Supporting information for:

A Concise and Stereoselective Synthesis of Squalamine

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All melting points are uncorrected. Optical rotations were measured with Perkin-Elmer 241MC polarimeter in the solvent indicated. Infrared spectra were recorded on an AVATAR-360 spectrophotometer. Proton and carbon NMR spectra were recorded on a MERCURY300 spectrometer. Chemical shifts are reported in δ values relative to TMS as internal standard. High resolution mass spectra were recorded by either FTMS-7 or CONCEPT 1H Spectrometer. Microanalyses were performed by Shanghai Institute of Organic Chemistry elemental analysis center. Flash column chromatography was carried out with silica gel (300-400 mesh). Yields refer to chromatographically and spectroscopically pure compounds, except as otherwise indicated. The de value was determined by HPLC analysis on Inersil ODS-3 column with CH₃CN-H₂O as an eluent.

4: obtained as a colorless needle crystalline (ethyl acetate /petroleum =1/1); mp 101-102 °C; $[\alpha]_D^{20}$ -9.0 (c 0.80, CHCl₃); ¹H NMR (CDCl₃, 300MHz) δ =

0.68 (s, 3H), 0.93 (d, $J=6.3$ Hz, 3H), 1.02 (s, 3H), 3.34 (approx. t, $J=13.8$ Hz, 3H), 3.37 (s, 3H), 3.67 (s, 3H), 4.67 (d, $J=6.9$ Hz, A of AB, 1H), 4.55 (d, $J=6.9$ Hz, B of AB, 1H); IR: 1731, 1722 cm^{-1} ; MS (EI) m/z : 448(M^+), 388; Anal. Calcd for $\text{C}_{27}\text{H}_{44}\text{O}_5$: C 72.28; H 9.89; Found: C 72.21; H 10.06.

5: obtained as a white solid; mp 113-115 °C; $[\alpha]_{\text{D}}^{20}$ 37.8 (c 0.95, CHCl_3); ^1H NMR (CDCl_3 , 300MHz) δ = 0.71 (s, 3H), 0.93 (d, $J=6.3$ Hz, 3H), 1.18 (s, 3H), 3.35 (s, 3H), 3.67 (s, 3H), 3.76 (br. s, 1H), 4.67 (d, $J=7.2$ Hz, A of AB 1H), 4.61 (d, $J=7.2$ Hz, B of AB 1H), 5.76 (s, 1H); ^{13}C NMR (CDCl_3 , 75 MHz) δ = 11.6, 17.1, 18.1, 20.7, 23.6, 27.9, 30.8, 30.9, 33.9, 35.1, 35.3, 38.2, 38.3, 38.9, 39.7, 42.2, 45.3, 49.8, 51.4, 55.4, 55.8, 75.4, 96.0, 126.2, 168.8, 174.6, 199.0; IR: 1737, 1680, 1624 cm^{-1} ; MS (EI) m/z : 446(M^+), 384. Anal. Calcd for $\text{C}_{27}\text{H}_{42}\text{O}_5$: C 72.61; H 9.48; Found: C 72.41; H 9.65.

6: obtained as a white solid; mp 108-110 °C; $[\alpha]_{\text{D}}^{20}$ -3.6° (c 0.56, CHCl_3); ^1H NMR (CDCl_3 , 300MHz) δ = 0.68 (s, 3H), 0.93 (d, $J=6.6$ Hz, 3H), 1.02 (s, 3H), 3.36 (s, 3H), 3.63 (br.s, 3H), 3.76 (br.s, 1H), 4.68 (d, $J=6.9$ Hz, A of AB, 1H), 4.61 (d, $J=6.9$ Hz, B of AB, 1H), 9.78 (s, 1H); ^{13}C NMR(CDCl_3 , 75 MHz) δ = 10.4, 11.6, 18.2, 21.1, 23.6, 27.8, 28.0, 33.7, 35.2, 35.4, 37.9, 38.0, 39.1, 39.4, 39.5 40.7, 42.4, 44.1, 45.3, 49.7, 55.5, 55.6, 74.7, 96.0, 202.9, 211.6; IR: 2712, 1726, 1712, cm^{-1} ; HRMS (EI) m/z found: 418.3108 $\text{C}_{26}\text{H}_{42}\text{O}_4$ (M^+) requires: 418.3083.

7: obtained as a white solid; mp 111-113 °C; $[\alpha]_D^{20}$ 4.5 (c 2.65, CHCl₃); ¹H NMR (CDCl₃, 300MHz) δ = 0.68 (s, 3H), 0.92 (d, J =6.3Hz, 3H), 0.93 (d, J =6.9Hz, 3H), 0.94 (d, J =6.0Hz, 3H), 1.02 (s, 3H), 3.30-3.32 (m, 1H), 3.36 (s, 3H), 3.63 (br s, 1H), 4.68 (d, J = 6.9 Hz, A of AB, 1H), 4.61 (d, J = 6.9 Hz, B of AB, 1H); ¹³C NMR (CDCl₃, 75 MHz) δ = 10.5, 11.7, 17.2, 18.5, 18.8, 21.1, 23.7, 28.1, 30.2, 30.4, 31.9, 33.5, 33.8, 35.5, 35.6, 38.1, 39.1, 39.5, 39.6, 42.4, 44.2, 45.4, 49.8, 55.6, 55.8, 74.8, 76.6, 96.1, 212.0; IR: 3476, 1715 cm⁻¹; HRMS (ESI) m/z found: 485.3601 C₂₉H₅₀O₄ (M+Na)⁺ requires: 485.3597.

1: obtained as a white solid; ¹H NMR (CD₃OD, 300MHz) δ = 0.75 (s, 3H), 0.92 (s, 3H), 0.96 (s, 3H), 0.99 (s, 3H), 1.00 (s, 3H), 1.10-1.30 (m, 8H), 1.40-1.70 (10H, m), 1.80-2.00 (8H, m), 2.10-2.30 (5H, m), 3.04 (t, J = 7.4Hz, 2H), 3.11-3.25 (m, 7H), 3.84 (br s, 1H, 7 β -H), 4.13 (br q, 1H); ¹³C NMR (CD₃OD, 75MHz) δ = 86.6, 68.5, 59.2, 57.6, 51.9, 48.5, 46.9, 46.1, 43.9, 43.1, 41.0, 40.2, 38.7, 37.9, 37.6, 37.4, 37.0, 32.7, 32.2, 32.1, 29.3, 28.0, 26.0, 25.7, 24.6, 24.5, 24.4, 22.2, 19.6, 18.6, 18.4, 12.6, 11.8; HRMS (ESI) m/z Found: 628.4718 C₃₄H₆₆N₃O₅S requires: 628.4723.