Supporting Information
Highly Diastereoselective Enolate Addition of *O*-Protected
 α -Hydroxyacetate to (*S_R*)-*tert*-Butanesulfinylimines:
Synthesis of Taxol Side Chain

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Contents of Supporting Information

Page S-1: Title of the paper, author's name and address along with the contents.

Page S-2: Contents of supporting information. General methods

Page S-3: Characterization data for compounds **4e-4q**.

Page S-10: ORTEP/X-Ray figure for **4c** and references.

Page S-11: ¹H NMR and ¹³C NMR spectrum of compound **4a**.

Page S-12: ¹H NMR and ¹³C NMR spectrum of compound **4b**.

Page S-13: ¹H NMR and ¹³C NMR spectrum of compound **4c**.

Page S-14: ¹H NMR and ¹³C NMR spectrum of compound **4d**.

Page S-15: ¹H NMR and ¹³C NMR spectrum of compound **4e**.

Page S-16: ¹H NMR and ¹³C NMR spectrum of compound **4f**.

Page S-17: ¹H NMR spectrum of compound **4g**.

Page S-18: ^1H NMR and ^{13}C NMR spectrum of compound **4h**.

Page S-19: ^1H NMR and ^{13}C NMR spectrum of compound **4i**.

Page S-20: ^1H NMR and ^{13}C NMR spectrum of compound **4j**.

Page S-21: ^1H NMR and ^{13}C NMR spectrum of compound **4k**.

Page S-22: ^1H NMR and ^{13}C NMR spectrum of compound **4l**.

Page S-23: ^1H NMR and ^{13}C NMR spectrum of compound **4m**.

Page S-24: ^1H NMR and ^{13}C NMR spectrum of compound **4n**.

Page S-25: ^1H NMR and ^{13}C NMR spectrum of compound **4o**.

Page S-26: ^1H NMR and ^{13}C NMR spectrum of compound **4p**.

Page S-27: ^1H NMR and ^{13}C NMR spectrum of compound **4q**.

Page S-28: ^1H NMR and ^{13}C NMR spectrum of compound **7**.

Page S-29: ^1H NMR spectrum of compound **8**.

Page S-30: ^1H NMR and ^{13}C NMR spectrum of compound **9**.

Page S-31: ^1H NMR and ^{13}C NMR spectrum of compound **10**.

General methods.

All commercially available reagents were used without further purification. All solvents were dried and distilled before use: THF was distilled from sodium/benzophenone ketyl; dichloromethane was distilled from calcium hydride; acetonitrile and acetone were distilled from P_2O_5 ; toluene was distilled from Sodium. Chromatography was conducted by using 200-300 mesh silica gel. All new compounds gave satisfactory spectroscopic analyses (^1H NMR, ^{13}C NMR, IR, HRMS and elemental analysis for pure isomer). IR spectra were recorded on a FT IR

spectrometer. NMR spectra were acquired on a 400 MHz NMR spectrometer. HRMS spectra were obtained by the ESI method. (*S_R*)-*tert*-butanesulfinylimines **6** were prepared according literature.^{1,2}

Characterization data for compounds 4e-4q

(*S_R*, 2*R*, 3*S*)-*N-tert*-Butanesulfinyl-*O*-Boc-3-(4-chlorophenyl)isoserine benzyl ester **4e**, purified by chromatography (acetone/petroleum 1:6, *R_f* = 0.3) as a white solid, mp: 116-117 °C; [α]_D²⁵ +14.2° (c 1.1, CHCl₃); IR (KBr) 3444, 3113, 2981, 1741, 1460, 1457, 1369, 1302, 1246, 1162, 1072, 1014cm⁻¹; ¹H NMR (400 MHz, CDCl₃) δ 7.29-7.40 (m, 9H), 5.21 (d, *J* = 3.2 Hz, 1H), 5.18 (d, *J* = 12.4 Hz, 1H), 5.15 (d, *J* = 12.4 Hz, 1H), 4.96 (dd, *J* = 10.0, 2.8 Hz, 1H), 4.16 (d, *J* = 10.0 Hz, 1H), 1.40 (s, 9H), 1.14 (s, 9H)ppm; ¹³C NMR (100 MHz, CDCl₃) δ 167.4, 152.2, 136.5, 134.7, 134.1, 128.8, 128.7, 128.6, 128.5, 83.7, 77.5, 67.6, 59.9, 56.8, 27.5, 22.4ppm; Anal. Calcd for C₂₅H₃₂ClN₁O₆S₁: C, 58.87; H, 6.32; N, 2.75. Found; C, 58.90; H, 6.26; N, 2.83; HRMS-ESI calcd for C₂₅H₃₂ClN₁Na₁O₆S₁ (M+Na)⁺ 532.1537, found 532.1531.

