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SUPPLEMENTARY MATERIAL TO

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

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ANALYTICAL AND SPECTRAL DATA FOR THE SYNTHESISED COMPOUNDS

*[4-Amino-2-(phenylamino)-5-thiazolyl](3,5-di-*t*-butyl-4-hydroxyphenyl)-methanone (**5a**)*. Method A, yield: 360 mg (85 %); method B, yield 390 mg (93 %). yellow crystals; m.p.: 135–136 °C; Anal. calcd. for $C_{24}H_{29}N_3O_2S$: C, 68.05; H, 6.90; N, 9.02 %. Found: C, 68.21; H, 6.65; N, 9.19 %; IR (KBr, cm^{-1}): 3739*m*, 3617*m*, 3433*m*, 2958*m*, 1700*s*, 1532*s*, 1428s, 1308*m*, 1238*s*, 1109*m*, 759*w*, 683*w*; ^{1}H-NMR (400 MHz, $CDCl_3$, δ / ppm): 8.78 (1H, *s*, NH), 7.66 (2H, *s*, Ar-H), 7.36 (4H, *d*, *J* = 5.6 Hz, Ar-H), 7.13–7.16 (1H, *m*, Ar-H), 5.51 (1H, *s*, Ar-OH), 1.43 (18H, *s*, CH_3); ^{13}C-NMR (100 MHz, $CDCl_3$, δ / ppm): 185.5, 168.9, 164.1, 156.4, 138.7, 135.9, 135.6, 132.5, 129.6, 125.0, 124.9, 120.1, 94.2, 34.5, 30.2; (+)ESI-HRMS (*m/z)*: Calcd. for $[C_{24}H_{29}N_3O_2S + H]^+$: 424.20587. Found: 424.20619.

*{4-Amino-2-[(4-methoxyphenyl)amino]-5-thiazolyl}(3,5-di-*t*-butyl-4-hydroxyphenyl)methanone* (***5b***). Method A, yield: 281 mg (62 %); method B, yield 326 mg (72 %); orange crystals; m.p.: 130–132 °C; Anal. calcd. for $C_{25}H_{31}N_3O_3S$: C, 66.20; H, 6.89; N, 9.26 %. Found: C, 66.32; H, 7.04; N, 9.18 %; IR (KBr, cm^{-1}): 3738*m*, 3615*m*, 3432*w*, 2924*m*, 1743*m*, 1520*s*, 1463*s*, 1304*m*, 1242*s*, 1110*m*, 1026*m*, 832*w*, 763*w*; ^{1}H-NMR (400 MHz, $CDCl_3$, δ / ppm): 7.62 (2H, *s*, Ar-H), 7.30 (2H, *d*, *J* = 8.8 Hz, Ar-H), 6.89 (2H, *d*, *J* = 8.8 Hz, Ar-H), 5.49 (1H, *s*, Ar-OH), 3.81 (3H, *s*, OCH_3), 1.45 (18H, *s*, CH_3); ^{13}C-NMR (100 MHz, $CDCl_3$, δ / ppm): 185.3, 170.6, 164.4, 157.5, 156.3, 135.5, 132.6, 131.5, 124.9, 123.4, 114.8, 94.1, 55.6, 34.5, 30.2; FABMS (thioglycerol matrix) (*m/z)*: Calcd. for $[C_{25}H_{31}N_3O_3S]^+$: 453.20. Found: 453.74.

