*Supplementary material*

# Stability and Photoisomerization of Stilbenes Isolated From the Bark of Norway Spruce Roots

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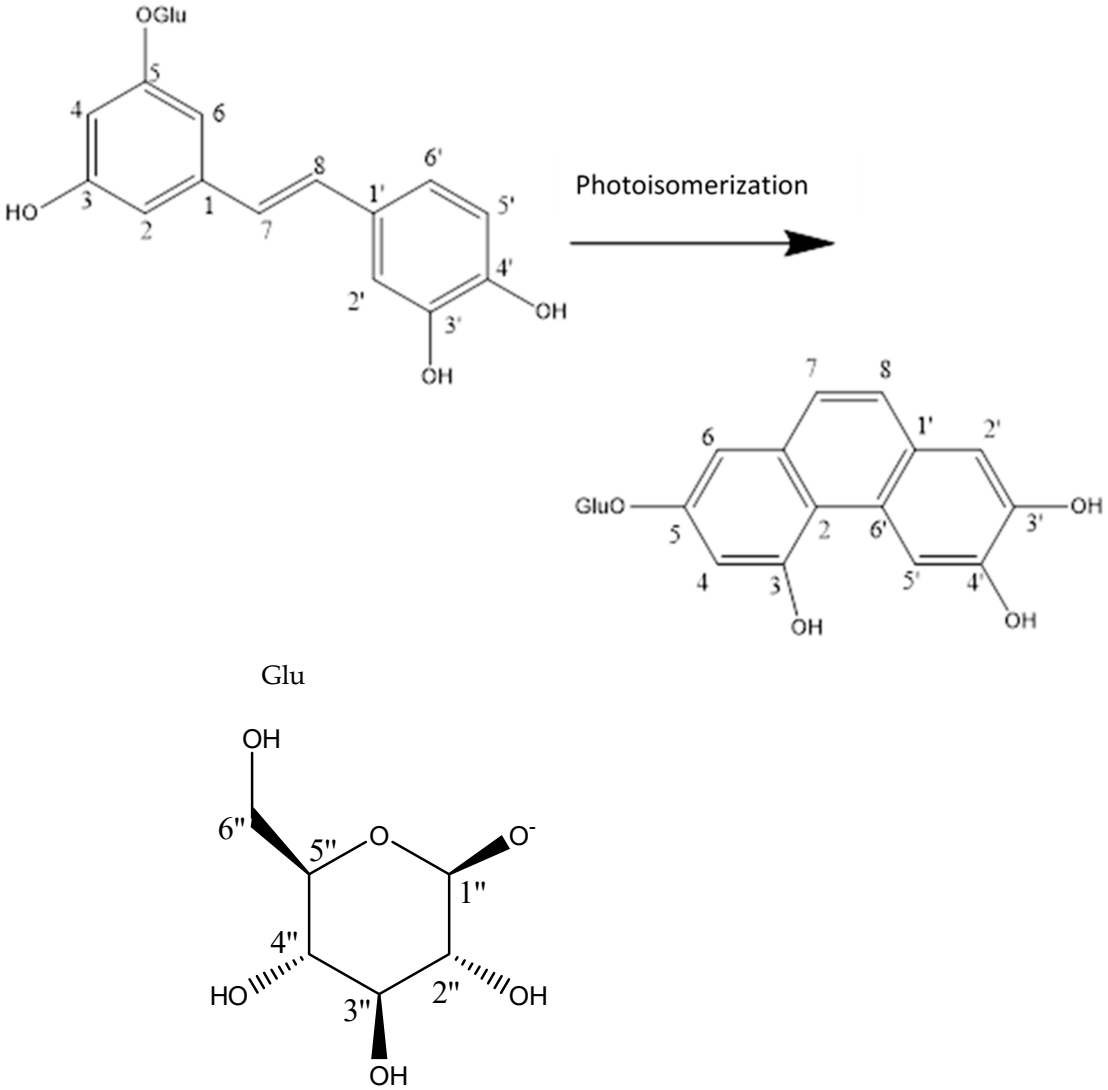


**Figure S1.** F3.2 fraction: The phenanthrene structure formed in the photoisomerization of *trans* – isorhapotin.

The NMR analyses were performed by Bruker Avance III 500 MHz and Varian Mercury 300 MHz spectrometers. The 1H and 13C spectra were recorded in CD3OD (300

MHz, 500MHz). 1H and 13C chemical shifts were referenced to solvent signals of CD3OD, δ ($^{1}$H) = 3.31 ppm and δ ($^{13}$C) = 49.86 ppm.

**F1.2** $^{1}$H-NMR (300 MHz, $CD_3OD$): 9,01 (H-5′, 1H, s), 7.44 (H-8, 1H, d, J= 9Hz), 7.32 (H-7, 1H, d, J= 9Hz), 7.13 (H-2′, 1H, s), 6.97 (H-6, 1H, d, J= 2.5 Hz), 6.84 (H-4, 1H, d, J=2.5 Hz), 5.26 (1 H, d, J=7.8 Hz); $^{13}$C -NMR (500 MHz, $CD_3OD$) 136.40 (C-1), 128.53 (C-2), 156.04 (C-3), 103.45 (C-4), 158.19 (C-5), 107.31 (C-6), 125.12 (C-7), 128.36 (C-8), 126.06 (C-1′), 116.06 (C-2′), 146.40 (C-3′), 145.62 (C-4′), 113.04 (C-5′), 114.33 (C-6′), 102.72 (C-1″), 75.01 (C-2″), 78.45 (C-3″), 78.72 (C-4″), 71.38 (C-5″), 62.60 (C-6″).

