Supporting Information
for DOI: 10.1055/s-0030-1260975
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Supporting Information

Experimental section:

All the chemicals were procured from either Sigma Aldrich Chemicals Pvt. Ltd. or Spectrochem, India. Silica gel (60-120 mesh) was used for chromatographic separation. Silica gel G [E-Merck (India)] was used for TLC. Petroleum ether refers to the fraction boiling between 60°C and 80°C. IR spectra were recorded on a Perkin-Elmer L 120-000A spectrometer (\(\nu_{\text{max}}\) in cm\(^{-1}\)) on KBr disks. \(^1\)H NMR and \(^{13}\)C spectra were recorded on Bruker DPX-400 spectrometer in CDCl\(_3\) (chemical shift in \(\delta\)) with TMS as internal standard. MS were recorded on a Q-TOF micro \(^{\text{Tm}}\) instrument at the Indian Institute of Chemical Biology. CHN was recorded on 2400 series II CHN analyzer Perkin Elmer. Melting points were determined in open capillaries and are uncorrected. HRMS were recorded on a Q-tof Micro YA263 instrument.

General procedure for the preparation of compound 6a, g, b, c, e & 7f, g, h, a, d, i:

The compound 5a was prepared by stirring (6h) a mixture of 2-nitrobenzoyl chloride(1.113 gm, 6 mmol) and 4a (1 gm, 5 mmol) in DCM-H\(_2\)O (2:1) under phase transfer catalysis condition using TBAHS as a catalyst and potassium carbonate (828 mg, 6 mmol) as base. The nitro compound 5a (524 mg, 1.5 mmol) was refluxed with SnCl\(_2\) (934 mg, 4.5 m mol) in EtOAc (50 mL) for 2-3h to give the starting material 6a. Accordingly 6g, b, c, e were prepared. The resulting amino compound 6f (200 mg, 0.5 mmol) was then heated in pyridine (3 mL, 3h) with tosyl chloride (107 mg, 0.75 m mol) to give the required precursor 7f. Every step of the reaction was monitored by TLC. After completion of the reaction in every step it was extracted with dichloromethane (3 x 15 mL). The combined organic extract was washed with brine and dried over (Na\(_2\)SO\(_4\)). The solvent was distilled off. The resulting crude product was purified by column chromatography over silica gel (60-120 mesh) using Petroleum ether-ethyl acetate mixture as an eluent. The other precursors 7g, h, a, d, i were prepared using the same procedure (as 7f) from their corresponding starting materials. All yields are reported for the conversions at the last step.

Compound 6a

Yield: 84 %, gummy liquid; IR (KBr): \(\nu_{\text{max}} = 1631, 3309, 3372, 3458 \text{ cm}^{-1}\);

\(^1\)H-NMR (CDCl\(_3\), 400 MHz): \(\delta_H = 2.26 \text{ (s, 3H), 3.34 (s, 3H), 4.68 (brs, 2H), 6.33 (brs, 1H), 6.60 (d, 1H, } J = 7.6 \text{ Hz), 6.84 (brs, 1H), 6.97 (brs, 3H), 7.37 (s, 1H),}\)

MS: m/z = 319 [M\(^+\)+H].

Compound 6g
Yield: 78 %, solid; mp: 192-194 °C; IR (KBr): $\nu_{\text{max}} = 1640, 1651, 3354, 3460 \text{ cm}^{-1}$;

- H-NMR (CDCl$_3$, 400 MHz): $\delta_H = 3.39$ (s, 3H), 3.66 (s, 3H), 4.70 (brs, 2H), 6.30 (brs, 1H), 6.62 (s, 1H), 6.78 (d, 2H, $J = 9.6$ Hz), 6.97 (brs, 1H), 7.19 (brs, 1H), 7.31 (brs, 1H), 8.14 (d, 1H, $J = 10.0$ Hz)

- MS: m/z = 386 [M$^+$/H$^+$.]