(*S_R*, 2*R*, 3*S*)-*N-tert*-Butanesulfinyl-*O*-Boc-3-(3,4-dimethoxyphenyl)isoserine benzyl ester **4f**, purified by chromatography (acetone/petroleum 1:4, *R_f* = 0.3) as viscous oil, [α]_D²⁵ +5.6° (c 1.0, CHCl₃); IR (KBr) 3450, 2957, 2917, 2849, 1747, 1519, 1463, 1421, 1370, 1254, 1158, 1124, 1079, 1026cm⁻¹; ¹H NMR (400 MHz, CDCl₃) δ 7.34 (m, 5H), 6.97 (d, *J* = 1.6 Hz, 1H), 6.93 (dd, *J* = 8.4, 2.0 Hz, 1H), 6.79 (d, *J* = 8.4 Hz, 1H), 5.25 (d, *J* = 2.8 Hz, 1H), 5.15 (s, 2H), 4.92 (dd, *J* = 9.6, 3.2 Hz, 1H), 4.01 (d, *J* = 9.6 Hz, 1H), 3.86 (s, 3H), 3.84 (s, 3H), 1.40 (s, 9H), 1.13 (s, 9H)ppm; ¹³C NMR (100 MHz, CDCl₃) δ 167.7, 152.3, 149.0, 148.9, 134.8, 130.5, 128.6, 128.5, 128.5,

119.5, 111.2, 110.9, 83.5, 77.7, 67.5, 60.4, 56.7, 55.9, 55.9, 27.6, 22.4ppm; Anal. Calcd for $C_{27}H_{37}N_1O_8S_1$: C, 60.54; H, 6.96; N, 2.61. Found; C, 60.48; H, 6.99; N, 2.71; HRMS-ESI calcd for $C_{27}H_{37}N_1Na_1O_8S_1$ (M+Na)⁺ 558.2137, found 558.2132.

(*S_R*, 2*R*, 3*S*)-*N*-*tert*-Butanesulfinyl-*O*-Boc-3-(4-methoxyphenyl)isoserine benzyl ester 4g, purified by chromatography (acetone/petroleum 1:8, *R_f* = 0.2) as viscous oil, inseparable with one isomer in a 91:9 ratio. ¹H NMR (400 MHz, CDCl₃) δ 7.19-7.40 (m, 7H), 7.17 (d, *J* = 8.8 Hz, 2H, minor), 6.85 (d, *J* = 8.8 Hz, 2H, major), 6.77 (d, *J* = 8.8 Hz, 2H, minor), 5.22 (d, *J* = 3.6 Hz, 1H, major), 5.18 (d, *J* = 12.4 Hz, 2H, major), 5.12 (d, *J* = 12.4 Hz, 2H, minor), 4.92 (dd, *J* = 9.6, 3.2 Hz, 1H, major), 4.87 (t, *J* = 4.5 Hz, 1H, minor), 4.25 (d, *J* = 4.5 Hz, 1H, minor), 4.06 (d, *J* = 9.6 Hz, 1H, major), 3.78 (s, 3H, minor), 3.77 (s, 3H, major), 1.43 (s, 9H, minor), 1.41 (s, 9H, major), 1.17 (s, 9H, minor), 1.14 (s, 9H, major)ppm; HRMS-ESI calcd for $C_{26}H_{35}N_1Na_1O_7S_1$ (M+Na)⁺ 528.2032, found 528.2026.

