

General Methods. Anhydrous conditions were achieved (when indicated) by flame-drying flasks and equipments. Reactions were monitored by TLC on Macherey-Nagel Alugram F254 (0.25 mm) plates, which were visualized by dipping into 5% ethanolic H₂SO₄ or cerium molibdate and heating. Melting points were obtained on a Büchi SMP-20 apparatus and are uncorrected. ¹H (300 MHz) and ¹³C NMR (75 MHz) spectra were recorded on a Bruker AC-300 Advanced spectrometer at 25°C. ¹H NMR shifts are referenced to the residual solvent signal (δ 7.24 for CDCl₃, 2.05 for acetone-d₆, and 2.50 for DMSO-d₆). ¹³C NMR shifts are referenced to the solvent peak (77.0 for CDCl₃, 29.9 for acetone-d₆, 39.5 for DMSO-d₆). All final compounds gave satisfactory elemental analyses (± 0.4%).

Geranic Acid Vanillamide (1e). Colorless oil: IR (liquid film) 3325, 1659, 1632, 1516, 1275, 11215, 1181, 1125 cm⁻¹; CIMS (isobutane) m/z 304 (C₁₈H₂₅NO₃+H)⁺ (100); ¹H NMR (300 CDCl₃) δ 6.86 (d, 1H, J = 8 Hz), 6.82 (s, 1H), 6.79 (d, 1H, J = 8 Hz), 5.64 (br t, 1H, J = 5.6 Hz), 4.38 (d, 2H, J = 5.6 Hz), 3.86 (s, 3H), 2.17 (br s, 3H), 1.67 (br s, 3H), 1.61 (br s, 3H); ¹³C NMR (75 Mz, CDCl₃) δ 167.4, 154.9, 145.5, 132.7, 130.8, 122.5, 121.0, 119.2, 118.2, 114.9, 110.9, 56.3, 43.6, 41.2, 33.5, 26.0, 18.8, 16.6.

Farnesic Acid Vanillamide (Farvanyl, 1f). Colorless oil; IR (liquid film) 3306, 1659, 1632, 1516, 1462, 1377, 1275, 1238, 1153 cm⁻¹; CIMS (isobutane) m/z 372 (C₂₃H₃₃NO₃+H)⁺ (100); ¹H NMR (300 CDCl₃) δ 6.86 (d, 1H, J = 8 Hz), 6.79 (s, 1H), 6.75 (d, 1H, J = 8 Hz), 5.60 (br s, 1H), 5.56 (br s, 1H), 5.09 (br s, 2H), 4.39 (d, 2H, J = 5.5 Hz), 3.89 (s, 3H), 2.18 (br s, 3H), 1.66 (br s, 3H), 1.60 (br s, 3H); ¹³C NMR (75 Mz, CDCl₃) δ 166.7, 154.5, 146.5, 144.9, 136.0, 131.3, 130.2, 123.7, 120.6, 117.6, 114.2, 110.6, 55.7, 43.1, 40.8, 39.5, 31.8, 25.7, 23.2, 18.2, 17.4, 15.8.

Phytoyl Vanillamide (1g). Colorless oil: IR (liquid film) 3302, 1661, 1632, 1516, 1464, 1275, 1155, 1124 1035 cm⁻¹; CIMS (isobutane) m/z 446 (C₂₇H₄₇NO₃+H)⁺ (100); ¹H NMR (300 CDCl₃) δ 6.85 (d, 1H, J = 8 Hz), 6.80 (s, 1H), 6.75 (d, 1H, J = 8 Hz), 5.67 (br t, 1H, J = 5.8 Hz), 5.55 (s, 1H), 4.38 (d, 2H, J = 5.8 Hz), 3.87 (s, 3H), 2.16 (br s, 3H), 0.87 (m, 12H); ¹³C NMR (75 Mz, CDCl₃) δ 166.8, 155.1, 146.6, 144.9, 130.3, 120.6, 117.4, 114.2, 110.6, 55.7, 43.1, 40.9, 39.1, 37.2, 37.1, 32.6, 27.8, 24.8, 24.6, 22.5, 22.4, 19.5, 18.2.

Chrysanthemic Acid Vanillamide (1h). Colorless powder: mp 110 °C; IR (KBr) 3874, 3232, 1630, 1597, 1524, 1462, 1377, 1238, 1121, 1032 cm^{-1} ; CIMS (isobutane) m/z 303 ($\text{C}_{18}\text{H}_{25}\text{NO}_3 + \text{H}^+$) (100); ^1H NMR (300 MHz, CDCl_3) δ 6.86 (d, 1H, $J = 8$ Hz), 6.82 (br s, 1H), 6.76 (br d, 1H, $J = 8$ Hz), 5.80 (d, 1H, $J = 5.5$ Hz), 4.88 (br d, 1H, $J = 5.1$ Hz), 4.37 (d, 2H, $J = 4.4$ Hz), 2.17 (m, 1H), 1.70 (br s, 3H), 1.30 (s, 3H), 1.10 (s, 3H); ^{13}C NMR (75 Mz, CDCl_3) δ 171.6, 147.2, 145.5, 135.5, 131.1, 122.0, 121.3, 114.8, 11.2, 56.3, 44.2, 37.5, 31.0, 27.8, 26.2, 22.8, 20.8, 18.9.