Anal. Calcd. For C$_{18}$H$_{16}$Br$_3$O$_2$: C, 55.97; H, 4.18; N, 10.88; found: C, 56.11; H, 4.32; N, 10.96;

**Compound 6b**

Yield: 82 %, solid; mp: 108-110 °C; IR (KBr): $\nu_{\text{max}} = 1631, 3309, 3372, 3458 \text{ cm}^{-1}$;

- H-NMR (CDCl$_3$, 400 MHz): $\delta_H = 2.37$ (s, 3H), 4.33 (s, 1H), 5.61 (s, 2H), 6.72 (t, 1H, $J = 7.6$ Hz), 6.89 (t, 1H, $J = 7.6$ Hz), 7.18(d, 2H, $J = 8.0$ Hz), 7.34 (dd, 1H, $J = 1.2, 15.2$ Hz), 7.53 (s, 1H), 7.97 (d, 1H, $J = 7.6$ Hz),

- MS: m/z = 305 [M$^+$/H$^+$.]

Anal. Calcd. For C$_{14}$H$_{13}$BrN$_2$O: C, 55.10; H, 4.29; N, 9.18; found: C, 54.88; H, 4.42; N, 9.06;

**Compound 6c**

Yield: 80 %, solid; mp: 100-102 °C; IR (KBr): $\nu_{\text{max}} = 1645, 3280, 3364, 3461 \text{ cm}^{-1}$;

- H-NMR (CDCl$_3$, 400 MHz): $\delta_H = 5.60$ (s, 2H), 6.74 (t, 2H, $J = 8.4$ Hz), 7.00 (dd, 1H, $J = 1.2, 15.2$ Hz), 7.28 (t, 1H, $J = 8.0$ Hz), 7.36 (t, 1H, $J = 8.0$ Hz), 7.57 (d, 2H, $J = 7.6$ Hz), 8.34 (s, 1H), 8.43 (d, 1H, $J = 8.4$ Hz),

- MS: m/z = 291 [M$^+$/H$^+$.]

Anal. Calcd. For C$_{13}$H$_{11}$BrN$_2$O: C, 53.63; H, 3.81; N, 9.62; found: C, 53.82; H, 3.93; N, 9.49;

**Compound 6e**

Yield: 83 %, solid; mp: 108-110 °C; IR (KBr): $\nu_{\text{max}} = 1649, 3274, 3368, 3457 \text{ cm}^{-1}$;

- H-NMR (CDCl$_3$, 400 MHz): $\delta_H = 5.60$ (s, 2H), 6.74 (t, 2H, $J = 8.0$ Hz), 7.07 (m, 1H), 7.28-7.34 (m, 2H), 7.41 (d, 1H, $J = 8.0$ Hz), 7.54 (d, 1H, $J = 7.6$ Hz), 8.34 (s, 1H), 8.45 (d, 1H, $J = 8.0$ Hz),

- MS: m/z = 247 [M$^+$/H$^+$.]

Anal. Calcd. For C$_{13}$H$_{11}$ClN$_2$O: C, 63.29; H, 4.49; N, 11.36; found C, 63.18; H, 4.55; N, 11.42;

**Compound 7f:**
Yield: 87 %, solid; mp: 166-168 °C; IR (KBr): νmax = 1161, 1597, 1633, 1661, 3235 cm⁻¹;

¹H-NMR (CDCl₃, 400 MHz): δH = 1.18 (t, 3H, J = 6.8 Hz), 2.43 (s, 3H), 3.49-3.56 (m, 1H), 3.66 (s, 3H), 4.27-4.32 (m, 1H), 6.47 (d, 1H, J = 8.8 Hz), 6.60 (t, 1H, J = 7.2 Hz), 6.79 (d, 2H, J = 9.2 Hz), 6.96 (d, 1H, J = 8.8 Hz), 7.11 (t, 1H, J = 7.6 Hz), 7.33(d, 2H, J = 7.6 Hz), 7.52 (d, 1H, J = 8.4 Hz), 7.86 (d, 2H, J = 7.6 Hz), 8.18 (d, 1H, J = 9.6 Hz), 9.18 (s, 1H).

¹³C-NMR (CDCl₃, 100 MHz): δC = 14.15, 21.64, 29.91, 44.81, 114.03, 120.71, 120.84, 122.86, 123.78, 124.18, 127.48, 128.28, 129.84, 131.25, 132.08, 136.20, 137.54, 137.74, 139.87, 143.91, 161.38, 169.40.

