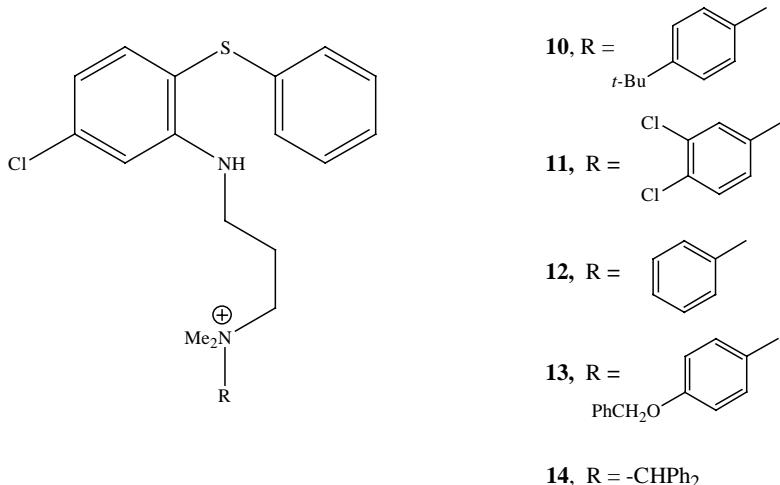


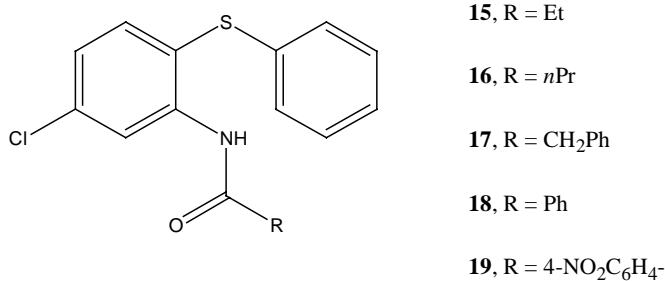
## Supplementary Information

**Table SI-1.** Physical constants and analytical data for quaternary alkylammonium derivatives of 2-amino-4-chlorophenyl phenyl sulphides.



Compound	Yield (%)	R <sub>f</sub> <sup>A</sup> Value	mp (°C)	Formula	Analysis % (C, H, N) Calcd	Analysis % (C, H, N) Found	FAB-MS Data Calcd	FAB-MS Data Found
<b>10</b>	60	0.60	>250	C <sub>28</sub> H <sub>38</sub> Cl <sub>2</sub> N <sub>2</sub> S	66.5, 7.6, 5.5	66.3, 7.8, 5.3	467.2	467
<b>11</b>	80	0.57	81-83	C <sub>24</sub> H <sub>26</sub> N <sub>2</sub> Cl <sub>3</sub> BrS.1/2H <sub>2</sub> O	50.7, 4.7, 4.9	50.6, 4.6, 4.8	479.0	479
<b>12</b>	89	0.53	141-143	C <sub>24</sub> H <sub>28</sub> N <sub>2</sub> ClBrS	58.6, 5.7, 5.7	58.8, 5.7, 5.8	411.1	411
<b>13</b>	86	0.55	122-124	C <sub>31</sub> H <sub>34</sub> Cl <sub>2</sub> N <sub>2</sub> SO.H <sub>2</sub> O	65.1, 6.3, 4.9	65.5, 6.4, 4.9	517.2	517
<b>14</b>	70	0.55	162-163	C <sub>30</sub> H <sub>32</sub> ClBrN <sub>2</sub> S	63.4, 5.7, 4.9	63.3, 5.8, 4.8	487.2	487

**Table SI-2.** Physical constants and analytical data for N-acyl derivatives of 2-amino-4-chlorophenyl phenyl sulphide.



Compound	Yield %	R <sub>f</sub> <sup>X</sup> value	Mp (°C)	Formula	ES-MS	Analysis % (C, H, N)	
						Calculated	Found
<b>15</b>	65	0.45 <sup>B</sup>	58-61	C <sub>15</sub> H <sub>14</sub> ClNOS	291	61.7, 4.8, 4.8	61.6, 4.6, 4.7
<b>16</b>	66	0.5 <sup>B</sup>	129-132	C <sub>16</sub> H <sub>16</sub> ClNOS	305	62.8, 5.3, 4.6	62.6, 5.2, 4.3
<b>17</b>	75	0.55 <sup>B</sup>	105-108	C <sub>20</sub> H <sub>16</sub> ClNOS	353	67.9, 4.6, 4.0	67.8, 4.4, 3.9
<b>18</b>	70	0.6 <sup>B</sup>	153-156	C <sub>19</sub> H <sub>14</sub> ClNOS	339	67.2, 4.2, 4.1	67.1, 4.1, 4.0
<b>19</b>	78	0.7 <sup>B</sup>	149-152	C <sub>19</sub> H <sub>13</sub> ClN <sub>2</sub> O <sub>3</sub> S	384	59.3, 3.4, 7.3	58.9, 3.3, 7.2