(S)-Perillic Acid Vanillamide (1i). Colorless oil: IR (liquid film) 3326, 1624, 1516, 1275, 1240, 1215, 1157, 1036 cm^{-1} ; CIMS (isobutane) m/z 302 ($\text{C}_{18}\text{H}_{23}\text{NO}_3 + \text{H}^+$) (100); ^1H NMR (300 CDCl_3) δ 6.87 (d, 1H, $J = 8$ Hz), 6.82 (br s, 1H), 6.76 (br d, 1H, $J = 8$ Hz), 6.66 (br d, 1H, $J = 3$ Hz), 5.94 (br s, 1H), 4.76 (br s, 1H), 4.71 (br s, 1H), 4.41 (d, 2H, $J = 5.6$ Hz), 3.87 (s, 3H), 1.76 (br s, 3H), ^{13}C NMR (75 Mz, CDCl_3) δ 168.6, 149.2, 147.2, 145.6, 136.7, 133.1, 130.7, 121.3, 114.9, 111.3, 109.7, 56.4, 44.1, 40.3, 31.6, 27.5, 25.3, 21.3.

Retinoyl Vanillamide (Retvanil, 1j). Yellow-orange powder: mp 135 °C; IR (KBr) 3340, 3100, 1640, 1611, 1598, 1583, 1516, 1447, 1283, 1258, 1206, 972 cm^{-1} ; CIMS (isobutane) m/z 436 ($\text{C}_{28}\text{H}_{37}\text{NO}_3 + \text{H}^+$) (100); ^1H NMR (300 CDCl_3) δ 6.98 (dd, 1H, $J = 15.2, 11.4$ Hz), 6.90 (d, 1H, $J = 8$ Hz), 6.87 (br s, 1H), 6.82 (br d, 1H, $J = 8$ Hz), 6.35 – 6.14 (m, 4H), 5.81 (br t, 1H, $J = 5.7$ Hz), 5.72 (br s, 1H), 4.45 (d, 2H, $J = 5.7$ Hz), 3.92 (s, 3H), 2.43 (br s, 3H), 2.09 (m, 1H), 2.03 (br s, 3H), 1.75 (br s, 3H), 1.63 (m, 2H), 1.52 (m, 2H), 1.07 (s, 6H); ^{13}C NMR (75 Mz, CDCl_3) δ 166.8, 148.7, 146.5, 144.8, 138.6, 137.5, 137.1, 135.2, 130.1, 129.6, 129.3, 128.0, 121, 120.6, 114.2, 110.5, 55.7, 43.2, 39.3, 34.0, 32.8, 28.7, 21.5, 19.0, 13.4, 12.6.

Sorbyl Vanillamide (1k). White powder: mp 107 °C; IR (KBr) 3492, 3292, 1655, 1630, 1609, 1545, 1516, 1453, 1331, 1271, 1250, 1028 cm^{-1} ; CIMS (isobutane) m/z 248 ($\text{C}_{14}\text{H}_{17}\text{NO}_3 + \text{H}^+$) (100); ^1H NMR (300 MHz, CDCl_3) δ 7.22 (m, 1H), 6.84 (d, 1H, $J = 8$ Hz), 6.81 (br s, 1H), 6.78 (br m, 1H), 6.75 (br d, 1H, $J = 8$ Hz), 6.12 (m, 1H), 5.96 (br t, 1H, $J = 5.8$ Hz), 5.76 (d, 1H, $J = 15$ Hz), 4.41 (d, 2H, $J = 5.8$ Hz), 3.85 (s, 3H), 1.83 (br d, 3H, $J = 5.3$ Hz); ^{13}C NMR (75 Mz, CDCl_3) δ 166.9, 147.2, 145.5, 141.9, 138.4, 130.6, 130.1, 121.8, 121.2, 114.9, 111.2, 56.3, 44.0, 19.0.

Erucyl Vanillamide (1l). White powder: mp 55 °C; IR (KBr) 3316, 1649, 1635, 1520, 1468, 1279, 1124, 1236, 1020 cm^{-1} ; CIMS (isobutane) m/z 474 ($\text{C}_{30}\text{H}_{51}\text{NO}_3 + \text{H}$)⁺ (100); ^1H NMR (300 MHz, CDCl_3) δ 6.85 (d, 1H, $J = 8$ Hz), 6.81 (br s, 1H), 6.78 (br d, 1H, $J = 8$ Hz), 5.72 (br s, 1H), 5.35 (m, 2H), 4.35 (d, 2H, $J = 5.6$ Hz), 3.87 (s, 3H), 2.20 (t, 2H, $J = 7.2$ Hz), 2.01 (m, 4H), 1.65 (m, 2H), 1.27 (m, 28H), 0.88 (br t, 3H, $J = 5.9$ Hz); ^{13}C NMR (75 Mz, CDCl_3) δ 173.5, 147.1, 145.5, 130.7, 130.3, 121.1, 114.8, 111.1, 56.3, 43.9, 37.2, 33.0, 32.3, 30.2, 30.1, 30.0, 29.9, 29.8, 29.7, 29.6, 27.6, 26.2, 23.1, 14.6.