MS: m/z = 554 [M⁺+H].

Anal. Calcd. For: C₂₆H₂₄BrN₃O₄S : C, 56.32; H, 4.36; N, 7.58; Found: C, 56.53; H, 4.48; N, 7.51.

Compound 7g:

Yield: 91 %, solid; mp: 105-107 °C; IR (KBr): νmax = 1160, 1597, 1651, 1660, 3228 cm⁻¹;

¹H-NMR (CDCl₃, 400 MHz): δH = 2.42 (s, 3H), 3.37 (s, 3H), 3.63 (s, 3H), 6.56-6.63 (m, 2H), 6.80 (d, 2H, J = 5.2 Hz), 6.99 (d, 1H, J = 8.8 Hz), 7.12 (t, 1H, J = 8.0 Hz), 7.32 (d, 2H, J = 7.6 Hz), 7.49 (d, 1H, J = 8.4 Hz), 7.87 (d, 2H, J = 8.0 Hz), 8.09 (d, 1H, J = 10.0 Hz), 9.18 (s, 1H).

MS: m/z = 540 [M⁺+H].

Anal. Calcd. For: C₂₅H₂₂BrN₃O₄S : C, 55.56; H, 4.10; N, 7.78; Found: C, 55.82; H, 4.24; N, 7.77.

Compound 7h:

Yield: 81 %, solid; mp: 123-125 °C; IR (KBr): νmax = 1157, 1599, 1618, 1720, 3157 cm⁻¹;

¹H-NMR (CDCl₃, 400 MHz): δH = 2.41 (s, 3H), 3.35 (s, 3H), 6.32 (d, 1H, J = 8.0 Hz), 6.51 (d, 1H, J = 9.6 Hz), 6.64 (brs, 1H), 6.74 (d, 1H, J = 6.0 Hz), 6.92 (d, 1H, J = 8.0 Hz), 7.16 (brs, 1H), 7.31 (d, 2H, J = 6.4 Hz), 7.56 (d, 1H, J = 6.8 Hz), 7.85 (d, 2H, J = 6.0 Hz), 8.03 (d, 1H, J = 9.2 Hz), 9.20 (s, 1H).

MS: m/z = 527 [M⁺+H].

Anal. Calcd. For: C₂₄H₁₉BrN₂O₅S : C, 54.66; H, 3.63; N, 5.31; Found: C, 54.63; H, 3.65; N, 5.10.

Compound 7a:

Yield: 88 %, solid; mp: 136-138 °C; IR (KBr): νmax = 1162, 1593, 1620, 3217 cm⁻¹;
H-NMR (CDCl$_3$, 400 MHz): $\delta_H = 2.23$ (s, 3H), 2.39 (s, 3H), 3.30 (s, 3H), 5.96 (d, 1H, $J = 8.0$ Hz), 6.63 (d, 1H, $J = 7.6$ Hz), 6.70 (d, 1H, $J = 8.0$ Hz), 6.78 (d, 1H, $J = 7.6$ Hz), 7.14 (d, 1H, $J = 7.6$ Hz), 7.28 (d, 2H, $J = 7.6$ Hz), 7.34 (s, 1H), 7.58 (d, 1H, $J = 8.0$ Hz), 7.83 (d, 2H, $J = 8.0$ Hz), 9.34 (s, 1H).

MS: m/z = 473 [M$^+$+H].

Anal. Calcd. For: C$_{22}$H$_{21}$BrN$_2$O$_3$S: C, 55.82; H, 4.47; N, 5.92; Found: C, 55.58; H, 4.50; N, 5.89.

**Compound 7d:**

Yield: 86 %, solid; mp: 145-147 °C; IR (KBr): $\nu_{\text{max}} = 1157, 1594, 1626, 3214$ cm$^{-1}$;

H-NMR (CDCl$_3$, 400 MHz): $\delta_H = 1.12$ (t, 3H, $J = 6.8$ Hz), 2.24 (s, 3H), 2.40 (s, 3H), 3.39-3.46 (m, 1H), 4.20-4.26 (m, 1H), 5.79 (d, 1H, $J = 7.6$ Hz), 6.56 (t, 2H, $J = 6.4$ Hz), 6.77 (d, 1H, $J = 7.6$ Hz), 7.14 (t, 1H, $J = 7.6$ Hz), 7.29 (d, 2H, $J = 8.0$ Hz), 7.35 (s, 1H), 7.63 (d, 1H, $J = 8.4$ Hz), 7.81 (d, 2H, $J = 8.0$ Hz), 9.34 (s, 1H).

