< *Supporting Information* >

Facile synthesis of 2-(4-hydroxybiphenyl-3-yl)-1H-indoles from anilines and 5'-bromo-2'-hydroxyacetophenone

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Contents: Analytical data (¹H NMR, ¹³C NMR, and ESI-MS) of compounds **1-24**

General experimental procedure for the synthesis of imines (1-5)

To a solution of substituted aniline (10.7 mmol), 5'-bromo-2'-hydroxyacetophenone (2.30 g, 10.7 mmol) in toluene (10 mL) was added piperidine (1 mL) under N₂. The reaction mixture equipped with the Dean-Stark apparatus was allowed to stir at 130 °C for about 6 hours. The reaction mixture was cooled to room temperature and the excess solvent was removed under reduced pressure. The resulting residue was washed with a mixture of hexane and ethylacetate (25 mL × 2) to provide the corresponding imines in moderate yield.

(*E*)-4-Bromo-2-(1-(phenylimino)ethyl)phenol (1)

Yield: 55%, R_f: 0.6 (hexane/ethylacetate = 6/1), ¹H NMR (300 MHz, DMSO-d₆): δ 14.72 (s, 1H, NH), 7.90 (d, 1H, Ar-H, *J*=2.4 Hz), 7.55 (dd, 1H, Ar-H, *J* = 2.4 Hz & 8.7 Hz), 7.45 (t, 2H, Ar-H, *J* = 7.5 Hz), 7.24 (t, 1H, Ar-H, *J* = 7.2 Hz), 7.50-6.90 (m, 2H, Ar-H), 6.25 (d, 1H, Ar-H, *J* = 8.7 Hz), 2.34 (s, 3H, CH₃), ESI-MS: [M-H]⁻ calcd for C₁₄H₁₂BrNO:288.0, found: 288.0

(*E*)-4-Bromo-2-(1-(4-fluorophenylimino)ethyl)phenol (2)

Yield: 61%, R_f: 0.51 (hexane/ethylacetate = 9/1), ¹H NMR (300 MHz, CDCl₃): δ 14.61 (s, 1H, NH), 7.73 (d, 1H, Ar-H, *J* = 2.4 Hz), 7.45 (dd, 1H, Ar-H, *J* = 2.4 & 8.7 Hz), 7.16-7.06 (m, 2H, Ar-H), 6.95-6.85 (m, 3H, Ar-H), 2.34 (s, 3H, CH₃), ESI-MS: [M+H]⁺ calcd for C₁₄H₁₁BrFNO:308.0, found: 308.0

(*E*)-4-Bromo-2-(1-(4-chlorophenylimino)ethyl)phenol (3)

Yield: 87%, R_f: 0.38 (hexane/ethylacetate = 8/1), ¹H NMR (300 MHz, CDCl₃): δ 7.73 (d, 1H, Ar-H, *J* = 2.4 Hz), 7.47 (dd, 1H, Ar-H, *J* = 2.4 Hz & 9.0 Hz), 7.39 (d, 2H, Ar-H, *J* = 8.7 Hz), 6.93 (d, 1H, Ar-H, *J* = 2.4 Hz), 6.86 (d, 1H, Ar-H, *J* = 8.4 Hz), 2.34 (s, 3H, CH₃), ESI-MS: [M+H]⁺ calcd for C₁₄H₁₁BrClNO: 326.0, found: 325.9

(*E*)-4-((1-(5-Bromo-2-hydroxyphenyl)ethylidene)amino)benzonitrile (4)

Yield: 56%, R_f: 0.52 (hexane/ethylacetate = 9/1), ¹H NMR (300 MHz, CDCl₃): δ 13.70 (s, 1H, NH), 7.78-7.70 (m, 3H, Ar-H), 7.50 (dd, 1H, Ar-H, *J* = 2.4 & 8.7 Hz), 7.02 (d, 2H, Ar-H, *J* =

8.7 Hz), 6.95 (d, 2H, Ar-H, J = 9.0 Hz), 2.34 (s, 3H, CH_3), ESI-MS: $[\text{M}-\text{H}]^-$ calcd for $\text{C}_{15}\text{H}_{11}\text{BrN}_2\text{O}$: 315.0034, found : 314.9775

(E)-4-Bromo-2-(1-(4-(trifluoromethyl)phenylimino)ethyl)phenol (5)

Yield: 61%, R_f : 0.42 (hexane/ethylacetate = 9/1), ^1H NMR (300 MHz, CDCl_3): δ 14.02 (s, 1H, NH), 7.74 (d, 1H, Ar-H, J = 2.4 Hz), 7.67 (d, 2H, Ar-H, J = 8.1 Hz), 7.49-7.13(m, 1H, Ar-H), 7.00 (d, 2H, Ar-H, J = 8.1 Hz), 6.93 (dd, 1H, Ar-H, J = 2.1 & 8.7 Hz) 2.32 (s, 3H, CH_3), ESI-MS: $[\text{M}+\text{H}]^+$ calcd for $\text{C}_{15}\text{H}_{11}\text{BrF}_3\text{NO}$: 358.0, found: 357.9

General procedure for the synthesis of 2-(2'-hydroxyphenyl)-1H-indoles (6-10)

To a solution of imines (3.44 mmol) in DMSO (10 mL) was added $\text{Pd}(\text{OAc})_2$ (156 mg, 0.68 mmol) and Bu_4NBr (2.22 g, 6.88 mmol). The reaction mixture was allowed to stir at 110 °C for about 12 hours. Upon cooling to room temperature, the reaction mixture was diluted with water (50 mL) and ethyl acetate (50 mL). The combined organic layer was dried over MgSO_4 , filtered and concentrated under reduced pressure. The crude residue was purified silica gel chromatography to afford the corresponding indoles in moderate yield.