Stearoyl Vanillamide (1m). White powder: mp 51 °C; IR (KBr) 3295, 1641, 1636, 1520, 1464, 1277, 1122, 1039, 1020 cm^{-1} ; CIMS (isobutane) m/z 416 ($\text{C}_{26}\text{H}_{41}\text{NO}_3 + \text{H}$)⁺ (100); ^1H NMR (300 MHz, CDCl_3) δ 6.85 (d, 1H, $J = 8$ Hz), 6.79 (s, 1H), 6.75 (d, 1H, $J = 8$ Hz), 5.83 (br s, 1H), 4.33 (d, 2H, $J = 5.5$ Hz), 3.89 (s, 3H), 2.23-2.10 (m, 6H), 1.64 (br s, 2H), 1.43-1.27 (m, 20H), 0.86 (br t, 3H, $J = 6.7$ Hz); ^{13}C NMR (75 Mz, CDCl_3) δ 173.4, 148.1, 147.2, 130.1, 121.2, 114.8, 111.1, 80.8, 80.5, 56.3, 44.2, 37.2, 32.3, 31.3, 30.1, 29.6, 29.3, 29.1, 26.2, 23.1, 19.2, 14.6.

Xymeniny Vanillamide (1n). White powder: mp 65 °C; IR (KBr) 3489, 3306, 1640, 1645, 1520, 1464, 1279, 954, 725 cm^{-1} ; CIMS (isobutane) m/z 414 ($\text{C}_{26}\text{H}_{39}\text{NO}_3 + \text{H}$)⁺ (100); ^1H NMR (300 MHz, CDCl_3) δ 6.85 (d, 1H, $J = 8$ Hz), 6.79 (s, 1H), 6.74 (d, 1H, $J = 8$ Hz), 6.00 (dt, 1H, $J = 16, 8$ Hz), 5.89 (br s, 1H), 5.43 (br d, 1H, $J = 16$ Hz), 4.33 (d, 2H, $J = 5.2$ Hz), 3.66 (s, 3H), 2.36-2.01 (m, 6H), 1.63-1.21 (m, 16H), 0.87 (br t, 3H, $J = 6.8$ Hz); ^{13}C NMR (75 Mz, CDCl_3) δ 173.4, 147.2, 145.6, 143.9, 130.7, 121.1, 114.9, 111.1, 1120.1, 89.0, 79.7, 56.3, 48.8, 43.9, 37.1, 33.4, 32.1, 29.6, 29.3, 29.2, 29.2, 29.1, 29.1, 28.1, 26.1, 23.0, 19.7, 14.5.

Ricinoleyl Vanillamide (1o). Colorless oil: IR (liquid film) 3324, 1635, 1540, 1461, 1436, 1277, 1124, 1035 cm^{-1} ; CIMS (isobutane) m/z 434 ($\text{C}_{26}\text{H}_{43}\text{NO}_4 + \text{H}$)⁺ (100); ^1H NMR (300 MHz, CDCl_3) δ 6.85 (d, 1H, $J = 8$ Hz), 6.78 (s, 1H), 6.73 (d, 1H, $J = 8$ Hz), 6.25 (br s, 1H), 5.46 (m, 2H), 4.29 (d, 2H, $J = 5.6$ Hz), 3.81 (s, 3H), 3.53 (br 7, 1H, $J = 6.9$ Hz), 2.17 (m, 4H), 1.99 (m, 2H), 1.62 (m, 2H), 1.34 (br s, 16H), 0.83 (br t, 3H, $J = 6.7$ Hz); ^{13}C NMR (75 Mz, CDCl_3) δ 173.6, 147.2, 145.5, 133.6,

130.6, 129.4, 125.7, 121.1, 114.9, 111.2, 71.9 56.3, 43.8, 37.2, 37.1, 35.7, 32.2, 29.9, 29.7, 29.5, 27.7, 26.1, 23.0, 14.5.

Undecilenyl Vanillamide (1p). White powder: mp 56 °C; IR (KBr) 3292, 1637, 1520, 1551, 1279, 1234, 1032, 906, 810, cm^{-1} ; CIMS (isobutane) m/z 320 ($\text{C}_{19}\text{H}_{29}\text{NO}_3 + \text{H}^+$) (100); ^1H NMR (300 MHz, CDCl_3) δ 6.85 (d, 1H, $J = 8$ Hz), 6.79 (s, 1H), 6.73 (d, 1H, $J = 8$ Hz), 5.83 (m, 2H), 4.98 (d, 1H, $J = 16$ Hz), 4.92 (d, 1H, $J = 10$ Hz), 4.34 (d, 2H, $J = 5.6$ Hz), 3.86 (s, 3H), 2.19 (t, 2H, $J = 7.3$ Hz), 2.04-1.97 (m, 2H), 1.65 (m, 2H), 1.37-1.28 (m, 10H); ^{13}C NMR (75 Mz, CDCl_3) δ 173.5, 147.2, 145.5, 139.5, 130.6, 128.8, 121.1, 114.8, 114.6, 111.1, 56.3, 43.9, 37.2, 34.2, 29.7, 29.4, 29.3, 26.2.