MS: m/z = 487 [M$^+$+H].

Anal. Calcd. For C$_{23}$H$_{22}$BrN$_2$O$_3$S: C, 56.68; H, 4.76; N, 5.75; Found: C, 56.73; H, 4.99; N, 5.57.

**Compound 7i:**

Yield: 82 %, solid; mp: 173-175 °C; IR (KBr): $\nu_{\text{max}} = 1155, 1599, 1634, 3229$ cm$^{-1}$;

H-NMR (CDCl$_3$, 400 MHz): $\delta_H = 2.40$ (s, 3H), 3.40 (s, 3H), 6.33 (t, 1H, $J = 7.6$ Hz), 6.64 (d, 1H, $J = 8.0$ Hz), 7.03 (t, 1H, $J = 7.6$ Hz), 7.28 (d, 2H, $J = 8.0$ Hz), 7.46 (d, 1H, $J = 8.0$ Hz), 7.68-7.75 (m, 3H), 7.79 (s, 1H), 7.88 (d, 2H, $J = 8.0$ Hz), 7.95 (d, 1H, $J = 8.0$ Hz), 8.22 (d, 1H, $J = 8.4$ Hz), 9.62 (s, 1H).

MS: m/z = 509 [M$^+$+H].

Anal. Calcd. For: C$_{25}$H$_{24}$BrN$_2$O$_3$S: C, 58.94; H, 4.16; N, 5.50; Found: C, 58.73; H, 4.15; N, 5.46.

**General Procedure for the synthesis of the compounds 8a-j:**

To a solution of the compound 6a (160 mg, 0.50 mmol) in DMSO (5 mL), CuI (9.5 mg, 0.05 m mol), L- proline (12 mg, 0.1 mmol) and Cs$_2$CO$_3$ (325.8 mg, 1 mmol) were added. The reaction mixture was stirred at 120 °C for 8h. The reaction was monitored by TLC. After completion, the reaction mixture was diluted with DCM (3 x 15 mL) and washed with water (3x15mL). The combined organic layer was filtered and dried over Na$_2$SO$_4$. The solvent was
distilled off and the crude product was purified by column-chromatography over silica-gel (60–120 mesh) using petroleum ether and ethyl acetate (4:1) as eluent to give a white solid product 8a. The compounds 8b-d were prepared accordingly.

For the tosyl substrate, 3 mmol DABCO (336.5 mg) as added to a stirred solution containing compound 7f (277 mg, 0.50 m mol) in DMSO-H2O (4:1; 5 mL), CuI (9.5 mg, 0.05 m mol) and L-proline (12 mg, 0.1 mmol). The reaction mixture was stirred at 120 °C for 9h. After completion of the reaction white solid product 8e was separated by column-chromatography using petroleum ether and ethyl acetate (1:1) as eluent. The compounds 8f-j were prepared accordingly.

**Compound 8a**

Yield: 72 %, solid; mp: 156-158 °C; IR (KBr): νmax = 1609, 3328 cm⁻¹;

1H-NMR (CDCl₃, 400 MHz): δH = 2.28 (s, 3H), 3.51 (s, 3H), 5.27 (s, 1H), 6.72 (s, 1H), 6.77 (d, 1H, J = 7.6 Hz), 6.91 (s, 1H), 7.01-7.07 (m, 2H), 7.29 (d, 1H, J = 8.8 Hz), 7.87 (d, 1H, J = 7.6 Hz).

