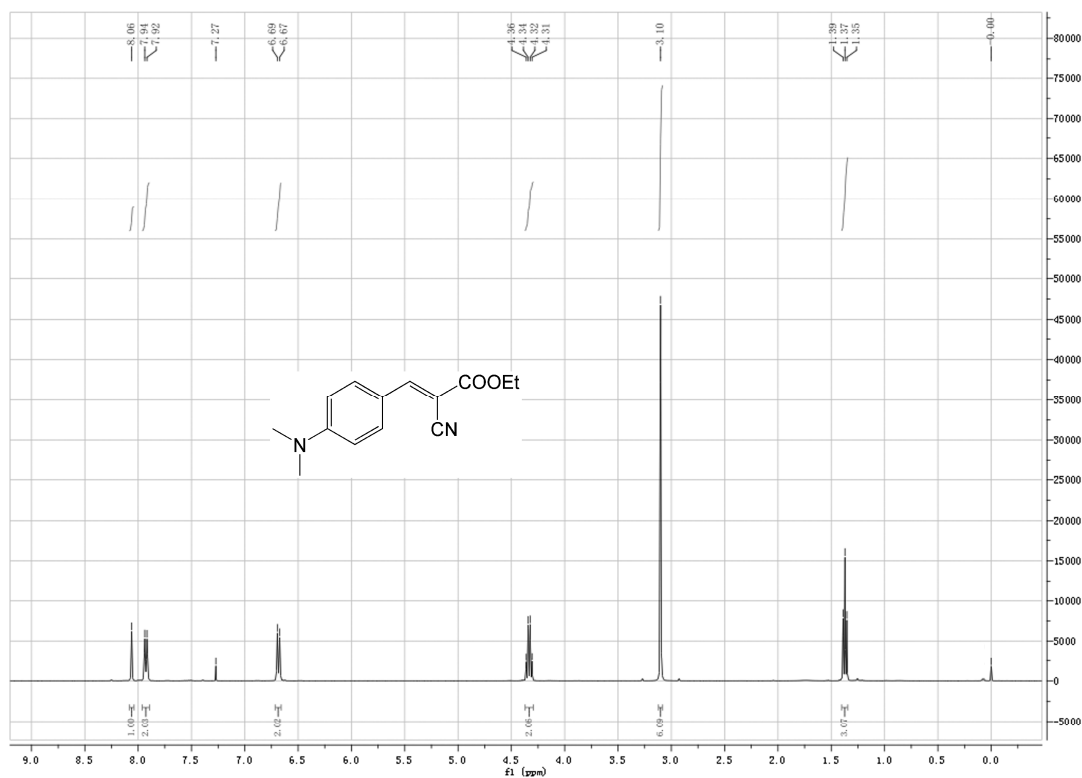


Fig. S6 The ^1H -NMR spectrum of ethyl (*E*)-2-cyano-3-(4-dimethylaminophenyl)-2-propenoate (Table 4, Entry f).

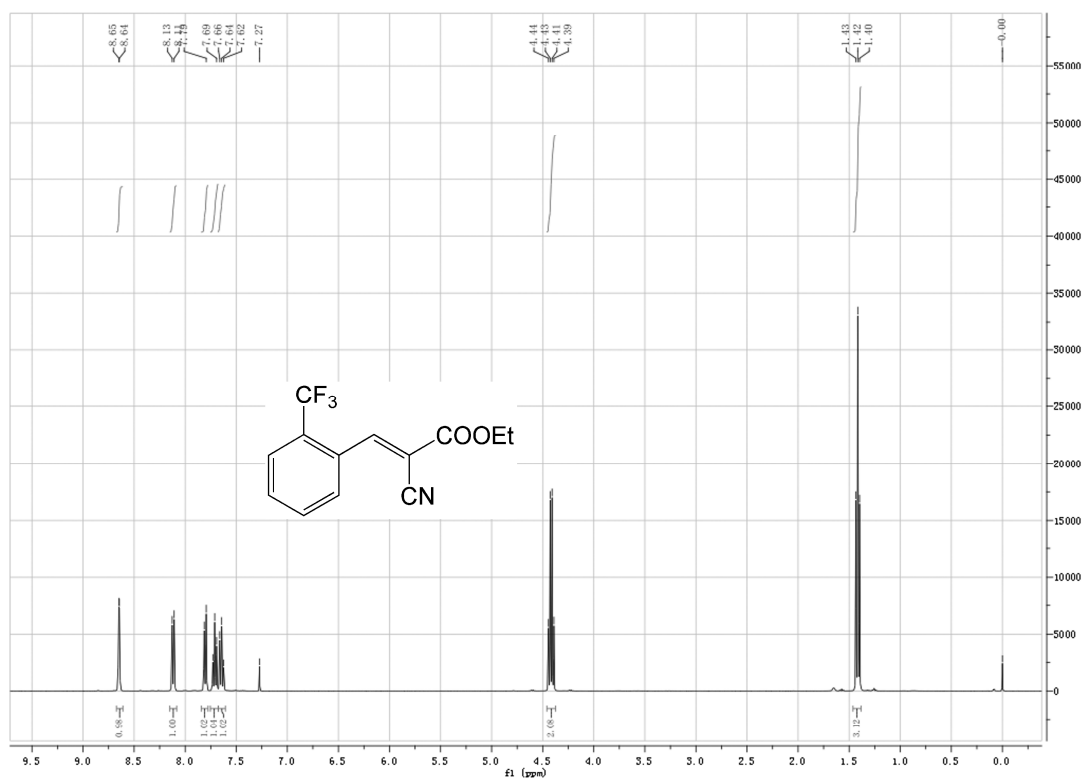


Fig. S7 The ^1H -NMR spectrum of ethyl (*E*)-2-cyano-3-(2-(trifluoromethyl)phenyl)-2-propenoate (Table 4, Entry g).

