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Supporting Information

Microwave Assisted Suzuki Coupling Reactions using an Encapsulated Palladium Catalyst for Batch and Continuous Flow Transformations

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Experimental

General: All reagents and solvents were used as supplied. ^{1}H NMR spectra were recorded on a Bruker DPX-400 or DPX-600 spectrometer with residual chloroform as the internal reference (d_H = 7.26 ppm). ^{13}C NMR spectra were recorded on a Bruker DPX-500 spectrometer with the central peak of chloroform as the internal reference (d_C = 77.0 ppm). LC-MS analysis was performed on a Hewlett-Packard HPLC 1100 chromatograph (Mercury hexylphenyl column) attached to a HP LC/MSD Platform LC APCI mass spectrometer. Microwave experiments were performed on an Emrys synthesizer available from Biotage AB (Upsala, Sweden).

General Procedure for the Microwave Assisted Suzuki Coupling in Batch (Method A). The aryl halide (0.5 mmol) and boronic acid (0.5 mmol) were dissolved in ethanol (6 mL, 95%) in a microwave vial. Tetra-butylammonium acetate (1 mmol) was added in ethanol (1 mL) followed by Pd EnCat-30™ (63 mg, 5 mol%). The reaction was irradiated in a microwave apparatus at 120 °C for 10 min. After cooling to ambient temperature in the microwave cavity the reaction mixture was purified on an SCXII cartridge using DCM (10 mL) as eluent and evaporated to dryness.

General Procedure for the Microwave Assisted Suzuki Coupling in Batch where the Product Contains a Basic Heterocyclic System (Method B). The aryl halide (0.5 mmol) and boronic acid (0.5 mmol) were dissolved in ethanol (6 mL, 95%) in a microwave vial. Tetra-butylammonium acetate (1 mmol) was added in ethanol (1 mL) followed by Pd EnCat-30™ (63 mg, 5 mol%). The reaction was irradiated in a microwave apparatus

at 120 °C for 10 min. After cooling to ambient temperature in the microwave cavity the reaction mixture was evaporated to dryness. The residue was dissolved in DCM (10 mL), filtered through a short plug of silica (eluent DCM) and the DCM was removed *in vacuo*.

General Procedure for the Microwave Assisted Suzuki Coupling in Batch with Compressed Air Cooling (Method C). The aryl halide (0.5 mmol) and boronic acid (0.5 mmol) were dissolved in ethanol (95%, 6 mL) in a microwave vial. Tetra-butylammonium acetate (1 mmol) was added in ethanol (1 mL) followed by Pd EnCat-30™ (63 mg, 5 mol%). The reaction was irradiated in a microwave apparatus at 50W for 15 min. with compressed air cooling (4 bar, 22 ºC temperature). After cooling to ambient temperature in the microwave cavity the reaction mixture was purified on an SCXII cartridge using DCM (10 mL) as eluent and evaporated to dryness.

General Procedure for the Microwave Assisted Suzuki Coupling in Flow (Method D). The flow reactor was packed with Pd EnCat-30™ (170 – 190 mg, 0.06 – 0.07 mmol) and sand used as an inert packing material at the outer (non microwaved) regions of the flow reactor. Ethanol was pumped through the cell at a flow rate of 0.1 mL/min for 10 min to purge the system using a Gilson 402 syringe pump. Stock solutions of the aryl halide (0.5 mmol), boronic acid (0.5 mmol) and tetra-butylammonium acetate (1.0 mmol) in ethanol (0.01, 0.07 or 0.2M) were fed into the reactor at a flow rate of 0.1 mL/min for the required time (pumping controlled by Gilson 402 syringe pumps). During this period the flow reactor was irradiated in a microwave apparatus at 50W with compressed air cooling (4 bar, 22 ºC temperature).[13] The

product was diverted through a scavenging column containing Amberlyst 15 resin (4 g) before collection and evaporated to dryness. Following the reaction ethanol was pumped into the reactor at a rate of 0.1 mL/min in order to flush the system before passing in the next components.

Biphenyl.[1] Method A: 71 mg, 92%. δ_H ($CDCl_3$) 7.59 (dd, *J* = 8.2, 8.2, 2H), 7.44 (dd, *J* = 7.8, 8.2, 4H), 7.35 (d, *J* = 7.8, 4H); *m/z* 155 (MH^+).

Biphenyl-2-carboxaldehyde.[2] Method A: 78 mg, 86%. The material had a purity of 80%. δ_H ($CDCl_3$) 9.97 (s, 1H), 8.04 (d, *J* = 7.9, 1H), 7.54 – 7.51 (m, 8H); *m/z* 183 (MH^+).

***N*-Biphen-4-yl acetamide.**[3] Method A: 98 mg, 93%. Method C: 101 mg, 96%. δ_H ($CDCl_3$) 7.85 (d, *J* = 8.2, 2H), 7.76 (d, *J* = 8.2, 2H), 7.43 (m, 4H), 7.38 (dd, *J* = 7.9, 7.9, 1H), 2.31 (s, 3H); *m/z* 212 (MH^+).

3-Phenyl pyridine.[4] Method B: 66 mg, 85%. The material had a purity of 92%. δ_H ($CDCl_3$) 8.88 (dd, *J* = 1.0, 2.5, 1H), 8.59 (dd, *J* = 1.7, 4.8, 1H), 7.88 (dd, *J* = 1.7, 8.0, 1H), 7.60 – 7.55 (m, 2H), 7.50 – 7.34 (m, 4H); *m/z* 156, (MH^+).

***p*-Terphenyl.**[5] Method A: 105 mg, 91%. Method C: 108 mg, 94%. δ_H ($CDCl_3$) 7.68 (s, 4H), 7.63 (d, *J* = 7.7, 4H), 7.45 (dd, *J* = 7.3, 7.7, 4H), 7.35 (dd, *J* = 7.3, 7.3, 2H); *m/z* 231 (MH^+).

1-Phenylnaphthalene.[6] Method A: 98 mg, 96%. δ_H ($CDCl_3$) 7.92 (d, *J* = 7.8, 2H), 7.85 (d, *J* = 8.0, 1H), 7.50 – 7.55 (m, 5H), 7.40 – 7.46 (m, 4H); *m/z* 227 (MNa^+).

4-Methoxybiphenyl.[7] Method A: 90 mg, 98%. δ_H ($CDCl_3$) 7.55-7.52 (m, 4H), 7.38 (dd, *J* = 7.6, 7.7, 2H), 7.31 (dd, *J* = 7.2, 7.2, 1H), 6.96 (d, *J* = 7.6, 2H), 3.85 (s, 3H); *m/z* 185 (MH^+).

4-Trifluoromethylbiphenyl.[8] Method A: 108 mg, 98%. δ_H ($CDCl_3$) 8.26 (d, *J* = 7.2, 2H), 7.61 (d, *J* = 7.5, 2H), 7.53 (d, *J* = 7.2, 2H), 7.49 (dd, *J* = 7.5, 7.5 2H), 7.41 (dd, *J* = 7.5, 7.5, 1H); *m/z* 223 (MH^+).

2-Bromobiphenyl.[9] Method A: 100 mg, 86%. δ_H ($CDCl_3$) 7.83 (d, *J* = 8.1, 1H), 7.61 (dd, *J* = 7.9, 8.0, 1H), 7.42 (d, *J* = 7.9, 2H), 7.37 (dd, *J* = 7.9, 8.1, 1H), 7.21 (dd, *J* = 7.9, 8.0, 2H), 7.18 (d, *J* = 8.0, 1H), 7.02 (dd, *J* = 8.0, 8.0, 1H); *m/z* 235 ($^{81}BrMH^+$).

4-Cyanobiphenyl.[7] Method A: 87 mg, 97%. The material had a purity of 90%. δ_H ($CDCl_3$) 7.72 (d, *J* = 8.3, 2H), 7.68 (d, *J* = 8.3, 2H), 7.61-7.58 (m, 2H), 7.51-7.48 (m, 2H), 7.44 (dd, *J* = 7.4, 7.4, 1H); *m/z* 180 (MH^+).

4-Nitrobiphenyl.[7] Method A: 95 mg, 95%. δ_H ($CDCl_3$) 8.29 (d, *J* = 8.7, 2H), 7.73 (d, *J* = 8.7, 2H), 7.62 (d, *J* = 7.6, 2H), 7.50 (dd, *J* = 7.3, 7.6, 2H), 7.45 (dd, *J* = 7.3, 7.3, 1H); *m/z* 200 (MH^+).

2-Phenylnaphthalene.[4] Method A: 96 mg, 94%. The material had a purity of 90%. δ_H ($CDCl_3$) 8.08 (s, 1H), 7.95-7.84 (m, 3H), 7.80-7.75 (m, 3H), 7.56-7.50 (m, 4H), 7.42 (dd, *J* = 7.4, 7.4, 1H); *m/z* 205 (MH^+).

4-Hydroxymethylbiphenyl.[7] Method A: 85 mg, 92%. The material had a purity of 46%. Method C: 84 mg, 91%. δ_H ($CDCl_3$) 7.58 (d, *J* = 8.1, 2H), 7.47-7.40 (m, 6H), 7.35 (m, 1H), 4.72 (br s, 2H); δ_C ($CDCl_3$) 135.6, 133.4, 131.4, 128.8, 128.6, 128.4, 128.0, 127.1, 64.5; *m/z* 185 (MH^+).

4-Fluorobiphenyl.[10] Method A: 75 mg, 87%. δ_H ($CDCl_3$) 7.62-7.53 (m, 4H), 7.54-7.52 (m, 1H), 7.46-7.42 (m, 2H), 7.36 (dd, *J* = 7.2, 7.3, 1H), 7.14 (dd, *J* = 8.6, 8.6, 2H); *m/z* 173 (MH^+).

2-Methylbiphenyl.[11] Method A: 73 mg, 87%. δ_H ($CDCl_3$) 7.54-7.52 (m, 1H), 7.46-7.41 (m, 2H), 7.39-7.34 (m, 3H), 7.30-7.25 (m, 3H), 2.30 (s, 3H); *m/z* 169 (MH^+).

5-Acetyl-2-phenylthiophene.[12] Method A: 71 mg, 70%. The product was contaminated with some (21%) starting material. δ_H ($CDCl_3$) 7.65 (d, *J* = 3.6, 1H), 7.64 (d, *J* = 7.9, 2H), 7.41 (dd, *J* = 7.3, 7.9, 2H), 7.37 (dd, *J* = 7.3, 7.3, 1H), 7.32 (d, *J* = 3.6, 1H), 2.57 (s, 3H); *m/z* 203 (MH^+).

2-Chlorobiphenyl.[13] Method A: 93 mg, 99%. δ_H ($CDCl_3$) 7.84 (d, *J* = 8.0, 2H), 7.58 (dd, *J* = 7.8, 8.0, 1H), 7.55-7.35 (m, 6H); *m/z* 189 (MH^+).

2-Methyl-3-nitrobiphenyl.[14] Method A: 103 mg, 97%. δ_H ($CDCl_3$) 7.80 (d, *J* = 8.0, 1H), 7.46-7.44 (m, 3H), 7.42-7.40 (m, 1H), 7.36 (dd, *J* = 7.8, 7.8, 1H), 7.29 (d, *J* = 7.1, 2H); *m/z* 214 (MH^+).

4-Acetylbiphenyl.[11] Method A: 86 mg, 88%. Method D (0.01M): 88 mg, 90%. δ_H ($CDCl_3$) 8.04 (d, *J* = 8.3, 2H), 7.69 (d, *J* = 8.3, 2H), 7.63 (d, *J* = 7.4, 2H), 7.48 (dd, *J* = 7.4, 7.6, 2H), 7.41 (dd, *J* = 7.6, 7.6, 1H), 2.64 (s, 3H); *m/z* 197 (MH^+).

4-Hydroxy-2-methoxybiphenyl.[15] Method C (60W): 91 mg, 91%. δ_H ($CDCl_3$) 7.38 (d, *J* = 8.0, 1H), 7.11 (dd, *J* = 2.1, 8.0, 1H), 7.06 (d, *J* = 2.1, 1H), 7.05-7.00 (m, 5H), 3.94 (s, 3H); *m/z* 201 (MH^+).

2-Methoxybiphenyl.[6] Method A: 92 mg, 100%. The material had a purity of 90%. δ_H ($CDCl_3$) 7.56 (d, *J* = 7.9, 2H), 7.33 (dd, *J* = 7.8, 7.9, 2H), 7.30-7.24 (m, 3H), 6.99 (dd, *J* = 7.7, 7.8, 1H), 6.97 (d, *J* = 7.8, 1H), 3.75 (s, 3H); *m/z* 185 (MH^+).

Ethyl biphenyl-4-acetate.[16] Method A: 119 mg, 99%. δ_H ($CDCl_3$) 8.11 (d, *J* = 7.8, 2H), 7.60-7.45 (m, 5H), 7.08 (d, *J* = 8.0, 2H), 4.19 (q, *J* = 7.1, 2H), 3.77 (s, 2H), 1.20 (t, *J* = 7.1, 3H); *m/z* 241 (MH^+).

Methyl 2-phenylbenzoate.[17] Method A: 104 mg, 98%. The material had a purity of 90%. δ_H ($CDCl_3$) 7.62 (d, *J* = 8.0, 1H), 7.36 (dd, *J* = 8.1, 8.3, 1H), 7.25-7.15 (m, 5H), 7.07 (d, *J* = 8.3, 2H), 3.42 (s, 3H); *m/z* 213 (MH^+).

4-Methylbiphenyl.[7] Coupling of phenyl boronic acid and 4-tolyl triflate. Method A: 75 mg, 89%. The product was contaminated with some (15%) starting material. Coupling of 4-tolyl boronic acid and bromobenzene. Method A: 84 mg,

quantitative. δ_H ($CDCl_3$) 7.52 (d, *J* = 7.4, 2H), 7.43 (d, *J* = 8.1, 2H), 7.37 (dd, *J* = 7.4, 7.8, 2H), 7.27 (dd, *J* = 7.8, 7.8, 1H), 7.20 (d, *J* = 8.1, 2H), 2.33 (s, 3H); *m/z* 169 (MH^+).

5-Phenylpyrimidine.[7] Method B: 69 mg, 88%. δ_H ($CDCl_3$) 9.13 (s, 1H), 8.89 (s, 2H), 7.52-7.51 (m, 3H), 7.47-7.45 (m, 2H); *m/z* 157 (MH^+).

4,5-Diphenyl-1-methylpyrazole. Method B: 106 mg, 91%. The material had a purity of 95%. δ_H ($CDCl_3$) 7.84 (d, *J* = 6.9, 2H), 7.52 (s, 1H), 7.49-7.47 (m, 4H), 7.39 (dd, *J* = 6.9, 8.2, 2H), 7.28-7.26 (m, 2H), 3.80 (s, 3H); δ_C ($CDCl_3$) 178.1, 141.2, 139.1, 134.3, 129.8, 129.7, 129.2, 128.7, 128.6, 128.3, 127.2, 127.0, 38.3; *m/z* 235 (MH^+).

5-Phenyl-2,1,3-benzoxodiazole. Method A: 84 mg, 86%. δ_H ($CDCl_3$) 7.97 (s, 1H), 7.92 (d, *J* = 8.3, 1H), 7.76 (d, *J* = 8.3, 1H), 7.64 (d, *J* = 8.1, 2H), 7.45-7.40 (m, 3H); δ_C ($CDCl_3$) 149.7, 148.6, 144.3, 138.7, 135.6, 132.9, 129.2, 127.3, 116.7, 112.6; *m/z* 197 (MH^+).

2,6-Dimethylbiphenyl.[18] Method A: 68 mg, 75%. δ_H ($CDCl_3$) 7.72-7.70 (m, 2H), 7.64-7.60 (m, 1H), 7.45-7.40 (m, 5H), 2.34 (s, 6H); *m/z* 183 (MH^+).

2-Phenylbenzofuran.[19] Method A: 82 mg, 85%. δ_H ($CDCl_3$) 7.53-7.50 (m, 4H), 7.38 (d, *J* = 7.9, 2H), 7.37-7.36 (m, 2H), 7.28 (d, *J* = 6.9, 1H), 7.25 (s, 1H); *m/z* 195 (MH^+).

***N*-(4-Benzofuran-2-ylphenyl)-acetamide.** Method C: 107 mg, 85%. The material had a purity of 83%. δ_H ($CDCl_3$) 7.63 (d, *J* = 7.7, 1H), 7.54 (d, *J* = 8.2, 1H), 7.48 (d, *J* = 8.6, 2H), 7.40 (d, *J* = 8.6, 2H), 7.33 (dd, *J* = 7.3, 8.2, 1H), 7.22 (dd, *J* = 7.3, 7.7, 1H), 6.95 (s, 1H), 2.24 (s, 3H); δ_C ($CDCl_3$) 172.4, 156.9, 152.1, 141.1, 134.7, 128.3, 125.8, 124.8, 123.1, 121.9, 120.6, 114.7, 110.9, 18.5; *m/z* 252 (MH^+).