4-Bromo-2-(1H-indol-2-yl)phenol (6)

Yield: 15%, R_f : 0.28 (hexane/ethylacetate = 4/1), ^1H NMR (300 MHz, CDCl_3): δ 9.20 (s, 1H, NH), 7.78 (d, 1H, Ar-H, J = 2.4 Hz), 7.64 (d, 1H, Ar-H, J = 7.8 Hz), 7.41 (d, 1H, Ar-H, J = 8.1 Hz), 7.29-7.09 (m, 3H, Ar-H), 6.85 (d, 1H, Ar-H, J = 6.8 Hz), 6.79 (d, 1H, Ar-H, J = 1.5 Hz), 5.86 (s, 1H, OH), ESI-MS: $[\text{M}-\text{H}]^-$ calcd for $\text{C}_{14}\text{H}_9\text{BrClNO}$: 286.0, found: 286.0.

4-Bromo-2-(5-fluoro-1H-indol-2-yl)phenol (7)

Yield: 25%, R_f =0.32 (hexane/ethyl acetate= 3/2), ^1H NMR (300 MHz, $\text{DMSO}-d_6$): δ 11.36 (s, 1H, NH), 10.53 (s, 1H, OH), 7.92 (d, 1H, Ar-H, J=2.4Hz), 7.45 (dd, 1H, Ar-H, J=4.8 & 8.7 Hz), 7.33-7.25 (m, 2H, Ar-H), 7.07 (s, 1H, Ar-H), 6.98-6.85 (m, 2H, Ar-H), ESI-MS: $[\text{M}-\text{H}]^-$ calcd for $\text{C}_{14}\text{H}_9\text{BrFNO}$: 304.0, found =304.0

4-Bromo-2-(5-chloro-1H-indol-2-yl)phenol (8)

Yield: 16%, R_f : 0.17 (hexane/ethylacetate = 3/1), ^1H NMR (300 MHz, CDCl_3): δ 9.44 (s, 1H, NH), 7.85 (d, 1H, Ar-H, J = 2.4 Hz), 7.62 (d, 2H, Ar-H, J = 1.8 Hz), 7.38-7.29 (m, 2H, Ar-H), 7.17 (dd, 1H, Ar-H, J = 2.1 & 8.7 Hz), 6.82 (d, 2H, Ar-H, J = 8.7 Hz), 5.60 (s, 1H, OH), ESI-MS: $[\text{M}-\text{H}]^-$ calcd for $\text{C}_{14}\text{H}_9\text{BrClNO}$: 322.0, found: 321.8

2-(5-Bromo-2-hydroxyphenyl)-1H-indole-5-carbonitrile (9)

Yield: 33%, R_f : 0.23 (hexane/ethylacetate = 3/1), ^1H NMR (300 MHz, $\text{DMSO}-d_6$): δ 11.84 (s, 1H, NH), 10.65 (s, 1H, OH), 8.07 (s, 1H, Ar-H), 7.95 (d, 1H, Ar-H, J = 8.7 Hz), 7.59 (d, 1H, Ar-H, J = 8.7 Hz), 7.45-7.32 (m, 2H, Ar-H), 7.22 (s, 1H, Ar-H), 6.98 (d, 1H, Ar-H, J = 8.7 Hz), ESI-MS: $[\text{M}-\text{H}]^-$ calcd for $\text{C}_{15}\text{H}_9\text{BrN}_2\text{O}$: 312.9878, found: 312.9980

4-Bromo-2-(5-(trifluoromethyl)-1H-indol-2-yl)phenol (10)

Yield: 18%, R_f : 0.26 (hexane/ethylacetate = 3/1), ^1H NMR (300 MHz, CDCl_3): δ 9.69 (s, 1H, NH), 7.93 (s, 1H Ar-H), 7.87 (d, 1H, Ar-H, J = 2.4 Hz), 7.50-7.49 (m, 2H, Ar-H), 7.35-7.27 (m, 1H, Ar-H), 6.95 (s, 1H, Ar-H), 6.80 (d, 1H, Ar-H, J = 8.4 Hz), 5.84 (s, 1H, OH), ESI-MS: $[\text{M}-\text{H}]^-$ calcd for $\text{C}_{15}\text{H}_9\text{BrF}_3\text{NO}$: 354.0, found: 354.0.

General experimental procedure of the synthesis of 5-substituted-2-(4-hydroxybiphenyl-3-yl)-1H-indoles (11-21)

To a solution of indole compounds (0.17 mmol) in DMF (5 mL) was added appropriate boronic acid (0.17 mmol), cesium carbonate (110 mg, 0.34 mmol in 1 mL water) and $\text{Pd}(\text{PPh}_3)_4$ (10 mg, 0.009 mmol). The mixture was allowed to stir at 100°C for 4 hours under N_2 . Upon cooling to room temperature, the reaction mixture was diluted with water (30 mL) and ethyl acetate (15 mL). The solution pH was adjusted to 7 by using 1N HCl. The organic phase was dried over MgSO_4 , filtered, and concentrated under reduced pressure. The resulting residue was purified by silica gel chromatography to provide the corresponding 2-(4-hydroxybiphenyl-3-yl)-1H-indoles.

3-(1H-Indol-2-yl)-4'-methoxybiphenyl-4-ol (11)

Yield: 12%, R_f: 0.24 (hexane/ethylacetate = 3/2), ¹H NMR (300 MHz, CD₃OD): 7.78 (d, 1H, Ar-H, J = 2.1 Hz), 7.48-7.39 (m, 3H, Ar-H), 7.30 (dd, 1H, Ar-H, J = 8.1 & 0.9 Hz), 7.22 (dd, 1H, Ar-H, J = 2.4 & 8.4 Hz), 7.00-6.91 (m, 1H, Ar-H), 6.89-6.83 (m, 5H, Ar-H), 3.71 (s, 3H, OCH₃), ¹³C NMR(75 MHz, CD₃OD): δ 158.85, 153.07, 136.52, 135.74, 133.41, 132.78, 128.57, 127.17, 125.98, 125.28, 120.89, 119.48, 119.33, 118.81, 116.33, 113.77, 110.59, 99.68, 54.32 (OCH₃), ESI-MS:[M-H]⁻ calcd for C₂₁H₁₇NO₂ :314.1, found: 314.0

