OMICS Group Conferences
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International Expo and Conference on
Analytrix & HPLC

October 22-24, 2012 DoubleTree by Hilton Chicago-North Shore, USA

Enantioseparation of hydroxyflavanones on amylose and cellulose CSPS by HPLC methods

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Flavanones present a unique structural feature known as chirality, which distinguishes them from all other classes of flavonoids. Thus, rapid, selective and sensitive analytical methods are in need for the enantioseparation of flavanones in order to determine the genuine bioactive source. The most applicable chiral stationary phases are based on the linear derivatized polysaccharide family of chiral selectors such as Cellulose and Amylose coated or immobilized on silica support. These chiral selectors have been commercialized as the Chiralpak and Chiralcel CSPs. In the present study, the HPLC enantiomeric separation of four hydroxyflavanones aglycones, including 2'-, 4'-, 6-, and 7-hydroxyflavanone was accomplished in the normal-phase mode using tow polysaccharide-derived chiral stationary phases immobilized on silica Chiralpak IA and Chiralpak IB and various n-hexane/alcohol mobile phases. The chiral recognition mechanism of each stationary phase is suggested based on the chemical nature and conformation of the chiral selector.

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