SUPPLEMENTARY MATERIAL

A new flavonol glycoside from the Florets of *Carthamus tinctorius* L.

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One new flavonol glycoside, 6-hydroxykaempferol-3-*O*- β -D-glucoside-7-*O*- β -D-glucuronide (**1**), together with eight known flavonoids and three known quinochalcons, were isolated from the florets of *Carthamus tinctorius* L. Their structures were determined by extensive spectroscopic analyses. Their cardioprotective effects against H₂O₂-induced apoptosis in H9c2 cells were also evaluated; compounds **1**, **2**, **4–5**, **7–10**, **12** provided significant protective effects on H₂O₂-induced H9c2 cells at concentration of 25 μ g/mL.

Keywords: *Carthamus tinctorius* L.; cardioprotective activity ;
6-hydroxykaempferol-3-*O*- β -D-glucoside-7-*O*- β -D-glucuronide

Contents

Figure S1. ¹H NMR spectrum of Compound **1** (DMSO-d₆, 400MHz)

Figure S2. ¹³C NMR spectrum of Compound **1** (DMSO-d₆, 400MHz)

Figure S3. HSQC correlations of Compound **1** (DMSO-d₆, 400MHz)

Figure S4. HMBC correlations of Compound **1** (DMSO-d₆, 400MHz)

Figure S5. Partial HMBC correlations of Compound **1** (DMSO-d₆, 400MHz)

Figure S6. ¹H-¹H COSY correlations of Compound **1** (DMSO-d₆, 400MHz)

Figure S7. NOESY correlations of Compound **1** (DMSO-d₆, 400MHz)

Table S1. *In vitro* anti-oxidative effects of the isolated compounds at concentration of 25 μ g/mL against H₂O₂-induced cytotoxicity in cultured H9c2 cells.

Figure S1. ^1H NMR spectrum of Compound **1** (DMSO- d_6 , 400MHz)

Figure S2. ^{13}C NMR spectrum of Compound **1** (DMSO- d_6 , 400MHz)

Figure S3. HSQC correlations of Compound **1** (DMSO-d₆, 400MHz)

Figure S4. HMBC correlations of Compound **1** (DMSO-d₆, 400MHz)

Figure S5. Partial HMBC correlations of Compound **1** (DMSO-d₆,400MHz)

Figure S6. ¹H-¹H COSY correlations of Compound **1** (DMSO-d₆,400MHz)

Figure S7. NOESY correlations of Compound **1** (DMSO-d₆, 400MHz)

Table S1. *In vitro* anti-oxidative effects of the isolated compounds at concentration of 25μg/mL against H₂O₂-induced cytotoxicity in cultured H9c2 cells.

Group	A ₄₅₀	Viability
Cotrl	0.707±0.0128	100%
Model	0.367±0.016##	51.9%
Compound 1	0.420±0.008**	59.3%
Compound 2	0.411±0.004**	58.2%
Compound 3	0.377±0.003	53.3%
Compound 4	0.393±0.002*	55.5%
Compound 5	0.387±0.005*	54.8%
Compound 6	0.375±0.003	53.0%
Compound 7	0.473±0.018**	66.9%

Compound 8	0.553±0.012**	78.3%
Compound 9	0.400±0.003**	56.6%
Compound 10	0.549±0.010**	77.6%
Compound 11	0.381±0.010	53.9%
Compound 12	0.452±0.008**	63.9%

^{##} $p < 0.01$ versus control; * $p < 0.05$ and ** $p < 0.01$ versus model.