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SUPPLEMENTARY MATERIAL TO  
**Synthesis and biological evaluation of  
(3-arylisoazol-5-yl)methyl 6-fluoro-4-oxo-4H-chro-  
mene-2-carboxylates as antioxidant and antimicrobial agents**

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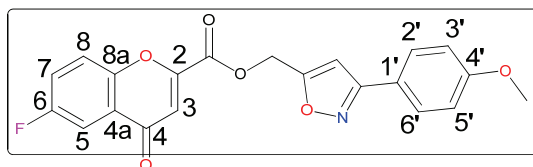
ANALYTICAL AND SPECTRAL DATA FOR THE SYNTHESIZED COMPOUNDS

*Ethyl 6-fluoro-4-oxo-4H-chromene-2-carboxylate (2)*. Yellow solid; m.p.: 208–210 °C; <sup>1</sup>H-NMR (400 MHz, CDCl<sub>3</sub>, δ / ppm): 7.81 (1H, *d*, *J* = 4.1 Hz, Ar-H), 7.62 (1H, *dd*, *J* = 4.1 Hz, both, Ar-H), 7.30–7.50 (1H, *m*, Ar-H), 7.13 (1H, *s*, chromene-CH), 4.22 (2H, *q*, *J* = 7.09 Hz), 1.25 (3H, *t*, *J* = 7.09 Hz); ESI-MS (*m/z*): 237.0 (M<sup>+</sup>).

*6-Fluoro-4-oxo-4H-chromene-2-carboxylic acid (3)*. Yellow solid; m.p.: 255–257 °C; <sup>1</sup>H-NMR (400 MHz, CDCl<sub>3</sub>, δ / ppm): 7.83 (1H, *d*, *J* = 4 Hz, Ar-H), 7.63 (1H, *dd*, *J* = 4 Hz & 4 Hz, Ar-H), 7.42–7.50 (1H, *m*, Ar-H), 7.10 (1H, *s*, chromene-CH); ESI-MS (*m/z*): 209.0 (M+H).

*Prop-2-ynyl 6-fluoro-4-oxo-4H-chromene-2-carboxylate (4)*. Off-white solid; m.p.: 112–114 °C; IR (KBr, cm<sup>-1</sup>): 3051 (C–H, Ar), 2121 (alkyne), 1741 (C=O, ester), 1654 (C=O, chromene), 1220, 1128 (C–O–C); <sup>1</sup>H-NMR (400 MHz, CDCl<sub>3</sub>, δ / ppm): 7.83 (1H, *d*, *J* = 4 Hz, Ar-H), 7.64 (1H, *dd*, *J* = 4 Hz & 4 Hz, Ar-H), 7.46–7.51 (1H, *m*, Ar-H), 7.15 (1H, *s*, chromene-CH), 5.00 (2H, *s*, O–CH<sub>2</sub>), 2.61 (1H, *s*, alkyne); ESI-MS (*m/z*): 247.0 (M<sup>+</sup>).

