Supporting Information

Of

A FACILE PREPARATION OF IMIDAZO[1,2-a]PYRIDIN-3-AMINE DERIVATIVES VIA A THREE COMPONENT REACTION WITH β-CYCLODEXTRIN–SO₃H AS CATALYST

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1. GENERAL INFORMATION
The substituted pyridin-2-amines were obtained from TCI (Shanghai, China), isocyanides aromatic aldehydes were purchased from Accela ChemBio Co., Ltd (Shanghai, China). melting points were uncorrected and determined on a WRX-4 monocular microscope (Shanghai Yice Apparatus & Equipment Co., Ltd, China). The $^1$H-NMR and $^{13}$C-NMR spectra were recorded on a JEOL ECX 500 NMR spectrometer (JEOL Ltd, Japan) at room temperature operating at 500 MHz for $^1$H-NMR and 125 MHz for $^{13}$C-NMR by using CDCl$_3$ or CD$_3$OD as solvents and TMS as an internal standard; infrared spectra were recorded in KBr on a IR Pristige-21 spectrometer (Shimadzu corporation, Japan), absorbencies are reported in cm$^{-1}$; HR-MS were recorded on a Orbitrap LC-MS instrument (Q-Exative, Thermo Scientific™, American). The course of the reactions was monitored by TLC; analytical TLC was performed on silica gel GF 254.

2. EXPERIMENTAL PROCEDURES
2.1. Preparation of sulfonated β-cyclodextrin,$^1$
To a well stirred mixture of β-cyclodextrin (10.0 g, 4.5 mmol) in CH$_2$Cl$_2$ (50 mL), chlorosulfonic acid (2.00 g, 10 mmol) was added slowly at 0 °C during 3 h. The resulting mixture was stirred for another 2 h to remove HCl from the reaction vessel. Then, the mixture was filtered and washed with methanol and dried at room temperature to obtain β-cyclodextrin-SO$_3$H as a white powder.

2.2. General procedure for the preparation of imidazo[1,2-α]pyridin-3-amines
To a mixture of 2-aminopyridines (1 mmol), aromatic aldehydes (1 mmol) and isocyanides in ethanol (or acetonitrile) was added β-cyclodextrin-SO$_3$H (10 mol %). The reaction mixture was then allowed to stir for 1 hour under 80 °C. after complication of this reaction, the resulting mixture was cooled and the β-cyclodextrin-SO$_3$H was removed by filtration, the organic phase was evaporated in vacuum. Afterwards the residue were washed with ethyl acetate and cyclohexane (1 : 3) and dried to give the product.

3. Notes and References
4. NMR and HR-MS Spectra of the Products

**Figure 1.** $^1$H NMR (500 MHz) spectrum of compound 4a in CDCl$_3$. 
Figure 2. $^{13}$C NMR (125 MHz) spectrum of compound 4a in CDCl$_3$. 
Figure 3. HRMS spectrum of compound 4a.
Figure 4. $^1$H NMR (500 MHz) spectrum of compound 4b in CDCl$_3$. 
Figure 5: $^{13}$C NMR (125 MHz) spectrum of compound 4b in CDCl$_3$. 
Figure 6. HRMS spectrum of compound 4b.
Figure 7. $^1$H NMR (500 MHz) spectrum of compound 4c in CDCl$_3$. 
Figure 8. $^{13}$C NMR (125 MHz) spectrum of compound 4c in CDCl$_3$. 
Figure 9. HRMS spectrum of compound 4c.
Figure 10. $^1$H NMR (500 MHz) spectrum of compound 4d in CDCl$_3$. 
Figure 11. $^{13}$C NMR (125 MHz) spectrum of compound 4d in CDCl$_3$. 
Figure 12. HRMS spectrum of compound 4d.
Figure 13. $^1$H NMR (500 MHz) spectrum of compound 4e in CDCl$_3$. 
Figure 14. $^{13}$C NMR (125 MHz) spectrum of compound 4e in CDCl$_3$. 
Figure 15. HRMS spectrum of compound 4e.
Figure 16. $^1$H NMR (500 MHz) spectrum of compound 4f in CDCl$_3$. 
Figure 17. $^{13}$C NMR (125 MHz) spectrum of compound 4f in CDCl$_3$. 
Figure 18. HRMS spectrum of compound 4f.
Figure 19. $^1$H NMR (500 MHz) spectrum of compound 4g in CDCl$_3$. 
Figure 20. $^{13}$C NMR (125 MHz) spectrum of compound 4g in CDCl$_3$. 
Figure 21. HRMS spectrum of compound 4g.
Figure 22. $^1$H NMR (500 MHz) spectrum of compound 4h in CDCl$_3$. 
Figure 23. $^1$H NMR (500 MHz) spectrum of compound 4h in CDCl$_3$. 
Figure 24. HRMS spectrum of compound 4h.
Figure 25. $^1$H NMR (500 MHz) spectrum of compound 4i in CDCl$_3$. 
Figure 26. $^{13}$C NMR (125 MHz) spectrum of compound 4i in CDCl$_3$. 
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Figure 45. HRMS spectrum of compound 4o.
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Figure 51. HRMS spectrum of compound 4q.
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Figure 53. $^{13}$C NMR (125 MHz) spectrum of compound 4r in CDCl$_3$. 
Figure 54. HRMS spectrum of compound 4r.
Figure 55. $^1$H NMR (500 MHz) spectrum of compound 4s in CDCl$_3$. 
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Figure 67. $^1$H NMR (500 MHz) spectrum of compound 4w in CDCl$_3$. 
Figure 68. $^1$H NMR (125 MHz) spectrum of compound 4w in CDCl$_3$. 

Figure 68. $^1$C NMR (125 MHz) spectrum of compound 4w in CDCl$_3$. 

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Figure 69. HRMS spectrum of compound 4w.