

Figure S1. MultiAlin output of CO1 PCR product indicated as C7_dgLCO1490/dgHCO21 aligned to the BLAST highly similar sequence of the strain *Hemimyscale topsenti* (Burton, 1929) (LN850246.1).

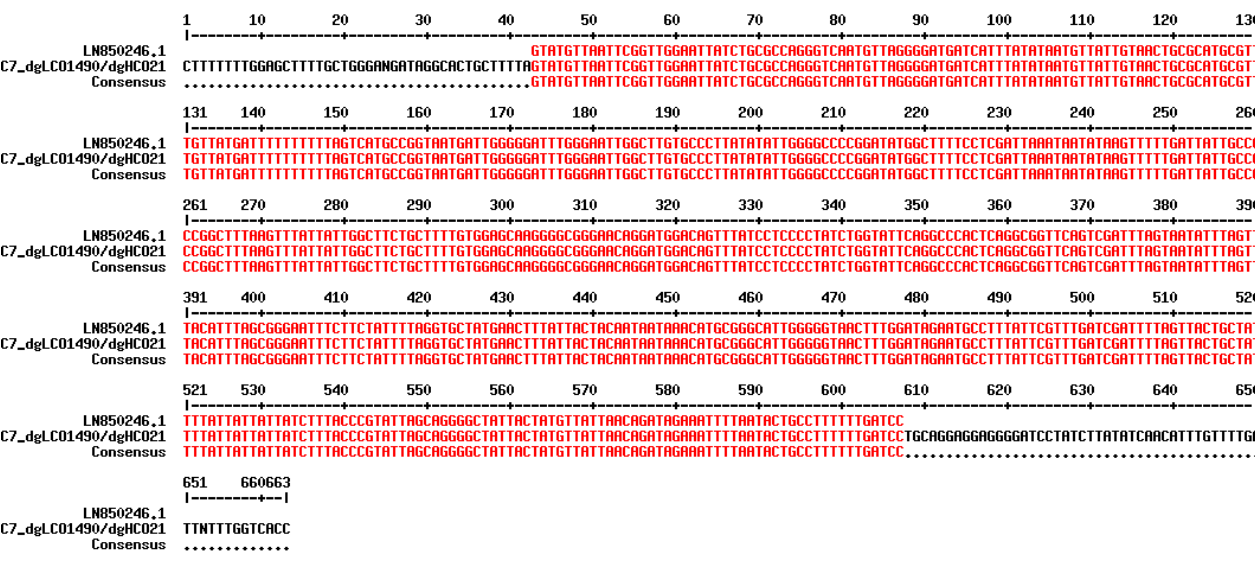


Figure S2. Cell viability assay. The figure shows the effects on cell-viability of fractions (B green bars; C blue bars ; D yellow bars; E red bars) or total extracts (Ex, black bars) of the samples (a) M.a., (b) H. d., (c) H.t. and (d) H. p. on A2058, A549 and HepG2 cell lines at increasing concentrations (10 and 100 ng/mL and 1, 10 and 100 μ g/mL). Cell viability was normalized using cells with only DMSO as control sample. Results are expressed as percent survival after 72 h exposure (n = 3; * for p<0,05; ** for p < 0.01 and *** for p < 0.001, Student's t-test).

