Supporting Information

Reductive Umpolung of Carbonyl Derivatives with Visible-Light Photoredox Catalysis: Direct Access to Vicinal Diamines and Amino Alcohols via α-Amino Radicals and Ketyl Radicals

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Supporting Information
List of content:

1. General information
2. Full optimization studies
3. Preparation and characterization of substrates
4. General procedure for the preparation of $N,N$-dimethylanilines
5. General procedure and characterization of 1,2-diamines
6. General procedure and characterization of 1,2-aminoalcohols
7. NMR spectra
1. General information

All reactions were performed with oven-dried glassware and under an inert atmosphere (argon) unless otherwise stated.

Toluene and THF were distilled from solvona®/benzoquinone prior to use. Acetonitrile was distilled from calcium hydride prior to use. Other solvents, including DMA, were used as purchased unless otherwise stated. Commercial reagents were used as purchased without further purification.

Organic solutions were concentrated under reduced pressure on a Büchi rotary evaporator. Chromatographic purification of products was carried out using Merck Kieselgel 60 silica gel (230–400 mesh). Thin-layer chromatography was carried out using Merck Kieselgel 60 F254 (230–400 mesh) fluorescent treated silica and were visualized under UV light (250 nm) or by staining with aqueous potassium permanganate solutions.

$^1$H NMR spectra were recorded in deuterated solvents on Bruker or Varian spectrometers at 300, 400 or 600 MHz, with residual protic solvent as the internal standard. $^{13}$C NMR spectra were recorded in deuterated solvents on Bruker or Varian spectrometers at 75, 100 or 125 MHz, with the central peak of the deuterated solvent as the internal standard. $^{19}$F NMR spectra were recorded in deuterated solvents on Bruker or Varian spectrometers at 376 or 564 MHz. Chemical shifts (δ) are given in parts per million (ppm), and coupling constants (J) are given in Hertz (Hz) rounded to the nearest 0.1 Hz. The $^1$H NMR spectra are reported as δ/ppm downfield from tetramethylsilane (multiplicity, number of protons, assignment, coupling constant J/Hz). The $^{13}$C NMR spectra are reported as δ/ppm. For the F-containing compounds ($^{1q}$, $^{4d}$, $^{4o-q}$, $^{5f}$) simultaneously proton and fluorine decoupled $^{13}$C NMR spectra were recorded. Assignments are aided by the use of DEPT-135, COSY, HMQC and HMBC spectra where necessary. IR spectra were recorded on a Perkin Elmer Spectrum 100 spectrometer, only diagnostic absorbances (λ$_{\text{max}}$) are reported. Low resolution mass spectra were recorded on a Finnigan SSQ 7000 mass spectrometer (EI or CI). Melting points were recorded on a Büchi Melting Point M-565 apparatus, at ambient pressure and are uncorrected. The following light source was used for the reactions: LED blue; Company: Conrad; LED-Str. Multi 24V, length: 12.5 cm with 6 couples of LEDs.
2. Full optimization studies

Photoredox catalysts

[Ir(ppy)$_2$(dtbbpy)]PF$_6$  
(3a)

[Ir(tbppy)$_2$(dtbbpy)]PF$_6$  
(3b)

[Ir(p-F(CF$_3$)-ppy)$_2$(bpy)]PF$_6$  
(3c)

[Ir(p-CF$_3$-ppy)$_2$(bpy)]PF$_6$  
(3d)

[Ir(dCF$_3$-ppy)$_2$(bpy)]PF$_6$  
(3e)

[Ir(ppy)$_2$(bpy)]PF$_6$  
(3f)

[Ir(d(F(CF$_3$)-ppy)$_2$(bpy)]PF$_6$  
(3g)

[ Ir(m-CF$_3$(CF$_3$)-ppy)$_2$(bpy)]PF$_6$  
(3h)

[Ir(tbppy)$_2$(bpy)]PF$_6$  
(3i)

[Ru(bpy)$_3$(PF$_6$)$_2$  
(3j)

[Ru(dtbbpy)$_2$(bpy)]PF$_6$  
(3k)

[Ru(dtbbpy)$_3$(PF$_6$)$_2$  
(3l)
Table S1 Catalyst screening$^a$

![Diagram](image)

| Entry | [IrL₃]PF₆ or [RuL₃](PF₆)₂ | 3 | Yield [%]$^b$ |
|-------|--------------------------|---|-------------|
| 1     | [Ir(ppy):(dtbbpy)]⁺      | 3a| 58          |
| 2     | [Ir(tbppy):(dtbbpy)]⁺   | 3b| 28          |
| 3     | [Ir(p-F(CF₃)-ppy):(bpy)]⁺| 3c| 44          |
| 4     | [Ir(p-CF₃-ppy):(bpy)]⁺   | 3d| 39          |
| 5     | [Ir(dCF₃-ppy):(bpy)]⁺   | 3e| 28          |
| 6     | [Ir(ppy):(bpy)]⁺        | 3f| -           |
| 7     | [Ir(dF(CF₃)-ppy):(bpy)]⁺| 3g| 25          |
| 8     | [Ir(m-CF₃(CF₃)-ppy):(bpy)]⁺| 3h| 23          |
| 9     | [Ir(tbppy):(bpy)]⁺      | 3i| 24          |
| 10    | [Ru(bpy)]²⁺             | 3j| 15          |
| 11    | [Ru(dtbbpy):(bpy)]²⁺    | 3k| 15          |
| 12    | [Ru(dtbbpy)]²⁺          | 3l| 20          |

$^a$All reactions of 1a (0.3 mmol) with 2a (0.9 mmol) were carried out in the presence of photocatalyst 3 (1 mol%) in acetonitrile (0.6 ml) by blue LED irradiation (11 W, 450 nm) for 18h at r.t.; $^b$Yields were determined by ¹H-NMR analysis of the crude mixture relative to benzyl benzoate as internal standard.
### Table S2 Solvent screening$^a$

![Chemical structure](image)

| Entry | Solvent | 3 | Yield [%]$^b$ |
|-------|---------|---|--------------|
| 1     | MeCN    | 3a | 58           |
| 2     | MeCN    | 3c | 44           |
| 3     | EtCN    | 3c | 45           |
| 4     | i-PrCN  | 3c | 40           |
| 5     | n-PrCN  | 3c | Traces       |
| 6     | THF     | 3c | Traces       |
| 7     | DCM     | 3c | 21           |
| 8     | CHCl$_3$| 3c | Traces       |
| 9     | DCE     | 3c | 21           |
| 10    | MeOH    | 3c | 6            |
| 11    | EtOH    | 3c | 8            |
| 12    | i-PrOH  | 3c | 13           |
| 13    | DMSO    | 3c | n.r.         |
| 14    | DMF     | 3c | 18           |
| 15    | DMA     | 3c | Traces       |
| 16    | Acetone | 3c | 31           |

$^a$All reactions of 1a (0.3 mmol) with 2a (0.9 mmol) were carried out in the presence of photocatalyst (1 mol%) in the indicated solvent (0.6 ml) by blue LED irradiation (11 W, 450 nm) for 18h at r.t.; $^b$Yields were determined by $^1$H-NMR analysis of the crude mixture relative to benzyl benzoate as internal standard.
**Table S3** Concentration and catalyst loading screening\(^a\)

![Chemical diagram]

| Entry | 3a [mol %] | c [mmol/mL] | additive | Yield [%]  |
|-------|------------|-------------|----------|------------|
| 1     | 1          | 0.5         | -        | 58         |
| 2     | 1          | 0.1         | -        | 44         |
| 3     | 1          | 0.1         | 100wt% MS-4Å | traces    |
| 4     | 2          | 0.1         | -        | 50         |
| 5     | 2          | 0.2         | -        | 44         |
| 6     | 2          | 0.3         | -        | 49         |
| 7     | 4          | 0.1         | -        | 55         |

\(^a\)All reactions of 1a (0.3 mmol) with 2a (0.9 mmol) were carried out in the presence of 3a (1 mol%) in Acetonitrile (0.6 ml) by blue LED irradiation (11 W, 450 nm) for 18h at r.t.; \(^b\)Yields were determined by \(^1\)H-NMR analysis of the crude mixture relative to benzyl benzoate as internal standard.
Table S4 Additives screeninga

| Entry | Additive         | Solvent | t [h] | Yield [%]b |
|-------|------------------|---------|-------|------------|
| 1     | LiOAc            | MeCN    | 72    | 60         |
| 2     | LiOAc            | DMA     | 18    | 49         |
| 3     | LiOAc            | DMA     | 48    | 74         |
| 4     | LiOAc            | DMA     | 72    | 79         |
| 5     | LiClO₄           | DMA     | 72    | n.r.       |
| 6     | Li₂CO₃           | DMA     | 72    | 79(76)c,d |
| 7     | LiOTf            | DMA     | 72    | n.r.       |
| 8     | LiBr             | DMA     | 72    | n.r.       |
| 9     | LiOAc + H₂O (10 equiv.) | DMA   | 48    | 76         |

aAll reactions of 1a (0.3 mmol) with 2a (0.9 mmol) were carried out in the presence of 3a (1 mol%) in the indicated solvent (0.6 ml) by blue LED irradiation (11 W, 450 nm) for 18h at r.t.; bYields were determined by ¹H-NMR analysis of the crude mixture relative to benzyl benzoate as internal standard; cIsolated yields in parenthesis; dFull conversion of 1a.
Table S5 Nitrogen substituents screening

![Diagram of nitrogen substituents screening](image)

| Entry | R        | Additive | Product | Yield [%] |
|-------|----------|----------|---------|-----------|
| 1     | Ph       | Li₂CO₃   | 4a      | 76        |
| 2     | 4-OMe-Ph | -        | 4b      | traces    |
| 3     | 4-OMe-Ph | Li₂CO₃   | 4b      | 59        |
| 4     | 2-OMe-Ph | -        | 4c      | traces    |
| 5     | 2-OMe-Ph | Li₂CO₃   | 4c      | 97        |
| 6     | 4-F-Ph   | Li₂CO₃   | 4d      | 76        |
| 7     | 4-Br-Ph  | Li₂CO₃   | 4e      | 81        |
| 8     | 4-CO₂Me-Ph | Li₂CO₃ | 4f      | 85        |
| 9     | 2-Py     | Li₂CO₃   | 4h      | 72        |
| 10    | 3-Py     | Li₂CO₃   | 4g      | 69        |
| 11    | Allyl    | -        | -       | n.r.      |
| 12    | Allyl    | Li₂CO₃   | -       | n.r.      |
| 13    | Bn       | -        | -       | traces    |
| 14    | Bn       | Li₂CO₃   | -       | traces    |
| 15    | Ts       | Li₂CO₃   | -       | Messy     |
| 16    | Boc      | -        | -       | n.r.      |
| 17    | Boc      | Li₂CO₃   | -       | n.r.      |
| 18    | t-Bu₂     | Li₂CO₃   | -       | n.r.      |

*All reactions of Imine (0.3 mmol) with 2a (0.9 mmol) were carried out in the presence of 3a (1 mol%) in DMA (0.6 ml) by blue LED irradiation (11 W, 450 nm) for 72h at r.t.; Isolated yields.*
**Table S6** Aniline’s nitrogen substituents screening$^a$

![Chemical Structures](image.png)

| Entry | R     | Product | Yield [%] |
|-------|-------|---------|-----------|
| 1     | Me    | 4a      | 76$^b$    |
| 2     | Ph    | 5j      | 74$^b$    |
| 3     | Allyl | -       | n.r.      |
| 4     | CH$_2$CO$_2$Et | - | n.r. |
| 5     | CO$_2$Et | - | n.r. |
| 6     | Et    | -       | low conv.$^c$ |
| 7     | $i$-Pr | - | low conv.$^c$ |

$^a$All reactions of Imine (0.3 mmol) with 2 (0.9 mmol) were carried out in the presence of 3a (1 mol%) in DMA (0.6 ml) by blue LED irradiation (11 W, 450 nm) for 72h at r.t.; $^b$Isoalted yield; $^c$Unseparable mixture of expected product and imino-pinacol coupling product. (n.r. no reaction).
3. Preparation and characterization of substrates

General procedure. A flame-dried round-bottom flask was charged with the corresponding aldehyde (20 mmol, 1.0 equiv.), aniline (21 mmol, 1.05 equiv.), and 4 Å molecular sieves (2.0 g) in CH₂Cl₂ (20 ml). The reaction mixture was stirred at room temperature for 6 to 15 hours. After filtration over Celite, solvent was evaporated under reduced pressure and the product purified by crystallization in a mixture of Et₂O/Pentane, or by distilling off the excess of aniline via Kugelrohr distillation. Spectroscopic and physical data for substrates 1a-e, j, k, o¹ 1p, ² 1f, i, m³ 1l, ⁴ 1s, ⁵ 1t, ⁶ 1g, ⁷ and 1h, ⁸ 1v, ⁹ were in accordance with those previously reported.

