Supporting Information

The Constituents of the Stems of *Cissus assamica* and Their Bioactivities

Yu-Yi Chan [1], Chiu-Yuan Wang [1], Tsong-Long Hwang [2], Shin-Hun Juang [3], Hsin-Yi Hung [4], Ping-Chung Kuo [4], Po-Jen Chen [5], Tian-Shung Wu [3,4,*]

[1] Department of Biotechnology, Southern Taiwan University of Science and Technology, Tainan 71005, Taiwan

[2] Graduate Institute of Natural Products, College of Medicine, Chang Gung University; Research Center for Industry of Human Ecology, Research Center for Chinese Herbal Medicine, and Graduate Institute of Health Industry Technology, Chang Gung University of Science and Technology; Department of Anesthesiology, Chang Gung Memorial Hospital, Taoyuan 333, Taiwan

[3] Department of Pharmacy, Tajen University, Pingtung 90741, Taiwan

[4] School of Pharmacy, College of Medicine, National Cheng Kung University, Tainan 701, Taiwan

[5] Department of Cosmetic Science, Providence University, Taichung 433, Taiwan

* Correspondence: tswu@mail.ncku.edu.tw; Tel.:+886-6-2757575 (ext. 65333).

Table S1. Inhibitory effects of isolated compounds on superoxide anion generation and elastase release by human neutrophils in response to fMLP/CB.

compound	superoxide anion generation	elastase release
	IC_{50} (μM)[a]	IC_{50} (μM)
3	>10	>10
8	>10	>10
9	>10	>10
16	0.2 ± 0.1 ***	2.7 ± 0.3 ***
17	>10	>10
18	>10	>10
20	>10	NT[c]
25	>10	>10
28	>10	>10
29	>10	>10
41	>10	>10
47	>10	5.3 ± 1.0 ***
48	>10	>10
51	>10	>10
LY294002[b]	0.4 ± 0.1 ***	1.5 ± 0.3 ***

Results are presented as mean ± S.D. (n = 3~4). ***$p < 0.001$ compared with the control (DMSO). [a] Concentration necessary for 50 % inhibition (IC_{50}). [b] A phosphatidylinositol-3-kinase inhibitor was used as a positive control. [c] The compound reacted with the substrate, and caused the absorbance greater than 0.2. Therefore, it was not measured the data.

Table S2. The IC_{50} of cancer cell lines treated with CAS Drugs (Tested at 50, 10 μM)

Cell Lines / Compounds	NCI-H226	HCT-116	NPC-TW01
	IC_{50} (μM)	IC_{50} (μM)	IC_{50} (μM)
3	>50	>50	>50
8	>50	>50	<50
9	>50	>50	<50
11	>50	>50	>50
16	<10	<50	>50
17	>50	>50	>50
18	<10	<50	>50
20	<10	<50	>50
21	>50	<50	<50
22	>50	>50	>50
25	>50	>50	>50
28	>50	>50	>50
29	>50	<50	>50
30	>50	>50	>50
37	>50	>50	>50
38	>50	>50	>50
39	>50	>50	>50
40	>50	>50	>50
41	>50	<50	<50
47	>50	>50	>50
48	>50	>50	>50
49	>50	>50	>50
50	>50	>50	>50
51	>50	>50	>50
52	>50	<50	<50
53	>50	>50	>50