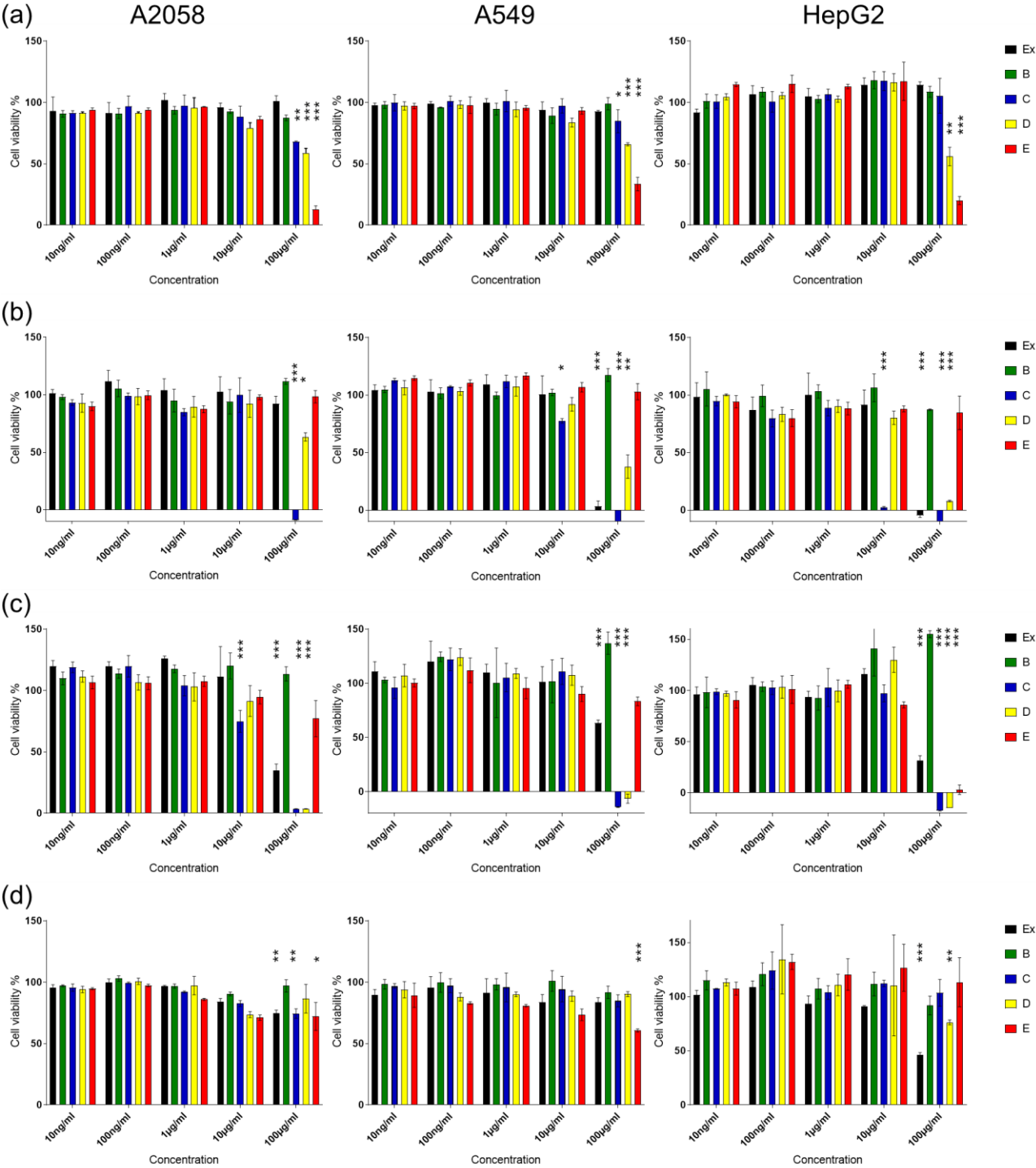


Figure S3. ^1H NMR spectrum of fraction D of the sponge *H. t.* (600 MHz, CDCl_3).