1-(2,6-dimethylphenyl)-N-phenylmethanimine (1n)

Preparation of 1n was carried out following the general procedure. The product was obtained as yellow oil in 97% yield. ¹H NMR (600 MHz, CDCl₃) δ 8.81 (s, 1H), 7.45 – 7.39 (m, 2H), 7.29 – 7.14 (m, 4H), 7.11 (d, J = 7.6 Hz, 2H), 2.56 (s, 6H); ¹³C NMR (151 MHz, CDCl₃) δ 161.0, 152.8, 138.3, 133.5, 129.6, 129.1, 128.8, 125.7, 120.7, 21.0; m/z (EI) 209 (93%), 192 (100%), 132 (31%); FT-IR ν max (ATR) cm⁻¹: 3061, 3024, 2962, 2821, 2091, 1622, 1587, 1485, 1464, 1375, 1182, 1073, 1027, 971, 857, 765, 693.

1-(3,5-bis(trifluoromethyl)phenyl)-N-phenylmethanimine (1q)

Preparation of 1q was carried out following the general procedure. The product was obtained as pale yellow solid in 95% yield; mp = 51.0-51.8 °C; ¹H NMR (600 MHz, CDCl₃) δ 8.56 (s, 1H), 8.37 (s, 2H), 7.98 (s, 1H), 7.44 (t, J = 7.8 Hz, 2H), 7.33 – 7.24 (m, 3H); ¹³C NMR (151 MHz, CDCl₃) δ 156.4, 150.6, 138.1, 132.3, 129.3, 128.5, 127.1, 124.4, 120.9; ¹⁹F NMR (564 MHz, CDCl₃) δ -62.99 (s); m/z (EI) 317 (9%), 634 (14%); FT-IR ν max (ATR) cm⁻¹: 1632, 1389, 1272, 1164, 1126, 900, 767, 695, 680.

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**Methyl 3-((phenylimino)methyl)benzoate (1r)**

Preparation of 1r was carried out following the general procedure. The product was obtained as yellow oil in 95% yield. \(^1\)H NMR (600 MHz, CDCl\(_3\)) \(\delta\) 8.54 – 8.50 (m, 2H), 8.17 – 8.13 (m, 2H), 7.56 (dd, \(J = 9.5, 5.9\) Hz, 1H), 7.43 – 7.39 (m, 2H), 7.28 – 7.21 (m, 3H), 3.96 (s, 3H); \(^{13}\)C NMR (151 MHz, CDCl\(_3\)) \(\delta\) 166.5, 159.1, 151.6, 136.6, 132.5, 130.8, 130.2, 129.2, 128.9, 126.3, 120.9, 52.3; \(m/z\) (El) 239 (100%), 240 (25%), 181 (83%), 77 (21%); FT-IR \(\nu_{\max}(\text{ATR}) \text{ cm}^{-1}\): 3062, 2951, 2094, 1720, 1628, 1587, 1487, 1437, 1289, 1223, 1181, 978, 757, 691.

**1-(9H-fluoren-2-yl)-N-phenylmethanimine (1u)**

Preparation of 1u was carried out following the general procedure. The product was obtained as a-white solid in 99 % yield; mp = 160.2-161.8 °C; \(^1\)H NMR (600 MHz, CDCl\(_3\)) \(\delta\) 8.54 (s, 1H), 8.15 (s, 1H), 7.90 – 7.83 (m, 3H), 7.59 (d, \(J = 7.4\) Hz, 1H), 7.44 – 7.39 (m, 3H), 7.36 (td, \(J = 7.4, 1.1\) Hz, 1H), 7.27 – 7.22 (m, 3H), 3.98 (s, 2H); \(^{13}\)C NMR (151 MHz, CDCl\(_3\)) \(\delta\) 160.6, 152.2, 145.0, 144.2, 143.7, 140.9, 134.9, 129.1, 128.6, 127.6, 127.0, 125.8, 125.2, 124.8, 120.9, 120.6, 120.0, 36.8; \(m/z\) (El) 269 (100%), 270 (30%), 165 (17%); FT-IR \(\nu_{\max}(\text{ATR}) \text{ cm}^{-1}\): 3055, 2105, 1582, 1476, 1425, 1396, 1195, 1161, 1119, 955, 829, 759, 733, 692.
4. General procedure for the preparation of $N,N$-dimethylanilines

Following a reported procedure,$^{10}$ a round-bottom flask was charged with the corresponding aniline (8.28 mmol, 1 equiv.) in glacial acetic acid (50 mL). Paraformaldehyde (81.3 mmol, 10 equiv.) was added neat under argon atmosphere. Sodium cyanoborohydride (39.1 mmol, 5 equiv.) was added in portions trying to minimize the vigorous bubbling arising from the addition. After stirring for 16-24 h the reaction mixture was poured into an ice/water mixture (300 mL) containing NaOH (40 g). The water phase was extracted with CH$_2$Cl$_2$, dried over MgSO$_4$ and evaporated. Dimethyl anilines were purified by column chromatography using a mixture of Pentane/Et$_2$O (95:5) as eluent. Spectroscopic and physical data for substrates $2a$, $d$, $e$, $f$, $g$, $h$, $2j$, $2b$, $2i$, $2k$ and $2l$ were in accordance with those previously reported.

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5. Preparation and characterization of 1,2-diamines

\[
\begin{align*}
\text{Ar}^2\text{N} & \quad \text{Ar}^1\text{H} + \text{X} \quad \text{Ar}^3 \\
\rightarrow & \quad \text{[Ir(ppy)2(dtbbpy)]PF}_6 \\
\text{Ar}^2\text{NH} & \quad \text{Ar}^1\text{H}
\end{align*}
\]

A Schlenk-tube was charged with the substrate (1 equiv.), catalyst 3a (1 mol%), additive (20 mol%) and aniline (3 equiv.). It was capped with a rubber septum, evacuated and backfilled with argon. Then, degassed DMA (0.6 mL) was added via syringe. The vial was placed in a 100 mL beaker with blue LEDs wrapped inside and the reaction mixture was stirred at r.t. for 72h (distance to the light source app. 1.5 cm). The mixture was extracted three times, dried over MgSO\(_4\) and evaporated. The product was purified by column chromatography using Pentane/Et\(_2\)O (95:5) as eluent.

\(N\)-methyl-N-diphenyl-N-(p-tolyl)ethane-1,2-diamine (4a)

The title compound was synthesized according to the general procedure employing imine 1a (0.3 mmol), Li\(_2\)CO\(_3\) (0.2 equiv.) and aniline 2a (0.9 mmol). The product was purified by flash column chromatography. **Yield** = 76%; \(^1\)H NMR (400 MHz, CDCl\(_3\)) \(\delta\) 7.47 (d, \(J = 7.2\) Hz, 2H), 7.39 (t, \(J = 7.4\) Hz, 2H), 6.83 (d, \(J = 8.6\) Hz, 2H), 6.70 (t, \(J = 7.3\) Hz, 1H), 6.52 (d, \(J = 7.7\) Hz, 2H), 4.63 (dd, \(J = 9.0, 5.4\) Hz, 1H), 4.49 (bs, 1H), 3.64 (dd, \(J = 14.2, 9.1\) Hz, 1H), 3.40 (dd, \(J = 14.3, 5.4\) Hz, 1H), 2.84 (s, 3H), 2.32 (s, 3H); \(^{13}\)C NMR (101 MHz, CDCl\(_3\)) \(\delta\) 148.2, 147.6, 142.3, 129.9, 129.6, 129.0, 128.8, 127.4, 127.3, 126.5, 117.7, 114.1, 61.2, 56.9, 38.9, 20.4; \(m/z\) (EI) 316 ([M], 15%), 182 ([M-C\(_9\)H\(_{12}\)N]+, 24 %), 134 ([C\(_9\)H\(_{12}\)N]+, 100%); FT-IR \(\nu_{\text{max}}\) (ATR) cm\(^{-1}\): 3398, 3023, 2863, 1602, 1505, 1315, 1122, 804, 749, 695.

\(N^1\)-(4-methoxyphenyl)-\(N^2\)-methyl-1-phenyl-\(N^3\)-(p-tolyl)ethane-1,2-diamine (4b)

The title compound was synthesized according to the general procedure employing imine 1b (0.3 mmol), Li\(_2\)CO\(_3\) (0.2 equiv.) and aniline 2a (0.9 mmol). The product was purified by flash column chromatography. **Yield** = 59%; \(^1\)H NMR (400 MHz, CDCl\(_3\)) \(\delta\) 7.48 – 7.39 (m, 2H), 7.39 – 7.29 (m, 2H), 7.30 – 7.18 (m, 1H), 7.09 (d, \(J = 8.3\) Hz, 2H), 6.84 – 6.74 (m, 2H), 6.70 – 6.59 (m, 2H), 6.48 – 6.38 (m, 2H), 4.52 (dd, \(J = 9.2, 5.3\) Hz, 1H), 4.14 (s, 1H), 3.68 (s, 3H), 3.58 (dd, \(J = 14.2, 9.2\) Hz, 1H), 3.33 (dd, \(J = 14.2, 5.3\) Hz, 1H), 2.81 (s, 3H), 2.29 (s, 3H); \(^{13}\)C NMR (101 MHz, CDCl\(_3\)) \(\delta\) 152.2, 148.2, 142.5, 141.9, 129.8, 128.7, 127.3, 127.2, 126.5, 115.2, 114.6, 114.1, 61.3, 57.6, 55.7, 38.9, 20.3; \(m/z\) (EI) 346 ([M], 12%), 212 ([M-C\(_9\)H\(_{12}\)N]+, 68%), 134 ([C\(_9\)H\(_{12}\)N]+, 100%); FT-IR \(\nu_{\text{max}}\) (ATR) cm\(^{-1}\): 3372, 2923, 1738, 1614, 1510, 1234, 1034, 812, 700.
**N^1-(2-methoxyphenyl)-N^2-methyl-1-phenyl-N^2-(p-tolyl)ethane-1,2-diamine (4c)**

The title compound was synthesized according to the general procedure employing imine 1c (0.3 mmol), Li$_2$CO$_3$ (0.2 equiv.) and aniline 2a (0.9 mmol). The product was purified by flash column chromatography. **Yield = 97%; $^1$H NMR (400 MHz, CDCl$_3$) δ 7.48 – 7.40 (m, 2H), 7.36 (dd, $J = 10.1$, 4.7 Hz, 2H), 7.28 (ddd, $J = 15.0$, 7.6, 4.4 Hz, 1H), 7.11 (d, $J = 8.5$ Hz, 2H), 6.81 – 6.74 (m, 3H), 6.72 – 6.60 (m, 2H), 6.31 (dd, $J = 7.4$, 1.9 Hz, 1H), 4.99 (s, 1H), 4.64 (dd, $J = 8.3$, 5.9 Hz, 1H), 3.84 (s, 3H), 3.74 (dd, $J = 14.4$, 8.4 Hz, 1H), 3.47 (dd, $J = 14.4$, 5.8 Hz, 1H), 2.83 (s, 3H), 2.31 (s, 3H); $^{13}$C NMR (101 MHz, CDCl$_3$) δ 147.6, 147.1, 142.5, 137.5, 129.8, 128.7, 127.3, 126.5, 126.4, 121.1, 116.8, 113.4, 111.5, 109.4, 61.1, 56.7, 55.5, 39.2, 20.3; m/z (EI) 346 ([M], 14%), 212 ([M-C$_6$H$_4$N]$^+$, 69%), 134 ([C$_8$H$_3$N]$^+$, 100%); FT-IR $\nu_{max}$(ATR) cm$^{-1}$: 3404, 3016, 2926, 1721, 1603, 1510, 1453, 1225, 1030, 805, 737, 702.

