Supporting Information

A Three-Component Approach to Isoxazolines and Isoxazoles under Metal-Free Conditions

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1. General information

All reactions were carried out under an atmosphere of oxygen unless otherwise noted. Column chromatography was performed using silica gel (200-300 mesh). $^1$H NMR and $^{13}$C NMR spectra were recorded on Bruker-AV (400 and 100 MHz, respectively) instrument using CDCl$_3$ as solvent and TMS as an internal standard. Mass spectra were measured on Agilent 5975 GC-MS instrument (EI). High-resolution mass spectra (ESI) were obtained with the Thermo Scientific LTQ Orbitrap XL mass spectrometer. The structures of known compounds were further corroborated by comparing their $^1$H NMR, $^{13}$C NMR data and MS data with those of literature. Most reagents were obtained from commercial suppliers and used without further purification.

2. General procedure

2.1. Preparation for isoxazole or isoxazolines:

\[
\begin{align*}
\text{1} & \quad + \quad \begin{array}{c}
\text{R} \\
\end{array} \\
\text{2,4} & \quad \xrightarrow{\text{NH}_4\text{I, NCS, } \text{Acid}} \\
\text{3,5} & \quad \text{DMAc, 90 min, 110 }^\circ\text{C}
\end{align*}
\]

A 10 mL reaction vessel was charged with 1 (0.2 mmol), 2 or 4 (0.4 mmol), TBN (0.6 mmol), NH$_4$I (0.15 mmol), NCS (0.1 mmol), 2,4-dinitrobenzoic acid (0.2 mmol), DMAc (0.5 mL) under Air. The reaction vessel was stirred at 110 °C for 90 minute. After cooling to room temperature, the reaction was diluted with ethyl acetate (5 mL) and washed with saturated sodium chloride solution. The organic layer was separated, and the aqueous layer was extracted with ethyl acetate for three times. The combined organic layer was dried over magnesium sulfate and the volatiles were removed under reduced pressure. The residue was purified by column chromatography on silica gel to give the desired product.

2.2 Preparation for isoxazole (7aa)

\[
\begin{align*}
\text{6, X=S,O} & \quad + \quad \begin{array}{c}
\text{R}_1 \\
\end{array} \\
\text{2} & \quad \xrightarrow{\text{NH}_4\text{I, NCS, } \text{Acid}} \\
\text{7} & \quad \text{DMAc, 90 min, 110 }^\circ\text{C}
\end{align*}
\]

A 10 mL reaction vessel was charged with 6 (0.2 mmol), 2 (0.4 mmol), TBN (0.6 mmol), NH$_4$I (0.3 mmol), NCS (0.1 mmol), 2,4-dinitrobenzoic acid (0.2 mmol), DMAc (0.5 mL) under Air. The reaction vessel was stirred at 110 °C for 90 minute. After cooling to room temperature, the reaction was diluted with ethyl acetate (5 mL) and washed with saturated sodium chloride solution. The organic layer was separated, and the aqueous
layer was extracted with ethyl acetate for three times. The combined organic layer was dried over magnesium sulfate and the volatiles were removed under reduced pressure. The residue was purified by column chromatography on silica gel to give the desired product.

2.3 Preparation for 8a

A 10 mL reaction vessel was charged with 3aa (0.2 mmol), NCS (0.3 mmol), DMF (0.5 mL), under Air. The reaction vessel was stirred at rt for 24 h. After cooling to room temperature, the reaction was diluted with ethyl acetate (5 mL) and washed with saturated sodium chloride solution. The organic layer was separated, and the aqueous layer was extracted with ethyl acetate for three times. The combined organic layer was dried over magnesium sulfate and the volatiles were removed under reduced pressure. The residue was purified by column chromatography on silica gel to give the desired product.

2.4 Preparation for 8b

To a stirred mixture of 3aa (0.2 mmol), Mo(CO)$_6$ (0.2 mmol), in pressure tube (10 mL) was evacuated and purged with argon gas three times. To the tube was then added CH$_3$CN (1.5 mL) and H$_2$O (0.5 mL). Then, the reaction mixture was allowed to stir at 80 °C for 6 h. The solvent was evaporated, and the residue was treated with ethyl acetate. Filtration through Celite and evaporation of the solvent, the residue was subjected to column chromatography on silica gel to give the desired product.

2.5 Preparation for 8c

To a stirred mixture of 3ea (0.2 mmol), PdCl$_2$ (5 mol %), PPh$_3$ (15 mol %) and CuI (1.9 mg, 5 mol %) in
pressure tube (10 mL) was evacuated and purged with argon gas three times. To the tube was then added Et$_3$N (1.2 mL) via syringes. The mixture was stirred at room temperature for 30 min and then added $2a$ (0.28 mmol) via syringes. Thereafter, the reaction mixture was allowed to stir at 80 °C for 12 h. The solvent was evaporated, and the residue was treated with ethyl acetate. Filtration through Celite and evaporation of the solvent, the residue was subjected to column chromatography on silica gel to give the desired product.
3. Analytical data for the compounds prepared

**5-Phenyl-3-(quinolin-2-yl)isoxazole (3aa):** 46.2 mg, 85%. White solid, Mp: 128-130 °C.

$^1$H NMR (400 MHz, CDCl$_3$) δ 8.29 - 8.17 (m, 3H), 7.93 - 7.85 (m, 3H), 7.77 (t, $J = 7.2$ Hz, 1H), 7.59 (t, $J = 7.4$ Hz, 1H), 7.54 - 7.45 (m, 3H), 7.41 (s, 1H).

$^{13}$C NMR (100 MHz, CDCl$_3$) δ 170.6, 164.1, 148.6, 147.9, 136.9, 130.2, 129.9, 129.6, 129.0, 128.4, 127.7, 127.4, 127.3 125.8, 119.1, 98.6. HRMS calcd for C$_{18}$H$_{13}$N$_2$O$^+$ (M+H)$^+$ 273.1022, found 273.1027.

**3-(6-Methylquinolin-2-yl)-5-phenylisoxazole (3ba):** 42.9 mg, 75%, White solid, Mp = 129-131 °C.

$^1$H NMR (400 MHz, CDCl$_3$) δ 8.21 - 8.15 (m, 2H), 8.07 (d, $J = 8.5$ Hz, 1H), 7.93 - 7.88 (m, 2H), 7.63 - 7.57 (m, 2H), 7.53 - 7.46 (m, 3H), 7.38 (s, 1H), 2.56 (s, 3H).

$^{13}$C NMR (100 MHz, CDCl$_3$) δ 170.4, 164.1, 147.7, 146.5, 137.3, 136.2, 132.3, 130.1, 129.3, 129.0, 128.4, 127.4, 126.5, 125.8, 119.0, 98.5, 21.6. HRMS calcd. for: C$_{19}$H$_{15}$N$_2$O$^+$ (M+H)$^+$ 287.1179, found 287.1181.

**3-(6-Fluoroquinolin-2-yl)-5-phenylisoxazole (3ca):** 42.9 mg, 72%, White solid, Mp = 147-149 °C.

$^1$H NMR (400 MHz, CDCl$_3$) δ 8.28 - 8.13 (m, 3H), 7.94 - 7.83 (m, 2H), 7.55 - 7.44 (m, 5H), 7.36 (s, 1H). $^{13}$C NMR (100 MHz, CDCl$_3$) δ 170.6, 163.8, 161.8 (d, $J = 248.1$ Hz), 148.00 (d, $J = 2.7$ Hz), 145.0, 136.2 (d, $J = 5.4$ Hz), 132.2 (d, $J = 9.2$ Hz), 130.2, 129.1, 129.0, 127.3, 125.8, 120.1(d, $J = 25.6$ Hz), 119.8, 110.8 (d, $J = 21.7$ Hz), 98.4. HRMS calcd. for: C$_{18}$H$_{12}$F$_2$N$_2$O$^-$ (M+H)$^+$ 291.0928, found 291.0933.
3-(6-Chloroquinolin-2-yl)-5-phenylisoxazole (3da): 47.1 mg, 77%, White solid, Mp = 147-149 °C.

$^1$H NMR (400 MHz, CDCl$_3$) δ 8.25 (d, $J$ = 8.6 Hz, 1H), 8.17 (d, $J$ = 8.6 Hz, 1H), 8.10 (d, $J$ = 9.0 Hz, 1H), 7.89 (d, $J$ = 6.8 Hz, 2H), 7.83 (d, $J$ = 2.0 Hz, 1H), 7.69 (dd, $J$ = 9.0, 2.2 Hz, 1H), 7.54 - 7.45 (m, 3H), 7.35 (s, 1H). $^{13}$C NMR (100 MHz, CDCl$_3$) δ 170.7, 163.8, 148.9, 146.3, 135.9, 133.0, 131.2, 130.8, 130.3, 129.0, 128.9, 127.3, 126.4, 125.8, 119.9, 98.4. HRMS calcd. for: C$_{18}$H$_{12}$ClN$_2$O$^+$ (M+H)$^+$ 307.0633, found 307.0637.

![Image of 3da structure]

3-(6-Bromoquinolin-2-yl)-5-phenylisoxazole (3ea): 56.7 mg, 81%, White solid, Mp = 177-179 °C.