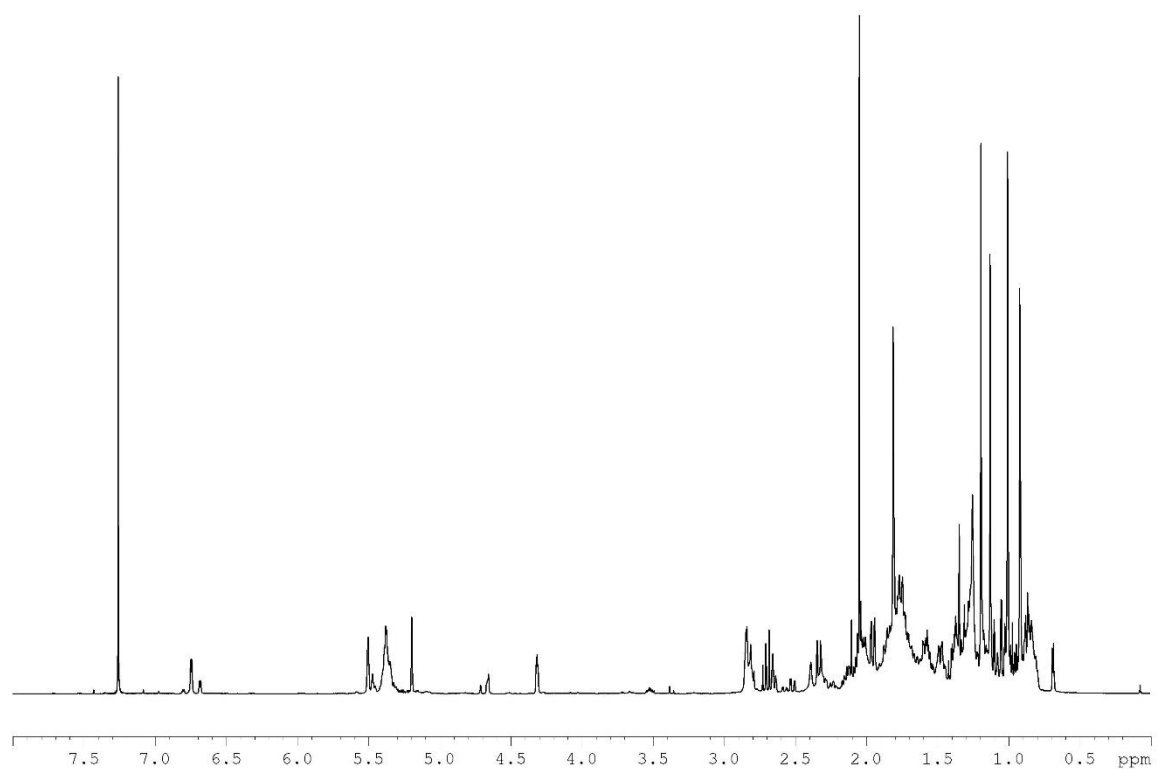


Figure S4. ^1H NMR spectrum of suberitenone A **1** (600 MHz, CDCl_3).

