



SUPPLEMENTARY MATERIAL TO

A microwave approach to the synthesis of certain 4-(substituted phenyl)-6-phenyl-3-cyano-2-pyridones

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MELTING POINTS AND SPECTRAL DATA OF THE SYNTHESIZED PYRIDONES

3-Cyano-4,6-diphenyl-2-pyridone (**1**). M.p. 312–314 °C (Lit. 312–314 °C¹); FTIR (KBr, cm^{−1}): 2200 (CN), 1640 (C=O); ¹H-NMR (200 MHz, DMSO-*d*₆, δ / ppm): 6.84 (1H, s, C₅-H), 7.49–7.62 (6H, *m*, Ar-H), 7.71–7.80 (2H, *m*, Ar-H), 7.88–7.93 (2H, *m*, Ar-H), 12.84 (1H, s, NH); UV–Vis (EtOH) (λ_{max} / nm): 363.

3-Cyano-4-(4-methylphenyl)-6-phenyl-2-pyridone (**2**). M.p. 302–304 °C (Lit. 302–304 °C¹); FTIR (KBr, cm^{−1}): 2217 (CN), 1642 (C=O); ¹H-NMR (200 MHz, DMSO-*d*₆, δ / ppm): 2.39 (3H, s, CH₃), 6.78 (1H, s, C₅-H), 7.37 (2H, *d*, *J* = 8.0 Hz, Ar-H), 7.50–7.56 (3H, *m*, Ar-H), 7.65 (2H, *d*, *J* = 8.0 Hz, Ar-H), 7.87–7.92 (2H, *m*, Ar-H), 12.82 (1H, s, NH); UV–Vis (EtOH) (λ_{max} / nm): 366.

3-Cyano-4-(4-methoxyphenyl)-6-phenyl-2-pyridone (**3**). M.p. 305–306 °C (Lit. 305–306 °C¹); FTIR (KBr, cm^{−1}): 2222 (CN), 1651 (C=O); ¹H-NMR (200 MHz, DMSO-*d*₆, δ / ppm): 3.85 (3H, s, OCH₃), 6.80 (1H, s, C₅-H), 7.13 (2H, *d*, *J* = 8.6 Hz, Ar-H), 7.45–7.56 (3H, *m*, Ar-H), 7.75 (2H, *d*, *J* = 8.8 Hz, Ar-H), 7.79–7.92 (2H, *m*, Ar-H), 12.73 (1H, s, NH); UV–Vis (EtOH) (λ_{max} / nm): 343.

4-(4-Chlorophenyl)-3-cyano-6-phenyl-2-pyridone (**4**). M.p. 308–310 °C (Lit. 308–310 °C¹); FTIR (KBr, cm^{−1}): 2218 (CN), 1643 (C=O); ¹H-NMR (200 MHz, DMSO-*d*₆, δ / ppm): 6.85 (1H, s, C₅-H), 7.49–7.62 (3H, *m*, Ar-H), 7.64 (2H, *d*, *J* = 9.0 Hz, Ar-H), 7.77 (2H, *d*, *J* = 8.8 Hz, Ar-H), 7.82–7.93 (2H, *m*, Ar-H), 12.90 (1H, s, NH); UV–Vis (EtOH) (λ_{max} / nm): 367.

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3-Cyano-4-(4-nitrophenyl)-6-phenyl-2-pyridone (5). M.p. >330 °C (Lit. >330 °C²); FTIR (KBr, cm⁻¹): 2195 (CN), 1547 (C=O); ¹H-NMR (200 MHz, DMSO-*d*₆, δ / ppm): 6.95 (1H, s, C₅-H), 7.40–7.48 (3H, *m*, Ar-H), 7.89 (2H, *d*, *J* = 8.8 Hz, Ar-H), 8.03–8.08 (2H, *m*, Ar-H), 8.35 (2H, *d*, *J* = 8.8 Hz, Ar-H), 13.02 (1H, s, NH); UV–Vis (EtOH) (λ_{max} / nm): 377.

4-(4-Bromophenyl)-3-cyano-6-phenyl-2-pyridone (6). M.p. 327–328 °C (Lit. 327–328 °C²); FTIR (KBr, cm⁻¹): 2218 (CN), 1644 (C=O); ¹H-NMR (200 MHz, DMSO-*d*₆, δ / ppm): 6.85 (1H, s, C₅-H), 7.49–7.57 (3H, *m*, Ar-H), 7.70 (2H, *d*, *J* = 9.0 Hz, Ar-H), 7.79 (2H, *d*, *J* = 8.8 Hz, Ar-H), 7.88–7.93 (2H, *m*, Ar-H), 12.88 (1H, s, NH); UV–Vis (EtOH) (λ_{max} / nm): 368.

3-Cyano-4-(3-nitrophenyl)-6-phenyl-2-pyridone (7).³ M.p. >330 °C; FTIR (KBr, cm⁻¹): 2221 (CN), 1652 (C=O); ¹H-NMR (200 MHz, DMSO-*d*₆, δ / ppm): 7.01 (1H, s, C₅-H), 7.50–7.63 (3H, *m*, Ar-H), 7.85–7.96 (3H, *m*, Ar-H), 8.21 (1H, *d*, *J* = 8.2 Hz, Ar-H), 8.42 (1H, *d*, *J* = 8.2 Hz, Ar-H), 8.58 (1H, s, Ar-H), 12.99 (1H, s, NH); UV–Vis (EtOH) (λ_{max} / nm): 371.

4-(3-Chlorophenyl)-3-cyano-6-phenyl-2-pyridone (8).³ M.p. 253–255 °C; FTIR (KBr, cm⁻¹): 2221 (CN), 1652 (C=O); ¹H-NMR (200 MHz, DMSO-*d*₆, δ / ppm): 6.89 (1H, s, C₅-H), 7.49–7.75 (6H, *m*, Ar-H), 7.84 (1H, s, Ar-H), 7.91–7.96 (2H, *m*, Ar-H), 12.93 (1H, s, NH), UV–Vis (EtOH) (λ_{max} / nm): 366.

3-Cyano-4-(2-Nitrophenyl)-6-phenyl-2-pyridone (9). M.p. 275–277 °C (Lit. 275–277 °C²); FTIR (KBr, cm⁻¹): 2217 (CN), 1649 (C=O); ¹H-NMR (200 MHz, DMSO-*d*₆, δ / ppm): 6.94 (1H, s, C₅-H), 7.49–7.58 (2H, *m*, Ar-H), 7.74 (1H, *d*, *J* = 8.2 Hz, Ar-H), 7.80–8.01 (5H, *m*, Ar-H), 8.32 (1H, *d*, *J* = 8.0 Hz, Ar-H), 13.01 (1H, s, NH); UV–Vis (EtOH) (λ_{max} / nm): 368.

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