2-Biphenyl-4-ylbenzofuran. Method C: 132 mg, 98%. The material had a purity of 86%. δ_H ($CDCl_3$) 7.62 (d, *J* = 7.9, 1H), 7.60-7.55 (m, 4H), 7.46-7.42 (m, 4H), 7.39-7.37 (m, 2H), 7.30 (dd, *J* = 7.4, 8.1, 1H), 7.26 (dd, *J* = 7.4, 7.9, 1H), 7.04 (s, 1H); δ_C ($CDCl_3$) 155.4, 153.7, 137.5, 136.9, 135.1, 129.6, 128.9, 128.2, 127.6, 126.1, 124.5, 123.8, 123.2, 121.4, 112.0, 106.7; *m/z* 271 (MH^+).

2-Naphthalen-1-ylbenzofuran. Method A: 103 mg, 84%. The product was contaminated with some (18%) starting material. Method D (0.01M): 107 mg, 88%. δ_H ($CDCl_3$) 8.49 (d, *J* = 8.3, 1H), 7.93 (d, *J* = 7.4, 1H), 7.92 (d, *J* = 8.0, 1H), 7.90 (d, *J* = 7.2, 1H), 7.68 (d, *J* = 7.5, 1H), 7.62-7.54 (m, 4H), 7.36 (dd, *J* = 7.5, 8.0, 1H), 7.30 (dd, *J* = 7.5, 7.7, 1H), 7.10 (s, 1H); δ_C ($CDCl_3$) 155.6, 154.9, 134.0, 131.4, 130.7, 129.6, 129.1, 128.5, 127.3, 126.9, 126.1, 125.5, 125.3, 124.4, 123.0, 121.0, 111.3, 105.9; *m/z* 245 (MH^+).

2-(4-Methoxyphenyl)benzofuran.[20] Method A: 101 mg, 90%. δ_H ($CDCl_3$) 7.81 (d, *J* = 8.7, 2H), 7.56 (d, *J* = 7.4, 1H), 7.51 (d, *J* = 8.0, 1H), 7.28 (dd, *J* = 7.4, 7.9, 1H), 7.22 (dd, *J* =

7.9, 8.0, 1H), 6.99 (d, *J* = 8.7, 2H), 6.89 (s, 1H); *m/z* 225 (MH^+).

2-(4-Trifluoromethylphenyl)benzofuran. Method A: 118 mg, 90%. Method D (0.07M): 111 mg, 85%. δ_H ($CDCl_3$) 7.96 (d, *J* = 8.2, 2H), 7.70 (d, *J* = 8.2, 2H), 7.62 (d, *J* = 7.7, 1H), 7.55 (d, *J* = 8.2, 1H), 7.34 (dd, *J* = 7.2, 8.2, 1H), 7.27 (dd, *J* = 7.2, 7.7, 1H), 7.14 (s, 1H); δ_C ($CDCl_3$) 156.5, 154.7, 139.0, 131.6, 127.2, 125.2, 124.7, 123.6, 123.1, 121.3, 119.9, 111.8, 108.9; *m/z* 263 (MH^+).

1,2-Dibenzofuran-2-ylbenzene. Method A: 137 mg, 89%. δ_H ($CDCl_3$) 7.85 (dd, *J* = 3.4, 8.1, 2H), 7.53 (d, *J* = 7.7, 2H), 7.51 (dd, *J* = 3.4, 8.1, 2H), 7.45 (d, *J* = 8.1, 2H), 7.27 (dd, *J* = 7.1, 8.1, 2H), 7.23 (dd, *J* = 7.1, 7.7, 2H), 6.60 (s, 2H); δ_C ($CDCl_3$) 154.9, 154.6, 132.8, 129.9, 129.3, 128.9, 124.4, 122.8, 121.1, 111.3, 105.2; *m/z* 311 (MH^+).

2-(2-Bromophenyl)benzofuran. Method D (0.07M): 124 mg, 91%. δ_H ($CDCl_3$) 7.56 (d, *J* = 7.8, 1H), 7.50-7.49 (m, 2H), 7.37 (d, *J* = 7.9, 1H), 7.28-7.26 (m, 2H), 7.21 (dd, *J* = 7.6, 7.8, 1H), 7.11 (dd, *J* = 7.8, 7.9, 1H), 6.72 (s, 1H); δ_C ($CDCl_3$) 154.9, 153.2, 136.3, 133.6, 129.9, 129.3, 128.9, 124.4, 122.8, 121.1, 116.5, 111.2, 105.2, 103.7; *m/z* 275 ($^{81}BrMH^+$).

4-Benzofuran-2-yl-benzonitrile.[21] Method A: 99 mg, 91%. Method D (0.07M): 85 mg, 78%. The material had a purity of 94%. δ_H ($CDCl_3$) 7.93 (d, *J* = 8.4, 2H), 7.71 (d, *J* = 8.4, 2H), 7.62 (d, *J* = 7.6, 1H), 7.54 (d, *J* = 8.3, 1H), 7.35 (dd, *J* = 7.3, 8.3, 1H), 7.27 (dd, *J* = 7.3, 7.6, 1H), 7.17 (s, 1H); δ_C

($CDCl_3$) 156.1. 154.5, 141.0, 132.8, 127.4, 124.5, 124.1, 123.3, 121.6, 117.6, 114.3, 111.9, 111.6; *m/z* 220 (MH^+).

2-Benzofuran-2-yl-pyridine. Method B: 90 mg, 92%. δ_H ($CDCl_3$) 8.65 (d, *J* = 4.5, 1H), 7.87 (d, *J* = 7.8, 1H), 7.76 (dd, *J* = 7.6, 7.8, 1H), 7.61 (d, *J* = 7.7, 1H), 7.53 (d, *J* = 7.3, 1H), 7.40 (s, 1H), 7.30 (dd, *J* = 7.3, 7.4, 1H), 7.23-7.21 (m, 2H), 7.14 (s, 1H); δ_C ($CDCl_3$) 164.3, 155.1, 152.4, 147.7, 131.8, 128.5, 127.7, 125.1, 123.3, 122.0, 121.4, 111.3, 103.7; *m/z* 196 (MH^+).

2-(4-Nitrophenyl)benzofuran.[21] Method A: 106 mg, 89%. Method D (0.07M): 110 mg, 92%. δ_H ($CDCl_3$) 8.28 (d, *J* = 8.2, 2H), 7.99 (d, *J* = 8.2, 2H), 7.61 (d, *J* = 7.7, 1H), 7.57 (d, *J* = 8.0, 1H), 7.36 (dd, *J* = 7.6, 8.0, 1H), 7.23 (dd, *J* = 7.6, 7.7, 1H), 7.24 (s, 1H); δ_C ($CDCl_3$) 164.3, 155.1, 152.4, 147.7, 131.8, 128.5, 127.7, 125.1, 123.3, 122.0, 121.4, 111.3; *m/z* 240 (MH^+).

2-Naphthalen-2-yl-benzofuran.[22] Method A: 107 mg, 88%. δ_H ($CDCl_3$) 8.39 (s, 1H), 7.95-7.93 (m, 3H), 7.91 (d, *J* = 8.1, 1H), 7.63 (d, *J* = 7.7, 1H), 7.59 (d, *J* = 8.2, 1H), 7.55-7.50 (m, 2H), 7.34 (dd, *J* = 7.0, 8.2, 1H), 7.27 (dd, *J* = 7.0, 7.7, 1H), 7.15, (s, 1H); *m/z* 245 (MH^+).

2-(4-Hydroxymethylphenyl)benzofuran. Method C: 108 mg, 96%. The material had a purity of 97%. δ_H ($CDCl_3$) 7.62 (d, *J* = 7.8, 1H), 7.54 (d, *J* = 8.0, 1H), 7.41 (d, *J* = 8.2, 2H), 7.37 (dd, *J* = 7.3, 8.0, 1H), 7.25 (dd, *J* = 7.3, 7.9, 1H), 7.24 (d, *J* = 8.2, 2H), 7.04 (s, 1H), 4.79 (s, 2H); δ_C ($CDCl_3$)

156.6, 154.2, 141.7, 135.8, 132.5, 128.6, 126.0, 124.9, 122.8, 121.3, 112.2, 108.4, 67.9; *m/z* 225 (MH^+).

2-(4-Fluorophenyl)benzofuran. Method A: 101 mg, 95%. δ_H ($CDCl_3$) 7.85 (dd, *J* = 5.2, 8.7, 2H), 7.58 (d, *J* = 7.6, 1H), 7.52 (d, *J* = 8.1, 1H), 7.29 (dd, *J* = 7.4, 8.1, 1H), 7.25 (dd, *J* = 7.4, 7.6, 1H), 7.17 (dd, *J* = 8.7, 12.2, 2H), 6.96 (s, 1H); δ_C ($CDCl_3$) 163.9, 161.9, 155.0, 134.8, 129.2, 126.8, 124.3, 123.0, 120.9, 115.8, 111.1, 101.0; *m/z* 213 (MH^+).

2-(2-Methylphenyl)benzofuran. Method A: 90 mg, 87%. δ_H ($CDCl_3$) 7.91 (d, *J* = 7.8, 1H), 7.62 (d, *J* = 8.0, 1H), 7.56 (d, *J* = 7.7, 1H), 7.30-7.20 (m, 5H), 6.93 (s, 1H), 2.61 (s, 3H); δ_C ($CDCl_3$) 155.6, 154.4, 147.7, 135.8, 131.2, 128.5, 128.1, 126.0, 124.2, 122.8, 120.9, 111.1, 105.1, 103.7, 21.9; *m/z* 209 (MH^+).

2-Acetyl-5-benzofuran-2-ylthiophene. Method A: 83 mg, 69%. The product was contaminated with some (32%) starting material. δ_H ($CDCl_3$) 7.66 (d, *J* = 3.8, 1H), 7.58 (d, *J* = 7.8, 1H), 7.51 (d, *J* = 8.2, 1H), 7.47 (d, *J* = 3.8, 1H), 7.33 (dd, *J* = 7.7, 8.2, 1H), 7.27 (dd, *J* = 7.7, 7.8, 1H), 7.04 (s, 1H), 2.58 (s, 3H); δ_C ($CDCl_3$) 190.5, 154.9, 149.9, 143.6, 140.8, 133.1, 128.6, 125.9, 125.1, 123.5, 121.4, 111.3, 104.0, 26.6; *m/z* 243 (MH^+).

2-(2-Chlorophenyl)benzofuran.[21] Method A: 104 mg, 91%. δ_H ($CDCl_3$) 8.07 (d, *J* = 8.0, 1H), 7.65 (d, *J* = 7.6, 1H), 7.55 (d, *J* = 8.1, 1H), 7.54 (s, 1H), 7.51 (d, *J* = 7.9, 1H), 7.39 (dd, *J* = 7.6, 7.7, 1H), 7.34 (dd, *J* = 7.7, 8.1, 1H), 7.30-7.26 (m, 2H); *m/z* 229 (MH^+).

2-(2-Methyl-3-nitrophenyl)benzofuran. Method A: 112 mg, 89%. δ_H ($CDCl_3$) 7.95 (d, *J* = 7.7, 1H), 7.78 (d, *J* = 8.0, 1H), 7.65 (d, *J* = 7.7, 1H), 7.55 (d, *J* = 8.2, 1H), 7.42 (dd, *J* = 7.7, 8.2, 1H), 7.36 (dd, *J* = 7.4, 8.0, 1H), 7.30 (dd, *J* = 7.4, 7.7, 1H), 6.95 (s, 1H), 2.63 (s, 3H); δ_C ($CDCl_3$) 154.7, 153.3, 152.0, 136.5, 132.6, 130.3, 128.5, 126.6, 125.1, 123.9, 123.2, 121.4, 111.3, 107.3, 17.2; *m/z* 254 (MH^+).

2-(4-Acetylphenyl)benzofuran.[20] Method A: 118 mg, 100%. The product was contaminated with some (70%) starting material. Method D (0.01M): 114 mg, 97%. δ_H ($CDCl_3$) 8.04 (d, *J* = 8.4, 2H), 7.95 (d, *J* = 8.4, 2H), 7.62 (d, *J* = 7.4, 1H), 7.54 (d, *J* = 8.2, 1H), 7.35 (dd, *J* = 7.3, 8.2, 1H), 7.27 (dd, *J* = 7.3, 7.4, 1H), 7.17 (s, 1H), 2.64 (s, 3H); δ_C ($CDCl_3$) 197.4, 155.2, 154.5, 152.4, 136.5, 134.6, 130.5, 128.9, 124.8, 123.3, 121.6, 111.3, 103.6, 26.6; *m/z* 237 (MH^+).

Methyl 2-benzofuran-2-yl benzoate. Method A: 105 mg, 83%. The material had a purity of 95%. δ_H ($CDCl_3$) 7.76 (d, *J* = 7.8, 1H), 7.73 (d, *J* = 7.7, 1H), 7.61 (d, *J* = 7.7, 1H), 7.56 (ddd, *J* = 0.9, 7.7, 7.7, 1H), 7.49-7.45 (m, 2H), 7.31-7.25 (m, 2H), 6.94 (s, 1H), 3.82 (s, 3H); δ_C ($CDCl_3$) 169.4, 155.1, 154.7, 138.2, 131.0, 130.9, 129.4, 129.0, 128.7, 127.1, 124.6, 123.0, 121.2, 111.1, 104.4, 52.5; *m/z* 253 (MH^+).

Methyl 2-benzofuran-2-yl-5-methoxy benzoate. Method A: 112 mg, 80%. The material had a purity of 98%. δ_H ($CDCl_3$) 7.67 (d, *J* = 8.2, 1H), 7.58 (d, *J* = 7.9, 1H), 7.46 (d, *J* = 7.7, 1H), 7.30-7.20 (m, 3H), 7.15 (dd, *J* = 0.9, 7.4, 1H), 6.93 (s, 1H), 3.86 (s, 3H), 3.80 (s, 3H); δ_C ($CDCl_3$) 169.1, 159.7,

154.9, 154.8, 135.0, 132.2, 130.6, 127.9, 124.1, 122.8, 120.9, 117.1, 114.3, 110.9, 103.2, 55.6, 52.5; *m/z* 283 (MH^+).

5-Benzofuran-2-yl-pyrimidine. Method B: 71 mg, 72%. δ_H ($CDCl_3$) 9.14 (s, 2H), 9.13 (s, 1H), 7.59 (d, *J* = 7.7, 1H), 7.51 (d, *J* = 8.2, 1H), 7.33 (dd, *J* = 7.4, 8.2, 1H), 7.24 (dd, *J* = 7.4, 7.7, 1H), 7.18 (s, 1H); δ_C ($CDCl_3$) 175.3, 157.6, 155.2, 152.6, 149.4, 128.2, 125.6, 123.5, 121.5, 116.4; *m/z* 197 (MH^+).

4-Benzofuran-2-yl-1-methyl-5-phenyl-1*H*-pyrazole. Method B: 122 mg, 89%. The material had a purity of 80%. δ_H ($CDCl_3$) 7.96 (s, 1H), 7.51 (d, *J* = 7.4, 1H), 7.48-7.38 (m, 6H), 7.18 (dd, *J* = 7.6, 7.9, 1H), 7.14 (s, 1H), 7.05 (dd, *J* = 7.6, 8.2, 1H), 3.87 (s, 3H); δ_C ($CDCl_3$) 175.4, 155.0, 150.3, 147.6, 141.2, 139.1, 129.9, 129.0, 128.3, 123.3, 122.6, 121.3, 111.2, 103.6, 93.3, 37.4; *m/z* 275 (MH^+).

5-Benzofuran-2-yl-1-oxa-2,3-diazaindene. Method B: 84 mg, 71%. Method D (0.07M): 94 mg, 80%. δ_H ($CDCl_3$) 8.30 (d, *J* = 0.9, 1H), 7.90 (d, *J* = 9.3, 1H), 7.84 (dd, 0.9, 9.3, 1H), 7.65 (d, *J* = 7.7, 1H), 7.57 (d, *J* = 8.2, 1H), 7.39 (dd, *J* = 7.3, 8.2, 1H), 7.29 (dd, *J* = 7.3, 7.7, 1H), 7.24 (s, 1H); δ_C ($CDCl_3$) 155.4, 153.1, 149.5, 148.7, 132.7, 129.6, 128.4, 126.1, 123.6, 121.7, 117.0, 111.5, 110.2, 105.7; *m/z* 237 (MH^+).

2-(2,6-Dimethylphenyl)benzofuran. Method A: 87 mg, 78%. δ_H ($CDCl_3$) 7.65 (d, *J* = 7.6, 1H), 7.53 (d, *J* = 8.0, 1H), 7.30-7.28 (m, 2H), 7.15 (d, *J* = 7.6, 2H), 7.09 (dd, *J* = 7.5, 8.0,

1H), 6.67 (s, 1H), 2.27 (s, 6H); δ_C ($CDCl_3$) 156.5, 154.1, 137.7, 136.7, 128.6, 126.5, 124.2, 123.5, 123.1, 121.1, 111.3, 108.4, 21.8; *m/z* 223 (MH^+).

3,4,5-Trimethoxybiphenyl. Method A: 104 mg, 85%. The material had a purity of 81%. δ_H ($CDCl_3$) 7.54 (d, *J* = 7.8, 2H), 7.42-7.40 (m, 2H), 7.30-7.29 (m, 1H), 6.98 (s, 2H), 3.92 (s, 6H), 3.89 (s, 3H); δ_C ($CDCl_3$) 147.3, 136.2, 132.0, 130.7, 129.6, 127.9, 127.2, 106.3, 56.7, 56.4; *m/z* 245 (MH^+).