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{4-Amino-2-[(4-chlorophenyl)amino]-5-thiazolyl}(3,5-di-t-*butyl-4-hydroxyphenyl)methanone (**5c**)*. Method A, yield: 288 mg (59 %); method B, yield: 366 mg (80 %); yellowish orange crystals; m.p.: 131–133 °C; Anal. calcd. for $C_{24}H_{28}ClN_3O_2S$: C, 62.94; H, 6.16; N, 9.17 %. Found: C, 62.71; H, 5.92; N, 9.03 %; IR (KBr, cm^{-1}): 3611*w*, 3345*w*, 2925*m*, 1741*m*, 1542*s*, 1488*s*, 1211*s*, 1099*m*, 1019*m*, 825*w*; ^{1}H-NMR (400 MHz, $CDCl_3$, δ / ppm): 8.72 (1H, *s*, NH), 7.65 (2H, *s*, Ar-H), 7.35 (2H, *d*, *J* = 8.8 Hz, Ar-H), 7.27 (2H, *d*, *J* = 4.8 Hz, Ar-H), 5.52 (1H, *s*, Ar-OH), 1.42 (18H, *s*, CH_3); ^{13}C-NMR (100 MHz, $CDCl_3$, δ / ppm): 185.6, 168.2, 164.2, 156.5, 137.4, 135.7, 132.4, 129.5, 129.4, 125.0, 121.0, 94.3, 34.5, 30.2; FABMS (thioglycerol matrix) (*m*/*z*): Calcd. for $[C_{24}H_{28}ClN_3O_2S]^+$: 457.16. Found: 457.16.

{4-Amino-2-[(4-methylphenyl)amino]-5-thiazolyl}(3,5-di-t-*butyl-4-hydroxyphenyl)methanone (**5d**)*. Method A, yield: 232 mg (53 %); method B, yield: 263 mg (60 %); yellow crystals: m.p.: 123–125 °C; Anal. calcd. for $C_{25}H_{31}N_3O_2S$: C, 68.62; H, 7.14; N, 9.60 %. Found: C, 68.70; H, 6.99; N, 9.46 %; IR (KBr, cm^{-1}): 3619*m*, 3288*m*, 2959*s*, 2871*s*, 1745*m*, 1562*s*, 1514*s*, 1433*s*, 1363*s*, 1237*s*, 1202*s*, 1159*s*, 1117*s*, 930*w*, 888*m*, 814*m*, 774*m*, 616*w*; ^{1}H-NMR (400 MHz, $CDCl_3$, δ / ppm): 7.66 (2H, *s*, Ar-H), 7.25 (2H, *d*, *J* = 8.8 Hz, Ar-H), 7.17 (2H, *d*, *J* = 8.4 Hz, Ar-H), 5.50 (1H, *s*, Ar-OH), 2.34 (3H, *s*, CH_3), 1.45 (18H, *s*, CH_3); ^{13}C--NMR (100 MHz, $CDCl_3$, δ / ppm): 185.4, 169.3, 164.1, 156.4, 135.9, 135.6, 135.0, 132.6, 130.1, 124.9, 120.5, 94.2, 34.5, 30.2, 20.9; (+)ESI-HRMS (*m*/*z*): Calcd. for $[C_{25}H_{31}N_3O_2S + H]^+$: 438.22152. Found: 438.22227.

{4-Amino-2-[(4-ethoxyphenyl)amino]-5-thiazolyl}(3,5-di-t-*butyl-4-hydroxyphenyl)methanone (**5e**)*. Method A, yield: 248 mg (53 %); method B, yield: 304 mg (65 %); yellow crystals; m.p.: 123–125°C; Anal. calcd. for $C_{26}H_{33}N_3O_3S$: C, 66.78; H, 7.11; N, 8.99 %. Found: C, 66.63; H, 6.89; N, 8.91 %; IR (KBr, cm^{-1}): 3619*m*, 3282*w*, 2959*m*, 1730*m*, 1514*s*, 1305*m*, 1239*s*, 1168*m*, 1111*m*, 1064*m*, 892*w*, 830*w*, 768*w*; ^{1}H-NMR (500 MHz, $CDCl_3$, δ / ppm): 8.11 (1H, *s*, NH), 7.63 (2H, *s*, Ar-H), 7.28–7.26 (2H, *m*, Ar-H), 6.90–6.88 (2H, *m*, Ar-H), 5.49 (1H, *s*, Ar-OH), 4.03 (2H, *q*, *J* = 7.0 Hz, OCH_2), 1.66 (18H, *s*, CH_3), 1.42 (3H, *t*, J_1 = = 8.0 Hz, J_2 = 7.0 Hz, CH_3); ^{13}C-NMR (125 MHz, $CDCl_3$, δ / ppm): 185.3, 170.7, 164.4, 156.9, 156.3, 135.5, 132.6, 131.2, 124.9, 123.5, 115.3, 63.8, 34.5, 30.2, 14.8; FABMS (thioglycerol matrix) (*m*/*z*): Calcd. for $[C_{26}H_{33}N_3O_3S + H]^+$: 468.23. Found: 469.00.