$^1$H NMR (400 MHz, CDCl$_3$) δ 8.28 (d, $J$ = 8.6 Hz, 1H), 8.20 (d, $J$ = 8.6 Hz, 1H), 8.07 (d, $J$ = 8.9 Hz, 2H), 7.91 (d, $J$ = 7.0 Hz, 2H), 7.86 - 7.82 (m, 1H), 7.56 - 7.46 (m, 3H), 7.40 (s, 1H). $^{13}$C NMR (100 MHz, CDCl$_3$) δ 170.7, 163.8, 149.0, 146.5, 135.9, 133.4, 131.3, 130.3, 129.8, 129.4, 129.0, 127.2, 125.8, 121.3, 119.9, 98.4. HRMS calcd. for: C$_{18}$H$_{12}$BrN$_2$O$^+$ (M+H)$^+$ 351.0128, found 351.0129.

![Image of 3ea structure]

3-(6-Ethoxyquinolin-2-yl)-5-phenylisoxazole (3fa): 49.3 mg, 78%, Yellow solid, Mp = 205-207 °C.

$^1$H NMR (400 MHz, CDCl$_3$) δ 8.20 - 8.11 (m, 2H), 8.07 (d, $J$ = 9.2 Hz, 1H), 8.07 (d, $J$ = 8.9 Hz, 2H), 7.90 (d, $J$ = 7.0 Hz, 2H), 7.53 - 7.46 (m, 3H), 7.43 - 7.39 (m, 1H), 7.37 (s, 1H), 7.10 (d, $J$ = 2.5 Hz, 1H), 4.18 (q, $J$ = 7.0 Hz, 2H), 1.51 (t, $J$ = 7.0 Hz, 3H). $^{13}$C NMR (100 MHz, CDCl$_3$) δ 170.4, 164.1, 157.7, 146.0, 143.9, 135.6, 131.0, 130.2, 129.6, 129.0, 127.4, 125.8, 123.0, 119.3, 105.7, 98.4, 63.8, 14.7. HRMS calcd. for: C$_{20}$H$_{17}$N$_2$O$_2^+$ (M+H)$^+$ 317.1285, found 317.1285.

![Image of 3fa structure]

5-Phenyl-3-(6-phenylquinolin-2-yl)isoxazole (3ga): 54.3 mg, 78%, Yellow solid, Mp = 153-155 °C.

$^1$H NMR (400 MHz, CDCl$_3$) δ 8.33 - 8.23 (m, 3H), 8.06 - 8.01 (m, 2H), 7.95 - 7.88 (m, 2H), 7.75 (d, $J$ = 7.9 Hz, 3H), 7.49 - 7.41 (m, 3H), 7.38 (s, 1H), 7.12 (d, $J$ = 8.3 Hz, 2H), 7.08 - 7.00 (m, 3H), 6.97 (dt, $J$ = 16.6, 8.3 Hz, 1H), 6.87 (dt, $J$ = 17.3, 10.4 Hz, 1H), 6.84 - 6.73 (m, 1H). $^{13}$C NMR (100 MHz, CDCl$_3$) δ 170.7, 163.8, 157.7, 146.0, 143.9, 135.6, 131.0, 130.2, 129.6, 129.0, 127.4, 125.8, 123.0, 119.3, 105.7, 98.4, 63.8, 14.7. HRMS calcd. for: C$_{20}$H$_{17}$N$_2$O$_2^+$ (M+H)$^+$ 317.1285, found 317.1285.
Methyl 2-(5-phenylisoxazol-3-yl)quinoline-6-carboxylate (3ha): 53.5 mg, 81%, Yellow solid, Mp = 172-174 °C.

$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 8.63 (s, 1H), 8.40 - 8.29 (m, 3H), 8.22 (d, $J = 8.8$ Hz, 1H), 7.91 (d, $J = 7.1$ Hz, 2H), 7.54 - 7.47 (m, 3H), 7.41 (s, 1H), 4.02 (s, 3H).

$^{13}$C NMR (100 MHz, CDCl$_3$) $\delta$ 170.8, 166.4, 163.7, 150.6, 149.7, 138.1, 130.7, 130.3, 129.9, 129.4, 129.0, 128.6, 127.7, 127.2, 125.8, 119.8, 98.5, 52.5. HRMS calcd. for: C$_{20}$H$_{15}$N$_2$O$_3^+$ (M+H)$^+$ 331.1077, found 331.1079.

3-(7-Chloroquinolin-2-yl)-5-phenylisoxazole (3ia): 52.0 mg, 85%, Yellow solid, Mp = 146-148 °C.

$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 8.23 (s, 2H), 8.17 (s, 1H), 7.89 (d, $J = 7.5$ Hz, 2H), 7.79 (d, $J = 8.7$ Hz, 1H), 7.55 - 7.47 (m, 4H), 7.36 (s, 1H). $^{13}$C NMR (100 MHz, CDCl$_3$) $\delta$ 170.6, 163.7, 149.5, 148.2, 136.6, 135.7, 130.3, 129.0, 128.8, 128.6, 128.2, 127.2, 126.6, 125.8, 119.2, 98.4. HRMS calcd. for: C$_{18}$H$_{12}$ClN$_2$O$_3^+$ (M+H)$^+$ 307.0633, found 307.0637.

3-(8-Methoxyquinolin-2-yl)-5-phenylisoxazole (3ja): 53.2 mg, 88%, Yellow solid, Mp = 129-131 °C.

$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 8.31 - 8.22 (m, 2H), 7.90 (d, $J = 6.9$ Hz, 2H), 7.54 - 7.43 (m, 6H), 7.11 (d, $J = 7.6$ Hz, 1H), 4.13 (s, 3H). $^{13}$C NMR (100 MHz, CDCl$_3$) $\delta$ 170.3, 164.0, 155.3, 147.5, 139.7, 136.9, 130.1, 129.5, 128.9, 127.6, 127.4, 125.8, 119.6, 119.5, 108.2, 98.9, 56.1. HRMS calcd. for: C$_{19}$H$_{13}$N$_2$O$_3^+$ (M+H)$^+$ 303.1128,
Cl

3-(4-Chloroquinolin-2-yl)-5-phenylisoxazole (3ka) : 43.5 mg, 71%, Yellow solid, Mp = 149-151 °C.
$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 8.32 (s, 1H), 8.25 (dd, $J$ = 8.4, 0.9 Hz, 1H), 8.18 (d, $J$ = 8.4 Hz, 1H), 7.89 (dd, $J$ = 8.0, 1.5 Hz, 2H), 7.84 - 7.78 (m, 1H), 7.70 - 7.64 (m, 1H), 7.54 - 7.46 (m, 3H), 7.35 (s, 1H). $^{13}$C NMR (100 MHz, CDCl$_3$) $\delta$ 170.8, 163.3, 148.6, 148.4, 143.3, 130.7, 130.3, 130.0, 129.0, 128.2, 127.2, 126.4, 125.8, 124.1, 119.1, 98.4. HRMS calcd. for: C$_{18}$H$_{12}$ClN$_2$O$^+$ (M+H)$^+$ 307.0633, found 307.0637.

5-Phenyl-3-(quinolin-4-yl)isoxazole (3la) : 29.4 mg, 54%, Yellow solid, Mp = 42-44 °C.
$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 9.04 (d, $J$ = 4.4 Hz, 1H), 8.49 (d, $J$ = 8.5 Hz, 1H), 8.23 (d, $J$ = 8.4 Hz, 1H), 7.91 (d, $J$ = 6.4 Hz, 2H), 7.81 (t, $J$ = 7.6 Hz, 1H), 7.69 - 7.63 (m, 2H), 7.56 - 7.49 (m, 3H), 6.92 (s, 1H). $^{13}$C NMR (100 MHz, CDCl$_3$) $\delta$ 170.5, 161.2, 149.8, 148.6, 135.2, 130.6, 129.9, 129.1, 128.9, 127.6, 126.8, 125.9, 125.7, 125.5, 121.2, 100.3. HRMS calcd for C$_{18}$H$_{13}$N$_2$O$^+$ (M+H)$^+$ 273.1022, found 273.1027.

5-Phenyl-3-(quinoxalin-2-yl)isoxazole (3ma) : 29.4 mg, 54%, White solid, Mp = 153-154 °C.
$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 9.66 (s, 1H), 8.21 - 8.15 (m, 2H), 7.94 - 7.88 (m, 2H), 7.87 - 7.79 (m, 2H), 7.57 - 7.48 (m, 3H), 7.38 (s, 1H). $^{13}$C NMR (100 MHz, CDCl$_3$) $\delta$ 170.9, 162.2, 143.6, 143.4, 142.6, 142.0, 130.7, 130.6, 130.5, 129.6, 129.4, 129.1, 126.9, 125.9, 98.4. HRMS calcd for: C$_{17}$H$_{12}$N$_3$O$^+$ (M+H)$^+$ 274.0975, found 274.0980.
3-(Isoquinolin-1-yl)-5-phenylisoxazole (3na) : 41.3 mg, 76%, Yellow solid, Mp = 96-98 °C.

