Supplementary Table 1 Synthesis of compounds

Compound No.	Compound Name Chemical data
2	**(E)-3-[2,4-Bis(benzyloxy)phenyl] acrylic acid.** 1.04 g as a brown white powder, 92% yield: ^{1}H-NMR (400 MHz, CDCl3, TMS) δ: 5.04 (s, 2H), 5.12 (s, 2H), 6.45 (d, J = 16 Hz, 1H), 6.57 (br s, 1H), 6.58 (d, J = 8 Hz, 1H), 7.3-7.45 (m, 10H), 7.48 (d, J = 8.3 Hz, 1H), 8.07 (d, J = 16 Hz, 1H). MS (ESI$^-$) m/z 359 (M-1), MS (ESI$^+$) m/z 361 (M+1). TLC Rf (hexane/ethyl acetate = 1/1) = 0.45.
3	**(E)-4-[2,4-Bis(benzyloxy) phenyl]but-3-enoic acid.** 362 mg as a white powder, 62% yield: ^{1}H-NMR (400 MHz, CDCl3, TMS) δ: 3.28 (dd, J = 1.4, 7.2 Hz, 2H), 5.03 (s, 2H), 5.05 (s, 2H), 6.20 (dt, J = 7.2, 16 Hz, 1H), 6.56 (dd, J = 2.4, 8 Hz, 1H), 6.57 (br s, 1H), 6.80 (d, J = 16 Hz, 1H), 7.3-7.45 (m, 11H). MS (ESI$^-$) m/z 373 (M-1), MS (ESI$^+$) m/z 375 (M+1). TLC Rf (hexane/ethyl acetate = 1/1) = 0.34.
4	**(E)-5-[2,4-Bis(benzyloxy) phenyl]pent-4-enoic acid.** 503 mg as a white powder, 82% yield: ^{1}H-NMR (400 MHz, $CDCl_3$, TMS) δ: 2.51 (m, 4H), 5.03 (s, 2H), 5.04 (s, 2H), 6.11 (m, 1H), 6.55 (dd, J = 2.3, 8.4 Hz, 1H), 6.57 (d, J = 2.3 Hz, 1H), 6.73 (d, J = 16 Hz, 1H), 7.3-7.45 (m, 11H). MS (ESI$^-$) m/z 387 (M-1), MS (ESI$^+$) m/z 389 (M+1). TLC Rf (hexane/ethyl acetate = 1/1) = 0.45.
5	**(E)-6-[2,4-Bis(benzyloxy) phenyl]hex-5-enoic acid**. 480 mg as a yellow viscous material, 76% yield: ^{1}H-NMR (400 MHz, CDCl3, TMS) δ: 1.79 (tt, J = 7.2, 7.4 Hz, 2H), 2.25 (dt, J = 7.0, 7.2 Hz, 2H), 2.39 (t, J = 7.4 Hz, 2H), 5.02 (s, 2H), 5.04 (s, 2H), 6.07 (dt, J = 7.0, 16 Hz, 1H), 6.55 (br d, J = 8 Hz, 1H), 6.56 (br s, 1H), 6.68 (d, J = 16 Hz, 1H), 7.28-7.44 (m, 11H). MS (ESI$^-$) m/z 401 (M-1), MS (ESI$^+$) m/z 403 (M+1). TLC Rf (hexane/ethyl acetate = 1/1) = 0.48.
E-C2	**Ethyl 3-(2,4-dihydroxyphenyl) propionate**. 33.2 mg as a slightly red white powder, 58% yield in 2 steps from **2** 100 mg (0.277 mmol): ^{1}H-NMR (400 MHz, CDCl3, TMS) δ: 1.24 (t, J = 7.2 Hz, 3H), 2.67 (t, J = 6 Hz, 2H), 2.82 (t, J = 6 Hz, 2H), 4.15 (q, J = 7.2 Hz, 2H), 5.12 (s, 1H,

	OH), 6.37 (dd, J = 2.5, 8.2 Hz, 1H), 6.41 (d, J = 2.5 Hz, 1H), 6.92 (d, J = 8.2 Hz, 1H), 7.54 (s, 1H, OH). MS (ESI-) m/z 209 (M-1). TLC Rf (hexane/ethyl acetate = 1/1) = 0.37.
