Daphnetin, Chlorogenic Acid, Quercetin

Polyphenols play an important role in the ‘immune system’ of plants. Since their charge is important for their physiological effect it is important to know their pK_i values. Therefore, the pK_i values of some plant contents such as daphnetin (pK = 7.36), chlorogenic acid (pK ≈ 8.5), and quercetin (pK_1 = 7.03, pK_2 = 9.15) were determined in the pH range 7 - 10 using UV/VIS spectroscopy. The decomposition kinetics of quercetin in alkaline solutions was taken into consideration by extrapolating the absorbance time curves to time zero (t = 0). The graphic method of absorbance (A) diagrams was used to determine the pK_i values. In the case of quercetin the method of linear regression was also used for the determination.

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