3-(5-Fluoro-1*H*-indol-2-yl)-4'-methoxybiphenyl-4-ol (12)

Yield: 24%, R_f: 0.39 (hexane/ethylacetate = 3/2), ¹H NMR (300 MHz, DMSO-d₆): δ 11.40 (s, 1H, NH), 7.98 (s, 1H, Ar-H), 7.64 (d, 2H, Ar-H, J = 8.4 Hz), 7.48-7.39 (m, 2H, Ar-H), 7.28 (d, 1H, Ar-H, J = 9.6 Hz), 7.12-6.87 (m, 4H, Ar-H), 6.77-6.62 (m, 1H, Ar-H), 3.80 (s, 3H, OCH₃), ¹³C NMR(75 MHz, CD₃OD): δ 159.33, 140.76, 133.55, 128.34, 127.56, 127.30, 127.17, 126.21, 126.12, 113.92, 113.83, 54.33(OCH₃), ESI-MS: [M-H]⁻ calcd for C₂₁H₁₆FNO₂:332.1, found: 332.0

4'-Chloro-3-(5-fluoro-1*H*-indol-2-yl) biphenyl]-4-ol (13)

Yield: 30%, R_f: 0.31 (hexane/ethylacetate = 3/2), ¹H NMR (300 MHz, DMSO-d₆): δ 11.41 (s, 1H, NH), 8.06 (s, 1H, Ar-H), 7.76 (d, 2H, Ar-H, J = 8.4 Hz), , 7.55-7.40 (m, 5H, Ar-H), 7.32-7.26 (m, 1H, Ar-H), 7.14-7.06 (m, 2H, Ar-H), 6.96-6.88 (m, 1H, Ar-H), ¹³C NMR (75 MHz, DMSO-d₆): δ 154.94, 137.25, 133.45, 131.90, 130.55, 129.18, 128.36, 127.16, 125.91, 117.57, 102.33, ESI-MS: [M-H]⁻ calcd for C₂₀H₁₃ClFNO:336.1, found: 336.1

3-(5-Chloro-1*H*-indol-2-yl)-4'-methoxybiphenyl-4-ol (14)

Yield: 20%, R_f: 0.18 (hexane/ethylacetate = 3/1), ¹H NMR (300 MHz, DMSO-d₆): δ 11.50 (s, 1H, NH), 7.99 (d, 1H, Ar-H, J = 2.1 Hz), 7.64 (d, 2H, Ar-H, J = 8.7 Hz), 7.57(d, 1H, Ar-H, J = 8.7 Hz), 7.58-7.39 (m, 2H, Ar-H), 7.10-6.99 (m, 5H, Ar-H), 3.58 (s, 3H, OCH₃), ¹³C NMR (75 MHz, DMSO-d₆): δ 158.79, 154.27, 137.31, 135.15, 132.87, 131.66, 130.03, 127.74, 126.92,

125.42, 123.93, 121.39, 119.25, 118.97, 117.44, 114.67, 113.13, 101.63, 55.62 (OCH₃), ESI-MS: [M-H]⁻ calcd for C₂₁H₁₆ClNO₂: 348.1, found: 347.9

3-(5-Chloro-1*H*-indol-2-yl)-3'-nitrobiphenyl-4-ol (15)

Yield: 20%, R_f: 0.17 (hexane/ethylacetate = 3/2), ¹H NMR (300 MHz, CD₃OD): δ 8.57 (t, 1H, Ar-H, J = 2.1 Hz), 8.19 (dd, 1H, Ar-H, J = 1.5 & 8.1 Hz), 8.11-8.06 (m, 3H, Ar-H), 7.69 (t, 1H, Ar-H, J = 8.1 Hz), 7.57-7.50 (m, 2H, Ar-H), 7.42 (d, 1H, Ar-H, J = 8.7 Hz), 7.01-7.11 (m, 3H, Ar-H), ¹³C NMR(75 MHz, CD₃OD): δ 155.04, 148.85, 142.52, 136.81, 134.95, 132.24, 130.25, 129.65, 126.84, 125.93, 124.46, 121.07, 120.86, 120.55, 119.47, 118.74, 116.83, 111.84, 100.10, ESI-MS: [M-H]⁻ calcd for C₂₀H₁₃ClN₂O₃: 362.8, found: 362.9

4'-Chloro-3-(5-chloro-1*H*-indol-2-yl)biphenyl-4-ol (16)

Yield: 24%, R_f: 0.17 (hexane/ethylacetate = 3/1), ¹H NMR (300 MHz, CDCl₃): δ 9.52 (s, 1H, NH), 7.91 (d, 1H, Ar-H, J = 2.1 Hz), 7.63 (d, 1H, Ar-H, J = 1.8 Hz), 7.54 (d, 2H, Ar-H, J = 8.7 Hz), 7.47-7.32 (m, 4H, Ar-H), 7.17 (dd, 1H, Ar-H, J = 1.8 & 8.7 Hz), 7.00 (d, 1H, Ar-H, J = 8.4 Hz), 6.90 (d, 1H, Ar-H, J = 1.2 Hz), ¹³C NMR(75 MHz, CD₃OD): δ 151.54, 138.73, 136.15, 134.74, 133.86, 133.25, 129.29, 129.00, 128.05, 127.64, 126.86, 125.77, 122.60, 119.75, 119.03, 117.24, 112.02, 99.86, ESI-MS: [M-H]⁻ calcd for C₂₀H₁₃Cl₂NO: 352.0, found: 351.9

3-(5-Chloro-1*H*-indol-2-yl)-4'-fluorobiphenyl-4-ol (17)

