SUPPORTING INFORMATION

Scope and limitations of diastereoselective aziridination reactions using stabilised ammonium ylides or α-bromo carbonyl nucleophiles.

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1. General Information:

Melting points were measured on a Kofler melting point microscope (Reichert, Vienna). $^1$H- and $^{13}$C-NMR spectra were recorded on a Bruker Avance III 300 MHz spectrometer and on a Bruker Avance III 700 MHz spectrometer with TCI cryoprobe. Typical resolutions and chemical shift precisions were +/- 0.5 Hz for $^1$H and +/- 0.8 Hz for $^{13}$C. All NMR spectra were referenced on the solvent peak. High resolution mass spectra were obtained using an Agilent 6510 Q-TOF mass spectrometer with an ESI source. All analyses were made in the positive ionisation mode. Purine (exact mass for $[M+H]^+$ = 121.050873) and 1,2,3,4,5,6-hexakis(2,2,3,3-tetrafluoropropoxy)-1,3,5,2,4,6-triazatriphosphinane (exact mass for $[M+H]^+$ = 922.009798) were used for internal mass calibration. IR spectra were recorded on a Shimadzu IR Affinity-1 fourier transform infrared spectrometer. All chemicals were purchased from commercial suppliers and used without further purification unless otherwise stated. All reactions were performed under an Ar-atmosphere. CH$_2$Cl$_2$ was distilled over P$_2$O$_5$ and stored under Ar (it was not necessary to dry CH$_2$Cl$_2$ prior to every experiment and usually this quality could be used successfully in these reactions over the course of 3-4 weeks after distillation). Column chromatography was carried out using silica gel and heptanes/EtOAc (different ratios) as the eluent. Flushing the column with Et$_3$N (1% in heptanes) prior to use was found beneficial in some cases. Starting ammonium salts$^1$ and imines$^2$ were prepared according to literature procedures.

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2. Syntheses of trans-aziridines using amide-stabilised ammonium salts:

\[
\begin{align*}
\text{N} & \text{O} \\
\text{Br} & \text{N} \\
\end{align*}
\]

General procedure for the preparation of aziridines under liquid/solid conditions (using 2 equiv. of imine): To a solution of the ammonium salt 1 (1 mmol) in CH\textsubscript{2}Cl\textsubscript{2} (20 mL), 10 equiv. of solid Cs\textsubscript{2}CO\textsubscript{3}, followed by N-Boc-aryl aldimine 2 (2 mmol), were added. The mixture was vigorously stirred for 22 h at room temperature. CH\textsubscript{2}Cl\textsubscript{2} and brine were added and the phases separated. The aqueous layer was extracted twice with CH\textsubscript{2}Cl\textsubscript{2}, the combined organic layers were extracted with brine and the aqueous layer was reextracted twice with CH\textsubscript{2}Cl\textsubscript{2}. The combined organic layers were dried over Na\textsubscript{2}SO\textsubscript{4}, evaporated, and dried in vacuo. Column chromatography (silica gel, heptanes/EtOAc = 10:1) gave the aziridines 3 in the reported yields.

**trans-tert-Butyl-2-(diethylcarbamoyl)-3-phenylaziridine-1-carboxylate (3a).** Obtained in 73% as a colourless oil. \(^1\)H NMR (300 MHz, \(\delta\), CDCl\textsubscript{3}, 298 K): 1.19 (t, 3H, \(J = 7.1\) Hz), 1.27 (t, 3H, \(J = 7.1\) Hz), 1.46 (s, 9H), 3.19 (d, 1H, \(J = 2.6\) Hz), 3.35 – 3.66 (m, 4H), 3.99 (d, 1H, \(J = 2.6\) Hz), 7.29 – 7.39 (m, 5H) ppm; \(^{13}\)C NMR (75 MHz, \(\delta\), CDCl\textsubscript{3}, 298 K): 13.3, 15.2, 28.0, 41.7, 42.3, 43.3, 44.2, 81.5, 126.6, 128.0, 128.5, 136.3, 159.2, 164.8 ppm; IR (film): \(\tilde{\nu} = 2967, 2932, 1732, 1643, 1491, 1456, 1435, 1408, 1366, 1306, 1258, 1227, 1149, 1099, 945, 872, 847, 750\) cm\(^{-1}\); HRMS (ESI): \(m/z\) calcd for C\textsubscript{18}H\textsubscript{26}N\textsubscript{2}O\textsubscript{3}: 357.1575 [M + K]\(^+\); found: 357.1580.