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[3-(4-Methoxyphenyl)isoxazol-5-yl]methyl 6-fluoro-4-oxo-4H-chromene-2-carboxylate (**C<sub>1</sub>**). Light brown solid; m.p.: 142–144 °C; Anal. Calcd. for C<sub>21</sub>H<sub>14</sub>FNO<sub>6</sub>: C, 63.80; H, 3.57; N, 3.54 %. Found: C, 63.88; H, 3.50; N, 3.57 %; IR (KBr, cm<sup>-1</sup>): 3061 (C–H, Ar), 1740 (C=O, ester), 1657 (C=O, chromene), 1608 (C=N), 1220, 1130 (C–O–C); <sup>1</sup>H-NMR (400 MHz, CDCl<sub>3</sub>, δ / ppm): 7.80–7.86 (1H, *m*, Ar-H), 7.61–7.65 (1H, *m*, Ar-H), 7.46–7.50 (1H, *m*, Ar-H), 7.37 (2H, *d*, *J* = 8 Hz, Ar-H), 7.15 (1H, *s*, chromene-CH), 7.12 (2H, *d*, *J* = 8 Hz, Ar-H), 6.82 (1H, *s*, isoxazole-CH), 5.62 (2H, *s*, O–CH<sub>2</sub>), 3.82 (3H, *s*, O–CH<sub>3</sub>); <sup>13</sup>C-NMR (100 MHz, CDCl<sub>3</sub>, δ / ppm): 178.6 (C-4), 168.7 (C=N), 162.3 (C-4'), 162.1 (isoxazole-C–O), 160.6 (CO<sub>2</sub>CH<sub>2</sub>), 159.8 (*d*, *J* = 245.6 Hz, C-6), 153.0 (C-2), 146.1 (C-8a), 128.5 (C-2' & C-6'), 124.6 (*d*, *J* = 9.2 Hz, C-4a), 122.1 (*d*, *J* = 29.3 Hz, C-7), 121.4 (*d*, *J* = 10.5 Hz, C-8), 119.9 (C-1'), 118.6 (C-3), 114.7 (C-3' & C-5'), 110.0 (*d*, *J* = 23.8 Hz, C-5), 100.1 (isoxazole-CH), 61.9 (Ar-OCH<sub>3</sub>), 58.8 (O–CH<sub>2</sub>); ESI-MS (*m/z*): 396.0 (M<sup>+</sup>).

[3-(Pyridin-3-yl)isoxazol-5-yl]methyl 6-fluoro-4-oxo-4H-chromene-2-carboxylate (**C<sub>2</sub>**). White solid; m.p.: 152–154 °C; Anal. Calcd. for C<sub>19</sub>H<sub>11</sub>FN<sub>2</sub>O<sub>5</sub>: C, 62.30; H, 3.03; N, 7.65 %. Found: C, 62.28; H, 3.00; N, 7.64 %; IR (KBr, cm<sup>-1</sup>): 3062 (C–H, Ar), 1735 (C=O, ester), 1656 (C=O, chromene), 1609 (C=N), 1231, 1128 (C–O–C); <sup>1</sup>H-NMR (400 MHz, CDCl<sub>3</sub>, δ / ppm): 9.06 (1H, *s*, Ar-H), 8.03–8.10 (1H, *m*), 7.82–7.86 (1H, *m*), 7.69–7.74 (2H, *m*), 7.61–7.66 (1H, *m*), 7.45–7.48 (1H, *m*), 7.17 (1H, *s*, chromene-CH), 6.83 (1H, *s*, isoxazole-CH), 5.65 (2H, *s*, O–CH<sub>2</sub>); <sup>13</sup>C-NMR (100 MHz, CDCl<sub>3</sub>, δ / ppm): 178.6 (C-4), 163.5 (C=N), 162.1 (isoxazole-C–O), 161.3 (CO<sub>2</sub>CH<sub>2</sub>), 159.2 (*d*, *J* = 245.4 Hz, C-6), 153.0 (C-2), 148.1 (C-4'), 147.5 (C-2'), 146.0 (C-8a), 134.5 (C-1'), 133.5 (C-6'), 124.7 (*d*, *J* = 9.2 Hz, C-4a), 124.6 (C-5'), 122.1 (*d*, *J* = 29.1 Hz, C-7), 121.2 (*d*, *J* = 11.1 Hz, C-8), 119.1 (C-3), 110.2 (*d*, *J* = 23.9 Hz, C-5), 100.1 (isoxazole-CH), 58.9 (O–CH<sub>2</sub>); ESI-MS (*m/z*): 367.0 (M<sup>+</sup>).