Ricinoleyl Vanillamide 12-Acetate (1q). Colorless oil; IR (liquid film) 3303, 1736, 1645, 1516, 1373, 1242, 1155, 1124, 1034 cm^{-1} ; CIMS (isobutane) m/z 476 ($\text{C}_{28}\text{H}_{45}\text{NO}_6 + \text{H}^+$) (100); ^1H NMR (300 MHz, CDCl_3) δ 6.86 (d, 1H, $J = 8$ Hz), 6.78 (s, 1H), 6.74 (d, 1H, $J = 8$ Hz), 5.75 (br s, 1H), 5.44-5.35 (m, 2H), 4.85 (q, 1H, $J = 6.4$ Hz), 4.35 (d, 2H, $J = 5.6$), 3.88 (s, 3H), 2.03 (s, 3H), 0.88 (s, 3H); ^{13}C NMR (75 Mz, CDCl_3) δ 173.1, 170.7, 146.6, 144.9, 132.3, 130.0, 122.4, 119.6, 111.7, 110.5, 73.8, 55.5, 43.0, 36.3, 33.2, 31.6, 31.4, 29.3, 29.2, 29.1, 29.0, 28.9, 28.9, 28.8, 27.0, 25.5, 25.0, 22.2, 20.9, 20.5, 20.3, 13.7.

Dihydroricinoleyl Vanillamide (1r). White powder: mp 95 °C; IR (KBr) 3431, 1638, 1518, 1466, 1275, 1244, 1123, 1032 cm^{-1} ; CIMS (isobutane) m/z 436 ($\text{C}_{26}\text{H}_{45}\text{NO}_4 + \text{H}^+$) (100); ^1H NMR (300 MHz, CDCl_3) δ 6.9 (d, 1H, $J = 8.0$ Hz), 6.84 (br s, 1H, $J = 8.0$ Hz), 6.79 (br s, 1H), 5.77 (br t, 1H, $J = 5.6$ Hz), 4.39 (d, 2H, $J = 5.6$ Hz), 3.92 (s, 3H), 3.61 (br t, 1H, $J = 6.8$ Hz), 2.24 (t, 2H, $J = 7.4$ Hz), 1.69 (m, 2H), 1.40 (br s, H), 0.93 (t, 2H, $J = 6.9$ Hz); ^{13}C NMR (75 Mz, acetone- D_6) δ 172.2, 147.5, 145.5, 130.6, 119.8, 115.3, 111.7, 69.7, 55.6, 42.0, 37.4, 35.5, 31.6, 29.4, 29.3, 29.2, 28.9, 25.6, 22.3, 14.1.

12-Dehydrodihydroricinoleyl Vanillamide (1s). White powder: mp 65 °C; IR (KBr) 3453, 3318, 1705, 1647, 1636, 1522, 1466, 1279, 1153, 1124, 1040 cm^{-1} ; CIMS (isobutane) m/z 434 ($\text{C}_{26}\text{H}_{43}\text{NO}_4$

+ H)⁺ (100); ¹H NMR (300 MHz, CDCl₃) δ 6.88 (d, 1H, J = 8.0 Hz), 6.81 (br s, 1H), 6.77 (d, 1H, J = 8.0 Hz), 5.70 (br t, 1H, J = 5.6 Hz), 4.36 (br d, 2H, J = 5.6 Hz), 3.88 (s, 3H), 2.38 (t, 4H, J = 6.7 Hz), 2.20 (t, 2H, J = 6.6 Hz), 1.64 (br s, 2H), 1.55 (br s, 4H), 1.25 (br s, 18H), 0.88 (br t, J = 6.8 Hz); ¹³C NMR (75 Mz, CDCl₃) δ 211.9, 173.1, 146.6, 145.0, 130.1, 120.6, 114.2, 110.6, 55.7, 43.3, 42.7, 42.6, 36.6, 31.4, 29.5, 29.2, 29.1, 29.0, 28.8, 28.7, 26.9, 25.6, 23.7, 22.3, 13.9.

