**One-pot three-component reaction of arylglyoxals with acetylthiourea and Meldrum's acid or barbituric acid for synthesis of new 2-acetamido-4-arylthiazol-5-yl derivatives**

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**SUPPORTING INFORMATION**

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***Spectral data of new products***

***4.2.1.*** *Ethyl 2-(2-acetamido-4-(4-chlorophenyl)thiazol-5-yl)acetate* ***(4a)***

Yellow oil; IR ʋ/cm−1 (KBr): 3447, 2918, 1733, 1548. 1H NMR (500 MHz, CDCl3): δ = 1.30 (t, *J* = 7.0 Hz, 3H, CH3), 1.68 (s, 3H, CH3), 3.81 (s, 2H, CH2), 4.24 (q, *J* = 7.0 Hz, 2H, CH2), 7.42 (d, *J* = 8.5 Hz, 2H, Ar), 7.53 (d, *J* = 8.5 Hz, 2H, Ar), 11.19 (bs, 1H, NH) ppm. 13C NMR (125 MHz, CDCl3): δ = 14.2, 22.3, 32.5, 61.6, 118.9, 129.0, 130.0, 132.7, 134.4, 145.7, 157.9, 168.2, 170.1 ppm. Anal. Calcd for C15H15ClN2O3S (338.81): C, 53.18; H, 4.46; N, 8.27. Found: C, 53.31; H, 4.49; N, 8.25.

***4.2.2.*** *Ethyl 2-(2-acetamido-4-(4-bromophenyl)thiazol-5-yl)acetate* ***(4b)***

Yellow oil; IR ʋ/cm−1 (KBr): 3315, 2979, 1734, 1545. 1H NMR (500 MHz, CDCl3): δ = 1.28 (t, *J* = 7.0 Hz, 3H, CH3), 1.60 (s, 3H, CH3), 3.81 (s, 2H, CH2), 4.22 (q, *J* = 7.0 Hz, 2H, CH2), 7.47 (d, *J* = 8.5 Hz, 2H, Ar), 7.58 (d, *J* = 8.5 Hz, 2H, Ar), 11.52 (bs, 1H, NH) ppm. 13C NMR (125 MHz, CDCl3): δ = 14.2, 22.2, 32.5, 61.7, 118.9, 122.6, 130.3, 132.0, 133.1, 145.7, 158.2, 168.3, 170.1 ppm. Anal. Calcd for C15H15BrN2O3S (383.26): C, 47.01; H, 3.95; N, 7.31. Found: C, 47.06; H, 3.97; N, 7.26.

***4.2.3.*** *Ethyl 2-(2-acetamido-4-(4-methoxyphenyl)thiazol-5-yl)acetate* ***(4c)***

Yellow oil; IR ʋ/cm−1 (KBr): 3255, 2954, 1734, 1511. 1H NMR (500 MHz, CDCl3): δ = 1.29 (t, *J* = 7.0 Hz, 3H, CH3), 1.67 (s, 3H, CH3), 3.81 (s, 2H, CH2), 3.85 (s, 3H, OCH3), 4.22 (q, *J* = 7.0 Hz, 2H, CH2), 6.96 (d, *J* = 8.5 Hz, 2H, Ar), 7.51 (d, *J* = 8.5 Hz, 2H, Ar), 11.49 (bs, 1H, NH) ppm. 13C NMR (125 MHz, CDCl3): δ = 14.2, 22.2, 32.6, 55.3, 61.5, 114.1, 117.3, 130.0, 130.7, 138.5, 146.6, 159.6, 168.4, 170.4 ppm. C16H18N2O4S (334.39): C, 57.47; H, 5.43; N, 8.38. Found: C, 57.36; H, 5.42; N, 8.35.

***4.2.4.*** *Ethyl 2-(2-acetamido-4-(p-tolyl)thiazol-5-yl)acetate* ***(4d)***

Yellow oil; IR ʋ/cm−1 (KBr): 3266, 2921, 1736, 1546. 1H NMR (500 MHz, CDCl3): δ = 1.29 (t, *J* = 7.0 Hz, 3H, CH3), 1.58 (s, 3H, CH3), 2.40 (s, 3H, CH3), 3.83 (s, 2H, CH2), 4.22 (q, *J* = 7.0 Hz, 2H, CH2), 7.24 (d, *J* = 8.0 Hz, 2H, Ar), 7.46 (d, *J* = 8.0 Hz, 2H, Ar), 11.49 (bs, 1H, NH) ppm. 13C NMR (125 MHz, CDCl3): δ = 14.2, 21.2, 22.1, 32.6, 61.5, 117.8, 128.7, 129.4, 131.4, 138.2, 146.9, 157.9, 168.4, 170.4 ppm. C16H18N2O3S (318.39): C, 60.36; H, 5.70; N, 8.80. Found: C, 60.44; H, 5.73; N, 8.78.

