Supporting Online Material for

Copper-catalyzed three-component reaction to synthesize polysubstituted imidazo[1,2-a]pyridines

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1. The structures of starting materials.

The structures of starting materials 1a-1g.

\[ \text{1a} \quad \text{1b} \quad \text{1c} \quad \text{1d} \quad \text{1e} \quad \text{1f} \quad \text{1g} \]

The structures of starting materials 2a-2g.

\[ \text{2a} \quad \text{2b} \quad \text{2c} \quad \text{2d} \quad \text{2e} \quad \text{2f} \quad \text{2g} \]

The structures of starting materials 3a-3i.

\[ \text{3a} \quad \text{3b} \quad \text{3c} \quad \text{3d} \quad \text{3e} \quad \text{3f} \quad \text{3g} \quad \text{3h} \quad \text{3i} \]
2. General Information

$^1$H and $^{13}$C {$^1$H} NMR spectra were recorded at ambient temperatures on a 400 MHz Bruker spectrometer using CDCl$_3$ or DMSO-$d_6$ as solvent and tetramethylsilane (TMS) as the internal standard. Chemical shifts are presented as $\delta$ values relative to TMS and $^1$H–$^1$H coupling constants ($J$ values) are given in Hz. IR spectra were recorded as KBr pellets on a Nicolet FT-IR 5DX spectrometer while HRMS measurements were carried out on a Bruker micrOTOF-Q II spectrometer. Melting points were determined on a Yanaco melting point apparatus and are uncorrected.
Figure S1. 400 MHz $^1$H NMR spectrum of compound 4a (recorded in CDCl$_3$).
Figure S2. 100 MHz $^{13}\text{C}\{^1\text{H}\}$ NMR spectrum of compound 4a (recorded in CDCl$_3$).

4a
Figure S3. 400 MHz $^1$H NMR spectrum of compound 4b (recorded in CDCl$_3$).
Figure S4. 100 MHz $^{13}$C{1H} NMR spectrum of compound 4b (recorded in CDCl$_3$).
Figure S5. 400 MHz $^1$H NMR spectrum of compound 4c (recorded in CDCl$_3$).
Figure S6. 100 MHz $^{13}$C{$^1$H} NMR spectrum of compound 4c (recorded in CDCl$_3$).
Figure S7. 400 MHz $^1$H NMR spectrum of compound 4d (recorded in CDCl$_3$).

![NMR Spectrum of Compound 4d](image-url)
Figure S8. 100 MHz $^{13}$C{1H} NMR spectrum of compound 4d (recorded in CDCl$_3$).

![NMR spectrum of compound 4d](image)
Figure S9. 400 MHz $^1$H NMR spectrum of compound 4e (recorded in CDCl$_3$).
Figure S10. 100 MHz $^{13}\text{C}\{1\text{H}\}$ NMR spectrum of compound 4e (recorded in CDCl$_3$).
Figure S11. 400 MHz $^1$H NMR spectrum of compound 4f (recorded in CDCl$_3$).
Figure S12. 100 MHz $^{13}$C{1H} NMR spectrum of compound 4f (recorded in CDCl$_3$).
Figure S13. 400 MHz $^1$H NMR spectrum of compound 4g (recorded in CDCl$_3$).
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Figure S15. 400 MHz $^1$H NMR spectrum of compound 4h (recorded in CDCl$_3$).
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