(*S_R*, 2*R*, 3*S*)-*N*-*tert*-Butanesulfinyl-*O*-Boc-3-(2-bromophenyl)isoserine benzyl ester 4h, purified by chromatography (acetone/petroleum 1:5, *R_f* = 0.4) as a white solid, mp: 154-155 °C; [α]_D²⁵ +7.5° (c 1.1, CHCl₃); IR (KBr) 3295, 2973, 1746, 1474, 1394, 1369, 1292, 1243, 1168, 1110, 1042cm⁻¹; ¹H NMR (400 MHz, CDCl₃) δ 7.55 (d, *J* = 7.6 Hz, 1H), 7.47 (d, *J* = 8.0 Hz, 1H), 7.30-7.40 (m, 6H), 7.16 (t, *J* = 7.6 Hz, 1H), 5.48 (dd, *J* = 10.4, 2.4 Hz, 1H), 5.36 (d, *J* = 2.4 Hz, 1H), 5.27 (d, *J* = 12.4 Hz, 1H), 5.21 (d, *J* = 12.4 Hz, 1H), 4.39 (d, *J* = 10.4 Hz, 1H), 1.35 (s, 9H), 1.11 (s, 9H)ppm; ¹³C NMR (100 MHz, CDCl₃) δ 167.4, 151.9, 136.7, 135.0, 132.9, 129.8, 129.6, 128.6, 128.4, 128.1, 127.4, 122.7, 83.6, 77.6, 67.4, 59.4, 56.9, 27.5, 22.3ppm; Anal. Calcd

for C₂₅H₃₂Br₁N₁O₆S: C, 54.15; H, 5.82; N, 2.53. Found; C, 53.83; H, 5.64; N, 2.46; HRMS-ESI calcd for C₂₅H₃₂Br₁N₁Na₁O₆S (M+Na)⁺ 576.1031, found 576.1026.

Isomer one of compound 4h, purified by chromatography (acetone/petroleum 1:5, R_f = 0.3). The stereochemistry was not determined. ¹H NMR (400 MHz, CDCl₃) δ 7.52 (dd, *J* = 8.0, 1.2 Hz, 1H), 7.48 (dd, *J* = 8.0, 1.2 Hz, 1H), 7.22-7.38 (m, 6H), 7.11 (dt, *J* = 7.6, 1.6 Hz, 1H), 5.40 (d, *J* = 5.6 Hz, 1H), 5.35 (m, 1H), 5.06 (d, *J* = 12.4 Hz, 1H), 5.02 (d, *J* = 12.4 Hz, 1H), 4.22 (d, *J* = 5.7 Hz, 1H), 1.43 (s, 9H), 1.18 (s, 9H) ppm.

Isomer two of compound 4h, purified by chromatography (acetone/petroleum 1:5, R_f = 0.5). The stereochemistry was not determined. ¹H NMR (400 MHz, CDCl₃) δ 7.55 (d, *J* = 8.0 Hz, 1H), 7.28-7.42 (m, 7H), 7.13 (t, *J* = 7.6 Hz, 1H), 5.51 (dd, *J* = 6.4, 3.2 Hz, 1H), 5.36 (d, *J* = 3.2 Hz, 1H), 5.32 (d, *J* = 12.4 Hz, 1H), 5.25 (d, *J* = 12.4 Hz, 1H), 4.30 (d, *J* = 6.4 Hz, 1H), 1.36 (s, 9H), 1.20 (s, 9H) ppm.

(S_R, 2R, 3S)-N-tert-Butanesulfinyl-O-Boc-3-(4-nitrophenyl)isoserine benzyl ester 4i, purified by chromatography (acetone/petroleum 1:3, R_f = 0.3). mp: 78-80°C; [α]_D²⁵ +20.2° (c 1.2, CHCl₃); IR (KBr) 3415, 3137, 2982, 1740, 1607, 1521, 1458, 1370, 1349, 1298, 1250, 1160, 1111, 1017 cm⁻¹; ¹H NMR (400 MHz, CDCl₃) δ 8.18 (d, *J* = 8.8 Hz, 2H), 7.59 (d, *J* = 8.8 Hz, 2H), 7.32-7.39 (m, 5H), 5.25 (d, *J* = 2.8 Hz, 1H), 5.20 (d, *J* = 12.0 Hz, 1H), 5.16 (d, *J* = 12.0 Hz, 1H), 5.10 (dd, *J* = 10.4, 2.8 Hz, 1H), 4.32 (d, *J* = 10.4 Hz, 1H), 1.40 (s, 9H), 1.15 (s, 9H) ppm; ¹³C NMR (100 MHz, CDCl₃) δ 167.1, 152.0, 147.7, 145.2, 134.6, 128.7, 128.6, 128.5, 128.4, 123.6, 83.9, 77.5, 67.8, 60.0, 57.0, 27.4, 22.3 ppm; Anal. Calcd for C₂₅H₃₂N₂O₈S₁: C, 57.68; H, 6.20; N, 5.38. Found; C, 57.72; H, 6.25; N, 5.41; HRMS-ESI calcd for C₂₅H₃₂N₂Na₁O₈S₁ (M+Na)⁺

543.1777, found 543.1770.