**N^1-(4-fluorophenyl)-N^2-methyl-1-phenyl-N^2-(p-tolyl)ethane-1,2-diamine (4d)**

The title compound was synthesized according to the general procedure employing imine 1d (0.3 mmol), Li$_2$CO$_3$ (0.2 equiv.) and aniline 2a (0.9 mmol). The product was purified by flash column chromatography. **Yield = 76%; $^1$H NMR (400 MHz, CDCl$_3$) δ 7.49 – 7.21 (m, 5H), 7.12 (t, $J = 7.1$ Hz, 2H), 6.88 – 6.73 (m, 4H), 6.46 – 6.39 (m, 2H), 4.56 (dd, $J = 9.2$, 5.2 Hz, 1H), 4.41 (s, 1H), 3.61 (dd, $J = 14.3$, 9.2 Hz, 1H), 3.38 (dd, $J = 14.3$, 5.2 Hz, 1H), 2.84 (s, 3H), 2.33 (s, 3H); $^{13}$C{F} NMR (101 MHz, CDCl$_3$) δ 156.0, 148.2, 144.0, 142.1, 129.9, 128.9, 127.5, 127.4, 126.5, 115.4, 114.9, 114.2, 61.3, 57.5, 38.9, 20.3; $^{19}$F NMR (376 MHz, CDCl$_3$) δ -127.63; m/z (EI) 334 ([M], 29%), 335 ([M+1], 35%), 200 ([M-C$_6$H$_4$N]$^+$, 10%), 134 ([C$_8$H$_3$N]$^+$, 51%); FT-IR $\nu_{max}$(ATR) cm$^{-1}$: 3398, 3026, 1740, 1614, 1508, 1216, 812, 759, 699.

**N^1-(4-bromophenyl)-N^2-methyl-1-phenyl-N^2-(p-tolyl)ethane-1,2-diamine (4e)**

The title compound was synthesized according to the general procedure employing imine 1e (0.3 mmol), Li$_2$CO$_3$ (0.2 equiv.) and aniline 2a (0.9 mmol). The product was purified by flash column chromatography. **Yield = 81%; $^1$H NMR (400 MHz, CDCl$_3$) δ 7.46 – 7.21 (m, 5H), 7.21 – 7.08 (m, 4H), 6.86 – 6.77 (m, 2H), 6.41 – 6.31 (m, 2H), 4.61 – 4.45 (m, 2H), 3.60 (dd, $J = 14.3$, 9.0 Hz, 1H), 3.39 (dd, $J = 14.3$, 5.2 Hz, 1H), 2.82 (s, 3H), 2.32 (s, 3H); $^{13}$C NMR (101 MHz, CDCl$_3$) δ 148.1, 146.6, 141.7, 131.7, 129.9, 128.9, 127.6, 127.5, 126.4, 115.7, 114.2, 109.5, 61.1, 56.9, 39.0, 20.4; m/z (EI) 394 ([M], 4%), 260 ([M-C$_6$H$_4$N]$^+$, 5%), 134 ([C$_8$H$_3$N]$^+$, 100%); FT-IR $\nu_{max}$(ATR) cm$^{-1}$: 3394, 3022, 2870, 1740, 1596, 1495, 1310, 1118, 806, 699.
Methyl 4-((2-(methyl(p-tolyl)amino)-1-phenylethyl)amino)benzoate (4f)

The title compound was synthesized according to the general procedure employing imine 1f (0.3 mmol), Li2CO3 (0.2 equiv.) and aniline 2a (0.9 mmol). The product was purified by flash column chromatography. Yield = 85%; 1H NMR (400 MHz, CDCl3) δ 7.82 – 7.71 (m, 2H), 7.45 – 7.25 (m, 5H), 7.11 (d, J = 8.2 Hz, 2H), 6.82 – 6.74 (m, 2H), 6.48 – 6.39 (m, 2H), 4.93 (d, J = 3.6 Hz, 1H), 4.74 – 4.64 (m, 1H), 3.82 (s, 3H), 3.64 (dd, J = 14.3, 8.8 Hz, 1H), 3.44 (dd, J = 14.3, 5.5 Hz, 1H), 2.80 (s, 3H), 2.31 (s, 3H); 13C NMR (101 MHz, CDCl3) δ 167.2, 151.3, 147.9, 141.3, 131.3, 130.0, 128.9, 127.6, 127.5, 126.3, 118.9, 114.1, 112.9, 60.8, 56.3, 51.5, 39.1, 20.3; m/z (EI) 374 ([M], 3%), 240 ([M-C9H12N]+, 10%), 134 ([C9H12N]+, 100%); FT-IR νmax (ATR) cm⁻¹: 3373, 2928, 1699, 1601, 1514, 1271, 1175, 1107, 811, 767, 699.

N2-methyl-1-phenyl-N1-(pyridin-3-yl)-N2-(p-tolyl)ethane-1,2-diamine (4g)

The title compound was synthesized according to the general procedure employing imine 1g (0.3 mmol), Li2CO3 (0.2 equiv.) and aniline 2a (0.9 mmol). The product was purified by flash column chromatography. Yield = 69%; 1H NMR (400 MHz, CDCl3) δ 7.98 – 7.88 (m, 2H), 7.45 – 7.21 (m, 6H), 7.10 (d, J = 8.2 Hz, 2H), 6.92 (dd, J = 8.3, 4.7 Hz, 1H), 6.85 – 6.76 (m, 2H), 6.66 (ddd, J = 8.3, 2.8, 1.3 Hz, 1H), 4.62 – 4.50 (m, 2H), 3.60 (dd, J = 14.3, 8.9 Hz, 1H), 3.29 (s, 3H); 13C NMR (101 MHz, CDCl3) δ 148.0, 143.5, 141.2, 139.1, 137.3, 129.9, 128.9, 127.7, 126.4, 123.4, 119.8, 114.3, 61.1, 56.6, 39.1, 30.3, 20.3; m/z (EI) 317 ([M], 4%), 183 ([M-C9H12N]+, 7%), 134 ([C9H12N]+, 100%); FT-IR νmax (ATR) cm⁻¹: 3265, 3026, 2918, 1741, 1588, 1512, 1344, 1202, 1109, 797, 702.

N2-methyl-1-phenyl-N1-(pyridin-2-yl)-N2-(p-tolyl)ethane-1,2-diamine (4h)

The title compound was synthesized according to the general procedure employing imine 1h (0.3 mmol), Li2CO3 (0.2 equiv.) and aniline 2a (0.9 mmol). The product was purified by flash column chromatography. Yield = 72%; 1H NMR (400 MHz, CDCl3) δ 8.11 – 8.03 (m, 1H), 7.45 – 7.20 (m, 6H), 7.07 (d, J = 8.2 Hz, 2H), 6.79 – 6.72 (m, 2H), 6.54 (ddd, J = 7.1, 5.0, 0.8 Hz, 1H), 6.15 (d, J = 8.4 Hz, 1H), 5.31 (d, J = 4.9 Hz, 1H), 4.87 (dd, J = 13.5, 6.2 Hz, 1H), 3.71 (dd, J = 14.4, 7.9 Hz, 1H), 3.46 (dd, J = 14.4, 6.3 Hz, 1H), 2.75 (s, 3H), 2.28 (s, 3H); 13C NMR (101 MHz, CDCl3) δ 158.3, 148.1, 147.5, 141.8, 137.4, 129.8, 128.8, 127.4, 126.5, 126.5, 113.4, 113.3, 107.1, 60.5, 55.1, 39.5, 20.3; m/z (EI) 317 ([M], 16%), 183 ([M-C9H12N]+, 16%), 134 ([C9H12N]+, 100%); FT-IR νmax (ATR) cm⁻¹: 3404, 3247, 3021, 2915, 1599, 1511, 1446, 1335, 802, 766, 701.
1-(4-methoxyphenyl)-N²-methyl-N¹-phenyl-N²-(p-tolyl)ethane-1,2-diamine (4i)

The title compound was synthesized according to the general procedure employing imine 1i (0.3 mmol), Li₂CO₃ (0.2 equiv.) and aniline 2a (0.9 mmol). The product was purified by flash column chromatography. **Yield** = 83%; **¹H NMR** (400 MHz, CDCl₃) δ 7.38 (d, J = 8.6 Hz, 2H), 7.16 – 7.07 (m, 4H), 6.93 (d, J = 8.7 Hz, 2H), 6.83 (d, J = 8.6 Hz, 2H), 6.70 (t, J = 7.3 Hz, 1H), 6.53 (d, J = 7.7 Hz, 2H), 4.59 (dd, J = 8.8, 5.5 Hz, 1H), 4.46 (bs, 1H), 3.83 (s, 3H), 3.65 – 3.58 (m, 1H), 3.36 (dd, J = 14.2, 5.5 Hz, 1H), 2.83 (s, 3H), 2.33 (s, 3H); **¹³C NMR** (101 MHz, CDCl₃) δ 158.9, 148.2, 147.7, 134.2, 129.9, 129.0, 127.5, 127.1, 117.7, 114.2, 114.1, 114.0, 61.2, 56.2, 55.3, 38.9, 20.4; **m/z** (EI) 347 ([M+1], 6 %), 212 ([M-C₉H₁₂N]⁺, 100 %), 135 ([C₉H₁₂N]⁺, 72 %); **FT-IR** νmax (ATR) cm⁻¹: 3392, 3008, 2942, 2314, 2094, 1740, 1603, 1505, 1362, 1227, 1032, 815.

1-(3-methoxyphenyl)-N²-methyl-N¹-phenyl-N²-(p-tolyl)ethane-1,2-diamine (4j)

The title compound was synthesized according to the general procedure employing imine 1j (0.3 mmol), Li₂CO₃ (0.2 equiv.) and aniline 2a (0.9 mmol). The product was purified by flash column chromatography. **Yield** = 65%; **¹H NMR** (400 MHz, CDCl₃) δ 7.32 – 7.26 (m, 1H), 7.14 – 7.00 (m, 6H), 6.87 – 6.79 (m, 3H), 6.69 (t, J = 7.3 Hz, 1H), 6.50 (d, J = 0.8 Hz, 2H), 4.58 (dd, J = 9.1, 5.3 Hz, 1H), 4.46 (bs, 1H), 3.81 (s, 3H), 3.63 (dd, J = 14.2, 9.1 Hz, 1H), 3.39 (dt, J = 11.9, 5.9 Hz, 1H), 2.84 (s, 3H), 2.32 (s, 3H); **¹³C NMR** (101 MHz, CDCl₃) δ 160.1, 148.2, 147.7, 134.2, 129.9, 129.8, 129.0, 127.3, 118.8, 117.8, 114.1 (2C), 112.5, 112.2, 61.1, 56.9, 55.2, 38.9, 20.3; **m/z** (EI) 346 ([M], 1%), 212 ([M-C₉H₁₂N]⁺, 20%), 134 ([C₉H₁₂N]⁺, 100%); **FT-IR** νmax (ATR) cm⁻¹: 3832, 3355, 2928, 2307, 2093, 1744, 1363, 1216, 1087, 691.

1-(2-methoxyphenyl)-N²-methyl-N¹-phenyl-N²-(p-tolyl)ethane-1,2-diamine (4k)

The title compound was synthesized according to the general procedure employing imine 1k (0.3 mmol), Li₂CO₃ (0.2 equiv.) and aniline 2a (0.9 mmol). The product was purified by flash column chromatography. **Yield** = 61%; **¹H NMR** (400 MHz, CDCl₃) δ 7.43 (dt, J = 7.3, 3.6 Hz, 1H), 7.32 – 7.22 (m, 1H), 7.16 – 7.05 (m, 4H), 7.08 (dt, J = 7.6 Hz, 2H), 6.88 – 6.82 (m, 2H), 6.71 – 6.63 (m, 1H), 6.51 (dd, J = 8.5, 0.9 Hz, 2H), 5.08 (dd, J = 8.8, 4.8 Hz, 1H), 4.49 (bs, 1H), 3.97 (s, 3H), 3.66 (dd, J = 14.4, 4.8 Hz, 1H), 3.53 (dd, J = 14.4, 8.8 Hz, 1H), 2.90 (s, 3H), 2.33 (s, 3H); **¹³C NMR** (101 MHz, CDCl₃) δ 156.8, 148.1, 147.8, 129.8, 129.5, 129.0, 128.2, 127.6, 126.4, 121.1, 117.5, 113.9, 113.5, 110.5, 58.3, 55.4, 52.1, 39.1, 20.3; **m/z** (EI) 346 ([M], 9%), 212 ([M-C₉H₁₂N]⁺, 100%), 134 ([C₉H₁₂N]⁺, 30%); **FT-IR** νmax (ATR) cm⁻¹: 3395, 2922, 2088, 1743, 1600, 1502, 1235, 1093, 749.
1-(4-(tert-butyl)phenyl)-N²-methyl-N¹-phenyl-N³-(p-tolyl)ethane-1,2-diamine (4l)

The title compound was synthesized according to the general procedure employing imine 1l (0.3 mmol), Li₂CO₃ (0.2 equiv.) and aniline 2a (0.9 mmol). The product was purified by flash column chromatography. **Yield = 75%; **¹H NMR (400 MHz, CDCl₃) δ 7.42 – 7.36 (m, 4H), 7.15 – 7.07 (m, 4H), 6.85 – 6.80 (m, 2H), 6.70 (t, J = 7.3 Hz, 1H), 6.53 (dd, J = 8.5, 0.9 Hz, 2H), 4.61 (dd, J = 9.2, 5.2 Hz, 1H), 4.48 (bs, 1H), 3.62 (dd, J = 9.2, 4.9 Hz, 1H), 3.40 (dd, J = 8.5, 0.9 Hz, 2H), 2.86 (s, 3H), 2.33 (s, 3H), 1.36 (s, 9H); ¹³C NMR (101 MHz, CDCl₃) δ 150.2, 148.3, 147.8, 139.1, 129.9, 129.0, 127.2, 126.1, 125.7, 117.6, 114.1, 114.0, 61.1, 56.6, 38.8, 34.5, 31.5, 20.3; m/z (EI) 373 ([M+1], 4%), 283 ([M – C₉H₁₂N]⁺, 100%), 134 ([C₉H₁₂N]⁺, 93%); FT-IR νₘ₉ₐₓ(ATR) cm⁻¹: 3393, 2954, 1739, 1603, 1504, 1536, 1319, 1259, 1113, 811, 744, 693.