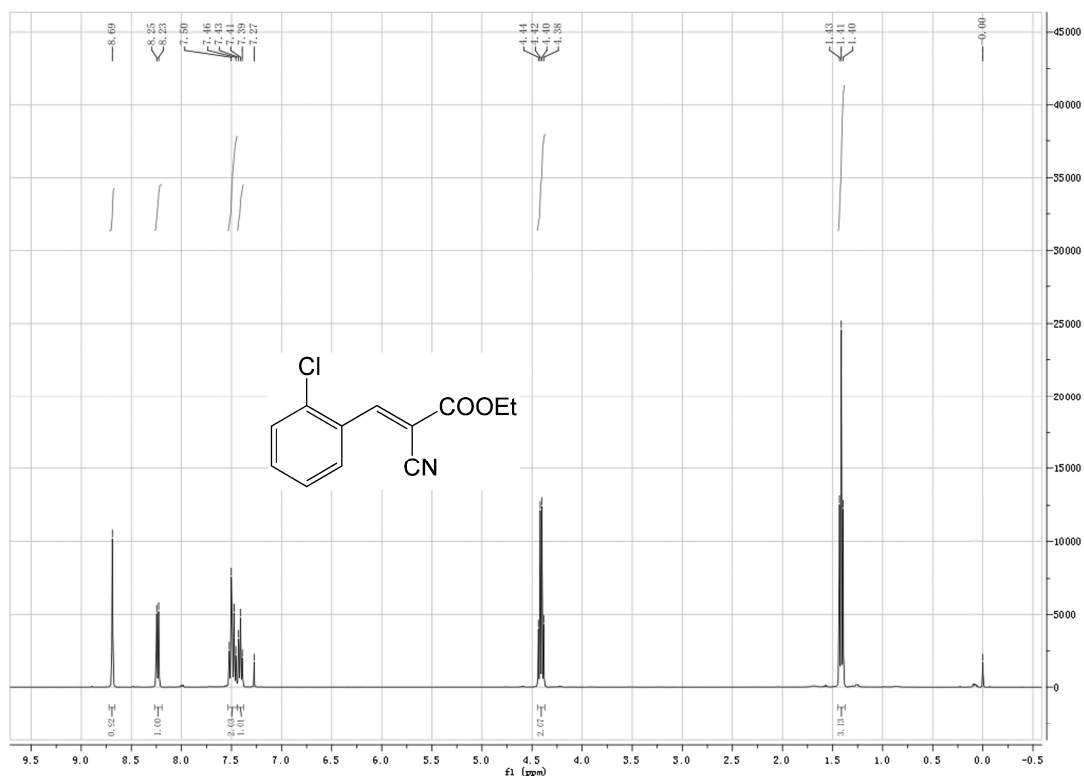


Fig. S8 The ^1H -NMR spectrum of ethyl (*E*)-2-cyano-3-(2-chlorophenyl)-2-propenoate (Table 4, Entry h).

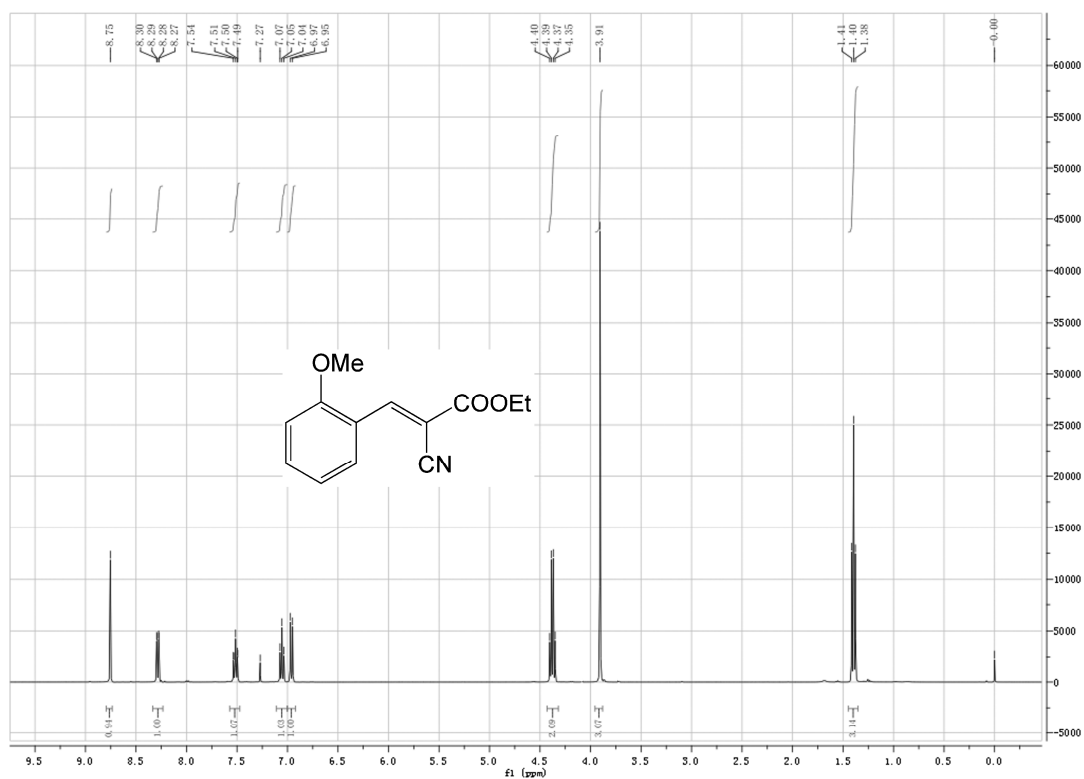


Fig. S9 The ^1H -NMR spectrum of ethyl (*E*)-2-cyano-3-(2-methoxyphenyl)-2-propenoate (Table 4, Entry i).