$^1$H NMR (400 MHz, CDCl$_3$) δ 9.19 (d, $J = 8.3$ Hz, 1H), 8.66 (d, $J = 5.6$ Hz, 1H), 7.93 - 7.88 (m, 3H), 7.77 - 7.69 (m, 3H), 7.54 - 7.44 (m, 3H), 7.29 (s, 1H). $^{13}$C NMR (100 MHz, CDCl$_3$) δ 169.5, 164.3, 148.3, 141.9, 136.8, 130.4, 130.2, 129.0, 128.4, 127.6, 127.2, 127.0, 126.7, 125.8, 122.2, 101.0. HRMS calcd. for: C$_{17}$H$_{12}$N$_3$O$^+$ (M+H)$^+$ 274.0975, found 274.0980.

3-(1,8-Naphthyridin-2-yl)-5-phenylisoxazole (3oa) : 16.4 mg, 30%, Yellow solid, Mp = 153-155 °C.

$^1$H NMR (400 MHz, CDCl$_3$) δ 9.25 - 9.15 (m, 1H), 8.41 (d, $J = 8.4$ Hz, 1H), 8.34 (d, $J = 8.4$ Hz, 1H), 8.28 (dd, $J = 8.1$, 1.5 Hz, 1H), 7.89 (d, $J = 7.3$ Hz, 2H), 7.62 - 7.47 (m, 5H). $^{13}$C NMR (100 MHz, CDCl$_3$) δ 170.8, 163.7, 155.7, 154.1, 151.8, 138.1, 137.0, 130.3, 129.0, 127.2, 125.8, 123.1, 122.7, 120.2, 99.0. HRMS calcd. for: C$_{17}$H$_{12}$N$_3$O$^+$ (M+H)$^+$ 274.0975, found 274.0980.

3-(Benzo[f]quinolin-3-yl)-5-phenylisoxazole (3pa) : 41.9 mg, 65%, Yellow solid, Mp = 162-164 °C.

$^1$H NMR (400 MHz, CDCl$_3$) δ 9.04 (d, $J = 8.6$ Hz, 1H), 8.65 (d, $J = 8.0$ Hz, 1H), 8.38 (d, $J = 8.6$ Hz, 1H), 8.08 - 8.02 (m, 2H), 7.93 (dd, $J = 16.2$, 7.4 Hz, 3H), 7.75 - 7.66 (m, 2H), 7.56 - 7.46 (m, 3H), 7.42 (s, 1H). $^{13}$C NMR (100 MHz, CDCl$_3$) δ 170.5, 163.8, 147.9, 147.8, 131.8, 131.5, 131.3, 130.2, 129.3, 128.9, 128.7, 128.0, 127.6, 127.3, 127.2, 125.8, 125.7, 122.8, 119.1, 98.5. HRMS calcd. for: C$_{22}$H$_{15}$N$_2$O$^+$ (M+H)$^+$ 323.1179, found 323.1180.
3-(Quinolin-2-yl)-5-(p-tolyl)isoxazole (3ab): 39.5 mg, 69%, White solid, Mp = 150-152 °C.

$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 8.31 - 8.18 (m, 3H), 7.87 (d, $J$ = 8.1 Hz, 1H), 7.84 - 7.73 (m, 3H), 7.60 (t, $J$ = 7.5 Hz, 1H), 7.37 (s, 1H), 7.31 (d, $J$ = 8.0 Hz, 2H), 2.42 (s, 3H). $^{13}$C NMR (100 MHz, CDCl$_3$) $\delta$ 170.9, 164.0, 148.7, 147.9, 140.6, 137.0, 130.0, 129.7, 129.6, 128.4, 127.7, 127.3, 125.8, 124.7, 119.1, 98.0, 21.5. HRMS calcd. for: C$_{19}$H$_{15}$N$_2$O$^+$ (M+H)$^+$ 287.1179, found 287.1181.

5-(4-Ethylphenyl)-3-(quinolin-2-yl)isoxazole (3ac): 39.6 mg, 66%, Yellow solid, Mp = 112-114 °C.

$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 8.30 - 8.17 (m, 3H), 7.85 (dd, $J$ = 17.2, 8.1 Hz, 3H), 7.80 - 7.73 (m, 1H), 7.63 - 7.56 (m, 1H), 7.41 - 7.30 (m, 3H), 2.72 (q, $J$ = 7.6 Hz, 2H), 1.28 (t, $J$ = 7.6 Hz, 3H). $^{13}$C NMR (100 MHz, CDCl$_3$) $\delta$ 170.8, 164.0, 148.7, 147.9, 146.8, 136.9, 129.9, 129.6, 128.5, 128.3, 127.7, 127.3, 125.9, 124.9, 119.1, 98.0, 28.8, 15.3. HRMS calcd. for: C$_{20}$H$_{17}$N$_2$O$^+$ (M+H)$^+$ 301.1335, found 301.1339.

5-(4-Propylphenyl)-3-(quinolin-2-yl)isoxazole (3ad): 42.7 mg, 68%, Yellow solid, Mp = 88-90 °C.

$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 8.30 - 8.17 (m, 3H), 7.87 (d, $J$ = 8.1 Hz, 1H), 7.85 - 7.74 (m, 3H), 7.60 (t, $J$ = 7.5 Hz, 1H), 7.36 (s, 1H), 7.32 (d, $J$ = 8.1 Hz, 2H), 2.66 (t, $J$ = 7.6 Hz, 2H), 1.69 (dd, $J$ = 15.0, 7.5 Hz, 2H), 0.97 (t, $J$ = 7.3 Hz, 3H). $^{13}$C NMR (100 MHz, CDCl$_3$) $\delta$ 170.8, 164.0, 148.7, 148.0, 145.3, 136.9, 129.9, 129.7, 129.1, 128.3, 127.7, 127.2, 125.8, 124.9, 119.1, 98.0, 37.9, 24.3, 13.8. HRMS calcd. for: C$_{21}$H$_{19}$N$_2$O$^+$ (M+H)$^+$ 315.1492, found 315.1497.
5-(4-pentylphenyl)-3-(quinolin-2-yl)isoxazole (3ae) : 49.2 mg, 72%, White solid, Mp = 80-82 °C.

$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 8.35 - 8.14 (m, 3H), 7.88 (d, $J = 8.1$ Hz, 1H), 7.84 - 7.72 (m, 3H), 7.60 (t, $J = 7.5$ Hz, 1H), 7.37 (s, 1H), 7.32 (d, $J = 8.1$ Hz, 2H), 2.70 - 2.63 (m, 2H), 1.70 - 1.62 (m, 2H), 1.38 - 1.30 (m, 4H), 0.91 (t, $J = 6.8$ Hz, 3H). $^{13}$C NMR (100 MHz, CDCl$_3$) $\delta$ 170.9, 164.0, 148.7, 148.0, 145.6, 137.0, 129.9, 129.6, 129.0, 128.4, 127.7, 127.3, 125.8, 124.9, 119.1, 98.0, 35.9, 31.4, 30.9, 22.5, 14.0. HRMS calcd. for: C$_{23}$H$_{23}$N$_2$O$^+$ (M+H)$^+$ 343.1805, found 343.1809.

5-(4-Methoxyphenyl)-3-(quinolin-2-yl)isoxazole (3af) : 53.2 mg, 88%, Yellow solid, Mp = 140-142 °C.

$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 8.30 - 8.15 (m, 3H), 7.90 - 7.81 (m, 3H), 7.78 - 7.74 (m, 1H), 7.61 - 7.56 (m, 1H), 7.27 (s, 1H), 7.03 - 6.99 (m, 2H), 3.87 (s, 3H). $^{13}$C NMR (100 MHz, CDCl$_3$) $\delta$ 170.6, 164.0, 161.1, 148.7, 147.9, 136.8, 129.8, 129.6, 128.3, 127.7, 127.4, 127.2, 120.2, 119.1, 114.3, 97.1, 55.3. HRMS calcd. for: C$_{19}$H$_{15}$N$_2$O$^+$ (M+H)$^+$ 303.1128, found 303.1130.

5-(4-Ethoxyphenyl)-3-(quinolin-2-yl)isoxazole (3ag) : 49.9 mg, 79%, White solid, Mp = 150-152 °C.

$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 8.30 - 8.15 (m, 3H), 7.89 - 7.79 (m, 3H), 7.78 - 7.72 (m, 1H), 7.58 (t, $J = 7.5$ Hz, 1H), 7.26 (s, 1H), 6.99 (d, $J = 8.8$ Hz, 2H), 4.09 (q, $J = 7.0$ Hz, 2H), 1.45 (t, $J = 7.0$ Hz, 3H). $^{13}$C NMR (100 MHz, CDCl$_3$) $\delta$ 170.7, 164.0, 160.5, 148.8, 148.0, 136.9, 129.9, 129.7, 128.3, 127.7, 127.4, 127.2, 120.0, 119.1, 114.8, 97.1, 63.6, 14.7. HRMS calcd. for: C$_{20}$H$_{17}$N$_2$O$^+$ (M+H)$^+$ 317.1285, found 317.1285.

