**S1 Appendix. Synthetic procedures and compound characterization.**

**General method for the multicomponent synthesis of acridinones 1 to 15.**

A mixture of *α*-naphthylamine or 3,4-(methylenedioxo)aniline (1 mmol), 1,3-cyclohexanedione (1 mmol) and a corresponding aldehyde (1 mmol) in ethanol (5 mL) was refluxed for 18-24 hours. The reaction was allowed to cool to room temperature, and the precipitated product was collected by vacuum filtration and washed with cold ethanol (10 mL). The impurities were removed by boiling the precipitate in ethanol (2-3 mL) for 5 minutes, followed by cooling and vacuum filtration with cold ethanol and ethyl ether (10 mL each).

7-phenyl-9,10,11,12-tetrahydrobenzo[*c*]-acridin-8(7*H*)-one **1**: Aldehyde: benzaldehyde. Yield: 45%. 1H-NMR (400 MHz, DMSO-*d*6): 1.90 (m, 2H), 2.0 (m, 2H), 2.26 (m 1H), 2.72 (m, 1H), 2.92 (m, 1H), 5.25 (s, 1H), 7.06-7.32 (m, 5H), 7.46-7.58 (m, 2H), 7.82 (m, 1H), 8.48 (m, 1H), 9.34 (broad s, 1H). 13C-NMR: 21.5, 27.44, 37.25, 108.88, 121.39, 121.74, 122.62, 123.16, 126.20, 127.58, 128.62, 131.11, 132.77, 148.88, 152.22, 194.42. ESI-MS (M+H+): 326.1547, calculated: 326.1545.

7-(3-methoxyphenyl)-9,10,11,12-tetrahydrobenzo[*c*]-acridin-8(7*H*)-one **2**: Aldehyde: 3-methoxybenzaldehyde. Yield: 30%. 1H-NMR (400 MHz, DMSO-*d*6): 2.02 (m, 2H), 2.28 (m, 2H), 2.72 (m, 1H), 2.92 (m, 1H), 3.67 (s, 3H), 5.23 (s, 1H), 6.64 (m, 1H), 6.80 (m, 2H) 7.10 (m, 1H), 7.36 (m, 1H) 7.47-7.59 (m, 3H), 7.83 (m, 1H), 8.50 (m, 1H), 9.35 (s, 1H). 13C-NMR: 21.55, 27.43, 37.26, 55.26 108.75, 110.91, 112.78, 113.85, 121.28, 122.60, 123.13, 126.20, 128.33, 129.65, 131.07, 132.77, 150.36, 159.55, 194.45. ESI-MS (M+H+): 356.1644, calculated: 356.1651.

7-(4-methoxyphenyl)-9,10,11,12-tetrahydrobenzo[*c*]-acridin-8(7*H*)-one **3** Aldehyde:. Yield: 25% Melting point: 209 oC. 1H-NMR (400 MHz, DMSO-*d*6): 1.91 (m, 2H), 1.98 (m, 2H), 2.25 (m, 2H), 2.68 (m, 1H), 2.90 (m, 1H), 3.64 (s, 3H), 5.19 (s, 1H), 6.73 (m, 3H), 6.96 (m, 1H), 7.12 (m, 2H), 7.29 (m, 1H), 7.45-7.58 (m, 3H), 7.82 (m, 1H), 8.48 (m, 1H), 9.31 (broad s, 1H). 13C-NMR: 21.54, 27.43, 37.27, 55.37, 109.19, 113.95, 121.70, 122.62, 123.10, 126.10, 128.53, 131.02, 132.72, 141.31, 153.93, 157.81, 192.42. ESI-MS (M+H+): 356.1645, calculated: 356.1651.