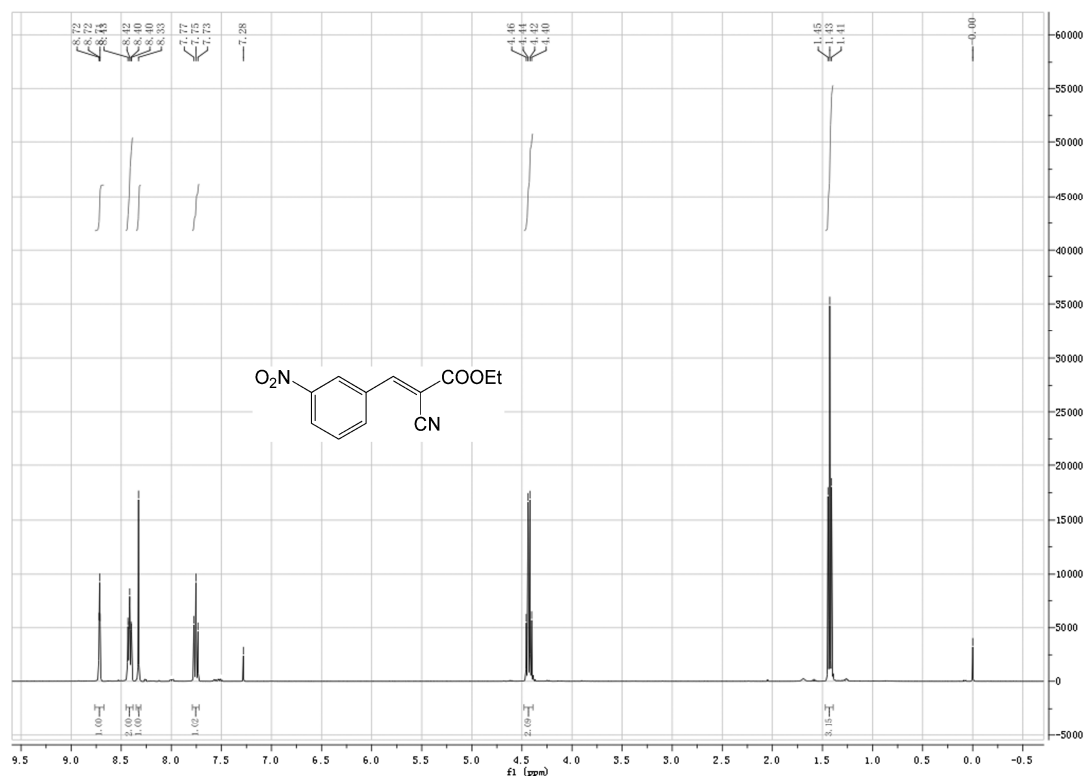


Fig. S10 The ^1H -NMR spectrum of ethyl (*E*)-2-cyano-3-(3-nitrophenyl)-2-propenoate (Table 4, Entry j).

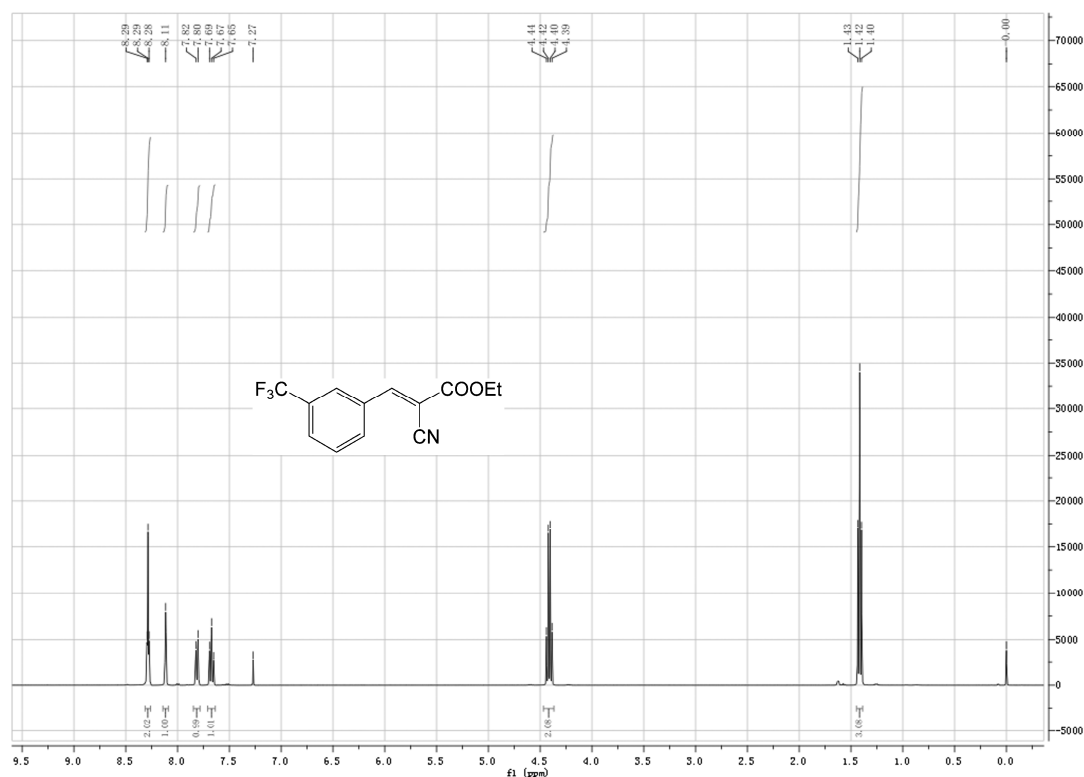


Fig. S11 The ^1H -NMR spectrum of ethyl (*E*)-2-cyano-3-(3-(trifluoromethyl)phenyl)-2-propenoate (Table 4, Entry k).

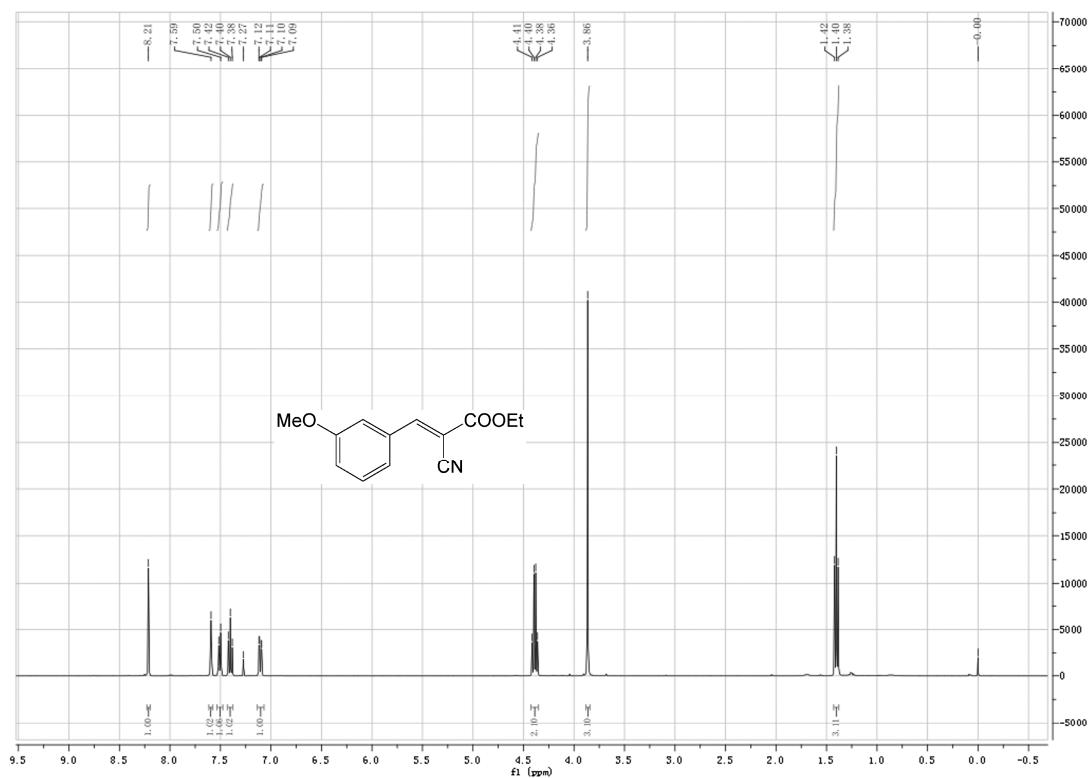


Fig. S12 The ^1H -NMR spectrum of ethyl (*E*)-2-cyano-3-(3-methoxyphenyl)-2-propenoate (Table 4, Entry l).