Yield: 24%, R_f: 0.19 (hexane/ethylacetate = 3/1), ¹H NMR (300 MHz, CDCl₃): δ 10.59 (s, 1H, NH), 8.96 (d, 1H, Ar-H, J = 3.0 Hz), 8.71-8.51 (m, 3H, Ar-H), 8.50-8.39 (m, 2H, Ar-H), 8.28-8.18 (m, 3H, Ar-H), 8.06 (d, 1H, Ar-H, J = 9.0 Hz), 7.96 (s, 1H), 6.68 (s, 1H, OH), ¹³C NMR(75 MHz, CDCl₃): δ 163.98, 160.72, 151.37, 136.36, 134.70, 134.07, 129.27, 128.43, 128.32, 127.65, 126.85, 125.70, 122.50, 119.71, 118.89, 117.18, 115.86, 115.57, 111.02, 99.68, ESI-MS: [M-H]⁻ calcd for C₂₀H₁₃ClFNO: 335.8, found: 335.9

3-(5-Chloro-1*H*-indol-2-yl)biphenyl-4-ol (18)

Yield: 18%, R_f : 0.26 (hexane/ethylacetate = 3/2), ^1H NMR (300 MHz, CD_3OD): δ 8.01 (d, 1H, Ar-H, J = 2.2 Hz), 7.66 (dd, 2H, Ar-H, J = 1.2 & 7.2 Hz), 7.51-7.34 (m, 1H, Ar-H), 7.48-7.39 (m, 4H, Ar-H), 7.27-7.35 (m, 1H, Ar-H), 7.08-6.70 (m, 3H, Ar-H), ^{13}C NMR (75 MHz, CD_3OD): δ 153.74, 140.75, 133.10, 128.37, 126.81, 126.29, 126.17, 125.85, 124.45, 120.91, 118.64, 116.44, 111.81, 99.47, ESI-MS: $[\text{M}-\text{H}]^-$ calcd for $\text{C}_{20}\text{H}_{14}\text{ClNO}$: 318.1, found: 318.0

2-(4'-Chloro-4-hydroxy-[1, 1'-biphenyl]-3-yl)-1*H*-indole-5-carbonitrile (19)

Yield: 12%, R_f : 0.2 (hexane/ethylacetate = 3/1), ^1H NMR (300 MHz, CD_3OD): δ 7.96 (d, 1H, Ar-H, J = 2.4 Hz), 7.93 (d, 1H, Ar-H, J = 0.9 Hz), 7.60 (d, 2H, Ar-H, J = 8.4 Hz), 7.54 (d, 1H, Ar-H, J = 8.4 Hz), 7.44-7.29 (m, 4H, Ar-H), 7.11 (s, 1H, Ar-H), 6.95 (d, 1H, Ar-H, J = 8.4 Hz), ^{13}C NMR (75 MHz, CD_3OD): δ 155.63, 140.58, 139.66, 139.58, 133.62, 132.95, 129.75, 128.51, 127.19, 126.37, 124.89, 121.90, 119.79, 117.86, 113.10, 102.64, 102.07, ESI-MS: $[\text{M}-\text{H}]^-$ calcd for $\text{C}_{21}\text{H}_{13}\text{ClN}_2\text{O}$: 343.0716, found: 343.0731

2-(4-Hydroxy-[1, 1'-biphenyl]-3-yl)-1*H*-indole-5-carbonitrile (20)

Yield: 12%, R_f : 0.2 (hexane/ethylacetate = 3/1), ^1H NMR (300 MHz, CD_3OD): δ 8.03 (d, 1H, Ar-H, J = 2.1 Hz), 7.99 (d, 1H, Ar-H, J = 0.6 Hz), 7.67 (d, 1H, Ar-H, J = 1.5 Hz), 7.65 (s, 1H, Ar-H), 7.60 (d, 1H, Ar-H, J = 8.4 Hz), 7.50-7.28 (m, 5H, Ar-H), 7.16 (s, 1H, Ar-H), 7.06 (d, 1H, Ar-H, J = 8.4 Hz), ^{13}C NMR (75 MHz, CD_3OD): δ 155.69, 142.28, 140.17, 140.02, 134.77, 130.11, 130.07, 129.03, 128.03, 127.84, 127.64, 126.70, 125.20, 122.30, 120, 118.18, 113.47, 102.97, 102.26, ESI-MS: $[\text{M}-\text{H}]^-$ calcd for $\text{C}_{21}\text{H}_{14}\text{N}_2\text{O}$: 309.1106, found: 309.1108

4'-Methoxy-3-(5-(trifluoromethyl)-1*H*-indol-2-yl)biphenyl-4-ol (21)

Yield: 12%, R_f : 0.29 (hexane/ethylacetate = 3/1), ^1H NMR (300 MHz, CD_3OD): 7.97 (d, 1H, Ar-H, J = 2.4 Hz), 7.88 (d, 1H, Ar-H, J = 0.9 Hz), 7.59 (d, 3H, Ar-H, J = 8.7 Hz), 7.40 (dd, 1H, Ar-H, J = 2.4 & 8.4 Hz), 7.36-7.30 (m, 1H, Ar-H), 7.14 (s, 1H, Ar-H), 7.05-6.87 (m, 3H, Ar-

H), 3.85 (s, 3H, OCH₃), ¹³C NMR(75 MHz, CD₃OD): δ 158.92, 153.33, 138.03, 137.88, 133.24, 132.87, 127.91, 127.54, 127.19, 126.68, 125.48, 121.29, 120.88, 118.62, 117.21, 117.16, 117.03, 116.97, 116.40, 113.80, 111.04, 100.56, 54.33(OCH₃), ESI-MS: [M-H]⁻ calcd for C₂₂H₁₆F₃NO₂:382.1, found: 382.1

General experimental procedure for the synthesis of 6-substituted-2-(4-hydroxybiphenyl-3-yl)-1*H*-indoles

The experimental procedures for 6-substituted-2-(4-hydroxybiphenyl-3-yl)-1*H*-indoles are the same as 5-substituted-2-(4-hydroxybiphenyl-3-yl)-1*H*-indoles

(*E*)-4-Bromo-2-(1-(3-fluorophenylimino)ethyl)phenol (22)