***4.2.5.*** *Ethyl 2-(2-acetamido-4-phenylthiazol-5-yl)acetate* ***(4e)***

Yellow oil; IR ʋ/cm−1 (KBr): 3162, 2973, 1735, 1546. 1H NMR (500 MHz, CDCl3): δ = 1.29 (t, *J* = 7.0 Hz, 3H, CH3), 1.52 (s, 3H, CH3), 3.84 (s, 2H, CH2), 4.22 (q, *J* = 7.0 Hz, 2H, CH2), 7.39 (t, *J* = 7.0 Hz, 1H, Ar), 7.44 (d, *J* = 7.0 Hz, 2H, Ar), 7.58 (d, *J* = 7.0 Hz, 2H, Ar), 11.68 (bs, 1H, NH) ppm. 13C NMR (125 MHz, CDCl3): δ = 14.2, 21.9, 32.5, 61.5, 118.3, 128.4, 128.8, 129.5, 134.2, 146.8, 158.3, 168.5, 170.3 ppm. C15H16N2O3S (304.36): C, 59.19; H, 5.30; N, 9.20. Found: C, 59.14; H, 5.29; N, 9.17.

***4.2.6.*** *Ethyl 2-(2-acetamido-4-(4-fluorophenyl)thiazol-5-yl)acetate* ***(4f)***

Yellow oil; IR ʋ/cm−1 (KBr): 3263, 2919, 1734, 1546. 1H NMR (500 MHz, CDCl3): δ = 1.29 (t, *J* = 7.0 Hz, 3H, CH3), 1.93 (s, 3H, CH3), 3.79 (s, 2H, CH2), 4.22 (q, *J* = 7.0 Hz, 2H, CH2), 7.13 (d, *J* = 8.5 Hz, 2H, Ar), 7.55 (d, *J* = 8.5 Hz, 2H, Ar), 10.32 (bs, 1H, NH) ppm. 13C NMR (125 MHz, CDCl3): δ = 14.1, 22.6, 39.4, 61.6, 115.6, 122.7, 127.2, 130.5, 142.7, 145.6, 150.7, 167.8, 176.5 ppm. C15H15FN2O3S (322.35): C, 55.89; H, 4.69; N, 8.69. Found: C, 55.97; H, 4.70; N, 8.65.

***4.3.1.*** *N-(4-(4-chlorophenyl)-5-(2,2-diethoxy-6-hydroxy-4-oxo-1,2,3,4-tetrahydropyrimidin-5-yl)thiazol-2-yl)acetamide* ***(6a)***

White solid; Mp: >320 °C. IR ʋ/cm−1 (KBr): 3411, 3151, 2979, 1687, 1578. 1H NMR (500 MHz, CDCl3): δ = 1.13 (t, *J* = 7.5 Hz,6H, CH3), 2.12 (s, 3H, CH3), 3.04 (q, *J* = 7.5 Hz, 2H, CH2), 3.06 (q, *J* = 7.5 Hz, 2H, CH2), 7.35 (d, *J* = 8.5 Hz, 2H, Ar-), 7.67 (d, *J* = 8.5 Hz, 2H, Ar), 8.90 (bs, 1H, OH), 10.01 (bs, 2H, NH), 11.96 (bs, 1H, NH) ppm. 13C NMR (125 MHz, CDCl3): δ = 9.1, 22.9, 46.2, 80.3, 128.3, 129.2, 131.4, 135.7, 143.9, 151.4, 156.2, 161.3, 163.2, 168.5, 168.6 ppm. C19H21ClN4O5S (452.91): C, 50.39; H, 4.67; N, 12.37. Found: C, 50.48; H, 4.70; N, 12.35.

***4.3.2.*** *N-(5-(2,2-diethoxy-6-hydroxy-4-oxo-1,2,3,4-tetrahydropyrimidin-5-yl)-4-(p-tolyl)thiazol-2-yl)acetamide* ***(6b)***

White solid; Mp: >320 °C. IR ʋ/cm−1 (KBr): 3396, 3167, 2979, 1673, 1571. 1H NMR (500 MHz, CDCl3): δ = 1.12 (t, *J* = 6.5 Hz, 6H, CH3), 2.09 (s, 3H, CH3), 2.24 (s, 3H, CH3), 3.03 (q, *J* = 6.5 Hz, 4H, CH2), 7.04 (d, *J* = 7.5 Hz, 2H, Ar), 7.62 (d, *J* = 7.5 Hz, 2H, Ar), 8.92 (bs, 1H, OH), 9.14 (bs, 2H, NH), 11.75 (bs, 1H, NH) ppm. 13C NMR (125 MHz, CDCl3): δ = 9.1, 21.2, 22.9, 46.2, 78.3, 116.6, 124.0, 127.6, 128.5, 134.7, 135.3, 152.4, 154.9, 164.0, 168.0, 168.1 ppm. C20H24N4O5S (432.50): C, 55.54; H, 5.59; N, 12.95. Found: C, 55.48; H, 5.62; N, 12.89.