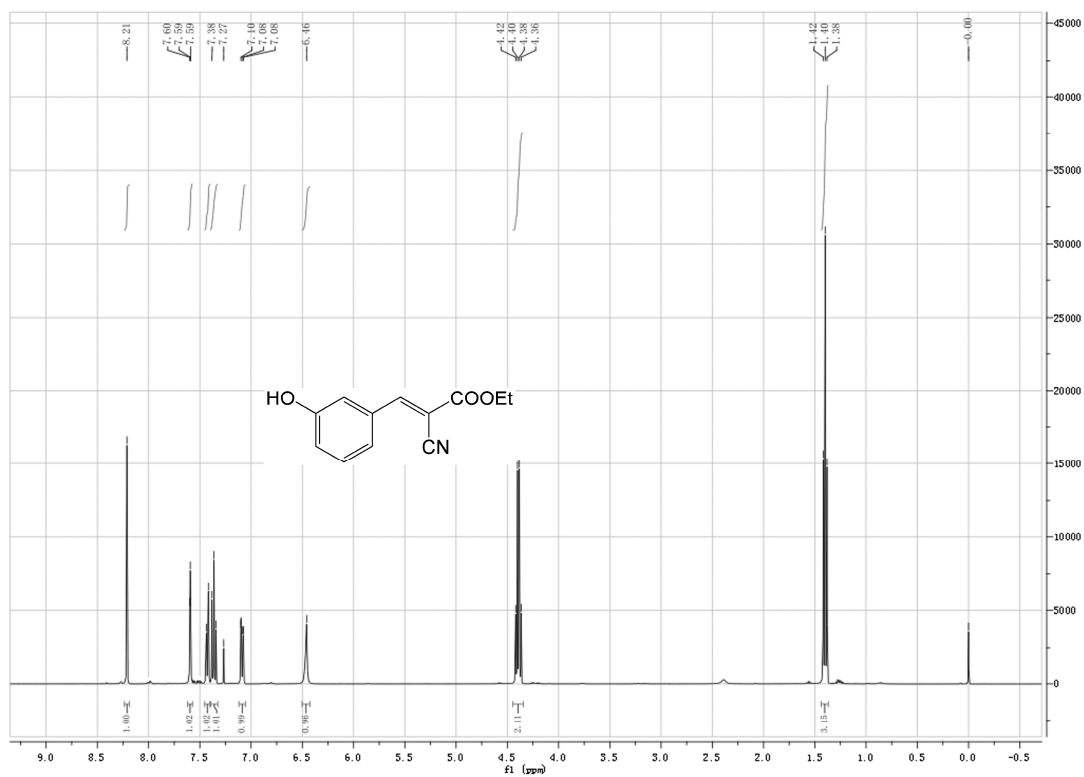


Fig. S13 The ^1H -NMR spectrum of ethyl (*E*)-2-cyano-3-(3-hydroxyphenyl)-2-propenoate (Table 4, Entry m).

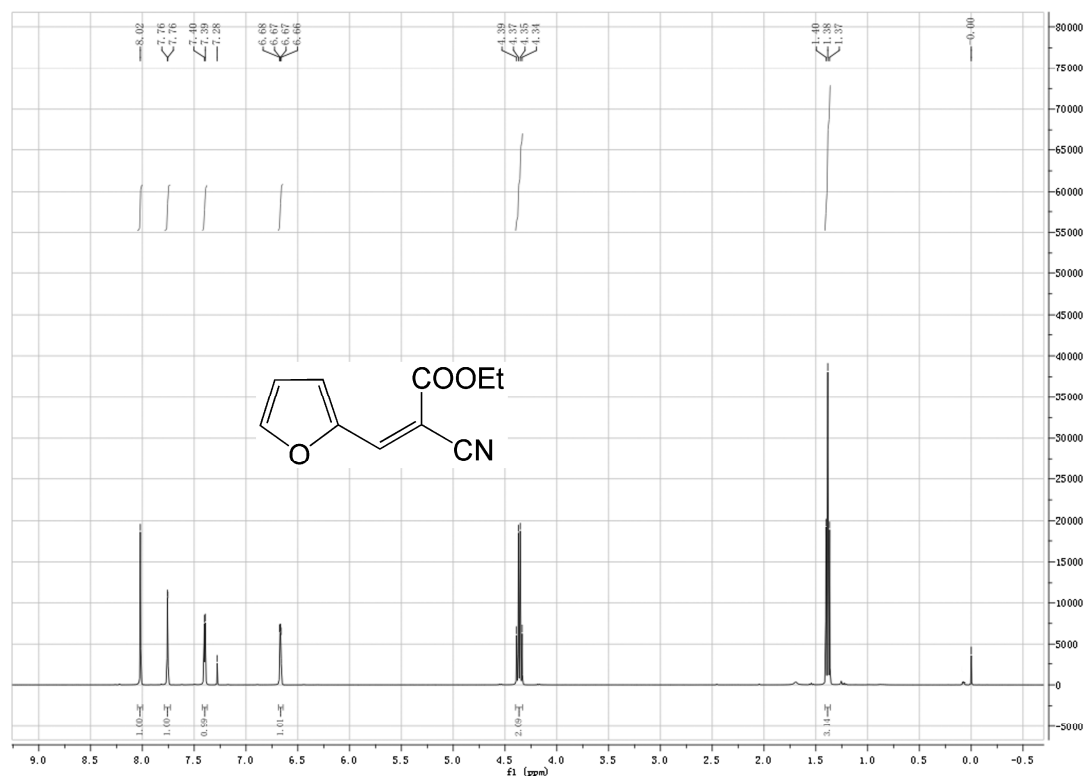


Fig. S14 The ¹H-NMR spectrum of ethyl (*E*)-2-cyano-3-(2-furyl)-2-propenoate (Table 4, Entry n).