**trans-tert-Butyl-2-(diphenylcarbamoyl)-3-phenylaziridine-1-carboxylate (3b).** Obtained in 62% as a colourless oil. \(^1\)H NMR (300 MHz, \(\delta\), CDCl\textsubscript{3}, 298 K): 1.47 (s, 9H), 2.99 (d, 1H, \(J = 2.5\) Hz), 4.10 (d, 1H, \(J = 2.5\) Hz), 7.21 – 7.48 (m, 15H) ppm; \(^{13}\)C NMR (75 MHz, \(\delta\), CDCl\textsubscript{3}, 298 K): 28.1, 45.2, 45.4, 82.1, 125.8, 126.3, 126.5, 128.0, 128.1, 128.4, 128.6, 129.0, 129.9, 136.0, 139.7, 154.7, 159.0, 165.7 ppm; IR (film): \(\tilde{\nu} = 3310, 2978, 1695, 1672, 1491, 1420, 1366, 1294, 1248, 1151, 1045, 1018, 889, 870, 748\) cm\(^{-1}\); HRMS (ESI): \(m/z\) calcd for C\textsubscript{26}H\textsubscript{26}N\textsubscript{2}O\textsubscript{3}: 437.1836 [M + Na]\(^+\); found: 437.1839.
**trans-tert-Butyl-2-phenyl-3-(piperidine-1-carbonyl)aziridine-1-carboxylate (3c).** Obtained in 64% as a white solid. M.p.: 125-126 °C; $^1$H NMR (300 MHz, δ, CDCl$_3$, 298 K): 1.36 (s, 9H), 1.49 – 1.66 (m, 6H), 3.20 (d, 1H, $J = 2.6$ Hz), 3.42 – 3.65 (m, 4H), 3.91 (d, 1H, $J = 2.6$ Hz), 7.19 – 7.29 (m, 5H) ppm; $^{13}$C NMR (75 MHz, δ, CDCl$_3$, 298 K): 24.5, 25.5, 26.6, 27.9, 43.1, 43.8, 46.1, 81.5, 125.8, 126.0, 127.8, 129.9, 134.4, 137.1, 159.5, 165.0 ppm; IR (film): $\tilde{\nu}$ = 2974, 2932, 1713, 1634, 1452, 1437, 1404, 1364, 1327, 1290, 1242, 1219, 1142, 1088, 1013, 876, 851, 768, 752, 704 cm$^{-1}$; HRMS (ESI): $m/z$ calcd for C$_{19}$H$_{26}$N$_2$O$_3$: 369.1575 [M + K]$^+$; found: 369.1577.

**trans-tert-Butyl-2-(diethylcarbamoyl)-3-(o-tolyl)aziridine-1-carboxylate (3e).** Obtained in 59% as a colourless solid. M.p.: 139-141 °C; $^1$H NMR (300 MHz, δ, CDCl$_3$, 298 K): 1.19 (t, 3H, $J = 7.1$ Hz), 1.26 (t, 3H, $J = 7.1$ Hz), 1.43 (s, 9H), 2.41 (s, 3H), 3.15 (d, 1H, $J = 2.7$ Hz), 3.34 – 3.67 (m, 4H), 4.05 (d, 1H, $J = 2.7$ Hz), 7.36 – 7.40 (m, 4H) ppm; $^{13}$C NMR (75 MHz, δ, CDCl$_3$, 298 K): 13.3, 15.2, 19.1, 27.9, 41.6, 41.9, 42.3, 43.0, 81.5, 125.8, 126.0, 127.8, 129.9, 134.4, 137.1, 159.5, 165.0 ppm; IR (film): $\tilde{\nu}$ = 3329, 2976, 2934, 1724, 1647, 1460, 1366, 1314, 1258, 1156, 1140, 1084, 1009, 874, 839, 752 cm$^{-1}$; HRMS (ESI): $m/z$ calcd for C$_{19}$H$_{28}$N$_2$O$_3$: 371.1732 [M + K]$^+$; found: 371.1733.

