

Table 2: Physical Properties of Compounds **2** and **3**

Product	Anal.	MS ( <i>m/z</i> )	Remarks, NMR
<b>2a</b>	For C <sub>5</sub> H <sub>2</sub> S <sub>4</sub> : Calcd: C, 31.55; H, 1.06. Found: C, 31.70; H, 1.32.	190 (M <sup>+</sup> )	<sup>1</sup> H-NMR (CDCl <sub>3</sub> ) δ 6.85 (d, 1H, 4-H), 7.45 (d, 1H, H-6). <sup>13</sup> C-NMR (CDCl <sub>3</sub> ) δ 119.9 (C-6), 130.8 (C-5), 132.5 (C-6a), 138.0 (C-3a), 215.2 (C=S).
<b>2b</b>	For C <sub>5</sub> HClS <sub>4</sub> : Calcd: C, 26.72; H, 0.05. Found: C, 26.74; H, 0.30.	224 (M <sup>+</sup> , 100), 180, 150, 148, 113, 104, 69.	<sup>13</sup> C-NMR (CDCl <sub>3</sub> /d <sub>6</sub> -DMSO) δ 119.5 (C-6), 130.0, 136.1, 134.8 (C-3a, C-5, C-6a), 215.2 (C=S).
<b>2c</b>		204 (M <sup>+</sup> , 100), 169, 160, 140, 128, 113, 99, 85, 84, 71, 59, 57.	The crude product contained unreacted <b>1c</b> and sulfur. A sample for MS was purified by flash-LC on silica using petrol ether/methylene chloride (7:3). <sup>1</sup> H-NMR (CDCl <sub>3</sub> ) δ 2.58 (s, 3H, CH <sub>3</sub> ), 6.6 (s, 1H, C-H).
<b>2d</b>	For C <sub>11</sub> H <sub>6</sub> S <sub>4</sub> : Calcd: C, 49.59; H, 2.27. Found: C, 49.35; H, 2.18.	266 (M <sup>+</sup> , 100), 222, 190, 165, 146, 133, 121, 106, 102.	
<b>2e</b>	For C <sub>11</sub> H <sub>5</sub> FS <sub>4</sub> : Calcd: C, 46.45; H, 1.77. Found: C, 46.48; H, 1.87.	284 (M <sup>+</sup> , 100), 240, 208, 164, 139, 120.	<sup>1</sup> H-NMR (CDCl <sub>3</sub> ) δ 7.10 (s, 1H, H-6), 7.10-7.20 (m, 2H, arom.), 7.40-7.60 (m, 2H, arom.). <sup>13</sup> C-NMR (CDCl <sub>3</sub> ) δ 115.5 (C-6), 116.2 (C-o ArF), 127.5 (C-m ArF), 128.0 and 132.0 (C-3a and C-6a), 138.5 (C-p ArF), 145.5 (C-5), 164.0 (C-ipso ArF), 214.5 (C=S).
<b>2f</b>	For C <sub>12</sub> H <sub>5</sub> NS <sub>4</sub> : Calcd: C, 49.46; H, 1.73; N, 4.81. Found: C, 49.22; H, 1.90; N, 4.47.	291 (M <sup>+</sup> , 100), 247, 227, 215, 171, 121.	
<b>2g</b>	For C <sub>9</sub> H <sub>8</sub> O <sub>2</sub> S <sub>4</sub> : Calcd: C, 39.11; H, 2.92; S, 46.40. Found: C, 38.98; H, 2.67; S, 47.33.	276 (M <sup>+</sup> , 100)	<sup>1</sup> H-NMR (CDCl <sub>3</sub> ) δ 1.45 (t, 3H, CH <sub>3</sub> CH <sub>2</sub> ), 2.57 (s, 3H, CH <sub>3</sub> ), 4.38 (q, 2H, OCH <sub>2</sub> ).
<b>3d</b>	For C <sub>20</sub> H <sub>12</sub> S <sub>4</sub> : Calcd: C, 63.12; H, 3.18. Found: C, 63.05; H, 3.31.	380 (M <sup>+</sup> , 100), 348, 303, 259, 190.	<sup>1</sup> H-NMR (CDCl <sub>3</sub> ) δ 7.05 (s, 2H, 3H and 6-H), 7.25-7.50 (m, 10H, arom.). <sup>13</sup> C-NMR (CDCl <sub>3</sub> ) δ 128.3, 128.5, 131.4, 131.5, 131.9, 132.0, 132.2, 133.6.
<b>3f</b>	For C <sub>22</sub> H <sub>10</sub> N <sub>2</sub> S <sub>4</sub> : Calcd: C, 61.37; H, 2.34; N, 6.51. Found: C, 60.81; H, 2.09; N, 6.11.	430 (M <sup>+</sup> , 100), 398, 215, 121.	