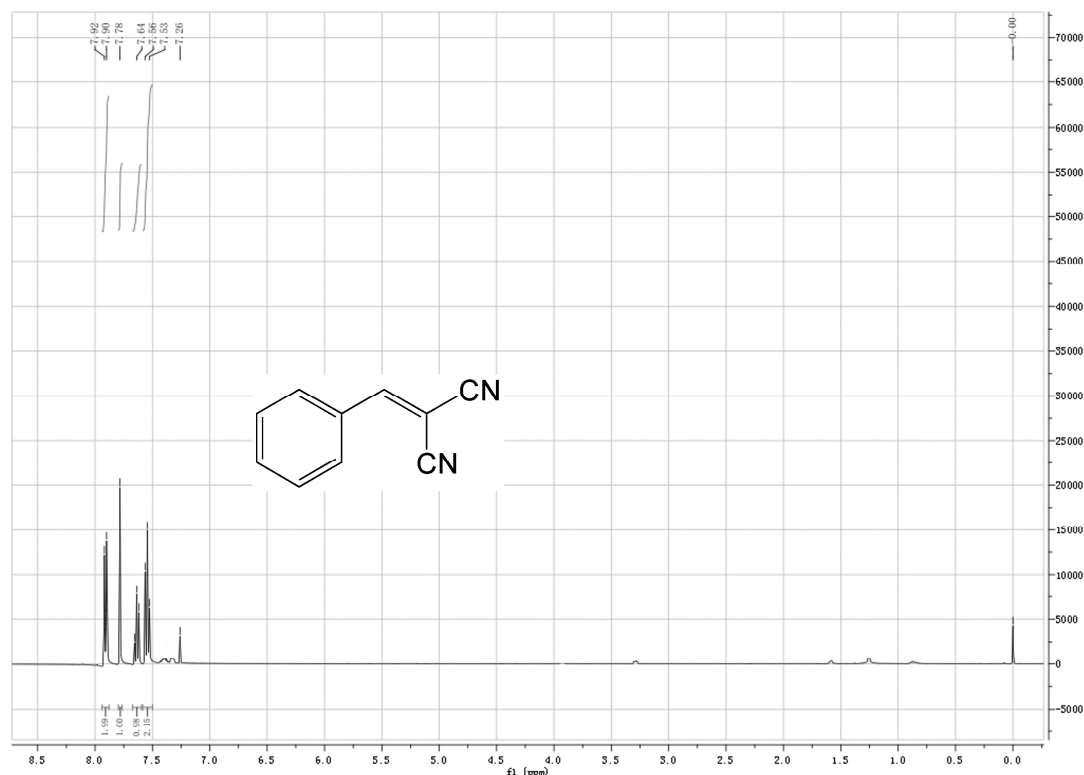


Fig. S15 The ¹H-NMR spectrum of 2-(phenylmethylenemalononitrile) (Table 5, Entry a).

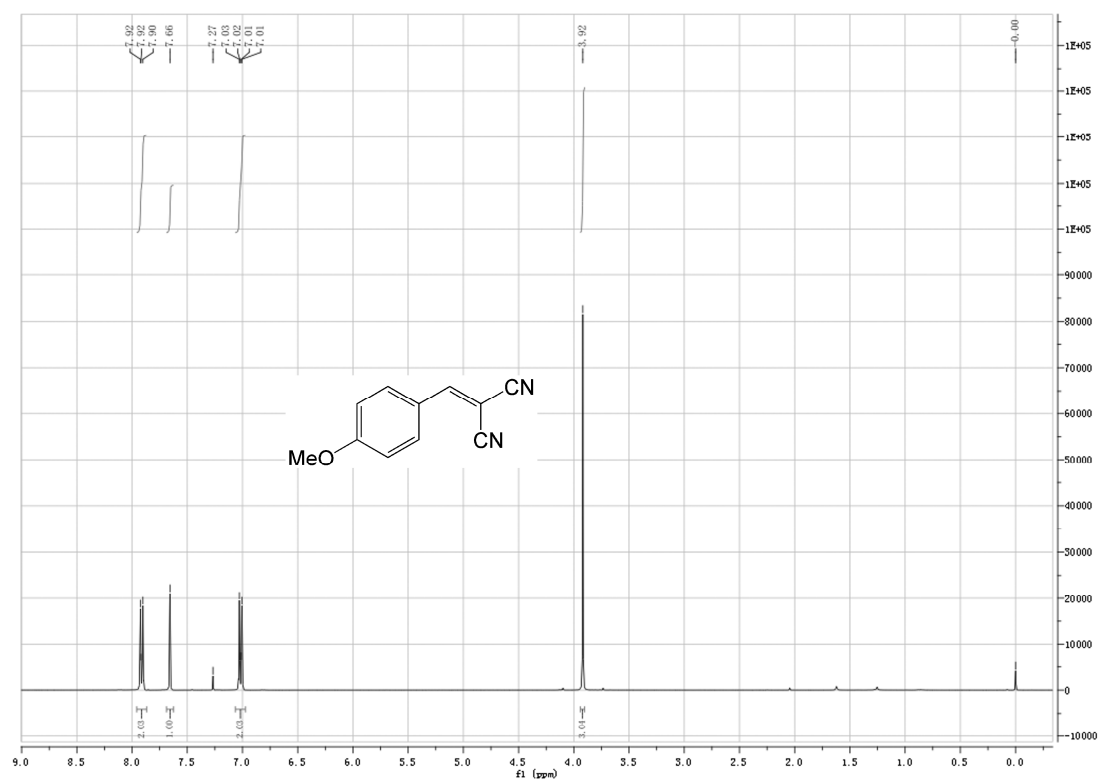


Fig. S16 The ¹H-NMR spectrum of 2-(4-methoxyphenylmethylene)malononitrile (Table 5, Entry b).