**trans-tert-Butyl-2-(diethylcarbamoyl)-3-(4-methoxyphenyl)aziridine-1-carboxylate (3f).** Obtained in 72% as a light orange solid. M.p.: 81-84 °C; $^1$H NMR (300 MHz, δ, CDCl$_3$, 298 K): 1.10 (t, 3H, $J = 7.1$ Hz), 1.18 (t, 3H, $J = 7.1$ Hz), 1.36 (s, 9H), 3.07 (d, 1H, $J = 2.6$ Hz), 3.26 – 3.57 (m, 4H), 3.72 (s, 3H), 3.84 (d, 1H, $J = 2.6$ Hz), 6.79 (d, 2H, $J = 8.6$ Hz), 7.19 (d, 2H, $J = 8.6$ Hz) ppm; $^{13}$C NMR (75 MHz, δ, CDCl$_3$, 298 K): 13.3, 15.2, 28.0, 41.6, 42.3, 43.1, 44.0, 55.3, 81.5, 113.9, 127.0, 127.8, 159.3, 159.5, 165.0 ppm; IR (film): $\tilde{\nu}$ = 3331, 2972, 2922, 1719, 1694, 1441, 1327, 1244, 1227, 1159, 1092, 1009, 889, 822, 812 cm$^{-1}$; HRMS (ESI): $m/z$ calcd for C$_{19}$H$_{28}$N$_2$O$_4$: 349.2122 [M + H]$^+$; found: 349.2127.
trans-tert-Butyl 2-(4-bromophenyl)-3-(diethylcarbamoyl)aziridine-1-carboxylate (3g).

Obtained as a colourless solid in 75%; M.p.: 104-106 °C; $^1$H NMR (300 MHz, δ, CDCl$_3$, 298 K): 1.10 (t, 3H, $J = 7.0$ Hz), 1.17 (t, 3H, $J = 7.2$ Hz), 1.39 (s, 9H), 3.02 (d, 1H, $J = 2.6$ Hz), 3.30 (dq, 1H, $J = 9.0, 7.3$ Hz), 3.36 (dq, 1H, $J = 9.0, 7.3$ Hz), 3.42 (dq, 1H, $J = 9.2, 7.0$ Hz), 3.50 (dq, 1H, $J = 9.1, 7.0$ Hz), 3.85 (d, 1H, $J = 2.6$ Hz); 7.11-7.18 (m, 2H), 7.34-7.40 (m, 2H) ppm; $^{13}$C NMR (75 MHz, δ, CDCl$_3$, 298 K): 13.3, 15.3, 41.8, 42.3, 43.5, 43.5, 81.7, 121.9, 128.2, 131.6, 135.5, 158.9, 164.5 ppm; IR (film): $\nu$ = 3445, 2974, 2916, 1714, 1634, 1474, 1456, 1364, 1319, 1260, 1146, 1009, 847, 816 cm$^{-1}$; HRMS (ESI): m/z calcd for C$_{18}$H$_{25}$BrN$_2$O$_3$: 419.0941 [M + Na]$^+$; found: 419.0941.

trans-tert-Butyl 2-(diethylcarbamoyl)-3-(naphthalen-2-yl)aziridine-1-carboxylate (3h).

