Supplementary material

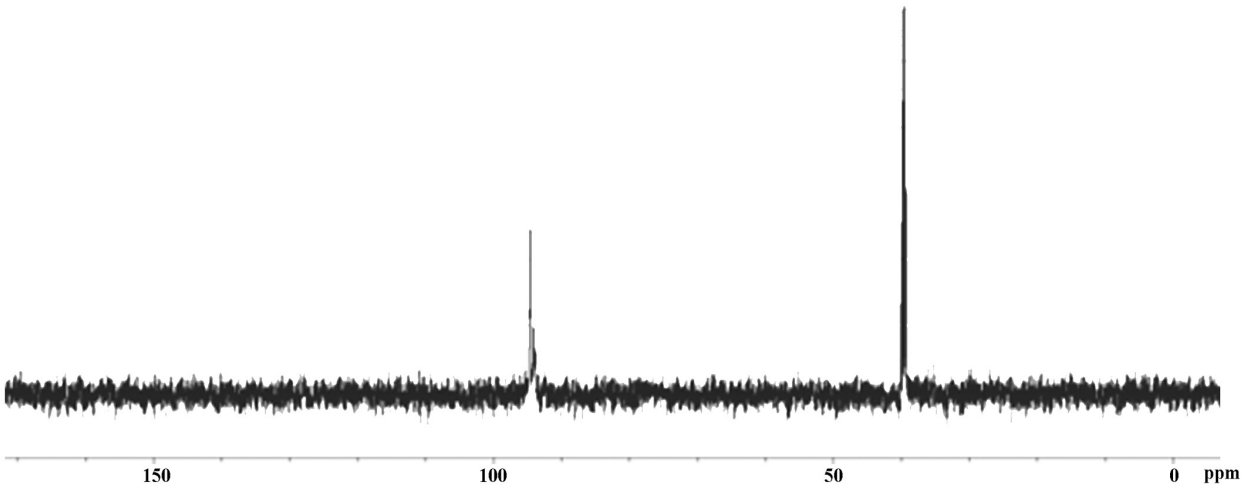

Figure S1. ^{13}C-NMR spectra of the **CcPh** fraction.