7-(3-hydroxyphenyl)-9,10,11,12-tetrahydrobenzo[*c*]-acridin-8(7*H*)-one **4**: Aldehyde: 3-hydroxybenzaldehyde. Yield: 8% Melting Point: 300 oC (decomp.) 1H-NMR (400 MHz, DMSO-*d*6): 1.82-1.93 (m, 2H), 2.18 (m, 2H), 2.59 (m, 2H). 5.23 (s, 1H), 5.88 (m, 1H), 5.95 (m, 1H), 6.57 (m, 1H), 6.81 (m, 1H), 7.50 (m, 1H), 7.64 (m, 1H), 7.95 (m, 1H), 8.01 (m, 1H), 9.51 (broad s, 1H). 13C-NMR: 21.49, 27.41, 37.01, 97.28, 101.46, 106.22, 109.37, 117.30, 121.27, 121.83, 130.15, 130.85, 134.37, 143.74, 146.83, 148.15, 151.21, 154.28, 193.75. ESI-MS (M+H+): 342.1486, calculated: 342.1494.

7-(4-hydroxyphenyl)-9,10,11,12-tetrahydrobenzo[*c*]-acridin-8(7*H*)-one **5**: Aldehyde: 4-hydroxybenzaldehyde. Yield: 11%. Melting point: 249-253 oC. 1H-NMR (400 MHz, DMSO-*d*6): 1.92 (m, 2H), 2.27 (m, 2H), 2.71 (m, 1H), 2.91 (m, 1H), 5.15 (s, 1H), 6.59 (m, 2H), 7.01 (m, 2H), 7.31 (m, 1H), 7.49 (m, 3H), 7.83 (m, 1H), 8.48 (m, 2H), 9.11 (s, 1H), 9.29 (s, 1H). 13C-NMR: 21.59, 27.51, 37.37, 109.38, 115.26, 115.29, 115.31, 121.74, 122.03, 122.67, 123.08, 126.09, 126.16, 128.52, 128.69, 131.73, 132.03, 139.72, 153.88, 155.89, 194.47. ESI-MS (M+H+): 342.1481, calculated: 342.1484.

7-(benzo[*d*][1,3]dioxol-5-yl)-9,10,11,12-tetrahydrobenzo[*c*]-acridin-8(7*H*)-one **6**: Yield. 51%. Melting point: 154 oC (decomp.). 1H-NMR (400 MHz, DMSO-*d*6): 1.93 (m, 2H), 2.28 (m, 2H), 2.73 (m, 1H), 2.92 (m, 1H), 5.19 (s, 1H), 5.89 (m, 2H), 6.71 (m, 4H), 7.34 (m, 1H), 7.50 (m, 3H), 7.84 (m, 1H), 8.48 (m, 1H), 9.33 (s, 1H). 13C-NMR: 21.56, 27.46, 37.29, 101.07, 108.18, 108.32, 109.07, 119.89, 120.41, 121.50, 121.76, 122.65, 123.17, 126.18, 128.36, 128.68, 131.02, 132.79, 143.27, 145.70, 147.15, 147.52, 154.09, 194.47. ESI-MS (M+H+): 370.1439, calculated: 370.1443.

7-(3-nitrophenyl)-9,10,11,12-tetrahydrobenzo[*c*]-acridin-8(7*H*)-one **7** : Yield. 32%. Melting point: 153 oC (decomp.). 1H-NMR (400 MHz, DMSO-*d*6): 1.92 (m, 2H), 2.28 (m, 2H), 2.76 (m, 1H), 2.95 (m, 1H), 5.49 (s, 1H), 7.52 (m, 5H), 7.85 (m, 1H), 7.96 (m, 1H), 8.09 (m, 1H), 8.52 (m, 1H), 9.49 (s, 1H). 13C-NMR: 21.54, 27.46, 37.16, 107.60, 108.23, 120.12, 121.47, 121.87, 122.06, 122.67, 123.63, 126.44, 126.52, 128.21, 128.76, 131.32, 133.01, 134.63, 148.22, 150.87, 154.81, 194.51. ESI-MS (M+H+): 371.1383, calculated: 371.1396.