13C-NMR (CDCl₃, 100 MHz): δC = 20.61, 38.06, 118.39, 120.73, 122.59, 123.04, 124.85, 124.97, 132.90, 135.76, 143.01, 150.60, 168.57


**Compound 8b**

Yield: 66 %, solid; mp: 250-252 °C; IR (KBr): νmax = 1602, 1640, 3294 cm⁻¹;

1H-NMR (CDCl₃, 400 MHz): δH = 3.43 (s, 3H), 3.60 (s, 3H), 6.70 (d, 1H, J = 9.6 Hz), 7.03 (d, 1H, J = 7.6 Hz), 7.29 (t, 2H, J = 9.6 Hz), 7.37 (d, 1H, J = 7.2 Hz). 7.62 (d, 1H, J = 9.2 Hz).7.67 (d, 1H, J = 7.6 Hz). 8.16 (s, 1H), 8.52 (d, 1H, J = 10.0 Hz).

MS: m/z = 306 [M⁺+H].

Anal. Calcd. For C₁₈H₁₅N₅O₂: C, 70.81; H, 4.95; N, 13.76; found: C, 71.08; H, 4.76; N, 13.65;

**Compound 8c**

Yield: 61 %, solid; mp: 123-125 °C; IR (KBr): νmax = 1623, 3324, 3466 cm⁻¹;

1H-NMR (CDCl₃, 400 MHz): δH = 2.50 (s, 3H), 6.29 (brs, 2H), 6.78 (t, 2H, J = 8.8 Hz), 7.14 (d, 1H, J = 8.0 Hz), 7.27(d, 1H, J = 10.0 Hz), 7.37 (s, 1H), 7.57 (d, 1H, J = 8.4 Hz), 8.04 (d, 1H, J = 7.6 Hz)

MS: m/z = 225 [M⁺+H].
Anal. Calcd. For C₁₄H₁₂N₂O:  C, 74.98; H, 5.39; N, 12.49; found:  C, 74.90; H, 5.25; N, 12.33;

**Compound 8d**

Yield: 67 %, solid; mp: 104-106 °C; IR (KBr): ν_{max} = 1622, 3327, 3427 cm⁻¹;

H-NMR (CDCl₃, 400 MHz): δ_H = 6.18 (brs, 2H), 6.78 (t, 2H, J = 7.6 Hz), 7.27 (dd, 1H, J = 1.6, 15.6 Hz), 7.29-7.34 (m, 2H), 7.53-7.57 (m, 1H), 7.69-7.72 (m, 1H), 8.06 (dd, 1H, J = 1.6, 8.4 Hz)

C-NMR (CDCl₃, 100 MHz): δ_C = 108.64, 110.27, 116.25, 116.78, 119.35, 124.29, 124.68, 128.70, 132.39, 141.84, 147.85, 149.21, 163.09

MS: m/z = 211 [M⁺+H].

Anal. Calcd. For C₁₃H₁₀N₂O:  C, 74.27; H, 4.79; N, 13.33; found:  C, 74.43; H, 4.88; N, 13.39;

**Compound 8e**:

Yield: 88 %, solid; mp: 240-242 °C; IR (KBr): ν_{max} = 1162, 1600, 1644, 1659 cm⁻¹;

H-NMR (CDCl₃, 400 MHz): δ_H = 1.35 (t, 3H, J = 6.4), 2.43 (s, 3H), 3.28 (q, 1H, J = 6.4 Hz), 3.46 (q, 1H, J = 6.8 Hz), 3.71 (s, 3H), 6.90 (d, 1H, J = 10.0 Hz), 7.24 (s, 2H), 7.35-7.50 (m, 5H), 7.56-7.61 (m, 2H), 7.78 (d, 1H, J = 7.6 Hz), 8.42 (d, 1H, J = 9.6 Hz).

C-NMR (CDCl₃, 100 MHz): δ_C = 14.14, 21.65, 29.79, 45.92, 115.58, 120.57, 123.65, 124.12, 127.39, 128.90, 129.29, 129.84, 132.22, 132.56, 132.83, 134.77, 135.74, 136.41, 138.52, 141.10, 144.42, 161.54, 165.17.

HRMS Calcd. for C₂₆H₂₃N₃O₄S [M⁺+Na] 496.1307; found: 496.1311.