**Table SI-3.** <sup>1</sup>H NMR (270 MHz, CD<sub>3</sub>OD) spectroscopic data for quaternary alkylammonium derivatives of 2-amino-4-chlorophenyl phenyl sulphides.

Compound	NMR, δ <sub>H</sub> (ppm)
<b>12</b>	6.7-7.55 (13H, m, Ar), 4.45 (2H, s, CH <sub>2</sub> -Bz), 3.4-3.1 (4H, m, C <sup>1</sup> H <sub>2</sub> -& C <sup>3</sup> H <sub>2</sub> -Pr), 2.95 (6H, s, (CH <sub>3</sub> ) <sub>2</sub> N <sup>+</sup> ), 2.1 (2H, m, C <sup>2</sup> H <sub>2</sub> -Pr).
<b>11</b>	7.8-6.65 (11H, m, Ph), 5.95* (1H, t, broad, NH), 4.45 (1H, s, CH <sub>2</sub> -N <sup>+</sup> ), 3.5-3.2 (4H, q, CH <sub>2</sub> -NHPH, CH <sub>2</sub> -N <sup>+</sup> ), 2.9 (6H, s, (CH <sub>3</sub> ) <sub>2</sub> N), 2.0 (2H, m, -CH <sub>2</sub> -).
<b>14</b>	6.7-7.8 (18H, m, Ar), 5.7 (1H, s, Ph <sub>2</sub> CH-N <sup>+</sup> ), 3.3-3.1 (4H, m, C <sup>1</sup> H <sub>2</sub> -& C <sup>3</sup> H <sub>2</sub> -Pr), 3.0 (6H, s, (CH <sub>3</sub> ) <sub>2</sub> N), 2.1 (2H, m, C <sup>2</sup> H <sub>2</sub> -Pr).

<b>13</b>	6.7-7.45 (17H, m, Ar), 5.1 (2H, Ph-OCH <sub>2</sub> -Ph) 4.3 (2H, s, CH <sub>2</sub> -Bz), 3.4-3.0 (4H, q, C <sup>1</sup> H <sub>2</sub> - & C <sup>3</sup> H <sub>2</sub> -Pr), 2.9 (6H, s, (CH <sub>3</sub> ) <sub>2</sub> N), 2.1 (2H, m, C <sup>2</sup> H <sub>2</sub> -Pr).
<b>10</b>	6.7-7.5 (13H, m, Ar), 4.4 (2H, s, Bz-CH <sub>2</sub> -N <sup>+</sup> ), 3.4-3.0 (4H, q, C <sup>1</sup> H <sub>2</sub> -& C <sup>3</sup> H <sub>2</sub> -N <sup>+</sup> ), 2.9 (6H, s, (CH <sub>3</sub> ) <sub>2</sub> N), 2.1 (2H, m, -C <sup>2</sup> H <sub>2</sub> -), 1.3 (9H, 3xCH <sub>3</sub> )

<sup>1</sup>Spectrum recorded in d<sub>6</sub>-DMSO.

**Table SI-4.** <sup>1</sup>H NMR (270 MHz, CD<sub>3</sub>OD) spectroscopic data for N-acyl derivatives of 2-amino-4-chlorophenyl phenyl sulphide.