5-(4-Fluorophenyl)-3-(quinolin-2-yl)isoxazole (3ah) : 41.8 mg, 72%, White solid, Mp = 164-166 °C.
\[ ^1H\text{ NMR (400 MHz, CDCl}_3\] \(\delta\) 8.30 - 8.16 (m, 3H), 7.94 - 7.85 (m, 3H), 7.81 - 7.73 (m, 1H), 7.60 (t, \(J = 7.5\) Hz, 1H), 7.36 (s, 1H), 7.25 - 7.15 (m, 2H).\[ ^13C\text{ NMR (100 MHz, CDCl}_3\] \(\delta\) 169.5, 164.1, 163.7 (d, \(J = 249.6\) Hz), 148.4, 147.9, 136.9, 129.9, 129.6, 128.3, 127.8 (d, \(J = 8.5\) Hz), 127.7, 127.3, 123.7 (d, \(J = 3.4\) Hz), 119.0, 116.1 (d, \(J = 22.0\) Hz), 98.3. HRMS calcd. for: C\(_{18}\)H\(_{12}\)FN\(_2\)O\(^+\) (M+H\(^+\)) 291.0928, found 291.0933.

\[
\text{5-(4-Chlorophenyl)-3-(quinolin-2-yl)isoxazole (3ai) : 52.5 mg, 87%, White solid, } \text{Mp = 193-195 °C.}
\]

\[ ^1H\text{ NMR (400 MHz, CDCl}_3\] \(\delta\) 8.32 - 8.16 (m, 3H), 7.90 - 7.75 (m, 4H), 7.61 (t, \(J = 7.5\) Hz, 1H), 7.49 (d, \(J = 8.5\) Hz, 2H), 7.41 (s, 1H).\[ ^13C\text{ NMR (100 MHz, CDCl}_3\] \(\delta\) 169.4, 164.2, 148.4, 148.0, 136.9, 136.2, 129.9, 129.7, 129.3, 128.4, 127.7, 127.3, 127.1, 125.8, 119.0, 98.9. HRMS calcd. for: C\(_{18}\)H\(_{12}\)ClN\(_2\)O\(^+\) (M+H\(^+\)) 307.0633, found 307.0637.

\[
\text{5-(4-Bromophenyl)-3-(quinolin-2-yl)isoxazole (3aj) : 56.9 mg, 81%, White solid, } \text{Mp = 200-202 °C.}
\]

\[ ^1H\text{ NMR (400 MHz, CDCl}_3\] \(\delta\) 8.33 - 8.19 (m, 3H), 7.89 (d, \(J = 8.3\) Hz, 1H), 7.82 - 7.75 (m, 3H), 7.71 - 7.58 (m, 3H), 7.46 (s, 1H).\[ ^13C\text{ NMR (100 MHz, CDCl}_3\] \(\delta\) 169.4, 164.2, 147.9, 137.0, 132.2, 130.0, 129.6, 128.4, 127.7, 127.3, 126.2, 124.6, 119.0, 99.0. HRMS calcd. for: C\(_{18}\)H\(_{12}\)BrN\(_2\)O\(^+\) (M+H\(^+\)) 351.0128, found 351.0129.

\[
\text{5-(2-Chlorophenyl)-3-(quinolin-2-yl)isoxazole (3ak) : 44.1 mg, 72%, White solid, } \text{Mp = 142-144 °C.}
\]

\[ ^1H\text{ NMR (400 MHz, CDCl}_3\] \(\delta\) 8.31 - 8.17 (m, 3H), 8.06 - 8.01 (m, 1H), 7.86 (d, \(J = 8.1\) Hz, 1H), 7.83 - 7.72 (m, 2H), 7.62 - 7.53 (m, 2H), 7.45 - 7.36 (m, 2H).\[ ^13C\text{ NMR (100 MHz, CDCl}_3\] \(\delta\) 166.9, 164.0, 148.4, 148.0, 136.9,
HRMS calcd. for: C_{18}H_{12}ClN_{2}O^{+} (M+H)^{+} 307.0633, found 307.0637.

3-(Quinolin-2-yl)-5-(m-tolyl)isoxazole (3ai) : 40.4 mg, 70%, Yellow solid, Mp = 109-111 °C.

{\textsuperscript{1}}H NMR (400 MHz, CDCl_{3}) \(\delta\) 8.29 - 8.15 (m, 3H), 7.87 (d, J = 7.7 Hz, 1H), 7.80 - 7.68 (m, 3H), 7.62 - 7.56 (m, 1H), 7.44 - 7.35 (m, 2H), 7.30 - 7.24 (m, 1H), 2.45 (s, 3H). \n
{\textsuperscript{13}}C NMR (100 MHz, CDCl_{3}) \(\delta\) 170.8, 164.0, 148.6, 147.9, 138.7, 136.9, 131.0, 129.9, 129.6, 128.9, 128.3, 127.7, 127.3, 127.2, 126.4, 123.0, 119.1, 98.5, 21.4.

HRMS calcd. for: C_{19}H_{15}N_{2}O^{+} (M+H)^{+} 287.1179, found 287.1181.

5-(3-Fluorophenyl)-3-(quinolin-2-yl)isoxazole (3am) : 41.2 mg, 71%, White solid, Mp = 125-127 °C.

{\textsuperscript{1}}H NMR (400 MHz, CDCl_{3}) \(\delta\) 8.29 - 8.15 (m, 3H), 7.86 (d, J = 8.1 Hz, 1H), 7.80 - 7.73 (m, 1H), 7.68 (d, J = 7.8 Hz, 1H), 7.64 - 7.55 (m, 2H), 7.51 - 7.44 (m, 1H), 7.42 (s, 1H), 7.16 (td, J = 8.4, 2.5 Hz, 1H). \n
{\textsuperscript{13}}C NMR (100 MHz, CDCl_{3}) \(\delta\) 169.2, 164.2, 162.9 (d, J = 245.6 Hz), 145.6 (d, J = 36.7 Hz), 136.9, 130.8, 130.7, 129.9, 129.6, 129.2 (d, J = 8.5 Hz), 128.4, 127.7, 127.3, 121.6 (d, J = 3.1 Hz), 119.0, 117.1 (d, J = 21.1 Hz), 112.8 (d, J = 23.5 Hz), 99.4. HRMS calcd. for: C_{18}H_{13}FN_{2}O^{+} (M+H)^{+} 291.0928, found 291.0933.

1-(3-(Quinolin-2-yl)isoxazol-5-yl)ethanone (3an) : 34.7 mg, 73%, Yellow solid, Mp = 96-98 °C.

{\textsuperscript{1}}H NMR (400 MHz, CDCl_{3}) \(\delta\) 8.29 (d, J = 8.5 Hz, 1H), 8.22 (d, J = 8.5 Hz, 1H), 8.16 (d, J = 8.5 Hz, 1H), 7.88 (d, J = 8.1 Hz, 1H), 7.82 - 7.72 (m, 2H), 7.62 (t, J = 7.5 Hz, 1H), 2.70 (s, 3H). \n
{\textsuperscript{13}}C NMR (100 MHz, CDCl_{3}) \(\delta\) 186.4, 166.8, 164.3, 147.9, 147.4, 137.1, 130.1, 129.8, 128.4, 127.7, 127.6, 118.8, 106.9, 27.4. HRMS calcd. for: C_{14}H_{11}N_{2}O_{2}^{+} (M+H)^{+} 239.0815, found 239.0813.
Methyl 3-(quinolin-2-yl)isoxazole-5-carboxylate (3ao) : 39.6 mg, 78%, White solid, Mp = 138-140 °C.
$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 8.27 (d, $J$ = 8.5 Hz, 1H), 8.21 (d, $J$ = 8.5 Hz, 1H), 8.14 (d, $J$ = 8.5 Hz, 1H), 7.86 (d, $J$ = 8.1 Hz, 1H), 7.82 - 7.73 (m, 2H), 7.64 - 7.57 (m, 1H), 4.02 (s, 3H).
$^{13}$C NMR (100 MHz, CDCl$_3$) $\delta$ 164.2, 160.5, 157.2, 147.9, 147.3, 137.1, 130.1, 129.8, 128.4, 127.7, 127.6, 118.8, 108.8, 52.9. HRMS calcd. for: C$_{14}$H$_{11}$N$_2$O$_3$+ (M+H)$^+$ 255.0764, found 255.0768.

Ethyl 3-(quinolin-2-yl)isoxazole-5-carboxylate (3ap) : 37.0 mg, 69%, White solid, Mp = 94-96 °C.
$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 8.29 (d, $J$ = 8.5 Hz, 1H), 8.23 (d, $J$ = 8.5 Hz, 1H), 8.16 (d, $J$ = 8.5 Hz, 1H), 7.88 (d, $J$ = 8.2 Hz, 1H), 7.83 - 7.74 (m, 2H), 7.65 - 7.57 (m, 1H), 4.49 (q, $J$ = 7.1 Hz, 2H), 1.46 (t, $J$ = 7.1 Hz, 3H).
$^{13}$C NMR (100 MHz, CDCl$_3$) $\delta$ 164.1, 160.9, 156.7, 147.9, 147.4, 137.0, 130.0, 129.7, 128.4, 127.7, 127.5, 118.8, 108.5, 62.3, 14.1. HRMS calcd. for: C$_{15}$H$_{13}$N$_2$O$_3$+ (M+H)$^+$ 269.0921, found 269.0923.

