**Electronic Supplementary Information**

One-pot Preparation of Isocyanides from Amines and their Multicomponent Reactions: Crucial Role of Dehydrating agent and Base

*Sankar K. Guchhait,* Garima Priyadarshani, Vikas Chaudhary, Darshan R. Seladiya, Tapan M. Shah, and Nikita P. Bhogayta

Department of Medicinal Chemistry

*National Institute of Pharmaceutical Education and Research (NIPER), S. A. S. Nagar (Mohali) - 160062, Punjab, India, Fax: 91 (0)172 2214692; Tel: 91 (0)172 2214683*

*Email: skguchhait@niper.ac.in*
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General Information

$^1$H NMR spectra were recorded on a Bruker Avance III-400 (400 MHz) spectrometer. Tetramethylsilane as an internal standard and NMR solvent CDCl$_3$, CD$_2$OD or DMSO-$d_6$ were used. Chemical shifts are in ppm. The $^1$H NMR data includes the integration, multiplicity ($s$ = singlet, $d$ = doublet, $t$ = triplet, $q$ = quartet, $m$ = multiplet, $td$ = triplet of doublet, $dt$ = doublet of triplet, $br$ = broad), and coupling constants (Hz). $^{13}$C NMR spectra were recorded on a Bruker Avance III-400 (100 MHz) spectrometer with complete proton decoupling. Chemical shifts are in ppm with NMR solvent as an internal standard. The acquisition of High-resolution mass spectra (HRMS) was performed on Bruker maxis Q-TOF. Infrared (IR) spectra were recorded on a Perkin Elmer FTIR with ATR and IR Microscope spectrometer. For thin layer chromatography (TLC) analysis, Merck precoated TLC plates (silica gel 60 GF 254, 0.25 mm) were used. The products were purified by column chromatography with silica gel 60-120 (Merck, silica gel 60-120 mesh, neutral, spherical) or preparative thin layer chromatography silica gel (Rankem, Silica Gel GF 254, 400 mesh). Melting points determined are uncorrected.

All commercially obtained reagents were used as received. Acetonitrile solvent was made anhydrous by distillation on calcium hydride.
Spectra of compounds (6a-n)

6a: $^1$H NMR
6a: $^{13}$C NMR
6b: $^1$H NMR
6b: $^{13}$C NMR
6c: $^1$H NMR
6c: $^{13}$C NMR
6d: $^1$H NMR
6d: $^{13}$C NMR
6e: $^1$H NMR
6e: $^{13}$C NMR
6f: $^1$H NMR
6f: $^{13}$C NMR
6g: $^1$H NMR

![H NMR spectrum of 6g](image-url)
6g: $^{13}$C NMR
6h: $^1$H NMR
6h: $^{13}$C NMR
6i: $^1H$ NMR
6i: $^{13}$C NMR
6j: $^1$H NMR
6j: $^{13}$C NMR
6k: $^1$H NMR
6k: $^{13}$C NMR
6l: $^1$H NMR
6l: $^{13}$C NMR
6m: $^{13}$C NMR
6n: $^1$H NMR
6n: $^{13}$C NMR
NMR Spectra of Compounds (7a-o)

7a: $^1$H NMR

![NMR Spectra Image]
7a: $^{13}$C NMR
7b: $^1$H NMR
7b: $^{13}$C NMR
7c: $^1$H NMR
$^13$C NMR

7c: $^13$C NMR
7d: $^1$H NMR
7d: $^{13}$C NMR
7e: $^1$H NMR
7e: $^{13}$C NMR
7f: $^1$H NMR
$7f: ^{13}\text{C NMR}$

![13C NMR spectrum of compound 7f](image-url)
7g: $^1$H NMR

[Image of a $^1$H NMR spectrum with peak assignments labeled]
7h: ¹H NMR
7h: $^{13}$C NMR
7i: $^1$H NMR
7i: $^{13}$C NMR
7j: $^1$H NMR
7j: $^{13}$C NMR
7k: $^1$H NMR

![NMR spectrum of compound 7k](image)
7k: $^{13}$C NMR
7l: $^1$H NMR
$^{13}$C NMR
7m: $^1$H NMR
7m: $^{13}$C NMR
7n: $^1$H NMR
7o: $^{1}$H NMR