N²-methyl-N¹-phenyl-1-(o-tolyl)-N³-(p-tolyl)ethane-1,2-diamine (4m)

The title compound was synthesized according to the general procedure employing imine 1m (0.3 mmol), Li₂CO₃ (0.2 equiv.) and aniline 2a (0.9 mmol). The product was purified by flash column chromatography. **Yield = 74%; **¹H NMR (400 MHz, CDCl₃) δ 7.62 (dt, J = 5.2, 3.5 Hz, 1H), 7.29 – 7.21 (m, 3H), 7.18 – 7.08 (m, 4H), 6.87 (d, J = 8.6 Hz, 2H), 6.71 (t, J = 7.3 Hz, 1H), 6.46 (d, J = 7.7 Hz, 2H), 4.88 (dd, J = 9.3, 4.9 Hz, 1H), 4.53 (bs, 1H), 3.63 (dd, J = 14.3, 9.3 Hz, 1H), 3.36 (dd, J = 14.3, 4.9 Hz, 1H), 2.87 (s, 3H), 2.52 (s, 3H), 2.35 (s, 3H); ¹³C NMR (101 MHz, CDCl₃) δ 148.5, 147.8, 140.0, 134.7, 130.7, 129.9, 129.1, 127.5, 127.1, 126.9, 126.0, 117.7, 114.3, 113.8, 59.6, 53.3, 38.6, 20.4, 19.3; m/z (EI) 330 ([M+1], 13%), 196 ([M – C₉H₁₂N]⁺, 42%), 134 ([C₉H₁₂N]⁺, 72%); FT-IR νₘ₉ₐₓ(ATR) cm⁻¹: 3392, 2954, 1739, 1602, 1501, 1339, 1240, 803, 744.

1-(2,6-dimethylphenyl)-N²-methyl-N¹-phenyl-N³-(p-tolyl)ethane-1,2-diamine (4n)

The title compound was synthesized according to the general procedure employing imine 1n (0.3 mmol), Li₂CO₃ (0.2 equiv.) and aniline 2a (0.9 mmol). The product was purified by flash column chromatography. **Yield = 86%; **¹H NMR (400 MHz, CDCl₃) δ 7.19 – 7.09 (m, 7H), 6.87 (d, J = 8.5 Hz, 2H), 6.69 (t, J = 7.3 Hz, 1H), 6.44 (d, J = 7.8 Hz, 2H), 5.13 (dd, J = 9.5, 5.6 Hz, 1H), 4.31 (d, J = 12.3 Hz, 1H), 3.94 (dd, J = 14.4, 9.5 Hz, 1H), 3.39 (dd, J = 14.4, 5.6 Hz, 1H), 2.88 (s, 3H), 2.57 (s, 6H), 2.36 (s, 3H); ¹³C NMR (101 MHz, CDCl₃) δ 148.5, 148.0, 136.7, 130.0, 129.1, 127.3, 127.0, 125.8, 120.7, 117.3, 114.0, 113.0, 56.7, 53.7, 38.2, 21.0, 20.4; m/z (EI) 344 ([M], 1%), 210 ([M – C₉H₁₂N]⁺, 71%), 134 ([C₉H₁₂N]⁺, 100%); FT-IR νₘ₉ₐₓ(ATR) cm⁻¹: 3409, 3018, 2919, 2327, 1602, 1506, 1316, 1117, 805, 746, 690.
1-(4-fluorophenyl)-N²-methyl-N¹-phenyl-N²-(p-tolyl)ethane-1,2-diamine (4o)

The title compound was synthesized according to the general procedure employing imine 1o (0.3 mmol), Li₂CO₃ (0.2 equiv.) and aniline 2a (0.9 mmol). The product was purified by flash column chromatography. Yield = 74%; ^1H NMR (400 MHz, CDCl₃) δ 7.44 – 7.38 (m, 2H), 7.16-7.02 (m, 6H), 6.83 – 6.79 (m, 2H), 6.74 – 6.68 (m, 1H), 6.50 (dd, J = 8.6, 1.0 Hz, 2H), 4.61 (dd, J = 8.8, 5.6 Hz, 1H), 4.45 (bs, 1H), 3.61 (dd, J = 14.2, 8.8 Hz, 1H), 3.35 (dd, J = 14.2, 5.6 Hz, 1H), 2.82 (s, 3H), 2.32 (s, 3H); ^13C{^1H} NMR (101 MHz, CDCl₃) δ 162.1, 148.1, 147.4, 137.9, 129.9, 129.7, 129.0, 128.0, 127.4, 117.9, 115.7, 114.1, 61.2, 56.2, 39.0, 20.3; ^19F NMR (376 MHz, CDCl₃) δ -115.4; m/z (EI) 334 ([M+], 12%), 200 ([M-CH₂N]⁺, 15%), 134 ([C₆H₄N]⁺, 100%); FT-IR ν max (ATR) cm⁻¹: 3390, 2903, 2323, 1740, 1600, 1501, 1322, 1243, 1122, 891, 753, 693.

1-(2-fluorophenyl)-N²-methyl-N¹-phenyl-N²-(p-tolyl)ethane-1,2-diamine (4p)

The title compound was synthesized according to the general procedure employing imine 1q (0.3 mmol), Li₂CO₃ (0.2 equiv.) and aniline 2a (0.9 mmol). The product was purified by flash column chromatography. Yield = 74%; ^1H NMR (400 MHz, CDCl₃) δ 7.34 (td, J = 7.9, 5.8 Hz, 1H), 7.24 – 7.17 (m, 2H), 7.16 – 7.08 (m, 4H), 7.00 (tdd, J = 8.5, 2.6, 1.0 Hz, 1H), 6.85 – 6.80 (m, 2H), 6.73 (tt, J = 7.5, 1.1 Hz, 1H), 6.54 – 6.48 (m, 2H), 4.62 (dd, J = 8.9, 5.5 Hz, 1H), 4.48 (bs, 1H), 3.62 (dd, J = 14.2, 9.0 Hz, 1H), 3.39 (dd, J = 14.2, 5.5 Hz, 1H), 2.84 (s, 3H), 2.33 (s, 3H); ^13C{^1H} NMR (101 MHz, CDCl₃) δ 163.4, 148.0, 147.3, 145.4, 130.3, 129.9, 129.1, 127.5, 122.2, 118.0, 114.3, 114.2, 114.1, 113.3, 113.0, 56.6, 39.0, 20.3; ^19F NMR (376 MHz, CDCl₃) δ -112.6; m/z (EI) 334 ([M+], 7%), 200 ([M-CH₂N]⁺, 13%), 134 ([C₆H₄N]⁺, 100%); FT-IR ν max (ATR) cm⁻¹: 3394, 3023, 2916, 1740, 1600, 1501, 1322, 1243, 1122, 891, 753, 693.

1-(3,5-bis(trifluoromethyl)phenyl)-N²-methyl-N¹-phenyl-N²-(p-tolyl)ethane-1,2-diamine (4q)

The title compound was synthesized according to the general procedure employing imine 1q (0.3 mmol), Li₂CO₃ (0.2 equiv.) and aniline 2a (0.9 mmol). The product was purified by flash column chromatography. Yield = 55%; ^1H NMR (400 MHz, CDCl₃) δ 7.91 (s, 2H), 7.83 (s, 1H), 7.16 – 7.08 (m, 4H), 6.83 – 6.70 (m, 3H), 6.45 (dd, J = 8.6, 0.9 Hz, 2H), 4.70 (dd, J = 8.9, 5.8 Hz, 1H), 4.51 (bs, 1H), 3.63 (dd, J = 14.2, 8.9 Hz, 1H), 3.36 (dd, J = 14.2, 5.8 Hz, 1H), 2.81 (s, 3H), 2.31 (s, 3H); ^13C{^1H} NMR (101 MHz, CDCl₃) δ 156.4, 147.7, 146.8, 145.6, 132.1, 130.0, 129.2, 128.2, 126.7, 121.6, 118.7, 114.6, 114.1, 61.0, 56.6, 39.2, 20.3; ^19F NMR (376 MHz, CDCl₃) δ -62.7; m/z (EI) [M⁺] not observed, 318 ([M-CH₂N]⁺, 5%), 134 ([C₆H₄N]⁺, 100%); FT-IR ν max (ATR) cm⁻¹: 3388, 2921, 1604, 1505, 1359, 1272, 1130, 897, 748, 690.
Methyl 3-(2-(methyl(p-tolyl)amino)-1-(phenylamino)ethyl)benzoate (4r)

The title compound was synthesized according to the general procedure employing imine 1r (0.3 mmol), Li₂CO₃ (0.2 equiv.) and aniline 2a (0.9 mmol). The product was purified by flash column chromatography. Yield = 80%; ¹H NMR (400 MHz, CDCl₃) δ 8.14 (s, 1H), 8.01 – 7.95 (m, 1H), 7.65 (dd, J = 6.4, 1.3 Hz, 1H), 7.43 (td, J = 7.6, 3.5 Hz, 1H), 7.15 - 7.04 (m, 4H), 6.84 – 6.78 (m, 2H), 6.68 (ddd, J = 9.3, 7.4, 1.0 Hz, 1H), 6.48 (dd, J = 8.6, 1.0 Hz, 2H), 4.66 (dd, J = 9.0, 5.4 Hz, 1H), 4.53 (bs, 1H), 3.93 (s, 3H), 3.62 (dd, J = 14.2, 9.0 Hz, 1H), 3.38 (dd, J = 18.1, 9.0 Hz, 1H), 2.81 (s, 3H), 2.31 (s, 3H); ¹³C NMR (101 MHz, CDCl₃) δ 167.1, 148.1, 147.4, 143.0, 131.2, 130.7, 129.9, 129.0 (2C), 128.7, 127.6, 127.5, 118.2, 114.2, 114.1, 61.1, 56.7, 52.2, 39.0, 20.3; m/z (EI) 374 ([M⁺], 8%), 240 ([M⁻C₉H₁₂N]⁺, 20%), 134 ([C₉H₁₂N]⁺, 100%); FT-IR ν max (ATR) cm⁻¹: 3390, 3016, 2928, 1716, 1602, 1505, 1440, 1282, 1192, 805, 748, 694.

N²-methyl-N¹-phenyl-1-(pyridin-3-yl)-N²-(p-tolyl)ethane-1,2-diamine (4s)

The title compound was synthesized according to the general procedure employing imine 1s (0.3 mmol), Li₂CO₃ (0.2 equiv.) and aniline 2a (0.9 mmol). The product was purified by flash column chromatography. Yield = 74%; ¹H NMR (600 MHz, CDCl₃) δ 8.68 (s, 1H), 8.55 (d, J = 4.0 Hz, 1H), 7.75 (d, J = 7.9 Hz, 1H), 7.29 – 7.24 (m, 1H), 7.12 – 7.06 (m, 4H), 6.79 (d, J = 8.6, 5.8 Hz, 1H), 6.47 (d, J = 14.2, 9.0 Hz, 1H), 3.87 (s, 3H), 2.81 (s, 3H), 2.30 (s, 3H); ¹³C NMR (101 MHz, CDCl₃) δ 149.0, 148.7, 147.9, 147.0, 137.7, 134.2, 129.9, 129.1, 127.7, 123.8, 118.2, 114.2, 114.1, 61.0, 54.6, 39.1, 20.3; m/z (EI) 317 ([M⁺], 1%), 183 ([M⁻C₉H₁₂N]⁺, 3%), 134 ([C₉H₁₂N]⁺, 100%); FT-IR ν max (ATR) cm⁻¹: 3261, 3043, 2922, 2860, 2330, 1604, 1518, 1329, 1190, 1126, 801, 749, 699.

