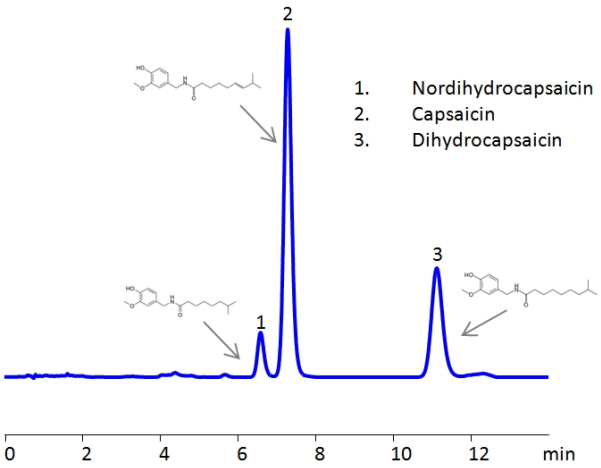
HPLC Separation of Nordihydrocapsaicin, Capsaicin and Dihydrocapsaicin



Column:	Newcrom R1
Column size:	3.2 × 100 mm, 5 µm
Mobile phase:	MeCN/H2O - 45/55%
Buffer:	No
Flow rate:	0.5 mL/min
UV detection:	220 nm

High Performance Liquid Chromatography (HPLC) Method for Analysis of Capsaicin , Dihydrocapsaicin , Nordihydrocapsaicin .

Capsaicinoids (capsaicin , dihydrocapsaicin , and nordihydrocapsaicin) are a group of phenolic alkaloids specific to the genus Capsicum and are comprised of a vanillylamine head and a fatty acid tail.

Capsaicin , also known as 8-methyl- N -vanillyl-6-nonenamide , is an irritant with the chemical formula C18H27NO3 . It found primarily in chili peppers. It is an irritant for mammals, producing a burning sensation in any tissue that exposed to it through touch. It is used primarily in cooking in the form of spices. Pharmacologically, it is used as an analgesic in topical ointments and dermal patches. It is also used in pepper spray and as a deterrent to pests.

Dihydrocapsaicin is a capsaicinoid and analog with the chemical formula C18H29NO3 . It has the same pungency as capsaicin, while accounting for 22% of the total capsaicinoids mixture. It is soluble in dimethyl sulfoxide and 100% ethanol.

Nordihydrocapsaicin is a capsaicinoid and analog with the chemical formula C17H27NO3 . It is less pungent than capsaicin. It makes up only 7% of total capsaicinoids mixture. On the Scoville scale it has 9,100,000 SHU (Scoville heat units).

Capsaicin , Dihydrocapsaicin , Nordihydrocapsaicin can be retained and separated in HPLC using Newcrom R1 reverse-phase column isocratically. The method uses a simple MS-compatible mobile phase of acetonitrile (ACN) and water without the need for a buffer. The peaks can be monitored by low UV (210 nm), ELSD, CAD or LC/MS.

Method Parameters

Column	Newcrom R1, 3.2 x 100 mm, 5 µm, 100 Å, dual ended
Mobile Phase	MeCN/H2O – 45/55%
Buffer	No
Flow Rate	0.5 mL/min
Detection	220 nm

Quelle: https://sielc.com/hplc-separation-of-nordihydrocapsaicin-capsaicin-and-dihydrocapsaicin