

**Characterization of stilbenes in California almonds (*Prunus dulcis*) by UHPLC-MS.**

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**Abstract:**

Stilbene polyphenols are present in some fruits and nuts, but their abundance in many foods, such as almonds, is unknown. Therefore, we characterised stilbenes from Nonpareil, Butte and Carmel almond (*Prunus dulcis*) varieties from California. UHPLC–MS conditions were optimized to resolve cis- and trans-resveratrol, d4-resveratrol, dienestrol, hexestrol, oxyresveratrol, piceatannol, pterostilbene, and resveratrol-3-b-glucoside (polydatin). Stilbenes were isolated from ethanolic almond extracts by solidphase extraction and identified with UHPLC–MS by comparison of retention times, mass spectra, insource CID spectra, and enzymatic hydrolysis to authentic standards. Polydatin was identified in almond extracts, with 7.19–8.52 lg/100 g almond. Piceatannol + oxyresveratrol was tentatively identified in almond blanch water, at 0.19–2.55 lg/100 g almond. Polydatin was concentrated in almond skins, which contained 95.6–97.5% of the total almond content. Therefore, almonds contain the stilbene class of polyphenols in addition to the previously identified proanthocyanidin, hydrolysable tannin, flavonoid, and phenolic acid classes.