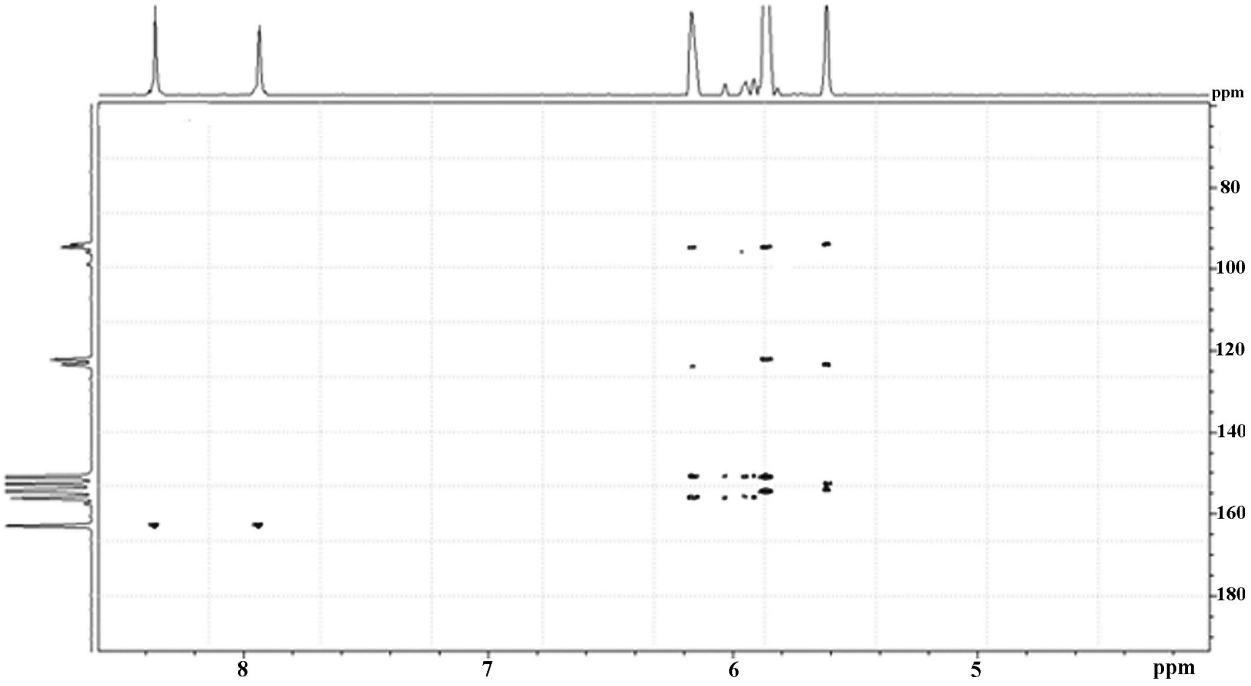

Figure S2. HMBC NMR spectra of the **CcPh** fraction.

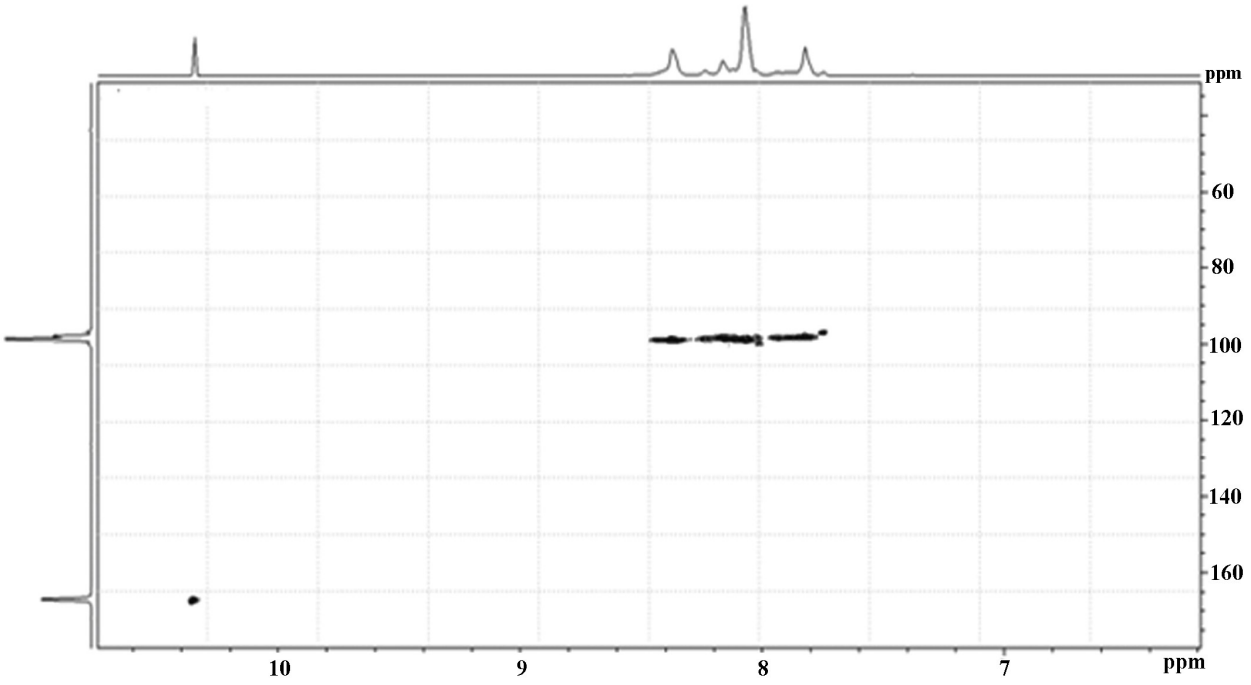

Figure S3. HSQC NMR spectra of the **CcPh** fraction.