E-C3	**Ethyl 4-(2,4-dihydroxyphenyl) butanoate**. 5.7 mg as a viscous material, 64% yield in 2 steps from **3** 15.0 mg (0.0400 mmol): ^{1}H-NMR (270 MHz, CDCl3, TMS) δ: 1.28 (t, J = 7.2 Hz, 3H), 1.84 (m, 2H), 2.37 (t, J = 6.5 Hz, 2H), 2.56 (t, J = 7.7 Hz, 2H), 4.18 (q, J = 7.2 Hz, 2H), 6.32 (dd, J = 2.4, 8.1 Hz, 1H), 6.38 (d, J = 2.4 Hz, 1H), 6.90 (d, J = 8.2 Hz, 1H). MS (ESI-) m/z 223 (M-1). TLC Rf (hexane/ethyl acetate = 1/1) = 0.46.
E-C4	**Ethyl 5-(2,4-dihydroxyphenyl) pentanoate**. 5.9 mg as a viscous material, 62% yield in 2 steps from **4** 15.5 mg (0.0400 mmol): ^{1}H-NMR (270 MHz, CDCl3, TMS) δ: 1.25 (t, J = 7.1 Hz, 3H), 1.53-1.75 (m, 4H), 2.35 (t, J = 7.1 Hz, 2H), 2.54 (t, J = 7.3 Hz, 2H), 4.13 (q, J = 7.1 Hz, 2H), 6.32 (br s, 1H), 6.33 (dd, J = 2, 8 Hz, 1H), 6.92 (d, J = 8.3 Hz, 1H). MS (ESI-) m/z 237 (M-1). TLC Rf (hexane/ethyl acetate = 1/1) = 0.48.
E-C5	**Ethyl 6-(2,4-dihydroxyphenyl) hexanoate**. 5.9 mg as a viscous material, 58% yield in 2 steps from 5 16.1 mg (0.0400 mmol): ^{1}H-NMR (270 MHz, CDCl3, TMS) δ: 1.24 (t, J = 7.1 Hz, 3H), 1.36 (m, 2H), 1.57 (m, 2H), 1.66 (m, 2H), 2.30 (t, J = 7.4 Hz, 2H), 2.51 (t, J = 7.6 Hz, 2H), 4.12 (q, J = 7.1 Hz, 2H), 6.32 (br s, 1H), 6.34 (dd, J = 2, 8 Hz, 1H), 6.91 (d, J = 8.1 Hz, 1H). MS (ESI-) m/z 251 (M-1). TLC Rf (hexane/ethyl acetate = 1/1) = 0.52.
A-C2	**6-O-[3-(2,4-Dihydroxyphenyl) propanoyl]-L-ascorbic acid**. 71.1 mg as a viscous material, 40% yield in 2 steps from **2** 186 mg (0.516 mmol) and 2,3-O-dibenzyl-L-ascorbic acid (1.5 eq): ^{1}H-NMR (400 MHz, d-DMSO, TMS) δ: 2.51 (m, 2H), 2.67 (t, J = 7.6 Hz, 2H), 3.97 (br s, 1H), 4.05 (m, 2H), 4.68 (d, J = 1.6 Hz, 1H), 5.34 (br s, 1H, OH), 6.11 (dd, J = 2.4, 8.1 Hz, 1H), 6.26 (d, J = 2.4 Hz, 1H), 6.81 (d, J = 8.1 Hz, 1H), 8.41 (br s, 1H, OH), 9.00 (s, 1H, OH), 9.21 (s, 1H, OH), 11.13 (br s, 1H, OH). MS (ESI-) m/z 339 (M-1), MS (ESI+) m/z 341 (M+1). TLC Rf (chloroform/methanol = 1/1) = 0.51.
