

**Alliuocide A: a new antioxidant flavonoid from *Allium cepa* L.**

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Re-investigation of the EtOAc fraction of the dried outer scales of *Allium cepa* L. afforded one new flavonoid; alliuocide A (**6**), together with five known compounds. Their structures were established by UV, IR, 1D ( $^1\text{H}$  and  $^{13}\text{C}$ ), and 2D ( $^1\text{H}$ - $^1\text{H}$  COSY, HMQC and HMBC) NMR, in addition to mass spectroscopy and comparison with literature data. All the isolated compounds were tested for their antioxidant activity using DPPH assay. Compounds **3**, **5**, and **6** showed high antioxidant activity, while **1**, **2**, and **4** had moderate activity.

**Keywords:** *Allium cepa* L., alliuocide A, antioxidant; DPPH**Introduction**

Polyphenolic compounds, especially flavonoids are effective antioxidants due to their capability to scavenge free radicals of fatty acids and oxygen. One of the richest sources of flavonoids in human diet is onion (*Allium cepa* L., Liliaceae) (Lachman et al 2003). Most onion bulbs are white, yellow or red. *Allium cepa* L. is a member of the Liliaceae, which consists of over 250 genera and 3700 species. Because of their bulbs, tubers, and rhizomes, these plants are able to survive under harsh conditions, e.g. winter or dryness. *Allium cepa* L. was proved to show antidiabetic, antioxidant, antihypertensive, antithrombotic, hypoglycemic, and antihyperlipidemic activities (Shenoy et al 2009). Previous phytochemical studies of *A. cepa* L. led to the isolation of flavonoids, anthocyanins, thiosulfinates, sulfides, sulfoxides, peptides, proteins, and vitamins (Lachman et al 2003; Shenoy et al 2009; Mohamed 2008; Lombard et al 2002; Galdón et al 2008; Nath et al 2010; Slimestad et al 2007; Ly et al 2005; Furusawa et al 2002; Wetli et al 2005).

The present study reports the isolation and structure elucidation of one new flavonoid, together with five known compounds from the outer scales of *Allium cepa* L. (Figure 1), in addition to the evaluation of antioxidant activity of the isolated compounds using DPPH assay.