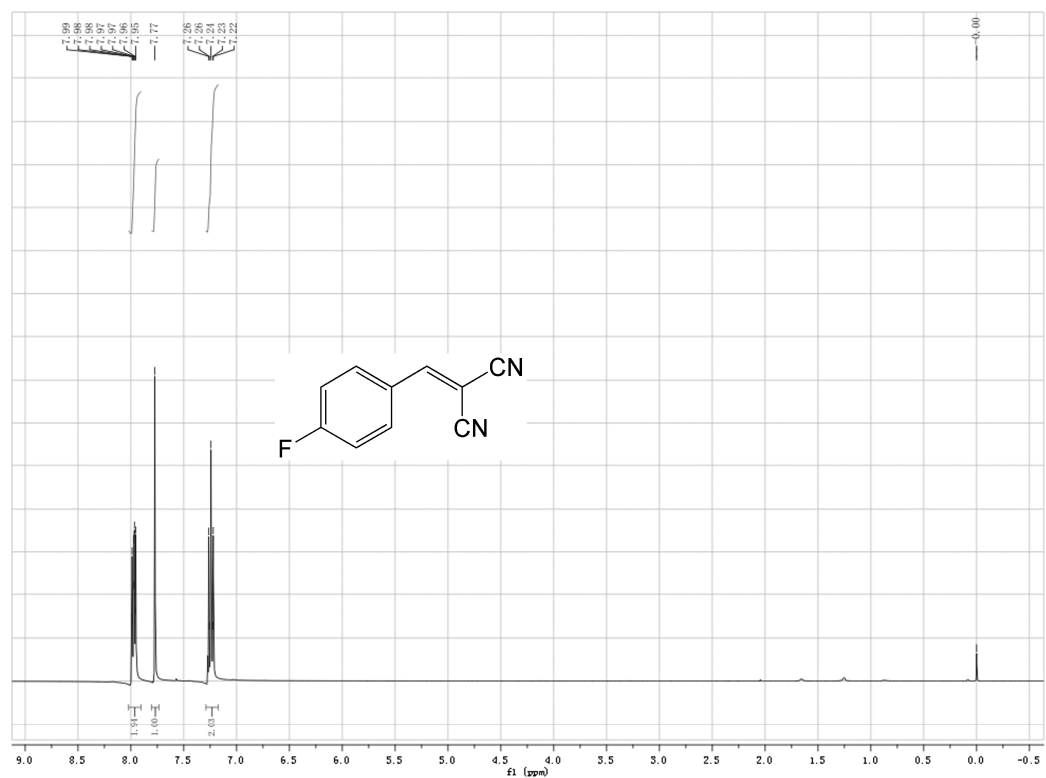


Fig. S17 The ¹H-NMR spectrum of 2-(4-fluorophenylmethylene)malononitrile (Table 5, Entry c).

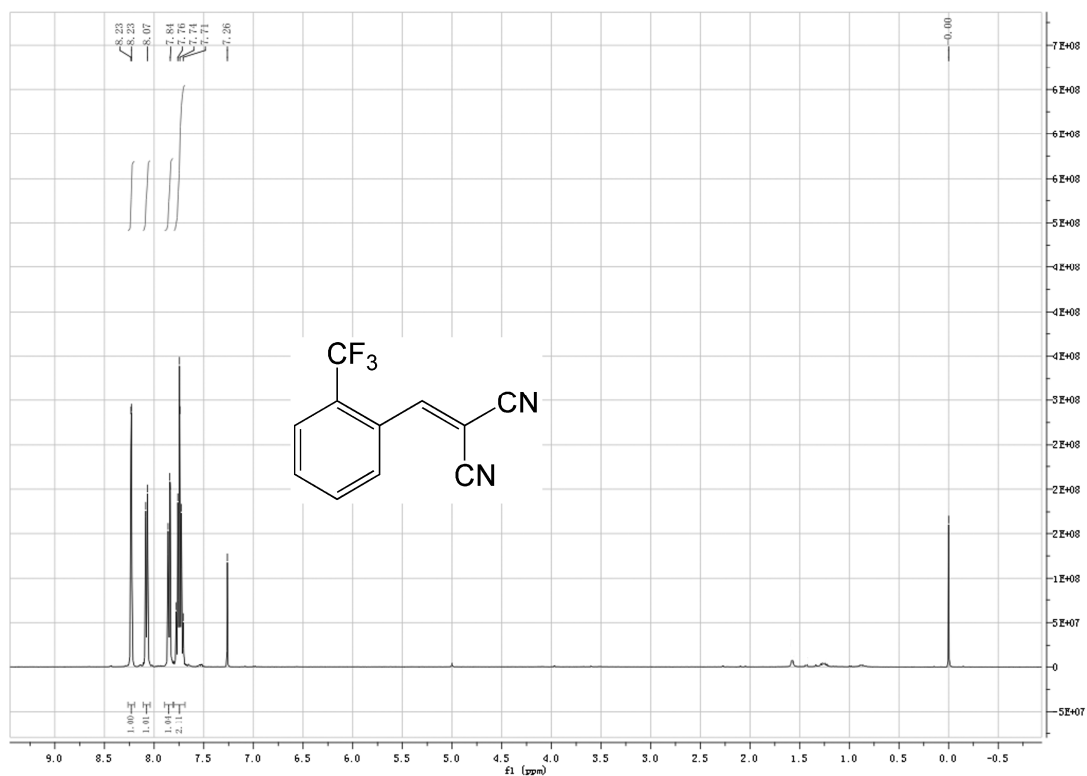


Fig. S18 The ¹H-NMR spectrum of 2-(2-(trifluoromethyl)phenylmethylene)malononitrile (Table 5, Entry d).