***4.3.3.*** *N-(4-(4-bromophenyl)-5-(2,2-diethoxy-6-hydroxy-4-oxo-1,2,3,4-tetrahydropyrimidin-5-yl)thiazol-2-yl)acetamide* ***(6c)***

White solid; Mp: >320 °C. IR ʋ/cm−1 (KBr): 3384, 3149, 2980, 1680, 1578. 1H NMR (500 MHz, CDCl3): δ = 1.11 (t, *J* = 7.0 Hz, 6H, CH3), 2.09 (s, 3H, CH3), 3.03 (q, *J* = 7.0 Hz, 4H, CH2), 7.43 (d, *J* = 8.5 Hz, 2H, Ar), 7.66 (d, *J* = 8.5 Hz, 2H, Ar), 8.92 (bs, 1H, OH), 9.33 (bs, 2H, NH), 11.82 (bs, 1H, NH) ppm. 13C NMR (125 MHz, CDCl3): δ = 9.0, 22.9, 46.1, 78.7, 119.3, 125.4, 129.5, 130.8, 136.8, 137.4, 142.2, 152.3, 155.1, 163.8, 168.2 ppm. C19H21BrN4O5S (497.36): C, 45.88; H, 4.26; N, 11.26. Found: C, 45.97; H, 4.29; N, 11.18.

***4.3.4.*** *N-(5-(2,2-diethoxy-6-hydroxy-4-oxo-1,2,3,4-tetrahydropyrimidin-5-yl)-4-(4-methoxyphenyl)thiazol-2-yl)acetamide* ***(6d)***

White solid; Mp: >320 °C. IR ʋ/cm−1 (KBr): 3381, 3154, 3978, 1685, 1576. 1H NMR (500 MHz, CDCl3): δ = 1.11 (t, *J* = 10.0 Hz, 6H, CH3), 2.10 (s, 3H, CH3), 3.01 (q, *J* = 7.0 Hz, 4H, CH2), 3.72 (s, 3H, OCH3), 6.83 (d, *J* = 8.5 Hz, 2H, Ar), 7.69 (d, *J* = 8.5 Hz, 2H, Ar), 8.95 (bs, 1H, OH), 9.24 (bs, 2H, NH), 11.75 (bs, 1H, NH) ppm. 13C NMR (125 MHz, CDCl3): δ = 9.1, 22.9, 46.2, 55.4, 78.4, 113.4, 122.9, 128.8, 130.1, 143.7, 152.4, 154.9, 157.3, 158.1, 164.2, 168.1 ppm. C20H24N4O6S (448.49): C, 53.56; H, 5.39; N, 12.49. Found: C, 53.55; H, 5.41; N, 12.45.

***4.3.5.*** *N-(5-(2,2-diethoxy-6-hydroxy-4-oxo-1,2,3,4-tetrahydropyrimidin-5-yl)-4-(4-fluorophenyl)thiazol-2-yl)acetamide* ***(6e)***

White solid; Mp: >320 °C. IR ʋ/cm−1 (KBr): 3409, 3129, 2981, 1686, 1576. 1H NMR (500 MHz, CDCl3): δ = 1.12 (t, *J* = 7.5 Hz, 6H, CH3), 2.10 (s, 3H, CH3), 3.02 (q, *J* = 7.5 Hz, 4H, CH2), 7.08 (d, *J* = 9.0 Hz, 2H, Ar), 7.76 (d, *J* = 9.0 Hz, 2H, Ar), 8.92 (bs, 1H, OH), 9.26 (bs, 2H, NH), 11.78 (bs, 1H, NH) ppm. 13C NMR (125 MHz, CDCl3): δ = 9.1, 22.9, 46.2, 78.3, 110.0, 114.7, 124.4, 129.4, 129.4, 134.0, 142.6, 152.4, 155.0, 164.0, 168.2 ppm. C19H21FN4O5S (436.46): C, 52.29; H, 4.85; N, 12.84. Found: C, 52.33; H, 4.87; N, 12.80.