***N*-(3',4',5'-Trimethoxybiphenyl-4-yl)acetamide.** Method C: 113 mg, 75%. The material had a purity of 92%. δ_H ($CDCl_3$) 7.58 (d, *J* = 8.4, 2H), 7.52 (d, *J* = 8.4, 2H), 6.81 (s, 2H), 3.95 (s, 3H), 3.88 (s, 6H), 2.37 (s, 3H); δ_C ($CDCl_3$) 167.1, 150.8, 141.0, 133.5, 132.5, 130.9, 127.2, 120.0, 106.9, 58.4, 56.5, 19.8; *m/z* 302 (MH^+).

3-(3,4,5-Trimethoxyphenyl)pyridine. Method B: 116 mg, 95%. δ_H ($CDCl_3$) 8.76 (d, *J* = 1.8, 1H), 8.53 (dd, *J* = 1.3, 4.8, 1H), 7.80 (dd, *J* = 1.3, 8.0), 7.31-7.30 (m, 1H), 6.71 (s, 2H), 3.80 (s, 6H), 3.78 (s, 3H); δ_C ($CDCl_3$) 153.5, 152.3, 147.9, 139.3, 134.4, 133.4, 123.6, 110.7, 104.2, 58.4, 55.8; *m/z* 246 (MH^+).

3,4,5-Trimethoxy-[1,1';4',1'']terphenyl. Method C: 117 mg, 73%. The material had a purity of 89%. δ_H ($CDCl_3$) 7.64-7.62 (m, 2H), 7.58-7.55 (m, 2H), 7.44-7.38 (m, 5H), 6.83 (s, 2H), 4.02 (s, 3H), 3.98 (s, 6H); δ_C ($CDCl_3$) 146.4, 138.2, 136.5,

135.8, 132.7, 130.3, 129.2, 128.5, 127.6, 127.4, 127.1, 108.3, 59.5, 57.0; *m/z* 321 (MH^+).

1-(3,4,5-Trimethoxyphenyl)naphthalene. Method A: 141 mg, 96%.The material had a purity of 96%. δ_H ($CDCl_3$) 8.24 (d, *J* = 8.4, 1H), 7.84 (d, *J* = 8.1, 1H), 7.81 (d, *J* = 8.2, 1H), 7.78 (d, *J* = 7.4, 1H), 7.60 (dd, *J* = 7.7, 8.1, 1H), 7.54 (dd, *J* = 7.4, 7.7, 1H), 7.45 (s, 2H), 7.32 (dd, *J* = 8.2, 8.4, 1H), 4.00 (s, 6H), 3.97 (s, 3H); δ_C ($CDCl_3$) 153.1, 142.5, 140.2, 136.4, 134.6, 132.0, 129.9, 128.3, 127.9, 127.1, 126.7, 126.2, 112.3, 107.2, 60.9, 56.2; *m/z* 295 (MH^+).

3,4,5,4'-Tetramethoxybiphenyl. Method A: 126 mg, 92%. The product was contaminated with some (84%) starting material. Method D (0.01M): 129 mg, 94%. The product was contaminated with some (9%) starting material. δ_H ($CDCl_3$) 6.99 (d, *J* = 8.2, 2H), 6.98 (s, 2H), 6.87 (d, *J* = 8.2, 2H), 3.89 (s, 3H), 3.87 (s, 6H), 3.84 (s, 3H); δ_C ($CDCl_3$) 152.9, 152.8, 152.5, 141.9, 127.8, 116.7, 112.0, 110.3, 60.3, 56.0, 55.2; *m/z* 275 (MH^+).

4'-Trifluoromethyl-3,4,5-trimethoxy-biphenyl. Method A: 143 mg, 92%. δ_H ($CDCl_3$) 7.67 (d, *J* = 8.3, 2H), 7.65 (d, *J* = 8.3, 2H), 6.78 (s, 2H), 3.96 (s, 6H), 3.91 (s, 3H); δ_C ($CDCl_3$) 153.3, 152.9, 138.2, 135.7, 127.5, 125.7, 110.6, 105.2, 104.6, 60.9, 56.4; *m/z* 313 (MH^+).

3',4',5'-Trimethoxybiphenyl-4-carbonitrile. Method A: 121 mg, 90%. δ_H ($CDCl_3$) 7.68 (d, *J* = 8.3, 2H), 7.63 (d, *J* = 8.3, 2H), 6.76 (s, 2H), 3.91 (s, 6H), 3.88 (s, 3H); δ_C ($CDCl_3$)

153.7, 145.7, 138.6, 135.0, 132.5, 127.6, 118.9, 110.7, 104.5, 60.9, 56.1; *m/z* 270 (MH^+).

4'-Nitro-3,4,5-trimethoxy-biphenyl. Method A: 142 mg, 98%. δ_H ($CDCl_3$) 8.24 (d, *J* = 8.7, 2H), 7.67 (d, *J* = 8.7, 2H), 6.79 (s, 2H), 3.93 (s, 6H), 3.89 (s, 3H); δ_C ($CDCl_3$) 153.7, 147.7, 146.9, 138.9, 134.5, 132.6, 127.7, 124.0, 104.7, 61.0, 56.3; *m/z* 290 (MH^+).

2-(3,4,5-Trimethoxyphenyl)naphthalene. Method A: 138 mg, 94%. The material had a purity of 88%. δ_H ($CDCl_3$) 8.01 (s, 1H), 7.91 (d, *J* = 8.3, 1H), 7.87 (d, *J* = 7.9, 1H), 7.75-7.73 (m, 1H), 7.55-7.45 (m, 3H), 6.93 (s, 2H), 3.97 (s, 6H), 3.95 (s, 3H); δ_C ($CDCl_3$) 153.5, 138.6, 137.7, 137.1, 133.6, 132.6, 129.9, 129.2, 128.4, 128.1, 127.7, 126.4, 126.0, 125.5, 60.8, 56.3; *m/z* 295 (MH^+).

4'-Hydroxymethyl-3,4,5-trimethoxybiphenyl. Method C: 130 mg, 95%. The material had a purity of 88%. δ_H ($CDCl_3$) 7.65 (d, *J* = 8.2, 2H), 7.45 (d, *J* = 8.2, 2H), 6.92 (s, 2H), 4.77 (s, 2H), 3.92 (s, 6H), 3.89 (s, 3H); δ_C ($CDCl_3$) 149.6, 139.2, 135.1, 132.4, 130.9, 127.8, 127.4, 106.3, 68.1, 57.9, 56.6; *m/z* 275 (MH^+).

4'-Fluoro-3,4,5-trimethoxy-biphenyl. Method A: 113 mg, 86%. δ_H ($CDCl_3$) 7.49 (dd, *J* = 3.2, 8.1, 2H), 7.16 (dd, *J* = 8.1, 8.1, 2H), 6.91 (s, 2H), 3.93 (s, 6H), 3.87 (s, 3H); δ_C ($CDCl_3$) 161.4, 153.3, 153.0, 136.3, 128.6, 115.5, 110.6, 104.3, 56.3, 56.1; *m/z* 263 (MH^+).

2'-Methyl-3,4,5-trimethoxybiphenyl. Method A: 117 mg, 91%. δ_H ($CDCl_3$) 7.28-7.26 (m, 2H), 7.25-7.05 (m, 2H), 6.52 (s, 2H), 3.89 (s, 3H), 3.86 (s, 6H); δ_C ($CDCl_3$) 152.9, 142.4, 137.7, 135.3, 129.5, 128.4, 127.3, 125.7, 112.4, 106.3, 60.8, 56.1, 20.5; *m/z* 259 (MH^+).

1-[5-(3,4,5-Trimethoxyphenyl)thiophen-2-yl]ethanone. Method A: 115 mg, 79%. The product was contaminated with some (38%) starting material. δ_H ($CDCl_3$) 7.64 (d, *J* = 3.9, 1H), 7.24 (d, *J* = 3.9, 1H), 6.85 (s, 2H), 3.92 (s, 6H), 3.88 (s, 3H), 2.56 (s, 3H); δ_C ($CDCl_3$) 190.6, 153.5, 152.8, 142.8, 139.0, 133.5, 129.0, 123.7, 103.6, 60.8, 56.2, 26.4; *m/z* 293 (MH^+).

2'-Methyl-3'-nitro-3,4,5-trimethoxy-biphenyl. Method A: 149 mg, 98%. δ_H ($CDCl_3$) 7.77 (d, *J* = 8.1, 1H), 7.45 (d, *J* = 7.6, 1H), 7.34 (dd, *J* = 7.6, 8.1, 1H), 6.47 (s, 2H), 3.90 (s, 3H), 3.86 (s, 6H), 2.36 (s, 3H); δ_C ($CDCl_3$) 153.1, 151.2, 144.9, 137.5, 135.5, 133.6, 130.1, 126.1, 123.0, 106.4, 60.9, 56.2, 17.0; *m/z* 304 (MH^+).

4'-Acetyl-3,4,5-trimethoxybiphenyl. Method A: 127 mg, 89%. The product was contaminated with some (34%) starting material. δ_H ($CDCl_3$) 8.01 (d, *J* = 8.3, 1H), 7.64 (d, *J* = 8.3, 1H), 6.81 (s, 2H), 3.94 (s, 6H), 3.90 (s, 3H), 2.64 (s, 3H); δ_C ($CDCl_3$) 196.2, 153.5, 152.4, 136.8, 128.9, 127.1, 123.7, 105.2, 104.5, 60.7, 56.2, 26.6; *m/z* 287 (MH^+).

Methyl 4,3',4',5'-Tetramethoxybiphenyl-2-carboxylate. Method A: 149 mg, 90%. The material had a purity of 40%. δ_H ($CDCl_3$) 7.48 (d, *J* = 8.7, 1H), 7.27 (s, 2H), 7.20 (d, *J* = 1.2, 1H),

6.91 (dd, *J* = 1.2, 8.7, 1H), 4.04 (s, 3H), 3.90 (s, 3H), 3.87 (s, 6H), 3.80 (s, 3H); δ_C ($CDCl_3$) 169.4, 155.4, 153.5, 147.4, 147.2, 138.0, 134.8, 123.7, 119.1, 105.5, 104.9, 61.3, 60.8, 56.3, 55.9; *m/z* 333 (MH^+).

5-(3,4,5-Trimethoxyphenyl)pyrimidine. Method B: 114 mg, 93%. δ_H ($CDCl_3$) 9.19 (s, 1H), 8.91 (s, 2H), 6.73 (s, 2H), 3.93 (s, 6H), 3.90 (s, 3H); δ_C ($CDCl_3$) 176.7, 157.2, 153.9, 138.8, 134.4, 129.8, 104.2, 58.7, 56.3; *m/z* 247 (MH^+).

1-Methyl-5-phenyl-4-(3,4,5-trimethoxyphenyl)-1*H*-pyrazole. Method B: 122 mg, 75%. The material had a purity of 70%. δ_H ($CDCl_3$) 7.54 (s, 1H), 7.53-7.50 (m, 3H), 7.38 (d, *J* = 7.8, 2H), 7.07 (s, 2H), 3.91 (s, 3H), 3.87 (s, 3H), 3.86 (s, 6H); δ_C ($CDCl_3$) 178.7, 152.5, 141.2, 139.1, 129.7, 129.2, 128.7, 128.3, 111.0, 104.5, 93.3, 60.6, 58.4, 38.3; *m/z* 325 (MH^+).

5-(3,4,5-Trimethoxyphenyl)-2,1,3-benzoxodiazole. Method A: 126 mg, 88%. δ_H ($CDCl_3$) 7.88 (d, *J* = 1.1, 1H), 7.87 (d, *J* = 9.3, 1H), 7.68 (dd, *J* = 1.1, 9.3, 1H), 6.83 (s, 2H), 3.94 (s, 6H), 3.91 (s, 3H); δ_C ($CDCl_3$) 153.7, 149.6, 148.6, 144.3, 139.0, 134.5, 132.9, 116.6, 112.3, 104.6, 60.7, 56.1; *m/z* 287 (MH^+).

4-Trifluoromethoxybiphenyl. Method A: 108 mg, 91%. The product was contaminated with some (20%) starting material. δ_H ($CDCl_3$) 7.60 (d, *J* = 8.3, 2H), 7.55 (d, *J* = 7.4, 2H), 7.45 (dd, *J* = 7.8, 7.8, 1H), 7.36 (dd, *J* = 7.4, 7.8, 2H), 7.29 (d, *J* = 8.3, 2H); δ_C ($CDCl_3$) 153.0, 139.8, 137.5, 128.9, 128.4, 127.6, 127.1, 120.1, 120.0; *m/z* 239 (MH^+).

***N*-(4'-Trifluoromethoxybiphenyl-4-yl)acetamide.** Method C. 128 mg, 87%. δ_H ($CDCl_3$) 7.61 (d, *J* = 8.3, 2H), 7.49 (d, *J* = 8.3, 2H), 7.35 (d, *J* = 7.7, 2H), 7.19 (d, *J* = 7.7, 2H), 2.27 (s, 3H); δ_C ($CDCl_3$) 166.2, 158.0, 139.3, 133.3, 129.1, 128.7, 127.0, 124.6, 121.9, 116.2, 19.3; *m/z* 296 (MH^+).

3-(4-Trifluoromethoxyphenyl)pyridine. Method B: 106 mg, 89%. δ_H ($CDCl_3$) 8.77 (d, *J* = 1.9, 1H), 8.57 (dd, *J* = 1.6, 1.9, 1H), 7.55 (d, *J* = 8.4, 2H), 7.35 (dd, *J* = 1.6, 7.9, 1H), 7.29 (d, *J* = 7.9, 1H), 7.08 (d, *J* = 8.4, 2H); δ_C ($CDCl_3$) 176.2, 148.4, 147.6, 135.8, 135.2, 134.4, 128.4, 123.7, 121.3, 119.3; *m/z* 240 (MH^+).

4-Methoxy-4'-trifluoromethoxybiphenyl. Method A: 112 mg, 84%. The product was contaminated with some (36%) starting material. δ_H ($CDCl_3$) 8.25 (d, *J* = 8.6, 2H), 7.55 (d, *J* = 8.6, 2H), 7.48 (d, *J* = 8.6, 2H), 6.98 (d, *J* = 8.6, 2H), 3.86 (s, 3H); δ_C ($CDCl_3$) 159.4, 152.9, 148.2, 139.6, 137.5, 132.3, 128.1, 127.9, 121.2, 120.0, 114.3, 55.3; *m/z* 269 (MH^+).

4-Trifluoromethoxy-4'-trifluoromethylbiphenyl. Method A: 152 mg, 96%. δ_H ($CDCl_3$) 7.46-7.40 (m, 2H), 7.29-7.24 (m, 2H), 7.12 (d, *J* = 8.3, 2H), 7.07 (d, *J* = 8.3, 2H); δ_C ($CDCl_3$) 152.9, 149.3, 143.3, 138.4, 137.5, 128.7, 125.9, 125.8, 119.4, 117.4; *m/z* 307 (MH^+).

4'-Trifluoromethoxybiphenyl-4-carbonitrile. Method A: 118 mg, 90%. δ_H ($CDCl_3$) 7.74 (d, *J* = 8.2, 2H), 7.65 (d, *J* = 8.2, 2H), 7.61 (d, *J* = 8.5, 2H), 7.33 (d, *J* = 8.5, 2H); δ_C ($CDCl_3$)

149.6, 144.2, 137.8, 132.7, 128.7, 127.7, 121.5, 119.4, 118.7, 111.4; *m/z* 264 (MH^+).

4-Nitro-4'-trifluoromethoxybiphenyl. Method A: 133 mg, 94%. δ_H ($CDCl_3$) 8.30 (d, *J* = 8.7, 2H), 7.71 (d, *J* = 8.7, 2H), 7.65 (d, *J* = 8.6, 2H), 7.34 (d, *J* = 8.6, 2H); δ_C ($CDCl_3$) 149.8, 146.1, 137.4, 132.6, 128.9, 128.2, 127.8, 124.2, 121.5; *m/z* 284 (MH^+).

2-(4-Trifluoromethoxyphenyl)naphthalene. Method A: 120 mg, 83%. δ_H ($CDCl_3$) 8.02 (s, 1H), 7.94 (d, *J* = 8.5, 1H), 7.91 (d, *J* = 7.6, 1H), 7.89 (d, *J* = 8.3, 1H), 7.73 (d, *J* = 8.4, 2H), 7.71 (dd, *J* = 1.5, 8.5, 1H), 7.57-7.51 (m, 2H), 7.36 (d, *J* = 8.4, 2H); δ_C ($CDCl_3$) 148.7, 139.9, 137.5, 137.1, 133.6, 132.7, 128.7, 128.6, 128.1, 127.7, 126.5, 126.2, 126.1, 125.9, 121.3; *m/z* 289 (MH^+).