{3-[2-(Trifluoromethyl)phenyl]isoxazol-5-yl}methyl 6-fluoro-4-oxo-4H-chromene-2-carboxylate (**C<sub>3</sub>**): Off-white solid; m.p.: 148–150 °C; Anal. Calcd. for C<sub>21</sub>H<sub>11</sub>F<sub>4</sub>NO<sub>5</sub>: C, 58.21; H, 2.56; N, 3.23 %. Found: C, 58.11; H, 2.52; N, 3.22 %; IR (KBr, cm<sup>-1</sup>): 3058 (C–H, Ar), 1739 (C=O, ester), 1655 (C=O, chromene), 1609 (C=N), 1232, 1129 (C–O–C); <sup>1</sup>H-NMR (400 MHz, CDCl<sub>3</sub>, δ / ppm): 7.80–7.90 (2H, *m*), 7.46–7.66 (5H, *m*), 7.12 (1H, *s*, chromene-CH), 6.82 (1H, *s*, isoxazole-CH), 5.62 (2H, *s*, O–CH<sub>2</sub>); <sup>13</sup>C-NMR (100 MHz, CDCl<sub>3</sub>, δ / ppm): 178.6 (C-4), 168.8 (C=N), 162.1 (isoxazole-C–O), 161.5 (CO<sub>2</sub>CH<sub>2</sub>), 159.8 (*d*, *J* = 245.6 Hz, C-6), 153.0 (C-2), 146.1 (C-8a), 133.1 (C-5'), 130.6 (C-2'), 129.2

(C-4'), 128.9 (C-6'), 127.3 (*q*, *J* = 5.0 Hz, C-7'), 126.4 (C-3'), 125.5 (C-1'), 124.6 (*d*, *J* = 9.2 Hz, C-4a ), 122.1 (*d*, *J* = 29.3 Hz, C-7), 121.4 (*d*, *J* = 11.2 Hz, C-8), 118.9 (C-3), 110.2 (*d*, *J* = 23.2 Hz, C-5), 100.1 (isoxazole-CH), 58.8 (O-CH<sub>2</sub>); ESI-MS (*m/z*): 434.0 (M<sup>+</sup>).

*[3-(4-Nitrophenyl)isoxazol-5-yl]methyl 6-fluoro-4-oxo-4H-chromene-2-carboxylate (C4)*. Pale yellow solid; m.p.: 198–200 °C; Anal. Calcd. for C<sub>20</sub>H<sub>11</sub>FN<sub>2</sub>O<sub>7</sub>: C, 58.54; H, 2.70; N, 6.83 %. Found: C, 58.46; H, 2.75; N, 6.75 %; IR (KBr, cm<sup>-1</sup>): 3076 (C-H, Ar), 1736 (C=O, ester), 1653 (C=O, chromene), 1609 (C=N), 1234, 1135 (C-O-C); <sup>1</sup>H-NMR (400 MHz, CDCl<sub>3</sub>, δ / ppm): 8.45 (2H, *d*, *J* = 8.4 Hz, Ar-H), 8.02 (2H, *d*, *J* = 8.4 Hz, Ar-H), 7.81–7.84 (1H, *m*, Ar-H), 7.60–7.63 (1H, *m*, Ar-H), 7.45–7.50 (1H, *m*, Ar-H), 7.14 (1H, *s*, chromene-CH), 6.81 (1H, *s*, isoxazole-CH), 5.65 (2H, *s*, O-CH<sub>2</sub>); <sup>13</sup>C-NMR (100 MHz, CDCl<sub>3</sub>, δ / ppm): 178.6 (C-4), 170.1 (C=N), 162.5 (isoxazole-C-O), 160.8 (CO<sub>2</sub>CH<sub>2</sub>), 159.8 (*d*, *J* = 245.5 Hz, C-6), 153.0 (C-2), 148.2 (Ar-C-4'), 146.1 (C-8a), 134.9 (C-1'), 126.8 (C-2' & C-6'), 124.6 (C-3' & C-5'), 124.2 (*d*, *J* = 9.2 Hz, C-4a ), 122.4 (*d*, *J* = 27.3 Hz, C-7), 121.1 (*d*, *J* = 10.8 Hz, C-8), 118.6 (C-3), 109.8 (*d*, *J* = 22.8 Hz, C-5), 100.1 (isoxazole-CH), 58.8 (O-CH<sub>2</sub>); ESI-MS (*m/z*): 411.0 (M<sup>+</sup>).