Yield: 63%, R_f: 0.46 (hexane/ethylacetate = 9/1), ¹H NMR (300 MHz, CDCl₃): δ 14.25 (s, 1H, NH), 7.73 (d, 1H, Ar-H, J = 2.4 Hz), 7.47 (dd, 1H, Ar-H, J = 2.4 & 9.0 Hz), 7.42-7.33 (m, 1H, Ar-H), 6.97-6.89 (m, 2H, Ar-H), 6.72-6.62 (m, 2H, Ar-H), 2.65 (s, 3H, CH₃), ESI-MS: [M-H]⁻ calcd for C₁₄H₁₁BrFNO:308.0, found: 308.0

4-Bromo-2-(6-fluoro-1*H*-indol-2-yl)phenol (23)

Yield: 9%, R_f: 0.29 (hexane/ethylacetate = 3/1), ¹H NMR (300 MHz, CDCl₃): δ 11.64 (s, 1H, NH), 7.96 (d, 1H, Ar-H, J = 2.4 Hz), 7.34-7.24 (m, 2H, Ar-H), 7.13-7.00 (m, 2H, Ar-H), 6.95 (d, 1H, Ar-H, J = 8.7 Hz), 6.80-6.70 (m, 1H, Ar-H), ESI-MS: [M-H]⁻ calcd for C₁₄H₉BrFNO:303.9, found: 303.9.

3-(6-Fluoro-1*H*-indol-2-yl)-4'-methoxybiphenyl-4-ol (24)

Yield: 6%, R_f: 0.32 (hexane/ethylacetate = 3/1), ¹H NMR (300 MHz, CDCl₃): δ 9.63 (s, 1H, NH), 7.93 (d, 1H, Ar-H, J = 1.8 Hz), 7.53 (d, 2H, Ar-H, J = 8.7 Hz) 7.41-7.34 (m, 1H, Ar-H), 7.06-7.23 (m, 2H, Ar-H), 7.02-6.92 (m, 4H, Ar-H), 6.84-6.75 (m, 1H, Ar-H), ¹³C NMR (75 MHz, CD₃OD): δ 129.74, 127.83, 127.35, 126.48, 117.10, 114.28, 55.39(OCH₃), ESI-MS: [M-H]⁻ calcd for C₂₁H₁₆FNO₂: 332.1, found: 332.0

< Supplementary material >

Facile synthesis of 2-(4-hydroxybiphenyl-3-yl)-1*H*-indoles from anilines and 5'-bromo-2'-hydroxyacetophenone

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Contents: Analytical data (¹H NMR, ¹³C NMR, and ESI-MS) of compounds **1-24**

Compound 1

(*E*)-4-bromo-2-(1-(phenylimino)ethyl)phenol
Chemical Formula: $C_{14}H_{12}BrNO$

1H NMR

Imine (Aniline)-DMSO

Current Data Parameters
NAME milan
EXPNO 72
PROCNO 1

F2 - Acquisition Parameters
Date_ 20140326
Time 13.47
INSTRUM spect
PROBHD 5 mm Dual 13C/
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 64
DS 2
SWH 6172.839 Hz
FIDRES 0.094190 Hz
AQ 5.3084660 sec
RG 574.7
DW 81.000 usec
DE 6.00 usec
TE 300.0 K
D1 1.00000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 1H
P1 10.00 usec
PL1 -6.00 dB
SFO1 300.1318534 MHz

F2 - Processing parameters
SI 32768
SF 300.1300000 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

Compound 2

(*E*)-4-bromo-2-(1-(4-fluorophenylimino)ethyl)phenol

Chemical Formula: $C_{14}H_{11}BrFNO$

¹H NMR

Compound 3

(*E*)-4-bromo-2-(1-(4-chlorophenylimino)ethyl)phenol
Chemical Formula: $C_{14}H_{11}BrClNO$

1H NMR

Compound 4

(*E*)-4-(1-(5-bromo-2-hydroxyphenyl)ethylideneamino)benzonitrile
Chemical Formula: $C_{15}H_{11}BrN_2O$

1H NMR

Compound 5

(*E*)-4-bromo-2-(1-(4-(trifluoromethyl)phenylimino)ethyl)phenol
Chemical Formula: $C_{15}H_{11}BrF_3NO$

1H NMR

Compound 6

4-bromo-2-(1H-indol-2-yl)phenol
Chemical Formula: C₁₄H₁₀BrNO

¹H NMR

Current Data Parameters
NAME milan
EXPNO 79
PROCNO 1

F2 - Acquisition Parameters
Date_ 20140404
Time 15.52
INSTRUM spect
PROBHD 5 mm Dual 13C/
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 128
DS 2
SWH 6172.839 Hz
FIDRES 0.094190 Hz
AQ 5.3084660 sec
RG 512
DW 81.000 usec
DE 6.00 usec
TE 300.0 K
D1 1.00000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 1H
P1 10.00 usec
PL1 -6.00 dB
SFO1 300.1318534 MHz

F2 - Processing parameters
SI 32768
SF 300.1300101 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

Compound 7

4-bromo-2-(5-fluoro-1H-indol-2-yl)phenol

Chemical Formula: C₁₄H₉BrFNO

¹H NMR

Compound 8

4-bromo-2-(5-chloro-1H-indol-2-yl)phenol
Chemical Formula: C₁₄H₉BrClNO

¹H NMR

Compound 9

2-(5-bromo-2-hydroxyphenyl)-1H-indole-5-carbonitrile

Chemical Formula: $C_{15}H_9BrN_2O$

1H NMR

Compound 10

4-bromo-2-(5-(trifluoromethyl)-1H-indol-2-yl)phenol
Chemical Formula: $C_{15}H_9BrF_3NO$

1H NMR

INDOLE

Current Data Parameters
NAME milan
EXNO 19
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131220
Time 15.23
INSTRUM spect
PROBHD 5 mm Dual 13C/
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 64
DS 2
SWH 6172.839 Hz
FIDRES 0.094190 Hz
AQ 5.3084660 sec
RG 1448.2
DW 81.000 usec
DE 6.00 usec
TE 300.0 K
D1 1.00000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 1H
P1 10.00 usec
PL1 -6.00 dB
SFO1 300.1318534 MHz

F2 - Processing parameters
SI 32768
SF 300.1300073 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