4-(8-oxo-7,8,9,10,11,12-hexahydrobenzo[c]acridin-7-yl)benzoic acid **8**: Yield. 13%. Melting point: 280 oC (decomp.). 1H-NMR (400 MHz, DMSO-d6): 1.89-2.00 (m, 2H), 2.27 (m, 2H), 2.75 (m, 1H), 2.92 (m, 1H), 5.35 (s, 1H), 7.37 (m, 3H), 7.50-7.60 (m, 3H), 7.78-7.75 (m, 3H), 8.50 (m, 1H), 9.40 (s, 1H), 12.74 (broad s, 1H). 13C-NMR: 21.49, 27.44, 37.20, 108.39, 120.58, 121.80, 122.65, 123.34, 126.30, 126.34, 127.84, 128.25, 128.70, 128.81, 129.87, 131.19, 132.89, 153.62, 154.50, 167.66, 194,41. ESI-MS (M+H+): 370.1446, calculated: 370.1443.

7-(2-thiophenyl)-9,10,11,12-tetrahydrobenzo[c]-acridin-8(7H)-one **9**: Yield. 32%. Melting point: 255 oC (decomp.). 1H-NMR (400 MHz, DMSO-d6): 2.02 (m, 2H), 2.23 (m, 2H), 2.72 (m, 1H), 2.90 (m, 1H), 5.55 (s, 1H), 6.73 (m, 2H), 6.81, (m, 2H), 7.17 (m, 1H), 7.41-7.55 (m, 5H), 7.87 (m, 1H), 8.50 (m, 1H), 9.50 (s, 1H). 13C-NMR: 21.51, 27.40, 35.43, 37.22, 108.63, 120.62, 121.77, 122.60, 123.09, 123.34, 124.19, 126.33, 127.02, 128.25, 128.73, 131.20, 132.96, 153.09, 154.24, 194.34. ESI-MS (M+H+): 332.1098, calculated: 332.1108.

7-(3,4,5-trimethoxyphenyl)-9,10,11,12-tetrahydrobenzo[*c*]-acridin-8(7*H*)-one **10**: Yield. 28%. Melting point: 280 oC. 1H-NMR (400 MHz, DMSO-*d*6): 1.96 (m, 2H), 2.31 (m, 2H), 2.75 (m, 1H), 2.97 (m, 1H), 3.57 (s, 3H), 3.70 (s, 6H), 5.22 (s, 1H), 6.57 (m, 2H), 7.50 (m, 5H), 7.83 (m, 1H), 8.47 (m, 1H), 9.35 (s, 1H). 13C-NMR: 21.74, 27.54, 37.41, 56.24, 60.32, 104.32, 108.55, 121.49, 121.78, 122.67, 123.11, 126.18, 128.33, 128.67, 130.91, 132.79, 136.29, 144.58, 153.10, 154.43, 194.55. ESI-MS (M+H+): 416.1870, calculated: 416.1862.

10-(3-methoxyphenyl)-6,7,8,10-tetrahydro-[1,3]dioxolo[4,5-*b*]acridin-9(5*H*)-one **11**: Yield. 52%. Melting point: 242 oC. 1H-NMR (400 MHz, DMSO-*d*6): 1.85 (m, 2H), 2.20 (m, 2H), 2.59 (m, 2H), 3.69 (s, 3H), 5.00 (s, 1H), 5.88 (s, 1H), 5.94 (m, 1H), 6.54 (m, 1H), 6.65 (m, 1H) 6.67 (m, 3H), 7.10 (m, 1H), 9.33 (s, 1H). 13C-NMR: 21.58, 27.48, 37.22, 39.94, 53.30, 97.70, 101.29, 106.87, 109.31, 110.82, 113.65, 118.64, 119.72, 129.56, 130.85, 143.44, 146.45, 150.76, 153.78, 159.57, 193.65. ESI-MS (M+H+): 350.1390, calculated: 350.1392.