(9S, 10S)* Methylen Oleyl Vanillamide (1t). Colorless oil: IR (liquid film) 3296, 1645, 1516, 1456, 1275, 1155, 1124, 1035 cm⁻¹; CIMS (isobutane) m/z 432 (C₂₇H₄₅NO₃ + H)⁺ (100); ¹H NMR (300 MHz, CDCl₃) δ 6.87 (d, 1H, J = 8.0 Hz), 6.80 (br s, 1H), 6.75 (d, 1H, J = 8.0 Hz), 5.68 (br s, 1H), 4.36 (d, 2H, J = 5.6 Hz), 3.88 (s, 3H), 2.21 (t, 2H, J = 7.3 Hz), 1.67 (m, 4H), 1.29 (m, 22H), 0.88 (br t, 3H, J = 6.7 Hz), 0.58 (m, 3H), -0.33 (m, 1H). ¹³C NMR (75 Mz, CDCl₃) δ 172.9, 146.6, 145.0, 130.2, 120.6, 114.2, 110.5, 55.8, 50.1, 43.4, 36.7, 31.8, 30.1, 30.0, 29.5, 29.4, 29.3, 29.2, 29.1, 28.6, 28.5, 25.7, 22.6, 15.6, 15.5, 14.0.

(9S, 10S)* Methylen Ricinoleyl Vanillamide (1u). Colorless oil: IR (liquid film) 3302, 1645, 1516, 1464, 1433, 1277, 1035, 1124 cm⁻¹; CIMS (isobutane) m/z 448 (C₂₇H₄₅NO₄ + H)⁺ (100); ¹H NMR (300 MHz, CDCl₃) δ 6.87 (d, 1H, J = 8.0 Hz), 6.81 (br s, 1H), 6.75 (d, 1H, J = 8.0 Hz), 5.71 (br s, 1H), 4.36 (d, 2H, J = 5.6 Hz), 3.88 (s, 3H), 3.70 (br t, 1H, J = 5.9 Hz), 2.20 (t, 2H, J = 7.2 Hz), 1.63 (m, 2H), 1.31 (br s, 24H), 0.87 (br t, 3H, J = 6.6 Hz), 0.69 (br m, 3H), -0.18 (m, 1H).

(9S, 10S)* Methylen Erucyl Vanillamide (1v). Colorless oil: IR (liquid film) 3806, 1649, 1637, 1520, 1464, 1279, 1236, 1122, 1022 cm⁻¹; CIMS (isobutane) m/z 488 (C₃₁H₅₃NO₃ + H)⁺ (100); ¹H NMR (300 MHz, CDCl₃) δ 6.86 (d, 1H, J = 8.0 Hz), 6.79 (br s, 1H), 6.74 (d, 1H, J = 8.0 Hz), 5.89 (br s, 1H), 4.34 (d, 2H, J = 5.6 Hz), 3.85 (s, 3H), 2.15 (t, 2H, J = 7.3 Hz), 1.63 (br t, 2H), 1.20 (br s, 32H), 0.88 (br t, 3H, J = 6.8 Hz), 0.56 (m, 3H), -0.33 (m, 1H); ¹³C NMR (75 Mz, CDCl₃) δ 172.9, 146.5, 144.9, 130.1, 128.2, 120.5, 114.2, 110.5, 55.7, 48.7, 43.3, 36.6, 31.7, 30.0, 29.5, 29.5, 29.4, 29.3, 29.2, 29.1, 28.5, 18.6, 15.6, 13.9, 10.7.

(10R)* Methylen Undecilenyl Vanillamide (1w). Colorless foam; IR (KBr) 3380, 1645, 1516, 1464, 1431, 1275, 1125, 1036 cm^{-1} ; CIMS (isobutane) m/z 432 ($\text{C}_{20}\text{H}_{31}\text{NO}_3 + \text{H}$)⁺ (100); ^1H NMR (300 MHz, CDCl_3) δ 6.87 (d, 1H, $J = 8.0$ Hz), 6.79 (s, 1H), 6.74 (d, 1H, $J = 8.0$ Hz), 5.97 (br s, 1H), 5.90 (br t, 1H, $J = 5.7$ Hz), 4.33 (br d, 2H, $J = 5.7$ Hz), 3.83 (s, 3H), 2.19 (t, 2H, $J = 7.6$ Hz), 1.64 (m, 2H), 1.22 (m, 12H), 1.14 (m, 1H), 0.37 (m, 2H), - 0.03 (m, 2H); ^{13}C NMR (75 Mz, CDCl_3) δ 174.5, 158.1, 147.2, 145.6, 130.7, 121.2, 114.8, 111.1, 56.5, 43.9, 37.3, 35.2, 30.1, 30.0, 30.0, 29.9, 29.8, 26.3, 11.3, 4.8.

(2R, 3R)* Methylen Phytoyl Vanillamide (1x). Colorless foam; IR (KBr) 3325, 1648, 1516, 1464, 1456, 1275, 1215, 1038 cm^{-1} ; CIMS (isobutane) m/z 460 ($\text{C}_{28}\text{H}_{49}\text{NO}_3 + \text{H}$)⁺ (100); ^1H NMR (300 MHz, CDCl_3) δ 6.87 (d, 1H, $J = 8.0$ Hz), 6.79 (s, 1H), 6.74 (d, 1H, $J = 8.0$ Hz), 5.95 (br t, 1H, $J = 5.7$ Hz), 4.37 (br d, 2H, $J = 5.7$ Hz), 3.88 (s, 3H), 1.17 (s, 3H), 0.86 (br d, 12H, $J = 6.8$ Hz); ^{13}C NMR (75 Mz, CDCl_3) δ 171.2, 146.6, 144.9, 130.5, 120.6, 114.2, 110.0, 55.7, 43.5, 41.1, 39.2, 37.2, 32.6, 32.5, 27.8, 25.4, 25.7, 24.6, 24.3, 22.6, 22.4, 19.6, 15.9.

