

SUPPLEMENTARY MATERIAL TO
**Hindered phenolic aminothiazoles – Synthesis, α -glucosidase, α -amylase inhibitory and
antioxidant activities**

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ANALYTICAL AND SPECTRAL DATA OF THE SYNTHESISED COMPOUNDS

*4-Amino-5-(3,5-di-*t*-butyl-4-hydroxybenzoyl)-2-phenylaminothiazole (5a).* Method A: Yield 360 mg (85 %); Method B: Yield 390 mg (93 %); yellow crystals; m.p.: 135-136 °C; Anal. Calcd. for C₂₄H₂₉N₃O₂S: C, 68.05; H, 6.90; N, 9.02 %; Found: C, 68.21; H, 6.65; N, 9.19 %; IR spectrum ($\nu_{\max}$, cm⁻¹): 683; 759; 1109; 1238; 1308; 1532; 1700 (C=O); 2958 (C-H); 3433 (N-H); 3617 (N-H); 3739 (O-H); ¹H NMR spectrum (500 MHz, CDCl₃, δ / ppm) : 1.47 (18H, s, Me); 5.71 (1H, s, ArOH); 7.15-7.22 (2H, *m*, ArH); 7.30-7.48 (3H, *m*, ArH); 7.93 (1H, s, NH); ¹³C NMR spectrum (125 MHz, CDCl₃, δ / ppm): 30.1; 34.3; 120.0; 124.8; 125.0; 126.1; 128.8; 128.9; 129.5; 132.5; 135.76; 135.9; 138.6; 156.4; 158.4; 163.9; 185.5; 197.7; MS (*m/z*): 425.16.

*4-Amino-5-(3,5-di-*t*-butyl-4-hydroxybenzoyl)-2-(4-methoxyphenylamino)thiazole (5b).* Method A: Yield 281 mg (62 %); Method B: Yield 326 mg (72 %); orange crystals; m.p.: 130-132 °C; Anal. Calcd. for C₂₅H₃₁N₃O₃S: C, 66.20; H, 6.89; N, 9.26 %; Found: C, 66.32; H, 7.04; N, 9.18 %; IR spectrum, ($\nu_{\max}$ cm⁻¹): 763; 832; 1026; 1110; 1242; 1304; 1463; 1743 (C=O); 2924 (C-H); 3432 (N-H); 3615 (N-H); 3738 (O-H); ¹H NMR spectrum (500 MHz, CDCl₃, δ / ppm): 1.45 (18H, s, Me); 3.83 (3H, s, OMe); 5.73 (1H, s, ArOH); 6.89 (2H, *d*, *J* = 7.5 Hz, ArH); 7.28 (2H, *d*, *J* = 7.5 Hz, ArH); 7.60 (1H, s, NH); 7.96 (2H, s, ArH); ¹³C NMR spectrum (125 MHz, CDCl₃, δ / ppm): 30.1; 34.3; 55.6; 99.9; 106.7; 114.8; 125.9; 120.5; 123.6; 124.9; 127.7; 135.7; 135.8; 156.5; 157.9; 158.7; 171.2; 185.4; MS (*m/z*): 453.74.

*4-Amino-5-(3,5-di-*t*-butyl-4-hydroxybenzoyl)-2-(4-chlorophenylamino)thiazole (5c).* Method A: Yield 288 mg (59 %); Method B: Yield 366 mg (80 %); yellowish orange crystals; m.p.: 131-133 °C. Anal. Calcd for C₂₄H₂₈ClN₃O₃S: C, 62.94; H, 6.16; N, 9.17 %; Found: C, 62.71; H, 5.92; N, 9.03 %; IR spectrum ($\nu_{\max}$ cm⁻¹): 825; 1019; 1099; 1211; 1488; 1542; 1741 (C=O); 2925 (C-H); 3345 (N-H); 3611 (N-H); ¹H NMR spectrum (500 MHz, CDCl₃, δ / ppm): 1.47 (18H, s, Me); 5.53 (1H, s, ArOH); 7.30 (2H, *d*, *J* = 9 Hz, ArH); 7.36 (2H, *d*, *J* = 9 Hz, ArH);

7.65 (2H, s, ArH); 8.2 (1H, s, NH); ¹³C NMR spectrum (125 MHz, CDCl₃, δ / ppm): 30.2; 34.5; 94.3; 120.9; 125.0; 129.5; 129.6; 128.8; 132.4; 135.6; 137.3; 156.5; 158.4; 164.0; 167.9; 185.6; MS (*m/z*): 457.5.

4-Amino-5-(3,5-di-*t*-butyl-4-hydroxybenzoyl)-2-(4-methylphenylamino)thiazole (**5d**).

Method A: Yield 232 mg (53 %); Method B: Yield 263 mg (60 %); yellow crystals; m.p.: 123-125 °C; Anal. Calcd. For C₂₅H₃₁N₃O₂S: C, 68.62; H, 7.14; N, 9.60 %; Found: C, 68.70; H, 6.99; N, 9.46 %; IR spectrum (*v*_{max} cm⁻¹): 616; 774; 814; 888; 930; 1117; 1159; 1202; 1237; 1363; 1433; 1514; 1562; 1745 (C=O); 2871; 2959 (C-H); 3288 (N-H); 3619 (N-H); ¹H NMR spectrum (500 MHz, CDCl₃ + DMSO-*d*₆, δ / ppm): 1.48 (18H, s, Me); 2.40 (3H, s, Me); 5.91 (1H, s, ArOH); 6.65 (2H, *d*, *J* = 8.5 Hz, ArH); 6.94 (2H, *d*, *J* = 8 Hz, ArH); 7.74 (2H, s, ArH); 8.04 (1H, *broad s*, NH).

4-Amino-5-(3,5-di-*t*-butyl-4-hydroxybenzoyl)-2-(4-ethoxyphenylamino)thiazole (**5e**).

Method A: Yield 248 mg (53 %); Method B: Yield 304 mg (65 %); yellow crystals; m.p.: 123-125 °C. Anal. Calcd. for C₂₆H₃₃N₃O₃S: C, 66.78; H, 7.11; N, 8.99 %; Found: C, 66.63; H, 6.89; N, 8.91 %; IR spectrum (*v*_{max} cm⁻¹): 768; 830; 892; 1064; 1111; 1168; 1239; 1305; 1514; 1730 (C=O); 2959 (C-H); 3282 (N-H); 3619 (N-H); ¹H NMR (500 MHz, CDCl₃, δ / ppm): 1.32-1.42 (21H, *m*, Me of *t*-Bu and Et); 4.03 (2H, *q*, *J* = 7 Hz, OCH₂); 5.49 (1H, *broad s*, ArOH); 6.88-6.90 (2H, *m*, ArH); 7.26-7.28 (2H, *m*, ArH); 7.63 (2H, s, ArH); 8.11 (1H, s, NH); ¹³C NMR (125 MHz, CDCl₃, δ / ppm): 14.7; 30.2; 34.5; 63.8; 115.3; 123.5; 124.9; 131.2; 132.6; 135.5; 156.2; 156.9; 164.3; 170.6; 185.3. MS (*m/z*) 469.00.