A-C3	**6-O-[4-(2,4-Dihydroxyphenyl) butanoyl]-L-ascorbic acid**. 47.1 mg as a viscous material, 26% yield in 2 steps from **3** 193 mg (0.515 mmol) and 2,3-O-dibenzyl-L-ascorbic acid (1.5 eq): ^{1}H-NMR (400 MHz, d-DMSO, TMS) δ: 1.73 (tt, J = 7.5 Hz, 2H), 2.29 (t, J = 7.5 Hz, 2H), 2.41 (t, J = 7.5 Hz, 2H), 3.96 (br s, 1H), 4.06 (m, 2H), 4.68 (d, J = 1.5 Hz, 1H), 5.32 (br s, 1H, OH), 6.12 (dd, J = 2.3, 8.0 Hz, 1H), 6.25 (d, J = 2.3 Hz, 1H), 6.77 (d, J = 8.0 Hz,

	1H), 8.40 (br s, 1H, OH), 8.95 (s, 1H, OH), 9.06 (s, 1H, OH), 11.11 (br s, 1H, OH). MS (ESI^-) m/z 353 (M-1), MS (ESI^+) m/z 355 (M+1). TLC Rf (chloroform/methanol = 1/1) = 0.54.
A-C4	**6-O-[5-(2,4-Dihydroxyphenyl) pentanoyl]-L-ascorbic acid**. 87.8 mg as a viscous material, 46% yield in 2 steps from **4** 200 mg (0.515 mmol) and 2,3-O-dibenzyl-L-ascorbic acid (1.5 eq): ^{1}H-NMR (400 MHz, d-DMSO, TMS) δ: 1.49 (m, 4H), 2.33 (t, J = 7.1 Hz, 2H), 2.39 (t, J = 7.0 Hz, 2H), 3.96 (br s, 1H), 4.05 (m, 2H), 4.68 (d, J = 1.7 Hz, 1H), 5.30 (br s, 1H, OH), 6.11 (dd, J = 2.4, 8.1 Hz, 1H), 6.24 (d, J = 2.4 Hz, 1H), 6.77 (d, J = 8.1 Hz, 1H), 8.39 (br s, 1H, OH), 8.90 (s, 1H, OH), 9.00 (s, 1H, OH), 11.09 (br s, 1H, OH). MS (ESI^-) m/z 367 (M-1), MS (ESI^+) m/z 369 (M+1). TLC Rf (chloroform/methanol = 1/1) = 0.57.
A-C5	**6-O-[6-(2,4-Dihydroxyphenyl) hexanoyl]-L-ascorbic acid**. 83.4 mg as a viscous material, 42% yield in 2 steps from **5** 207 mg (0.514 mmol) and 2,3-O-dibenzyl-L-ascorbic acid (1.5 eq): ^{1}H-NMR (400 MHz, d-DMSO, TMS) δ: 1.27 (m, 2H), 1.45 (m, 2H), 1.55 (m, 2H), 2.31 (t, J = 7.5 Hz, 2H), 2.37 (t, J = 7.6 Hz, 2H), 3.97 (br s, 1H), 4.06 (m, 2H), 4.68 (d, J = 1.7 Hz, 1H), 5.31 (br d, J = 6 Hz, 1H, OH), 6.10 (dd, J = 2.4, 8.1 Hz, 1H), 6.24 (d, J = 2.4 Hz, 1H), 6.76 (d, J = 8.1 Hz, 1H), 8.39 (br s, 1H, OH), 8.89 (s, 1H, OH), 8.98 (s, 1H, OH), 11.10 (br s, 1H, OH). MS (ESI^-) m/z 381 (M-1), MS (ESI^+) m/z 383 (M+1). TLC Rf (chloroform/methanol = 1/1) = 0.60.
G-C2	**1-O-[3-(2,4-Dihydroxyphenyl) propanoyl]glycerol**. 43.4 mg as a viscous material, 56% yield in 2 steps from **2** 108 mg (0.300 mmol) and glycerol (3 eq): ^{1}H-NMR (270 MHz, d-DMSO, TMS) δ: 2.46 (m, 2H), 2.64 (t, J = 7.1 Hz, 2H), 3.2-3.5 (m, 2H), 3.61 (m, 1H), 3.87 (dd, J = 6.5, 11.1 Hz, 1H), 4.01 (dd, J = 4.2, 11.1 Hz, 1H), 4.62 (t, J = 5.7 Hz, 1H, OH), 4.87 (d, J = 5.2 Hz, 1H, OH), 6.09 (dd, J = 2.3, 8.2 Hz, 1H), 6.24 (d, J = 2.3 Hz, 1H), 6.79 (d, J = 8.2 Hz, 1H), 8.98 (br s, 1H, OH), 9.18 (s, 1H, OH). MS (ESI^-) m/z 255 (M-1), MS (ESI^+) m/z 257 (M+1). TLC Rf (chloroform/methanol = 1/1) = 0.76.