Abietyl vanillamide (2a). White powder; mp 78 °C; IR (KBr) 3389, 1632, 1516, 1275, 1238, 1155, 1034 cm^{-1} ; CIMS (isobutane) m/z 438 ($\text{C}_{28}\text{H}_{39}\text{NO}_3 + \text{H}$)⁺ (100); ^1H NMR (300 MHz, CDCl_3) δ 6.85 (d, 1H, $J = 8$ Hz), 6.77 (s, 1H), 6.72 (d, 1H, $J = 8$ Hz), 6.06 (br t, 1H, $J = 5.1$ Hz), 5.74 (br s, 1H), 5.30 (br d, 1H, $J = 4$ Hz), 4.33 (br d, 2H, $J = 5.1$ Hz), 3.85 (s, 3H), 1.22 (s, 3H), 0.99 (d, 3H, $J = 6.7$ Hz), 0.96 (d, 3H, $J = 6.7$ Hz), 0.83 (s, 3H); ^{13}C NMR (75 Mz, CDCl_3) δ 178.6, 145.7, 145.5, 136.2, 131.0, 124.5, 121.0, 114.9, 111.1, 56.2, 51.4, 46.8, 44.2, 38.9, 38.7, 35.3, 35.1, 27.8, 27.5, 24.4, 21.8, 21.3, 18.7, 17.5, 14.6.

Ursolyl vanillamide (2b). Colorless foam; IR (KBr) 3384, 1626, 1535, 1516, 1285, 1235, 1145, 1034, 997 cm^{-1} ; CIMS (isobutane) m/z 592 ($\text{C}_{38}\text{H}_{57}\text{NO}_4 + \text{H}$)⁺ (100); ^1H NMR (300 MHz, CDCl_3) δ 6.86 (d, 1H, $J = 8$ Hz), 6.77 (s, 1H), 6.75 (d, 1H, $J = 8$ Hz), 6.10 (br s, 1H), 5.21 (br s, 1H), 4.38 (dd, 1H, $J = 14.9, 5.2$ Hz), 4.07 (dd, 1H, $J = 14.9, 3.2$ Hz), 3.96 (s, 3H), 1.09 (s, 3H), 0.99 (s, 3H), 0.94 (s, 3H), 0.89 (s, 3H), 0.84 (d, 3H, $J = 6.7$ Hz), 0.79 (s, 3H), 0.71 (s, 3H); ^{13}C NMR (75 Mz, CDCl_3)

δ 177.8, 146.5, 145.0, 139.7, 130.2, 125.6, 120.7, 114.3, 110.8, 78.8, 55.8, 55.0, 53.9, 47.6, 47.4, 43.6, 42.3, 39.6, 39.0, 38.6, 38.5, 36.8, 32.7, 28.0, 27.1, 23.2, 23.1, 18.1, 17.1, 16.9, 15.5, 15.3.

18 β -Glycyrrhetyl vanillamide (2c). White powder: mp 152 °C; IR (KBr) 3440, 1647, 1516, 1466, 1387, 1277, 1207, 1038 cm^{-1} ; CIMS (isobutane) m/z 607 ($\text{C}_{38}\text{H}_{55}\text{NO}_5 + \text{H}$)⁺ (100); ^1H NMR (300 MHz, CDCl_3) δ 6.85 (d, 1H, $J = 8$ Hz), 6.80 (s, 1H), 6.76 (d, 1H, $J = 8$ Hz), 5.98 (br t, 1H, $J = 5.2$ Hz), 5.61 (s, 1H), 4.36 (t, 2H, $J = 5.2$ Hz), 3.88 (s, 3H), 3.18 (m, 1H), 2.73 (d, 1H, $J = 12.6$ Hz), 1.41 (s, 3H), 1.19 (s, 3H), 1.13 (s, 3H), 1.09 (s, 3H), 0.80 (s, 3H); ^{13}C NMR (75 Mz, CDCl_3) δ 200.0, 175.5, 169.1, 146.6, 144.9, 130.4, 128.2, 120.5, 114.4, 110.4, 78.6, 61.6, 55.7, 54.7, 48.0, 45.2, 43.4, 43.0, 39.0, 38.9, 36.8, 32.6, 31.7, 29.3, 28.3, 27.9, 27.0, 26.2, 23.1, 18.5, 17.3, 16.2, 15.4.