*[3-(4-Butylphenyl)isoxazol-5-yl]methyl 6-fluoro-4-oxo-4H-chromene-2-carboxylate (C5)*. Off-white solid; m.p.: 188–190 °C; Anal. calcd. for C<sub>24</sub>H<sub>20</sub>FNO<sub>5</sub>: C, 68.40; H, 4.78; N, 3.32 %. Found: C, 68.30; H, 4.69; N, 3.30 %; IR (KBr, cm<sup>-1</sup>): 3068 (C-H, Ar), 1737 (C=O, ester), 1655 (C=O, chromene), 1608 (C=N), 1230, 1129 (C-O-C); <sup>1</sup>H-NMR (400 MHz, CDCl<sub>3</sub>, δ / ppm): 7.80–7.86 (1H, *m*, Ar-H), 7.60–7.66 (3H, *m*, Ar-H), 7.44–7.49 (1H, *m*, Ar-H), 7.35 (2H, *d*, *J* = 8.0 Hz, Ar-H), 7.13 (1H, *s*, chromene-CH), 6.82 (1H, *s*, isoxazole-CH), 5.62 (2H, *s*, O-CH<sub>2</sub>), 2.68 (2H, *t*, *J* = 8.0 Hz, Ar-CH<sub>2</sub>), 1.60–1.67 (2H, *m*, CH<sub>2</sub>), 1.33–1.42 (2H, *m*, CH<sub>2</sub>), 0.94 (3H, *t*, *J* = 8.0 Hz, CH<sub>3</sub>); <sup>13</sup>C-NMR (100 MHz, CDCl<sub>3</sub>, δ / ppm): 178.5 (C-4), 168.1 (C=N), 162.3 (isoxazole-C-O), 161.4 (CO<sub>2</sub>CH<sub>2</sub>), 160.0 (*d*, *J* = 245.6 Hz, C-6), 153.1 (C-2), 146.3 (C-8a), 142.8 (C-4'), 130.5 (C-3' & C-5'), 125.8 (C-2' & C-6'), 125.6 (C-1'), 124.6 (*d*, *J* = 9.2 Hz, C-4a ), 122.1 (*d*, *J* = 28.5 Hz, C-7), 121.5 (*d*, *J* = 10.2 Hz, C-8), 118.7 (C-3), 110.1 (*d*, *J* = 23.4 Hz, C-5), 100.1 (isoxazole-CH), 58.8 (O-CH<sub>2</sub>), 36.14 (Ar-CH<sub>2</sub>), 34.04 (Ar-CH<sub>2</sub>-CH<sub>2</sub>), 22.4 (Ar-(CH<sub>2</sub>)<sub>2</sub>-CH<sub>2</sub>), 14.2 (Ar-(CH<sub>2</sub>)<sub>3</sub>-CH<sub>3</sub>); ESI-MS (*m/z*): 422.1 (M<sup>+</sup>).

*[3-(2-Hydroxyphenyl)isoxazol-5-yl]methyl 6-fluoro-4-oxo-4H-chromene-2-carboxylate (C6)*. Off-white solid; m.p.: 171–173 °C; Anal. Calcd. for C<sub>20</sub>H<sub>12</sub>FNO<sub>6</sub>: C, 63.00; H, 3.17; N, 3.67 %. Found: C, 63.06; H, 3.11; N, 3.59 %; IR (KBr, cm<sup>-1</sup>): 3335 (-OH), 3074 (C-H, Ar), 1736 (C=O, ester), 1657 (C=O, chromene), 1605 (C=N), 1225, 1125 (C-O-C); <sup>1</sup>H-NMR (400 MHz, CDCl<sub>3</sub>, δ / ppm): 9.30 (1H, *s*, OH), 7.81–7.87 (1H, *m*, Ar-H), 7.61–7.67 (1H, *m*, Ar-H), 7.46–7.54 (2H, *m*, Ar-H), 7.34–7.41 (1H, *m*, Ar-H), 7.17 (1H, *s*, chro-