4-Hydroxymethyl-4'-trifluoromethoxybiphenyl. Method C: 125 mg, 93%. The material had a purity of 86%. δ_H ($CDCl_3$) 7.91 (d, *J* = 8.5, 2H), 7.82 (d, *J* = 8.1, 2H), 7.73 (d, *J* = 8.5, 2H), 7.69 (d, *J* = 8.1, 2H), 4.80 (s, 2H); δ_C ($CDCl_3$) 159.6, 139.4, 137.1, 135.9, 128.3, 126.6, 122.5, 119.4, 114.8, 69.0; *m/z* 269 (MH^+).

4-Fluoro-4'-trifluoromethoxybiphenyl. Method A: 106 mg, 83%. δ_H ($CDCl_3$) 7.54 (d, *J* = 8.4, 2H), 7.52 (dd, *J* = 3.1, 8.6, 2H), 7.28 (d, *J* = 8.4, 2H), 7.14 (dd, *J* = 8.6, 8.6, 2H); δ_C ($CDCl_3$) 163.6, 152.9, 137.5, 136.0, 128.7, 128.3, 121.3, 120.0, 115.9; *m/z* 257 (MH^+).

2-Methyl-4'-trifluoromethoxybiphenyl. Method C: 112 mg, 89%. Method D (0.07M): 117 mg, 93%. δ_H ($CDCl_3$) 7.62 (d, *J* = 8.2, 2H), 7.54-7.52 (m, 3H), 7.25-7.15 (m, 2H), 7.00 (dd, *J* = 7.8, 7.9, 1H), 2.37 (s, 3H); δ_C ($CDCl_3$) 162.3, 137.2, 136.9, 130.1, 129.8, 128.2, 127.8, 127.5, 126.8, 122.5, 114.7, 15.2; *m/z* 253 (MH^+).

1-[5-(4-Trifluoromethoxyphenyl)thiophen-2-yl]ethanone. Method A: 99 mg, 69%. The product was contaminated with some (27%) starting material. δ_H ($CDCl_3$) 7.66 (d, *J* = 8.3, 2H), 7.65 (d, *J* = 3.9, 1H), 7.29 (d, *J* = 3.9, 1H), 7.26 (d, *J* = 8.3, 2H), 2.56 (s, 3H); δ_C ($CDCl_3$) 190.6, 150.9, 143.7, 133.5, 132.6, 132.0, 131.2, 127.7, 124.4, 121.5, 26.5; *m/z* 287 (MH^+).

2-Methyl-3-nitro-4'-trifluoromethoxybiphenyl. Method A: 138 mg, 93%. δ_H ($CDCl_3$) 7.82 (d, *J* = 7.9, 1H), 7.43 (d, *J* = 7.7, 1H), 7.37 (dd, *J* = 7.7, 7.9, 1H), 7.32 (d, *J* = 8.7, 2H), 7.31 (d, *J* = 8.7, 2H); δ_C ($CDCl_3$) 151.3, 148.8, 143.4, 138.6, 133.8, 130.7, 130.1, 126.3, 123.5, 120.9, 119.4, 16.9; *m/z* 298 (MH^+).

2-Methoxy-4'-trifluoromethoxybiphenyl. Method A: 119 mg, 89%. δ_H ($CDCl_3$) 8.24 (d, *J* = 8.4, 2H), 7.54 (dd, *J* = 1.4, 7.8, 1H), 7.34 (d, *J* = 8.4, 2H), 7.30-7.24 (m, 1H), 6.91 (d, *J* = 8.2, 1H), 6.84 (dd, *J* = 7.7, 7.8, 1H), 3.90 (s, 3H); δ_C ($CDCl_3$) 155.8, 152.9, 152.8, 137.5, 133.3, 130.7, 128.5, 121.8, 120.9, 111.9, 111.2, 56.1; *m/z* 269 (MH^+).

Methyl 4'-trifluoromethoxybiphenyl-2-carboxylate. Method A: 121 mg, 82%. δ_H ($CDCl_3$) 7.86 (d, *J* = 7.8, 1H), 7.55 (dd, *J* = 7.6, 7.8, 1H), 7.44 (dd, *J* = 7.6, 7.8, 1H), 7.34 (d, *J* = 7.8, 1H), 7.33 (d, *J* = 8.4, 2H), 7.24 (d, *J* = 8.4, 2H), 3.65 (s, 3H); δ_C ($CDCl_3$) 168.6, 148.5, 141.2, 140.1, 131.5, 130.7, 130.6, 130.1, 129.7, 127.6, 121.5, 120.4, 45.9; *m/z* 297 (MH^+).

Methyl 4-methoxy-4'-trifluoromethoxybiphenyl-2-carboxylate. Method A: 132 mg, 81%. δ_H ($CDCl_3$) 7.38 (d, *J* = 2.7, 1H), 7.29 (d, *J* = 8.4, 1H), 7.25 (d, *J* = 8.4, 2H), 7.22 (d, *J* = 8.4, 2H), 7.07 (dd, *J* = 2.7, 8.4, 1H), 3.86 (s, 3H), 3.64 (s, 3H); δ_C ($CDCl_3$) 168.6, 158.9, 148.2, 139.8, 133.6, 131.9, 129.8, 120.4, 117.6, 113.9, 55.5, 52.1; *m/z* 327 (MH^+).

5-(4-Trifluoromethoxyphenyl)pyrimidine. Method B: 115 mg, 96%. δ_H ($CDCl_3$) 9.19 (s, 1H), 8.90 (s, 2H), 7.58 (d, *J* = 8.3, 2H), 7.34 (d, *J* = 8.3, 2H); δ_C ($CDCl_3$) 176.4, 157.5, 154.7, 135.8, 132.7, 128.5, 121.7, 119.3; *m/z* 241 (MH^+).

1-Methyl-5-phenyl-4-(4-trifluoromethoxyphenyl)-1*H*-pyrazole. Method B: 158 mg, 99%. δ_H ($CDCl_3$) 7.83 (d, *J* = 8.3, 2H), 7.53-7.41 (m, 4H), 7.40-7.35 (m, 2H), 7.12 (d, *J* = 8.3, 2H), 3.79 (s, 3H); δ_C ($CDCl_3$) 162.3, 144.2, 136.7, 136.5, 129.3, 128.9, 128.6, 128.0, 127.2, 124.5, 122.5, 114.5, 34.8; *m/z* 319 (MH^+).

5-(4-Trifluoromethoxyphenyl)-2,1,3-benzoxodiazole. Method A: 127 mg, 91%. δ_H ($CDCl_3$) 7.94 (d, *J* = 7.9, 2H), 7.68 (d, *J* = 7.9, 2H), 7.68 (s, 1H), 7.36 (d, *J* = 8.3, 1H), 7.35 (d, *J* =

8.3, 1H); δ_C ($CDCl_3$) 149.8, 149.6, 148.5, 142.9, 137.4, 132.5, 128.8, 121.4, 120.0, 117.1, 113.1; *m/z* 281 (MH^+).

***N*-(4-Quinolin-3-yl-phenyl)acetamide.** Method C: 101 mg, 77%. The material had a purity of 90%. δ_H ($CDCl_3$) 8.91 (d, *J* = 1.8, 1H), 8.22 (s, 1H), 8.11 (d, *J* = 8.2, 1H), 7.84 (d, *J* = 8.0, 1H), 7.72 (d, *J* = 8.4, 2H), 7.68 (dd, *J* = 7.2, 8.2, 1H), 7.55 (dd, *J* = 7.2, 8.3, 1H), 7.48 (d, *J* = 8.4, 2H); δ_C ($CDCl_3$) 163.5, 150.2, 147.6, 140.9, 132.8, 131.8, 129.5, 128.9, 128.7, 128.2, 127.4, 126.7, 126.0, 121.9, 17.6; *m/z* 263 (MH^+).

3-Pyridin-3-ylquinoline. Method B: 89 mg, 87%. The material had a purity of 80%. δ_H ($CDCl_3$) 9.13 (d, *J* = 1.9, 1H), 8.95 (d, *J* = 1.7, 1H), 8.66 (s, 1H), 8.13 (d, *J* = 8.4, 1H), 8.00 (d, *J* = 7.9, 1H), 7.89 (d, *J* = 8.1, 1H), 7.75 (d, *J* = 8.1, 1H), 7.61-7.58 (m, 2H), 7.46-7.44 (m, 1H); δ_C ($CDCl_3$) 149.7, 149.4, 148.1, 146.8, 134.9, 134.6, 134.1, 133.0, 130.2, 129.8, 129.2, 128.5, 126.5, 123.6; *m/z* 207 (MH^+).

3-Biphenyl-4-ylquinoline. Method C: 115 mg, 82%. The material had a purity of 74%. 8.41 (s, 1H), 7.95 (d, *J* = 1.9, 1H), 7.83 (d, *J* = 7.8, 1H), 7.50-7.42 (m, 3H), 7.25-7.21 (m, 4H), 7.18-7.15 (m, 4H), 7.09 (dd, *J* = 7.8, 7.9, 1H); δ_C ($CDCl_3$) 155.3, 149.3, 138.8, 136.9, 135.4, 134.3, 131.8, 130.4, 129.9, 129.6, 128.7, 128.2, 127.8, 127.5, 127.2, 127.0, 126.3; *m/z* 282 (MH^+).

3-(4-Trifluoromethylphenyl)quinoline. Method B: 124 mg, 91%. The material had a purity of 80%. δ_H ($CDCl_3$) 9.14 (d, *J* = 2.1, 1H), 8.32 (d, *J* = 1.9, 1H), 8.13 (d, *J* = 8.4, 1H), 7.88

(d, *J* = 8.1, 1H), 7.80 (d, *J* = 8.0, 2H), 7.79-7.77 (m, 3H), 7.74 (dd, *J* = 7.7, 8.4, 1H); δ_C ($CDCl_3$) 176.3, 155.2, 149.1, 147.4, 143.4, 141.2, 133.8, 132.1, 129.9, 128.9, 128.1, 127.6, 127.3, 125.9; *m/z* 274 (MH^+).

4-Quinolin-3-ylbenzonitrile. Method B: 115 mg, 99%. The material had a purity of 95%. δ_H ($CDCl_3$) 9.09 (d, *J* = 1.3, 1H), 8.30 (s, 1H), 8.08 (d, *J* = 8.3, 1H), 7.87 (d, *J* = 8.1, 1H), 7.78 (d, *J* = 8.2, 2H), 7.74 (d, *J* = 8.2, 2H), 7.71 (dd, *J* = 7.2, 8.1, 1H), 7.56 (dd, *J* = 7.2, 8.3, 1H); δ_C ($CDCl_3$) 148.8, 147.5, 142.2, 134.1, 132.8, 131.6, 130.2, 128.9, 128.2, 127.9, 127.6, 127.4, 118.6, 111.5; *m/z* 231 (MH^+).

3-(4-Nitrophenyl)quinoline. Method B: 113 mg, 91%. δ_H ($CDCl_3$) 9.10 (d, *J* = 2.1, 1H), 8.34 (d, *J* = 1.8, 1H), 8.28 (d, *J* = 8.6, 2H), 8.07 (d, *J* = 8.4, 1H), 7.86 (d, *J* = 8.1, 1H), 7.81 (d, *J* = 8.6, 2H), 7.69 (dd, *J* = 7.2, 8.1, 1H), 7.55 (dd, *J* = 7.2, 8.4, 1H); δ_C ($CDCl_3$) 175.6, 148.7, 147.5, 147.2, 144.0, 134.3, 131.0, 130.3, 128.8, 128.3, 127.9, 127.4, 124.2; *m/z* 251 (MH^+).

3-(4-Hydroxymethylphenyl)quinoline. Method C: 96 mg, 82%. The material had a purity of 81%. δ_H ($CDCl_3$) 8.82 (d, *J* = 1.8, 1H), 8.22 (d, *J* = 1.8, 1H), 7.99 (d, *J* = 7.9, 1H), 7.65-7.60 (m, 2H), 7.48 (d, *J* = 8.1, 2H), 7.42 (dd, *J* = 7.8, 8.0, 1H), 7.32 (d, *J* = 8.2, 2H), 4.76 (s, 2H); δ_C ($CDCl_3$) 152.4, 146.7, 141.3, 135.8, 134.7, 131.0, 130.2, 129.6, 128.2, 127.9, 127.5, 127.4, 126.3, 66.7; *m/z* 236 (MH^+).

3-(4-Fluorophenyl)quinoline. Method B: 101 mg, 91%. The product was contaminated with some (18%) starting material.

δ_H ($CDCl_3$) 8.81 (dd, *J* = 2.0, 8.1, 1H), 8.18 (d, *J* = 2.0, 1H), 8.0 (d, *J* = 8.2, 1H), 7.81 (d, *J* = 7.9, 1H), 7.51-7.47 (m, 3H), 7.39 (dd, *J* = 7.7, 7.9, 1H), 7.08 (dd, *J* = 8.2, 8.2, 2H); δ_C ($CDCl_3$) 162.1, 149.8, 146.6, 134.5, 132.7, 130.7, 129.7, 129.1, 128.8, 128.3, 127.6, 125.5, 117.9; *m/z* 224 (MH^+).

3-(2-Methyl-3-nitrophenyl)quinoline. Method B: 123 mg, 93%. The material had a purity of 98%. δ_H ($CDCl_3$) 8.84 (d, *J* = 2.1, 1H), 8.14 (d, *J* = 8.3, 1H), 8.08 (d, *J* = 1.8, 1H), 7.86-7.85 (m, 2H), 7.76 (dd, *J* = 7.2, 8.3, 1H), 7.60 (dd, *J* = 7.2, 7.7, 1H), 7.52 (d, *J* = 7.7, 1H), 7.43 (dd, *J* = 7.8, 7.9, 1H), 2.39 (s, 3H); δ_C ($CDCl_3$) 173.6, 151.1, 150.4, 147.0, 140.9, 135.9, 134.3, 132.6, 130.3, 130.0, 128.9, 127.9, 127.3, 126.7, 123.8, 16.9; *m/z* 265 (MH^+).

3-(4-Acetylphenyl)quinoline.[23] Method B: 155 mg, 93%. The material had a purity of 95%. δ_H ($CDCl_3$) 9.16 (d, *J* = 2.0, 1H), 8.33 (d, *J* = 1.8, 1H), 8.11 (d, *J* = 8.4, 1H), 8.07 (d, *J* = 8.2, 2H), 7.88 (d, *J* = 8.1, 1H), 7.78 (d, *J* = 8.2, 2H), 7.72 (dd, *J* = 7.3, 8.4, 1H), 7.57 (dd, *J* = 7.3, 8.1, 1H), 2.63 (s, 3H); *m/z* 248 (MH^+).

3-Pyrimidin-5-ylquinoline.[24] Method B: 98 mg, 94%. The material had a purity of 88%. δ_H ($CDCl_3$) 9.26 (s, 1H), 9.11 (d, *J* = 2.1, 1H), 9.07 (s, 2H), 8.35 (d, *J* = 1.9, 1H), 8.14 (d, *J* = 8.4, 1H), 7.91 (d, *J* = 8.1, 1H), 7.77 (dd, *J* = 7.2, 8.1, 1H), 7.62 (dd, *J* = 7.2, 8.4, 1H); *m/z* 208 (MH^+).

4'-Methylbiphenyl-2-carbaldehyde.[25] Method A: 91 mg, 93%. The product was contaminated with some (30%) starting material.

δ_H ($CDCl_3$) 10.0 (s, 1H), 8.03 (d, *J* = 7.7, 1H), 7.62 (d, *J* = 7.5, 1H), 7.52-7.43 (m, 2H), 7.29-7.27 (m, 4H), 2.44 (s, 3H); *m/z* 197 (MH^+).

3-*p*-Tolylpyridine.[8] Method B: 75 mg, 89%. δ_H ($CDCl_3$) 8.81 (s, 1H), 8.55 (d, *J* = 4.8, 1H), 7.86 (d, *J* = 7.8, 1H), 7.47 (d, *J* = 8.0, 2H), 7.35 (dd, *J* = 4.8, 7.9, 1H), 7.28 (d, *J* = 8.0, 2H), 2.40 (s, 3H); *m/z* 170 (MH^+).

1-(4-Methylphenyl)naphthalene.[26] Method A: 105 mg, 96%. δ_H ($CDCl_3$) 7.88 (d, *J* = 8.9, 1H), 7.86 (d, *J* = 8.4, 1H), 7.80 (d, *J* = 8.0, 1H), 7.50-7.41 (m, 2H), 7.40-7.35 (m, 4H), 7.27 (d, *J* = 8.4, 2H), 2.42 (s, 3H); *m/z* 219 (MH^+).

4-Methoxy-4'-methylbiphenyl.[18] Method A: 83 mg, 84%. δ_H ($CDCl_3$) 7.52 (d, *J* = 8.7, 2H), 7.46 (d, *J* = 8.0, 2H), 7.24 (d, *J* = 8.0, 2H), 6.98 (d, *J* = 8.7, 2H), 3.86 (s, 3H), 2.40 (s, 3H); *m/z* 199 (MH^+).

4-Methyl-4'-trifluoromethylbiphenyl.[27] Method A: 102 mg, 86%. δ_H ($CDCl_3$) 8.17 (d, *J* = 8.0, 2H), 7.72-7.65 (m, 4H), 7.29 (d, *J* = 8.0, 2H), 2.42 (s, 3H); *m/z* 237 (MH^+).