Obtained as a colourless solid in 49%; M.p.: 106-111 °C; $^1$H NMR (300 MHz, δ, CDCl$_3$, 298 K): 1.07 (t, 3H, $J = 7.2$ Hz), 1.15 (t, 3H, $J = 7.2$ Hz), 1.38 (s, 9H), 3.15 (d, 1H, $J = 2.6$ Hz), 3.30 (dq, 1H, $J = 9.1, 7.0$ Hz), 3.37 (dq, 1H, $J = 9.1, 7.5$ Hz), 3.44 (dq, 1H, $J = 9.2, 7.4$ Hz), 3.50 (dq, 1H, $J = 9.1, 7.4$ Hz), 4.05 (d, 1H, $J = 2.6$ Hz), 7.32-7.42 (m, 3H), 7.69-7.80 (m, 4H) ppm; $^{13}$C NMR (75 MHz, δ, CDCl$_3$, 298 K): 13.3, 15.3, 28.0, 28.1, 41.7, 42.4, 43.6, 44.4, 81.6, 124.1, 125.7, 126.1, 126.3, 127.7, 127.8, 128.3, 133.1, 133.2, 133.8, 159.2, 164.8 ppm; IR (film): $\nu$ = 2978, 2934, 1717, 1636, 1464, 1452, 1366, 1333, 1304, 1256, 1221, 1142, 1090, 827, 745 cm$^{-1}$; HRMS (ESI): m/z calcd for C$_{22}$H$_{28}$N$_2$O$_3$: 391.1992 [M + Na]$^+$; found: 391.1992.

(Z)-tert-Butyl 3-diethylamino)-1-(3-nitrophenyl)-3-oxoprop-1enylcarbamate (5i).

Obtained as a white greasy solid in 55%. M.p.: 101-102 °C; $^1$H NMR (300 MHz, δ, CDCl$_3$, 298 K): 1.12 (t, 3H, $J = 7.1$ Hz), 1.15 (t, 3H, $J = 7.1$ Hz), 1.33 (s, 9H), 3.28-3.43 (m, 4H), 5.23 (s, 1H), 7.42-7.50 (m, 1H), 7.61-7.65 (m, 1H), 8.12-8.18 (m, 2H), 11.21 (bs, 1H (N-H)) ppm; $^{13}$C NMR (75 MHz, δ, CDCl$_3$, 298 K): 13.2, 14.6, 28.0, 28.3, 40.7, 42.6, 81.2, 99.5, 128.8, 133.3, 139.3, 147.9, 150.2, 152.1, 166.8 ppm; IR (film): $\nu$ = 2957, 2924, 2859, 1734, 1628, 1531, 1460, 1416, 1348, 1221, 1142, 1094, 858, 737 cm$^{-1}$; HRMS (ESI): m/z calcd for C$_{18}$H$_{25}$N$_3$O$_5$: 364.1867 [M + H]$^+$; found: 364.1869.
(Z)-tert-Butyl 3-(diethylamino)-1-(furan-2-yl)-3-oxoprop-1-enylcarbamate (5j). Obtained as a on-off-white solid in 80%. M.p.: 103-105 °C; \(^1\)H NMR (300 MHz, δ, CDCl\(_3\), 298 K): 1.15 (t, 3H, \(J = 7.0\) Hz), 1.22 (t, 3H, \(J = 7.2\) Hz), 1.43 (s, 9H), 3.33-3.45 (m, 4H), 5.70 (s, 1H), 6.44 (dd, 1H, \(J = 1.8, 3.5\) Hz), 6.63 (dd, 1H, \(J = 3.5, 0.7\) Hz), 7.44 (dd, 1H, \(J = 1.8, 0.7\) Hz), 10.81 (bs, 1H (N-H)) ppm; \(^{13}\)C NMR (75 MHz, δ, CDCl\(_3\), 298 K): 13.3, 14.6, 28.1, 28.3, 40.5, 42.5, 80.6, 97.1, 111.5, 111.6, 140.9, 143.1, 149.2, 152.3, 167.3 ppm; IR (film): \(\tilde{\nu} = 3121, 2976, 2934, 1738, 1624, 1597, 1479, 1418, 1287, 1227, 1159, 1142, 1018, 808, 737\) cm\(^{-1}\); HRMS (ESI): \(m/z\) calcd for C\(_{16}\)H\(_{24}\)N\(_2\)O\(_4\): 309.3809 [M + H]\(^+\); found: 309.3809.