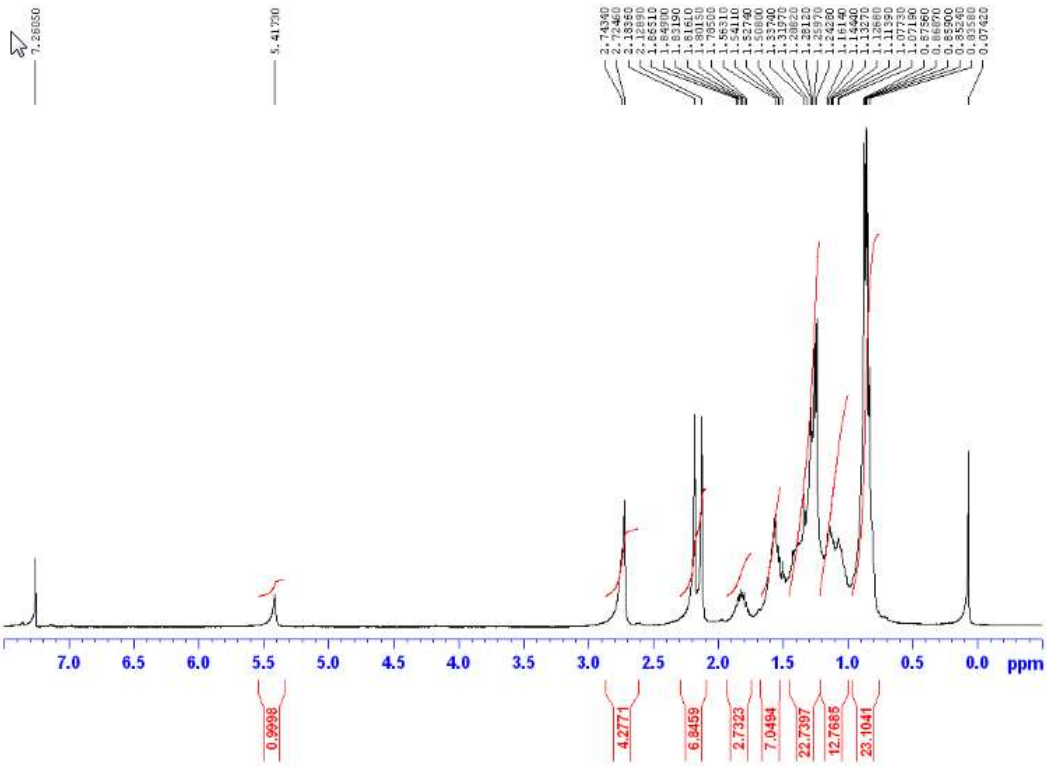

Figure S1. The ^{1}H spectrum of 1, 2-bis-(5-γ-tocopheryl)ethane (**51**)

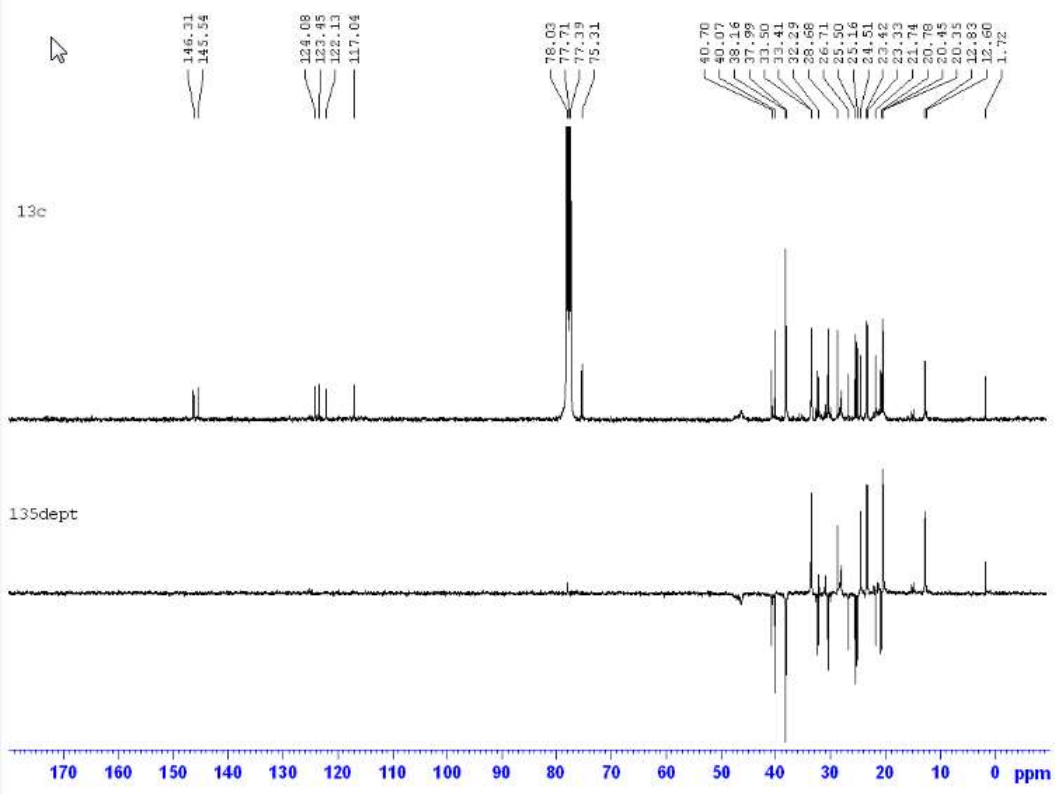

Figure S2. The ^{13}C and DEPT spectra of 1, 2-bis-(5-γ-tocopheryl)ethane (**51**)