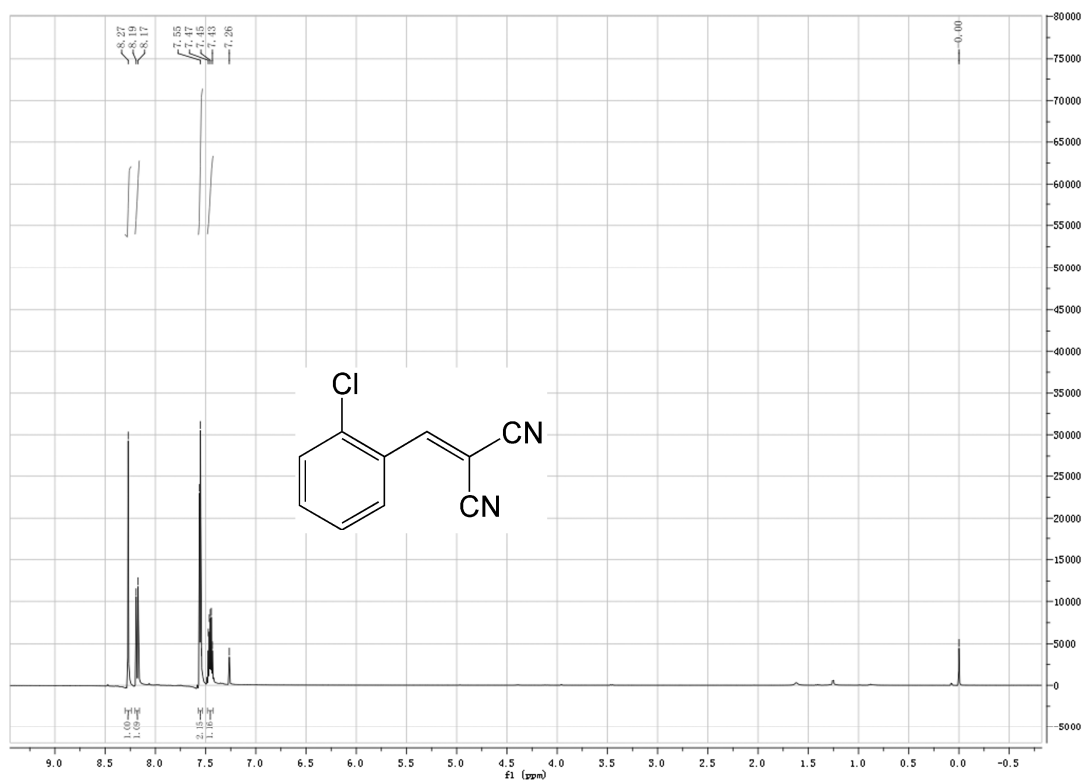


Fig. S19 The ¹H-NMR spectrum of 2-(2-chlorophenylmethylene)malononitrile (Table 5, Entry e).

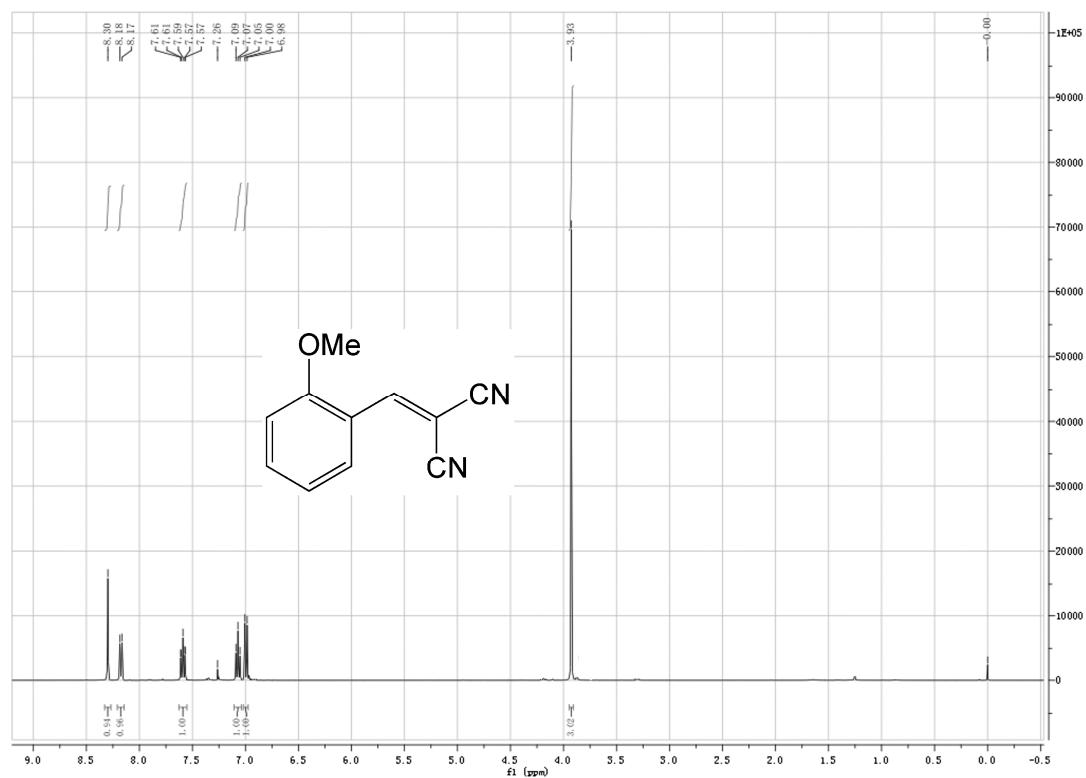


Fig. S20 The ^1H -NMR spectrum of 2-(2-methoxyphenylmethylene)malononitrile (Table 5, Entry f).

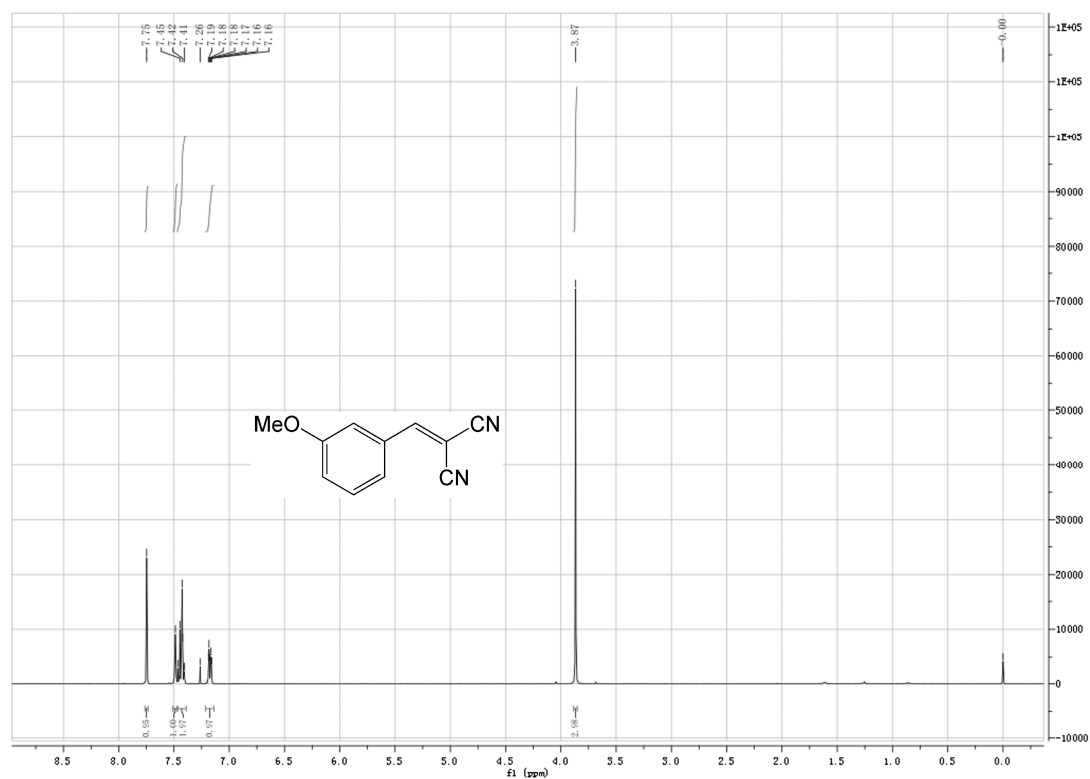


Fig. S21 The ^1H -NMR spectrum of 2-(3-methoxyphenylmethylene)malononitrile (Table 5, Entry g).