5-Hexyl-3-(quinolin-2-yl)isoxazole (3aq) : 37.0 mg, 69%, Yellow oil.
$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 8.23 (d, $J$ = 8.6 Hz, 1H), 8.20 - 8.12 (m, 2H), 7.84 (d, $J$ = 8.1 Hz, 1H), 7.77 - 7.71 (m, 1H), 7.57 (t, $J$ = 7.5 Hz, 1H), 6.84 (s, 1H), 2.84 (t, $J$ = 7.6 Hz, 2H), 1.82 - 1.74 (m, 2H), 1.45 - 1.30 (m, 6H), 0.90 (t, $J$ = 7.0 Hz, 3H). $^{13}$C NMR (100 MHz, CDCl$_3$) $\delta$ 174.6, 163.4, 148.9, 147.9, 136.8, 129.8, 129.0, 128.2, 127.6, 127.1, 119.1, 99.8, 31.4, 28.7, 27.4, 26.7, 22.4, 14.0. HRMS calcd. for: C$_{18}$H$_{21}$N$_2$O+$^+ (M+H)$ 281.1648, found 281.1653.
5-(4-Chlorobutyl)-3-(quinolin-2-yl)isoxazole (3ar) : 42.9 mg, 75%, White solid, Mp = 93-95 °C.

\[ ^1H \text{NMR (400 MHz, CDCl}_3 \delta 8.24 (d, J = 8.5 Hz, 1H), 8.20 - 8.12 (m, 2H), 7.85 (d, J = 8.1 Hz, 1H), 7.78 - 7.72 (m, 1H), 7.60 - 7.54 (m, 1H), 6.82 (s, 1H), 1.44 (s, 9H). \]

\[ ^13C \text{NMR (100 MHz, CDCl}_3 \delta 182.1, 163.2, 149.1, 147.9, 147.9, 136.8, 129.8, 129.6, 128.3, 127.7, 127.1, 119.1, 97.5, 32.9, 28.8. HRMS calcd. for: C_{16}H_{17}N_{2}O^+ (M+H)^+ 253.1335, \text{ found 253.1336.} \]

5-Cyclopropyl-3-(quinolin-2-yl)isoxazole (3as) : 34.9 mg, 74%, Colorless oil.

\[ ^1H \text{NMR (400 MHz, CDCl}_3 \delta 8.24 (d, J = 8.5 Hz, 1H), 8.21 - 8.11 (m, 2H), 7.85 (d, J = 8.1 Hz, 1H), 7.75 (t, J = 7.7 Hz, 1H), 7.58 (t, J = 7.5 Hz, 1H), 6.74 (s, 1H), 2.20 - 2.09 (m, 1H), 1.16 - 1.03 (m, 4H). \]

\[ ^13C \text{NMR (100 MHz, CDCl}_3 \delta 175.8, 163.6, 148.9, 147.9, 136.8, 129.8, 129.6, 128.3, 127.6, 127.1, 119.1, 97.5, 8.5, 8.1. HRMS calcd. for: C_{15}H_{13}N_{2}O^+ (M+H)^+ 237.1022, \text{ found 237.1024.} \]

5-(4-Chlorobutyl)-3-(quinolin-2-yl)isoxazole (3at) : 42.9 mg, 75%, Brown solid, Mp = 48-50 °C.

\[ ^1H \text{NMR (400 MHz, CDCl}_3 \delta 8.24 (d, J = 8.5 Hz, 1H), 8.19 - 8.12 (m, 2H), 7.84 (d, J = 8.1 Hz, 1H), 7.74 (t, J = 7.3 Hz, 1H), 7.57 (t, J = 7.4 Hz, 1H), 6.88 (s, 1H), 3.59 (t, J = 6.1 Hz, 2H), 2.89 (t, J = 7.1 Hz, 2H), 1.93 (ddd, J = 18.5, 12.4, 7.8 Hz, 4H). \]

\[ ^13C \text{NMR (100 MHz, CDCl}_3 \delta 173.5, 163.5, 148.7, 147.8, 147.8, 136.8, 129.8, 129.5, 128.2, 127.6, 127.1, 119.0, 100.1, 44.3, 31.6, 25.9, 24.7. HRMS calcd. for: C_{16}H_{16}ClN_{2}O^+ (M+H)^+ 287.0946, \text{ found 287.0947.} \]
2-(3-(Quinolin-2-yl)isoxazol-5-yl)ethanol (3au): 36.5 mg, 76%, White solid, Mp = 98-100 °C.

$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 8.26 (d, $J = 8.5$ Hz, 1H), 8.19 - 8.12 (m, 2H), 7.85 (d, $J = 8.0$ Hz, 1H), 7.79 - 7.72 (m, 1H), 7.59 (t, $J = 7.5$ Hz, 1H), 7.00 (s, 1H), 4.45 (s, 1H), 4.05 (t, $J = 6.2$ Hz, 2H), 3.14 (t, $J = 6.2$ Hz, 2H). $^{13}$C NMR (100 MHz, CDCl$_3$) $\delta$ 171.6, 163.3, 148.5, 147.6, 137.2, 130.1, 129.3, 128.3, 127.7, 127.3, 119.1, 101.2, 59.9, 30.4. HRMS calcd. for: C$_{14}$H$_{13}$N$_2$O$_2$ $^{+}$ (M+H)$^+$ 241.0972, found 241.0973.

3-(Quinolin-2-yl)-5-(thiophen-2-yl)isoxazole (3av): 30.6 mg, 55%, White solid, Mp = 150-152 °C.

$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 8.31 - 8.14 (m, 3H), 7.87 (d, $J = 8.1$ Hz, 1H), 7.81 - 7.73 (m, 1H), 7.67 - 7.57 (m, 2H), 7.49 (dd, $J = 5.0$, 0.8 Hz, 1H), 7.26 (d, $J = 1.8$ Hz, 1H), 7.17 (dd, $J = 5.0$, 3.7 Hz, 1H). $^{13}$C NMR (100 MHz, CDCl$_3$) $\delta$ 165.6, 164.0, 148.4, 147.9, 136.9, 129.9, 129.7, 128.4, 128.1, 127.1, 127.3, 119.1, 98.3. HRMS calcd. for: C$_{16}$H$_{11}$N$_2$OS $^{+}$ (M+H)$^+$ 279.0587, found 279.0590.

5-(Pyridin-2-yl)-3-(quinolin-2-yl)isoxazole (3aw): 30.6 mg, 56%, White solid, Mp = 164-166 °C.

$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 8.76 (dd, $J = 4.8$, 0.7 Hz, 1H), 8.31 - 8.15 (m, 3H), 7.98 (d, $J = 7.9$ Hz, 1H), 7.91 - 7.82 (m, 2H), 7.81 - 7.72 (m, 2H), 7.59 (t, $J = 7.5$ Hz, 1H), 7.41 - 7.33 (m, 1H). $^{13}$C NMR (100 MHz, CDCl$_3$) $\delta$ 169.7, 164.3, 150.1, 148.3, 148.0, 146.5, 136.9, 136.8, 129.9, 128.3, 127.6, 127.4, 127.3, 124.4, 120.9, 119.0, 101.5. HRMS calcd. for: C$_{17}$H$_{13}$N$_3$O $^{+}$ (M+H)$^+$ 274.0975, found 274.0978.
Dimethyl 3-(quinolin-2-yl)isoxazole-4,5-dicarboxylate (3ax) : 28.1 mg, 45%, 38.1 mg, 61%. White solid, Mp: 155-157 °C

$^1$H NMR (400 MHz, CDCl$_3$) δ 8.28 (d, $J = 8.5$ Hz, 1H), 8.16 (d, $J = 8.5$ Hz, 1H), 8.02 (d, $J = 8.5$ Hz, 1H), 7.86 (d, $J = 8.1$ Hz, 1H), 7.78 - 7.72 (m, 1H), 7.60 (t, $J = 7.2$ Hz, 1H), 4.09 (s, 3H), 4.03 (s, 3H). $^{13}$C NMR (100 MHz, CDCl$_3$) δ 162.3, 161.1, 157.6, 156.2, 147.5, 146.2, 137.2, 130.1, 129.8, 128.4, 127.9, 127.7, 118.8, 117.6, 53.3, 53.1. HRMS calcd. for C$_{16}$H$_{13}$N$_2$O$_5$+ (M+H)$^+$ 313.0819, found 313.0819.

Ethyl 5-phenyl-3-(quinolin-2-yl)isoxazole-4-carboxylate (3ay) : 37.8 mg, 55%, White solid, Mp: 95-97 °C

$^1$H NMR (400 MHz, CDCl$_3$) δ 8.30 (d, $J = 8.5$ Hz, 1H), 8.11 (d, $J = 8.5$ Hz, 1H), 8.08 - 7.94 (m, 3H), 7.88 (d, $J = 8.1$ Hz, 1H), 7.79 - 7.73 (m, 1H), 7.65 - 7.48 (m, 4H), 4.37 (q, $J = 7.2$ Hz, 2H), 1.15 (t, $J = 7.2$ Hz, 3H). $^{13}$C NMR (100 MHz, CDCl$_3$) δ 169.8, 163.3, 162.1, 147.9, 147.6, 136.8, 131.2, 130.0, 130.0, 129.7, 128.8, 128.1, 127.7, 127.5, 126.6, 120.1, 61.7, 13.9. HRMS calcd. for C$_{21}$H$_{17}$N$_2$O$_3$+ (M+H)$^+$ 345.1234, found 345.1236.

