2-Nitro-1-(2-nitrophenyl) ethanol (2b): $^1$H NMR (CDCl$_3$, 300 MHz), δ (ppm): 8.08 (dd, $J = 8.2$, 1.0 Hz, 1H), 7.96 (dd, $J = 7.3$ Hz, 1H), 7.80 – 7.71 (m, 1H), 7.55 (m, $J = 14.6$, 3.7 Hz, 1H), 6.06 (d, $J = 8.4$ Hz, 1H), 4.88 (dd, $J = 13.8$, 2.3 Hz, 1H), 4.56 (dd, $J = 13.8$, 9.1 Hz, 1H), 3.21 (s, 1H). Chiral separation conditions: Daicel Chiralpack AD-H column, n-hexane: isopropanol (90:10), the flow rate was 1.0 ml/min, and the detection was achieved under UV light at 210 nm. The retention times were 17.75 min and 19.35 min respectively.

2-Nitro-1-(3-nitrophenyl) ethanol (2c): $^1$H NMR (CDCl$_3$, 300 MHz), δ (ppm): 8.35 (s, 1H), 8.25 (dd, $J = 8.2$, 1.3 Hz, 1H), 7.80 (d, $J = 7.7$ Hz, 1H), 7.64 (t, $J = 8.0$ Hz, 1H), 5.67 – 5.60 (m, 1H), 4.70 – 4.57 (m, 2H), 3.25 (d, $J = 4.0$ Hz, 1H). Chiral separation conditions: Daicel Chiralpack AD-H column, n-hexane: isopropanol (90:10), the flow rate was 1.0 ml/min, and the detection was achieved under UV light at 210 nm. The retention times were 18.06 min and 21.91 min respectively.

2-Nitro-1-(4-fluorophenyl) ethanol (2f): $^1$H NMR (CDCl$_3$, 300 MHz), δ (ppm): 8.97 (d, $J = 2.3$ Hz, 1H), 8.60 (dd, $J = 8.7$, 2.3 Hz, 1H), 8.28 (d, $J = 8.7$ Hz, 1H), 7.64 (m, $J = 71.6$, 5.7, 3.3 Hz, 1H), 6.19 (d, $J = 6.9$ Hz, 1H), 4.91 (dd, $J = 14.0$, 2.3 Hz, 1H), 4.59 (dd, $J = 14.0$, 8.7 Hz, 1H), 3.40 (s, 1H). Chiral separation conditions: Daicel Chiralpack AD-H column, n-hexane: isopropanol (90:10), the flow rate was 1.0 ml/min, and the detection was achieved under UV light at 210 nm. The retention times were 25.5 min and 33.5 min respectively.

2-Nitro-1-(2,4-dinitrophenyl) ethanol (2e): $^1$H NMR (CDCl$_3$, 300 MHz), δ (ppm): 9.87 (d, $J = 2.3$ Hz, 1H), 8.60 (dd, $J = 8.7$, 2.3 Hz, 1H), 8.28 (d, $J = 8.7$ Hz, 1H), 6.20 (d, $J = 8.4$ Hz, 1H), 4.92 (dd, $J = 14.0$, 2.3 Hz, 1H), 4.59 (dd, $J = 14.0$, 8.7 Hz, 1H), 3.34 (s, 1H). Chiral separation conditions: Daicel Chiralpack AD-H column, n-hexane: isopropanol (90:10), the flow rate was 1.0 ml/min, and the detection was achieved under UV light at 210 nm. The retention times were 34.1 min and 39.5 min respectively.

2-Nitro-1-(2-fluorophenyl) ethanol (2f): $^1$H NMR (CDCl$_3$, 300 MHz), δ (ppm): 7.42 (dd, $J = 8.4$, 5.4 Hz, 2H), 7.12 (t, $J = 8.5$ Hz, 2H), 5.49 (m, $J = 9.1$, 3.2 Hz, 1H), 4.57 (m, $J = 16.5$, 13.5, 6.3 Hz, 2H), 2.86 (d, $J = 3.6$ Hz, 1H). Chiral separation conditions: Daicel Chiralpack AD-H column, n-hexane: isopropanol (90:10), the flow rate was 1.0 ml/min, and the detection was achieved under UV light at 210 nm. The retention times were 11.72 min and 12.84 min respectively.