2-Bromo-4'-methylbiphenyl. Method A: 99 mg, 80%. The material had a purity of 85%. δ_H ($CDCl_3$) 7.64 (d, *J* = 8.1, 2H), 7.42-7.39 (m, 2H), 7.33 (d, *J* = 8.1, 2H), 7.21 (dd, *J* = 7.9, 8.0, 1H), 7.01-7.00 (m, 1H), 2.36 (s, 3H); δ_C ($CDCl_3$) 142.9, 140.3, 138.7, 135.7, 130.7, 129.7, 128.8, 128.6, 126.9, 101.2, 22.0; *m/z* 249 ($^{81}BrMH^+$).

4'-Methylbiphenyl-4-carbonitrile.[28] Method A: 81 mg, 84%. δ_H ($CDCl_3$) 7.70 (d, *J* = 8.3, 2H), 7.67 (d, *J* = 8.3, 2H), 7.50 (d, *J* = 8.1, 2H), 7.30 (d, 8.1, 2H), 2.42 (s, 3H); *m/z* 194 (MH^+).

4-Methyl-4'-nitrobiphenyl.[29] Method A: 97 mg, 91%. δ_H ($CDCl_3$) 8.22 (d, *J* = 8.2, 2H), 7.69 (d, *J* = 8.2, 2H), 7.55 (d, *J* = 7.8, 2H), 7.26 (d, *J* = 7.8, 2H), 2.39 (s, 3H); *m/z* 214 (MH^+).

2-(4-Methylphenyl)naphthalene.[30] Method A: 91 mg, 83%. The product was contaminated with some (35%) starting material. δ_H ($CDCl_3$) 8.20 (d, *J* = 7.8, 1H), 8.10 (d, *J* = 1.5, 1H), 7.95 (dd, *J* = 6.2, 8.0, 1H), 7.92 (d, *J* = 7.8, 1H), 7.81 (dd, *J* = 1.5, 8.4, 1H), 7.70 (d, *J* = 8.0, 2H), 7.55 (dd, *J* = 6.2, 8.4, 1H), 7.38 (d, *J* = 8.0, 1H), 7.36 (d, *J* = 8.0, 2H), 2.49 (s, 3H); *m/z* 219 (MH^+).

4-Hydroxymethyl-4'-methylbiphenyl. Method A: 83 mg, 84%. The material had a purity of 42%. Method C: 91 mg, 92%. The material had a purity of 86%. Method D (0.07M): 88 mg, 89%. δ_H ($CDCl_3$) 7.71 (d, *J* = 8.0, 2H), 7.49 (d, *J* = 8.2, 2H), 7.26 (d, *J* = 8.2, 2H), 7.14 (d, *J* = 8.0, 2H), 4.74 (br s, 2H), 2.37 (s, 3H); δ_C ($CDCl_3$) 138.6, 136.5, 135.9, 133.0, 129.4, 128.7, 128.2, 127.7, 69.4, 23.6; *m/z* 181, $(M+H-H_2O)^+$; 199 (MH^+).

4-Fluoro-4'-methylbiphenyl.[18] Method A: 92 mg, 99%. The product was contaminated with some (23%) starting material. δ_H ($CDCl_3$) 7.54 (dd, *J* = 3.2, 8.6, 2H), 7.43 (d, *J* = 8.0,

2H), 7.26 (d, *J* = 8.0, 2H), 7.08 (dd, *J* = 8.5, 8.6, 2H), 2.40 (s, 3H); *m/z* 187 (MH^+).

2,4'-Dimethylbiphenyl.[18] Method A: 85 mg, 93%. The product was contaminated with some (36%) starting material. δ_H ($CDCl_3$) 7.81 (d, *J* = 7.9, 1H), 7.48 (d, *J* = 8.0, 2H), 7.39-7.25 (m, 4H), 7.20 (d, *J* = 7.8, 1H), 2.47 (s, 3H), 2.44 (s, 3H); *m/z* 183 (MH^+).

5-Acetyl-2-(4-methylphenyl)thiophene. Method A: 87 mg, 81%. The product was contaminated with some (47%) starting material. δ_H ($CDCl_3$) 7.64 (d, *J* = 4.0, 1H), 7.54 (d, *J* = 8.1, 2H), 7.27 (d, *J* = 4.0, 1H), 7.22 (d, *J* = 8.1, 2H), 2.56 (s, 3H), 2.38 (s, 3H); δ_C ($CDCl_3$) 190.6, 153.1, 145.6, 142.5, 135.7, 133.6, 129.8, 125.6, 123.4, 26.2, 21.3; *m/z* 217 (MH^+).

2-Chloro-4'-methylbiphenyl. Method A: 90 mg, 89%. δ_H ($CDCl_3$) 8.14 (d, *J* = 8.1, 2H), 7.37 (d, *J* = 8.1, 2H), 7.25-7.19 (m, 4H), 2.43 (s, 3H); δ_C ($CDCl_3$) 137.4, 136.1, 133.5, 132.4, 129.4, 129.1, 128.8, 128.6, 127.2, 127.0, 21.3; *m/z* 203 (MH^+).

2,4'-Dimethyl-3-nitrobiphenyl. Method A: 100 mg, 88%. δ_H ($CDCl_3$) 7.78 (d, *J* = 8.1, 1H), 7.45 (d, *J* = 7.6, 1H), 7.35 (dd, *J* = 7.6, 8.1, 1H), 7.26 (d, *J* = 7.9, 2H), 7.18 (d, *J* = 7.9, 2H), 2.42 (s, 3H), 2.36 (s, 3H); δ_C ($CDCl_3$) 149.6, 138.9, 136.9, 133.8, 133.2, 131.1, 129.7, 127.2, 126.6, 122.4, 21.4, 15.5; *m/z* 228 (MH^+).

4-Acetyl-4'-methylbiphenyl.[31] Method A: 127 mg, 91%. δ_H ($CDCl_3$) 8.02 (d, *J* = 8.3, 2H), 7.68 (d, *J* = 8.3, 2H), 7.54 (d, *J* = 7.9, 2H), 7.28 (d, *J* = 7.9, 2H), 2.64 (s, 3H), 2.42 (s, 3H); *m/z* 211 (MH^+).

2-Methoxy-4'-methylbiphenyl.[27] Method A: 76 mg, 77%. The product was contaminated with some (60%) starting material. Method D (0.01M): 86 mg, 87%. The product was contaminated with some (6%) starting material. δ_H ($CDCl_3$) 7.39 (d, *J* = 7.9, 2H), 7.33-7.29 (m, 2H), 7.22 (d, *J* = 7.9, 2H), 7.05 (dd, *J* = 7.8, 8.0, 1H), 6.98 (d, *J* = 8.1, 1H), 3.81 (s, 3H), 2.38 (s, 3H); *m/z* 199 (MH^+).

Ethyl (4'-methylbiphenyl-4-yl)acetate. Method A: 126 mg, 99%. The product was contaminated with some (50%) starting material. δ_H ($CDCl_3$) 8.13 (d, *J* = 7.7, 2H), 7.46 (d, *J* = 8.0, 2H), 7.32 (d, *J* = 7.7, 2H), 7.16 (d, *J* = 8.0, 2H), 4.16 (q, *J* = 7.2, 2H), 3.61 (s, 2H), 2.45 (s, 3H), 1.27 (t, *J* = 7.2, 3H); δ_C ($CDCl_3$) 171.3, 136.8, 135.36, 133.7, 133.4, 130.2, 129.5, 127.1, 126.6, 60.4, 39.8, 21.3, 14.7; *m/z* 255 (MH^+).

Methyl 4'-methylbiphenyl-2-carboxylate.[31] Method A: 111 mg, 98%. δ_H ($CDCl_3$) 7.81 (d, *J* = 7.9, 1H), 7.53 (dd, *J* = 7.6, 7.7, 1H), 7.38-7.35 (m, 2H), 7.22-7.18 (m, 4H), 3.65 (s, 3H), 2.40 (s, 3H); *m/z* 227 (MH^+).

Methyl 4-methoxy-4'-methylbiphenyl-2-carboxylate. Method A: 116 mg, 91%. δ_H ($CDCl_3$) 7.33 (d, *J* = 2.7, 1H), 7.29 (d, *J* = 8.5, 1H), 7.19-7.17 (m, 4H), 7.07 (dd, *J* = 2.7, 8.5, 1H), 3.87 (s, 3H), 3.67 (s, 3H), 2.39 (s, 3H); δ_C ($CDCl_3$) 169.1,

158.4, 138.0, 136.5, 134.9, 131.9, 131.6, 128.8, 128.2, 117.5, 114.3, 55.5, 52.0, 21.2; *m/z* 257 (MH^+).

4,4'-Dimethylbiphenyl.[32] Method A: 68 mg, 71%. The product was contaminated with some (50%) starting material. δ_H ($CDCl_3$) 7.24 (d, *J* = 8.6, 4H), 7.16 (d, *J* = 8.6, 4H), 2.39 (s, 6H); *m/z* 183 (MH^+).

5-(4-Methylphenyl)pyrimidine.[33] Method B: 77 mg, 91%. δ_H ($CDCl_3$) 10.38 (s, 1H), 9.99 (s, 2H), 8.01 (d, *J* = 7.9, 2H), 7.19 (d, *J* = 7.9, 2H), 2.37 (s, 3H); *m/z* 171 (MH^+).

1-Methyl-5-phenyl-4-(4-methylphenyl)-1*H*-pyrazole. Method B: 121 mg, 98%. δ_H ($CDCl_3$) 7.73 (d, *J* = 7.7, 2H), 7.52 (s, 1H), 7.51-7.39 (m, 5H), 7.09 (d, *J* = 7.7, 2H), 2.42 (s, 3H); δ_C ($CDCl_3$) 177.8, 141.2, 139.6, 139.1, 134.4, 129.7, 129.2, 128.7, 128.3, 128.1, 93.3, 38.3, 21.5; *m/z* 249 (MH^+).

5-(4-Methylphenyl)-2,1,3-benzoxodiazole. Method A: 87 mg, 83%. δ_H ($CDCl_3$) 7.91 (s, 1H), 7.88 (d, *J* = 9.3, 1H), 7.71 (d, *J* = 9.3, 1H), 7.55 (d, *J* = 8.0, 2H), 7.32 (d, *J* = 8.0, 2H), 2.43 (s, 3H); δ_C ($CDCl_3$) 149.8, 142.9, 139.3, 135.8, 132.9, 129.9, 128.8, 127.1, 116.5, 112.0, 21.9; *m/z* 211 (MH^+).

2,6,4'-Trimethylbiphenyl. Method A: 67 mg, 68%. The product was contaminated with some (21%) starting material. δ_H ($CDCl_3$) 7.24 (d, *J* = 7.7, 2H), 7.11 (dd, *J* = 8.2, 8.2, 1H), 7.08 (d, *J* = 8.2, 2H), 7.05 (d, *J* = 7.7, 2H), 2.46 (s, 3H), 2.40 (s, 6H); δ_C ($CDCl_3$) 138.4, 136.9, 136.4, 135.8, 129.1, 128.6, 127.4, 126.7, 20.1, 15.0; *m/z* 197 (MH^+).

3-Chloro-4-fluorobiphenyl. Method A: 88 mg, 85%. The material had a purity of 60%. δ_H ($CDCl_3$) 7.62 (dd, *J* = 2.3, 7.6, 1H), 7.51 (m, 2H), 7.43-7.40 (m, 3H), 7.37 (d, *J* = 2.2, 1H), 7.22 (dd, *J* = 7.6, 7.8, 1H); δ_C ($CDCl_3$) 158.6, 156.6, 139.0, 136.6, 129.2, 128.9, 127.8, 126.7, 121.2, 116.9; *m/z* 207 (MH^+).

3'-Chloro-4'-fluorobiphenyl-2-carbaldehyde. Method A: 105 mg, 90%. δ_H ($CDCl_3$) 9.97 (s, 1H), 8.02 (d, *J* = 7.7, 1H), 7.65 (dd, *J* = 7.6, 7.9, 1H), 7.54 (dd, *J* = 7.6, 7.7, 1H), 7.46-7.40 (m, 3H), 7.24 (dd, *J* = 1.9, 8.3, 1H); δ_C ($CDCl_3$) 191.5, 159.0, 157.0, 143.2, 135.0, 133.8, 133.6, 131.8, 130.7, 129.8, 128.4, 127.9, 116.5 (d, *J* = 21.2); *m/z* 235 (MH^+).

***N*-(3'-Chloro-4'-fluorobiphenyl-4-yl)acetamide.** Method A: 126 mg, 96%. The product was contaminated with some (18%) starting material. δ_H ($CDCl_3$) 7.63 (d, *J* = 7.9, 2H), 7.52 (dd, *J* = 2.1, 7.8, 1H), 7.41-7.38 (m, 3H), 7.18 (dd, *J* = 7.9, 8.0, 1H), 2.39 (s, 3H); δ_C ($CDCl_3$) 168.1, 159.9, 139.0, 133.4, 132.8, 129.8, 127.3, 127.1, 121.4, 120.3, 117.6, 18.4; *m/z* 264 (MH^+).

3-(3-Chloro-4-fluorophenyl)pyridine. Method B: 101 mg, 97%. δ_H ($CDCl_3$) 8.74 (d, *J* = 2.0, 1H), 8.57 (d, *J* = 2.1, 1H), 7.78 (d, *J* = 7.9, 1H), 7.56 (dd, *J* = 2.1, 6.9, 1H), 7.36-7.35 (m, 1H), 7.34 (dd, *J* = 7.8, 7.9, 1H), 7.21 (d, *J* = 8.6, 1H); δ_C ($CDCl_3$) 175.1, 158.7, 156.7, 148.4, 147.2, 136.2, 134.2, 126.9, 123.7, 115.4, 115.3; *m/z* 208 (MH^+).

3-Chloro-4-fluoro-[1,1';4',1'']terphenyl. Method A: 134 mg, 95%. δ_H ($CDCl_3$) 7.69-7.63 (m, 3H), 7.57-7.54 (m, 3H), 7.47-7.38 (m, 4H), 7.22-7.11 (m, 2H); δ_C ($CDCl_3$) 140.7, 137.9, 137.8, 131.8, 129.1, 128.9, 128.7, 127.7, 127.3, 127.0, 126.7, 126.6, 117.0, 116.8; *m/z* 283 (MH^+).

1-(3-Chloro-4-fluorophenyl)naphthalene. Method A: 115 mg, 90%. δ_H ($CDCl_3$) 7.68 (d, *J* = 7.9, 1H), 7.66 (d, *J* = 8.0, 1H), 7.64 (d, *J* = 8.0, 1H), 7.57 (d, *J* = 7.7, 1H), 7.44-7.43 (m, 2H), 7.34-7.32 (m, 3H), 7.07 (dd, *J* = 7.8, 8.1, 1H); δ_C ($CDCl_3$) 137.9, 137.8, 137.7, 133.8, 132.0, 131.4, 129.8, 129.7, 128.5, 128.3, 127.1, 126.5, 126.0, 125.4, 125.3, 116.4; *m/z* 257 (MH^+).

3-Chloro-4-fluoro-4'-methoxybiphenyl. Method A: 112 mg, 95%. δ_H ($CDCl_3$) 7.57 (dd, *J* = 2.1, 8.5, 1H), 7.46 (d, *J* = 8.0, 2H), 7.38 (ddd, *J* = 2.3, 4.4, 6.8, 1H), 7.19 (dd, *J* = 8.5, 8.5, 1H), 6.98 (d, *J* = 8.0, 2H), 3.85 (s, 3H); δ_C ($CDCl_3$) 159.5, 158.2, 156.2, 138.1, 131.5, 128.7, 128.0, 126.2, 116.6, 55.4; *m/z* 237 (MH^+).

3-Chloro-4-fluoro-4'-trifluoromethylbiphenyl. Method A: 120 mg, 87%. The material had a purity of 97%. δ_H ($CDCl_3$) 7.70 (d, *J* = 8.1, 2H), 7.61 (d, *J* = 8.1, 2H), 7.42 (ddd, *J* = 2.1, 4.5, 6.9, 1H), 7.23-7.20 (m, 2H); δ_C ($CDCl_3$) 159.2, 157.2, 142.4, 136.9, 136.3, 128.9, 127.3, 127.0, 125.9, 117.2. 117.0; *m/z* 275 (MH^+).

2-Bromo-3'-chloro-4'-fluorobiphenyl. Method A: 116 mg, 81%. δ_H ($CDCl_3$) 7.45-7.37 (m, 2H), 7.30-7.19 (m, 3H), 6.99 (dd, *J*

= 4.6, 8.8, 1H), 6.90 (ddd, *J* = 2.2, 4.7, 7.0, 1H); δ_C ($CDCl_3$) 156.3, 138.2, 138.0, 132.7, 131.6, 130.5, 129.7, 129.2, 128.4, 120.6, 116.3; *m/z* 286 (MH^+).