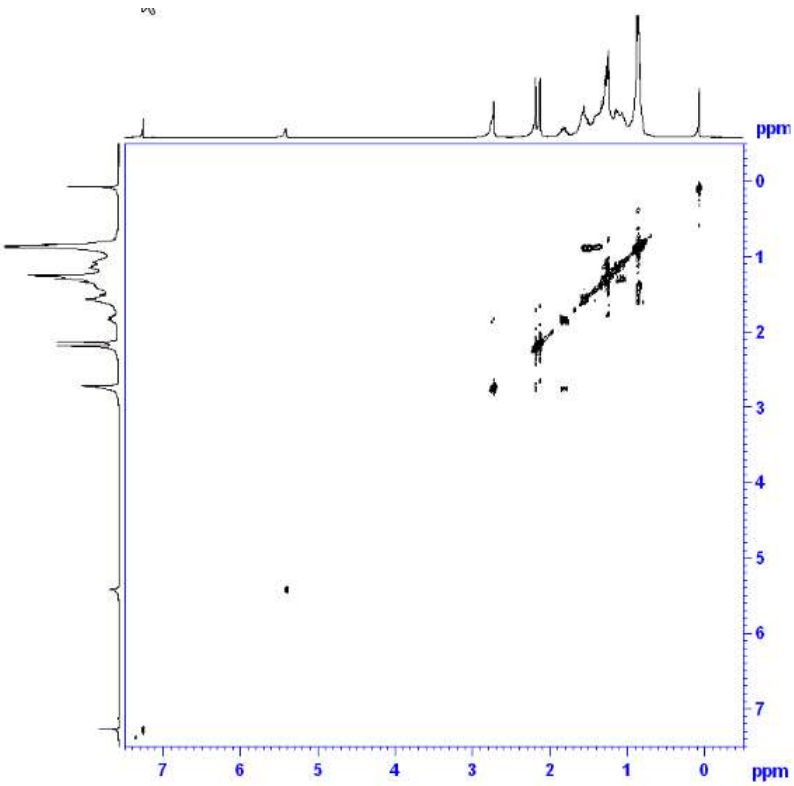

Figure S3. The COSY spectrum of 1, 2-bis-(5-γ-tocopheryl)ethane (**51**)

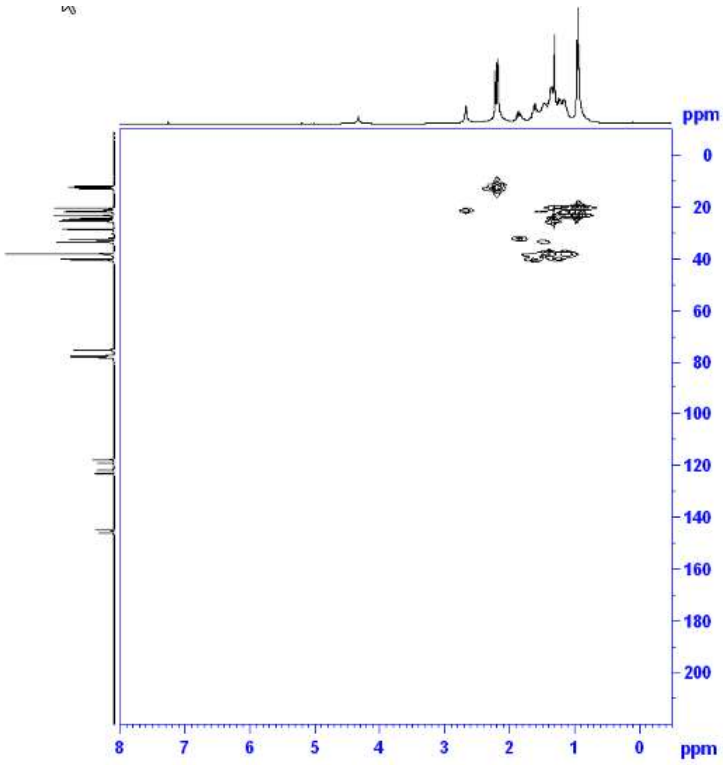

Figure S4. The HMQC spectrum of 1, 2-bis-(5-γ-tocopheryl)ethane (**51**)