(Z)-tert-Butyl-3-(diethylamino)-3-oxo-1-(thiophen-2-yl)prop-1-enylcarbamate (5k). Obtained as an off-white solid in 51%. M.p.: 88-90 °C; \(^1\)H NMR (CDCl\(_3\), δ, 300 MHz) 1.08 (t, \(J = 7.0\) Hz, 3H), 1.14 (t, \(J = 7.2\) Hz, 3H), 1.33 (s, 9H), 3.24-3.40 (m, 4H), 5.43 (s, 1H), 6.94 (dd, \(J = 5.1, 3.8\) Hz, 1H), 7.12 (dd, \(J = 3.8, 1.2\) Hz, 1H), 7.26 (dd, \(J = 5.1, 1.2\) Hz, 1H) 10.93 (bs, 1H (N-H)) ppm; \(^{13}\)C NMR (75 MHz, δ, CDCl\(_3\), 298 K): 13.3, 14.6, 28.1, 28.3, 40.6, 42.5, 80.7, 99.0, 126.6, 126.9, 127.1, 139.4, 145.3, 152.3, 167.1 ppm; IR (film): \(\tilde{\nu} = 2976, 2934, 1740, 1717, 1609, 1481, 1416, 1366, 1277, 1231, 1142, 1078, 852, 806, 700\) cm\(^{-1}\); HRMS (ESI): \(m/z\) calcd for C\(_{16}\)H\(_{24}\)SN\(_2\)O\(_3\): 325.1580 [M + H]\(^+\); found: 325.1580.

3. Syntheses of cis-aziridines using α-bromo acetophenone derivatives:

\[
\begin{align*}
\text{R} & \quad \text{Br} & \quad + & \quad \text{R'} & \quad \text{N}^\text{Tos} & \quad \rightarrow & \quad \text{R'N}^\text{Tos} & \quad \text{N}^\text{Tos} & \quad \text{O} \\
\end{align*}
\]

General procedure for the preparation of aziridines under liquid/solid conditions (using 1.2 equiv. of imine): To a solution of 2-bromo-acetophenone 10 (1 mmol) in CH\(_2\)Cl\(_2\) (15 mL), 1.5 equivalents of solid Cs\(_2\)CO\(_3\), followed by N-tosyl-aryl aldimine 2 (1.2 mmol), were added. The mixture was vigorously stirred for 22 h at room temperature. CH\(_2\)Cl\(_2\) and brine were added and the phases separated. The aqueous layer was extracted twice with CH\(_2\)Cl\(_2\), the
combined organic layers were extracted with brine and the aqueous layer was reextracted twice with CH₂Cl₂. The combined organic layers were dried over Na₂SO₄, evaporated, and dried \textit{in vacuo}. Column chromatography (silica gel, heptanes/EtOAc = 10:1) gave the aziridines 9 in the reported yields.

\textit{cis-Phenyl(3-phenyl-1-tosylaziridin-2-yl)methanone (9a). Obtained in 76\% as a colourless oil.} $^1$H NMR (300 MHz, δ, CDCl₃, 298 K): 2.41 (s, 3H), 4.32 (d, 2H, $J = 7.7$ Hz), 4.40 (d, 2H, $J = 7.7$ Hz), 7.06 – 7.10 (m, 3H), 7.12 – 7.18 (m, 2H), 7.24 – 7.33 (m, 4H), 7.44 (t, 1H, $J = 7.3$ Hz), 7.78 (d, 2H, $J = 7.3$ Hz), 7.90 (d, 2H, $J = 8.3$ Hz) ppm; $^{13}$C NMR (75 MHz, δ, CDCl₃, 298 K): 21.7, 46.5, 48.2, 127.3, 128.1, 128.3, 128.4, 128.5, 128.7, 129.1, 131.2, 133.8, 134.4, 135.7, 145.2, 189.0 ppm; IR (film): $\tilde{\nu} = 3063, 3032, 2926, 1691, 1597, 1449, 1327, 1229, 1157, 1090, 984, 914, 883, 812, 756, 729$ cm$^{-1}$; HRMS (ESI): $m/z$ calcd for C₂₂H₁₉NO₃S: 378.1158 [M + H]$^+$; found: 378.1156.

