Supporting Information

Acremostrictin, a Highly Oxygenated Metabolite from the Marine Fungus *Acremonium strictum*

Elin Julianti[†], Hana Oh[†], Kyoung Hwa Jang[†], Jae Kyun Lee[‡], Sang Kook Lee[†], Dong-Chan Oh[†], Ki-Bong Oh[§,*], and Jongheon Shin[†,*]

[†] Natural Products Research Institute, College of Pharmacy, Seoul National University, San 56-1, Sillim, Gwanak, Seoul 151-742, Korea, [‡]Center for Chemoinformatics Research, Korea Institute of Science and Technology, P.O. Box 131, Cheongyang, Seoul 130-650, Korea, [§]Department of Agricultural Biotechnology, College of Agriculture & Life Science, Seoul National University, San 56-1, Sillim, Gwanak, Seoul 151-921, Korea

shinj@snu.ac.kr

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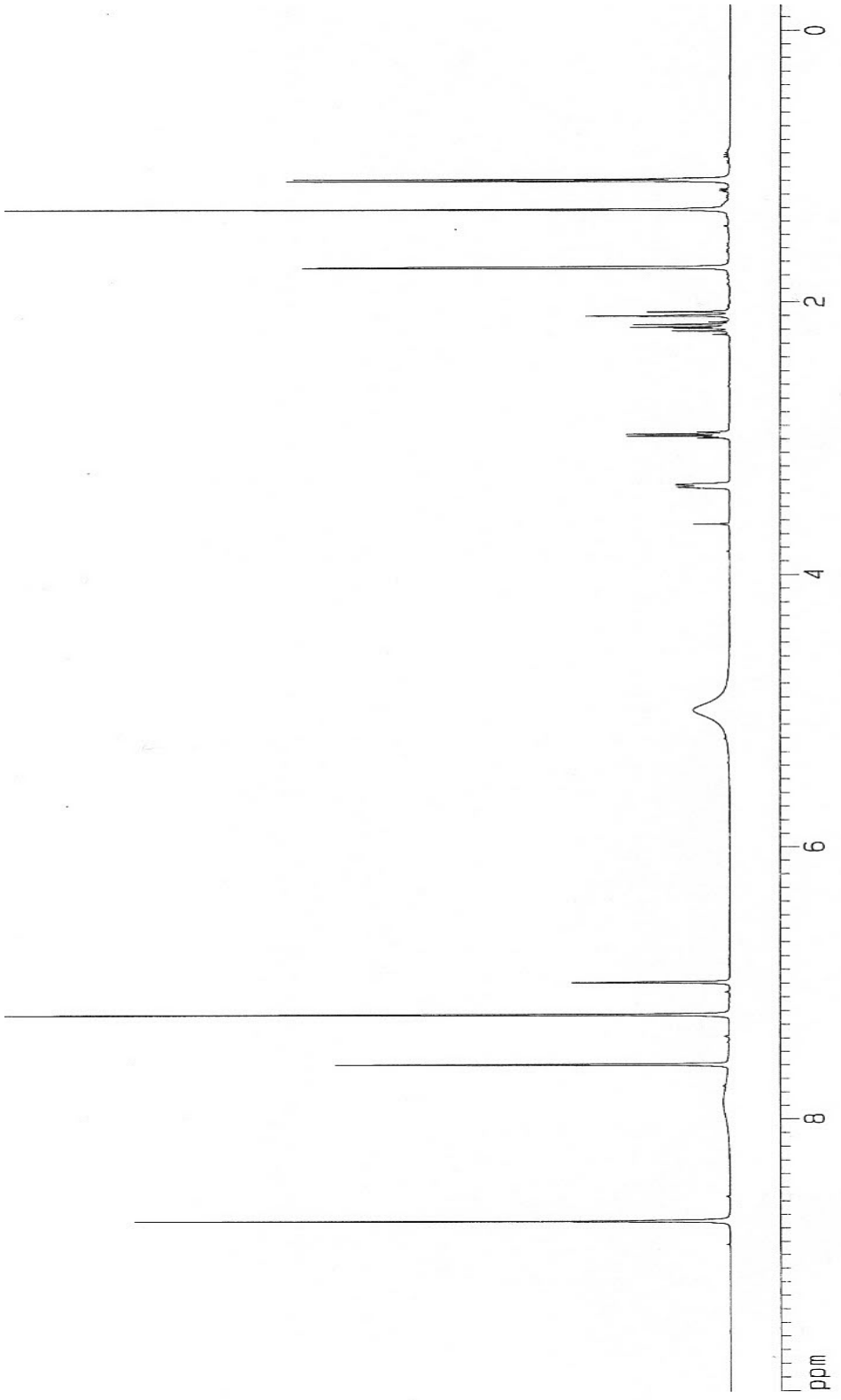