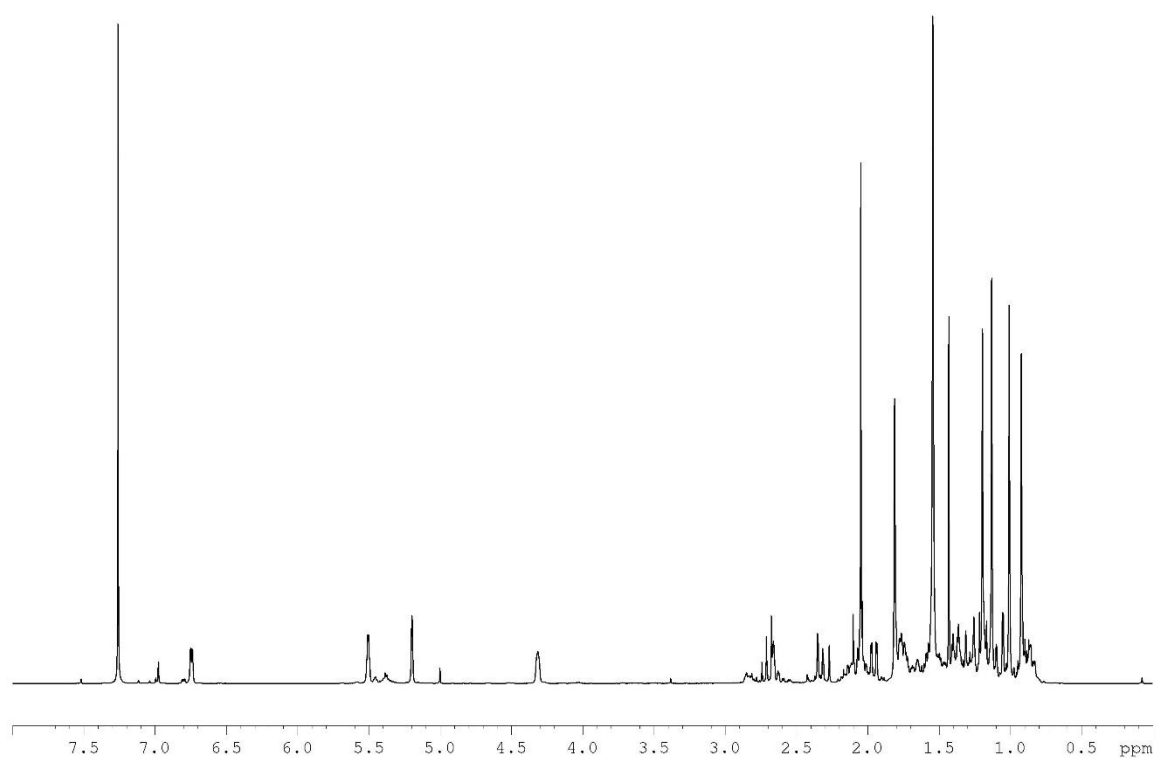


Figure S5. ^1H NMR spectrum of suberitenone B **2** (600 MHz, CDCl_3).