\textit{cis-(4-Chlorophenyl)(3-phenyl-1-tosylaziridin-2-yl)methanone (9b). Obtained in 94\% as a light yellow solid.} M.p.: 132-141 °C; $^1$H NMR (300 MHz, δ, CDCl₃, 298 K): 2.38 (s, 3H), 4.24 (d, 1H, $J = 7.8$ Hz), 4.27 (d, 1H, $J = 7.8$ Hz), 7.08 – 7.12 (m, 5H), 7.30 (d, 4H, $J = 8.6$ Hz), 7.74 (d, 2H, $J = 8.3$ Hz), 7.90 (d, 2H, $J = 8.3$ Hz) ppm; $^{13}$C NMR (75 MHz, δ, CDCl₃, 298 K): 21.7, 46.4, 47.9, 127.2, 128.1, 128.4, 128.6, 129.1, 129.8, 130.0, 131.0, 134.0, 134.2, 140.4, 145.3, 188.2 ppm; IR (film): $\tilde{\nu} = 3055, 3024, 2920, 1697, 1587, 1489, 1404, 1325, 1160, 1088, 991, 918, 831, 804, 758, 748$ cm$^{-1}$; HRMS (ESI): $m/z$ calcd for C₂₂H₁₈ClNO₃S: 412.0769 [M + H]$^+$; found: 412.0773.

\textit{cis-3-Phenyl-1-tosylaziridin-2-yl)(p-tolyl)methanone (9c). Obtained in 78\% as an orange solid.} M.p.: 71-72 °C; $^1$H NMR (300 MHz, δ, CDCl₃, 298 K): 2.28 (s, 3H), 2.35 (s, 3H), 4.27 (d, 1H, $J = 7.7$ Hz), 4.32 (d, 1H, $J = 7.7$ Hz), 7.06 – 7.17 (m, 7H), 7.28 (d, 2H, $J = 8.1$ Hz), 7.70 (d, 2H, $J = 8.2$ Hz), 7.90 (d, 2H, $J = 8.2$ Hz) ppm; $^{13}$C NMR (75 MHz, δ, CDCl₃, 298 K): 21.7, 21.8, 46.4, 48.2, 127.3, 128.1, 128.3, 128.5, 128.6, 129.4, 129.9, 131.3, 133.2, 134.5, 144.9, 145.1, 188.4 ppm; IR (film): $\tilde{\nu} = 3053, 3036, 2920, 1690, 1605, 1450, 1327, 1306, 1229, 1159, 1092, 984, 914, 889, 804, 746$ cm$^{-1}$; HRMS (ESI): $m/z$ calcd for C₂₃H₂₁NO₃S: 392.1315 [M + H]$^+$; found: 392.1315.
cis-(4-methoxyphenyl)(3-phenyl-1-tosylaziridin-2-yl)methanone (9d). Obtained in 65% as a colourless oil. $^1$H NMR (300 MHz, δ, CDCl$_3$, 298 K): 2.36 (s, 3H), 3.76 (s, 3H), 4.24 (d, 1H, $J$ = 7.7 Hz), 4.29 (d, 1H, $J$ = 7.7 Hz), 6.79 (d, 2H, $J$ = 8.9 Hz), 7.07 – 7.16 (m, 5H), 7.29 (d, 2H, $J$ = 8.3 Hz), 7.80 (d, 2H, $J$ = 8.9 Hz), 7.91 (d, 2H, $J$ = 8.3 Hz) ppm; $^{13}$C NMR (75 MHz, δ, CDCl$_3$, 298 K): 21.7, 46.3, 48.1, 55.5, 113.9, 127.3, 128.1, 128.3, 128.4, 128.8, 129.9, 130.8, 131.4, 134.5, 145.1, 164.1, 187.3 ppm; IR (film): $\nu$ = 3064, 3003, 2965, 2841, 1682, 1597, 1574, 1512, 1325, 1263, 1236, 1157, 1090, 984, 910, 887, 801, 752, 714 cm$^{-1}$; HRMS (ESI): m/z calcd for C$_{23}$H$_{21}$NO$_4$S: 430.1083 [M + Na]$^+$; found: 430.1086.

