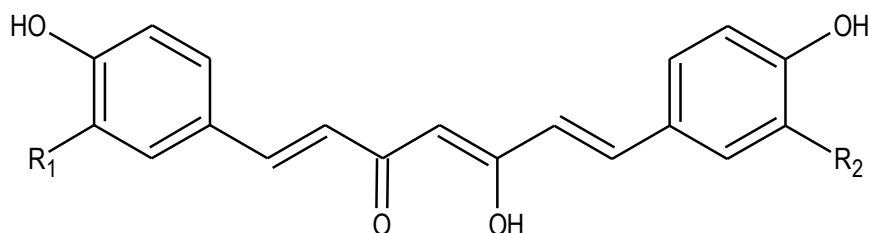


Isolation of Curcuminoids by Flash Chromatography and Quantification by UPLC-MS/MS Q-TOF

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Curcuminoids {Curcumin ($R_1, R_2=OCH_3$), demethoxycurcumin ($R_1=H, R_2=OCH_3$) and bis-demethoxycurcumin ($R_1, R_2=H$)} are polyphenols obtained from the popular Indian spice turmeric, which is a member of the ginger family (Zingiberaceae) [1]. These are responsible for the yellow color of turmeric and used traditionally in inflammation, fever, rheumatic pain. Recently used in anticancer [2], Cerebral Ischemia [3, 4] and antioxidant [5]. The objective of this work was to separate and isolate curcuminoids using Flash Chromatography, and to determine the physicochemical characteristics of isolated curcuminoids. Flash chromatographic separation of curcuminoids pigments was performed on silica column (4-gram flash column) using chloroform: methanol, 98:02, v/v. The purity and quantification of each curcuminoid pigment was confirmed by ultra performance liquid chromatography synapt mass spectrometry (UPLC-MS/MS Q-TOF). The isolated pigments were characterized with respect to melting point, UV, FTIR, Nuclear Magnetic Resonance and Mass Spectrometry. Curcumin, demethoxycurcumin and bisdemethoxycurcumin were separated and isolated by easy, simple and cheap flash chromatography. The data generated by UPLC-MS/MS can be used for the identification and quantification of individual curcuminoid pigments and method proposed for isolation can be used for simple and easy method for obtained pure curcuminoids in large scale.



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