(*S_R*, 2*R*, 3*S*)-*N*-*tert*-Butanesulfinyl-*O*-Boc-3-(2-pyridyl)isoserine benzyl ester 4j, purified by chromatography (acetone/petroleum 1:3, *R_f* = 0.4) as white solid, mp: 102-104 °C, $[\alpha]_D^{25}$ -6.3° (c 1.1, CHCl₃); IR (KBr) 2980, 1747, 1591, 1457, 1368, 1281, 1253, 1163, 1135, 1105, 1080cm⁻¹; ¹H NMR (400 MHz, CDCl₃) δ 8.53 (d, *J* = 4.8 Hz, 1H), 7.66 (dt, *J* = 7.6, 1.6 Hz, 1H), 7.51 (d, *J* = 8.0 Hz, 1H), 7.35 (m, 5H), 7.17 (dd, *J* = 7.2, 4.8 Hz, 1H), 5.57 (d, *J* = 3.2 Hz, 1H), 5.18 (d, *J* = 12.4 Hz, 1H), 5.11 (d, *J* = 12.4 Hz, 1H), 5.09 (dd, *J* = 9.2, 3.2 Hz, 1H), 4.92 (d, *J* = 9.2 Hz, 1H), 1.41 (s, 9H), 1.19 (s, 9H)ppm; ¹³C NMR (100 MHz, CDCl₃) δ 167.7, 156.3, 152.2, 146.8, 136.8, 134.8, 126.5, 126.2, 127.9, 122.8, 122.3, 83.1, 77.2, 67.3, 61.7, 56.5, 27.5, 22.5ppm; HRMS-ESI calcd for C₂₄H₃₂N₂Na₁O₆S₁ (M+H)⁺ 499.1879, found 499.1873.

Isomer of 4j, purified by chromatography (acetone/petroleum 1:3, *R_f* = 0.5) as viscous oil. The stereochemistry was not determined. ¹H NMR (400 MHz, CDCl₃) δ 8.51 (d, *J* = 4.0 Hz, 1H), 7.64 (dt, *J* = 7.6, 2.0 Hz, 1H), 7.28-7.40 (m, 6H), 7.16 (dd, *J* = 7.6, 5.2 Hz, 1H), 5.65 (d, *J* = 3.2 Hz, 1H), 5.29 (d, *J* = 12.4 Hz, 1H), 5.23 (d, *J* = 12.4 Hz, 1H), 5.05 (dd, *J* = 8.8, 3.2 Hz, 1H), 4.62 (d, *J* = 8.8 Hz, 1H), 1.37 (s, 9H), 1.21 (s, 9H)ppm.

(*S_R*, 2*R*, 3*S*)-*N*-*tert*-Butanesulfinyl-*O*-Boc-3-(3-pyridyl)isoserine benzyl ester 4k, purified by chromatography (acetone/petroleum 1:1, *R_f* = 0.3) as a white solid, mp: 138-139 °C; $[\alpha]_D^{25}$ +21.0° (c 1.2, CHCl₃); IR (KBr) 3292, 2977, 1747, 1473, 1457, 1421, 1395, 1367, 1338, 1297, 1244, 1201, 1160, 1113, 1045, 1007cm⁻¹; ¹H NMR (400 MHz, CDCl₃) δ 8.65 (d, *J* = 2.4 Hz, 1H), 8.54 (dd, *J* = 4.8, 2.0 Hz, 1H), 7.78 (m,