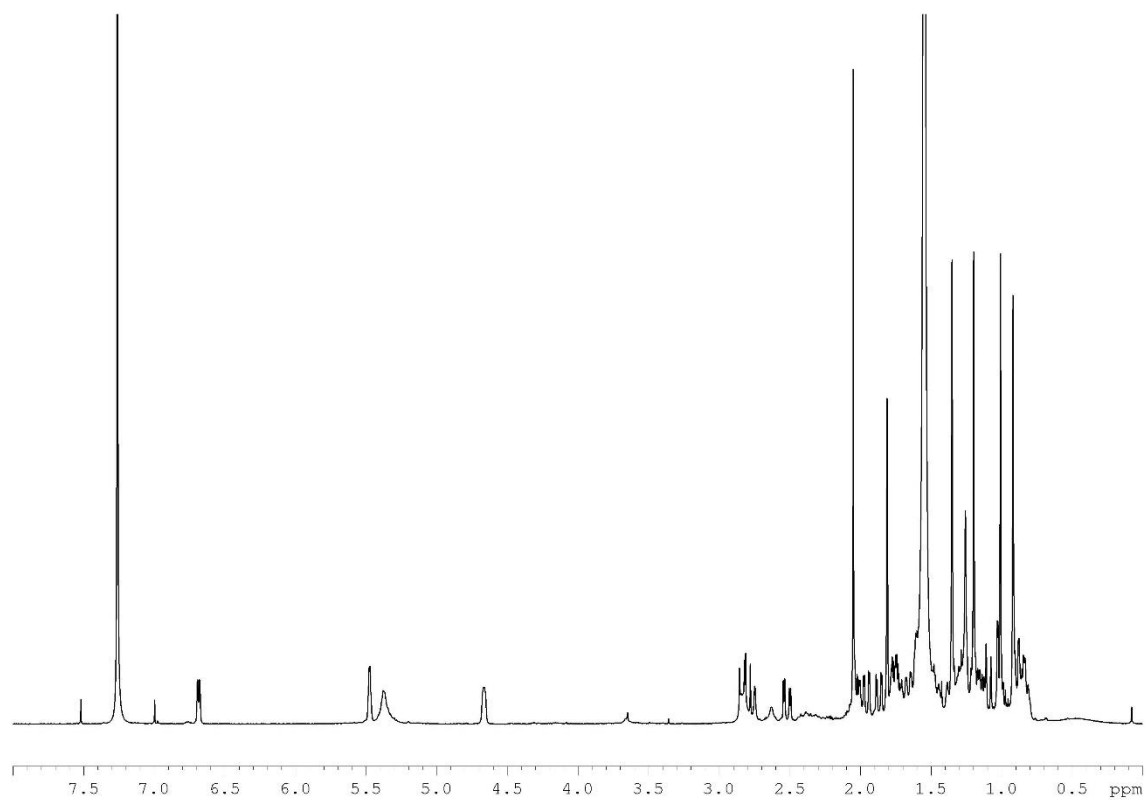


Figure S6. ESI⁺-MS spectrum of suberitenone A **1** (m/z [M+Na]⁺ 451.29).

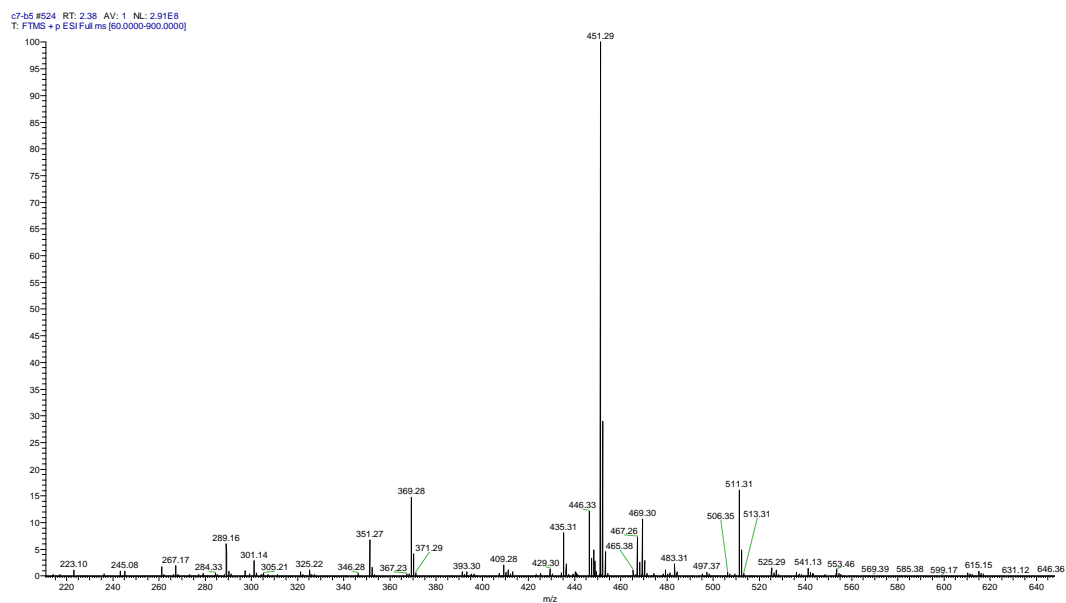


Figure S7. ESI⁺-MS spectrum of suberitenone B **2** (m/z [M+Na]⁺ 469.30).