Compound	<sup>1</sup> H-NMR (CDCl <sub>3</sub> , 300 MHz)
<b>15</b>	δ <sub>H</sub> 1.08 (t, 3H, J = 7.6 Hz, CH <sub>3</sub> -H), 2.27 (q, 2H, J = 7.6 Hz, CH <sub>2</sub> -H), 7.05 – 7.28 (m, 6H, Ar-H), 7.51 (d, 1H, J = 8.3 Hz, H-3), 8.22 (bs, 1H, -NH), 8.60 (d, 1H, J = 2.2 Hz, H-6).
<b>16</b>	δ <sub>H</sub> 0.86 (t, 3H, J = 7.4 Hz, CH <sub>3</sub> -H), 1.57 (sextuplet, 2H, J = 7.4 Hz, CH <sub>2</sub> <sup>1</sup> -H), 2.22 (t, 2H, J = 7.4 Hz, CH <sub>2</sub> <sup>2</sup> -H), 7.04 – 7.28 (m, 6H, Ar-H), 7.5 (d, 1H, J = 8.3 Hz, H-3), 8.22 (bs, 1H, -NH), 8.61 (d, 1H, J = 2.0 Hz, H-6).
<b>17</b>	δ <sub>H</sub> 3.64 (s, 2H, CH <sub>2</sub> ), 6.79 (d, 1H, J = 2.0 Hz, H-4), 7.04 – 7.27 (m, 10H, Ar-H), 7.43 (d, 1H, J = 8.3 Hz, H-3), 8.32 (bs, 1H, -NH), 8.62 (d, 1H, J = 2.2 Hz, H-6).
<b>18</b>	δ <sub>H</sub> 7.11 – 7.32 (m, 6H, Ar-H), 7.60 (s, 1H, H-6), 7.75 (d, 2H, J = 8.5 Hz, H-3 & H-4), 8.22 (d, 2H, J = 8.6 Hz, H-9 & H-11), 8.76 (d, 1H, J = 2.2 Hz, H-6), 9.02 (bs, 1H, -NH).
<b>19</b>	δ <sub>H</sub> 7.13 – 7.4 (m, 6H, Ar-H), 7.61 (d, 1H, J = 8.3 Hz, H-3), 7.80 (d, 2H, J = 8.6 Hz, H-8 & H-12), 8.25 (d, 2H, J = 8.6 Hz, H-9 & H-11), 8.81 (d, 1H, J = 2.2 Hz, H-6), 9.13 (bs, 1H, -NH).

**Table SI-5.** <sup>13</sup>C NMR (270 MHz, CDCl<sub>3</sub>) spectroscopic data for N-acyl derivatives of 2-amino-4-chlorophenyl phenyl sulphide.

Compound	
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	<sup>13</sup> C-NMR (CDCl <sub>3</sub> , 75 MHz)
<b>15</b>	9.3 (CH <sub>3</sub> ), 30.9 (CH <sub>2</sub> ), 117.9 (C-2), 120.7 (C-6), 124.3 (C-4), 126.6 (C-4'), 127.1 (C-3' & C-5'), 129.5 (C-2' & C-6'), 135.1 (C-1'), 137.1 (C-5), 137.2 (C-3), 140.8 (C-1), 171.9 (C=O).
<b>16</b>	11.0 (CH <sub>3</sub> ), 16.8 (CH <sub>2</sub> ), 33.1 (CH <sub>2</sub> ), 120.4 (C-2), 121.8 (C-6), 124.9 (C-4), 127.0 (C-4'), 128.1 (C-3' & C-5'), 130.2 (C-2' & C-6'), 132.8 (C-1'), 136.5 (C-5), 139.2 (C-3), 143.7 (C-1), 172.6 (C=O).
<b>17</b>	45.22 (CH <sub>2</sub> ), 117.73 (C-6), 120.34 (C-2), 124.52 (C-4), 126.19 (C-4'), 126.59(C-10), 127.68 (C-9 & C-11), 129.20 (C-3' & C-5'), 129.52 (C-8 & C-12), 133.48 (C-2' & C-6'), 135.03 (C-1'), 137.11 (C-3), 137.2 (C-5), 137.54 (C-7), 140.85 (C-1), 169.31 (C=O).
<b>18</b>	116.43 (C-6), 118.75 (C-2), 121.78 (C-4), 123.03 (C-4'), 125.32 (C-8 and C-12), 125.89 (C-9 & C-11), 126.85 (C-3' & C-5'), 128.31 (C-2' & C-6'), 130.72 (C-1'), 135.03 (C-10), 137.11 (C-5), 137.2 (C-3), 137.54 (C-7), 140.85 (C-1), 169.31 (C=O).
<b>19</b>	118.52 (C-6), 120.69 (C-2), 124.05 (C-9 and C-11), 125.29 (C-4), 126.92 (C-4'), 126.98 (C-8 & C-12), 128.14 (C-3' & C-5'), 129.72 (C-2' & C-6'), 134.51 (C-1'), 137.41 (C-5), 137.44 (C-3), 139.75 (C-7), 140.06 (C-1), 149.86 (C-10), 163.09 (C=O).