mene-CH), 7.07–7.13 (1H, *m*, Ar-H), 6.97–7.03 (1H, *m*, Ar-H), 6.83 (1H, *s*, isoxazole-CH), 5.61 (2H, *s*, O-CH<sub>2</sub>); <sup>13</sup>C-NMR (100 MHz, CDCl<sub>3</sub>,  $\delta$  / ppm): 178.5 (C-4), 164.3 (C=N), 162.2 (isoxazole-C-O), 161.5 (CO<sub>2</sub>CH<sub>2</sub>), 159.8 (*d*, *J* = 245.6 Hz, C-6), 156.1 (C-6'), 153.0 (C-2), 146.2 (C-8a), 131.9 (C-2'), 130.2 (C-4'), 124.7 (*d*, *J* = 9.2 Hz, C-4a), 122.3 (C-3'), 122.1 (*d*, *J* = 29.2 Hz, C-7), 121.5 (*d*, *J* = 11.0 Hz, C-8), 120.2 (C-1'), 118.7 (C-3), 117.0 (C-5'), 109.9 (*d*, *J* = 23.8 Hz, C-5), 100.2 (isoxazole-CH), 58.8 (O-CH<sub>2</sub>); ESI-MS (*m/z*): 382.1 (M<sup>+</sup>).

[3-(3-Chlorophenyl)isoxazol-5-yl]methyl 6-fluoro-4-oxo-4H-chromene-2-carboxylate (**C7**): Off-white solid; m.p.: 152–154 °C; Anal. Calcd. for C<sub>20</sub>H<sub>11</sub>ClFNO<sub>5</sub>: C, 60.09; H, 2.77; N, 3.50 %. Found: C, 60.01; H, 2.72; N, 3.45 %; IR (KBr, cm<sup>-1</sup>): 3085 (C-H, Ar), 1739 (C=O, ester), 1652 (C=O, chromene), 1606 (C=N), 1228, 1123 (C-O-C); <sup>1</sup>H-NMR (400 MHz, CDCl<sub>3</sub>,  $\delta$  / ppm): 7.80–7.83 (2H, *m*, Ar-H), 7.60–7.67 (3H, *m*, Ar-H), 7.46–7.49 (2H, *m*, Ar-H), 7.13 (1H, *s*, chromene-CH), 6.80 (1H, *s*, isoxazole-CH), 5.63 (2H, *s*, O-CH<sub>2</sub>); <sup>13</sup>C-NMR (100 MHz, CDCl<sub>3</sub>,  $\delta$  / ppm): 178.6 (C-4), 165.9 (C=N), 162.2 (isoxazole-C-O), 161.6 (CO<sub>2</sub>CH<sub>2</sub>), 159.9 (*d*, *J* = 245.6 Hz, C-6), 153.1 (C-2), 146.3 (C-8a), 135.6 (C-5'), 134.9 (C-1'), 129.9 (C-3'), 129.6 (C-6'), 129.0 (C-4'), 125.8 (C-2'), 124.6 (*d*, *J* = 9.2 Hz, C-4a), 122.1 (*d*, *J* = 29.4 Hz, C-7), 121.5 (*d*, *J* = 11.2 Hz, C-8), 118.7 (C-3), 109.9 (*d*, *J* = 23.9 Hz, C-5), 100.1 (isoxazole-CH), 58.8 (O-CH<sub>2</sub>); ESI-MS (*m/z*): 400.0 (M<sup>+</sup>, 100 %) & 402 (M+2, 33 %).