1H), 7.32-7.42 (m, 5H), 7.28 (dd, $J = 8.4, 5.2$ Hz, 1H), 5.23 (d, $J = 2.4$ Hz, 1H), 5.20 (d, $J = 12.4$ Hz, 1H), 5.15 (d, $J = 12.4$ Hz, 1H), 5.03 (dd, $J = 10.4, 2.8$ Hz, 1H), 4.26 (d, $J = 10.4$ Hz, 1H), 1.40 (s, 9H), 1.14 (s, 9H)ppm; ^{13}C NMR (100 MHz, CDCl_3) δ 167.1, 151.7, 149.3, 146.4, 135.2, 134.4, 133.7, 126.5, 126.4, 123.3, 63.7, 77.1, 67.6, 56.3, 56.7, 27.3, 22.2ppm; Anal. Calcd for $\text{C}_{24}\text{H}_{32}\text{N}_2\text{O}_6\text{S}_1$: C, 60.48; H, 6.77; N, 5.88. Found; C, 60.26; H, 6.75; N, 5.97; HRMS-ESI calcd for $\text{C}_{24}\text{H}_{33}\text{N}_2\text{O}_6\text{S}_1$ ($\text{M}+\text{H}$) $^+$ 477.2059, found 477.2054.

(S_R , 2R, 3S)-*N*-tert-Butanesulfinyl-*O*-Boc-3-(4-pyridyl)isoserine benzyl ester 4l, purified by chromatography (acetone/petroleum 1:1, $R_f = 0.3$) as viscous oil. $[\alpha]_D^{25} +13.1^\circ$ (c 1.4, MeOH); IR (KBr) 2979, 2929, 1747, 1599, 1457, 1418, 1367, 1283, 1252, 1164, 1130, 1104, 1078 cm^{-1} ; ^1H NMR (400 MHz, CDCl_3) δ 8.59 (d, $J = 6.0$ Hz, 2H), 7.30-7.42 (m, 7H), 5.30 (d, $J = 2.8$ Hz, 1H), 5.22 (d, $J = 12.0$ Hz, 1H), 5.16 (d, $J = 12.0$ Hz, 1H), 5.01 (dd, $J = 10.4, 2.4$ Hz, 1H), 4.33 (d, $J = 10.4$ Hz, 1H), 1.39 (s, 9), 1.16 (s, 9)ppm; ^{13}C NMR (100 MHz, CDCl_3) δ 167.1, 152.0, 150.0, 146.9, 134.5, 128.7, 128.6, 128.5, 122.1, 83.9, 77.6, 67.8, 59.6, 57.0, 27.5, 22.4ppm; HRMS-FAB calcd for $\text{C}_{24}\text{H}_{33}\text{N}_2\text{O}_6\text{S}_1$ ($\text{M}+\text{H}$) 477.2059, found 477.2054.

(S_R , 2R, 3S)-*N*-tert-Butanesulfinyl-*O*-Boc-3-(2-furyl)isoserine benzyl ester 4m, purified by chromatography (acetone/petroleum 1:5, $R_f = 0.3$) as viscous oil, inseparable with one isomer in a 92:8 ratio. ^1H NMR (400 MHz, CDCl_3) δ 7.31-7.40 (m, 6H), 6.48 (d, $J = 3.6$ Hz, 1H), 6.32 (m, 1H, major), 6.27 (m, 1H, minor), 5.49 (d, $J = 2.8$ Hz, 1H, major), 5.43 (d, $J = 4.8$ Hz, 1H, minor), 5.21 (d, $J = 12.4$ Hz, 1H, major), 5.15 (d, $J = 12.4$ Hz, 1H, major), 5.03 (dd, $J = 10.4, 2.8$ Hz, 1H, major), 4.12

(d, $J = 7.2$ Hz, 1H, minor), 3.92 (d, $J = 10.4$ Hz, 1H, major), 1.46 (s, 9H, minor), 1.43 (s, 9H, major), 1.20 (s, 9H, minor), 1.14 (s, 9H, major)ppm; ^{13}C NMR (100 MHz, CDCl_3) δ 167.0, 152.0, 150.7, 142.4, 134.5, 128.3, 128.2, 110.4, 109.9 (minor), 109.2 (minor), 108.9, 83.2, 75.5 (minor), 75.3, 67.3, 56.5, 55.9 (minor), 55.8, 52.1 (minor), 29.4 (minor), 27.3, 22.1ppm; HRMS-ESI calcd for $\text{C}_{23}\text{H}_{31}\text{N}_1\text{Na}_1\text{O}_7\text{S}_1$ ($\text{M}+\text{Na}$) $^+$ 488.1719, found 488.1713.