3'-Chloro-4'-fluorobiphenyl-4-carbonitrile. Method A: 108 mg, 93%. δ_H ($CDCl_3$) 7.72 (d, *J* = 8.4, 2H), 7.62 (d, *J* = 8.4, 2H), 7.61 (d, *J* = 6.7, 1H), 7.45 (dd, *J* = 4.4, 8.6, 1H), 7.24 (dd, *J* = 8.6, 8.6, 1H); δ_C ($CDCl_3$) 159.4, 157.4, 143.3, 136.4, 132.8, 129.5, 127.6, 126.9, 118.6, 117.2, 111.6; *m/z* 232 (MH^+).

2-(3-Chloro-4-fluorophenyl)pyridine. Method C: 95 mg, 92%. δ_H ($CDCl_3$) 8.82 (d, *J* = 1.5, 1H), 8.69 (dd, *J* = 1.5, 7.2, 1H), 7.80-7.75 (m, 2H), 7.74-7.70 (m, 2H), 7.34 (dd, *J* = 7.9, 8.2, 1H); δ_C ($CDCl_3$) 162.3, 149.5, 148.4, 143.2, 134.6, 133.7, 129.9, 126.0, 123.3, 121.6, 117.1; *m/z* 208 (MH^+).

3-Chloro-4-fluoro-4'-nitrobiphenyl. Method A: 112 mg, 89%. δ_H ($CDCl_3$) 8.28 (d, *J* = 8.6, 2H), 7.67 (d, *J* = 8.6, 2H), 7.64 (dd, *J* = 2.0, 6.9, 1H), 7.49 (ddd, *J* = 2.3, 4.3, 6.9, 1H), 7.26 (dd, *J* = 8.5, 8.5, 1H); δ_C ($CDCl_3$) 159.6, 147.4, 145.2, 136.0, 129.6, 127.7, 127.1, 124.9, 124.3, 117.3; *m/z* 252 (MH^+).

2-(3-Chloro-4-fluorophenyl)naphthalene. Method A: 121 mg, 94%. δ_H ($CDCl_3$) 7.97 (s, 1H), 7.93-7.87 (m, 3H), 7.74 (dd, *J* = 1.9, 6.9, 1H), 7.65 (dd, *J* = 1.2, 8.6, 1H), 7.57-7.50 (m, 3H), 7.25 (dd, *J* = 8.5, 8.5, 1H); δ_C ($CDCl_3$) 158.7, 156.7, 138.4, 136.2, 133.5, 132.7, 129.4, 128.7, 128.2, 127.7, 127.0, 126.6, 126.3, 125.8, 125.0, 116.9; *m/z* 257 (MH^+).

3-Chloro-4,4'-difluorobiphenyl. Method A: 111 mg, 99%. δ_H ($CDCl_3$) 7.55 (dd, *J* = 2.2, 6.9, 1H), 7.47 (ddd, *J* = 1.8, 5.3, 8.6, 2H), 7.37 (ddd, *J* = 2.3, 4.5, 6.9, 1H), 7.19 (dd, *J* = 8.6, 8.6, 1H), 7.11 (dd, *J* = 8.5, 8.6, 2H); δ_C ($CDCl_3$) 163.6, 161.8, 156.6, 137.5, 136.6, 129.1, 128.6, 127.3, 126.6, 115.8; *m/z* 226 (MH^+).

3-Chloro-4-fluoro-2'-methylbiphenyl. Method A: 98 mg, 89%. δ_H ($CDCl_3$) 7.36 (d, *J* = 6.9, 1H), 7.28-7.23 (m, 3H), 7.22-7.17 (m, 3H), 2.26 (s, 3H); δ_C ($CDCl_3$) 158.2, 139.6, 139.0, 135.3, 131.2, 130.5, 129.6, 128.9, 127.8, 125.9, 116.1, 20.3; *m/z* 221 (MH^+).

5-Acetyl-2-(3-chloro-4-fluorophenyl)thiophene Method A: 104 mg, 82%. δ_H ($CDCl_3$) 7.67 (dd, *J* = 2.1, 6.7, 1H), 7.64 (d, *J* = 3.9, 1H), 7.49 (ddd, *J* = 2.3, 4.4, 6.7, 1H), 7.25 (d, *J* = 3.9, 1H), 7.18 (dd, *J* = 8.5, 8.5, 1H), 2.56 (s, 3H); δ_C ($CDCl_3$) 190.4, 159.3, 157.3, 149.8, 143.8, 133.4, 131.2, 128.4, 126.1, 124.5, 117.2, 26.5; *m/z* 255 (MH^+).

2',3-Dichloro-4-fluorobiphenyl. Method A: 110 mg, 92%. δ_H ($CDCl_3$) 7.47-7.42 (m, 2H), 7.30-7.26 (m, 4H), 7.16 (dd, *J* = 8.6, 8.6, 1H); δ_C ($CDCl_3$) 158.6, 156.6, 138.2, 136.3, 132.4, 131.6, 131.1, 130.1, 129.3, 129.2, 127.0, 115.7; *m/z* 241 (MH^+).

3-Chloro-4-fluoro-2'-methyl-3'-nitrobiphenyl. Method A: 119 mg, 90%. δ_H ($CDCl_3$) 7.81 (d, *J* = 7.9, 1H), 7.42 (d, *J* = 7.5, 1H), 7.37 (dd, *J* = 7.5, 7.9, 1H), 7.34 (dd, *J* = 1.4, 6.8,

1H), 7.23 (dd, *J* = 8.5, 8.5, 1H), 7.16 (ddd, *J* = 2.2, 4.4, 6.8, 1H), 2.34 (s, 3H); δ_C ($CDCl_3$) 158.7, 156.8, 142.5, 137.0, 133.7, 131.3, 130.1, 129.1, 126.4, 123.7, 116.6, 16.9; *m/z* 266 (MH^+).

4-Acetyl-3'-chloro-4'-fluorobiphenyl. Method A: 102 mg, 82%. δ_H ($CDCl_3$) 8.03 (d, *J* = 8.4, 2H), 7.65 (dd, *J* = 2.1, 6.9, 1H), 7.62 (d, *J* = 8.4, 2H), 7.48 (ddd, *J* = 2.3, 4.4, 6.9, 1H), 7.24 (dd, *J* = 8.6, 8.6, 1H), 2.64 (s, 3H); δ_C ($CDCl_3$) 197.7, 159.1, 157.1, 152.4, 143.4, 136.2, 130.6, 129.0, 127.0, 121.6, 117.0, 18.8; *m/z* 249 (MH^+).

3-Chloro-4-fluoro-4'-hydroxy-3'-methoxybiphenyl. Method C (60W): 114 mg, 90%. The product was contaminated with some (8%) starting material. 7.54 (dd, *J* = 2.2, 8.3, 1H), 7.38 (m, 1H), 7.19 (dd, *J* = 8.4, 8.4, 1H), 6.99-6.96 (m, 3H), 3.99 (s, 3H); δ_C ($CDCl_3$) 160.3, 148.7, 141.4, 134.5, 132.0, 129.8, 127.6, 121.9, 121.3, 118.0, 117.6, 114.5, 58.8; *m/z* 253 (MH^+).

Methyl 3'-chloro-4'-fluorobiphenyl-2-carboxylate. Method A: 112 mg, 85%. δ_H ($CDCl_3$) 7.87 (d, *J* = 7.8, 1H), 7.53 (dd, *J* = 1.1, 7.6, 1H), 7.44 (dd, *J* = 7.6, 7.6, 1H), 7.36 (d, *J* = 6.6, 1H), 7.31 (dd, *J* = 8.6, 8.6, 1H), 7.15 (m, 2H), 3.69 (s, 3H); δ_C ($CDCl_3$) 168.4, 158.5, 156.5, 140.4, 138.5, 131.6, 130.7, 130.4, 130.2, 128.2, 127.8, 120.6, 116.1, 52.1; *m/z* 265 (MH^+).

Methyl 3'-chloro-4'-fluoro-4-methoxybiphenyl-2-carboxylate. Method A: 110 mg, 75%. δ_H ($CDCl_3$) 7.38 (d, *J* = 2.7, 1H), 7.32 (dd, *J* = 2.0, 7.2, 1H), 7.22 (d, *J* = 8.4, 1H), 7.15-7.11 (m,

2H), 7.07 (dd, *J* = 2.7, 8.4, 1H), 3.86 (s, 3H), 3.68 (s, 3H); δ_C ($CDCl_3$) 169.6, 161.7, 160.6, 136.9, 133.3, 130.1, 129.4, 128.1, 127.8, 121.2, 118.2, 117.7, 115.5, 56.8, 53.4; *m/z* 295 (MH^+).

5-(3-Chloro-4-fluorophenyl)pyrimidine. Method B: 101 mg, 97%. δ_H ($CDCl_3$) 9.22 (s, 1H), 8.90 (s, 2H), 7.62 (dd, 1.9, 6.7, 1H), 7.45 (ddd, *J* = 2.3, 4.3, 6.7, 1H), 7.30 (dd, *J* = 8.5, 8.5, 1H); δ_C ($CDCl_3$) 158.4, 156.0, 155.3, 133.7, 131.6, 129.5, 127.1, 121.8, 118.3; *m/z* 209 (MH^+).

4-(3-Chloro-4-fluorophenyl)-1-methyl-5-phenyl-1*H*-pyrazole. Method B: 134 mg, 94%. δ_H ($CDCl_3$) 7.81 (dd, *J* = 2.3, 8.1, 1H), 7.68 (dd, *J* = 6.5, 6.5, 1H), 7.48 (s, 1H), 7.47-7.42 (m, 3H), 7.36 (d, *J* = 6.9, 2H), 7.01 (dd, *J* = 8.6, 8.6, 1H), 3.77 (s, 3H); δ_C ($CDCl_3$) 177.7, 160.2, 158.2, 141.2, 139.1, 136.5, 129.8, 129.1, 128.6, 128.3, 119.8, 115.5, 93.3, 38.3; *m/z* 287 (MH^+).

5-(3-Chloro-4-fluorophenyl)-2,1,3-benzoxodiazole. Method A: 103 mg, 83%. δ_H ($CDCl_3$) 7.94 (d, *J* = 9.2, 1H), 7.92 (d, *J* = 1.3, 1H), 7.70 (dd, 2.3, 6.9, 1H), 7.63 (dd, *J* = 1.3, 9.2, 1H), 7.52 (ddd, *J* = 2.3, 4.3, 6.7, 1H), 7.30 (dd, *J* = 8.5, 8.5, 1H); δ_C ($CDCl_3$) 159.6, 157.6, 149.5, 148.5, 142.0, 135.9, 132.2, 129.6, 127.1, 122.0, 117.3, 113.2; *m/z* 249 (MH^+).

4-Phenyldibenzofuran. Method A: 110 mg, 90%. The product was contaminated with some (35%) starting material. δ_H ($CDCl_3$) 7.92 (d, *J* = 7.7, 1H), 7.89 (d, *J* = 9.0, 1H), 7.87 (d, *J* = 7.9, 1H), 7.84 (d, *J* = 7.9, 1H), 7.54-7.47 (m, 4H), 7.41-

7.35 (m, 2H), 7.31-7.26 (m, 2H); δ_C ($CDCl_3$) 174.7, 155.9, 153.1, 136.1, 128.5, 127.7, 127.2, 126.6, 125.5, 124.7, 123.9, 123.2, 122.7, 120.6, 119.6, 111.6; *m/z* 245 (MH^+).

3-Dibenzofuran-4-ylpyridine. Method B: 114 mg, 93%. The material had a purity of 90%. δ_H ($CDCl_3$) 8.61 (d, *J* = 3.7, 1H), 8.20 (d, *J* = 7.9, 1H), 7.95 (d, *J* = 6.9, 1H), 7.93-7.87 (m, 2H), 7.56-7.51 (m, 2H), 7.45-7.39 (m, 2H), 7.30-7.26 (m, 2H); δ_C ($CDCl_3$) 176.2, 155.9, 149.2, 148.4, 136.0, 134.3, 132.2, 127.4, 127.0, 126.3, 124.0, 123.4, 123.0, 122.6, 120.7, 120.6, 111.7; *m/z* 246 (MH^+).

4-Biphenyl-4-yldibenzofuran. Method A: 142 mg, 89%. δ_H ($CDCl_3$) 8.05 (d, *J* = 8.2, 2H), 8.03 (d, *J* = 7.8, 1H), 7.98 (d, *J* = 7.3, 1H), 7.81 (d, *J* = 8.2, 2H), 7.73 (d, *J* = 8.4, 2H), 7.69-7.66 (m, 2H), 7.58 (dd, *J* = 8.4, 8.4, 1H), 7.53-7.45 (m, 3H), 7.43-7.37 (m, 2H); δ_C ($CDCl_3$) 156.2, 153.4, 140.8, 140.6, 135.4, 131.9, 129.2, 128.9, 128.7, 127.4, 127.3, 127.1, 126.7, 125.4, 125.0, 123.3, 123.0, 120.7, 119.8, 111.9; *m/z* 321 (MH^+).

4-Naphthalen-1-yldibenzofuran. Method A: 131 mg, 89%. δ_H ($CDCl_3$) 8.00 (dd, *J* = 1.1, 7.6, 1H), 7.98 (d, *J* = 7.8, 1H), 7.93-7.89 (m, 3H), 7.65 (d, *J* = 8.5, 1H), 7.60-7.56 (m, 2H), 7.49-7.42 (m, 2H), 7.38-7.27 (m, 4H); δ_C ($CDCl_3$) 174.6, 160.5, 153.9, 134.3, 133.6, 131.6, 129.1, 128.3, 128.2, 127.7, 126.0, 125.9, 125.7, 125.3, 124.6, 124.2, 122.8, 122.7, 120.6, 119.9, 111.6; *m/z* 295 (MH^+).

4-(4-Methoxyphenyl)dibenzofuran. Method A: 135 mg, 99%. The product was contaminated with some (50%) starting material.

δ_H ($CDCl_3$) 8.04 (d, *J* = 8.2, 2H), 8.00 (d, *J* = 7.7, 1H), 7.98 (dd, *J* = 0.7, 7.7, 1H), 7.81 (d, *J* = 8.2, 2H), 7.62 (d, *J* = 8.2, 1H), 7.60 (d, *J* = 7.7, 1H), 7.52 (ddd, *J* = 0.7, 7.5, 8.2, 1H), 7.45 (dd, *J* = 7.7, 7.7, 1H), 7.40 (dd, *J* = 7.5, 7.5, 1H), 3.84 (s, 3H); δ_C ($CDCl_3$) 175.1, 160.4, 159.1, 155.7, 152.9, 134.2, 131.9, 129.6, 127.1, 126.9, 122.7, 120.5, 118.9, 115.6, 113.9, 111.3, 58.4; *m/z* 275 (MH^+).

4-(4-Trifluoromethylphenyl)dibenzofuran. Method A: 131 mg, 84%. δ_H ($CDCl_3$) 8.04 (d, *J* = 8.2, 2H), 8.00 (d, *J* = 7.7, 1H), 7.98 (dd, *J* = 0.7, 7.6, 1H), 7.81 (d, *J* = 8.2, 2H), 7.62 (d, *J* = 8.2, 1H), 7.60 (d, *J* = 7.7, 1H), 7.51 (dd, *J* = 7.5, 8.2, 1H), 7.45 (dd, *J* = 7.6, 7.7, 1H), 7.41 (7.5, 7.7, 1H); δ_C ($CDCl_3$) 156.2, 153.2, 140.0, 129.0, 127.5, 127.1, 126.8, 125.6, 125.2, 124.3, 124.0, 123.3, 123.0, 122.7, 120.8, 120.6, 111.8; *m/z* 313 (MH^+).

4-Dibenzofuran-4-ylbenzonitrile. Method A: 104 mg, 77%. δ_H ($CDCl_3$) 8.02 (d, *J* = 8.3, 2H), 8.00-7.98 (m, 2H), 7.79 (d, *J* = 8.3, 2H), 7.61-7.58 (m, 2H), 7.50 (ddd, *J* = 0.9, 7.4, 8.1, 1H), 7.45 (dd, *J* = 7.6, 7.6, 1H), 7.39 (dd, *J* = 7.4, 7.4, 1H); δ_C ($CDCl_3$) 156.1, 153.1, 141.0, 132.4, 129.3, 127.6, 126.6, 125.3, 123.8, 123.7, 123.4, 123.1, 121.1, 120.8, 119.0, 111.6, 111.2; *m/z* 270 (MH^+).

4-(4-Nitrophenyl)dibenzofuran. Method A: 131 mg, 91%. δ_H ($CDCl_3$) 8.38 (d, *J* = 8.7, 2H), 8.09 (d, *J* = 8.7, 2H), 8.03-7.99 (m, 2H), 7.63 (d, *J* = 7.7, 1H), 7.59 (d, *J* = 8.3, 1H), 7.50 (dd, *J* = 7.3, 8.1, 1H), 7.46 (dd, *J* = 7.7, 7.7, 1H), 7.39 (dd, *J* = 7.3, 7.7, 1H); δ_C ($CDCl_3$) 156.1, 156.0, 153.2,

142.9, 133.8, 129.5, 127.7, 127.1, 124.9, 123.9, 123.2, 122.7, 120.8, 120.6, 111.8, 111.6; *m/z* 290 (MH^+).