**F1.3** $^{1}$H-NMR (300 MHz, $CD_3OD$): 6.75 (H-2′, 1H,d, J= 1.8Hz,), 6.66 (H-5′, 1H, d, J=8.2 HZ), 6.61 (H-6′, 1H, dd, J=8.2, 1.8 Hz), 6.55 (H-2, 1H, br s), 6.44 (H-7, 1H, d, J= 12.4 Hz), 6.39 (H-6, 1H, br s), 6.73 (H-4, 1H, t, J=2.1 Hz), 6.33 (H-8, 1H, d, 12.4 Hz), 4.67 (H-1″, 1H, d, J= 7.7 Hz); $^{13}$C -NMR (500 MHz, $CD_3OD$) 141.80 (C-1), 110.04 (C-2), 160.93 (C-3), 104.96 (C-4), 160.93 (C-5), 112.22 (C-6), 131.42 (C-7), 129.97 (C-8), 132.46 (C-1′), 117.04 (C-2′), 146.72 (C-3′), 147.69 (C-4′), 117.84 (C-5′), 123.06 (C-6′), 103.34 (C-1″), 75.70 (C-2″), 78.57 (C-3″), 71.83 (C-4″), 78.79 (C-5″), 62.99 (C-6″).

**F.3.2** $^{1}$H-NMR (500 MHz, $CD_3OD$): 9.17 (H-5′, 1H, s), 7.57 (H-8, 1H, d, J= 8.5 Hz), 7.44 (H-7, 1H, d= 8.5 Hz), 7.28 (H-2′, 1H, s), 7.04 (H-4, 1H, d, J= 2.25 Hz), 6.85 (H-6, 1H, d= 2.25 Hz), 5.04 (H-1″, 1H, d, J= 7.5Hz), 3.99 ($OCH_3$, 3H, s); $^{13}$C -NMR (500 MHz, $CD_3OD$) 137.11 (C-1), 128.02 (C-2), 157.48 (C-3), 104.70 (C-4), 159.13 (C-5), 106.95 (C-6), 126.46 (C-7), 128.97 (C-8), 129.23 (C-1′), 115.01 (C-2′), 148.92 (C-3′), 147.78 (C-4′), 117.27 (C-5′), 110.10 (C-6′), 103.23 (C-1″), 75.86 (C-2″), 79.00 (C-3″), 79.13 (C-4″), 72.36 (C-5″), 63.51 (C-6″), 56.99 ($OCH_3$).

**F3.4** $^{1}$H-NMR (500 MHz, $CD_3OD$): 6.85 (H-2′, d, J=2.0Hz), 6.72 (H-6′, dd, J= 8.0, 1.5 Hz), 6.68 (H-5′, d, J=8.0Hz), 6.53 (H-4, br, s), 6.48 (H-8, d, J= 12.3 Hz), 6.42 (H-6, br, s), 6.41 (H-2, br, s), 6.39 (H-7, d, J= 12.3 Hz), 4.71 (H-1″, d, J=7.0 Hz), 3.78 & 3.70 (H-6″, dd, J=12.3, 2.25), 3.63 ($OCH_3$, 3H, s))3.46 (H-4″, m) 3.41-3.37 (H-2″, overlap), 3.35 (H-5″, overlap), 3.25 (H-3″, m); $^{13}$C-NMR (500 MHz, $CD_3OD$) 142.03 (C-1), 104.79 (C-2), 160.25 (C-3), 110.15 (C-4), 161.08 (C-5), 111.94 (C-6), 129.98 (C-7), 131.09 (C-8), 132.37 (C-1′), 114.26 (C-2′), 149.27 (C-3′), 147.90 (C-4′), 116.83 (C-5′), 124.50 (C-6′), 103.28 (C-1″), 75.66 (C-2″), 78.71 (C-3″), 78.78 (C-4″), 71.93 (C-5″), 63.10 (C-6″), 61.34 ($OCH_3$, 3H, s)).

**F3.5** $^{1}$H-NMR (500 MHz, $CD_3OD$): 7.45 (H-6′, 2H, d, J= 8.5Hz), 7.45 (H-8, 2H, d, J= 8.8 Hz), 7.26 (H-7, 1H, d, J=8.8. Hz), 7.13 (H-5′, 1H, d, J=8.5 Hz), 6.86 (H-4, 1H, d, J= 2.4 Hz), 6.83 (H-6, 1H, d, J=2.4 Hz), 5.22 (H-1″, 1H, J=7.5Hz), 3.48 ($OCH_3$, 3H, s) ; $^{13}$C-NMR (500 MHz, $CD_3OD$) 138.67 (C-1), 113.90 (C-2), 157.66 (C-3), 103.70 (C-4), 159.02 (C-5), 106.64 (C-6), 124.61 (C-7), 129.51 (C-8), 130.0 (C-1′), 125.33 (C-2′), 151.23 (C-3′), 145.38 (C-4′), 117.59 (C-5′), 126.11 (C-6′), 102.39 (C-1″), 75.80 (C-2″), 79.10 (C-3″), 78.51 (C-4″), 72.16 (C-5″), 63.33 (C-6″), 61.34 ($OCH_3$, 3H, s).