10-(4-methoxyphenyl)-6,7,8,10-tetrahydro-[1,3]dioxolo[4,5-*b*]acridin-9(5*H*)-one **12**: Yield. 45%. Melting point: 242 oC (decomp.). 1H-NMR (400 MHz, DMSO-*d*6): 1.83 (m, 2H), 2.18 (m, 2H), 2.57 (m, 2H), 3.67 (s, 3H), 4.97 (s, 1H), 5.87 (m, 2H), 5.94 (m, 2H), 6.53 (m, 1H), 6.76 (m, 4H), 7.06 (m, 2H), 9.32 (s, 1H). 13C-NMR: 21.55, 27.46, 37.22, 39.05, 55.41, 97.02, 101.26, 107.27, 109.30, 119.12, 128.29, 130.80, 141.64, 143.40, 146.30, 153.52, 193.66. ESI-MS (M+H+): 350.1396, calculated: 350.1392.

10-(3-methoxy-4-hydroxyphenyl)-6,7,8,10-tetrahydro-[1,3]dioxolo[4,5-*b*]acridin-9(5*H*)-one **13**: Yield. 30%. Melting point: 293 oC (decomp.). 1H-NMR (400 MHz, DMSO-*d*6): 1.85 (m, 2H), 2.20 (m, 2H), 2.57 (m, 2H), 3.71 (s, 3H), 4.91 (s, 1H), 5.87 (m, 1H), 5.93 (m, 1H), 6.51 (m, 2H), 6.56 (m, 1H), 6.79 (m, 2H), 8.62 (s, 1H), 9.28 (s, 1H). 13C-NMR: 21.62, 27.49, 37.28, 39.29, 56.04, 96.96, 101.22, 107.20, 109.30, 111.86, 115.61, 119.36, 130.70, 140.59, 143.34, 144.93, 146.22, 147.49, 153.56, 193.75. ESI-MS (M+H+): 366.1340, calculated: 350.1341.

10-phenyl-6,7,8,10-tetrahydro-[1,3]dioxolo[4,5-*b*]acridin-9(5*H*)-one **14**: Yield. 84%. Melting point: 280 oC (decomp.). 1H-NMR (400 MHz, DMSO-*d*6): 1.85 (m, 2H), 2.19 (m, 2H), 2.59 (m, 2H), 5.04 (s, 1H), 5.87 (m, 1H), 5.94 (m, 1H), 6.55 (m, 1H), 6.75 (m, 1H), 7.07 (m, 1H), 7.18 (m, 4H), 9.36 (s, 1H). 13C-NMR: 21.54, 27.47, 37.19, 97.08, 101.30, 106.96, 109.32, 118.76, 126.06, 127.38, 128.56, 130.85, 143.45, 146.42, 149.25, 153.81, 193.67. ESI-MS (M+H+): 320.1280, calculated: 320.1287.

10-(4-nitrophenyl)-6,7,8,10-tetrahydro-[1,3]dioxolo[4,5-*b*]acridin-9(5*H*)-one **15**: Yield: 15% Melting Point: 250 oC (decomp.). 1H-NMR (400 MHz, DMSO-*d*6): 1.83 (m, 2H), 1.93 (m, 2H), 2.18 (m, 4H), 2.58 (m, 2H), 5.20 (s, 1H), 5.88 (s, 1H), 5.95 (s, 1H), 6.56 (m, 1H), 6.75 (m, 1H), 7.45 (m, 2H), 8.09 (m, 2H), 9.50 (s, 1H). 13C-NMR: 21.44, 27.43, 37.01, 97.32, 101.47, 106.02, 109.33, 117.04, 123.97, 128.62, 130.84, 143.69, 146.02, 146.86, 152.25, 156.49, 193.64. ESI-MS (M+H+): 365.1148, calculated: 365.1187.