Supplementary Table S1. The data of elemental compositions, monoisotopic masses and ions of the phlorethol **CcPh** fraction detected in negative ion mode HRMS at each degree of polymerization (DP), representing the predominant charge state detected under the experimental conditions described. The strength of MS signals expressed as a percentage (%) of intensity (100%=600).

DP	Elemental Composition	Monoisotopic Massa (Da)	Masses of Observed Phlorethol Ions (*m*/*z*)		Signal Strength
			$[M-H]^-$	$[M-2H]^{-2}$	
12	$C_{72}H_{50}O_{36}$	1490.2081	1489.2072	-	20
13	$C_{78}H_{54}O_{39}$	1614.2242	1613.2237	-	15
14	$C_{84}H_{58}O_{42}$	1738.2402	-	868.1180	20
15	$C_{90}H_{62}O_{45}$	1862.2563	-	930.1263	15
16	$C_{96}H_{66}O_{48}$	1986.2723	-	992.1359	50
17	$C_{102}H_{70}O_{51}$	2110.2883	-	1054.1331	20
18	$C_{108}H_{74}O_{54}$	2234.3044	-	1116.1437	70
19	$C_{114}H_{78}O_{57}$	2358.3204	-	1178.1608	20
20	$C_{120}H_{82}O_{60}$	2482.3365	-	1240.1602	50
21	$C_{126}H_{86}O_{63}$	2606.3525	-	1302.1773	15
22	$C_{132}H_{90}O_{66}$	2730.3686	-	1364.1867	40
23	$C_{138}H_{78}O_{69}$	2854.3846	-	1425.1981	10
25	$C_{150}H_{102}O_{75}$	3102.4167	-	1550.2111	10

- Absence of singly charged ions in the mass-spectrum.

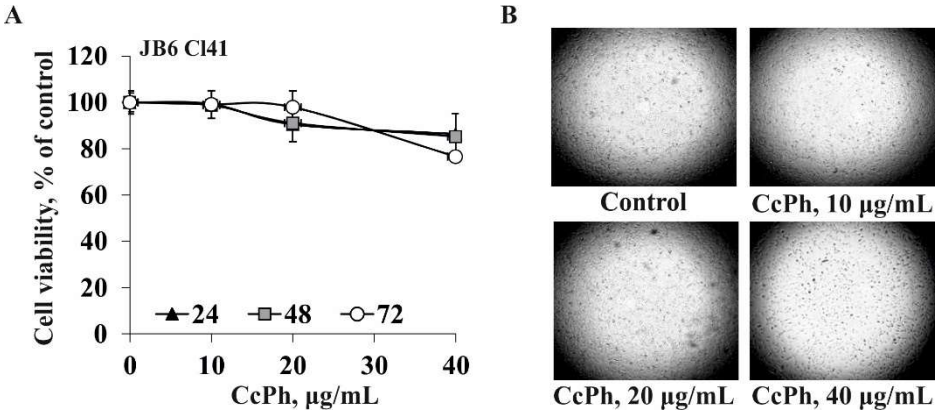

Figure S4. The effect of phlorethols from *C. costata* (**CcPh**) on viability of normal mouse epidermal cells JB6 Cl41. (**A**) Cells (8×10^3 cells/ 200µl) were treated with **CcPh** (10–40 µg/mL), or PBS, as a negative control, for 24, 48, and 72 h. The cytotoxicity was determined using MTS assay. Data are represented as the means ± SD as determined from triplicate experiments. (**B**) The representative image of viable JB6 Cl41 cells after 72 h of incubation with **CcPh** made under a microscope with the aid of the ImageJ software program. The magnification of photos is ×10.