(S_R , 2*R*, 3*S*)-*N*-*tert*-Butanesulfinyl-*O*-Boc-3-(2-thiaphenyl)isoserine benzyl ester 4n, purified by chromatography (acetone/petroleum 1:7, $R_f = 0.2$) as a white solid. mp: 106-107 °C; $[\alpha]_D^{25} +13.7^\circ$ (c 1.2, MeOH); IR (KBr) 3283, 2983, 1744, 1473, 1463, 1396, 1371, 1289, 1245, 1196, 1161, 1111, 1060, 1045, 1006 cm^{-1} ; ^1H NMR (400 MHz, CDCl_3) δ 7.30-7.40 (m, 5H), 7.23 (d, $J = 3.6$ Hz, 1H), 7.17 (d, $J = 3.6$ Hz, 1H), 6.95 (dd, $J = 5.2, 4.0$ Hz, 1H), 5.30 (d, $J = 2.8$ Hz, 1H), 5.26 (dd, $J = 14.0, 2.8$ Hz, 1H), 5.17 (d, $J = 12.4$ Hz, 1H), 5.13 (d, $J = 12.4$ Hz, 1H), 3.96 (d, $J = 10.0$ Hz, 1H), 1.44 (s, 9H), 1.12 (s, 9H)ppm; ^{13}C NMR (100 MHz, CDCl_3) δ 167.0, 152.1, 141.0, 134.5, 128.4, 128.3, 126.7, 126.7, 125.6, 83.4, 76.1, 67.4, 56.9, 56.5, 27.4, 22.2ppm; Anal. Calcd for $\text{C}_{23}\text{H}_{31}\text{N}_1\text{O}_6\text{S}_2$: C, 57.36; H, 6.49; N, 2.91. Found; C, 57.14; H, 6.44; N, 2.85; HRMS-ESI calcd for $\text{C}_{23}\text{H}_{31}\text{N}_1\text{Na}_1\text{O}_6\text{S}_2$ ($\text{M}+\text{Na}$) $^+$ 504.1491, found 504.1485.

(S_R , 2*R*, 3*S*)-*N*-*tert*-Butanesulfinyl-*O*-Boc-3-(3-phenylpropyl)isoserine benzyl ester 4o, purified by chromatography (acetone/petroleum 1:5, $R_f = 0.3$) as viscous oil. $[\alpha]_D^{25} -16.5^\circ$ (c 1.2, CHCl_3); IR (KBr) 2980, 1746, 1497, 1455, 1369, 1301, 1255, 1161, 1124, 1073 cm^{-1} ; ^1H NMR (400 MHz, CDCl_3) δ 7.16-7.41 (m, 10H), 5.16 (d, $J = 12.4, 2\text{H}$), 5.11 (d, $J = 12.4, 2\text{H}$), 5.09 (d, $J = 2.4$ Hz, 1H), 3.86 (m, 1H), 3.44 (d, $J =$

10.4 Hz, 1H), 2.83 (m, 1H), 2.73 (m, 1H), 2.13 (m, 1H), 2.03 (m, 1H), 1.48 (s, 9H), 1.12 (s, 9H)ppm; ^{13}C NMR (100 MHz, CDCl_3) δ 168.0, 152.6, 140.6, 134.8, 128.6, 128.5, 128.4, 128.4, 128.2, 126.0, 83.5, 76.0, 67.2, 58.2, 56.4, 35.2, 32.0, 27.6, 22.5ppm; Anal. Calcd for $\text{C}_{27}\text{H}_{37}\text{N}_1\text{O}_6\text{S}_1$: C, 64.39; H, 7.40; N, 2.78. Found; C, 64.31; H, 7.43; N, 2.82; HRMS-ESI calcd for $\text{C}_{27}\text{H}_{37}\text{N}_1\text{Na}_1\text{O}_6\text{S}_1$ ($\text{M}+\text{Na}$) $^+$ 526.2239, found 526.2234.