Compound 11

3-(1*H*-indol-2-yl)-4'-methoxybiphenyl-4-ol
Chemical Formula: C₂₁H₁₇NO₂

¹H NMR

¹³C NMR

OCH3 (Aniline)-MeOD C13 NMR

Current Data Parameters
NAME milan
EXPNO 90
PROCNO 1

F2 - Acquisition Parameters
Date_ 20140419
Time 23.37
INSTRUM spect
PROBHD 5 mm Dual 13C/
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 25000
DS 4
SWH 17985.611 Hz
FIDRES 0.274439 Hz
AQ 1.8219508 sec
RG 2048
DW 27.800 usec
DE 6.00 usec
TE 300.0 K
D1 2.00000000 sec
d11 0.03000000 sec
DELTA 1.89999998 sec
TD0 1

===== CHANNEL f1 =====
NUC1 13C
P1 7.60 usec
PL1 -3.80 dB
SFO1 75.4752953 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 100.00 usec
PL2 -6.00 dB
PL12 14.00 dB
PL13 17.00 dB
SFO2 300.1312005 MHz

F2 - Processing parameters
SI 32768
SF 75.4677490 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

Compound 12

3-(5-fluoro-1H-indol-2-yl)-4'-methoxybiphenyl-4-ol
Chemical Formula: $C_{21}H_{16}FO_2$

1H NMR

biphenyl indole OCH3 (Fluoro)

Current Data Parameters
NAME milan
EXPNO 5
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131024
Time 16.14
INSTRUM spect
PROBHD 5 mm Dual 13C/
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 128
DS 2
SWH 6172.839 Hz
FIDRES 0.094190 Hz
AQ 5.3084660 sec
RG 4
DW 81.000 usec
DE 6.00 usec
TE 300.0 K
D1 1.00000000 sec
TD0 1

----- CHANNEL f1 -----
NUC1 1H
P1 10.00 usec
PL1 -6.00 dB
SFO1 300.1318534 MHz

F2 - Processing parameters
S1 32768
SF 300.1300000 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

¹³C NMR

OCH3 F Carbon MeOD

Current Data Parameters
NAME milan
EXPNO 112
PROCNO 1

F2 - Acquisition Parameters
Date_ 20140523
Time 20.25
INSTRUM spect
PROBHD 5 mm Dual 13C/
PULPROG zgpg30
TD 65536
SOLVENT CDC13
NS 19840
DS 4
SWH 17985.611 Hz
FIDRES 0.274439 Hz
AQ 1.8219508 sec
RG 2896.3
DW 27.800 usec
DE 6.00 usec
TE 300.0 K
D1 2.00000000 sec
d11 0.03000000 sec
DELTA 1.89999998 sec
TD0 1

CHANNEL f1
NUC1 13C
P1 7.60 usec
PL1 -3.80 dB
SFO1 75.4752953 MHz

CHANNEL f2
CPDPRG2 waltz16
NUC2 1H
PCPD2 100.00 usec
PL2 -6.00 dB
PL12 14.00 dB
PL13 17.00 dB
SFO2 300.1312005 MHz

F2 - Processing parameters
SI 32768
SF 75.4677490 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

Compound 13

4'-chloro-3-(5-fluoro-1H-indol-2-yl)biphenyl-4-ol
Chemical Formula: C₂₀H₁₃ClFNO

¹H NMR

biphenyl indole Cl (fluoro)

Current Data Parameters
NAME milan
EXPNO 6
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131024
Time 16.41
INSTRUM spect
PROBHD 5 mm Dual 13C/
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 128
DS 2
SWH 6172.839 Hz
FIDRES 0.094190 Hz
AQ 5.3084660 sec
RG 4
DW 81.000 usec
DE 6.00 usec
TE 300.0 K
D1 1.00000000 sec
TD0 1

CHANNEL f1
NUC1 1H
P1 10.00 usec
PL1 -6.00 dB
SFO1 300.1318534 MHz

F2 - Processing parameters
SI 32768
SF 300.1300000 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

¹³C NMR

F (CL) Carbon DMSO

Current Data Parameters
NAME milan
EXPNO 107
PROCNO 1

F2 - Acquisition Parameters
Date_ 20140518
Time 14.05
INSTRUM spect
PROBHD 5 mm Dual 13C/
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 18179
DS 4
SWH 17985.611 Hz
FIDRES 0.274439 Hz
AQ 1.8219508 sec
RG 32768
DW 27.800 usec
DE 6.00 usec
TE 300.0 K
D1 2.00000000 sec
d11 0.03000000 sec
DELTA 1.89999998 sec
TD0 1

===== CHANNEL f1 =====
NUC1 13C
P1 7.60 usec
PL1 -3.80 dB
SFO1 75.4752953 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 100.00 usec
PL2 -6.00 dB
PL12 14.00 dB
PL13 17.00 dB
SFO2 300.1312005 MHz

F2 - Processing parameters
SI 32768
SF 75.4677490 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

Compound 14

3-(5-chloro-1H-indol-2-yl)-4'-methoxybiphenyl-4-ol
Chemical Formula: C₂₁H₁₆ClNO₂

¹H NMR

Biphenyl Indole OCH3(Chloroaniline)-DMSO

Current Data Parameters
NAME milan
EXPNO 29
PROCNO 1

F2 - Acquisition Parameters
Date_ 20140119
Time 21.24
INSTRUM spect
PROBHD 5 mm Dual 13C/
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 128
DS 2
SWH 6172.839 Hz
FIDRES 0.094190 Hz
AQ 5.3084660 sec
RG 1625.5
DW 81.000 usec
DE 6.00 usec
TE 300.0 K
D1 1.00000000 sec
TDO 1

===== CHANNEL f1 =====
NUC1 1H
P1 10.00 usec
PL1 -6.00 dB
SFO1 300.1318534 MHz
F2 - Processing parameters
SI 32768
SF 300.1300000 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

¹³C NMR

Biphenyl Indole OCH3-Carbon NMR 1 (Chloroaniline)