^{13}C- AND ^{1}H-NMR SPECTRA OF COMPOUNDS **5a–e**

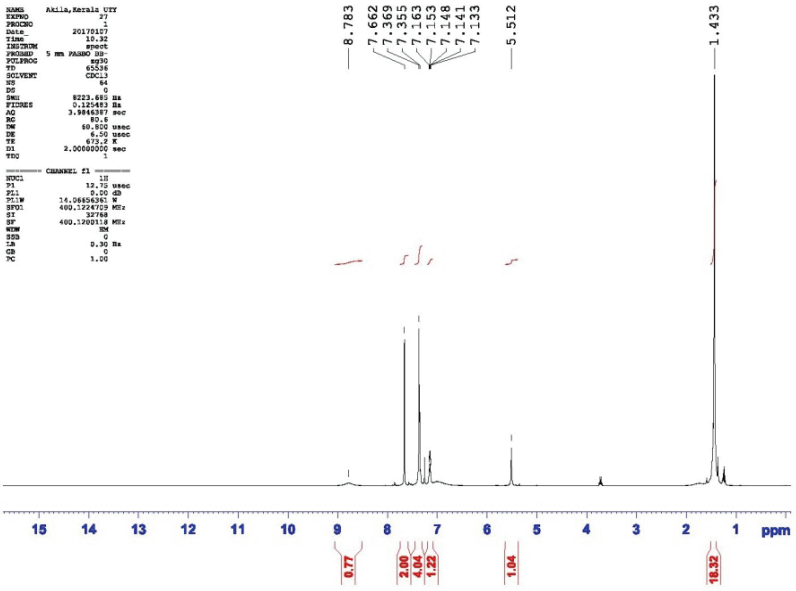

Fig. S-1. ^{1}H-NMR spectrum (400 MHz, $CDCl_3$) of **5a**.

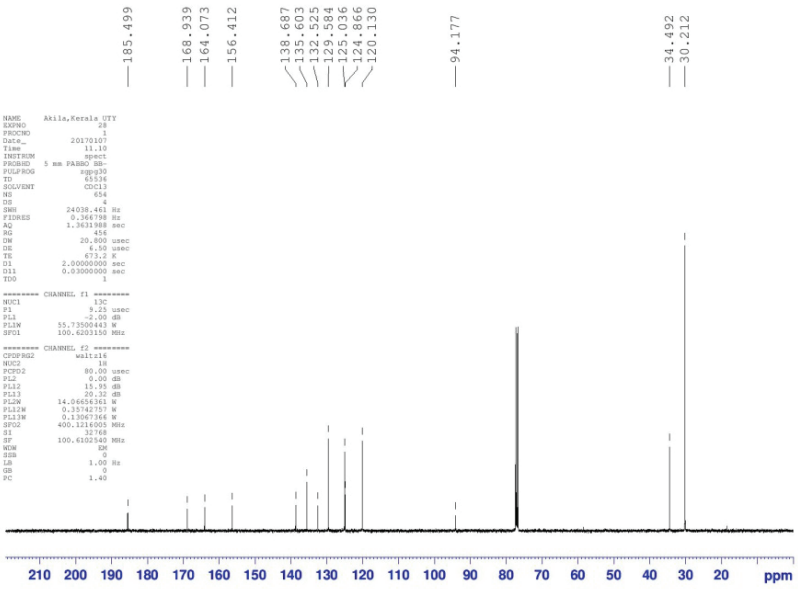

Fig. S-2. ^{13}C-NMR spectrum (100 MHz, $CDCl_3$) of **5a**.