(*S_R*, 2*R*, 3*S*)-*N*-*tert*-Butanesulfinyl-*O*-Boc-3-isopropylisoserine benzyl ester 4p, purified by chromatography (acetone/petroleum 1:7, R_f = 0.3) as viscous oil. $[\alpha]_D^{25} +3.5^\circ$ (c 1.2, MeOH); IR (KBr) 3336, 3038, 2965, 2876, 1745, 1459, 1392, 1367, 1303, 1255, 1210, 1133, 1074, 1002 cm^{-1} ; ^1H NMR (400 MHz, CDCl_3) δ 7.28-7.38 (m, 5H), 5.15 (d, J = 12.0, 1H), 5.13 (d, J = 12.0 Hz, 1H), 5.06 (d, J = 12.0 Hz, 1H), 3.58 (t, J = 7.2 Hz, 1H), 3.50 (d, J = 10.0 Hz, 1H), 1.92 (m, 1H), 1.44 (s, 9H), 1.10 9s, 9H), 1.07 (d, J = 6.8 Hz, 3H), 0.97 (d, J = 6.8 Hz, 3H)ppm; ^{13}C NMR (100 MHz, CDCl_3) δ 166.4, 152.6, 134.8, 128.5, 128.5, 128.3, 83.2, 75.4, 67.3, 63.6, 56.5, 31.5, 27.6, 22.6, 19.6, 19.4ppm; HRMS-ESI calcd for $\text{C}_{22}\text{H}_{35}\text{K}_1\text{N}_1\text{O}_6\text{S}_1$ ($\text{M}+\text{K}$) $^+$ 480.1822, found 480.1817.

Isomer of 4p, purified by chromatography (acetone/petroleum 1:7, R_f = 0.4) as viscous oil. The stereochemistry was not determined. ^1H NMR (400 MHz, CDCl_3) δ 7.30-7.42 (m, 5H), 5.26 (d, J = 12.4, 1H), 5.22 (d, J = 12.4, 1H), 5.21 (d, J = 2.5 Hz, 1H), 3.90 (d, J = 8.8 Hz, 1H), 3.48 (dt, J = 7.6, 2.5 Hz, 1H), 1.90 (m, 1H), 1.45 (s, 9H), 1.23 (s, 9H), 0.96 (d, J = 2.0 Hz, 3H), 0.94 (d, J = 2.0 Hz, 3H)ppm.

(*S_R*, 2*R*, 3*S*)-*N*-*tert*-Butanesulfinyl-*O*-Boc-3-cyclopropylisoserine benzyl ester 4q,

purified by chromatography (acetone/petroleum 1:5, $R_f = 0.3$) as viscous oil. $[\alpha]_D^{25}$ -19.1° (c 1.2, CHCl_3); IR (KBr) 2926, 2854, 1748, 1458, 1369, 1304, 1253, 1216, 1126, 1075cm^{-1} ; ^1H NMR (400 MHz, CDCl_3) δ 7.30-7.40 (m, 5H), 5.16 (d, $J = 12.0$ Hz, 1H), 5.11 (d, $J = 2.8$ Hz, 1H), 5.10 (d, $J = 12.0$ Hz, 1H), 3.59 (d, $J = 9.6$ Hz, 1H), 2.93 (dd, $J = 9.6, 2.8$ Hz, 1H), 1.48 (s, 9H), 1.12 (s, 9H), 0.86 (m, 1H), 0.78 (m, 1H), 0.63 (m, 2H), 0.37 (m, 1H)ppm; ^{13}C NMR (100 MHz, CDCl_3) δ 167.8, 152.4, 134.6, 128.4, 128.3, 128.2, 83.1, 76.1, 67.1, 63.7, 56.1, 27.4, 22.2, 14.4, 5.5, 4.5ppm; Anal. Calcd for $\text{C}_{22}\text{H}_{33}\text{N}_1\text{O}_6\text{S}_1$: C, 60.11; H, 7.57; N, 3.19. Found; C, 60.21; H, 7.66; N, 3.32; HRMS-ESI calcd for $\text{C}_{22}\text{H}_{33}\text{N}_1\text{Na}_1\text{O}_6\text{S}_1$ ($\text{M}+\text{Na}$) $^+$ 462.1926, found 462.1921.

The X-ray crystallographic data for **4c** are available as a CIF file in the second supporting information file.

Figure 1. ORTEP drawing and relative stereochemistry of **4c**.

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