Supporting Information

Pd-catalyzed tandem reaction of N-(2-cyanoaryl)benzamides with arylboronic acids: synthesis of quinazolines

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† These authors contributed equally.
1.1. Optimization of Reaction Conditions

Table S1. Conditions Screening for the Synthesis of Quinazoline

<table>
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<th>yield (%)b</th>
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aConditions: 1a (0.2 mmol), 2a (0.4 mmol), Pd(OAc)₂ (5 mol %), L1 (10 mol %), TFA (x equiv), THF (1 mL), 80 °C, 24 h, air. bIsolated yield.
1.2 General Procedure for the Synthesis of \( N-(2\text{-cyanophenyl}) \)benzamides

\( N-(2\text{-cyanophenyl}) \)acetamides were synthesized from 2-aminobenzonitriles and the appropriate acyl chloride or anhydride according to the modified procedure of the literatures.

\[
\begin{align*}
\text{R}^1 \text{H} & \quad + \quad \text{R} \text{Cl} \quad \text{or} \quad \text{R} \text{CO} \text{O} \text{R} \\
& \quad \rightarrow \quad \text{R}^1 \text{H} \text{N} \text{C} \text{O}
\end{align*}
\]

2-Aminobenzonitriles (8 mmol) and dichloromethane (25 mL) were added to a 100 mL round bottom flask fitted with a rubber septum then the system was charged with nitrogen. The corresponding acyl chloride or anhydride (12 mmol) was slowly added dropwise under nitrogen atmosphere. The reaction mixture was stirred at room temperature for 12-24 h. The reaction mixture was washed with saturated \( \text{NaHCO}_3 \) solution (3 × 20 mL), with brine (2 × 20 mL), dried over anhydrous \( \text{Na}_2\text{SO}_4 \), filtered and evaporated. The residue was purified by flash column chromatography with petroleum ether/ethyl acetate to afford \( N-(2\text{-cyanophenyl}) \) benzamides.
Copies of $^1$H and $^{13}$C NMR Spectra

Figure S1. $^1$H NMR of 3a (500 MHz, CDCl$_3$) and $^{13}$C NMR of 3a (125 MHz, CDCl$_3$).
Figure S2. $^1$H NMR of 3b (500 MHz, CDCl$_3$) and $^{13}$C NMR of 3b (125 MHz, CDCl$_3$)
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