Cholyl vanillamide (2d). White powder: mp 178 °C; IR (KBr) 3560, 1725, 1649, 1605, 1516, 1375, 1277, 1155, 1078, 1038 cm^{-1} ; CIMS (isobutane) m/z 544 ($\text{C}_{32}\text{H}_{49}\text{NO}_6 + \text{H}$)⁺ (100); ^1H NMR (300 MHz, CDCl_3) δ 6.84 (d, 1H, $J = 8$ Hz), 6.80 (s, 1H), 6.76 (d, 1H, $J = 8$ Hz), 6.12 (br s, 1H), 4.33 (br s, 2H), 4.03 (m, 2H), 3.96 (br s), 3.87 (s, 3H), 1.01 (br d, 3H, $J = 6.1$ Hz), 0.89 (s, 3H), 0.67 (s, 3H); ^{13}C NMR (75 Mz, acetone- d_6) δ 172.6, 147.5, 145.4, 130.6, 119.7, 115.2, 111.7, 71.1, 70.6, 66.4, 55.6, 46.3, 45.8, 41.9, 41.6, 41.5, 38.7, 35.3, 35.0, 34.5, 32.7, 32.0, 26.3, 22.7, 17.2, 12.4.

Betullinyl vanillamide (2e). Amorphous; IR (KBr) 3453, 1655, 1637, 1508, 1420, 1263, 1209, 1155, 1034 cm^{-1} ; CIMS (isobutane) m/z 593 ($\text{C}_{38}\text{H}_{57}\text{NO}_4 + \text{H}$)⁺ (100); ^1H NMR (300 MHz, CDCl_3) δ 7.21 (d, 1H, $J = 8$ Hz), 6.87 (s, 1H), 6.79 (d, 1H, $J = 8$ Hz), 5.91 (br t, 1H, $J = 5.2$ Hz), 4.74 (br s, 1H), 4.59 (br s, 1H), 4.38 (d, 2H, $J = 5.2$ Hz), 3.84 (s, 3H), 3.20 (br m, 1H), 2.50 (br t, 1H, $J = 8.4$ Hz), 1.68 (br s, 3H), 0.96 (s, 6H), 0.91 (s, 3H), 0.81 (s, 3H), 0.76 (s, 3H); ^{13}C NMR (75 Mz, CDCl_3) δ 175.6, 150.4, 146.3, 145.4, 128.3, 121.8, 114.2, 111.1, 109.5, 78.8, 69.9, 65.6, 56.3, 55.7, 50.3, 49.2, 46.8, 42.2, 40.4, 38.6, 38.0, 37.0, 34.1, 32.0, 27.8, 25.3, 21.8, 20.7, 19.1, 18.1, 15.9, 15.6, 14.5.

Illicyl vanillamide (2f). White powder: mp 155 °C; IR (KBr) 3887, 1655, 1611, 1541, 1518, 1431, 1252, 1034 cm^{-1} ; CIMS (isobutane) m/z 388 ($\text{C}_{23}\text{H}_{33}\text{NO}_4 + \text{H}^+$) (25); ^1H NMR (300 MHz, CDCl_3) δ 6.76 (d, 1H, $J = 8$ Hz), 6.74 (s, 1H), 6.70 (d, 1H, $J = 8$ Hz), 6.44 (br t, 1H, $J = 5.4$ Hz), 5.41 (br s), 5.16 (br s), 4.31 (br d, 2H, $J = 5.4$), 3.87 (s, 3H), 2.02 (t, 4H, $J = 8.0$ Hz), 1.45 (btr m, 4 H), 1.11 (br s, 12H); ^{13}C NMR (75 Mz, acetone- d_6) δ 172.9, 148.3, 146.3, 131.3, 120.7, 116.0, 112.7, 56.4, 42.9, 36.2, 29.6, 29.5, 26.2, 17.1.

Azelayl vanillamide (3a). Amorphous foam. IR (KBr) 3450, 1605, 1518, 1466, 1277, 1248, 1155, 1128 cm^{-1} ; CIMS (isobutane) m/z 459 ($\text{C}_{25}\text{H}_{34}\text{N}_2\text{O}_6 + \text{H}^+$) (25); ^1H NMR (300 MHz, CDCl_3) δ 6.83 (d, 2H, $J = 8$ Hz), 6.80 (s, 2H), 6.75 (d, 2H, $J = 8$ Hz), 6.20 (br s, 1H), 5.41 (br s), 4.34 (br s, 4H), 3.88 (br s, 3H), 2.33 (br t, 4 H), 1.68 (br m, 6 H), 1.03 (br s, 4H); ^{13}C NMR (75 Mz, CDCl_3) δ 169.6, 146.6, 145.0, 129.7, 120.6, 114.3, 110.7, 67.8, 55.7, 43.5, 35.0, 28.7, 25.5, 15.1.