5-(4-Ethynylphenyl)-3-(quinolin-2-yl)isoxazole (3az) : 31.4 mg, 53%, Yellow solid, Mp: 128-130 °C

$^1$H NMR (400 MHz, CDCl$_3$) δ 8.28 - 8.17 (m, 3H), 7.87 - 7.83 (m, 3H), 7.77 (t, $J = 7.2$ Hz, 1H), 7.61 (d, $J = 8.4$ Hz, 3H), 7.43 (s, 1H), 3.23 (s, 1H). $^{13}$C NMR (100 MHz, CDCl$_3$) δ 169.6, 164.1, 148.3, 147.9, 137.0, 132.9, 132.7, 130.0, 129.6, 128.4, 127.7, 127.4, 125.7, 123.9, 119.0, 99.4, 82.9, 79.3. HRMS calcd. for C$_{20}$H$_{13}$N$_2$O$^+$ (M+H)$^+$ 297.1022, found 297.1024.
5-(Hex-5-yn-1-yl)-3-(quinolin-2-yl)isoxazole (3aaa): 16.6 mg, 30%, Yellow solid, Mp: 48-50 °C

$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 8.26 (d, $J = 8.6$ Hz, 1H), 8.22 - 8.13 (m, 2H), 7.86 (d, $J = 8.1$ Hz, 1H), 7.79 - 7.72 (m, 1H), 7.59 (t, $J = 7.5$ Hz, 1H), 6.89 (s, 1H), 2.89 (t, $J = 7.5$ Hz, 2H), 2.28 (td, $J = 7.0$, 2.6 Hz, 2H), 2.02 - 1.88 (m, 3H), 1.72 - 1.63 (m, 2H). $^{13}$C NMR (100 MHz, CDCl$_3$) $\delta$ 174.0, 163.5, 148.9, 147.9, 136.9, 129.9, 129.6, 128.3, 127.7, 127.2, 119.1, 100.1, 83.8, 68.8, 27.7, 26.5, 26.3, 18.1. HRMS calcd. for C$_{18}$H$_{17}$N$_2$O $^{+}$ (M+H)$^+$ 277.1335, found 277.1338.

5-Phenyl-3-(quinolin-2-yl)-4,5-dihydroisoxazole (5aa) 41.6 mg, 76%. White solid, Mp: 128-130 °C.

$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 8.17 (s, 2H), 8.06 (d, $J = 8.4$ Hz, 1H), 7.83 (d, $J = 8.1$ Hz, 1H), 7.72 (t, $J = 7.2$ Hz, 1H), 7.57 (t, $J = 7.5$ Hz, 1H), 7.49 - 7.29 (m, 5H), 5.85 (dd, $J = 11.1$, 8.5 Hz, 1H), 4.08 (dd, $J = 17.6$, 11.2 Hz, 1H), 3.70 (dd, $J = 17.6$, 8.5 Hz, 1H). $^{13}$C NMR (100 MHz, CDCl$_3$) $\delta$ 158.8, 149.4, 147.7, 140.7, 136.2, 129.7, 129.5, 128.7, 128.2, 128.1 127.6, 127.3, 125.9, 119.1, 83.6, 42.4. HRMS calcd. for: C$_{18}$H$_{15}$N$_2$O $^{+}$ (M+H)$^+$ 275.1179, found 275.1174.

3-(Quinolin-2-yl)-5-(p-tolyl)-4,5-dihydroisoxazole (5ab): 38.0 mg, 66%, Yellow solid, Mp: 98-100 °C.

$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 8.16 (s, 2H), 8.05 (d, $J = 8.4$ Hz, 1H), 7.83 (dd, $J = 8.1$, 0.9 Hz, 1H), 7.74 - 7.68 (m, 1H), 7.59 - 7.53 (m, 1H), 7.32 (d, $J = 8.1$ Hz, 2H), 7.19 (d, $J = 8.0$ Hz, 2H), 5.81 (dd, $J = 11.1$, 8.7 Hz, 1H), 4.05 (dd, $J = 17.6$, 11.1 Hz, 1H), 3.68 (dd, $J = 17.6$, 8.6 Hz, 1H), 2.35 (s, 3H). $^{13}$C NMR (100 MHz, CDCl$_3$) $\delta$ 158.9, 149.5, 147.7, 138.0, 137.6, 136.1, 129.7, 129.6, 129.3, 128.1, 127.6, 127.2, 126.0, 119.1, 83.7, 42.2, 21.1. HRMS calcd. for: C$_{19}$H$_{17}$N$_2$O $^{+}$ (M+H)$^+$ 289.1335, found 289.1340.
5-(4-Methoxyphenyl)-3-(quinolin-2-yl)-4,5-dihydroisoxazole (5ac) : 45.0 mg, 74%, White solid, Mp = 88-90 °C.

$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 8.16 (s, 2H), 8.05 (d, $J$ = 8.5 Hz, 1H), 7.83 (d, $J$ = 8.1 Hz, 1H), 7.74 - 7.69 (m, 1H), 7.60 - 7.53 (m, 1H), 7.36 (d, $J$ = 8.7 Hz, 2H), 6.92 (dd, $J$ = 9.2, 2.4 Hz, 2H), 5.79 (dd, $J$ = 11.0, 8.9 Hz, 1H), 4.03 (dd, $J$ = 17.6, 11.1 Hz, 1H), 3.81 (s, 3H), 3.67 (dd, $J$ = 17.7, 8.8 Hz, 1H).

$^{13}$C NMR (100 MHz, CDCl$_3$) $\delta$ 159.6, 158.9, 149.5, 147.7, 136.1, 132.5, 129.7, 129.6, 128.1, 127.6, 127.5, 127.2, 119.1, 114.0, 83.6, 55.3, 42.0. HRMS calcd. for: C$_{19}$H$_{17}$N$_2$O$_2$ (M+H)$^+$ 305.1285, found 305.1288.

5-(4-Fluorophenyl)-3-(quinolin-2-yl)-4,5-dihydroisoxazole (5ad) : 39.7 mg, 68%, Yellow solid, Mp = 84-86 °C.

$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 8.16 (s, 2H), 8.05 (d, $J$ = 8.5 Hz, 1H), 7.83 (d, $J$ = 8.1 Hz, 1H), 7.74 - 7.69 (m, 1H), 7.59 - 7.54 (m, 1H), 7.45 - 7.35 (m, 2H), 7.12 - 7.01 (m, 2H), 5.81 (dd, $J$ = 11.1, 8.5 Hz, 1H), 4.07 (dd, $J$ = 17.6, 11.2 Hz, 1H), 3.66 (dd, $J$ = 17.6, 8.4 Hz, 1H). $^{13}$C NMR (100 MHz, CDCl$_3$) $\delta$ 162.6 (d, $J$ = 245.2 Hz), 158.8, 149.3, 147.7, 136.5 (d, $J$ = 3.2 Hz), 136.2, 129.8, 129.6, 128.1, 127.8 (d, $J$ = 8.2 Hz), 127.6, 127.3, 119.1, 115.6 (d, $J$ = 21.5 Hz), 83.0, 42.5. HRMS calcd. for: C$_{18}$H$_{14}$FN$_2$O$^+$ (M+H)$^+$ 293.1085, found 293.1087.

5-(4-Chlorophenyl)-3-(quinolin-2-yl)-4,5-dihydroisoxazole (5ae) : 39.7 mg, 68%, Yellow solid, Mp = 100-102 °C.

$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 8.21 - 8.11 (m, 2H), 8.05 (d, $J$ = 8.5 Hz, 1H), 7.82 (d, $J$ = 8.1 Hz, 1H), 7.74 - 7.68 (m, 1H), 7.59 - 7.53 (m, 1H), 7.43 - 7.30 (m, 4H), 5.80 (dd, $J$ = 11.2, 8.3 Hz, 1H), 4.07 (dd, $J$ = 17.6, 11.2 Hz, 1H), 3.65 (dd, $J$ = 17.6, 8.3 Hz, 1H). $^{13}$C NMR (100 MHz, CDCl$_3$) $\delta$ 158.8, 149.2, 147.7, 139.2, 136.2, 134.0,
129.8, 129.5, 128.8, 128.1, 127.6, 127.3, 127.3, 119.1, 82.8, 42.4. HRMS calcd. for: C_{18}H_{14}ClN_{2}O^+ (M+H)^+ 309.0789, found 309.0790.

5-(4-Bromophenyl)-3-(quinolin-2-yl)-4,5-dihydroisoxazole (5af) : 54.2 mg, 77%, White solid, Mp = 124-126 °C.

$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 8.19 - 8.10 (m, 2H), 8.04 (d, $J$ = 8.4 Hz, 1H), 7.85 - 7.79 (m, 1H), 7.74 - 7.68 (m, 1H), 7.58 - 7.47 (m, 3H), 7.30 (d, $J$ = 8.4 Hz, 2H), 5.78 (dd, $J$ = 11.2, 8.3 Hz, 1H), 4.06 (dd, $J$ = 17.6, 11.2 Hz, 1H), 3.63 (dd, $J$ = 17.6, 8.2 Hz, 1H). $^{13}$C NMR (100 MHz, CDCl$_3$) $\delta$ 158.8, 149.1, 147.7, 139.8, 136.2, 131.8, 129.8, 129.5, 128.1, 127.6, 127.3, 122.1, 119.1, 82.8, 42.4. HRMS calcd. for: C$_{18}$H$_{14}$BrN$_2$O$^+$ (M+H)$^+$ 353.0284, found 353.0284.