N²-methyl-N¹-phenyl-1-(thiophen-3-yl)-N²-(p-tolyl)ethane-1,2-diamine (4t)

The title compound was synthesized according to the general procedure employing imine 1t (0.3 mmol), Li₂CO₃ (0.2 equiv.) and aniline 2a (0.9 mmol). The product was purified by flash column chromatography. Yield = 52%; ¹H NMR (400 MHz, CDCl₃) δ 7.31 (dd, J = 5.0, 3.0 Hz, 1H), 7.22 – 7.19 (m, 1H), 7.13 – 7.05 (m, 5H), 6.79 – 6.67 (m, 3H), 6.56 – 6.50 (m, 2H), 4.75 (dd, J = 8.4, 5.7 Hz, 1H), 4.35 (bs, 1H), 3.66 (dd, J = 14.3, 8.4 Hz, 1H), 3.46 (dd, J = 14.3, 5.7 Hz, 1H), 2.80 (s, 3H), 2.30 (s, 3H); ¹³C NMR (101 MHz, CDCl₃) δ 148.0, 147.6, 143.7, 129.8, 129.0, 127.0, 126.2, 126.0, 121.1, 117.8, 113.9, 113.7, 60.2, 53.0, 39.0, 20.3; m/z (EI) 322 ([M⁺], 16%), 188 ([M-C₉H₁₂N]⁺, 45%), 134 ([C₉H₁₂N]⁺, 100%); FT-IR ν max (ATR) cm⁻¹: 3387, 2882, 2328, 2099, 1868, 1751, 1601, 1502, 1317, 780.
1-(9H-fluoren-2-yl)-$N^2$-methyl-$N^1$-phenyl-$N^2$-(p-tolyl)ethane-1,2-diamine (4u)

The title compound was synthesized according to the general procedure employing imine 1u (0.3 mmol), Li$_2$CO$_3$ (0.2 equiv.) and aniline 2a (0.9 mmol). The product was purified by flash column chromatography. Yield = 70%; $^1$H NMR (600 MHz, CDCl$_3$) $\delta$ 7.79 (dd, $J = 7.7, 4.7$ Hz, 2H), 7.65 (s, 1H), 7.56 (d, $J = 7.4$ Hz, 1H), 7.47 (d, $J = 7.8$ Hz, 1H), 7.40 (t, $J = 7.4$ Hz, 1H), 7.32 (td, $J = 7.4, 0.9$ Hz, 1H), 7.17 – 7.06 (m, 4H), 6.84 (t, $J = 5.6$ Hz, 2H), 6.69 (t, $J = 7.3$ Hz, 1H), 6.62 – 6.51 (m, 2H), 4.70 (dd, $J = 9.0, 5.4$ Hz, 1H), 4.54 (s, 1H), 3.91 (d, $J = 5.7$ Hz, 2H), 3.68 (dd, $J = 14.3, 9.1$ Hz, 1H), 3.44 (dd, $J = 14.3, 5.4$ Hz, 1H), 2.85 (s, 3H), 2.33 (s, 3H); $^{13}$C NMR (151 MHz, CDCl$_3$) $\delta$ 148.2, 147.8, 144.0, 143.3, 141.5, 141.2, 141.1, 129.9, 129.0, 127.3, 126.8, 126.6, 125.2, 125.0, 123.0, 120.1, 119.8, 117.8, 114.1 (2C), 61.3, 57.1, 39.0, 36.9, 20.3; m/z (EI) [M] not observed, 270 ([M - C$_9$H$_{12}$N]$, 29\%), 134 ([C$_9$H$_{12}$N]$^+$, 100%); FT-IR $\nu_{\text{max}}$(ATR) cm$^{-1}$: 3398, 3018, 2919, 1907, 1602, 1507, 1316, 807, 737, 693.

Ethyl 3-(methyl(p-tolyl)amino)-2-(phenylamino)propanoate (4v)

The title compound was synthesized according to the general procedure employing imine 1v (0.3 mmol), Li$_2$CO$_3$ (0.2 equiv.) and aniline 2a (0.9 mmol). The product was purified by flash column chromatography. Yield = 63%; $^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 7.20 – 7.14 (m, 2H), 7.11 – 7.06 (m, 2H), 6.79 – 6.71 (m, 3H), 6.60 (dt, $J = 8.9, 1.7$ Hz, 2H), 4.40 – 4.25 (m, 2H), 4.22 – 4.06 (m, 2H), 3.82 (dd, $J = 14.6, 6.0$ Hz, 1H), 3.64 (dd, $J = 14.6, 6.4$ Hz, 1H), 2.95 (s, 3H), 2.29 (s, 3H), 1.23 (t, $J = 7.1$ Hz, 3H); $^{13}$C NMR (101 MHz, CDCl$_3$) $\delta$ 173.3, 147.0, 146.7, 129.8, 129.3, 126.5, 118.5, 113.7, 112.9, 61.4, 56.1, 55.8, 39.3, 20.3; m/z (EI) 312 ([M], 13%), 134 ([C$_9$H$_{12}$N]$^+$, 100%); FT-IR $\nu_{\text{max}}$(ATR) cm$^{-1}$: 3381, 2978, 2924, 1731, 1603, 1512, 1370, 1190, 1026, 804, 749, 691.

$N^2$-(4-methoxyphenyl)-$N^2$-methyl-$N^1$-diphenylethane-1,2-diamine (5a)

The title compound was synthesized according to the general procedure employing imine 1a (0.3 mmol), Li$_2$CO$_3$ (0.2 equiv.) and aniline 2b (0.9 mmol). The product was purified by flash column chromatography. Yield = 40%; $^1$H NMR (600 MHz, CDCl$_3$) $\delta$ 7.44 (d, $J = 7.3$ Hz, 2H), 7.41 – 7.33 (m, 2H), 7.28 (t, $J = 7.3$ Hz, 1H), 7.08 (dd, $J = 8.2, 7.6$ Hz, 2H), 6.88 (s, 4H), 6.68 (t, $J = 7.3$ Hz, 1H), 6.50 (d, $J = 7.8$ Hz, 2H), 4.61 (bs, 1H), 4.54 (dd, $J = 9.5, 5.0$ Hz, 1H), 3.80 (s, 3H), 3.49 (dd, $J = 14.0, 9.5$ Hz, 1H), 3.32 (dd, $J = 14.0, 5.0$ Hz, 1H), 2.81 (s, 3H); $^{13}$C NMR (151 MHz, CDCl$_3$) $\delta$ 152.9, 147.7, 145.1, 142.3, 129.0, 128.8, 127.3, 126.4, 117.7, 116.6, 114.8, 114.1, 62.2, 56.8, 55.7, 39.6; m/z (EI) 332 ([M], 13%), 182 ([M-C$_9$H$_{12}$NO]$^+$, 100%), 150 ([C$_9$H$_{12}$NO]$^+$, 100%); FT-IR $\nu_{\text{max}}$(ATR) cm$^{-1}$: 3393, 2934, 1600, 1504, 1242, 1034, 815, 751, 696.
$N^2$-(2-methoxyphenyl)-$N^2$-methyl-$N^1$-$N^1$-diphenylethane-1,2-diamine (5b)

The title compound was synthesized according to the general procedure employing imine $1a$ (0.3 mmol), Li$_2$CO$_3$ (0.2 equiv.) and aniline $2c$ (0.9 mmol). The product was purified by flash column chromatography. Yield = 70%; $^1$H NMR (400 MHz, CDCl$_3$) δ 7.48 (d, $J = 7.2$ Hz, 2H), 7.30 – 7.23 (m, 1H), 7.14 – 7.01 (m, 4H), 6.99 – 6.90 (m, 2H), 6.67 (t, $J = 7.3$ Hz, 1H), 6.57 – 6.52 (m, 2H), 5.73 (bs, 1H), 4.50 (dd, $J = 11.3$, 3.9 Hz, 1H), 4.00 (s, 3H), 3.35 (dd, $J = 13.3$, 3.9 Hz, 1H), 3.00 (dd, $J = 13.3$, 3.9 Hz, 1H), 2.84 (s, 3H); $^{13}$C NMR (101 MHz, CDCl$_3$) δ 152.5, 148.6, 142.9, 141.9, 129.0, 128.7, 127.1, 126.5, 123.1, 121.0, 119.9, 116.9, 113.6, 111.4, 63.3, 56.8, 55.2, 39.2; m/z (EI) 358 (M$,^+$, 5%), 182 ([M-C$_9$H$_{12}$NO]$^+$, 14%), 150 ([C$_9$H$_{12}$NO]$^+$, 100%); FT-IR $\nu_{max}(ATR)$ cm$^{-1}$: 3370, 3028, 2843, 1598, 1495, 1238, 1027, 912, 740.

$N^2$-(4-(tert-butyl)phenyl)-$N^2$-methyl-$N^1$-$N^1$-diphenylethane-1,2-diamine (5c)

The title compound was synthesized according to the general procedure employing imine $1a$ (0.3 mmol), Li$_2$CO$_3$ (0.2 equiv.) and aniline $2d$ (0.9 mmol). The product was purified by flash column chromatography. Yield = 38%; $^1$H NMR (400 MHz, CDCl$_3$) δ 7.48 – 7.43 (m, 2H), 7.40 – 7.22 (m, 5H), 7.12 – 7.02 (m, 2H), 6.89 – 6.82 (m, 2H), 6.71 – 6.65 (m, 1H), 6.51 (dd, $J = 8.5$, 0.9 Hz, 2H), 4.61 (dt, $J = 19.3$, 9.6 Hz, 1H), 4.50 (bs, 1H), 3.62 (dd, $J = 14.3$, 9.6 Hz, 1H), 3.41 (dd, $J = 14.3$, 5.3 Hz, 1H), 2.85 (s, 3H), 1.34 (s, 9H); $^{13}$C NMR (101 MHz, CDCl$_3$) δ 148.1, 147.6, 142.3, 140.7, 129.0, 128.8, 127.4, 126.5, 126.1, 117.7, 114.1, 113.5, 61.1, 56.9, 38.7, 33.9, 31.5; m/z (EI) 358 ([M], 7%), 182 ([M-C$_9$H$_{12}$NO]$^+$, 28%), 176 ([C$_9$H$_{12}$N]$^+$, 100%); FT-IR $\nu_{max}(ATR)$ cm$^{-1}$: 3853, 3268, 3354, 2930, 2695, 2314, 2095, 1743, 1362, 1216, 1092, 766.

$N^2$-methyl-$N^1$-$N^1$-diphenyl-$N^2$-(m-tolyl)ethane-1,2-diamine (5d)

The title compound was synthesized according to the general procedure employing imine $1a$ (0.3 mmol), Li$_2$CO$_3$ (0.2 equiv.) and aniline $2e$ (0.9 mmol). The product was purified by flash column chromatography. Yield = 72%; $^1$H NMR (400 MHz, CDCl$_3$) δ 7.51 – 7.45 (m, 2H), 7.43 – 7.35 (m, 2H), 7.35 – 7.28 (m, 1H), 7.22 (dd, $J = 12.8$, 5.1 Hz, 1H), 7.14 – 7.07 (m, 2H), 6.75 – 6.65 (m, 4H), 6.53 (dd, $J = 8.6$, 0.9 Hz, 2H), 4.67 (dd, $J = 8.7$, 5.6 Hz, 1H), 4.44 (bs, 1H), 3.71 (dd, $J = 14.4$, 8.7 Hz, 1H), 3.44 (dd, $J = 14.4$, 5.6 Hz, 1H), 2.85 (s, 3H), 2.39 (s, 3H); $^{13}$C NMR (101 MHz, CDCl$_3$) δ 150.2, 147.6, 142.2, 139.1, 129.2, 129.0, 128.8, 127.4, 126.5, 118.7, 117.8, 114.3, 114.1, 110.7, 56.9, 38.7, 22.0; m/z (EI) 316 ([M], 5%), 182 ([M-C$_9$H$_{12}$N]$^+$, 38%), 134 ([C$_9$H$_{12}$N]$^+$, 100%); FT-IR $\nu_{max}(ATR)$ cm$^{-1}$: 3399, 3046, 2863, 2326, 1597, 1496, 1313, 753, 693.
N²-(3,5-dimethylphenyl)-N²-methyl-N¹¹-diphenylethane-1,2-diamine (5e)

The title compound was synthesized according to the general procedure employing imine 1a (0.3 mmol), Li₂CO₃ (0.2 equiv.) and aniline 2f (0.9 mmol). The product was purified by flash column chromatography. **Yield = 80%**; **¹H NMR** (400 MHz, CDCl₃) δ 7.52 – 7.45 (m, 2H), 7.41 (dd, J = 10.2, 4.7 Hz, 2H), 7.36 – 7.27 (m, 1H), 7.18 – 7.09 (m, 2H), 6.72 (t, J = 7.3 Hz, 1H), 6.55 (dd, J = 6.9, 1.4 Hz, 5H), 4.67 (dd, J = 8.8, 5.5 Hz, 1H), 4.47 (bs, 1H), 3.70 (dd, J = 14.3, 8.8 Hz, 1H), 3.43 (dd, J = 14.3, 5.5 Hz, 1H), 2.85 (s, 3H), 2.36 (s, 6H); **¹³C{¹H} NMR** (101 MHz, CDCl₃) δ 150.4, 147.6, 142.3, 138.9, 129.0, 128.8, 127.4, 126.5, 119.9, 117.8, 114.1, 111.6, 60.7, 57.0, 38.7, 21.9; **m/z** (EI) 330 ([M⁺], 3%), 182 ([M⁺ - C₁₀H₁₄N⁺], 26%), 148 ([C₁₀H₁₄N⁺], 100%); **FT-IR** νmax (ATR) cm⁻¹: 3457, 3013, 2294, 2094, 1877, 1740, 1366, 1217, 1092, 770.