[3-(4-Chlorophenyl)isoxazol-5-yl]methyl 6-fluoro-4-oxo-4H-chromene-2-carboxylate (**C8**): Pale yellow solid; m.p.: 163–165 °C; Anal. Calcd. for C<sub>20</sub>H<sub>11</sub>ClFNO<sub>5</sub>: C, 60.09; H, 2.77; N, 3.50 %. Found: C, 60.01; H, 2.71; N, 3.48 %; IR (KBr, cm<sup>-1</sup>): 3069 (C-H, Ar), 1735 (C=O, ester), 1657 (C=O, chromene), 1605 (C=N), 1234, 1127 (C-O-C); <sup>1</sup>H-NMR (400 MHz, CDCl<sub>3</sub>,  $\delta$  / ppm): 7.70–7.79 (1H, *m*, Ar-H), 7.60–7.68 (1H, *m*, Ar-H), 7.52 (2H, *d*, *J* = 8 Hz, Ar-H), 7.40–7.49 (1H, *m*, Ar-H), 7.20 (2H, *d*, *J* = 8 Hz, Ar-H), 7.12 (1H, *s*, chromene-CH), 6.80 (1H, *s*, isoxazole-CH), 5.62 (2H, *s*, O-CH<sub>2</sub>); <sup>13</sup>C-NMR (100 MHz, CDCl<sub>3</sub>,  $\delta$  / ppm): 178.6 (C-4), 167.5 (C=N), 163.6 (isoxazole-C-O), 161.5 (CO<sub>2</sub>CH<sub>2</sub>), 159.8 (*d*, *J* = 245.4 Hz, C-6), 153.0 (C-2), 146.1 (C-8a), 135.3 (C-4'), 129.8 (C-3' & C-5'), 127.4 (C-2' & C-6'), 126.3 (C-1'), 124.6 (*d*, *J* = 9.2 Hz, C-4a), 122.1 (*d*, *J* = 28.6 Hz, C-7), 121.6 (*d*, *J* = 11.0 Hz, C-8), 118.7 (C-3), 109.9 (*d*, *J* = 23.8 Hz, C-5), 100.1 (isoxazole-CH), 58.8 (O-CH<sub>2</sub>); ESI-MS (*m/z*): 400.0 (M<sup>+</sup>, 100 %) & 402 (M<sup>+2</sup>, 33 %).

[3-(4-Bromophenyl)isoxazol-5-yl]methyl 6-fluoro-4-oxo-4H-chromene-2-carboxylate (**C9**): Pale yellow solid; m.p.: 178–180 °C; Anal. Calcd. for C<sub>20</sub>H<sub>11</sub>BrFNO<sub>5</sub>: C, 54.08; H, 2.50; N, 3.15 %. Found: C, 54.02; H, 2.48; N, 3.11 %; IR (KBr, cm<sup>-1</sup>): 3089 (C-H, Ar), 1730 (C=O, ester), 1653 (C=O, chromene), 1606 (C=N), 1238, 1123 (C-O-C); <sup>1</sup>H-NMR (400 MHz, CDCl<sub>3</sub>,  $\delta$  / ppm): 7.83 (2H, *d*, *J* = 8.8 Hz, Ar-CH), 7.60–7.68 (1H, *m*, Ar-CH), 7.44–7.51 (2H, *m*, Ar-H), 7.33 (2H, *d*, *J* = 8.8 Hz, Ar-H), 7.13 (1H, *s*, chromene-CH), 6.81 (1H, *s*, iso-