4-Naphthalen-2-yldibenzofuran. Method A: 126 mg, 86%. The material had a purity of 58%. δ_H ($CDCl_3$) 8.42 (s, 1H), 8.08 (dd, *J* = 1.2, 8.4, 1H), 8.06-8.00 (m, 2H), 7.97 (d, *J* = 7.6, 1H), 7.75 (d, *J* = 7.2, 1H), 7.66 (d, *J* = 8.2, 1H), 7.62-7.55 (m, 3H), 7.52-7.47 (m, 2H), 7.40 (dd, *J* = 7.4, 7.4, 1H), 7.37 (dd, *J* = 7.6, 7.6, 1H); δ_C ($CDCl_3$) 156.3, 153.6, 133.9, 133.6, 132.9, 128.6, 128.4, 127.9, 127.7, 127.3, 126.8, 126.3, 126.2, 125.8, 124.3, 123.3, 122.8, 122.7, 120.7, 119.8, 111.9, 111.7; *m/z* 295 (MH^+).

4-(4-Fluorophenyl)dibenzofuran. Method A: 117 mg, 89%. δ_H ($CDCl_3$) 7.97 (d, *J* = 7.7, 1H), 7.89 (dd, *J* = 5.5, 8.6, 1H), 7.61-7.56 (m, 2H), 7.47 (dd, *J* = 0.8, 8.2, 2H), 7.44 (dd, *J* = 6.2, 8.7, 1H), 7.39-7.35 (m, 2H), 7.26-7.22 (m, 2H); δ_C ($CDCl_3$) 163.5, 161.5, 156.2, 153.2, 133.9, 130.5, 127.3, 127.1, 126.6, 123.2, 122.9, 122.7, 120.7, 119.7, 115.5, 111.8; *m/z* 263 (MH^+).

4-(2-Methylphenyl)dibenzofuran. Method A: 108 mg, 84%. δ_H ($CDCl_3$) 8.00 (d, *J* = 7.6, 1H), 7.974 (d, *J* = 7.4, 1H), 7.972 (d, *J* = 7.4, 1H), 7.58 (d, *J* = 7.2, 1H), 7.53 (d, *J* = 8.2, 1H), 7.48-7.32 (m, 6H), 2.26 (s, 3H); δ_C ($CDCl_3$) 161.0, 156.2, 153.6, 136.9, 133.9, 130.2, 128.1, 127.4, 127.2, 125.8, 124.2, 123.9, 123.2, 122.7, 120.7, 120.6, 119.6, 111.6, 20.2; *m/z* 259 (MH^+).

1-(5-Dibenzofuran-4-yl-thiophen-2-yl)-ethanone. Method A: 102 mg, 70%. The product was contaminated with some (25%)

starting material. δ_H ($CDCl_3$) 7.99-7.93 (m, 2H), 7.91 (d, *J* = 3.8, 1H), 7.76 (d, *J* = 6.8, 1H), 7.76 (d, *J* = 3.8, 1H), 7.67 (d, *J* = 8.2, 1H), 7.51 (dd, *J* = 7.3, 8.2, 1H), 7.41 (m, 2H), 2.62 (s, 3H); δ_C ($CDCl_3$) 190.9, 156.1, 152.2, 146.9, 143.1, 133.2, 132.5, 131.2, 127.6, 126.9, 125.1, 123.6, 123.2, 121.0, 120.8, 118.2, 111.8, 26.6; *m/z* 293 (MH^+).

4-(2-Chlorophenyl)dibenzofuran. Method A: 117 mg, 84%. δ_H ($CDCl_3$) 8.02 (ddd, *J* = 3.5, 6.6, 7.5, 1H), 7.98 (d, *J* = 7.6, 1H), 7.61 (m, 2H), 7.57 (ddd, *J* = 2.3, 6.6, 8.2, 1H), 7.50-7.44 (m, 3H), 7.43-7.41 (m, 2H), 7.38 (dd, *J* = 6.3, 7.4, 1H); δ_C ($CDCl_3$) 135.5, 133.9, 131.9, 130.0, 129.3, 128.5, 127.4, 126.7, 124.2, 123.9, 123.2, 122.8, 122.7, 122.5, 120.7, 120.4, 111.9, 111.7; *m/z* 279 (MH^+).

4-(2-Methyl-3-nitrophenyl)dibenzofuran. Method A: 121 mg, 80%. δ_H ($CDCl_3$) 8.02 (d, *J* = 8.8, 1H), 8.01 (d, *J* = 8.7, 1H), 7.92 (d, *J* = 8.2, 1H), 7.62 (d, *J* = 7.6, 1H), 7.53 (d, *J* = 8.2, 1H), 7.48-7.43 (m, 3H), 7.37 (dd, *J* = 7.6, 8.2, 1H), 7.34 (d, *J* = 7.2, 1H), 2.37 (s, 3H); δ_C ($CDCl_3$) 156.2, 153.4, 151.1, 139.5, 134.6, 131.7, 128.2, 127.6, 126.3, 124.5, 124.2, 124.0, 123.9, 123.1, 123.0, 120.8, 120.6, 111.9, 16.8; *m/z* 304 (MH^+).

4-(2-Methoxyphenyl)dibenzofuran. Method A: 107 mg, 78%. The material had a purity of 90%. δ_H ($CDCl_3$) 7.87 (d, *J* = 7.3, 1H), 7.86 (d, *J* = 7.3, 1H), 7.833 (d, *J* = 7.4, 1H), 7.831 (d, *J* = 7.4, 1H), 7.47 (dd, *J* = 8.5, 8.6, 2H), 7.32 (dd, *J* = 7.5, 7.8, 1H), 7.23-7.19 (m, 2H), 7.14 (d, *J* = 8.3, 1H), 7.05 (d, *J* = 8.4, 1H), 3.87 (s, 3H); δ_C ($CDCl_3$) 160.1, 155.4, 145.5, 128.6, 128.0, 127.7, 124.2, 123.9, 123.5, 123.1,

122.2, 121.6, 121.3, 120.7, 119.8, 115.4, 111.3, 106.4, 56.7; *m/z* 275 (MH^+).

Methyl 2-dibenzofuran-4-ylbenzoate. Method A: 142 mg, 94%. δ_H ($CDCl_3$) 7.97 (d, *J* = 8.3, 1H), 7.92-7.89 (m, 2H), 7.60 (dd, *J* = 7.9, 8.0, 1H), 7.48 (d, *J* = 8.0, 1H), 7.43-7.40 (m, 2H), 7.35-7.30 (m, 3H), 7.26 (dd, *J* = 7.8, 8.1, 1H), 3.41 (s, 3H); δ_C ($CDCl_3$) 174.4, 168.4, 155.8, 153.2, 136.6, 131.8, 131.3, 131.2, 129.9, 127.8, 127.0, 125.6, 124.0, 123.7, 122.9, 122.6, 120.7, 119.8, 111.4, 51.8; *m/z* 303 (MH^+).

Methyl 2-dibenzofuran-4-yl-5-methoxybenzoate. Method A: 146 mg, 88%. δ_H ($CDCl_3$) 7.91 (dd, *J* = 3.3, 7.6, 1H), 7.87 (d, *J* = 8.5, 1H), 7.47 (d, *J* = 2.7, 1H), 7.45-7.42 (m, 2H), 7.38-7.35 (m, 3H), 7.28 (dd, *J* = 7.3, 7.3, 1H), 7.12 (dd, *J* = 2.7, 8.5, 1H), 3.87 (s, 3H), 3.43 (s, 3H); δ_C ($CDCl_3$) 174.6, 168.4, 159.1, 155.9, 153.5, 132.6, 132.2, 129.0, 127.2, 125.5, 124.2, 123.7, 122.9, 122.7, 120.6, 119.5, 117.9, 114.9, 111.5, 55.5, 51.9; *m/z* 333 (MH^+).

4-(4-Methylphenyl)dibenzofuran. Method A: 129 mg, 100%. δ_H ($CDCl_3$) 7.90 (d, *J* = 7.7, 1H), 7.88 (d, *J* = 8.0, 1H), 7.51 (d, *J* = 8.2, 1H), 7.48 (d, *J* = 8.2, 1H), 7.35 (dd, *J* = 8.0, 8.2, 1H), 7.30 (dd, *J* = 7.5, 7.7, 1H), 7.23 (dd, *J* = 7.5, 8.2, 1H), 7.17 (d, *J* = 8.2, 2H), 7.08 (d, *J* = 8.2, 2H), 2.31 (s, 3H); δ_C ($CDCl_3$) 177.1, 160.5, 155.8, 134.3, 130.6, 127.1, 126.8, 124.0, 123.1. 122.6, 122.4, 122.2, 120.8, 120.6, 120.3, 111.5, 23.5; *m/z* 259 (MH^+).

5-Dibenzofuran-4-ylpyrimidine. Method B: 102 mg, 83%. δ_H ($CDCl_3$) 9.29 (s, 2H), 9.25 (s, 1H), 8.02 (d, *J* = 8.0, 1H),

7.99 (d, *J* = 7.7, 1H), 7.94 (d, *J* = 7.3, 1H), 7.60 (dd, *J* = 8.0, 8.2, 1H), 7.54 (d, *J* = 8.2, 1H), 7.47 (dd, *J* = 7.7, 7.8, 1H), 7.28 (dd, *J* = 7.3, 7.8, 1H); δ_C ($CDCl_3$) 157.4, 155.9, 134.3, 127.0, 126.7, 123.6, 123.2, 122.6, 122.4, 122.2, 121.6, 120.8, 120.5, 120.3, 111.5; *m/z* 247 (MH^+).

2-(4-Trifluoromethylphenyl)-thiophene. Method A: 99 mg, 88%. The product was contaminated with some (10%) starting material. δ_H ($CDCl_3$) 7.71 (d, *J* = 8.2, 2H), 7.63 (d, *J* = 8.2, 2H), 7.40 (d, *J* = 3.8, 1H), 7.36 (d, *J* = 4.9, 1H), 7.12 (dd, *J* = 3.8, 4.9, 1H); δ_C ($CDCl_3$) 148.2, 142.6, 137.7, 129.3, 129.1, 128.3, 126.2, 125.9, 124.4; *m/z* 229 (MH^+).

4-(2-Thienyl)benzonitrile.[34] Method A: 67 mg, 72%. The material was contaminated with some (74%) starting material. Method D: 70 mg, 76%. δ_H ($CDCl_3$) 7.74 (d, *J* = 8.6, 2H), 7.69 (d, *J* = 8.6, 2H), 7.47 (d, *J* = 3.5, 1H), 7.42 (d, *J* = 5.2, 1H), 7.19 (dd, *J* = 3.5, 5.2, 1H); *m/z* 186 (MH^+).

5-(2-Thienyl)pyrimidine. Method B: 70 mg, 88%. δ_H ($CDCl_3$) 9.08 (s, 1H), 8.92 (s, 2H), 7.43 (d, *J* = 3.6, 1H), 7.39 (d, *J* = 4.2, 1H), 7.14 (dd, *J* = 3.6, 4.2, 1H); δ_C ($CDCl_3$) 177.0, 141.1, 139.0, 129.6, 129.2, 128.6, 93.2; *m/z* 163 (MH^+).

3-Nitrobiphenyl.[7] Method A: 73 mg, 73%. δ_H ($CDCl_3$) 8.42 (d, *J* = 1.5, 1H), 8.21 (dd, *J* = 1.5, 8.2, 1H), 7.93 (d, *J* = 7.4, 1H), 7.65-7.61 (m, 3H), 7.52-7.48 (m, 2H), 7.42 (dd, *J* = 7.4, 8.2, 1H); *m/z* 200 (MH^+).

***N*-(3'-Nitrobiphenyl-4-yl)-acetamide.** Method C: 99 mg, 77%. The material had a purity of 96%. Method D (0.07M): 107 mg,

84%. δ_H ($CDCl_3$) 8.35 (d, *J* = 1.8, 1H), 8.11 (dd, *J* = 1.8, 8.1, 1H), 7.95-7.90 (m, 2H), 7.61 (d, *J* = 8.5, 2H), 7.44 (d, *J* = 8.5, 2H), 2.33 (s, 3H); δ_C ($CDCl_3$) 174.3, 169.8, 147.2, 139.6, 137.8, 133.5, 132.0, 127.2, 123.1, 122.6, 120.4, 19.2; *m/z* 257 (MH^+).

3-(3-Nitrophenyl)pyridine.[36] Method B: 83 mg, 83%. δ_H ($CDCl_3$) 8.88 (s, 1H), 8.67 (d, *J* = 5.0, 1H), 8.44 (s, 1H), 8.26 (dd, *J* = 1.1, 8.1, 1H), 7.94-7.91 (m, 2H), 7.67 (dd, *J* = 7.9, 8.1, 1H), 7.44 (dd, *J* = 5.0, 7.9, 1H); *m/z* 201 (MH^+).

3-Nitro-[1,1';4',1'']terphenyl. Method C: 123 mg, 89%. The material had a purity of 93%. δ_H ($CDCl_3$) 8.50 (d, *J* = 1.8, 1H), 8.21 (dd, *J* = 1.8, 8.3, 1H), 7.96 (d, *J* = 7.7, 1H), 7.72 (d, *J* = 8.5, 2H), 7.66-7.63 (m, 3H), 7.49-7.45 (m, 4H), 7.44 (dd, *J* = 8.3, 8.3, 1H); δ_C ($CDCl_3$) 147.2, 138.8, 136.6, 135.9, 135.2, 133.4, 129.5, 129.1, 128.0, 127.8, 127.7, 127.3, 122.6, 122.1; *m/z* 276 (MH^+).

1-(3-Nitrophenyl)naphthalene.[28] Method A: 120 mg, 96%. δ_H ($CDCl_3$) 8.38 (d, *J* = 1.3, 1H), 8.30 (dd, *J* = 1.5, 8.2, 1H), 7.96-7.93 (m, 2H), 7.84 (d, *J* = 7.6, 1H), 7.77 (d, *J* = 8.6, 1H), 7.67 (dd, *J* = 7.9, 7.9, 1H), 7.58-7.53 (m, 2H), 7.50 (dd, *J* = 7.3, 8.2, 1H), 7.44 (d, *J* = 7.3, 1H); *m/z* 250 (MH^+).

4-Methoxy-3'-nitrobiphenyl. Method A: 103 mg, 90%. δ_H ($CDCl_3$) 8.40 (d, *J* = 1.3, 1H), 8.14 (dd, *J* = 1.3, 7.7, 1H), 7.87 (d, *J* = 7.7, 1H), 7.59-7.56 (m, 3H), 7.02 (d, *J* = 8.6, 2H), 3.87 (s, 3H); δ_C ($CDCl_3$) 160.0, 148.7, 142.4, 132.5, 131.0, 129.6, 128.2, 121.4, 115.7, 114.6, 55.4; *m/z* 230 (MH^+).

3-Nitro-4'-trifluoromethylbiphenyl. Method A: 121 mg, 91%. δ_H ($CDCl_3$) 8.46 (d, *J* = 1.1, 1H), 8.26 (dd, *J* = 1.1, 8.1, 1H), 7.93 (d, *J* = 7.9, 1H), 7.76 (d, *J* = 8.6, 2H), 7.73 (d, *J* = 8.6, 2H), 7.67 (dd, *J* = 7.9, 8.1, 1H); δ_C ($CDCl_3$) 148.8, 142.1, 141.4, 133.1, 130.0, 127.7, 127.5, 126.1, 124.3, 122.9, 122.1; *m/z* 268 (MH^+).

3'-Nitrobiphenyl-4-carbonitrile.[7] Method A: 108 mg, 96%. δ_H ($CDCl_3$) 8.46 (d, *J* = 1.0, 1H), 8.29 (dd, *J* = 1.0, 8.2, 1H), 7.92 (d, *J* = 8.0, 1H), 7.80 (d, *J* = 8.2, 2H), 7.74 (d, *J* = 8.2, 2H), 7.68 (dd, *J* = 8.0, 8.2, 1H); *m/z* 225 (MH^+).

3,4'-Dinitrobiphenyl. Method A: 108 mg, 89%. δ_H ($CDCl_3$) 8.47 (d, *J* = 1.2, 1H), 8.36 (d, *J* = 8.7, 2H), 8.30 (dd, *J* = 1.2, 8.2, 1H), 7.96 (d, *J* = 7.7, 1H), 7.80 (d, *J* = 8.7, 2H), 7.71 (dd, *J* = 7.7, 8.2, 1H); δ_C ($CDCl_3$) 147.9, 144.8, 140.4, 133.0, 130.3, 129.6, 128.1, 124.9, 124.4, 123.5, 122.3; *m/z* 245 (MH^+).

2-(3-Nitrophenyl)naphthalene.[20] Method A: 100 mg, 80%. δ_H ($CDCl_3$) 8.58 (d, *J* = 1.0, 1H), 8.23 (dd, *J* = 1.0, 8.2, 1H), 8.09 (s, 1H), 8.04 (d, *J* = 7.8, 1H), 7.96 (d, *J* = 8.5, 1H), 7.93 (dd, *J* = 1.4, 8.4, 1H), 7.89 (d, *J* = 8.5, 1H), 7.74 (dd, *J* = 1.4, 7.2, 1H), 7.65 (dd, *J* = 7.8, 8.2, 1H), 7.56-7.54 (m, 2H); *m/z* 250 (MH^+).