2-Nitro-1-(4-chlorophenyl) ethanol (2g): $^1$H NMR (CDCl$_3$, 300 MHz), δ (ppm): 7.49 – 7.34 (m, 4H), 5.48 (dd, $J = 6.3$, 3.1 Hz, 1H), 4.56 (m, $J = 16.6$, 13.5, 6.3 Hz, 2H), 2.94 (d, $J = 3.4$ Hz, 1H). Chiral separation conditions: Daicel Chiralpack AD-H column, n-hexane: isopropanol (90:10), the flow rate was 1.0 ml/min, and the detection was achieved under UV light at 210 nm. The retention times were 12.94 min and 15.07 min respectively.

2-Nitro-1-(4-bromophenyl) ethanol (2h): $^1$H NMR (CDCl$_3$, 300 MHz), δ (ppm): 7.58 – 7.51 (m, 2H), 7.29 (t, $J = 6.8$ Hz, 2H), 5.44 (d, $J = 9.3$ Hz, 1H), 4.53 (m, $J = 16.7$, 13.5, 6.3 Hz, 2H), 2.90 (d, $J = 2.3$ Hz, 1H). Chiral separation conditions: Daicel Chiralpack AD-H column, n-hexane: isopropanol (90:10), the flow rate was 1.0 ml/min, and the detection was achieved under UV light at 210 nm. The retention times were 13.9 min and 16.85 min respectively.

2-Nitro-1-(4-methoxyphenyl) ethanol (2i): $^1$H NMR (CDCl$_3$, 300 MHz), δ (ppm): 7.35 (d, $J = 8.5$ Hz, 2H), 6.94 (t, $J = 10.1$ Hz, 2H), 5.44 (d, $J = 9.5$ Hz, 1H), 4.57 (m, $J = 16.2$, 13.3, 6.5 Hz, 2H), 3.83 (d, $J = 9.2$ Hz, 3H), 2.74 (d, $J = 3.1$ Hz, 1H). Chiral separation conditions: Daicel Chiralpack OD-H column, n-hexane: isopropanol (90:10), the flow rate was 1.0 ml/min, and the detection was achieved under UV light at 210 nm. The retention times were 18.91 min and 23.68 min respectively.

2-Nitro-1-(4-methylphenyl) ethanol (2j): $^1$H NMR (CDCl$_3$, 300 MHz), δ (ppm): 7.32 (d, $J = 8.0$ Hz, 2H), 7.26 – 7.21 (m, 2H), 5.46 (d, $J = 9.5$ Hz, 1H), 4.57 (m, $J = 16.3$, 13.3, 6.3 Hz, 2H), 2.74 (d, $J = 3.3$ Hz, 1H), 2.37 (d, $J = 10.9$ Hz, 3H). Chiral separation conditions: Daicel Chiralpack AD-H column, n-hexane: isopropanol (90:10), the flow rate was 1.0 ml/min, and the detection was achieved under UV light at 210 nm. The retention times were 11.74 min and 12.88 min respectively.

2-Nitro-1-phenyl-N-tosylethanamine: $^1$H NMR (CDCl$_3$, 300 MHz), δ (ppm): 7.65 (d, $J = 8.3$ Hz, 2H), 7.27 (d, $J = 1.9$ Hz, 1H), 7.25 (s, 1H), 7.24 (s, 1H), 7.22 (s, 1H), 7.10 (m, $J = 7.7$, 6.1, 3.8 Hz, 3H), 5.40 (d, $J = 7.5$ Hz, 1H), 4.99 (dd, $J = 13.7$, 6.7 Hz, 1H), 4.82 (m, $J = 10.7$, 5.4 Hz, 1H), 4.67 (dd, $J = 13.1$, 6.4 Hz, 1H), 2.40 (s, 3H). Chiral separation conditions: Daicel Chiralpack AS-H column, n-hexane: isopropanol (80:20), the flow rate was 1.0 ml/min, and the detection was achieved under UV light at 254 nm. The retention times were 33.1 min and 41.9 min respectively.
NMR spectra

2b

![2b NMR spectrum with chemical structures and spectral details](image)

2c

![2c NMR spectrum with chemical structures and spectral details](image)
2j

2-Nitro-1-phenyl-N-tosylethanamine
Chiral separation by HPLC

2b

![Graph showing chiral separation of a compound](image)

2c

![Graph showing chiral separation of another compound](image)
2-Nitro-1-phenyl-N-tosylethanamine