Sebacyl vanillamide (3b). White powder: mp 110 °C; IR (KBr) 3312, 1642, 1636, 1520, 1464, 1277, 1145, 1124, 1040 cm^{-1} ; CIMS (isobutane) m/z 473 ($\text{C}_{26}\text{H}_{36}\text{N}_2\text{O}_6 + \text{H}^+$) (25); ^1H NMR (300 MHz, CDCl_3) δ 6.75 (br t, 2H, $J = 5.2$ Hz), 6.73 (d, 2H, $J = 8$ Hz), 6.63 (s, 2H), 6.56 (d, 2H, $J = 8$ Hz), 5.41 (br s), 4.13 (br d, 4H, $J = 5.4$), 3.70 (br s, 3H), 1.01 (s, 3H), 0.80 (s, 3H); ^{13}C NMR (75 Mz, acetone- d_6) δ 169.6, 151.7, 148.2, 146.1, 131.5, 120.3, 116.0, 114.8, 112.1, 70.8, 64.0, 56.3, 54.9, 45.1, 44.0, 42.8, 34.9, 27.6, 26.4, 23.3, 20.6, 19.4, 17.1.

Eicosandionyl vanillamide (3c). Amorphous foam; IR (KBr) cm^{-1} ; CIMS (isobutane) m/z 613 ($\text{C}_{36}\text{H}_{56}\text{N}_2\text{O}_6 + \text{H}^+$) (100); ^1H NMR (300 MHz, CDCl_3) δ 6.86 (d, 2H, $J = 8$ Hz), 6.80 (s, 2H), 6.75 (d, 2H, $J = 8$ Hz), 5.88 (br t, 2H, $J = 5.4$ Hz), 4.34 (br d, 4H, $J = 5.4$), 3.86 (s, 6H), 2.20 (t, 4H, $J = 7.9$ Hz), 1.62 (m, 8H), 1.25 (br s, 24H);

(*E,Z*)-10-Eicosendionyl vanillamide (3d). Amorphous foam; IR (KBr) 3291, 1641, 1547, 1518, 1271, 1244, 1213, 1123, 1024 cm^{-1} ; CIMS (isobutane) m/z 611 ($\text{C}_{36}\text{H}_{54}\text{N}_2\text{O}_6 + \text{H}^+$) (100); ^1H NMR (300 MHz, CDCl_3) δ 6.85 (d, 2H, $J = 8$ Hz), 6.80 (s, 2H), 6.75 (d, 2H, $J = 8$ Hz), 5.77 (br t, 2H, $J = 5.4$ Hz), 5.37 (br s, 2H), 4.35 (br d, 4H, $J = 5.4$), 3.87 (s, 6H), 2.19 (t, 4H, $J = 7.9$ Hz), 1.97 (m, 4H),

1.65 (br m, 8H), 1.28 (br s, 20H); ^{13}C NMR (75 Mz, CDCl_3) δ 173.0, 146.6, 144.9, 130.2, 130.1, 129.7, 120.5, 114.2, 110.6, 55.7, 43.3, 36.6, 32.3, 29.5, 29.3, 29.1, 29.1, 29.0, 28.8, 26.9, 25.6.

Cis-endonorbornenedicarboxylic acid bis-vanillamide (4a). Amorphous foam; IR (KBr) 3410, 1655, 1508, 1275, 1154, 1125, 1032, 970 cm^{-1} ; CIMS (isobutane) m/z 453 ($\text{C}_{25}\text{H}_{28}\text{N}_2\text{O}_6 + \text{H}$) $^+$ (100); ^1H NMR (300 MHz, CDCl_3) δ 7.02 (br s, 2H), 6.77 (d, 2H, $J = 8$ Hz), 6.65 (s, 2H), 6.61 (d, 2H, $J = 8$ Hz), 6.31 (d, 2H, $J = 1.5$ Hz), 4.11 (br d, 4H, $J = 5.4$), 3.87 (s, 6H), 3.36 (br s, 2H), 3.10 (br s, 2H), 2.04 (br d, $J = 1.8$ Hz, 2H), ca.1.30 (m, 2H); ^{13}C NMR (75 Mz, CDCl_3) δ 172.8, 145.6, 144.7, 135.4, 129.6, 120.2, 114.3, 110.5, 55.6, 51.6, 47.0, 43.2.

(±)-Trans-norbornenedicarboxylic acid bis-vanillamide (4b). White powder: mp 70 °C; IR (KBr) 3346, 1714, 1651, 1614, 1540, 1433, 1275, 1240, 1211, 1034 cm^{-1} ; CIMS (isobutane) m/z 453 ($\text{C}_{25}\text{H}_{28}\text{N}_2\text{O}_6 + \text{H}$) $^+$ (100); ^1H NMR (300 MHz, CDCl_3) δ 6.80 – 6.50 (overlapped m, 6H), 6.27 (br s, 1H), 6.13 (br s, 1H), ca. 4.24 (br m, 4H), 3.79 (s, 6H), 3.78 (s, 3H), 3.14 (m 2H), 2.54 (dd, 1H, $J = 5.4, 1.8$ Hz), 1.81 (d, 1H, $J = 5.9$ Hz), 1.52 (br d, 1H, $J = 5.9$ Hz); 1.22 (m 1H); ^{13}C NMR (75 Mz, CDCl_3) δ 174.4, 173.3, 146.6, 146.5, 144.8, 137.9, 134.2, 130.1, 129.9, 120.3, 120.2, 114.6, 110.4, 110.3, 55.7, 50.3, 48.3, 46.2, 44.9, 43.3, 26.9.