Figure 1: ^{1}H-NMR (500 MHz, Pyridine–d_5) spectrum of compound **1**

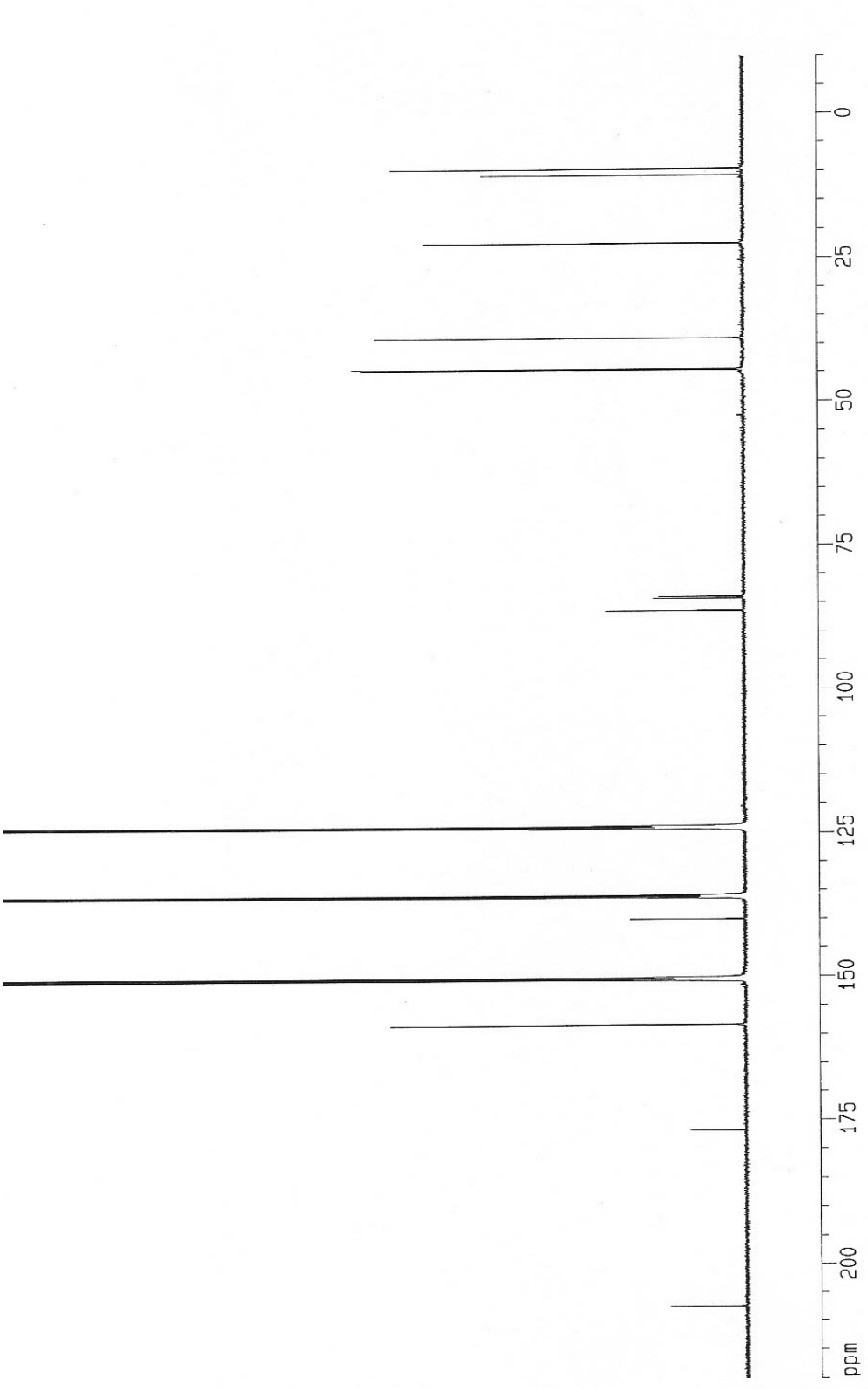

Figure 2: ^{13}C- NMR (500 MHz, Pyridine–d_5) spectrum of compound **1**

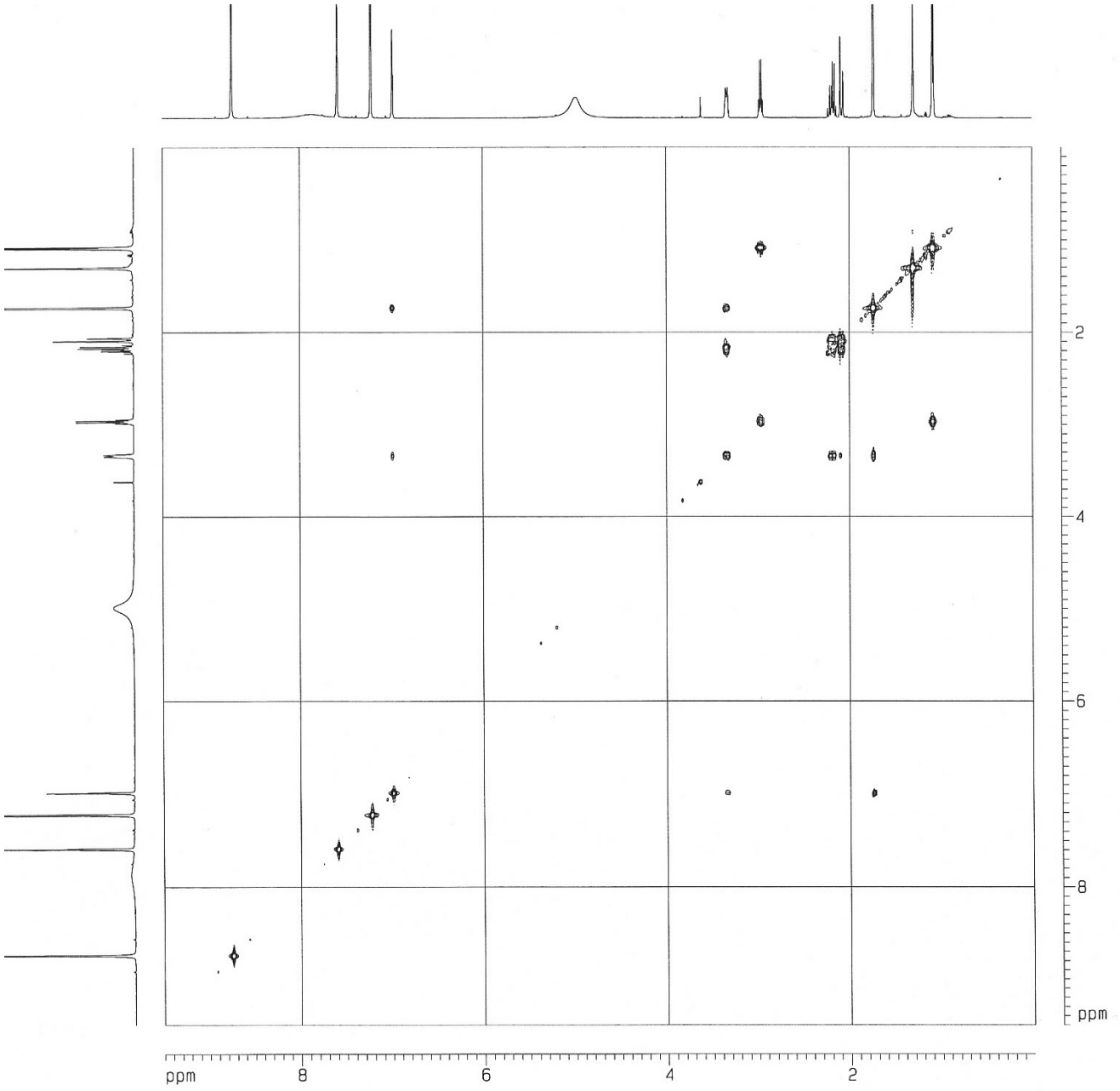

Figure 3: COSY spectrum of compound **1**