N²-(4-fluorophenyl)-N²-methyl-N¹¹-diphenylethane-1,2-diamine (5f)

The title compound was synthesized according to the general procedure employing imine 1a (0.3 mmol), Li₂CO₃ (0.2 equiv.) and aniline 2g (0.9 mmol). The product was purified by flash column chromatography. **Yield = 85%**; **¹H NMR** (400 MHz, CDCl₃) δ 7.48 – 7.42 (m, 2H), 7.42 – 7.34 (m, 2H), 7.35 – 7.27 (m, 1H), 7.16 – 7.06 (m, 2H), 7.06 – 6.96 (m, 2H), 6.87 – 6.77 (m, 2H), 6.71 (dd, J = 10.5, 4.1 Hz, 1H), 6.53 (dt, J = 3.1, 1.6 Hz, 2H), 4.62 (dd, J = 8.9, 5.5 Hz, 1H), 4.46 (bs, 1H), 3.59 (dd, J = 14.2, 8.9 Hz, 1H), 3.40 (dd, J = 14.2, 5.5 Hz, 1H), 2.82 (s, 3H); **¹³C{¹F} NMR** (101 MHz, CDCl₃) δ 156.2, 147.5, 146.9, 142.1, 129.1, 128.9, 127.5, 126.5, 117.9, 115.7, 115.3, 114.1, 61.6, 56.7, 39.4; **¹⁹F NMR** (376 MHz, CDCl₃) δ -127.1; **m/z** (EI) 330 ([M⁺], 5%), 182 ([M⁺ - C₈H₉NF⁺], 100%), 138 ([C₈H₉NF⁺], 100%); **FT-IR** νmax (ATR) cm⁻¹: 3400, 3054, 2864, 2327, 1843, 1600, 1504, 1226, 1117, 815, 748, 697.

N²-(4-chlorophenyl)-N²-methyl-N¹¹-diphenylethane-1,2-diamine (5g)

The title compound was synthesized according to the general procedure employing imine 1a (0.3 mmol), Li₂CO₃ (0.2 equiv.) and aniline 2h (0.9 mmol). The product was purified by flash column chromatography. **Yield = 60%**; **¹H NMR** (400 MHz, CDCl₃) δ 7.45 – 7.32 (m, 4H), 7.32 – 7.25 (m, 1H), 7.25 – 7.16 (m, 2H), 7.13 – 7.02 (m, 2H), 6.79 – 6.63 (m, 3H), 6.50 (dd, J = 8.5, 0.9 Hz, 2H), 4.64 (dd, J = 8.3, 5.9 Hz, 1H), 4.29 (bs, 1H), 3.67 (dd, J = 14.5, 8.3 Hz, 1H), 3.43 (dd, J = 14.5, 5.9 Hz, 1H), 2.79 (s, 3H); **¹³C NMR** (101 MHz, CDCl₃) δ 148.4, 147.3, 141.9, 129.1 (2C), 128.9, 127.5, 126.5, 122.3, 117.9, 114.3, 114.0, 60.6, 56.6, 39.0; **m/z** (EI) 337 ([M⁺+1], 6%), 182 ([M⁺ - C₈H₉Cl⁺], 23%), 154 ([M⁺ - C₈H₉Cl⁺], 100%); **FT-IR** νmax (ATR) cm⁻¹: 3401, 3052, 2870, 2096, 1596, 1496, 1121, 809, 749, 696.
The title compound was synthesized according to the general procedure employing imine 1a (0.3 mmol), Li₂CO₃ (0.2 equiv.) and aniline 2i (0.9 mmol). The product was purified by flash column chromatography. Yield = 36%; "H NMR (400 MHz, CDCl₃) δ 7.46 – 7.17 (m, 7H), 7.07 (dd, J = 8.4, 7.4 Hz, 2H), 6.74 – 6.59 (m, 3H), 6.49 (d, J = 7.7 Hz, 2H), 4.62 (dd, J = 8.2, 6.1 Hz, 1H), 4.25 (bs, 1H), 3.66 (dd, J = 14.5, 8.2 Hz, 1H), 3.42 (dd, J = 14.5, 6.1 Hz, 1H), 2.77 (s, 3H); "C NMR (101 MHz, CDCl₃) δ 148.7, 147.2, 141.8, 132.0, 129.1, 128.8, 127.5, 126.4, 114.7, 113.9, 109.4, 60.4, 56.6, 38.9; m/z (EI) 381 ([M+1], 5%), 199 ([C₈H₁₀NBr]⁺, 23%), 182 ([M-C₈H₉NBr]⁺, 100%); FT-IR ν cm⁻¹: 3392, 3035, 2891, 2314, 2086, 1595, 1493, 1326, 1105, 746.

The title compound was synthesized according to the general procedure employing imine 1a (0.3 mmol), Li₂CO₃ (0.2 equiv.) and aniline 2j (0.9 mmol). The product was purified by flash column chromatography. Yield = 43%; "H NMR (400 MHz, CDCl₃) δ 8.32 (d, J = 8.4 Hz, 1H), 7.87 (d, J = 7.7 Hz, 1H), 7.65 – 7.45 (m, 5H), 7.44 – 7.33 (m, 3H), 7.33 – 7.21 (m, 1H), 7.21 – 7.13 (m, 1H), 7.10 (dt, J = 8.5, 6.4 Hz, 2H), 6.68 (t, J = 7.3 Hz, 1H), 6.58 – 6.46 (m, 2H), 5.08 (bs, 1H), 4.54 (dd, J = 11.0, 4.2 Hz, 1H), 3.44 (dd, J = 12.8, 4.2 Hz, 1H), 3.33 (dd, J = 12.8, 11.0 Hz, 1H), 3.22 (s, 3H); "C NMR (101 MHz, CDCl₃) δ 149.7, 148.2, 142.6, 134.9, 129.5, 129.0, 128.8, 128.6, 127.3, 126.5, 126.0, 125.8, 125.7, 124.2, 123.2, 117.7, 116.7, 114.0, 63.3, 56.8, 43.5; m/z (EI) [M] not observed, 182 ([M-C₁₂H₁₂N]⁺, 19%); FT-IR ν max (ATR) cm⁻¹: 3393, 3035, 2891, 2314, 2086, 1595, 1493, 1326, 1105, 746.

The title compound was synthesized according to the general procedure employing imine 1a (0.3 mmol), Li₂CO₃ (0.2 equiv.) and aniline 2k (0.9 mmol). The product was purified by flash column chromatography. Yield = 74%; "H NMR (600 MHz, CDCl₃) δ 7.54 – 7.46 (m, 2H), 7.41 (dd, J = 10.4, 4.8 Hz, 2H), 7.36 – 7.31 (m, 5H), 7.14 – 7.00 (m, 8H), 6.70 (t, J = 7.3 Hz, 1H), 6.47 (dd, J = 8.6, 0.9 Hz, 2H), 4.68 (dd, J = 9.3, 4.9 Hz, 1H), 4.46 (bs, 1H), 4.06 (dd, J = 14.8, 9.3 Hz, 1H), 3.98 (dd, J = 14.8, 4.9 Hz, 1H); "C NMR (151 MHz, CDCl₃) δ 148.2, 147.5, 141.9, 129.6, 129.0, 128.9, 127.6, 126.5, 122.2, 121.5, 117.8, 113.9, 59.7, 57.7; m/z (EI) 364 ([M], 1%), 182 ([C₁₃H₁₄N]⁺, 100%), 77 ([C₆H₅]⁺, 33%); FT-IR ν max (ATR) cm⁻¹: 3414, 3025, 1591, 1493, 1319, 1270, 1183, 1073, 745, 691.
The title compound was synthesized according to the general procedure employing imine 1a (0.3 mmol), Li$_2$CO$_3$ (0.2 equiv.) and aniline 2l or 2m (0.9 mmol). The product was purified by flash column chromatography. Yield = 72% yield from 2l, and 47% yield from 2m. $^1$H NMR (600 MHz, CDCl$_3$) $\delta$ 7.46 – 7.40 (m, 4H), 7.35 – 7.33 (m, 1H), 7.25 (t, $J$ = 7.9 Hz, 2H), 7.15 (t, $J$ = 7.9 Hz, 2H), 6.82 – 6.80 (m, 1H), 6.70 (t, $J$ = 7.2 Hz, 1H), 6.69 (d, $J$ = 7.9 Hz, 2H), 6.59 (d, $J$ = 7.9 Hz, 2H), 4.68 (dd, $J$ = 7.7, 4.6 Hz, 1H), 4.43 (br s, 1H), 3.89 (bs, 1H), 3.54 (dd, $J$ = 12.4, 4.6 Hz, 1H), 3.45 – 3.42 (m, 1H); $^{13}$C NMR (151 MHz, CDCl$_3$) $\delta$ 147.9, 147.2, 141.4, 129.5, 129.3, 129.0, 127.7, 126.6, 118.3, 118.0, 113.8, 113.4, 57.5, 51.1; m/z (EI) 288,1 ([M], 0.8%), 182 ([C$_{13}$H$_4$N]$^+$); FT-IR $\nu_{\text{max}}$ (ATR) cm$^{-1}$: 3377, 3049, 2910, 2851, 1597, 1497, 1427, 1313, 1255, 870, 747, 691; $M_p$ = 80°C.

Ethyl 2,3-bis(phenylamino)propanoate (6b)

The title compound was synthesized according to the general procedure employing imine 1v (0.3 mmol), Li$_2$CO$_3$ (0.2 equiv.) and aniline 2l or 2m (0.9 mmol). The product was purified by flash column chromatography. Yield = 43% yield from 2k, and 63% yield from 2m. $^1$H NMR (400 MHz, CDCl$_3$) $\delta$ 7.20 – 7.23 (m, 4H), 6.77 – 6.82 (m, 2H), 6.68 – 6.70 (m, 4H), 4.47 (br s, 1H), 4.35 (m, 1H), 4.19 – 4.27 (m, 2H), 4.07 (br s, 1H), 3.65 – 3.68 (dd, $J$ = 12.6, 4.7 Hz, 1H), 3.50 – 3.53 (dd, $J$ = 12.6, 5.7 Hz, 1H), 1.28 (t, $J$ = 7.2 Hz, 3H); $^{13}$C NMR (151 MHz, CDCl$_3$) $\delta$ 172.1, 147.7, 146.7, 129.5, 129.4, 119.0, 118.4, 114.0, 113.6, 61.8, 56.7, 46.1, 14.3; HRMS (ESI) m/z: calculated for C$_{17}$H$_{21}$N$_2$O$_2$ ([M+H]$^+$): 285.1597; found 285.1591; FT-IR $\nu_{\text{max}}$(ATR) cm$^{-1}$: 3389, 3052, 3024, 2981, 2931, 1728, 1599, 1501, 1435, 1373, 1311, 1256, 1187, 1150, 1074, 1023, 871, 747, 691.
6. General procedure for the preparation of 1,2-aminoalcohols

A Schlenk-tube was charged with aldehyde (0.5 mmol, 1 equiv.), catalyst 3a (0.5 mol%), PhCO₂H (20 mol%) and aniline (1.5 mmol, 3 equivs). It was capped with a rubber septum, evacuated and backfilled with argon. Then, degassed DMA (0.6 mL) was added via syringe. The vial was placed in a 100 mL beaker with blue LEDs wrapped inside and the reaction mixture was stirred at r.t. for the corresponding time (distance to the light source app. 1.5 cm). The mixture was extracted three times, dried over MgSO₄ and evaporated. The product was purified by column chromatography using Pentane/EtOAc as eluent.