cis-Naphthalen-2-yl-3-phenyl-1-tosylaziridin-2-yl)methanone (9e). Obtained in 73% as a light orange oil. $^1$H NMR (300 MHz, δ, CDCl$_3$, 298 K): 2.46 (s, 3H), 4.46 (d, 1H, $J$ = 7.7 Hz), 4.58 (d, 1H, $J$ = 7.7 Hz), 7.15 – 7.19 (m, 3H), 7.25 – 7.29 (m, 2H), 7.36 – 7.41 (m, 2H), 7.54 – 7.66 (m, 2H), 7.78 – 7.89 (m, 3H), 7.96 (d, 1H, $J$ = 7.7 Hz), 8.04 (d, 2H, $J$ = 8.2 Hz), 8.54 (s, 1H) ppm; $^{13}$C NMR (75 MHz, δ, CDCl$_3$, 298 K): 21.7, 46.6, 48.3, 123.5, 127.0, 127.3, 127.8, 128.1, 128.3, 128.5, 128.6, 129.0, 129.7, 130.0, 130.8, 131.3, 132.3, 134.4, 135.8, 145.2, 188.9 ppm; IR (film): $\nu$ = 3060, 3030, 2922, 1695, 1595, 1487, 1447, 1406, 1327, 1304, 1217, 1157, 1090, 989, 945, 908, 804, 754, 729 cm$^{-1}$; HRMS (ESI): m/z calcd for C$_{26}$H$_{21}$NO$_3$S: 428.1315 [M + H]$^+$; found: 428.1316.

cis-(3-(4-Bromophenyl)-1-tosylaziridin-2-yl)(phenyl)methanone (9f). Obtained in 74% as a white solid. M.p.: 100-103 °C; $^1$H NMR (300 MHz, δ, CDCl$_3$, 298 K): 2.46 (s, 3H), 4.32 (d, 1H, $J$ = 7.7 Hz), 4.44 (d, 1H, $J$ = 7.7 Hz), 7.14 (d, 2H, $J$ = 8.5 Hz), 7.30 – 7.46 (m, 6H), 7.57 (t, 1H, $J$ = 7.4 Hz), 7.88 (d, 2H, $J$ = 8.5 Hz), 7.98 (d, 2H, $J$ = 8.3 Hz) ppm; $^{13}$C NMR (75 MHz, δ, CDCl$_3$, 298 K): 21.7, 45.8, 48.0, 122.8, 128.1, 128.3, 128.8, 129.0, 130.0, 130.3, 131.5, 134.0, 134.2, 135.5, 145.3, 188.6 ppm; IR (film): $\nu$ = 3229, 3061, 3026, 2922, 1695, 1595, 1487, 1447, 1406, 1327, 1304, 1219, 1160, 1092, 988, 918, 889, 812, 802, 735 cm$^{-1}$; HRMS (ESI): m/z calcd for C$_{22}$H$_{18}$BrNO$_3$S: 456.0264 [M + H]$^+$; found: 456.0268.
**cis-(3-(o-Tolyl)-1-tosylaziridin-2-yl)(phenyl)methanone (9g).** Obtained in 53% as an orange oil. $^1$H NMR (300 MHz, δ, CDCl$_3$, 298 K): 2.23 (s, 3H), 2.37 (s, 3H), 4.28 (d, 1H, $J = 7.6$ Hz), 4.44 (d, 1H, $J = 7.6$ Hz), 6.90 – 7.09 (m, 3H), 7.27 – 7.35 (m, 4H), 7.46 (t, 1H, $J = 7.4$ Hz), 7.72 – 7.80 (m, 3H), 7.91 (d, 2H, $J = 8.3$ Hz) ppm; $^{13}$C NMR (75 MHz, δ, CDCl$_3$, 298 K): 19.1, 21.7, 45.6, 46.6, 125.7, 127.4, 128.1, 128.3, 128.4, 128.6, 128.7, 129.4, 129.5, 129.7, 130.0, 133.7, 136.2, 145.2, 189.1 ppm; IR (film): $\tilde{\nu} = 3748, 3623, 2929, 1695, 1597, 1491, 1227, 1163, 1092, 978, 891, 812, 764, 714$ cm$^{-1}$; HRMS (ESI): m/z calcd for C$_{23}$H$_{21}$NO$_3$S: 392.1315 [M + H]$^+$; found: 392.1320.