5-(3-Chlorophenyl)-3-(quinolin-2-yl)-4,5-dihydroisoxazole (5ag) : 40.7 mg, 66%, Brown solid, Mp = 117-119 °C.

$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 8.26 - 8.11 (m, 2H), 8.05 (d, $J$ = 8.4 Hz, 1H), 7.84 (d, $J$ = 8.1 Hz, 1H), 7.75 - 7.69 (m, 1H), 7.58 (dd, $J$ = 11.0, 4.0 Hz, 1H), 7.44 (s, 1H), 7.38 - 7.26 (m, 3H), 5.81 (dd, $J$ = 11.2, 8.1 Hz, 1H), 4.09 (dd, $J$ = 17.7, 11.3 Hz, 1H), 3.67 (dd, $J$ = 17.6, 8.0 Hz, 1H). $^{13}$C NMR (100 MHz, CDCl$_3$) $\delta$ 158.7, 149.1, 147.7, 142.9, 136.2, 134.6, 130.0, 129.8, 129.6, 128.3, 128.1, 127.6, 127.3, 126.0, 124.0, 119.1, 82.6, 42.6. HRMS calcd. for: C$_{18}$H$_{14}$ClN$_2$O$^+$ (M+H)$^+$ 309.0789, found 309.0790.

5-(2-Chlorophenyl)-3-(quinolin-2-yl)-4,5-dihydroisoxazole (5ah) : 40.4 mg, 65%, Yellow solid, Mp = 122-124 °C.
$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 8.20 - 8.11 (m, 2H), 8.04 (d, $J$ = 8.5 Hz, 1H), 7.82 (d, $J$ = 8.1 Hz, 1H), 7.71 (t, $J$ = 7.2 Hz, 1H), 7.57 (dd, $J$ = 12.8, 5.5 Hz, 2H), 7.41 (dd, $J$ = 7.5, 1.4 Hz, 1H), 7.31 - 7.22 (m, 2H), 6.14 (dd, $J$ = 11.3, 7.2 Hz, 1H), 4.20 (dd, $J$ = 17.8, 11.4 Hz, 1H), 3.59 (dd, $J$ = 17.8, 7.2 Hz, 1H). $^{13}$C NMR (100 MHz, CDCl$_3$) $\delta$ 158.8, 149.2, 147.7, 138.9, 136.2, 131.3, 129.8, 129.6, 129.5, 129.0, 128.1, 127.6, 127.3, 127.1, 126.5, 119.1, 80.5, 42.3. HRMS calcd. for: C$_{18}$H$_{14}$ClN$_2$O + (M+H)$^+$ 309.0789, found 309.0790.

5-(Chloromethyl)-3-(quinolin-2-yl)-4,5-dihydroisoxazole$^{[1]}$ (5ai): 35.4 mg, 72%.

$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 8.15 (d, $J$ = 8.6 Hz, 1H), 8.13 - 8.03 (m, 2H), 7.83 (d, $J$ = 8.1 Hz, 1H), 7.77 - 7.71 (m, 1H), 7.62 - 7.53 (m, 1H), 5.20 - 4.99 (m, 1H), 3.85 - 3.60 (m, 4H). $^{13}$C NMR (100 MHz, CDCl$_3$) $\delta$ 158.9, 148.9, 147.7, 136.2, 129.8, 129.6, 128.1, 127.6, 127.4, 119.0, 80.7, 45.0, 38.1.

Methyl 3-(quinolin-2-yl)-4,5-dihydroisoxazole-5-carboxylate (5aj): 30.2 mg, 59%, White solid, Mp = 105-107 °C.

$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 8.20 - 8.03 (m, 3H), 7.83 (d, $J$ = 8.1 Hz, 1H), 7.74 (t, $J$ = 7.7 Hz, 1H), 7.58 (t, $J$ = 7.5 Hz, 1H), 5.28 (dd, $J$ = 10.9, 7.8 Hz, 1H), 4.03 - 3.91 (m, 2H), 3.83 (s, 3H). $^{13}$C NMR (100 MHz, CDCl$_3$) $\delta$ 170.5, 158.6, 148.5, 147.6, 136.3, 129.8, 129.6, 128.2, 127.6, 127.5, 119.2, 78.6, 52.8, 38.9. HRMS calcd. for: C$_{14}$H$_{13}$N$_2$O$_3$ + (M+H)$^+$ 257.0921, found 257.0923.

5-Benzyl-3-(quinolin-2-yl)-4,5-dihydroisoxazole$^{[1]}$ (5ak): 47.2 mg, 82%.

$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 8.15 - 8.03 (m, 3H), 7.81 (d, $J$ = 8.1 Hz, 1H), 7.73 - 7.68 (m, 1H), 7.58 - 7.52 (m, 1H), 7.36 - 7.30 (m, 4H), 7.28 - 7.23 (m, 1H), 5.09 (ddd, $J$ = 14.8, 10.4, 6.8 Hz, 1H), 3.63 (dd, $J$ = 17.5, 10.4 Hz,
1H), 3.39 (dd, J = 17.5, 8.1 Hz, 1H), 3.21 (dd, J = 13.9, 6.3 Hz, 1H), 2.96 (dd, J = 13.9, 7.0 Hz, 1H). $^{13}$C NMR (100 MHz, CDCl$_3$) $\delta$ 159.1, 149.6, 147.7, 136.8, 136.0, 129.7, 129.5, 129.4, 128.5, 128.0, 127.6, 127.2, 126.7, 119.0, 83.0, 41.1, 38.9.

5-Hexyl-3-(quinolin-2-yl)-4,5-dihydroisoxazole[1] (5al): 37.8 mg, 67%.

$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 8.14 - 8.05 (m, 3H), 7.81 (d, J = 8.1 Hz, 1H), 7.72 (t, J = 7.6 Hz, 1H), 7.55 (t, J = 7.5 Hz, 1H), 4.97 - 4.70 (m, 1H), 3.68 (dd, J = 17.3, 10.5 Hz, 1H), 3.29 (dd, J = 17.4, 8.3 Hz, 1H), 1.89 - 1.80 (m, 1H), 1.72 - 1.62 (m, 1H), 1.53 - 1.29 (m, 8H), 0.89 (t, J = 6.7 Hz, 3H). $^{13}$C NMR (100 MHz, CDCl$_3$) $\delta$ 159.1, 149.8, 147.7, 136.0, 129.7, 129.5, 128.0, 127.6, 127.1, 119.1, 82.8, 39.3, 35.3, 31.7, 29.1, 25.4, 22.5, 14.0.

5,5-Diphenyl-3-(quinolin-2-yl)-4,5-dihydroisoxazole (5am): 51.8 mg, 74%. White solid, Mp: 162-164 °C

$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 8.19 - 8.01 (m, 3H), 7.77 (d, J = 8.4 Hz, 1H), 7.71 - 7.65 (m, 1H), 7.56 - 7.49 (m, 5H), 7.36 - 7.32 (m, 4H), 7.29 - 7.21 (m, 2H), 4.31 (s, 2H). $^{13}$C NMR (100 MHz, CDCl$_3$) $\delta$ 158.8, 149.4, 147.6, 144.0, 141.8, 136.1, 129.7, 129.4, 128.6, 128.4, 128.1, 128.1, 127.6, 127.2, 126.1, 125.7, 119.0, 93.1, 82.5, 47.5. HRMS calcd. for C$_{24}$H$_{19}$N$_2$O$^+$(M+H)$^+$ 351.1492, found 351.1497.

5-Methyl-5-phenyl-3-(quinolin-2-yl)-4,5-dihydroisoxazole (5an): 40.9 mg, 71%. Yellow solid, Mp: 92-94 °C
$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 8.14 (s, 2H), 8.04 (d, $J = 8.5$ Hz, 1H), 7.80 (d, $J = 8.1$ Hz, 1H), 7.73 - 7.67 (m, 1H), 7.58 - 7.51 (m, 3H), 7.38 (t, $J = 7.6$ Hz, 2H), 7.30 - 7.24 (m, 1H), 3.83 (q, $J = 17.4$ Hz, 2H), 1.85 (s, 3H).

$^{13}$C NMR (100 MHz, CDCl$_3$) $\delta$ 158.8, 149.7, 147.6, 145.3, 136.2, 129.7, 129.4, 128.4, 128.1, 127.6, 127.3, 127.2, 124.7, 119.0, 89.4, 47.9, 28.5. HRMS calcd for C$_{19}$H$_{17}$N$_2$O$^+$ (M+H)$^+$ 289.1335, found 289.1340.

**Isobutyl 5-methyl-3-(quinolin-2-yl)-4,5-dihydroisoxazole-5-carboxylate (5ao)**: 50.5 mg, 81%.

Colorless oil.