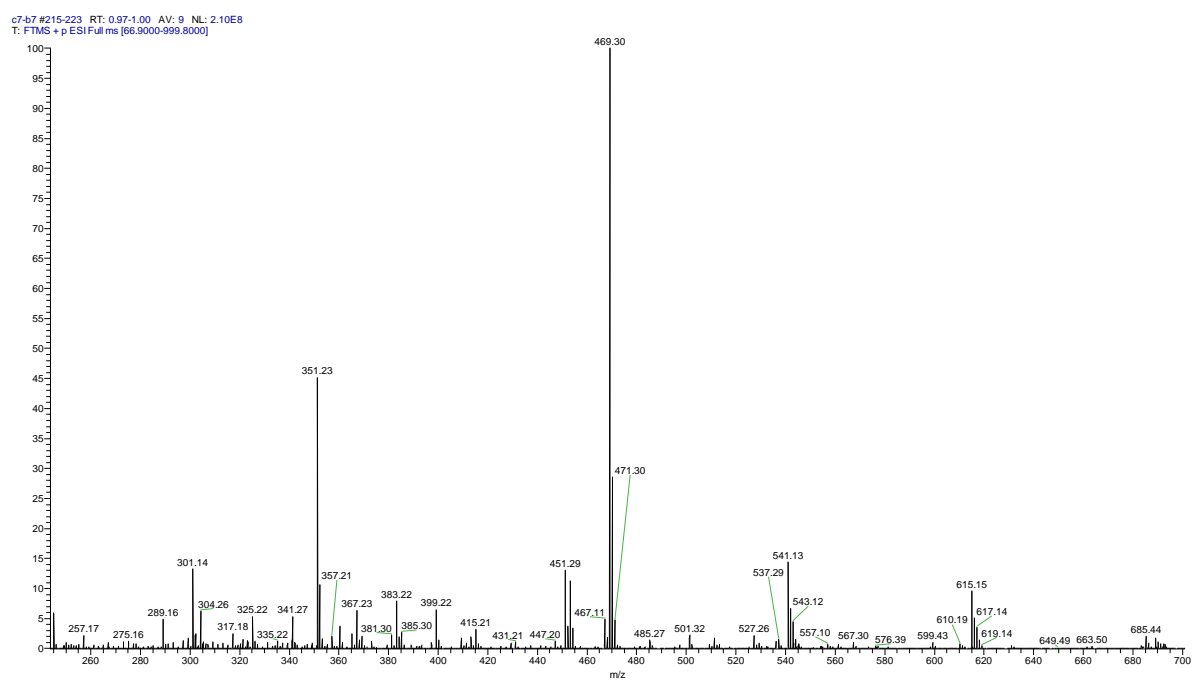


Figure S8. ^1H NMR spectrum of fraction C of the sponge H. d. (600 MHz, CD_3OD).