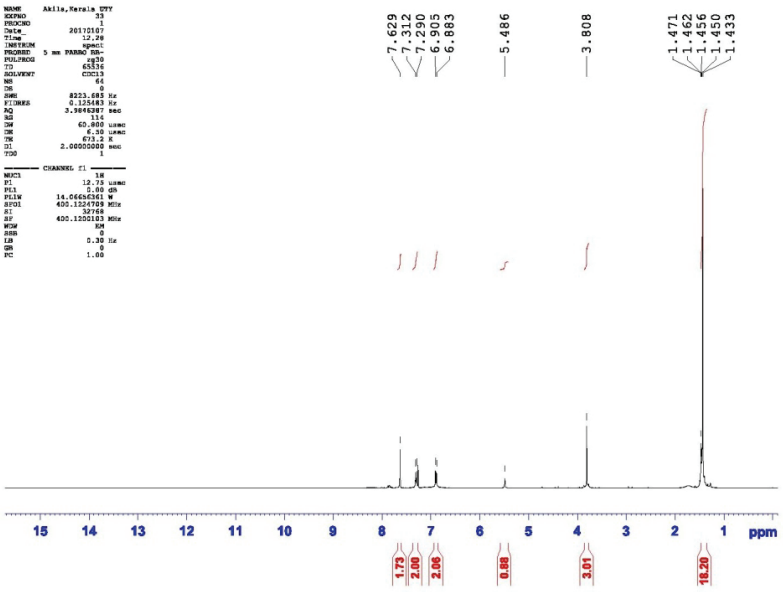

Fig. S-3. ^{1}H-NMR spectrum (400 MHz, $CDCl_3$) of **5b**.

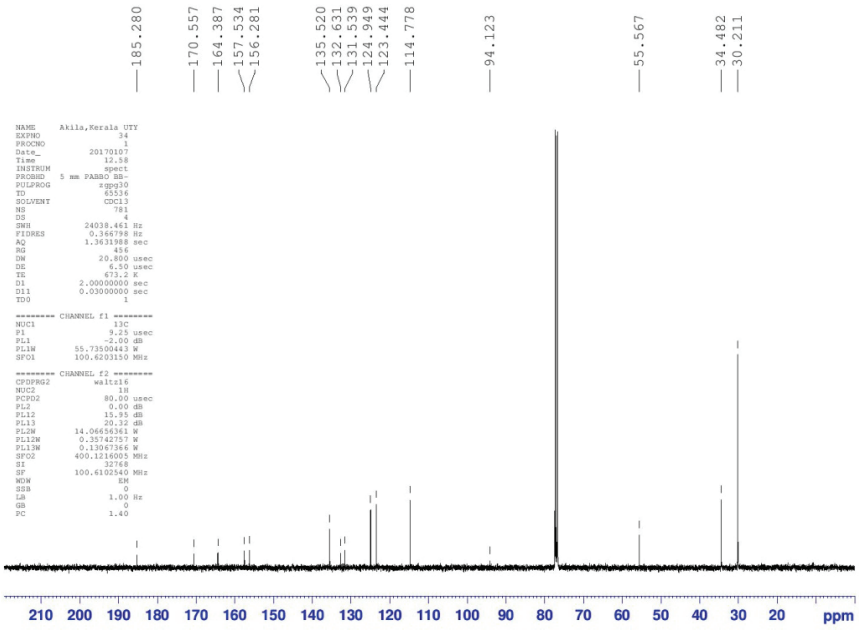

Fig. S-4. ^{13}C-NMR spectrum (100 MHz, $CDCl_3$) of **5b**.

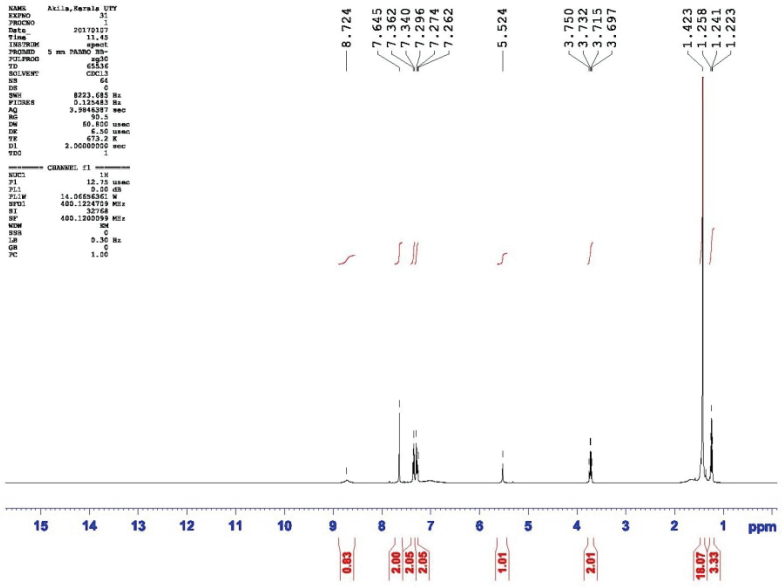

Fig. S-5. ^{1}H-NMR spectrum (400 MHz, $CDCl_3$) of **5c**.