4-Hydroxymethyl-3'-nitrobiphenyl. Method C: 96 mg, 84%. δ_H ($CDCl_3$) 8.46 (d, *J* = 1.2, 1H), 8.20 (dd, *J* = 1.2, 8.0, 1H), 7.95 (d, *J* = 7.9, 1H), 7.81 (d, *J* = 8.1, 2H), 7.63 (dd, *J* = 7.9, 8.0, 1H), 7.58 (d, *J* = 8.1, 2H), 4.77 (s, 2H); δ_C

($CDCl_3$) 148.9, 139.6, 137.4, 136.1, 134.2, 129.2, 127.8, 127.5, 122.6, 122.3, 68.8; *m/z* 230 (MH^+).

4-Fluoro-3'-nitrobiphenyl. Method A: 97 mg, 89%. δ_H ($CDCl_3$) 8.40 (d, *J* = 1.5, 1H), 8.20 (dd, *J* = 1.5, 8.1, 1H), 7.87 (d, *J* = 7.9, 1H), 7.61 (dd, *J* = 7.9, 8.1, 1H), 7.59 (dd, *J* = 3.2, 8.5, 2H), 7.19 (dd, *J* = 8.5, 8.6, 2H); δ_C ($CDCl_3$) 164.1, 162.1, 148.7, 141.8, 134.8, 132.9, 129.8, 128.9, 122.0, 116.2; *m/z* 218 (MH^+).

2-Methyl-3'-nitrobiphenyl. Method A: 91 mg, 85%. δ_H ($CDCl_3$) 8.20 (s, 1H), 7.63 (d, *J* = 7.6, 1H), 7.59 (dd, *J* = 7.7, 8.1, 1H), 7.36-7.24 (m, 4H), 7.21 (d, *J* = 7.6, 1H); δ_C ($CDCl_3$) 148.1, 143.5, 139.3, 135.3, 135.2, 130.7, 129.6, 129.1, 128.3, 126.1, 124.1, 121.8, 20.3; *m/z* 214 (MH^+).

2-Acetyl-5-(3-nitrophenyl)thiophene. Method A: 107 mg, 87%. δ_H ($CDCl_3$) 8.42 (d, *J* = 1.5, 1H), 8.16 (dd, *J* = 1.5, 8.2, 1H), 7.93 (d, *J* = 7.8, 1H), 7.62 (d, *J* = 3.9, 1H), 7.58 (dd, *J* = 7.8, 8.2, 1H), 7.41 (d, *J* = 3.9, 1H), 2.56 (s, 3H); δ_C ($CDCl_3$) 190.5, 149.1, 148.7, 144.6, 135.0, 133.4, 131.9, 130.2, 125.5, 123.3, 120.8, 26.6; *m/z* 248 (MH^+).

2-Chloro-3'-nitrobiphenyl. Method A: 90 mg, 77%. δ_H ($CDCl_3$) 8.37 (d, *J* = 1.4, 1H), 8.22 (dd, *J* = 1.4, 8.2, 1H), 7.81 (d, *J* = 7.9, 1H), 7.60 (dd, *J* = 7.7, 7.8, 1H), 7.44 (dd, *J* = 7.8, 7.9, 1H), 7.29 (m, 3H); δ_C ($CDCl_3$) 148.0, 140.8, 138.0, 135.7, 132.3, 131.1, 130.2, 129.7, 129.0, 127.2, 124.5, 122.6; *m/z* 234 (MH^+).

3,3'-Dinitro-2-methylbiphenyl. Method A: 104 mg, 81%. δ_H ($CDCl_3$) 8.36 (d, *J* = 8.5, 1H), 8.24 (d, *J* = 1.3, 1H), 7.95 (d, *J* = 7.9, 1H), 7.61-7.58 (m, 2H), 7.42-7.38 (m, 2H), 2.37 (s, 3H); δ_C ($CDCl_3$) 151.3, 148.2, 142.2, 141.5, 135.3, 133.7, 130.0, 129.6, 126.7, 124.2, 124.1, 122.9, 16.9; *m/z* 259 (MH^+).

4-Acetyl-3'-nitrobiphenyl. Method A: 118 mg, 98%. The product was contaminated with some (50%) starting material. δ_H ($CDCl_3$) 8.46 (d, *J* = 1.5, 1H), 8.12 (dd, *J* = 1.5, 8.1, 1H), 8.08 (d, *J* = 7.8, 1H), 7.77 (d, *J* = 8.3, 2H), 7.65 (dd, *J* = 7.8, 8.1, 1H), 7.36 (d, *J* = 8.3, 2H), 2.64 (s, 3H); δ_C ($CDCl_3$) 184.8, 156.3, 141.0, 137.3, 133.9, 129.8, 129.1, 128.9, 127.2, 122.5, 122.0, 24.7; *m/z* 242 (MH^+).

Methyl 3'-nitrobiphenyl-2-carboxylate. Method A: 121 mg, 94%. The product was contaminated with some (46%) starting material. Method D (0.01 M): 118 mg, 92%. The product was contaminated with some (8%) starting material. δ_H ($CDCl_3$) 8.21 (d, *J* = 8.2, 1H), 8.17 (d, *J* = 1.3, 1H), 8.00 (dd, *J* = 1.3, 8.1, 1H), 7.78 (d, *J* = 7.9, 1H), 7.60-7.50 (m, 3H), 7.37 (dd, *J* = 7.9, 8.1, 1H), 3.71 (s, 3H); δ_C ($CDCl_3$) 167.2, 148.2, 137.9, 133.7, 132.8, 130.2, 129.5, 129.4, 127.7, 126.9, 123.3, 122.5, 54.6; *m/z* 258 (MH^+).

Methyl 3'-nitro-4-methoxybiphenyl-2-carboxylate. Method A: 135 mg, 94%. The product was contaminated with some (36%) starting material. Method D (0.01M): 135 mg, 94%. δ_H ($CDCl_3$) 8.22 (dd, *J* = 1.4, 8.2, 1H), 8.17 (d, *J* = 1.4, 1H), 7.60 (d, *J* = 7.8, 1H), 7.51 (dd, *J* = 7.8, 8.2, 1H), 7.46 (d, *J* = 2.1, 1H), 7.27 (d, *J* = 8.4, 1H), 7.12 (dd, *J* = 2.1, 8.4, 1H),

3.93 (s, 3H), 3.69 (s, 3H); δ_C ($CDCl_3$) 171.9, 166.0, 148.6, 138.7, 137.2, 133.3, 131.8, 129.8, 122.4, 122.1, 121.3, 112.7, 112.2, 56.8, 52.9; *m/z* 288 (MH^+).

5-(3-Nitrophenyl)pyrimidine. Method B: 92 mg, 92%. The material had a purity of 84%. δ_H ($CDCl_3$) 9.22 (s, 1H), 8.97 (s, 2H), 8.39 (d, *J* = 1.2, 1H), 8.27 (dd, *J* = 1.2, 8.2), 7.90 (d, *J* = 7.7), 7.71 (dd, *J* = 7.7, 8.2); δ_C ($CDCl_3$) 158.1, 154.9, 148.7, 135.8, 133.1, 132.1, 130.8, 123.6, 121.6; *m/z* 202 (MH^+).

5-(3-Nitrophenyl)-2,1,3-benzoxodiazole. Method A: 104 mg, 86%. The product was contaminated with some (36%) starting material; δ_H ($CDCl_3$) 8.53 (d, *J* = 1.5, 1H), 8.36 (dd, *J* = 1.5, 8.2, 1H), 8.08 (d, *J* = 1.2, 1H), 8.04-8.00 (m, 2H), 7.77 (d, *J* = 7.7, 1H), 7.75 (d, *J* = 9.3, 1H); δ_C ($CDCl_3$) 149.9, 138.2, 136.3, 133.6, 130.5, 129.7, 129.1, 127.9, 127.6, 127.1, 123.0, 121.7; *m/z* 242 (MH^+).

4-Phenylpyridine.[7] Method B: 74 mg, 95%. The material had a purity of 95%. δ_H ($CDCl_3$) 8.38 (d, *J* = 4.8, 2H), 7.53 (d, *J* = 4.8, 2H), 7.49 (d, *J* = 8.0, 2H), 7.33 (dd, *J* = 7.9, 8.0, 2H), 7.26 (d, *J* = 7.9, 1H); *m/z* 156 (MH^+).

4-Biphenyl-4-ylpyridine. Method B: 104 mg, 91%. The material had a purity of 96%. δ_H ($CDCl_3$) 8.64 (d, *J* = 5.3, 2H), 7.69 (d, *J* = 5.3, 2H), 7.52-7.50 (m, 4H), 7.41 (dd, *J* = 7.6, 8.1, 2H), 7.35-7.32 (m, 3H); δ_C ($CDCl_3$) 150.0, 142.0, 140.1, 131.8, 128.9, 128.7, 127.8, 127.6, 127.3, 127.0, 126.9; *m/z* 232 (MH^+).

4-Naphthalen-1-ylpyridine.[37] Method B: 87 mg, 85%. The material had a purity of 95%. δ_H ($CDCl_3$) 8.47 (d, *J* = 5.4, 2H), 7.86 (d, *J* = 4.2, 2H), 7.77 (d, *J* = 8.0, 1H), 7.75 (d, *J* = 8.0, 1H), 7.74 (d, *J* = 8.1, 1H), 7.52 (dd, *J* = 8.0, 8.1, 1H), 7.43 (dd, *J* = 8.0, 8.0, 1H), 7.28 (m, 2H); *m/z* 206 (MH^+).

4-(4-Trifluoromethylphenyl)pyridine.[38] Method B: 101 mg, 91%. δ_H ($CDCl_3$) 8.65 (d, *J* = 5.1, 2H), 7.70 (d, *J* = 5.1, 2H), 7.64 (d, *J* = 7.9, 2H), 7.47 (d, *J* = 7.9, 2H); *m/z* 224 (MH^+).

4-(2-Bromophenyl)pyridine. Method B: 104 mg, 89%. δ_H ($CDCl_3$) 8.41 (d, *J* = 5.2, 2H), 7.82 (d, *J* = 8.1, 1H), 7.69 (d, *J* = 5.2, 2H), 7.58 (d, *J* = 8.3, 1H), 7.18 (dd, *J* = 7.9, 8.3, 1H), 6.97 (dd, *J* = 7.9, 8.1, 1H); δ_C ($CDCl_3$) 177.8, 150.5, 141.2, 139.0, 135.8, 129.2, 128.7, 128.2, 119.4; *m/z* 236 ($^{81}BrMH^+$).

4-Pyridin-4-ylbenzonitrile.[38] Method B: 80 mg, 90%. δ_H ($CDCl_3$) 8.73 (d, *J* = 4.6, 2H), 8.33 (d, *J* = 8.5, 2H), 7.78 (d, *J* = 8.5, 2H), 7.52 (d, *J* = 4.6, 2H); *m/z* 181 (MH^+).

[2,4']-Bipyridinyl.[39] Method D (0.01M): 74 mg, 95%. The product was contaminated with some (18%) starting material. δ_H ($CDCl_3$) 8.72 (d, *J* = 6.4, 1H), 8.71 (d, *J* = 6.2, 2H), 8.50 (d, *J* = 6.2, 2H), 7.74-7.72 (m, 2H), 7.26 (dd, *J* = 6.4, 7.1, 1H); *m/z* 157 (MH^+).

4-(4-Nitrophenyl)pyridine.[38] Method B: 90 mg, 90%. δ_H ($CDCl_3$) 8.75 (d, *J* = 5.8, 2H), 8.36 (d, *J* = 8.3, 2H), 7.78 (d, *J* = 8.3, 2H), 7.53 (d, *J* = 5.8, 2H); *m/z* 201 (MH^+).

4-Naphthalen-2-ylpyridine. Method B: 95 mg, 94%. The material had a purity of 80%. δ_H ($CDCl_3$) 8.66 (d, *J* = 5.7, 2H), 8.08 (s, 1H), 7.92 (d, *J* = 8.5, 1H), 7.89 (d, *J* = 8.8, 1H), 7.84 (d, *J* = 8.8, 1H), 7.71 (d, *J* = 8.1, 1H), 7.60 (d, *J* = 5.7, 2H), 7.51 (dd, *J* = 7.9, 8.5, 1H), 7.44 (dd, *J* = 7.9, 8.1, 1H); δ_C ($CDCl_3$) 150.6, 142.6, 135.9, 135.0, 134.2, 129.1, 128.5, 128.4, 126.7, 126.1, 125.7, 124.4, 121.3; *m/z* 206 (MH^+).

4-(4-Fluorophenyl)pyridine.[40] Method B: 114 mg, 84%. The product was contaminated with some (50%) starting material. δ_H ($CDCl_3$) 8.35 (d, *J* = 5.7, 2H), 7.49 (dd, *J* = 4.9, 8.2, 2H), 7.36 (d, *J* = 5.7, 2H), 7.03 (dd, *J* = 8.1, 8.2, 2H); *m/z* 174 (MH^+).

4-(2-Methylphenyl)pyridine.[40] Method B: 76 mg, 90%. The material had a purity of 85%. δ_H ($CDCl_3$) 8.57 (d, *J* = 4.9, 2H), 7.68 (d, *J* = 4.9, 2H), 7.27-7.21 (m, 3H), 7.13 (d, *J* = 7.9, 1H), 2.25 (s, 3H); *m/z* 170 (MH^+).

4-(2-Methyl-3-nitrophenyl)pyridine. Method B: 93 mg, 87%. The material had a purity of 90%. δ_H ($CDCl_3$) 8.59 (d, *J* = 5.0, 2H), 7.68 (d, *J* = 7.9, 1H), 7.59 (d, *J* = 5.0, 2H), 7.14 (dd, *J* = 7.9, 8.0, 1H), 7.11 (d, *J* = 8.0, 1H), 2.44 (s, 3H); δ_C ($CDCl_3$) 174.9, 149.8, 136.5, 133.3, 132.2, 127.5, 126.7, 124.1, 123.0, 19.2; *m/z* 213 (MH^+).

4-(4-Acetylphenyl)pyridine.[38] Method B: 86 mg, 88%. The material had a purity of 92%. δ_H ($CDCl_3$) 8.66 (d, *J* = 5.1,

2H), 8.02 (d, *J* = 7.9, 2H), 7.70 (d, *J* = 7.9, 2H), 7.51 (d, *J* = 5.1, 2H), 1.97 (s, 3H); *m/z* 198 (MH^+).

2-Methoxy-4-pyridin-4-ylphenol. Method B: 86 mg, 86%. δ_H ($CDCl_3$) 8.51 (d, *J* = 4.8, 2H), 7.68 (d, *J* = 4.8, 2H), 7.44 (d, *J* = 7.9, 1H), 7.10 (d, *J* = 7.9, 1H), 6.90 (s, 1H), 3.81 (s, 3H); δ_C ($CDCl_3$) 175.9, 149.5, 148.1, 145.9, 128.9, 123.7, 121.1, 116.6, 114.6, 56.0; *m/z* 202 (MH^+).

4-(2-Methoxyphenyl)pyridine. Method B: 81 mg, 88%. 8.43 (d, *J* = 5.0, 2H), 7.62 (d, *J* = 5.0, 2H), 7.49 (d, *J* = 8.0, 1H), 7.20 (dd, *J* = 8.0, 8.2, 1H), 6.83 (d, *J* = 8.1, 1H), 6.78 (dd, *J* = 8.1, 8.2, 1H), 3.84 (3H, s); δ_C ($CDCl_3$) 158.3, 152.5, 148.3, 130.4, 127.1, 123.9, 121.4, 121.2, 114.5, 55.8; *m/z* 186 (MH^+).

5-Pyridin-4-ylpyrimidine. Method B: 75 mg, 96%. The material had a purity of 92%. δ_H ($CDCl_3$) 9.24 (s, 1H), 8.96 (s, 2H), 8.72 (d, *J* = 5.3, 2H), 7.63 (d, *J* = 5.3, 2H); δ_C ($CDCl_3$) 174.9, 158.4, 154.8, 150.4, 128.6, 121.2; *m/z* 158 (MH^+).

5-Pyridin-4-yl-2,1,3-benzoxodiazole. Method B: 87 mg, 89%. δ_H ($CDCl_3$) 8.77 (d, *J* = 5.7, 2H), 8.07 (d, *J* = 5.7, 2H), 7.99 (d, *J* = 8.3, 1H), 7.75 (d, *J* = 8.3, 1H), 7.55 (s, 1H); δ_C ($CDCl_3$) 151.6, 149.5, 146.3, 136.8, 130.9, 124.4, 121.9, 118.1, 114.9; *m/z* 198 (MH^+).

4-(2,6-Dimethylphenyl)pyridine. Method B: 81 mg, 90%. δ_H ($CDCl_3$) 8.64 (d, *J* = 5.2, 2H), 7.45 (d, *J* = 5.2, 2H), 6.98-

6.93 (m, 3H), 2.35 (s, 6H); δ_C ($CDCl_3$) 176.1, 150.5, 148.2, 128.8, 128.1, 126.9, 121.4, 23.0; *m/z* 184 (MH^+).

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