**2-(methyl(ρ-tolyl)amino)-1-phenylethanol (8a)**

The title compound was synthesized according to the general procedure employing benzaldehyde 7a (0.5 mmol), PhCO₂H (0.2 equiv.) and aniline 2a (1.5 mmol) for 6 hours. Purification on silica gel (elution with Pentane/EtOAc: 95 / 5 to 90 / 10) gave the desired compound as a colorless oil. Yield = 60% (72.3 mg); **¹H NMR** (400 MHz, CDCl₃) δ 2.33 (s, 3H), 2.80 (br s, 1H), 2.94 (s, 3H), 3.39 - 3.51 (m, 2H), 4.99 (dd, J = 8,7, 4.4 Hz, 1H), 6.82 - 6.85 (m, 2H), 7.12 - 7.14 (m, 2H), 7.33 - 7.48 (m, 5H); **¹³C NMR** (100 MHz, CDCl₃) δ 20.2, 39.5, 62.5, 71.4, 113.9, 125.8, 127.1, 127.7, 129.7, 142.0, 148.0; **HRMS (ESI)** m/z: calculated for C₁₆H₂₀NO ([M+H]+): 242.1539; found 242.1529; **FT-IR** νₘₐₓ(ATR) cm⁻¹: 699, 802, 956, 1041, 1112, 1198, 1352, 1515, 1615, 2897, 3017, 3420.

**1-(benzo[d][1,3]dioxol-5-yl)-2-(methyl(ρ-tolyl)amino)ethanol (8b)**

The title compound was synthesized according to the general procedure employing aldehyde 7b (0.5 mmol), PhCO₂H (0.2 equiv.) and aniline 2a (1.5 mmol) for 13 hours. Purification on silica gel (elution with Pentane/EtOAc: 95 / 5 to 90 / 10) gave the desired compound as a yellow oil. Yield = 47% (66.8 mg); **¹H NMR** (600 MHz, CDCl₃) δ 2.30 (s, 3H), 2.72 (br s, 1H), 2.92 (s, 3H), 3.32 - 3.43 (m, 2H), 4.88 (dd, J = 8,4, 4.0 Hz, 1H), 5.97 (s, 2H), 6.79 - 6.82 (m, 3H), 6.85 - 6.87 (m, 1H), 6.96 (s, 1H), 7.09-7.10 (m, 2H); **¹³C NMR** (150 MHz, CDCl₃) δ 20.4, 39.7, 62.7, 71.4, 101.1, 106.6, 108.3, 114.1, 119.4, 127.3, 129.9, 136.2, 147.2, 147.9, 148.2; **HRMS (ESI)** m/z: calculated for C₁₇H₂₀NO₃ ([M+H]^+): 286.1438; found 286.1430; **FT-IR** νₘₐₓ(ATR) cm⁻¹: 802, 934, 1036, 1101, 1235, 1356, 1500, 1615, 1866, 2090, 2323, 2890, 3425.
Methyl 3-(1-hydroxy-2-(methyl(p-tolyl)amino)ethyl)benzoate (8c)

The title compound was synthesized according to the general procedure employing aldehyde 7c (0.5 mmol), PhCO2H (0.2 equiv.) and aniline 2a (1.5 mmol) for 13 hours. Purification on silica gel (elution with Pentane / EtOAc: 95 / 5 to 90 / 10) gave the desired compound as white solid. Yield = 67 % (90.9 mg); 1H NMR (600 MHz, CDCl3) δ 2.32 (s, 3H), 2.80 (br s, 1H), 2.99 (s, 3H), 3.35 (dd, J = 14.9, 9.0 Hz, 1H), 3.63 (dd, J = 14.9, 3.5 Hz, 1H), 3.92 (s, 3H), 5.31 (dd, J = 9.0, 3.5 Hz, 1H), 6.86 (d, J = 8.4 Hz, 2H), 7.04 (t, J = 7.9 Hz, 1H), 7.1 (d, J = 8.4 Hz, 2H), 7.39 - 7.32 (m, 1H), 7.53 (d, J = 7.4 Hz, 1H); 13C NMR (150 MHz, CDCl3) δ 20.3, 39.9, 55.4, 60.5, 68.2, 110.3, 113.3, 121.0, 126.2, 126.8, 128.5, 129.7, 130.3, 148.0, 156.3; HRMS (ESI) m/z: calculated for C17H22NO ([M+H]+): 272.1645; found 272.1638; FT-IR νmax(ATR) cm⁻¹: 747, 796, 971, 1053, 1235, 1369, 1485, 1523, 1614, 2836, 2928, 2986, 3384, Mp = 85°C.

2-[N,N-Methyl(4-tolyl)amino]-1-(4-tolyl)ethanol (8d)

The title compound was synthesized according to the general procedure employing aldehyde 7d (0.5 mmol), PhCO2H (0.2 equiv.) and aniline 2a (1.5 mmol) for 13 hours. Purification on silica gel (elution with Pentane / EtOAc: 95 / 5 to 90 / 10) gave the desired compound as a colorless oil. Yield = 58% (73.8 mg); 1H NMR (400 MHz, CDCl3) δ 2.31 (s, 3H), 2.39 (s, 3H), 2.68 (br s, 1H), 2.93 (s, 3H), 3.36 - 3.48 (m, 2H), 4.96 (dd, J = 8.9, 3.9 Hz, 1H), 6.82 (d, J = 8.7 Hz, 2H), 7.11 (d, J = 8.7 Hz, 2H), 7.21 (d, J = 8.9 Hz, 2H), 7.34 (d, J = 8.9 Hz, 2H); 13C NMR (100 MHz, CDCl3) δ 20.4, 21.3, 39.7, 62.7, 71.5, 114.1, 126.0, 127.2, 129.3, 129.9, 137.5, 139.1, 148.3; HRMS (ESI) m/z: calculated for C17H22NO ([M+H]+): 256.1696; found 256.1688; FT-IR νmax(ATR) cm⁻¹: 804, 947, 1056, 1117, 1190, 1232, 1361, 1517, 1616, 2917, 3012, 3417.

2-[N,N-Methyl(4-tolyl)amino]-1-(4-fluorophenyl)ethanol (8e)

The title compound was synthesized according to the general procedure employing aldehyde 7e (0.5 mmol), PhCO2H (0.2 equiv.) and aniline 2a (1.5 mmol) for 13 hours. Purification on silica gel (elution with Pentane / EtOAc: 95 / 5 to 90 / 10) gave the desired compound as a colorless oil. Yield = 64 % (82.6 mg); 1H NMR (300 MHz, CDCl3) δ 2.30 (s, 3H), 2.79 (br s, 1H), 2.91 (s, 3H), 3.30 - 3.46 (m, 2H), 4.95 (dd, J = 8.7, 4.5 Hz, 1H), 6.79 - 6.81 (m, 2H), 7.04 - 7.12 (m, 4H), 7.37 - 7.42 (m, 2H); 13C NMR (100 MHz, CDCl3) δ 20.2, 39.6, 62.7, 70.8, 114.0, 115.3 (d, J = 21.3 Hz), 127.3, 127.5 (d, J = 8.1 Hz), 129.7, 137.7, 148.0, 162.3 (d, J = 245.4 Hz); 19F NMR (376 MHz, CDCl3) δ -114.79; HRMS (ESI) m/z: calculated for C16H19FNO ([M+H]+): 260.1445; found 260.1439; FT-IR νmax(ATR) cm⁻¹: 814, 953, 1051, 1116, 1217, 1354, 1510, 1611, 2324, 2897, 3419.
2-[N,N-Methyl(4-tolylamino)-1-(4-chlorophenyl)ethanol (8f)

The title compound was synthesized according to the general procedure employing aldehyde 7f (0.5 mmol), PhCO:H (0.2 equiv.) and aniline 2a (1.5 mmol) for 6 hours. Purification on silica gel (elution with Pentane / EtOAc: 95 / 5 to 90 / 10) gave the desired compound as a colorless oil. Yield = 60 % (82 mg); \textsuperscript{1}H NMR (300 MHz, CDCl\textsubscript{3}) \(\delta\) 2.32 (s, 3H), 2.88 (br s, 1H), 2.91 (s, 3H), 3.32 - 3.43 (m, 2H), 4.94 (dd, \(J = 8,6, 4.6\) Hz, 1H), 6.79 - 6.81 (m, 2H), 7.10 - 7.13 (m, 2H), 7.36 (s, 4H); \textsuperscript{13}C NMR (100 MHz, CDCl\textsubscript{3}) \(\delta\) 20.4, 39.8, 62.7, 70.9, 114.2, 127.4, 127.5, 128.7, 129.9, 133.5, 140.6, 148.1; HRMS (ESI) \(m/z\): calculated for C\textsubscript{16}H\textsubscript{19}ClNO ([M+H]\textsuperscript{+}): 276.1150; found 276.1143; FT-IR \(\nu_{max}(ATR)\) cm\(^{-1}\): 806, 950, 1014, 1084, 1189, 1231, 1357, 1516, 1614, 2075, 2325, 2910, 3423.

2-[N,N-Methyl(4-tolylamino)-1-(3-chlorophenyl)ethanol (8g)

The title compound was synthesized according to the general procedure employing aldehyde 7g (0.5 mmol), PhCO:H (0.2 equiv.) and aniline 2a (1.5 mmol) for 24 hours. Purification on silica gel (elution with Pentane / EtOAc: 95 / 5 to 90 / 10) gave the desired compound as a colorless oil. Yield = 75 % (102.9 mg); \textsuperscript{1}H NMR (600 MHz, CDCl\textsubscript{3}) \(\delta\) 2.32 (s, 3H), 2.89 (br s, 1H), 2.93 (s, 3H), 3.35 - 3.42 (m, 2H), 4.94 (dd, \(J = 8,2, 5.2\) Hz, 1H), 6.81 - 6.82 (m, 2H), 7.11 - 7.13 (m, 2H), 7.29 - 7.33 (m, 3H), 7.46 (bs, 1H); \textsuperscript{13}C NMR (150 MHz, CDCl\textsubscript{3}) \(\delta\) 20.4, 39.8, 62.7, 70.9, 114.3, 124.1, 126.1, 127.6, 127.9, 129.8, 132.9, 134.5, 144.2, 148.1; HRMS (ESI) \(m/z\): calculated for C\textsubscript{16}H\textsubscript{19}ClNO ([M+H]\textsuperscript{+}): 276.1150; found 276.1145; FT-IR \(\nu_{max}(ATR)\) cm\(^{-1}\): 698, 796, 886, 958, 1063, 1196, 1351, 1514, 1609, 1800, 2095, 2325, 2903, 3418.

N-(4-(1-hydroxy-2-(methyl(p-tolylamino)ethyl)phenyl)acetamide (8h)

The title compound was synthesized according to the general procedure employing aldehyde 7h (0.5 mmol), PhCO:H (0.2 equiv.) and aniline 2a (1.5 mmol) for 24 hours. Purification on silica gel (elution with Pentane / EtOAc: 1 / 1) gave the desired compound as a colorless oil. Yield = 48 % (71.2 mg); \textsuperscript{1}H NMR (600 MHz, CDCl\textsubscript{3}) \(\delta\) 2.12 (s, 3H), 2.27 (s, 3H), 2.87 (s, 3H), 3.05 (br s, 1H), 3.30 - 3.42 (m, 2H), 3.30 - 3.42 (m, 2H), 4.89 (dd, \(J = 8,9, 4.0\) Hz, 1H), 6.76 - 6.77 (m, 2H), 7.06 - 7.08 (m, 2H), 7.30 - 7.31 (m, 2H), 7.47 - 7.47 (m, 2H), 7.87 (bs, 1H); \textsuperscript{13}C NMR (150 MHz, CDCl\textsubscript{3}) \(\delta\) 20.4, 24.5, 39.7, 62.5, 71.6, 114.0, 120.3, 126.6, 127.2, 129.8, 137.5, 138.1, 148.1, 168.9; HRMS (ESI) \(m/z\): calculated for C\textsubscript{18}H\textsubscript{23}N\textsubscript{2}O\textsubscript{2} ([M+H]\textsuperscript{+}): 299.1754; found 299.1745; FT-IR \(\nu_{max}(ATR)\) cm\(^{-1}\): 725, 814, 909, 1043, 1112, 1243, 1319, 1520, 1614, 1664, 2908, 3299.
Methyl 4-(1-hydroxy-2-(methyl(p-tolyl)amino)ethyl)benzoate (8i)

The title compound was synthesized according to the general procedure employing aldehyde 7i (0.5 mmol), PhCO₂H (0.2 equiv.) and aniline 2a (1.5 mmol) for 24 hours. Purification on silica gel (elution with Pentane / EtOAc: 90 / 10 to 85 / 15) gave the desired compound as a white solid. Yield = 66 % (98 mg); ¹H NMR (400 MHz, CDCl₃) δ 2.29 (s, 3H), 2.89 (s, 3H), 2.95 (br s, 1H), 3.36 - 3.45 (m, 2H), 3.92 (s, 3H), 5.01 (dd, J = 7.7, 5.4 Hz, 1H), 6.78 - 6.80 (m, 2H), 7.08 - 7.10 (m, 2H), 7.48 - 7.50 (m, 2H), 8.03 - 8.05 (m, 2H); ¹³C NMR (100 MHz, CDCl₃) δ 20.4, 39.8, 52.2, 62.6, 71.2, 114.2, 125.9, 127.6, 129.6, 129.9 (2C), 147.4, 148.1, 167.0; HRMS (ESI) m/z: calculated for C₁₈H₂₂NO₃ ([M+H]⁺): 300.1594; found 300.1592; FT-IR νmax(ATR) cm⁻¹: 708, 798, 858, 966, 1062, 1112, 1194, 12833, 1431, 1518, 1612, 1688, 2918, 3529; Mp = 90°C.