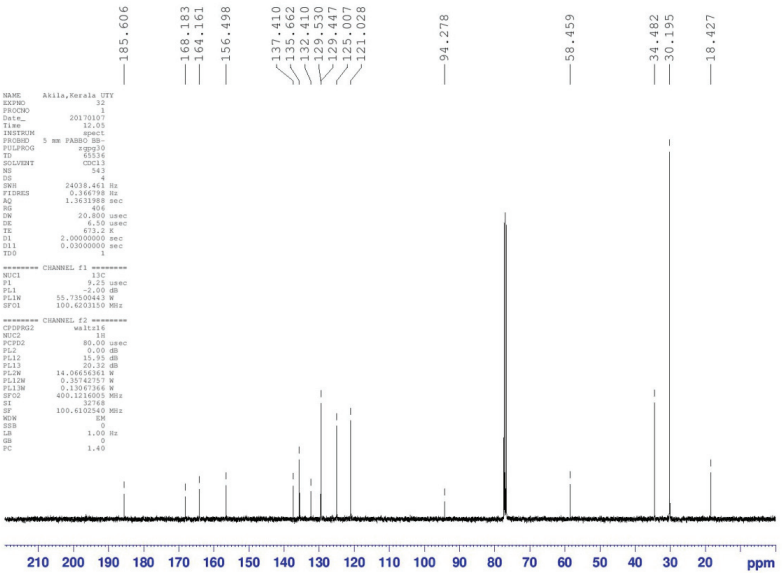

Fig. S-6. ^{13}C-NMR spectrum (100 MHz, $CDCl_3$) of **5c**.

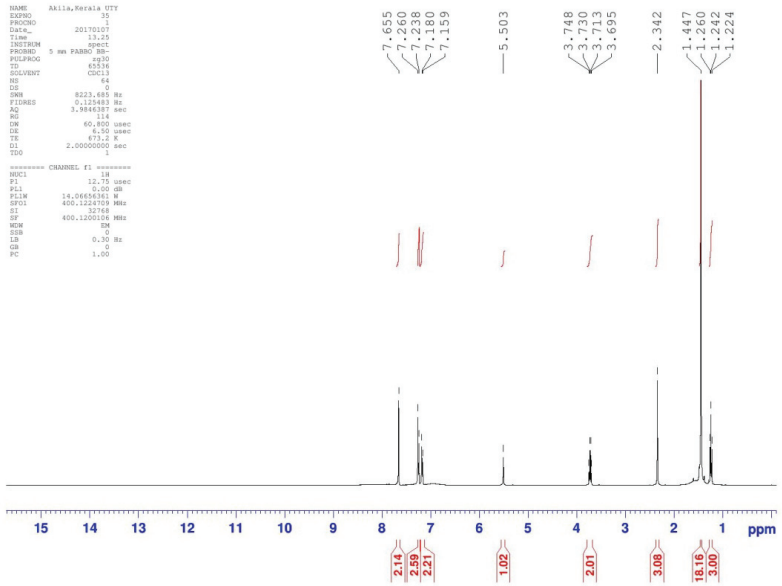

Fig. S-7. ^{1}H-NMR spectrum (400 MHz, $CDCl_3$) of **5d**.

