

**Title** Determination of polyphenol levels variation in *Capsicum annuum* L. cv. Chelsea (yellow bell pepper) infected by anthracnose (*Colletotrichum gloeosporioides*) using liquid chromatography–tandem mass spectrometry

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**Citation** Food Chemistry, Volume 130, Issue 4, 15 February 2012, Pages 981–985

**Keywords** Anthracnose; *Capsicum annuum* L. cv. Chelsea; Phytoalexin; Phytoanticipin; Polyphenols

### Abstract

Healthy fruits of *Capsicum annuum* L. cv. Chelsea (yellow bell pepper) and one infected by *Colletotrichum gloeosporioides* were analysed for polyphenols via high-performance liquid chromatography coupled with tandem mass spectrometry (HPLC–MS/MS). Among seven polyphenols characterized, four components in the *C. annuum* fruits were identified for the first time. To investigate the characteristics of the polyphenols as defence materials, the content change of the fruit polyphenols inoculated with *C. gloeosporioides* was monitored by HPLC. It was observed for the first time that *de novo* induced *N*-caffeoyl putrescine (**1**) and caffeoyl *O*-hexoside (**2**) appeared to act as a phytoalexin in the defence mechanism of the *C. annuum* fruits against *C. gloeosporioides*, and constitutively formed feruloyl *O*-glucoside (**3**), kaempferol *O*-pentosyl dihexoside (**4**) and dihydroxyflavone *O*-hexoside (**7**) as a phytoanticipin in the diseased *C. annuum* fruits.