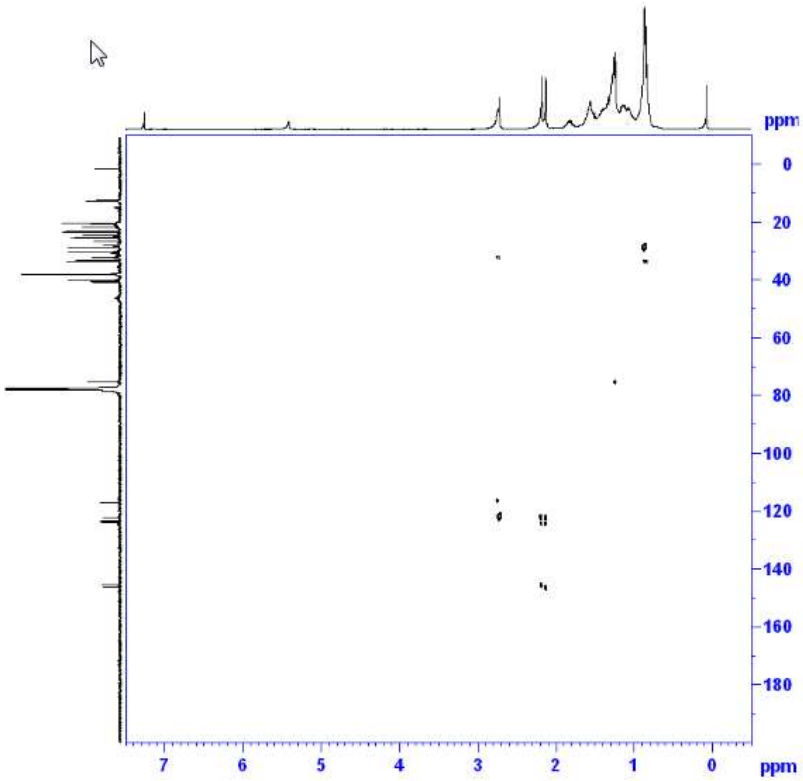

Figure S5. The HMBC spectrum of 1, 2-bis-(5-γ-tocopheryl)ethane (**51**)

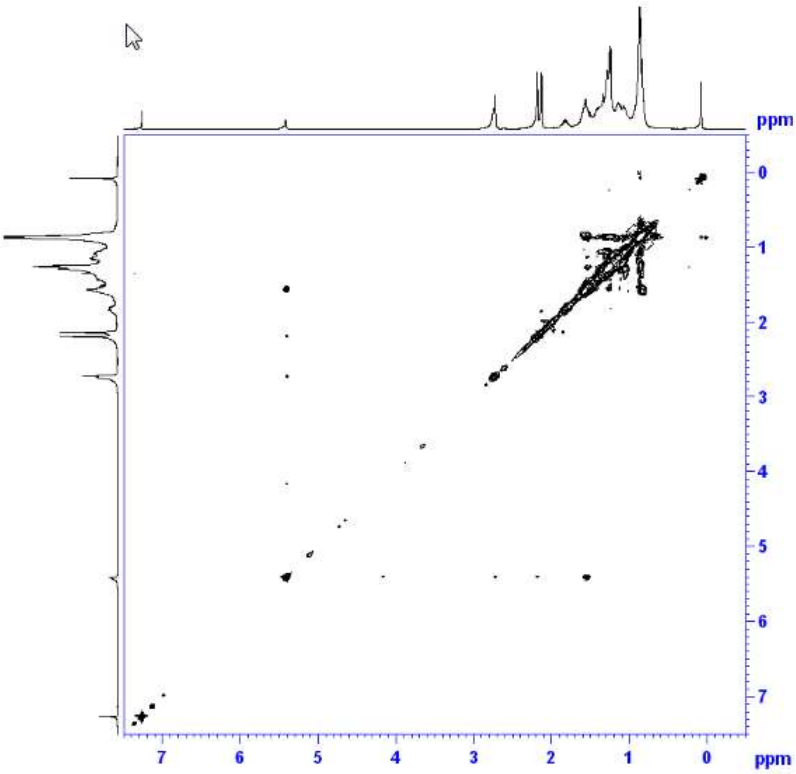

Figure S6. The NOESY spectrum of 1, 2-bis-(5-γ-tocopheryl)ethane (**51**)

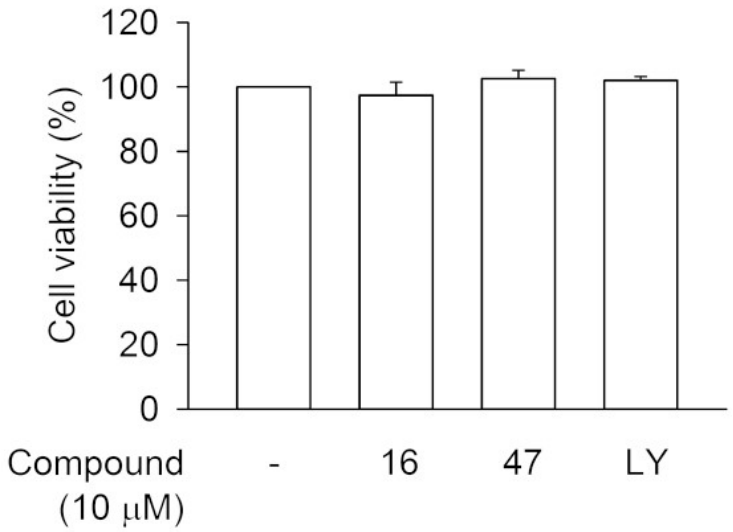

Figure S7. Compounds **16**, **47**, and LY294002 do not alter cell viability of human neutrophils. Human neutrophils were incubated with DMSO, compounds **16**, **47**, or LY294002 (10 μM) for 15 min. Cytotoxicity was evaluated by LDH release compared with the DMSO group (as 100%). All data are expressed as mean values ± SEM (n = 3).