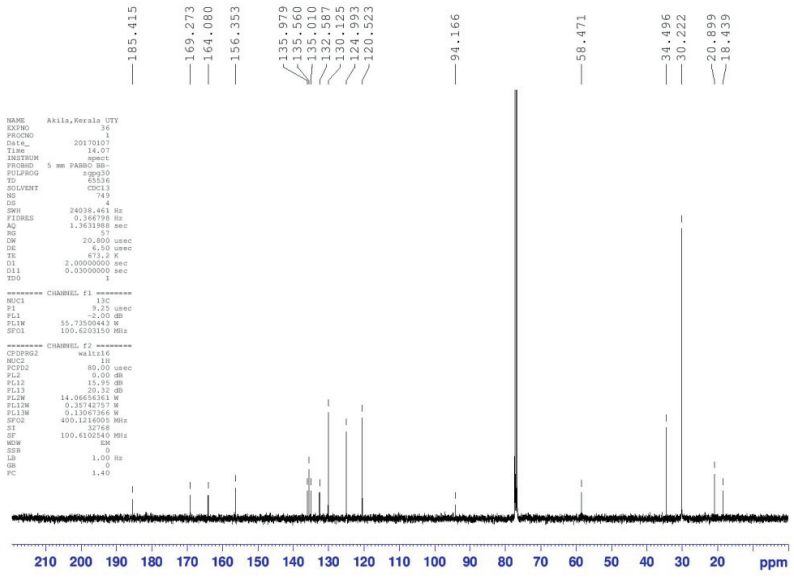

Fig. S-8. ^{13}C-NMR spectrum (100 MHz, $CDCl_3$) of **5d**.

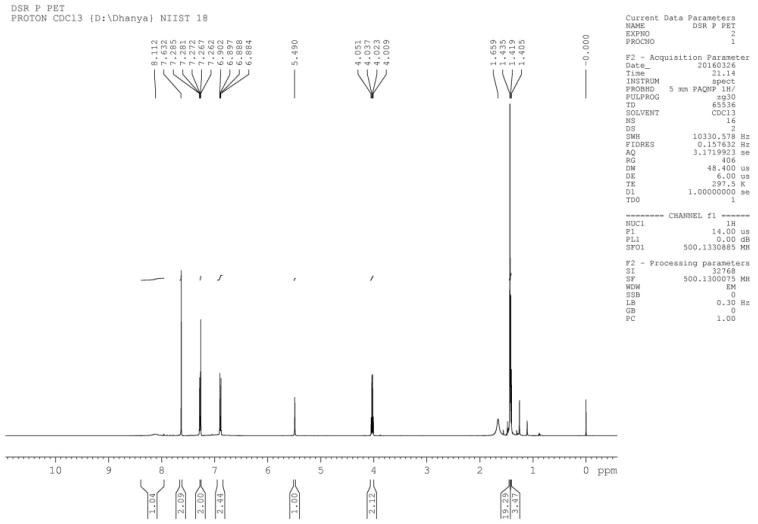

Fig. S-9. ^{1}H-NMR spectrum (500 MHz, $CDCl_3$) of **5e**.

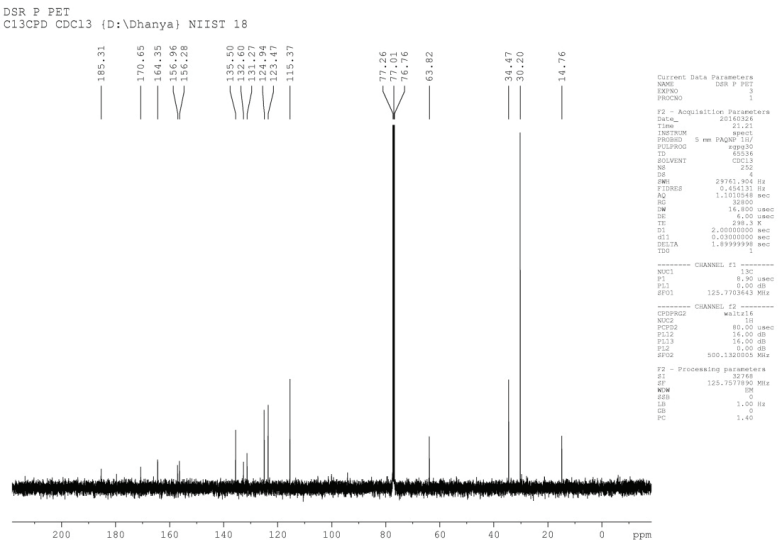

Fig. S-10. ^{13}C-NMR spectrum (125 MHz, $CDCl_3$) of **5e**.