Current Data Parameters
NAME milan
EXPNO 37
PROCNO 1

F2 - Acquisition Parameters
Date_ 20140201
Time 0.53
INSTRUM spect
PROBHD 5 mm Dual 13C/
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 50000
DS 4
SWH 17985.611 Hz
FIDRES 0.274439 Hz
AQ 1.8219508 sec
RG 5160.6
DW 27.800 usec
DE 6.00 usec
TE 300.0 K
D1 2.00000000 sec
d11 0.03000000 sec
DELTA 1.89999998 sec
TD0 1

===== CHANNEL f1 =====
NUC1 13C
P1 7.60 usec
PL1 -3.80 dB
SFO1 75.4752953 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 100.00 usec
PL2 -6.00 dB
PL12 14.00 dB
PL13 17.00 dB
SFO2 300.1312005 MHz

F2 - Processing parameters
SI 32768
SF 75.4677490 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

Compound 15

3-(5-chloro-1*H*-indol-2-yl)-3'-nitrophenyl-4-ol
Chemical Formula: $C_{20}H_{13}ClN_2O_3$

¹H NMR

Biphenyl Indole 3-No2 (Chloroaniline) 2

Current Data Parameters
NAME milan
EXPNO 42
PROCNO 1

F2 - Acquisition Parameters
Date_ 20140207
Time 11.10
INSTRUM spect
PROBHD 5 mm Dual 13C/
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 128
DS 2
SWH 6172.839 Hz
FIDRES 0.094190 Hz
AQ 5.3084660 sec
RG 912.3
DW 81.000 usec
DE 6.00 usec
TE 300.0 K
D1 1.00000000 sec
TD0 1

CHANNEL f1
NUC1 1H
P1 10.00 usec
PL1 -6.00 dB
SFO1 300.1318534 MHz

F2 - Processing parameters
SI 32768
SF 300.1300000 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

¹³C NMR

3 NO2 C13 NMR chloroaniline

Current Data Parameters
NAME milan
EXPNO 50
PROCNO 1

F2 - Acquisition Parameters
Date_ 20140223
Time 13.28
INSTRUM spect
PROBHD 5 mm Dual 13C/
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 50000
DS 4
SWH 17985.611 Hz
FIDRES 0.274439 Hz
AQ 1.8219508 sec
RG 3649.1
DW 27.800 usec
DE 6.00 usec
TE 300.0 K
D1 2.00000000 sec
d11 0.03000000 sec
DELTA 1.89999998 sec
TD0 1

===== CHANNEL f1 =====
NUC1 13C
P1 7.60 usec
PL1 -3.80 dB
SFO1 75.4752953 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 100.00 usec
PL2 -6.00 dB
PL12 14.00 dB
PL13 17.00 dB
SFO2 300.1312005 MHz

F2 - Processing parameters
SI 32768
SF 75.4677490 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

Compound 16

4'-chloro-3-(5-chloro-1H-indol-2-yl)biphenyl-4-ol
Chemical Formula: $C_{20}H_{13}Cl_2NO$

¹H NMR

¹³C NMR

Chloroboronic acid (Chloroaniline) C13

Current Data Parameters
NAME milan
EXPNO 52
PROCNO 1

F2 - Acquisition Parameters
Date_ 20140228
Time 21.46
INSTRUM spect
PROBHD 5 mm Dual 13C/
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 45801
DS 4
SWH 17985.611 Hz
FIDRES 0.274439 Hz
AQ 1.8219508 sec
RG 8192
DW 27.800 usec
DE 6.00 usec
TE 300.0 K
D1 2.00000000 sec
d11 0.03000000 sec
DELTA 1.89999998 sec
TD0 1

===== CHANNEL f1 =====
NUC1 13C
P1 7.60 usec
PL1 -3.80 dB
SFO1 75.4752953 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 100.00 usec
PL2 -6.00 dB
PL12 14.00 dB
PL13 17.00 dB
SFO2 300.1312005 MHz

F2 - Processing parameters
SI 32768
SF 75.4677490 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

Compound 17

3-(5-chloro-1H-indol-2-yl)-4'-fluorobiphenyl-4-ol
Chemical Formula: $C_{20}H_{13}ClFNO$

¹H NMR

Biphenyl Indole F(Chloroaniline)2-CDCl₃

Current Data Parameters
NAME milan
EXPNO 31
PROCNO 1

F2 - Acquisition Parameters
Date_ 20140123
Time 16.54
INSTRUM spect
PROBHD 5 mm Dual 13C/
PULPROG zg30
TD 65536
SOLVENT CDCl₃
NS 128
DS 2
SWH 6172.839 Hz
FIDRES 0.094190 Hz
AQ 5.3084660 sec
RG 1824.6
DW 81.000 usec
DE 6.00 usec
TE 300.0 K
D1 1.0000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 1H
P1 10.00 usec
PL1 -6.00 dB
SFO1 300.1318534 MHz

F2 - Processing parameters
SI 32768
SF 300.1296798 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

¹³C NMR

Biphenyl Indole F(Chloroaniline) Carbon NMR

Current Data Parameters
NAME milan
EXPNO 43
PROCNO 1

F2 - Acquisition Parameters
Date_ 20140209
Time 10.02
INSTRUM spect
PROBHD 5 mm Dual 13C/
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 34949
DS 4
SWH 17985.611 Hz
FIDRES 0.274439 Hz
AQ 1.8219508 sec
RG 1824.6
DW 27.800 usec
DE 6.00 usec
TE 300.0 K
D1 2.00000000 sec
d11 0.03000000 sec
DELTA 1.89999998 sec
TD0 1

===== CHANNEL f1 =====
NUC1 13C
P1 7.60 usec
PL1 -3.80 dB
SFO1 75.4752953 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 100.00 usec
PL2 -6.00 dB
PL12 14.00 dB
PL13 17.00 dB
SFO2 300.1312005 MHz

F2 - Processing parameters
SI 32768
SF 75.4677490 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

