

Solution for steric demanding analytes: Steric recognition enables separation of methyl linolenate and methyl γ -linolenate

The chemical formula of methyl linolenate and methyl γ -linolenate is exactly the same. The chemical properties of the molecules are similar, as they differ only in the position of their carbon carbon double bonds. Therefore, the chromatographic separation is challenging. Due to its high carbon load, YMC-Triart C18 ExRS offers steric recognition ability. This unique C18 phase is able to separate α linolenic acid and γ linolenic acid (see application note [Fatty Acids](#)). Now it was shown that also the more hydrophobic methyl esters can be separated on YMC-Triart C18 ExRS. The separation benefits of the difference in 3D structure of methyl linolenate and methyl γ -linolenate.

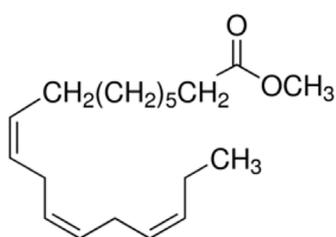


Figure 1: Methyl linolenate

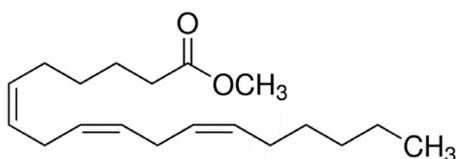


Figure 2: Methyl γ -linolenate

Column	YMC-Triart C18 ExRS 8 nm pore size 1.9 μ m particle size 150 mm length, 3 mm ID
Part No.	TAR08SP9-1503PT
Eluent	70% H ₂ O/ACN (50/50) 30% THF
Flow rate	0.5 mL/min
Temperature	35°C
Detection	210 nm
Sample	Methyl linolenate \geq 99% Methyl γ -linolenate \geq 99% 1.25 μ L/mL in ACN/THF (50/50) 1 μ L injection volume

Table 1: Method details

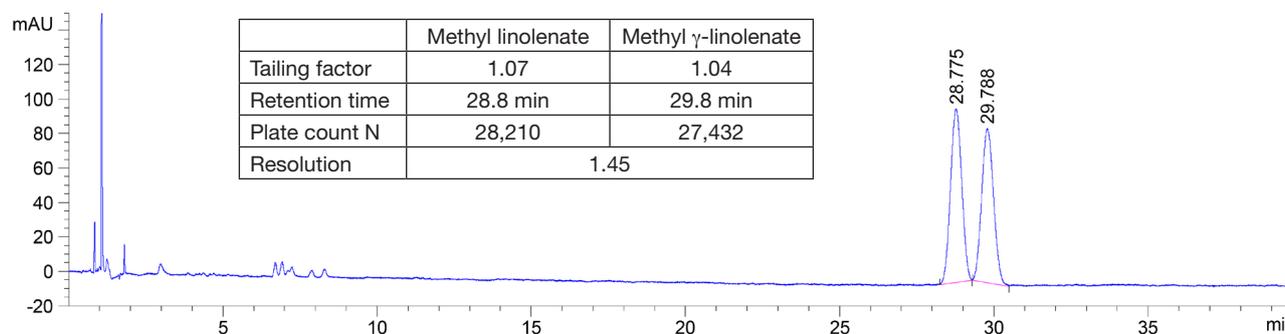


Figure 3: Separation of methyl γ -linolenate and methyl linolenate YMC-Triart C18 ExRS

Date: 17/10/2016

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