xazole-CH), 5.62 (2H, *s*, O-CH<sub>2</sub>); <sup>13</sup>C-NMR (100 MHz, CDCl<sub>3</sub>,  $\delta$  / ppm): 178.6 (C-4), 166.1 (C=N), 163.6 (isoxazole-C-O), 161.6 (CO<sub>2</sub>CH<sub>2</sub>), 159.9 (*d*, *J* = 244.9 Hz, C-6), 153.1 (C-2), 146.0 (C-8a), 132.3 (C-3' & C-5'), 128.6 (C-2' & C-6'), 127.1 (C-1'), 124.5 (*d*, *J* = 9.2 Hz, C-4a), 122.9 (C-4'), 122.2 (*d*, *J* = 29.2 Hz, C-7), 121.5 (*d*, *J* = 10.8 Hz, C-8), 118.7 (C-3), 109.9 (*d*, *J* = 22.9 Hz, C-5), 100.2 (isoxazole-CH), 58.8 (O-CH<sub>2</sub>); ESI-MS (*m/z*): 443.9 (M<sup>+</sup>, 100 %) & 445.9 (M+2, 99 %).

[3-(2,3-Dimethylphenyl)isoxazol-5-yl]methyl 6-fluoro-4-oxo-4H-chromene-2-carboxylate (**C10**). Off-white solid; m.p.: 165–167 °C; Anal. Calcd. for C<sub>22</sub>H<sub>16</sub>FNO<sub>5</sub>: C, 67.17; H, 4.10; N, 3.56 %. Found: C, 67.10, H, 4.05; N, 3.50 %; IR (KBr, cm<sup>-1</sup>): 3059 (C-H, Ar), 1737 (C=O, ester), 1655 (C=O, chromene), 1608 (C=N), 1230, 1127 (C-O-C); <sup>1</sup>H-NMR (400 MHz, CDCl<sub>3</sub>,  $\delta$  / ppm): 7.90–7.94 (1H, *m*, Ar-H), 7.80–7.84 (1H, *m*, Ar-H), 7.58–7.62 (2H, *m*, Ar-H), 7.42–7.49 (1H, *m*, Ar-H), 7.33–7.36 (1H, *m*, Ar-H), 7.13 (1H, *s*, chromene-CH), 6.82 (1H, *s*, isoxazole-CH), 5.63 (2H, *s*, O-CH<sub>2</sub>), 2.49 (3H, *s*, Ar-CH<sub>3</sub>), 2.35 (3H, *s*, Ar-CH<sub>3</sub>); <sup>13</sup>C-NMR (100 MHz, CDCl<sub>3</sub>,  $\delta$  / ppm): 178.7 (C-4), 164.3 (C=N), 162.3 (isoxazole-C-O), 161.4 (CO<sub>2</sub>CH<sub>2</sub>), 159.9 (*d*, *J* = 245.6 Hz, C-6), 153.1 (C-2), 146.0 (C-8a), 138.2 (C-3'), 130.8 (C-4'), 130.1 (C-1'), 127.0 (C-2'), 126.3 (C-5'), 124.5 (*d*, *J* = 9.2 Hz, C-4a), 122.1 (*d*, *J* = 29.3 Hz, C-7), 121.5 (*d*, *J* = 11.1 Hz, C-8), 120.3 (C-6'), 118.9 (C-3), 109.9 (*d*, *J* = 23.5 Hz, C-5), 100.0 (isoxazole-CH), 58.8 (O-CH<sub>2</sub>), 20.1 (Ar-CH<sub>3</sub>), 16.4 (Ar-CH<sub>3</sub>); ESI-MS (*m/z*): 394.1 (M<sup>+</sup>).