Compound 18

3-(5-chloro-1H-indol-2-yl)biphenyl-4-ol
Chemical Formula: C₂₀H₁₄ClNO

¹H NMR

¹³C NMR

Phenyl CL Carbon MEOD

Current Data Parameters
NAME milan
EXPNO 105
PROCNO 1

F2 - Acquisition Parameters
Date_ 20140516
Time 22.30
INSTRUM spect
PROBHD 5 mm Dual 13C/
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 36280
DS 4
SWH 17985.611 Hz
FIDRES 0.274439 Hz
AQ 1.8219508 sec
RG 32768
DW 27.800 usec
DE 6.00 usec
TE 300.0 K
D1 2.00000000 sec
d11 0.03000000 sec
DELTA 1.89999999 sec
TD0 1

CHANNEL f1
NUC1 13C
P1 7.60 usec
PL1 -3.80 dB
SFO1 75.4752953 MHz

CHANNEL f2
CPDPRG2 waltz16
NUC2 1H
PCPD2 100.00 usec
PL2 -6.00 dB
PL12 14.00 dB
PL13 17.00 dB
SFO2 300.1312005 MHz

F2 - Processing parameters
SI 32768
SF 75.4677490 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

Compound 19

2-(4'-chloro-4-hydroxybiphenyl-3-yl)-1H-indole-5-carbonitrile
Chemical Formula: $C_{21}H_{13}ClN_2O$

1H NMR

¹³C NMR

Cl (CN)-MeOD
Carbon NMR

155.1
140.2
139.2
139.58
139.62
132.95
129.75
128.92
128.11
127.33
126.37
124.89
121.90
119.79
117.86
113.10
102.64
102.07

Current Data Parameters
NAME milan
EXPNO 80
PROCNO 1

F2 - Acquisition Parameters
Date_ 20140404
Time 22.28
INSTRUM spect
PROBHD 5 mm Dual 13C/
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 37758
DS 4
SWH 17985.611 Hz
FIDRES 0.274439 Hz
AQ 1.8219508 sec
RG 8192
DW 27.800 usec
DE 6.00 usec
TE 300.0 K
D1 2.00000000 sec
d11 0.03000000 sec
DELTA 1.89999998 sec
TD0 1

===== CHANNEL f1 =====
NUC1 13C
P1 7.60 usec
PL1 -3.80 dB
SFO1 75.4752953 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 100.00 usec
PL2 -6.00 dB
PL12 14.00 dB
PL13 17.00 dB
SFO2 300.1312005 MHz

F2 - Processing parameters
SI 32768
SF 75.4676520 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

Compound 20

2-(4-hydroxybiphenyl-3-yl)-1H-indole-5-carbonitrile
Chemical Formula: $C_{21}H_{14}N_2O$

¹H NMR

¹³C NMR

Phenyl CN-MeOD
Carbon NMR 2nd

Current Data Parameters
NAME milan
EXPNO 82
PROCNO 1

F2 - Acquisition Parameters
Date_ 20140406
Time 20.01
INSTRUM spect
PROBHD 5 mm Dual 13C/
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 12862
DS 4
SWH 17985.611 Hz
FIDRES 0.274439 Hz
AQ 1.8219508 sec
RG 9195.2
DW 27.800 usec
DE 6.00 usec
TE 300.0 K
D1 2.00000000 sec
d11 0.03000000 sec
DELTA 1.89999998 sec
TD0 1

===== CHANNEL f1 =====
NUC1 13C
P1 7.60 usec
PL1 -3.80 dB
SFO1 75.4752953 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 100.00 usec
PL2 -6.00 dB
PL12 14.00 dB
PL13 17.00 dB
SFO2 300.1312005 MHz

F2 - Processing parameters
SI 32768
SF 75.4676237 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

Compound 21

4'-methoxy-3-(5-(trifluoromethyl)-1H-indol-2-yl)biphenyl-4-ol
Chemical Formula: $C_{22}H_{16}F_3NO_2$

1H NMR

OCH3 (CF3)

Current Data Parameters
NAME milan
EXPNO 83
PROCNO 1

F2 - Acquisition Parameters
Date_ 20140408
Time 17.02
INSTRUM spect
PROBHD 5 mm Dual 13C/
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 128
DS 2
SWH 6172.839 Hz
FIDRES 0.094190 Hz
AQ 5.3084660 sec
RG 574.7
DW 81.000 usec
DE 6.00 usec
TE 300.0 K
D1 1.00000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 1H
P1 10.00 usec
PL1 -6.00 dB
SFO1 300.1318534 MHz

F2 - Processing parameters
SI 32768
SF 300.1300000 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

¹³C NMR

OCH3 (CF3) MEOD NMR

Current Data Parameters
NAME milan
EXPNO 85
PROCNO 1

F2 - Acquisition Parameters
Date_ 20140411
Time 21.19
INSTRUM spect
PROBHD 5 mm Dual 13C/
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 10000
DS 4
SWH 17985.611 Hz
FIDRES 0.274439 Hz
AQ 1.8219508 sec
RG 9195.2
DW 27.800 usec
DE 6.00 usec
TE 300.0 K
D1 2.00000000 sec
d11 0.03000000 sec
DELTA 1.89999998 sec
TD0 1

===== CHANNEL f1 =====
NUC1 13C
P1 7.60 usec
PL1 -3.80 dB
SFO1 75.4752953 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 100.00 usec
PL2 -6.00 dB
PL12 14.00 dB
PL13 17.00 dB
SFO2 300.1312005 MHz

F2 - Processing parameters
SI 32768
SF 75.4677490 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

Compound 22

(*E*)-4-bromo-2-(1-(3-fluorophenylimino)ethyl)phenol
Chemical Formula: C₁₄H₁₁BrFNO

¹H NMR

Compound 23

4-bromo-2-(6-fluoro-1H-indol-2-yl)phenol
Chemical Formula: $C_{14}H_9BrFNO$

¹H NMR

Compound 24

3-(6-fluoro-1H-indol-2-yl)-4'-methoxybiphenyl-4-ol
Chemical Formula: $C_{21}H_{16}FNO_2$

¹H NMR

¹³C NMR

OCH3 Carbon