$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 8.18 - 8.04 (m, 3H), 7.82 (d, $J = 8.1$ Hz, 1H), 7.75 - 7.69 (m, 1H), 7.57 (t, $J = 7.5$ Hz, 1H), 4.14 (d, $J = 17.8$ Hz, 1H), 4.00 (d, $J = 6.7$ Hz, 2H), 3.57 (d, $J = 17.8$ Hz, 1H), 2.05 - 1.98 (m, 1H), 1.77 (s, 3H), 0.95 (d, $J = 6.7$ Hz, 6H). $^{13}$C NMR (100 MHz, CDCl$_3$) $\delta$ 171.7, 158.6, 149.0, 147.6, 136.2, 129.8, 129.5, 128.1, 127.6, 127.3, 119.0, 87.1, 71.7, 44.5, 27.6, 23.5, 18.9. HRMS calcd for C$_{18}$H$_{21}$N$_2$O$_3^+$ (M+H)$^+$ 313.1547, found 313.1550.

**3-(Benzo[d]thiazol-2-yl)-5-phenylisoxazole (7aa)**: 32.2 mg, 58%, White solid, Mp = 135-137 °C.

$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 8.15 (d, $J = 8.0$ Hz, 1H), 7.98 (d, $J = 8.0$ Hz, 1H), 7.87 (d, $J = 8.0$ Hz, 1H), 7.61 - 7.45 (m, 5H), 7.27 (s, 1H). $^{13}$C NMR (100 MHz, CDCl$_3$) $\delta$ 171.4, 159.3, 156.9, 153.1, 135.0, 130.7, 129.1, 126.8, 126.6, 126.5, 125.9, 123.8, 122.0, 98.0. HRMS calcd. for: C$_{16}$H$_{11}$N$_2$OS$^+$(M+H)$^+$ 279.0587, found 279.0589.

**3-(5-Methylbenzo[d]thiazol-2-yl)-5-phenylisoxazole (7ab)**: 26.3 mg, 45%, White solid, Mp = 158-160 °C.

$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 7.93 (s, 1H), 7.90 - 7.77 (m, 3H), 7.55 - 7.44 (m, 3H), 7.30 (d, $J = 8.2$ Hz, 1H), 7.25 (d, $J = 8.4$ Hz, 1H), 2.53 (s, 3H). $^{13}$C NMR (100 MHz, CDCl$_3$) $\delta$ 171.2, 159.4, 156.8, 153.5, 136.8, 132.0,
3-(5-fluorobenzo[d]thiazol-2-yl)-5-phenylisoxazole (7ac): 23.7 mg, 40%, White solid, Mp = 193-195 °C.

$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 7.96 - 7.77 (m, 4H), 7.55 - 7.48 (m, 3H), 7.30 - 7.22 (m, 2H). $^{13}$C NMR (100 MHz, CDCl$_3$) $\delta$ 171.5, 162.0 (d, $J$ = 242.9 Hz), 159.2 (d, $J$ = 9.9 Hz), 154.0 (d, $J$ = 12.1 Hz), 130.8, 130.5, 130.4, 129.1, 126.7, 125.9, 122.7 (d, $J$ = 9.8 Hz), 115.4 (d, $J$ = 25.0 Hz), 109.8 (d, $J$ = 23.5 Hz), 97.9. HRMS calcd for: C$_{16}$H$_{10}$FN$_2$OS$^+$ (M+H)$^+$ 297.0492, found 297.0494.

3-(5-Methylbenzo[d]thiazol-2-yl)-5-phenylisoxazole (7ad): 25.6 mg, 41%, White solid, Mp = 200-202 °C.

$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 8.14 (d, $J$ = 8.0 Hz, 1H), 7.97 (d, $J$ = 7.5 Hz, 1H), 7.85 - 7.74 (m, 2H), 7.58 - 7.45 (m, 4H), 7.25 (d, $J$ = 9.0 Hz, 1H). $^{13}$C NMR (100 MHz, CDCl$_3$) $\delta$ 170.2, 159.4, 156.6, 153.1, 136.8, 135.0, 129.5, 127.2, 126.7, 126.5, 125.3, 123.8, 122.0, 98.3. HRMS calcd for: C$_{16}$H$_{10}$ClN$_2$OS$^+$ (M+H)$^+$ 313.0197, found 313.0199.

3-(Benzo[d]thiazol-2-yl)-5-(4-methoxyphenyl)isoxazole (7ae): 28.9 mg, 47%, Yellow solid, Mp = 120-122 °C.

$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 8.14 (d, $J$ = 8.1 Hz, 1H), 7.97 (d, $J$ = 7.9 Hz, 1H), 7.79 (d, $J$ = 8.8 Hz, 2H), 7.58 -
7.43 (m, 2H), 7.12 (s, 1H), 7.03 - 6.99 (m, 2H), 3.87 (s, 3H). $^1$C NMR (100 MHz, CDCl$_3$) $\delta$ 156.4, 147.6, 147.4, 146.7, 143.9, 136.6, 130.1, 129.7, 129.5, 128.2, 127.9, 127.6, 121.1, 120.7, 29.7. HRMS calcd. for: C$_{17}$H$_{13}$N$_2$O$_2$S$^+$ (M+H)$^+$ 309.0692, found 309.0696.

2-(5-Phenylisoxazol-3-yl)benzodioxazole (7af) : 22.0 mg, 42%, White solid, Mp = 134-136 °C.
$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 7.92 - 7.83 (m, 3H), 7.69 (d, $J$ = 7.8 Hz, 1H), 7.55 - 7.44 (m, 5H), 7.23 (s, 1H).
$^1$C NMR (100 MHz, CDCl$_3$) $\delta$ 171.6, 154.6, 153.7, 150.6, 141.1, 130.9, 129.2, 126.7, 126.5, 126.0, 125.2, 120.7, 111.3, 99.0. HRMS calcd. for: C$_{16}$H$_{11}$N$_2$O$^+$ (M+H)$^+$ 263.0815, found 263.0819.

4-Chloro-5-phenyl-3-(quinolin-2-yl)isoxazole (8a) : 45.9 mg, 75%, White solid, Mp = 131-133 °C.
$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 8.35 - 8.25 (m, 2H), 8.19 - 8.00 (m, 3H), 7.90 (d, $J$ = 8.1 Hz, 1H), 7.83 - 7.78 (m, 1H), 7.66 - 7.61 (m, 1H), 7.59 - 7.51 (m, 3H). $^1$C NMR (100 MHz, CDCl$_3$) $\delta$ 164.8, 160.0, 147.9, 147.7, 136.9, 130.7, 130.1, 130.0, 128.9, 128.1, 127.7, 127.6, 126.6, 126.4, 120.6, 105.4. HRMS calcd. for: C$_{18}$H$_{14}$ClN$_2$O$^+$ (M+H)$^+$ 309.0789, found 309.0791.

3-Amino-1-phenyl-3-(quinolin-2-yl)prop-2-en-1-one (8b) : 25.5 mg, 93%.
$^1$H NMR (400 MHz, DMSO-$d_6$) $\delta$ 10.23 (s, 1H), 8.58 (d, $J$ = 8.6 Hz, 1H), 8.41 (d, $J$ = 8.7 Hz, 1H), 8.27 - 8.19 (m, 1H), 8.16 (d, $J$ = 8.5 Hz, 1H), 8.12 - 8.07 (m, 3H), 7.90 - 7.84 (m, 1H), 7.74 - 7.69 (m, 1H), 7.59 - 7.48 (m, 3H), 6.87 (s, 1H). $^1$C NMR (100 MHz, DMSO-$d_6$) $\delta$ 189.1, 188.6, 157.9, 157.5, 151.4, 151.0, 146.8, 146.3, 140.0, 139.6, 137.8, 137.4, 131.4, 131.0, 130.7, 130.3, 129.6, 129.4, 129.0, 128.6, 128.6, 128.2, 128.1, 127.7, 127.4, 127.0, 126.9, 118.8, 118.4, 89.9, 89.4. HRMS calcd. for: C$_{18}$H$_{13}$N$_2$O$^+$ (M+H)$^+$ 275.1179, found 275.1181.
5-Phenyl-3-(6-(phenylethynyl)quinolin-2-yl)isoxazole (8c): 33.5 mg, 90%, White solid, Mp = 203-205 °C.

\[ \text{H} \text{NMR (400 MHz, CDCl}_3 \text{)} \delta \text{ 8.29 - 8.19 (m, 2H), 8.14 (d, } J = 8.7 \text{ Hz, 1H), 8.05 (d, } J = 1.3 \text{ Hz, 1H), 7.95 - 7.83 (m, 3H), 7.62 - 7.56 (m, 2H), 7.54 - 7.45 (m, 3H), 7.41 - 7.36 (m, 4H).} \]

\[ \text{C} \text{NMR (100 MHz, CDCl}_3 \text{)} \delta \text{ 170.7, 163.9, 149.0, 147.3, 136.5, 132.6, 131.7, 130.9, 130.3, 129.7, 129.0, 128.6, 128.4, 128.1, 127.3, 125.9, 122.8, 122.3, 119.7, 98.5, 91.2, 88.9. HRMS calcd. for: C}_{26}\text{H}_{17}\text{N}_{2}\text{O}^+ (M+H)^+ 373.1335, \text{found 373.1337.} \]

4. References

NMR Spectra for the compounds prepared
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