G-C3	**1-O-[4-(2,4-Dihydroxyphenyl) butanoyl] glycerol**. 21.6 mg as a viscous material, 27% yield in 2 steps from **3** 112 mg (0.300 mmol) and glycerol (3 eq): ^{1}H-NMR (270 MHz, d-DMSO, TMS) δ: 1.71 (m, 2H), 2.25 (t, J = 7.6 Hz, 2H), 2.40 (t, J = 7.4 Hz, 2H), 3.2-3.5 (m, 2H), 3.62 (m, 1H), 3.89 (dd, J = 6.5, 11.1 Hz, 1H), 4.02 (dd, J = 4.2, 11.1 Hz, 1H), 4.62 (t, J = 5.7 Hz, 1H, OH), 4.86 (d, J = 5.2 Hz, 1H, OH), 6.11 (dd, J = 2.4, 8.1 Hz, 1H),

	6.25 (d, J = 2.4 Hz, 1H), 6.77 (d, J = 8.1 Hz, 1H), 8.95 (br s, 1H, OH), 9.04 (s, 1H, OH). MS (ESI-) m/z 269 (M-1), MS (ESI+) m/z 271 (M+1). TLC Rf (chloroform/methanol = 1/1) = 0.78.
G-C4	**1-O-[5-(2,4-Dihydroxyphenyl) pentanoyl] glycerol**. 30.7 mg as a viscous material, 36% yield in 2 steps from **4** 116 mg (0.300 mmol) and glycerol (3 eq): ^{1}H-NMR (270 MHz, d-DMSO, TMS) δ: 1.49 (m, 4H), 2.30 (t, J = 6.9 Hz, 2H), 2.38 (t, J = 7.0 Hz, 2H), 3.2-3.5 (m, 2H), 3.62 (m, 1H), 3.88 (dd, J = 6.5, 11.1 Hz, 1H), 4.03 (dd, J = 4.2, 11.1 Hz, 1H), 4.63 (t, J = 5.6 Hz, 1H, OH), 4.87 (d, J = 5.1 Hz, 1H, OH), 6.10 (dd, J = 2.2, 8.1 Hz, 1H), 6.24 (d, J = 2.2 Hz, 1H), 6.77 (d, J = 8.1 Hz, 1H), 8.91 (br s, 1H, OH), 9.00 (s, 1H, OH). MS (ESI^-) m/z 283 (M-1), MS (ESI^+) m/z 285 (M+1). TLC Rf (chloroform/methanol = 1/1) = 0.79.
G-C5	**1-O-[6-(2,4-Dihydroxyphenyl) hexanoyl] glycerol**. 29.4 mg as a viscous material, 33% yield in 2 steps from **5** 121 mg (0.300 mmol) and glycerol (3 eq): ^{1}H-NMR (270 MHz, d-DMSO, TMS) δ: 1.26 (m, 2H), 1.45 (m, 2H), 1.53 (m, 2H), 2.28 (t, J = 7.4 Hz, 2H), 2.36 (t, J = 7.5 Hz, 2H), 3.2-3.5 (m, 2H), 3.62 (m, 1H), 3.89 (dd, J = 6.4, 11.1 Hz, 1H), 4.03 (dd, J = 4.2, 11.1 Hz, 1H), 4.63 (t, J = 5.7 Hz, 1H, OH), 4.87 (d, J = 5.1 Hz, 1H, OH), 6.10 (dd, J = 2.3, 8.1 Hz, 1H), 6.23 (d, J = 2.3 Hz, 1H), 6.76 (d, J = 8.1 Hz, 1H), 8.90 (br s, 1H, OH),8.99 (s, 1H, OH). MS (ESI^-) m/z 297 (M-1), MS (ESI^+) m/z 299 (M+1). TLC Rf (chloroform/methanol = 1/1) = 0.80.