**Compound 8f**:

Yield: 81 %, solid; mp: 286-288 °C; IR (K Br): ν_{max} = 1164, 1600, 1638, 1657 cm⁻¹;

H-NMR (CDCl₃, 400 MHz): δ_H = 2.42 (s, 3H), 2.90 (s, 3H), 3.70 (s, 3H), 6.93 (d, 1H, J = 10.0 Hz), 7.24 (s, 2H), 7.31-7.39 (m, 4H), 7.44 (t, 1H, J = 7.2 Hz), 7.60 (t, 1H, J = 7.6 Hz), 7.69 (d, 1H, J = 8.0 Hz), 7.81 (d, 1H, J = 7.6 Hz), 8.48 (d, 1H, J = 9.6 Hz).

C-NMR (CDCl₃, 100 MHz): δ_C = 21.64, 29.83, 36.92, 115.65, 120.62, 123.86, 124.48, 127.24, 129.34, 129.62, 129.90, 131.54, 132.39, 133.22, 134.69, 135.82, 136.55, 138.66, 141.23, 144.38, 161.58, 165.42.

MS: m/z = 460 [M⁺+H].

Anal. Calcd. For C₂₅H₂₃N₃O₄S:  C, 65.34; H, 4.61; N, 9.14; found C, 65.41; H, 4.55; N, 9.02.
**Compound 8g:**

Yield: 77 %, solid; mp: 254-256 °C; IR (KBr): \( \nu_{\text{max}} = 1168, 1598, 1643, 1724 \text{ cm}^{-1} \);

\(^1\)H-NMR (CDCl\(_3\), 400 MHz): \( \delta_H = 2.43 \) (s, 3H), 2.86 (s, 3H), 6.62 (d, 1H, \( J = 9.6 \) Hz), 7.28 (d, 3H, \( J = 2 \) Hz), 7.34 (d, 1H, \( J = 9.2 \) Hz), 7.39 (d, 2H, \( J = 8 \) Hz), 7.47 (d, 1H, \( J = 7.2 \) Hz), 7.60-7.669 (m, 2H), 7.82 (d, 1H, \( J = 7.6 \) Hz), 8.45 (d, 1H, \( J = 10 \) Hz).

\(^{13}\)C-NMR (CDCl\(_3\), 100 MHz): \( \delta_C = 21.6, 37.0, 118.30, 118.37, 119.43, 125.31, 127.23, 129.51, 129.60, 130.00, 131.21, 132.52, 133.34, 136.30, 137.74, 140.98, 144.62, 151.89, 159.68, 165.22.

MS: \( m/z = 447 \) [M\(^+\)+H].

Anal. Calcd. For C\(_{24}\)H\(_{18}\)N\(_2\)O\(_5\)S: C, 64.56; H, 4.06; N, 6.27; found: C, 64.40; H, 4.01; N, 6.08.

**Compound 8h:**

Yield: 91 %, solid; mp: 150-152 °C; IR (KBr): \( \nu_{\text{max}} = 1160, 1600, 1643 \text{ cm}^{-1} \);

\(^1\)H-NMR (CDCl\(_3\), 400 MHz): \( \delta_H = 2.37 \) (d, 3H, \( J = 7.2 \) Hz), 2.40 (d, 3H, \( J = 6.8 \) Hz), 2.799 (d, 3H, \( J = 6.8 \) Hz), 6.96 (t, 1H, \( J = 6.8 \) Hz), 7.13 (d, 1H, \( J = 7.6 \) Hz), 7.21-7.27 (m, 2H), 7.39 (d, 4H, \( J = 6.8 \) Hz), 7.55 (d, 1H, \( J = 6.8 \) Hz), 7.61 (d, 1H, \( J = 7.2 \) Hz), 7.78 (d, 1H, \( J = 7.6 \) Hz).

\(^{13}\)C-NMR (CDCl\(_3\), 100 MHz): \( \delta_C = 20.66, 21.54, 36.86, 122.48, 127.05, 127.47, 128.70, 129.70, 129.76, 130.30, 131.27, 131.86, 131.99, 132.73, 134.99, 136.56, 137.16, 138.30, 141.62, 143.74, 165.93.

MS: \( m/z = 393 \) [M\(^+\)+H].