Methyl 3-(1-hydroxy-2-(methyl(p-tolyl)amino)ethyl)benzoate (8j)

The title compound was synthesized according to the general procedure employing aldehyde 7j (0.5 mmol), PhCO₂H (0.2 equiv.) and aniline 2a (1.5 mmol) for 6 hours. Purification on silica gel (elution with Pentane / EtOAc: 90 / 10 to 85 / 15) gave the desired compound as a yellow oil. Yield = 46 % (69 mg); ¹H NMR (600 MHz, CDCl₃) δ 2.29 (s, 3H), 2.91 (s, 3H), 3.01 (br s, 1H), 3.36 - 3.44 (m, 2H), 3.93 (s, 3H), 5.01 (dd, J = 8.4, 4.5 Hz, 1H), 6.80 - 6.81 (m, 2H), 7.09 - 7.10 (m, 2H), 7.45 (t, J = 7.9 Hz, 1H), 7.63 (d, J = 7.9 Hz, 1H), 7.98 (d, J = 7.9 Hz, 1H), 8.09 (s, 1H); ¹³C NMR (150 MHz, CDCl₃) δ 20.4, 39.7, 52.2, 62.7, 71.1, 114.2, 127.1, 127.5, 128.7, 129.0, 129.9, 130.4, 130.6, 142.6, 148.1, 167.1; HRMS (ESI) m/z: calculated for C₁₈H₂₄NO ([M+H]⁺): 318.1852; found 318.1843; FT-IR νmax(ATR) cm⁻¹: 695, 730, 754, 804, 909, 1066, 1108, 1193, 1284, 1361, 1438, 1518, 1614, 1718, 2084, 2915, 2948, 3005, 3467; Mp = 94°C.

1-[(1,1'-biphenyl)-4-yl]-2-(methyl(4-tolyl)amino)ethanol (8k)

The title compound was synthesized according to the general procedure employing aldehyde 7k (0.5 mmol), PhCO₂H (0.2 equiv.) and aniline 2a (1.5 mmol) for 24 hours. Purification on silica gel (elution with Pentane / EtOAc: 95 / 5 to 90 / 10) gave the desired compound as a beige solid. Yield = 65 % (103.4 mg); ¹H NMR (600 MHz, CDCl₃) δ 2.35 (s, 3H), 2.88 (br s, 1H), 2.98 (s, 3H), 3.46 - 3.55 (m, 2H), 5.06 (dd, J = 8.9, 4.0 Hz, 1H), 6.86 - 6.88 (m, 2H), 7.15 - 7.17 (m, 2H), 7.40 - 7.43 (m, 1H), 7.52 (d, J = 7.8 Hz, 4H), 7.66 (d, J = 7.8 Hz, 4H); ¹³C NMR (150 MHz, CDCl₃) δ 20.4, 39.7, 62.6, 71.3, 114.1, 126.4, 127.2, 127.3 (2C), 127.4, 128.9, 129.9, 140.7, 140.9, 141.1, 148.2; HRMS (ESI) m/z: calculated for C₂₁H₂₄NO ([M+H]⁺): 318.1852; found 318.1843; FT-IR νmax(ATR) cm⁻¹: 692, 758, 810, 880, 955,1060, 1115, 1192, 1356, 1516, 1612, 1743, 2865, 2908, 3025, 3510; Mp = 94°C.
2-[N,N-Methyl(4-tolyl)amino]-1-(pyridin-3-yl)ethanol (8l)

The title compound was synthesized according to the general procedure employing aldehyde 7l (0.5 mmol), PhCO₂H (0.2 equiv.) and aniline 2a (1.5 mmol) for 24 hours. Purification on silica gel (elution with EtOAc) gave the desired compound as a yellow oil. Yield = 66 \% (79.5 mg); \textsuperscript{1}H NMR (400 MHz, CDCl₃) δ 2.27 (s, 3H), 2.86 (s, 3H), 3.33 - 3.49 (m, 2H), 4.18 (br s, 1H), 4.96 (dd, J = 8.6, 4.6 Hz, 1H), 6.72 - 6.74 (m, 2H), 7.06 - 7.08 (m, 2H), 7.24 - 7.27 (m, 1H), 7.76 (dt, J = 7.9, 1.6 Hz, 1H) 8.42 (dd, J = 4.6, 1.3 Hz, 1H), 8.50 (d, J = 1.3 Hz, 1H); \textsuperscript{13}C NMR (100 MHz, CDCl₃) δ 20.3, 39.8, 62.3, 69.2, 113.7, 123.6, 127.1, 129.8, 134.0, 138.2, 147.6, 147.7, 148.7; HRMS (ESI) m/z: calculated for C₁₅H₁₉N₂O ([M+H]+): 243.1492; found 243.1488; FT-IR ν \text{max}(ATR) cm⁻¹: 715, 805, 929, 1058, 1211, 1350, 1506, 1610, 1740, 1897, 2094, 2321, 2891, 3187.
7. NMR Spectra

1-(2,6-dimethylphenyl)-N-phenylmethanimine (1n)
1-(3,5-bis(trifluoromethyl)phenyl)-N-phenylmethanimine (1q)
Methyl 3-((phenylimino)methyl)benzoate (1r)
1-(9H-fluoren-2-yl)-N-phenylmethanimine (1u)
N-methyl-N-diphenyl-N-(p-tolyl)ethane-1,2-diamine (4a)
$N^1$-(4-methoxyphenyl)-$N^2$-methyl-1-phenyl-$N^2$-(p-tolyl)ethane-1,2-diamine (4b)
$N^1$-(2-methoxyphenyl)-$N^2$-methyl-1-phenyl-$N^2$-(p-tolyl)ethane-1,2-diamine (4c)
$N^1$-(4-fluorophenyl)-$N^2$-methyl-1-phenyl-$N^2$-(p-tolyl)ethane-1,2-diamine (4d)
$N^1$-(4-bromophenyl)-$N^2$-methyl-1-phenyl-$N^2$-(p-tolyl)ethane-1,2-diamine (4e)
Methyl 4-((2-(methyl(\(p\)-tolyl)amino)-1-phenylethyl)amino)benzoate (4f)
$N^2$-methyl-1-phenyl-$N^1$-(pyridin-3-yl)-$N^2$-(p-tolyl)ethane-1,2-diamine (4g)
$N^2$-methyl-1-phenyl-$N^1$-(pyridin-2-yl)-$N^2$-(p-tolyl)ethane-1,2-diamine (4h)
1-(4-methoxyphenyl)-$N^2$-methyl-$N^4$-phenyl-$N^2$-(p-tolyl)ethane-1,2-diamine (4i)
1-(3-methoxyphenyl)-N²-methyl-N¹-phenyl-N²-(p-tolyl)ethane-1,2-diamine (4j)
1-(2-methoxyphenyl)-$N^2$-methyl-$N^4$-phenyl-$N^2$-(p-tolyl)ethane-1,2-diamine (4k)
1-(4-(tert-butyl)phenyl)-N²-methyl-N¹-phenyl-N²-(p-tolyl)ethane-1,2-diamine (4l)
$N^2$-methyl-$N^1$-phenyl-1-($o$-tolyl)-$N^2$-($p$-tolyl)ethane-1,2-diamine (4m)
1-(2,6-dimethylphenyl)-N²-methyl-N¹-phenyl-N²-(p-tolyl)ethane-1,2-diamine (4n)
1-(4-fluorophenyl)-$N^2$-methyl-$N^1$-phenyl-$N^2$-(p-tolyl)ethane-1,2-diamine (4o)
1-(2-fluorophenyl)-N²-methyl-N¹-phenyl-N²-(p-tolyl)ethane-1,2-diamine (4q)
1-(3,5-bis(trifluoromethyl)phenyl)-N²-methyl-N¹-phenyl-N²-(p-tolyl)ethane-1,2-diamine (4q)
Methyl 3-(2-(methyl(p-tolyl)amino)-1-(phenylamino)ethyl)benzoate (4r)
$N^2$-methyl-$N^1$-phenyl-1-(pyridin-3-yl)-$N^2$-($p$-tolyl)ethane-1,2-diamine (4s)
$N^2$-methyl-$N^1$-phenyl-1-(thiophen-3-yl)-$N^2$-($p$-tolyl)ethane-1,2-diamine (4t)
1-(9H-fluoren-2-yl)-N²-methyl-N¹-phenyl-N²-(p-tolyl) ethane-1,2-diamine (4u)
Ethyl 3-(methyl(p-tolyl)amino)-2-(phenylamino)propanoate (4v)
$N^2$-(4-methoxyphenyl)-$N^2$-methyl-$N^{1,1}$-diphenylethane-1,2-diamine (5a)
$N^2-\left(2\text{-methoxyphenyl}\right)-N^2\text{-methyl-}N^1,1\text{-diphenylethane-1,2-diamine (5b)}$

![Chemical structure diagram](image)
$N^2$-(4-(tert-butyl)phenyl)-$N^2$-methyl-$N^1,1$-diphenylethane-1,2-diamine (5c)
$N^2$-methyl-$N^{1,1}$-diphenyl-$N^2$-($m$-tolyl)ethane-1,2-diamine (5d)
$N^2$-(3,5-dimethylphenyl)-$N^2$-methyl-$N^1,1$-diphenylethane-1,2-diamine (5e)
$N^2$-(4-fluorophenyl)-$N^2$-methyl-$N^{1,1}$-diphenylethane-1,2-diamine (5f)
$N^2$-(4-chlorophenyl)-$N^2$-methyl-$N^{1,1}$-diphenylethane-1,2-diamine (5g)
$N^2$-(4-bromophenyl)-$N^2$-methyl-$N^1,1$-diphenylethane-1,2-diamine (5h)
\(N^2\)-methyl-\(N^2\)-(naphthalen-1-yl)-\(N^1,1\)-diphenylethane-1,2-diamine (5i)
$N^{1},N^{2},N^{3},1$-tetraphenylethane-1,2-diamine (5j)
$N^1,N^2,1$-triphenylethane-1,2-diamine (6a)
Ethyl 2,3-bis(phenylamino)propanoate (6b)
2-(methyl(p-toly)amino)-1-phenylethanol (8a)
1-(benzo[d][1,3]dioxol-5-yl)-2-(methyl(p-tolyl)amino)ethanol (8b)
Methyl 3-(1-hydroxy-2-(methyl(p-tolyl)amino)ethyl)benzoate (8c)
2-[N,N-Methyl(4-tolyl)amino]-1-(4-tolyl)ethanol (8d)
2-\([N,N\text{-Methyl}(4\text{-tolyl})amino]\)\text{-}1-(4\text{-fluorophenyl})ethanol (8e)
2-([N,N-Methyl(4-tolyl)amino]-1-(4-chlorophenyl)ethanol (8f)
2-\([N,N\text{-Methyl}(4\text{-tolyl})\text{amino}]\)-1-(3-chlorophenyl)ethanol (8g)
N-(4-(1-hydroxy-2-(methyl(p-tolyl)amino)ethyl)phenyl)acetamide (8h)
Methyl 4-(1-hydroxy-2-(methyl(p-tolyl)amino)ethyl)benzoate (8i)
Methyl 3-(1-hydroxy-2-(methyl(p-tolyl)amino)ethyl)benzoate (8j)
1-([1,1'-biphenyl]-4-yl)-2-(methyl(4-tolyl)amino)ethanol (8k)
2-[N,N-Methyl(4-tolyl)amino]-1-(pyridin-3-yl)ethanol (8l)