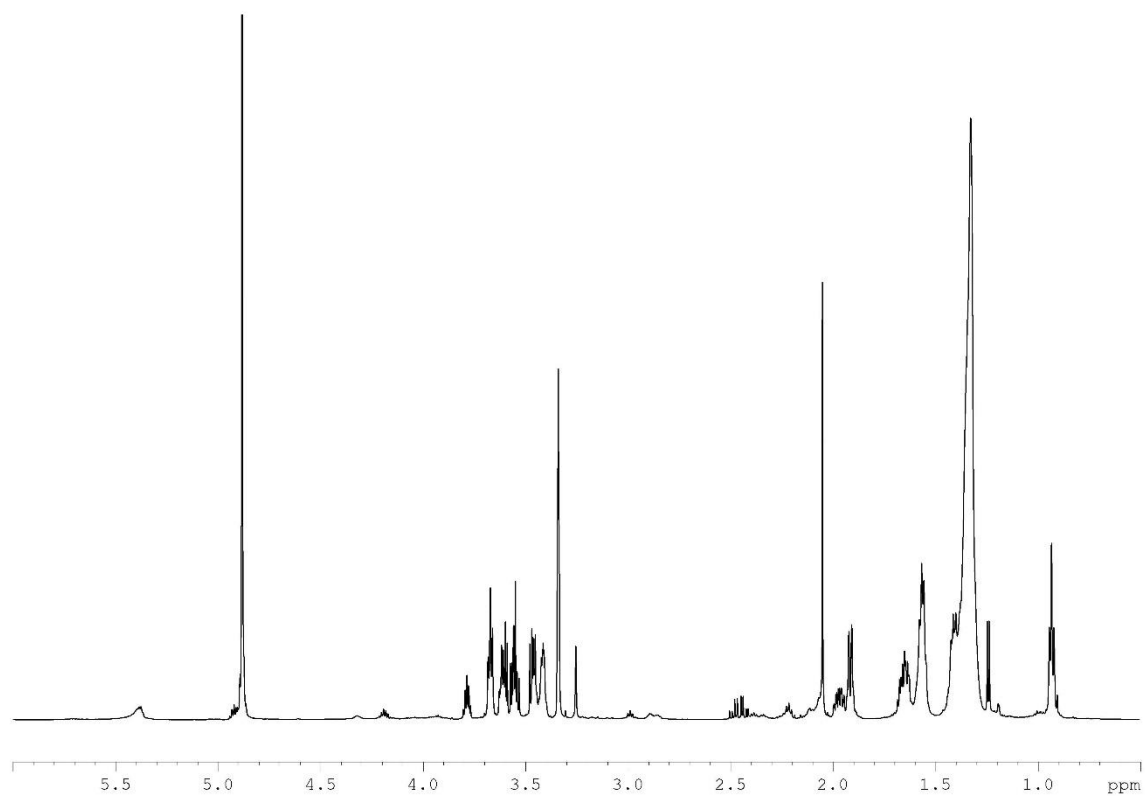


Figure S9. ^1H NMR spectrum of purified fraction containing mycalols (600 MHz, $\text{C}_6\text{D}_5\text{N}$).

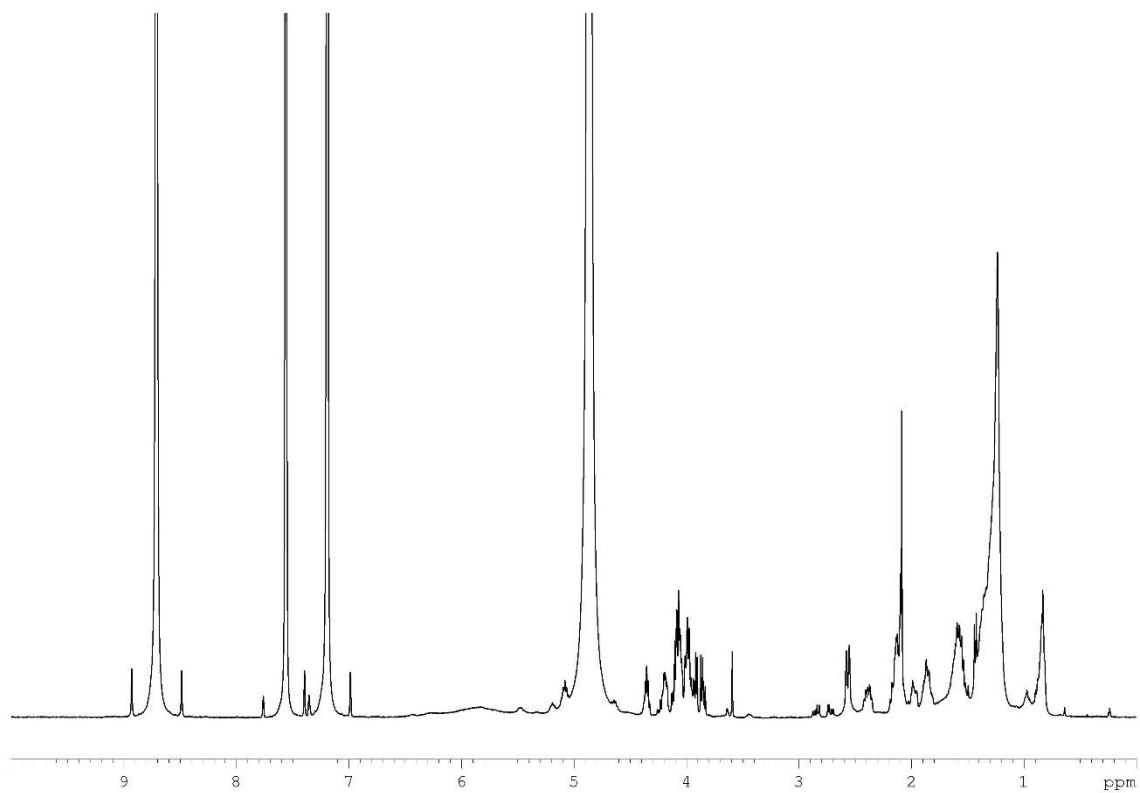


Figure S10. ESI⁺-MS of fraction containing mycalols (3-9).