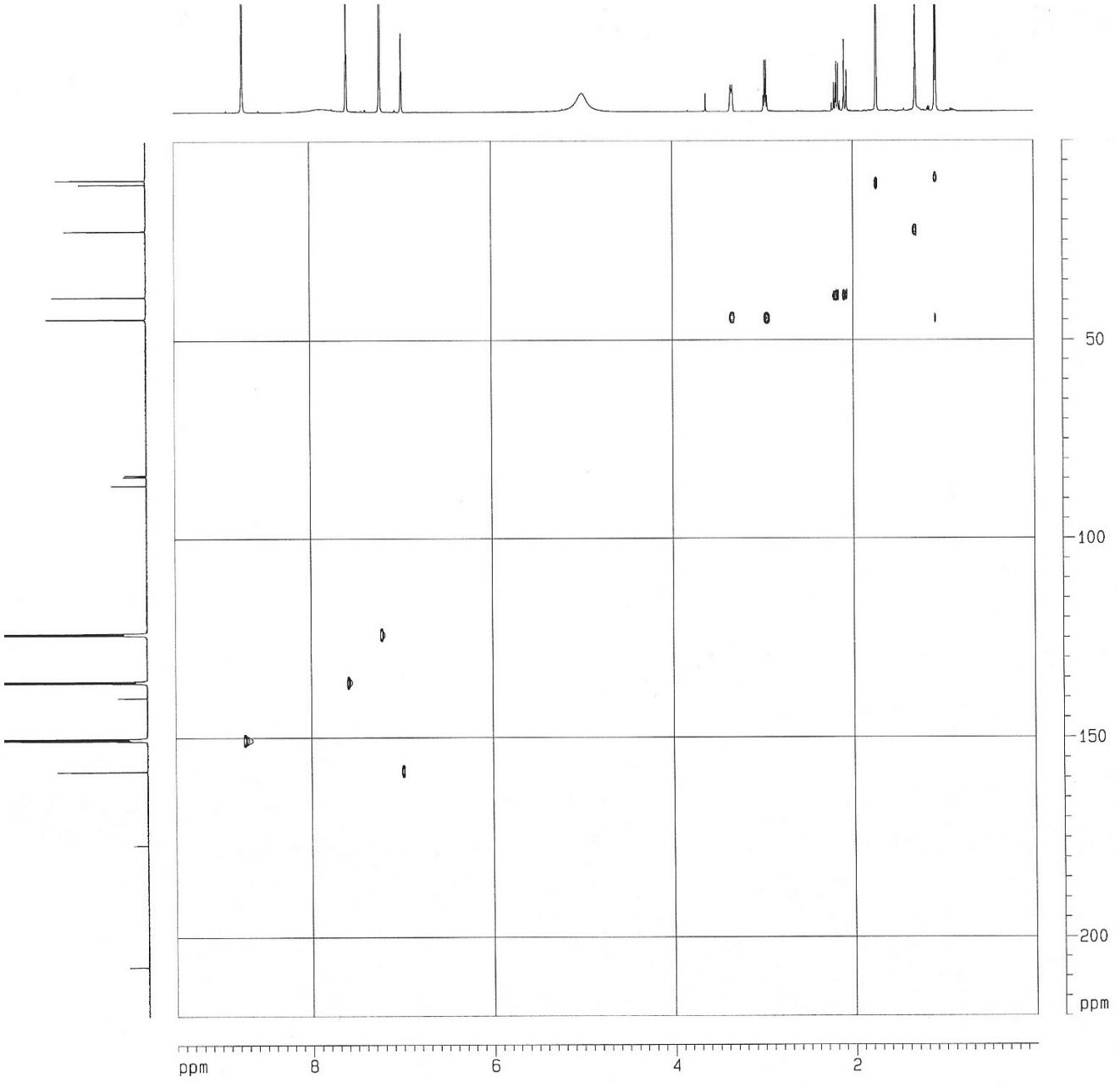

Figure 4: HSQC spectrum of compound **1**

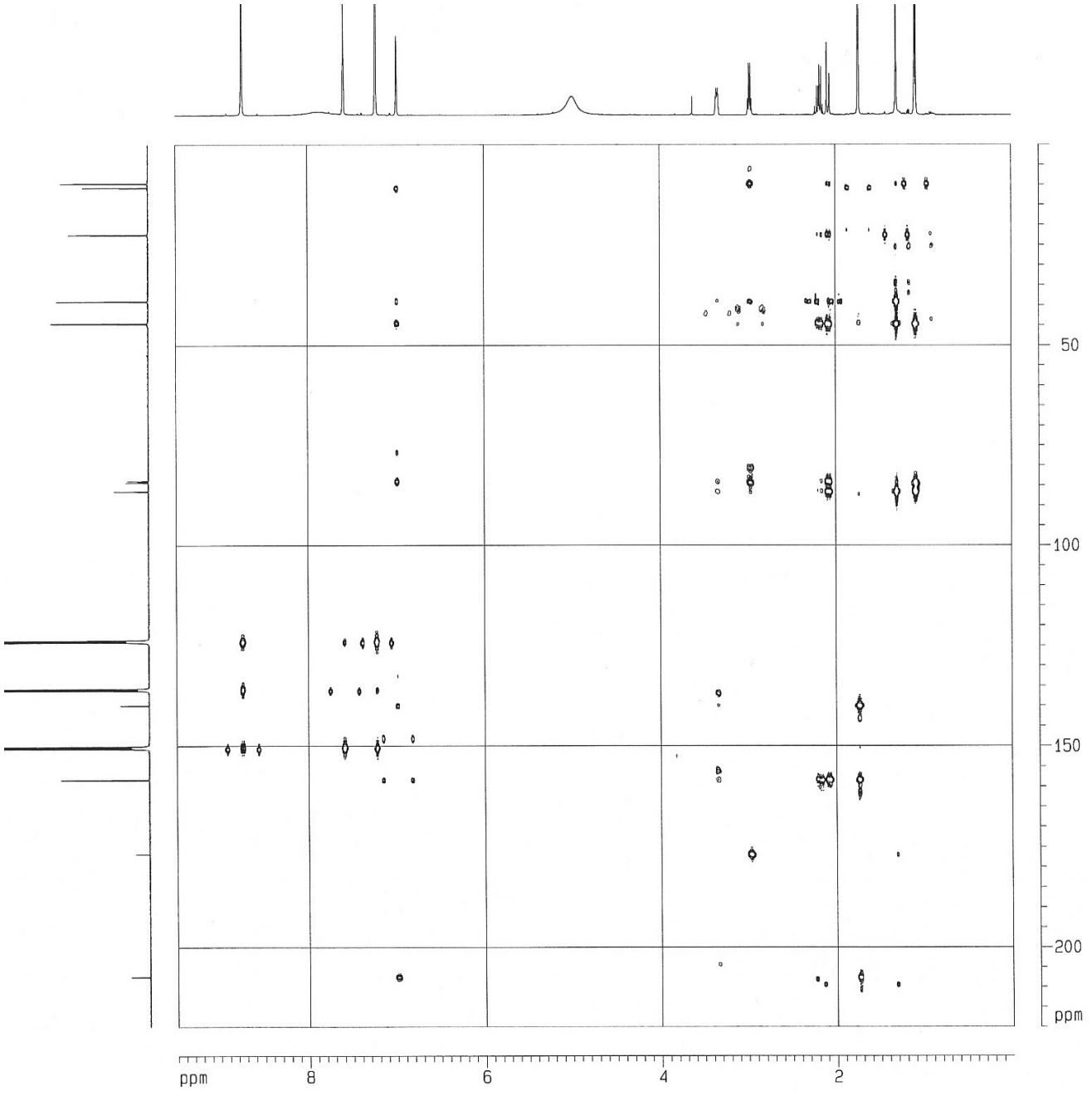

Figure 5: HMBC spectrum of compound **1**

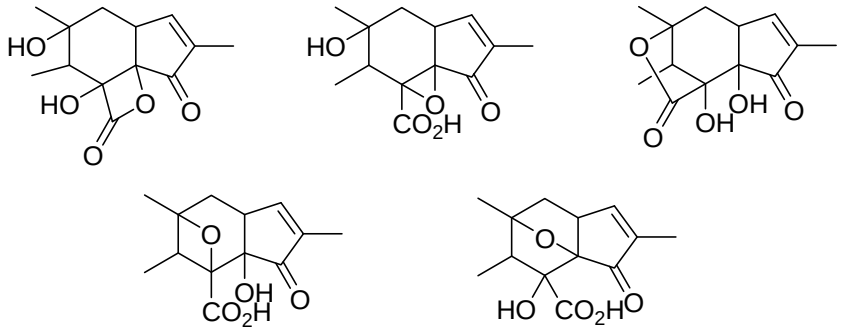

Figure 6. Five possible structures of compound **1**.

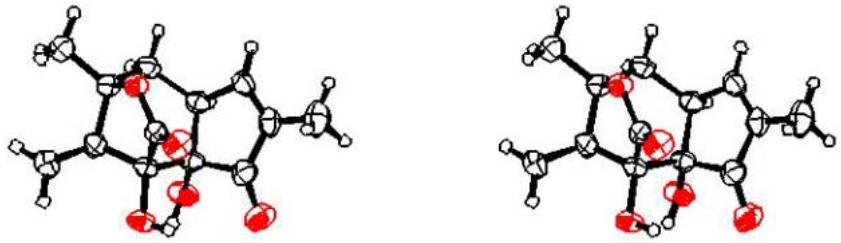

Figure 7. A stereo ORTEP drawing of crystal structure of compound **1**

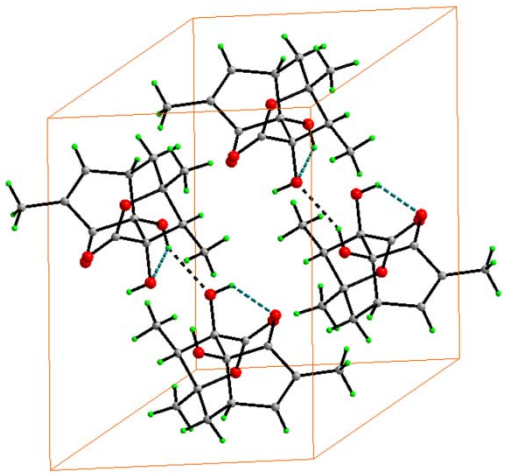

Figure 8. A packing pattern with H-bonds of crystal structure of compound **1**

Result of Antioxidant Activity Test

To evaluate the effects of compound **1** on the antioxidant activity, the DPPH free radical scavenging activity was primarily determined. Compound **1** showed a DPPH free radical scavenging activity in a concentration-dependent manner and the IC_{50} value was 2.1 mM (Fig. 3). In the same experimental condition, the IC_{50} value of ascorbic acid (vitamin C), a positive control, was 3.7 μM. This result suggests that the antioxidant potential with DPPH free radical scavenging activity of **1** was a relatively moderate.

To further confirm whether the antioxidant activity by **1** was associated with the protection of oxidative stress-induced cell death, cell viability assay was performed in hydrogen peroxide (H_2O_2)-treated human keratinocyte HaCaT cell culture systems. As illustrated in Figure 4, cell viability was clearly decreased by exposure of 1 mM of H_2O_2 with 56% compared to control incubation. However, the treatment of various concentrations of **1** (0-25 μM) protected the cell death induced by H_2O_2 in a concentration-dependent manner. The data were coincided with the results of antioxidant activity of **1** in a DPPH free radical scavenging activity.

Concentration (mM)	% of Control
0.008	68.400
0.04	66.952
0.2	64.779
1	52.666
5	29.888

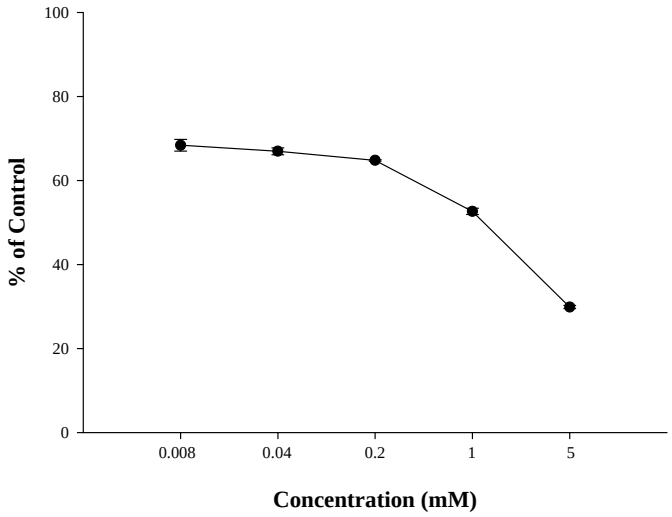

Figure 9. Antioxidant potential of **1** on DPPH free radical scavenging activity.
DPPH free radical scavenging activity was measured by incubation with DPPH (300 μM) and test samples at 37°C for 30 min. % Control was determined by the comparison with solvent-treated control incubations.

Concentration (μM)	Viability (%)
0	56.132
12.5	58.161
25	71.190

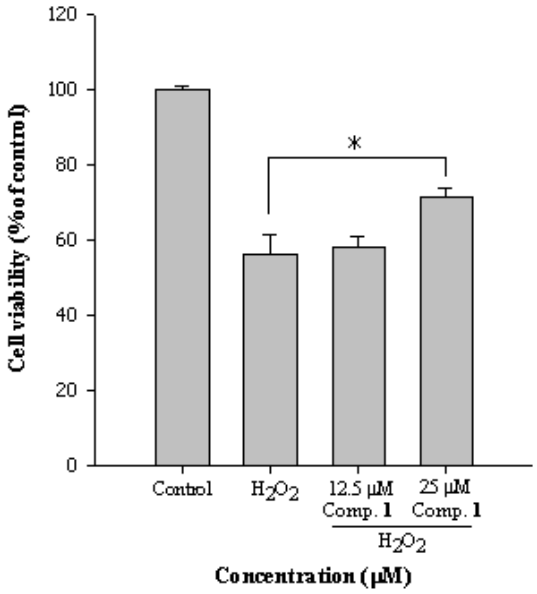

Figure 10. Protective effects of **1** on H_2O_2-induced cell death of HaCaT human keratinocytes. Human keratinocyte cells (HaCaT) were plated at a density of 8,000 cells in 96-well plates in RPMI supplemented with 10% FBS, and incubated for 24 h. After pretreatment of **1** for 1 h, the cells were exposed with H_2O_2 (1 mM) for 1 h, and then fresh medium was added, and incubated for an additional 24 h. The values of % of cell survival were calculated by the mean absorbance of samples treated cells/absorbance of control cells. Data are represented as the means ± S.E. (n = 3) (*p < 0.05 indicates statistically significant differences from the control group).