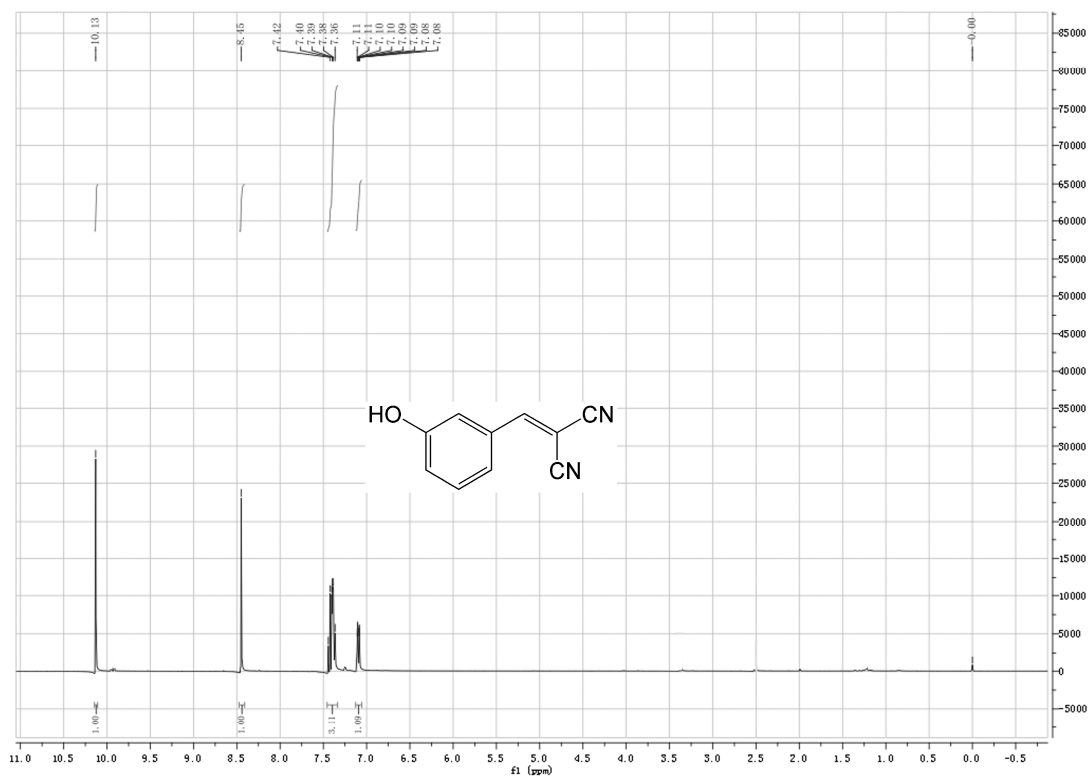


Fig. S22 The ¹H-NMR spectrum of 2-(3-hydroxyphenylmethylene)malononitrile (Table 5, Entry h).

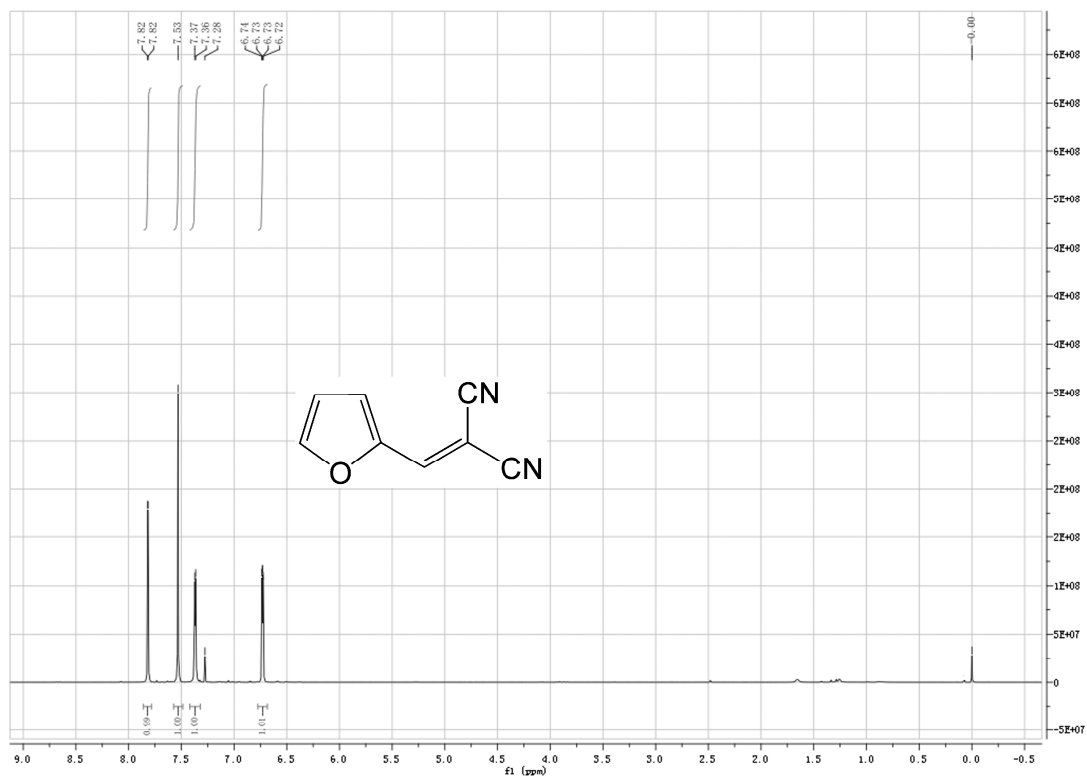


Fig. S23 The ¹H-NMR spectrum of 2-(2-furylmethylene)malononitrile (Table 5, Entry i).