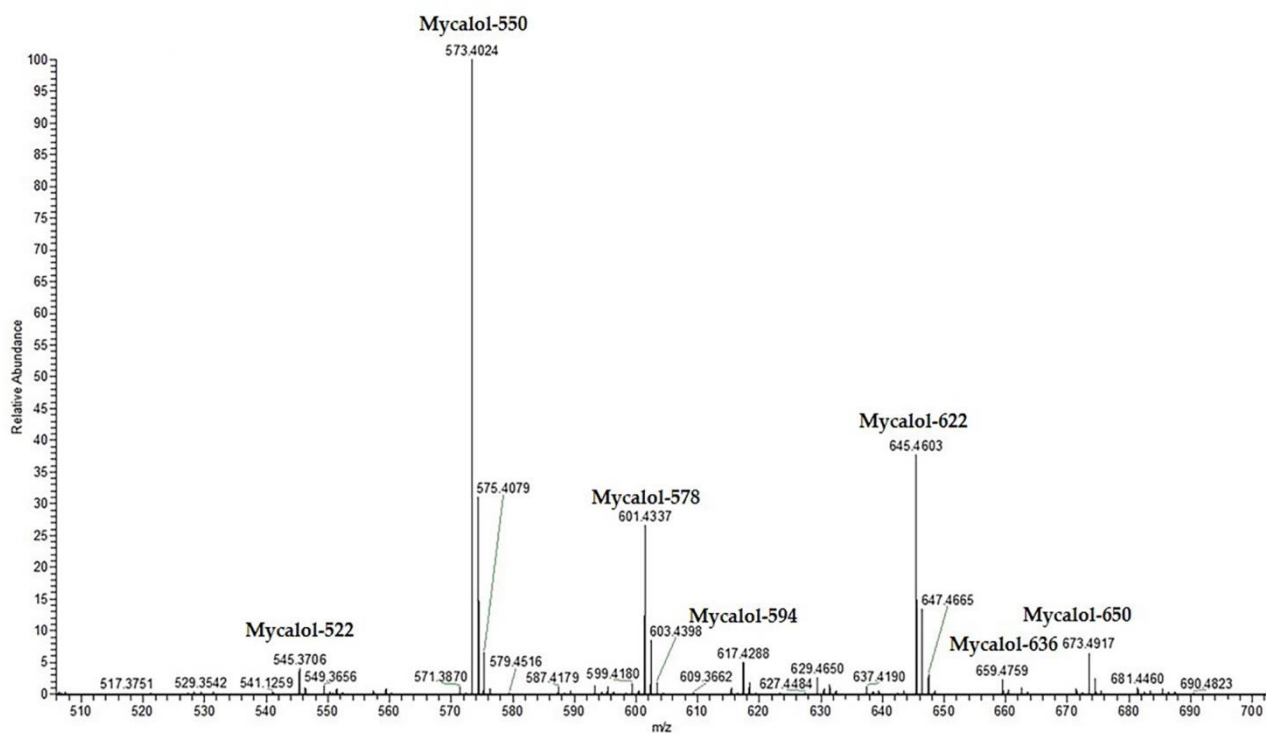


Figure S11. Cell viability effects induced by suberitenones A and suberitenone B. The figure shows the effects of (a) suberitenones A (1, green line) and (b) suberitenones B (2, blue line) on cell viability of A549, A2058, HepG2 and MRC5 cell lines, at increasing concentrations (0.05, 0.10, 0.19, 0.39, 0.78, 1.56, 3.12, 6.25, 12.5, 25, 50, 100 μ M). Control sample contained only DMSO. Results are expressed as percent survival after 72 h exposure.

