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Título capítulo: Anthocyanin Identification and Quantitation by High Performance Liquid Chromatography Coupled with Mass Spectrometry (HPLC-MSⁿ)

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Autores: Maurício Bonatto Machado de Castilhos, Sergio Gómez-Alonso, and Esteban García-Romero

RESUMEN:

Anthocyanins are considered the principal agent for wine's intense color response for the first sensory sight assessed by the consumers, the appearance. Most grapes produce five different anthocyanin classes, each presenting different chromatic attributes and oxygen predispositions since they present two phenolic rings and one heterocyclic pirano ring, determining high chemical instability. Red wines maintain their intense red color with high stability due to reactions that occur between anthocyanins (self-association), copigments, polymerization with other flavonoids, and synthesis of pyranoanthocyanins. Wines produced from *Vitis vinifera* grapes produce anthocyanin monoglucosides, and wines produced with non-*Vitis vinifera* or hybrid grapes produce mono- and diglucosidic anthocyanins. Monoglucosidic anthocyanins guarantee higher color intensity; however, diglucosidic anthocyanins provide higher chemical stability. This chapter covers analytical methods of anthocyanin identification and quantitation using spectrophotometric and high-performance liquid chromatography coupled to a diode array detector in tandem with electrospray ionization mass spectrometry (HPLC-DAD-ESI-MS/MS).