**Compound 8i:**

Yield: 92 %, solid; mp: 103-105 °C; IR (KBr): \( \nu_{\text{max}} = 1168, 1598, 1634 \text{ cm}^{-1} \);

\(^1\)H-NMR (CDCl\(_3\), 400 MHz): \( \delta_H = 1.21 \) (t, 3H, \( J = 6.8 \) Hz), 2.36 (s, 3H), 2.39 (s, 3H), 3.14 (q, 1H, \( J = 6.8 \) Hz), 3.36 (q, 1H, \( J = 7.2 \) Hz), 7.11 (s, 2H), 7.21 (d, 2H, \( J = 8.0 \) Hz), 7.38 (d, 1H, \( J = 7.2 \) Hz), 7.42-7.46 (m, 3H), 7.52 (m, 1H), 7.55 (d, 1H, \( J = 6.8 \) Hz), 7.73 (d, 1H, \( J = 8.0 \) Hz).

\(^{13}\)C-NMR (CDCl\(_3\), 100 MHz): \( \delta_C = 13.98, 20.68, 21.57, 45.77, 121.83, 127.23, 128.57, 129.01, 129.64, 130.13, 131.68, 131.74, 132.32, 132.37, 135.25, 136.31, 137.16, 138.03, 141.58, 143.75, 165.65.

MS: \( m/z = 407 \) [M\(^+\)+H].

Anal. Calcd. For C\(_{23}\)H\(_{22}\)N\(_2\)O\(_3\)S: C, 67.96; H, 5.46; N, 6.89; found: C, 67.97; H, 5.42; N, 6.97.
**Compound 8j:**

Yield: 86 %, solid; mp: 286-288 °C; IR (KBr): \( \nu_{\text{max}} = 1166, 1595, 1650 \text{ cm}^{-1} \);

1H-NMR (CDCl\(_3\), 400 MHz): \( \delta_H = 2.39 \) (s, 3H), 2.74 (s, 3H), 7.27 (d, 2H, \( J = 5.2 \) Hz), 7.40 (d, 1H, \( J = 6.8 \) Hz), 7.52 (d, 4H, \( J = 6.8 \) Hz), 7.60 (d, 2H, \( J = 7.6 \) Hz), 7.75 (t, 3H, \( J = 6.8 \) Hz), 8.14 (s, 1H), 8.25 (d, 1H, \( J = 8.0 \) Hz)


MS: m/z = 429 [M\(^+\)+H].

Anal. Calcd. For C\(_{25}\)H\(_{20}\)N\(_2\)O\(_3\)S: C, 70.07; H, 4.70; N, 6.54; found: C, 70.04; H, 4.72; N, 6.50.

**Procedure for the preparation of compound 8k:**

The compound 8i (100 mg, 0.246 mmol) was added to a solution of 2.3 mL H\(_2\)SO\(_4\), 2.3 mL HCl and 1 mL AcOH and heated on waterbath for 4h. After completion of the reaction checked by TLC, it was then neutralised by Na\(_2\)CO\(_3\) and extracted with dichloromethane (3 x 15 mL). The combined organic extract was washed with brine and dried over (Na\(_2\)SO\(_4\)). The solvent was distilled off. The resulting crude product was purified by column chromatography over silica gel (60-120 mesh) using Petroleum ether-ethyl acetate (4:1) as an eluent to give a white solid product 8k.

**Compound 8k**

Yield: 78 %, solid; mp: 178-180 °C; IR (KBr): \( \nu_{\text{max}} = 1604, 3267 \text{ cm}^{-1} \);

1H-NMR (CDCl\(_3\), 400 MHz): \( \delta_H = 1.28 \) (t, 3H, \( J = 7.2 \) Hz), 2.28 (s, 3H), 4.08 (dd, 2H, \( J = 7.2, 14.4 \) Hz), 5.22 (s, 1H), 6.75 (t, 2H, \( J = 8.0 \) Hz), 6.89 (d, 1H, \( J = 10.4 \) Hz), 7.01 (t, 1H, \( J = 7.6 \) Hz), 7.13 (d, 1H, \( J = 8 \) Hz), 7.28 (s, 1H), 7.81 (d, 1H, \( J = 7.6 \) Hz).

MS: m/z = 253 [M\(^+\)+H].

Anal. Calcd. For C\(_{16}\)H\(_{16}\)N\(_2\)O: C, 76.16; H, 6.39; N, 11.10; found: C, 76.03; H, 6.47; N, 11.22;