[3-(3,5-Dimethylphenyl)isoxazol-5-yl]methyl 6-fluoro-4-oxo-4H-chromene-2-carboxylate (**C11**). Pale yellow solid; m.p.: 176–178 °C; Anal. Calcd. for C<sub>20</sub>H<sub>16</sub>FNO<sub>5</sub>: C, 67.17; H, 4.10; N, 3.56 %. Found: C, 67.11; H, 4.02; N, 3.50 %; IR (KBr, cm<sup>-1</sup>): 3088 (C-H, Ar), 1737 (C=O, ester), 1655 (C=O, chromene), 1605 (C=N), 1230, 1132 (C-O-C); <sup>1</sup>H-NMR (400 MHz, CDCl<sub>3</sub>,  $\delta$  / ppm): 7.80–7.86 (1H, *m*, Ar-H), 7.60–7.66 (1H, *m*, Ar-H), 7.44–7.49 (1H, *m*, Ar-H), 7.35 (2H, *s*, Ar-H), 7.14 (1H, *s*, chromene-CH), 7.09 (1H, *s*, Ar-H), 6.81 (1H, *s*, isoxazole-CH), 5.62 (2H, *s*, O-CH<sub>2</sub>), 2.41 (6H, *s*, 2×Ar-CH<sub>3</sub>); <sup>13</sup>C-NMR (100 MHz, CDCl<sub>3</sub>,  $\delta$  / ppm): 178.8 (C-4), 166.3 (C=N), 162.5 (isoxazole-C-O), 161.4 (CO<sub>2</sub>CH<sub>2</sub>), 160.0 (*d*, *J* = 245.7 Hz, C-6), 153.1 (C-2), 146.1 (C-8a), 139.2 (C-3' & C-5'), 133.2 (C-1'), 131.0 (C-4'), 127.8 (C-2' & C-6'), 124.6 (*d*, *J* = 9.2 Hz, C-4a), 122.1 (*d*, *J* = 27.9 Hz, C-7), 121.5 (*d*, *J* = 10.8 Hz, C-8), 119.0 (C-3), 109.9 (*d*, *J* = 23.9 Hz, C-5), 100.1 (isoxazole-CH), 58.8 (O-CH<sub>2</sub>), 21.3 (Ar-CH<sub>3</sub>); ESI-MS (*m/z*): 394.1 (M<sup>+</sup>).

[3-(Naphthalen-1-yl)isoxazol-5-yl]methyl 6-fluoro-4-oxo-4H-chromene-2-carboxylate (**C12**). Pale red solid; m.p.: 190–192 °C; Anal. Calcd. for C<sub>24</sub>H<sub>14</sub>FNO<sub>5</sub>: C, 69.40; H, 3.40; N, 3.37 %. Found: C, 69.35; H, 3.42; N, 3.31 %; IR (KBr, cm<sup>-1</sup>): 3069 (C-H, Ar), 1733 (C=O, ester), 1655 (C=O, chromene), 1605 (C=N), 1227, 1132 (C-O-C); <sup>1</sup>H-NMR (400 MHz, CDCl<sub>3</sub>,  $\delta$  / ppm): 7.85–

–7.97 (1H, *m*, Ar-H), 7.70–7.78 (1H, *m*, Ar-H), 7.50–7.65 (3H, *m*, Ar-H), 7.32–7.42 (3H, *m*, Ar-H), 7.12–7.30 (3H, *m*, Ar-H), 6.80 (1H, *s*, isoxazole-CH), 5.62 (2H, *s*, O–CH<sub>2</sub>); <sup>13</sup>C-NMR (100 MHz, CDCl<sub>3</sub>, δ / ppm): 178.7 (C-4), 164.5 (C=N), 162.0 (isoxazole-C–O), 161.1 (CO<sub>2</sub>CH<sub>2</sub>), 159.9 (*d*, *J* = 245.6 Hz, C-6), 153.2 (C-2), 146.2 (C-8a), 140.8 (C-1'), 134.2 (C-4a'), 133.4 (C-8a'), 128.8–128.7 (C-4' & C-5'), 127.7 (C-8'), 126.8 (C-6'), 126.6 (C-7'), 125.3 (C-3'), 124.6 (*d*, *J* = 9.2 Hz, C-4a), 122.8 (C-2'), 122.1 (*d*, *J* = 28.9 Hz, C-7), 121.6 (*d*, *J* = 11.0 Hz, C-8), 118.8 (C-3), 109.9 (*d*, *J* = 23.8 Hz, C-5), 99.9 (isoxazole-CH), 58.8 (O–CH<sub>2</sub>); ESI-MS (*m/z*): 416.1 (M<sup>+</sup>).