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Czech J. Food Sci.

**Manchón N., Mateo-
Vivaracho L., D'**

**Arrigo M., García-
Lafuente A., Guillamón
E., Villares A.,
Rostagno M.A.**

Distribution patterns of polyphenols and alkaloids in instant coffee, soft and energy drinks, and tea

Czech J. Food Sci., 31 (2013): 483-500

A previously developed method of HPLC DAD-FI has been used for the determination of phytochemical profiles in different types of drinks: instant coffee, soft drinks, energy drinks, and different types of tea (green, white, black, and red tea). Using data on the concentrations of 20 main phytochemicals (phenolic acids, flavan-3-ols, flavonols, flavones, and alkaloids) it was possible to identify most of the sample types. Chlorogenic and caffeic acids, and caffeine are the main target compounds in instant coffee; in so

and energy drinks, only caffeine was found. Tea has a more complex phytochemical composition. Unfermented tea is mainly composed of flavan-3-ols and alkaloids, with a high caffeine concentration. Black tea is composed of alkaloids and low levels of flavan-3-ols, which are affected by oxidative reactions during the fermentation. Flavonols are present in lower concentrations in all kinds of teas. The identified phytochemical distribution patterns were used to correctly differentiate instant