

How can I separate capsaicinoids in hot sauce by HPLC - Tips & Suggestions

If you have a hot sauce extract containing nordihydrocapsaicin, capsaicin, dihydrocapsaicin, and homodihydrocapsaicin, the Cogent Bidentate C18 2.0™ HPLC column is a good choice for sufficient separation when the compounds are analyzed by LC-MS; look for the [M+H]⁺ ions.

The following gradient should be a good starting point:

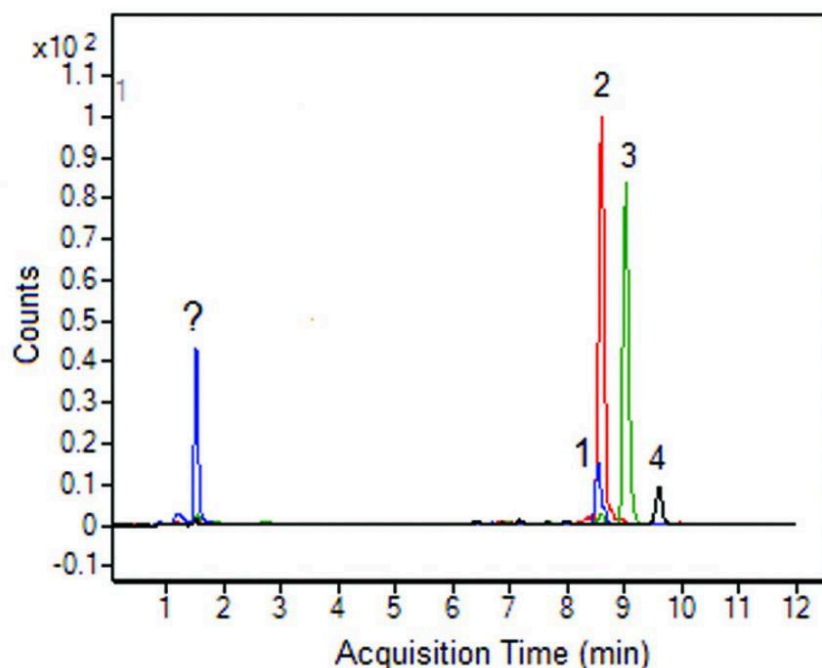
Mobile Phase: A: DI H₂O / 0.1% formic acid (v/v)

B: Methanol

Gradient:

time (min.)	%B
0	10
1	10
9	70
10	70
11	10

You may get EICs which look like this:



1. nordihydrocapsaicin, 294.2064 m/z [M+H]⁺
2. capsaicin, 306.2064 m/z [M+H]⁺
3. dihydrocapsaicin, 308.2220 m/z [M+H]⁺
4. homodihydrocapsaicin, 322.2377 m/z [M+H]⁺

For peaks 1 and 2, you will be able to obtain separate peaks for each compound in the EICs so there will not be an issue of interference from co-elution. **In terms of sample preparation, try using a Soxhlet extraction procedure.**

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