**cis-(3-(4-Methoxyphenyl)-1-tosylaziridin-2-yl)(phenyl)methanone (9h).** Obtained in 41% as orange oil. Spectra determined from an impure sample. $^1$H NMR (300 MHz, δ, CDCl$_3$, 298 K): 2.45 (s, 3H), 3.70 (s, 3H), 4.34 (d, 1H, $J = 7.7$ Hz), 4.40 (d, 1H, $J = 7.7$ Hz), 6.71 (d, 2H, $J = 8.8$ Hz), 7.18 (d, 2H, $J = 8.8$ Hz), 7.38 (d, 2H, $J = 8.3$ Hz), 7.73 – 7.95 (m, 5H), 7.99 (d, 2H, $J = 8.3$ Hz) ppm; $^{13}$C NMR (75 MHz, δ, CDCl$_3$, 298 K): 21.7, 46.4, 48.4, 55.1, 113.8, 123.1, 125.4, 127.7, 128.0, 128.4, 128.6, 128.7, 129.9, 133.6, 141.6, 145.1, 159.7, 161.8, 189.2 ppm; HRMS (ESI): m/z calcd for C$_{23}$H$_{21}$NO$_4$S: 408.1264 [M + H]$^+$; found: 408.1265.

**cis-(3-(4-Chlorophenyl)-1-tosylaziridin-2-yl)(phenyl)methanone (9i).** Obtained in 67% as a colourless oil. $^1$H NMR (700 MHz, δ, CDCl$_3$, 298 K): 2.45 (s, 3H), 4.31 (d, 1H, $J = 7.6$ Hz), 4.41 (d, 1H, $J = 7.6$ Hz), 7.14 (d, 2H, $J = 8.3$ Hz), 7.17 (d, 2H, $J = 8.3$ Hz), 7.36 (d, 2H, $J = 8.0$ Hz), 7.41 (m, 2H), 7.55 (t, 1H, $J = 7.3$ Hz), 7.85 (d, 2H, $J = 7.8$ Hz), 7.96 (d, 2H, $J = 8.0$ Hz) ppm; $^{13}$C NMR (175 MHz, δ, CDCl$_3$, 298 K): 21.7, 45.6, 48.1, 128.1, 128.3, 128.6, 128.7, 128.8, 129.7, 130.0, 134.0, 134.2, 134.5, 135.3, 145.3, 188.7 ppm; IR (film): $\tilde{\nu} = 3059, 2920, 2359, 2342, 1692, 1597, 1492, 1449, 1331, 1225, 1161, 1090, 986, 910, 818, 737$ cm$^{-1}$; HRMS (ESI): m/z calcd for C$_{22}$H$_{18}$ClNO$_3$S: 412.0769 [M + H]$^+$; found: 412.0773.
\textit{cis-(3-(4-Nitrophenyl)-1-tosylaziridin-2-yl)-(phenyl)methanone (9j)}. Obtained in 94\% as a brown solid. M.p.: 114-115 °C; $^1$H NMR (700 MHz, δ, CDCl$_3$, 298 K): 2.44 (s, 3H), 4.41 (d, 1H, $J$ = 7.7 Hz), 4.51 (d, 1H, $J$ = 7.7 Hz), 7.34 – 7.45 (m, 6H), 7.54 (t, 1H, $J$ = 7.4 Hz), 7.85 (d, 2H, $J$ = 7.7 Hz), 7.97 (d, 2H, $J$ = 8.2 Hz), 8.01 (d, 2H, $J$ = 8.5 Hz) ppm; $^{13}$C NMR (175 MHz, δ, CDCl$_3$, 298 K): 21.8, 45.2, 48.0, 123.5, 128.1, 128.3, 128.5, 128.9, 130.1, 133.9, 134.3, 135.3, 138.5, 145.7, 147.9, 188.3 ppm; IR (film): $\nu$ = 3067, 2922, 2855, 2359, 2342, 1692, 1597, 1520, 1344, 1229, 1159, 1090, 988, 910, 893, 854, 733 cm$^{-1}$; HRMS (ESI): $m/z$ calcd for C$_{22}$H$_{18}$N$_2$O$_5$S: 423.1009 [M + H]$^+$; found: 423.1010.
4. Copies of selected NMR spectra: