Supporting Information

For

Anti-Inflammatory Derivatives with Dual Mechanism of Action from the Metabolomic Screening of *Poincianella pluviosa*

Olívia da S. Domingos [1], Bianca G. V. Alcântara [1], Mário F. C. Santos [1], Tatiane C. S. Maiolini [1], Danielle F. Dias [1], João L. Baldim [1,2], João Henrique G. Lago [3], Marisi G. Soares [1,*] and Daniela A. Chagas-Paula,[1,*]

[1] Instituto de Química–Universidade Federal de Alfenas, MG, Brazil; oliviadomingos@hotmail.com (O.d.S.D.); bianca.vasconcelos.alcantara@gmail.com (B.G.V.A.); mariosantos408@gmail.com or marisigs@gmail.com (M.F.C.S.); tatychryss@gmail.com (T.C.S.M.); danielle.dias@unifal-mg.edu.br (D.F.D.)

[2] Instituto Federal de de Educação, Ciência e Tecnologia do Sul de Minas Gerais - IFSULDEMINAS, MG, Brazil jotaelebaldim@gmail.com (J.L.B.)

[3] Centro de Ciências Naturais e Humanas, Universidade Federal do ABC, SP, Brazil; joao.lago@ufabc.edu.br or joaohglago@gmail.com

* Correspondence: marisigs@gmail.com (M.G.S.); da.chagaspaula@gmail.com (D.A.C.-P.); Tel.: +55-11-37019713 (M.G.S. &D.A.C.-P.)

Contents:

Table S1. Effect of fractions of *C. pluviosa* on ear edema exhibited in percentage of inhibition. The results were analyzed by one-way ANOVA followed by Dunett's multiple comparison test and expressed as mean ± SEM. * $p \leq 0.05$ compared to vehicle , ^{ns} no significant difference compared with the vehicle ($P > 0.05$) and # $p \leq 0.05$ compared to the indomethacin.

Sample	Edema (mg) Mean ± SD	% inhibition
CaHe	$0.66 \pm 0.6^{*}$	82.53
CaAc	$1.30 \pm 0.7^{*}$	65.61
CaE	$2.09 \pm 1.1^{*}$	44.71
FoHe	$1.46 \pm 0.5^{*}$	61.38
FoAc	$1.11 \pm 0.4^{*}$	70.64
FoE	$1.10 \pm 0.4^{*}$	70.90
FlHe	$1.99 \pm 1.0^{*}$	47.35
FlAc	$3.44 \pm 1.2^{ns,\#}$	8.99
FlE	$2.05 \pm 1.0^{*}$	45.77
Vehicle	3.78 ± 0.5	-
Indomethacin	$1.64 \pm 0.4^{*}$	56.61
Dexamethasone	$0.51 \pm 0.3^{*,\#}$	86.51

Table S2. Effect of fractions of *C. pluviosa* on neutrophil recruitment via myeloperoxidase dosing (MPO). The results were analyzed by one-way ANOVA followed by Dunett's multiple comparison test and expressed as mean ± SEM. * $p \leq 0.05$ compared to the vehicle and # $p \leq 0.05$ compared to the dexamethasone.

Sample	Absorbance Mean ± SD
CaHe	$0.52 \pm 0.18^{*}$
CaAc	$0.59 \pm 0.20^{*}$
CaE	$0.52 \pm 0.13^{*}$
FoHe	$0.47 \pm 0.18^{*}$
FoAc	$0.54 \pm 0.16^{*}$
FoE	$0.48 \pm 0.15^{*}$
FlHe	$0.59 \pm 0.16^{*}$
FlAc	$0.54 \pm 0.13^{*}$
FlE	$0.60 \pm 0.16^{*}$
Vehicle	$0.86 \pm 0.05^{\#}$
Dexamethasone	$0.53 \pm 0.11^{*}$

Table S3. Percentage of inhibition of ear edema by isolated compounds. The results were analyzed by one-way ANOVA followed by Dunett's multiple comparison test and expressed as mean ± SEM. * $p \leq 0.05$ compared to the vehicle and # $p \leq 0.05$ compared to the dexamethasone.

Sample	Edema (mg) Mean ± SD	% inhibition
Caesalpinioflavone (**1**)	$1.0 \pm 0.7^{*,\#}$	69.23
4'''-metoxi-caesalpinioflavone (**2**)	$1.71 \pm 0.9^{*}$	47.38
Rhuschalcone VI (**4**)	$1.85 \pm 0.4^{*}$	43.07
Vehicle	$3.25 \pm 0.8^{\#}$	-
Indomethacin	$1.84 \pm 0.8^{*}$	43.38
Dexamethasone	$1.43 \pm 0.8^{*}$	56.00

Table S4. Effect of compounds on neutrophil recruitment measured via myeloperoxidase quantification (MPO). The results were analyzed by one-way ANOVA followed by Dunett's multiple comparison test and expressed as mean ± SEM. * $p \leq 0.05$ compared to vehicle and # $p \leq 0.05$ compared to the dexamethasone.

Sample	Absorbance Mean ± SD
Caesalpinioflavone (**1**)	$0.48 \pm 0.09^{*}$
4'''-metoxi-caesalpinioflavone (**2**)	$0.60 \pm 0.15^{*,\#}$
Rhuschalcone VI (**4**)	$0.16 \pm 0.05^{*,\#}$
Vehicle	$0.95 \pm 0.07^{\#}$
Dexamethason	$0.54 \pm 0.03^{*}$

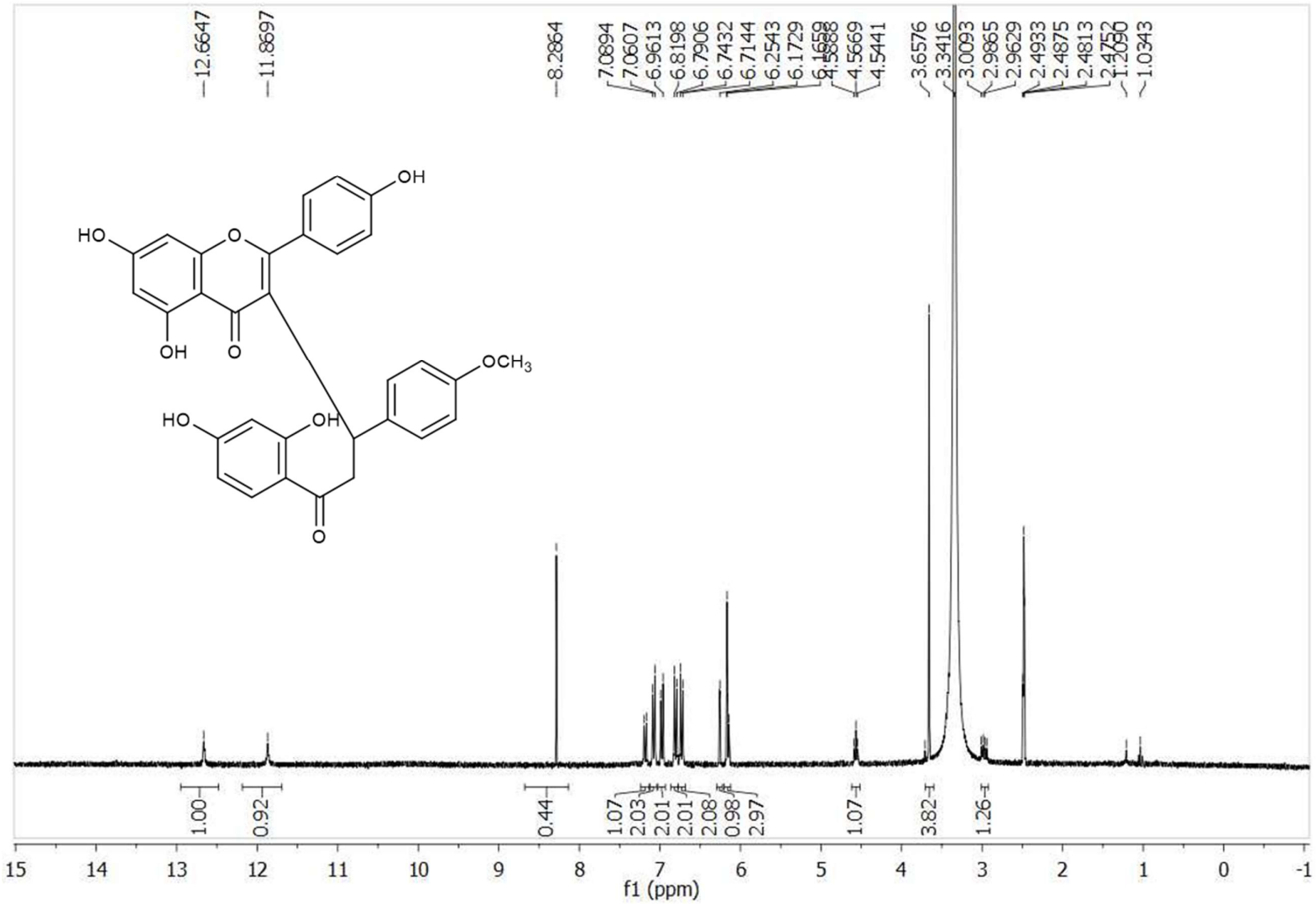

Figure S1. ^{1}H NMR (300 MHz, DMSO-d_6) spectrum of the compound (**2**).

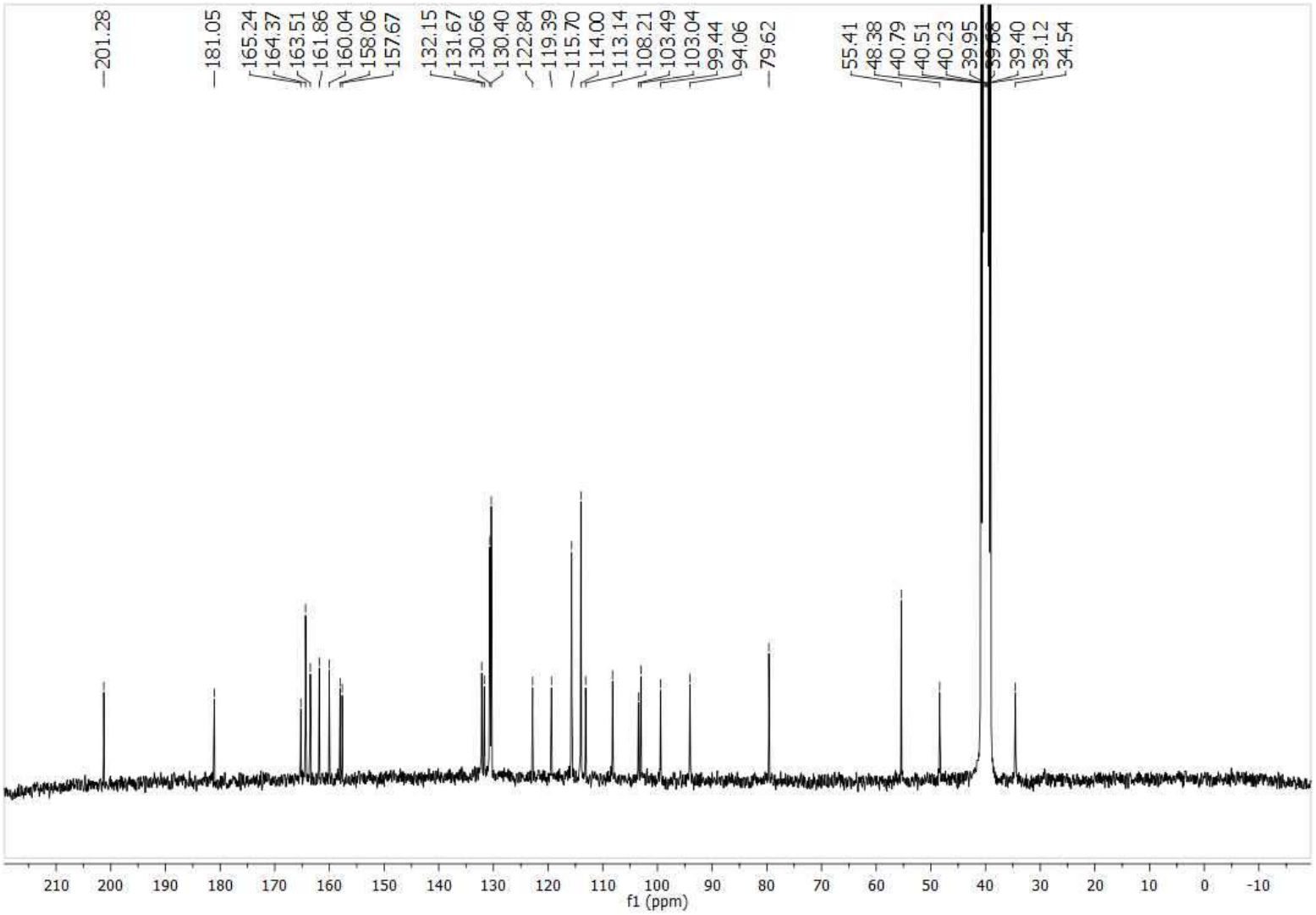

Figure S2. ^{13}C NMR (75 MHz, DMSO-d_6) spectrum of the compound (**2**).

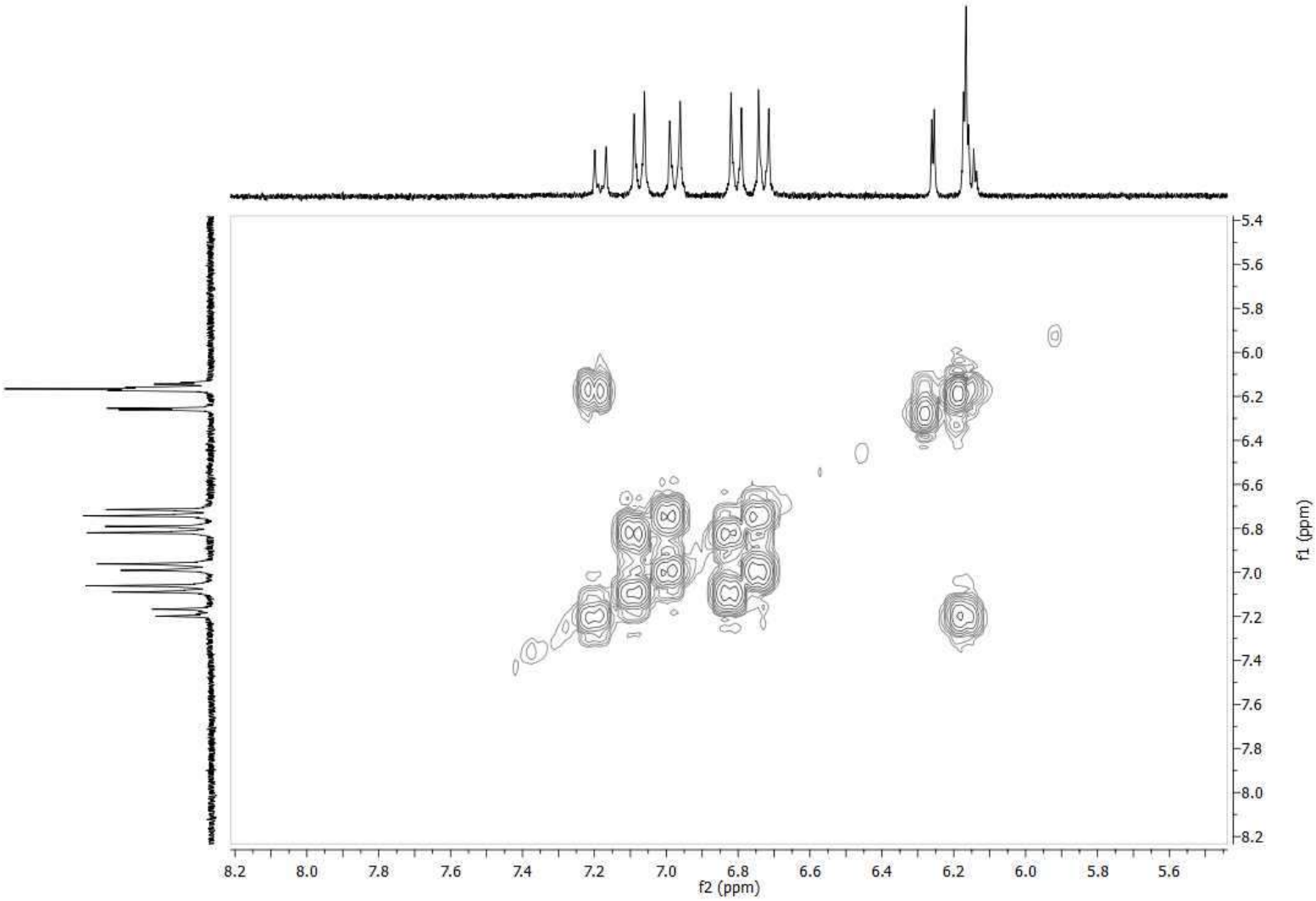

Figure S3. COSY (DMSO-d_6) spectrum of the compound (**2**).

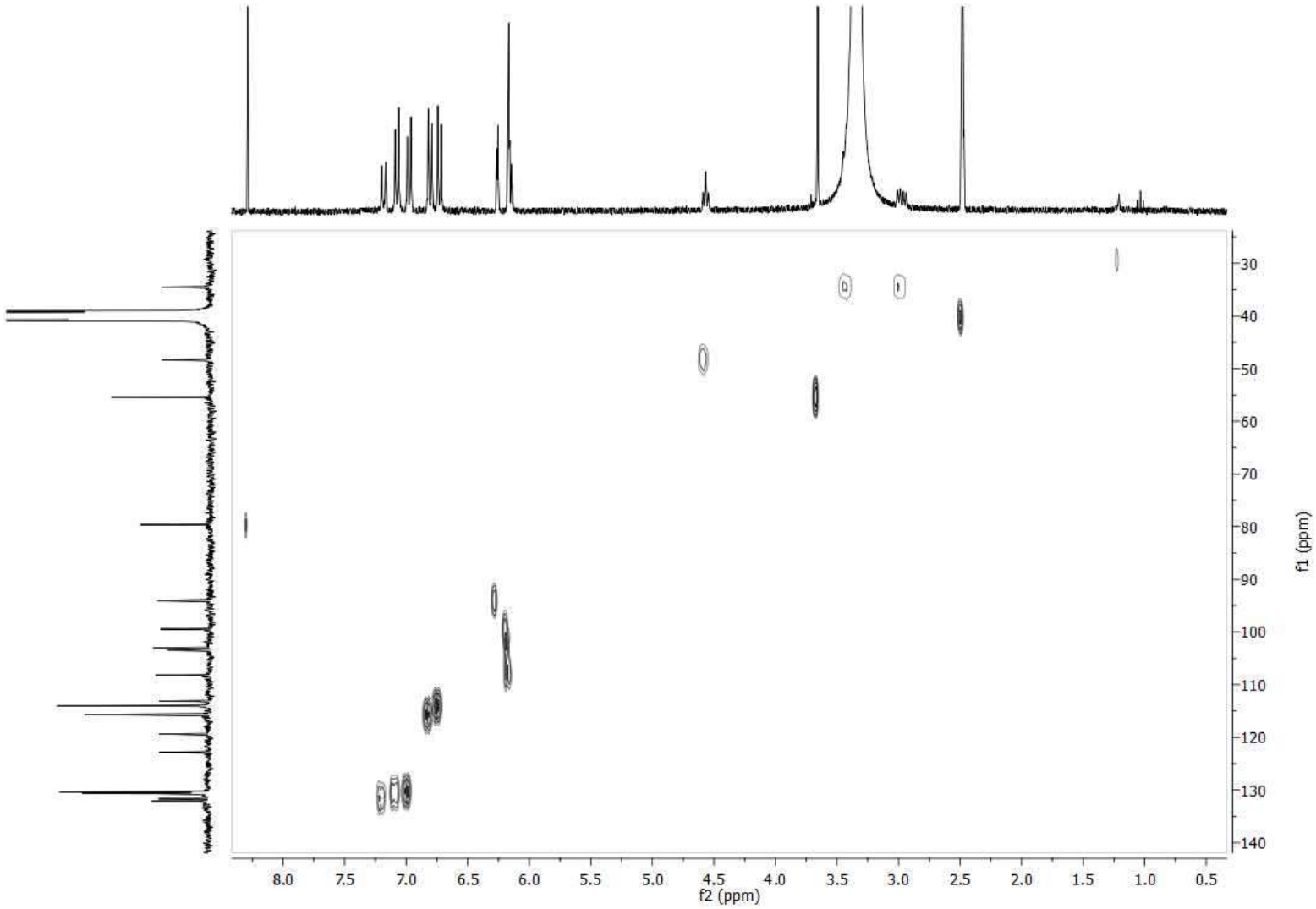

Figure S4. HSQC (DMSO-d_6) spectrum of the compound (**2**).

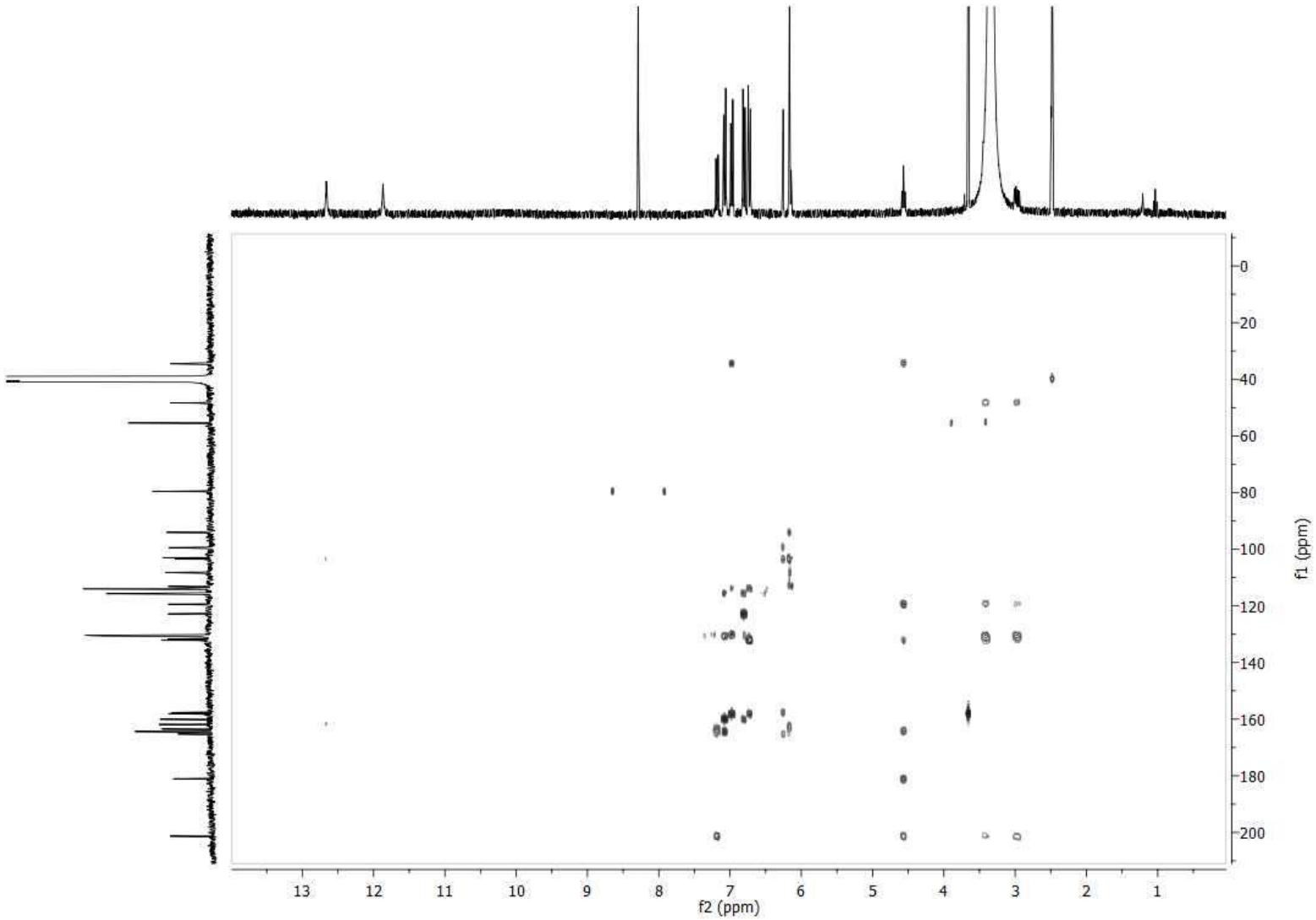

Figure S5. HMBC (DMSO-d_6) spectrum of the compound (**2**).

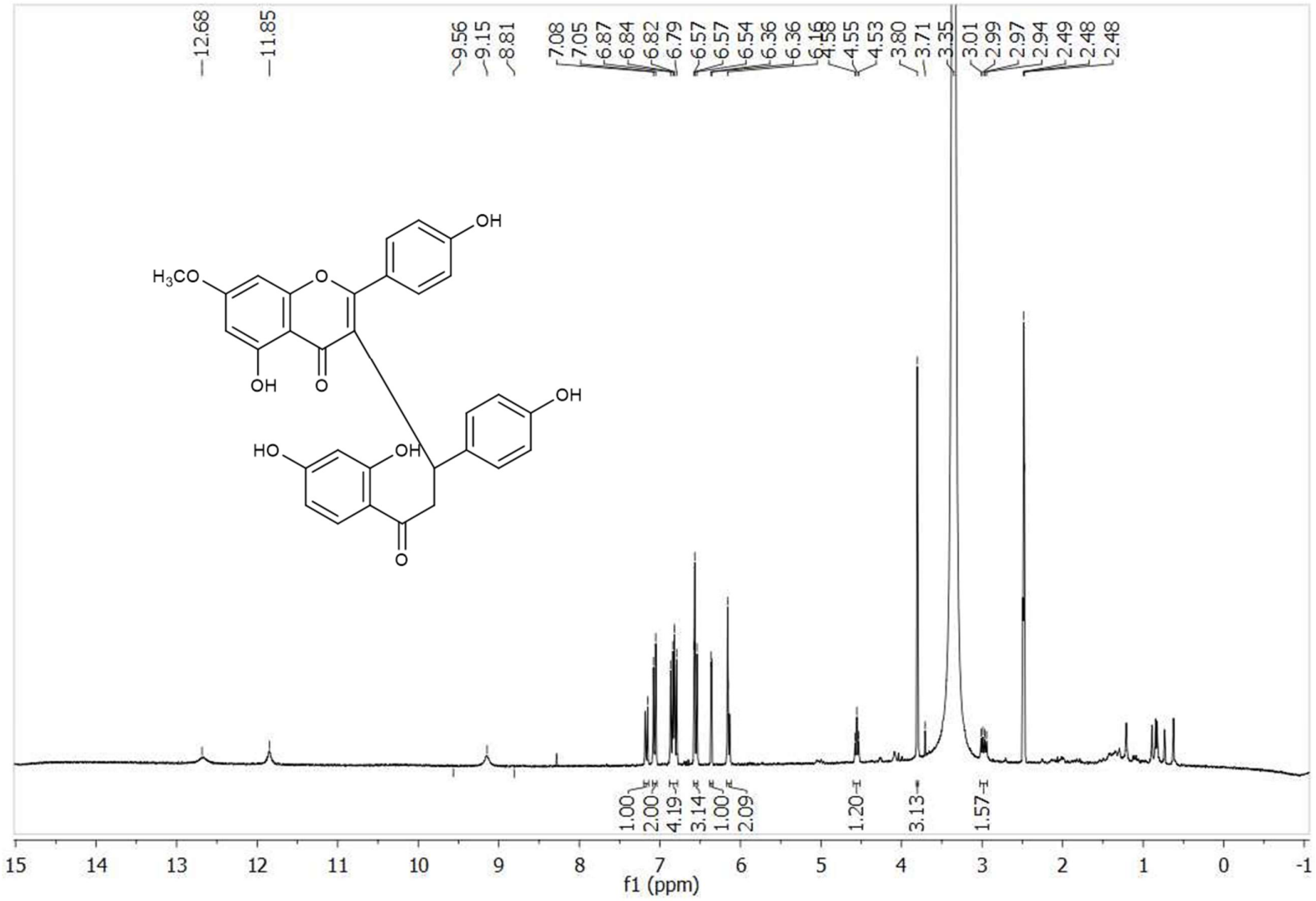

Figure S6. ^{1}H NMR (300 MHz, DMSO-d_6) spectrum of the compound (**3**).

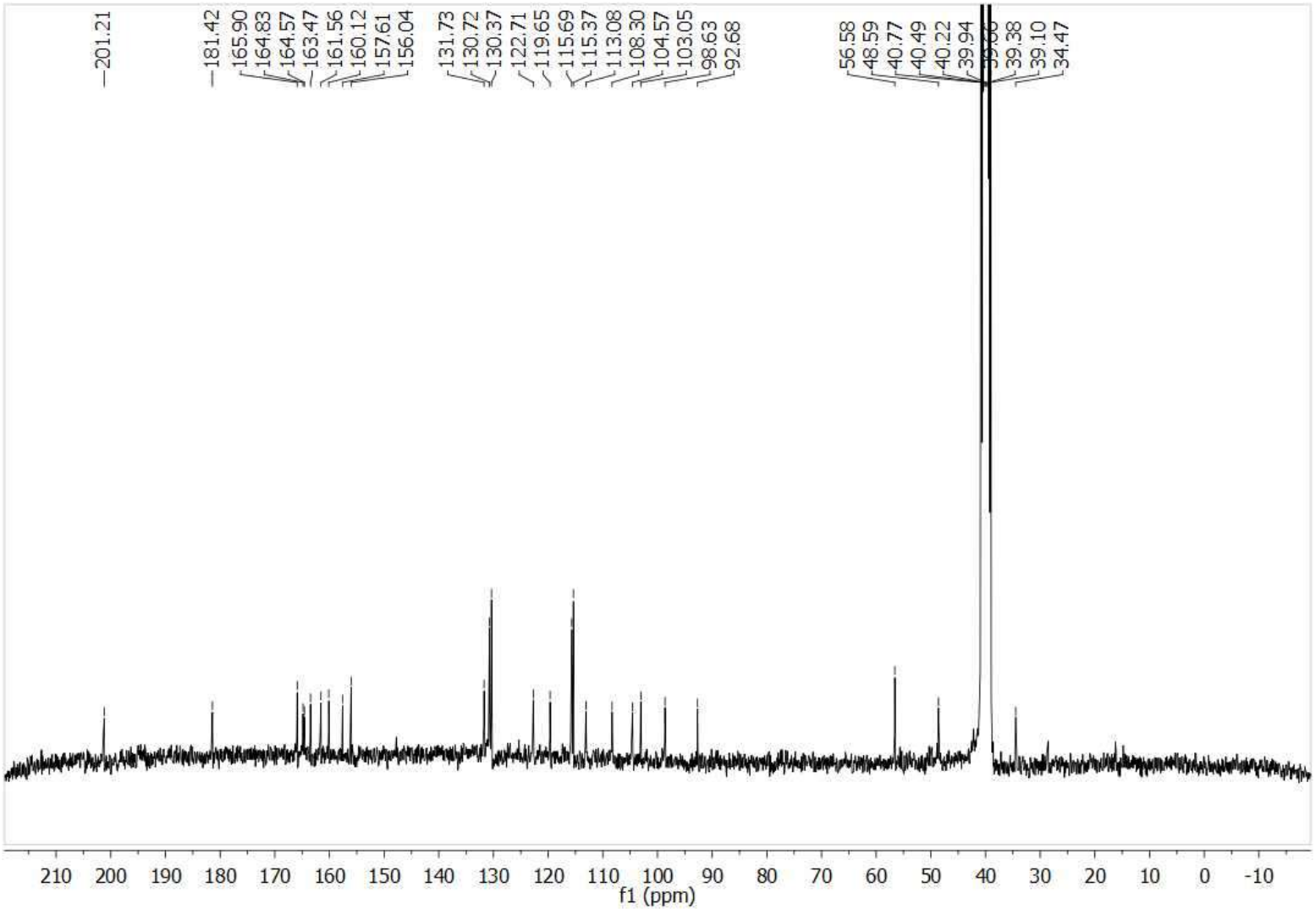

Figure S7. ^{13}C NMR (75 MHz, DMSO-d_6) spectrum of the compound (**3**).

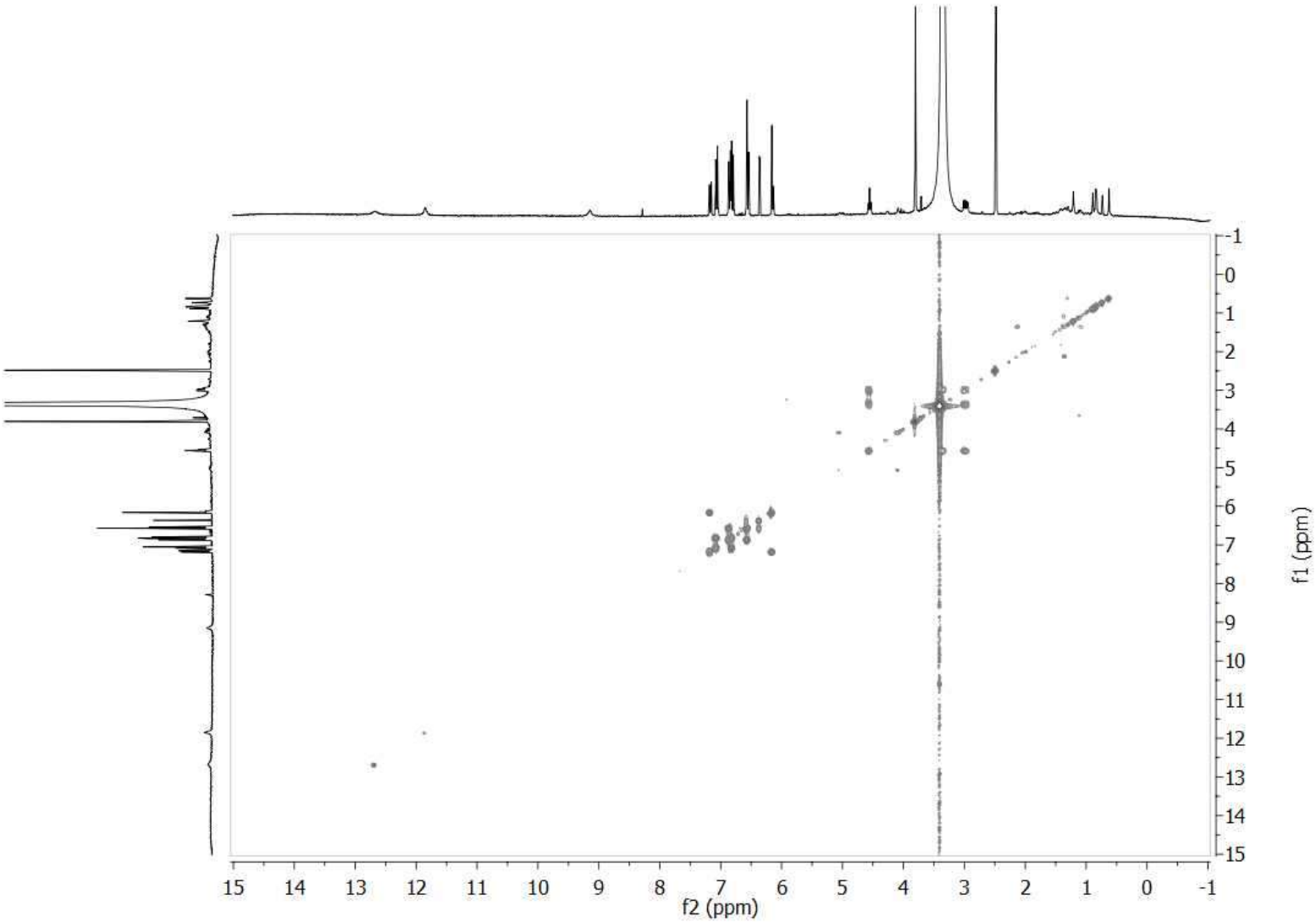

Figure S8. COSY (DMSO-d_6) spectrum of the compound (**3**).

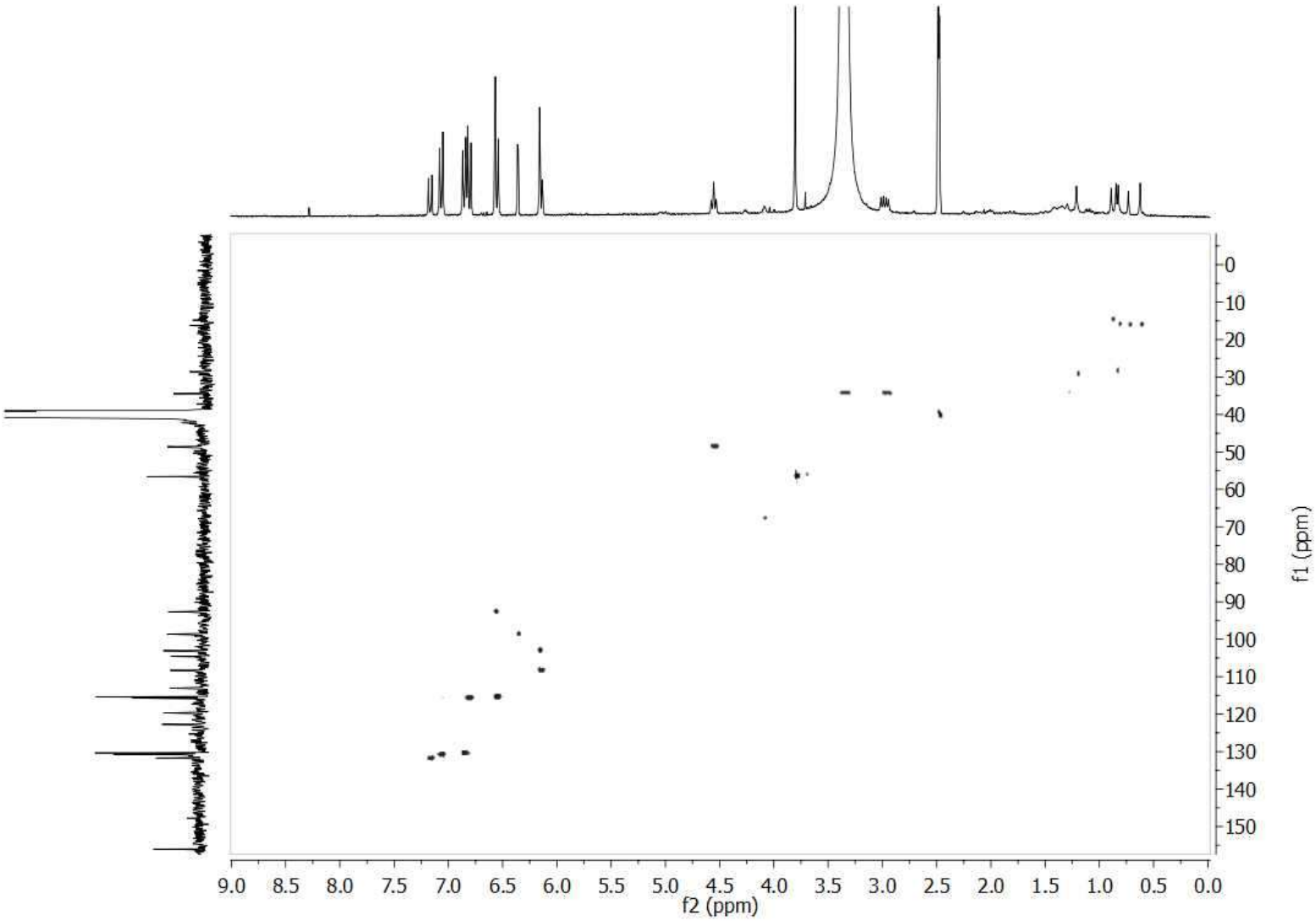

Figure S9. HSQC (DMSO-d_6) spectrum of the compound (**3**).

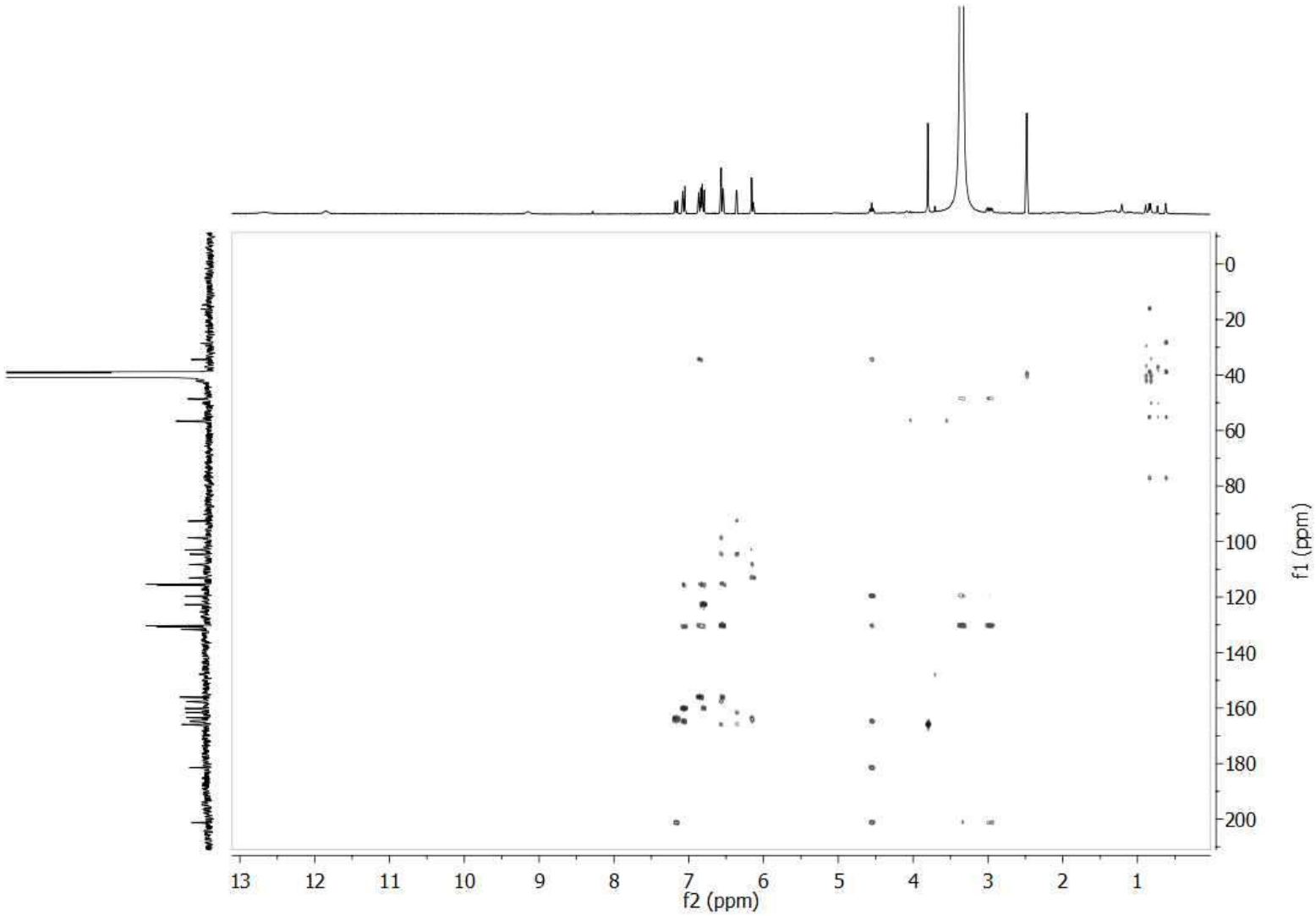

Figure S10. HMBC (DMSO-d_6) spectrum of the compound (**3**).

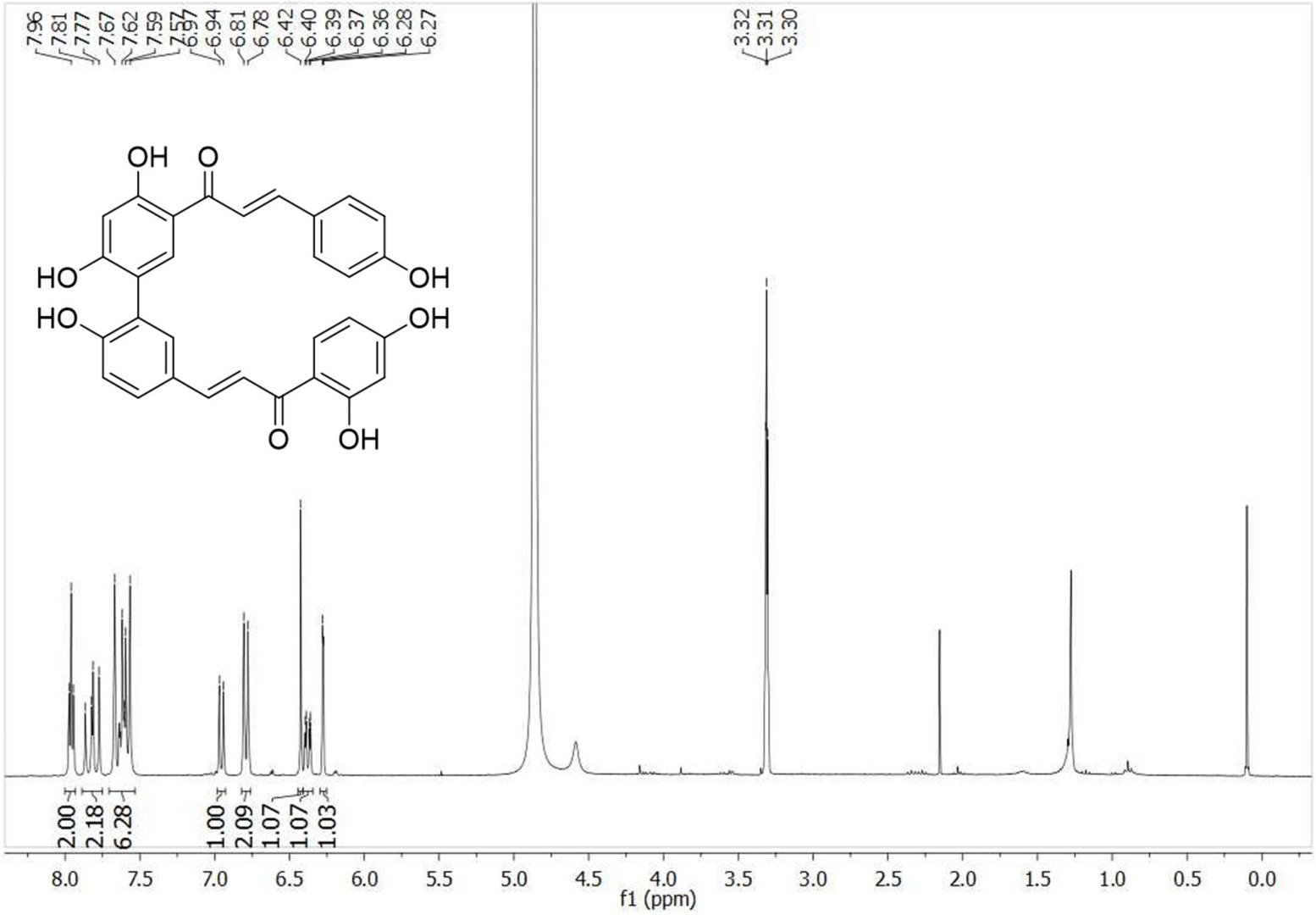

Figure S11. ^{1}H NMR (300 MHz, CD_3OD) spectrum of the compound (**4**).

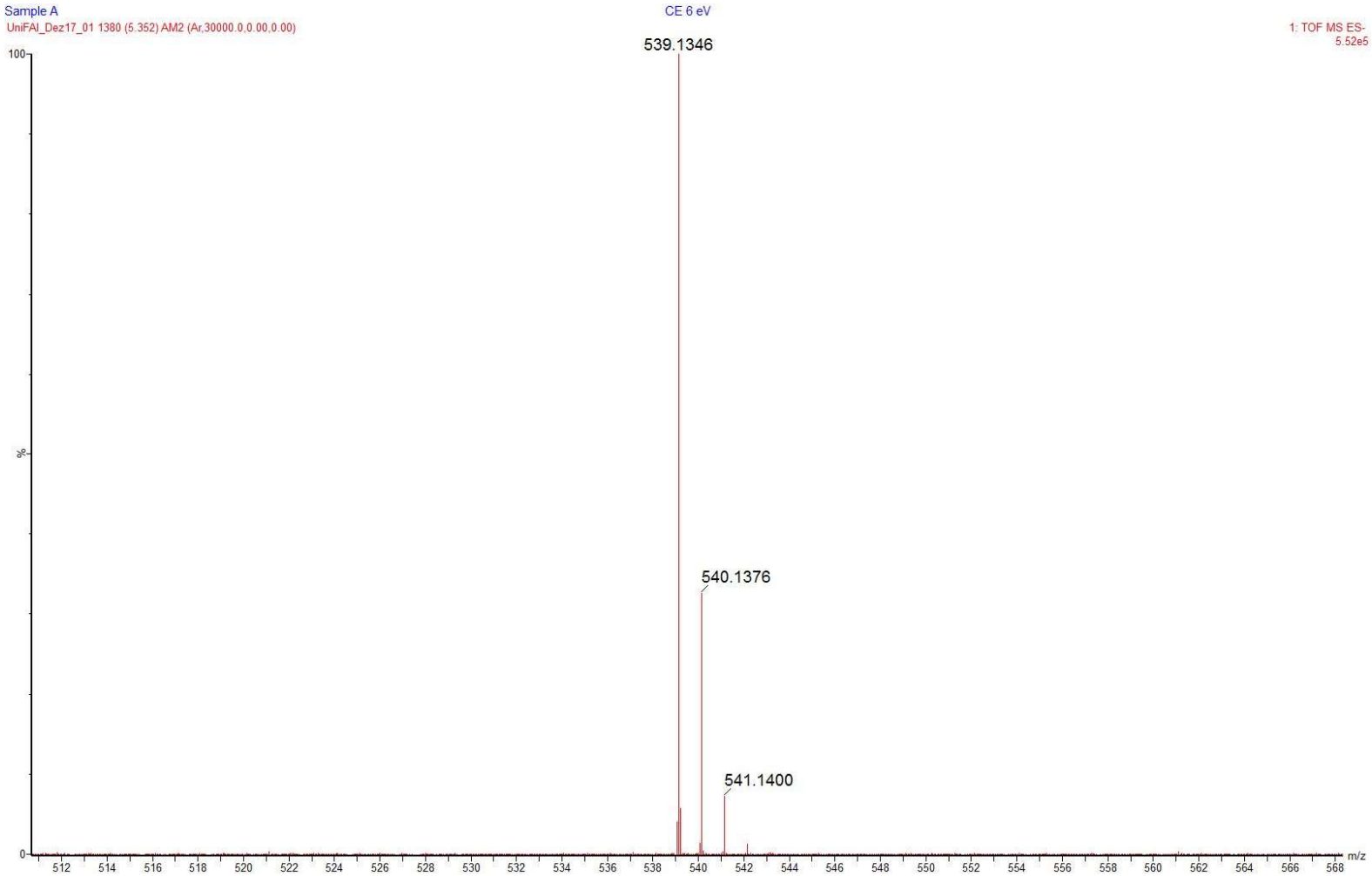

Figure S12. Mass spectrum of the compound (**2**).

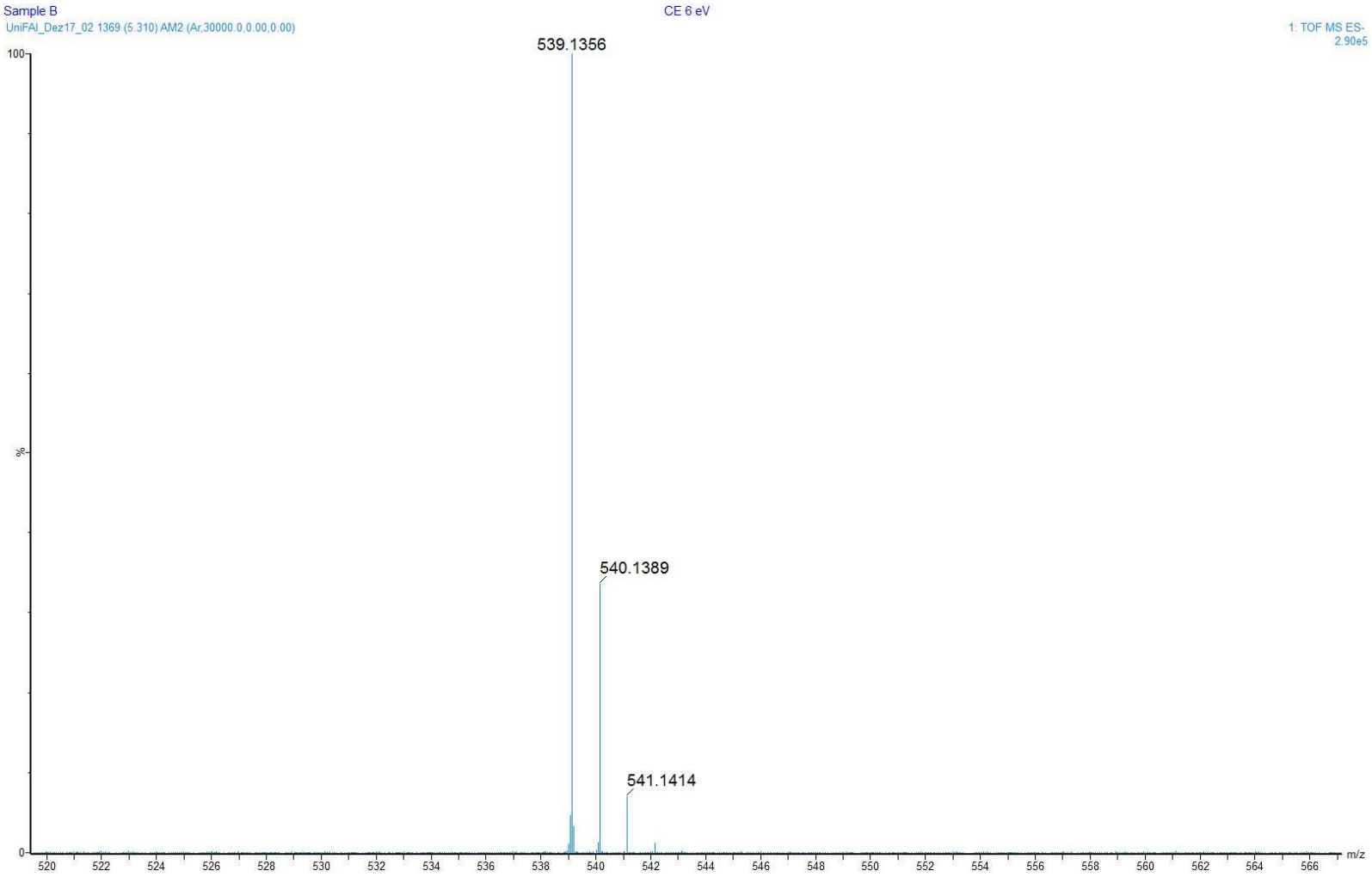

Figure S13. Mass spectrum of the compound (**3**).

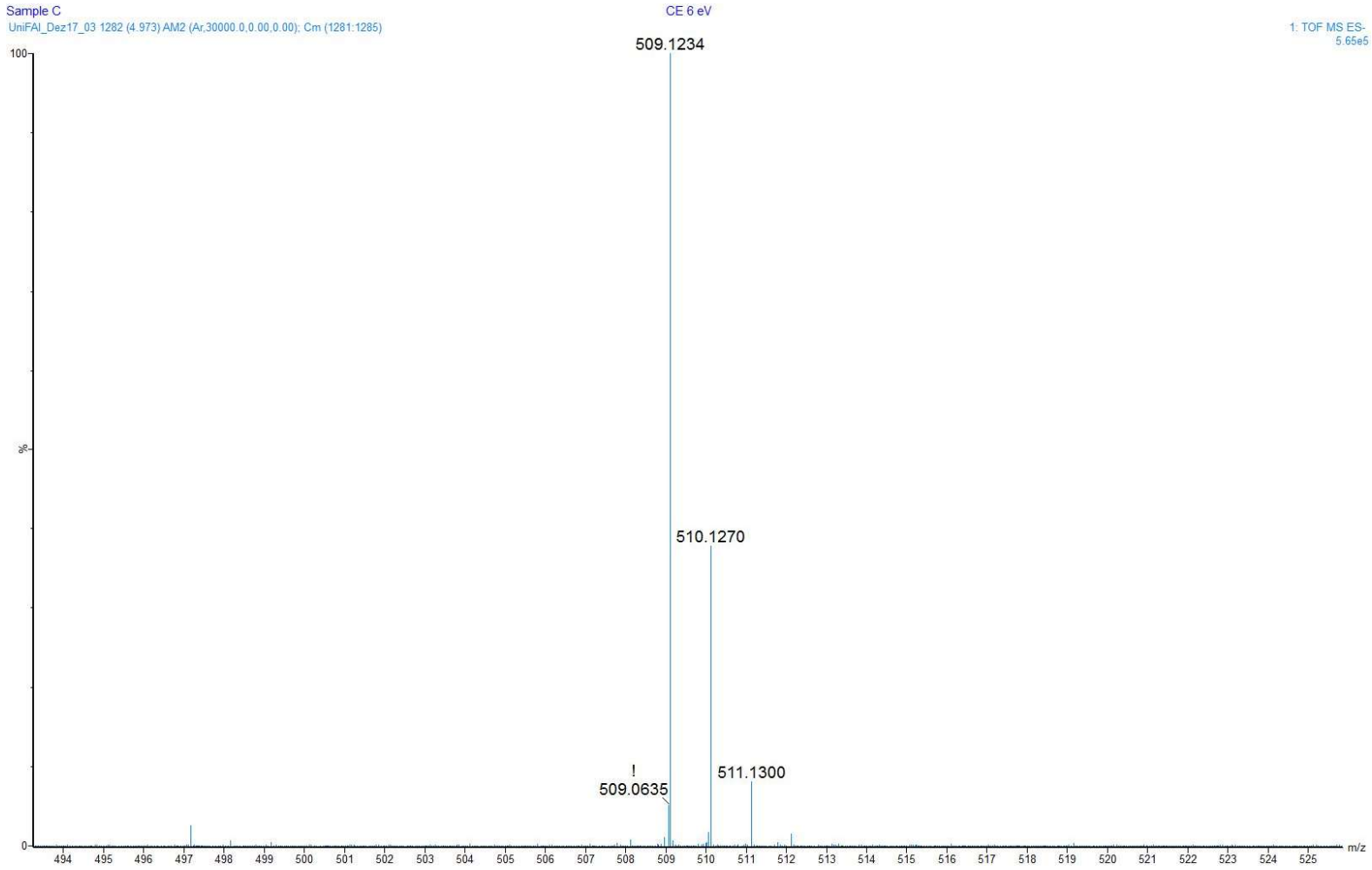

Figure S14. Mass spectrum of the compound (**4**).

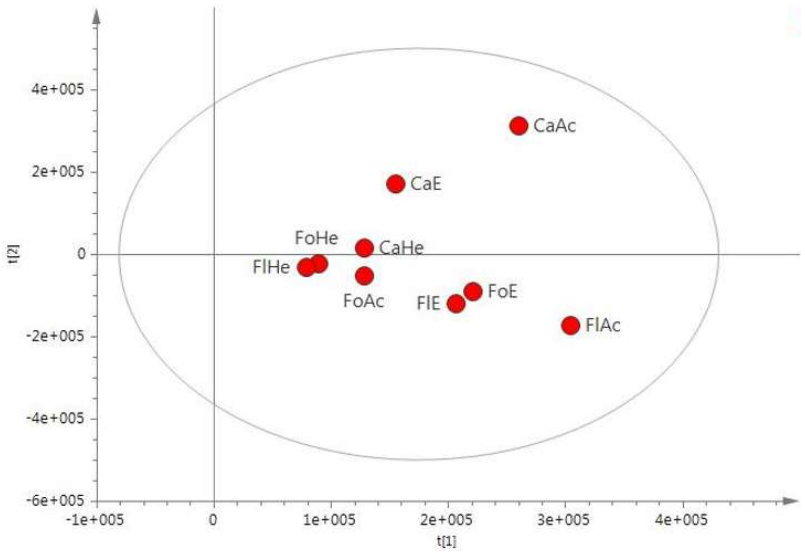

Figure S15. Principal component analysis (PCA) of samples from *P. pluviosa.*