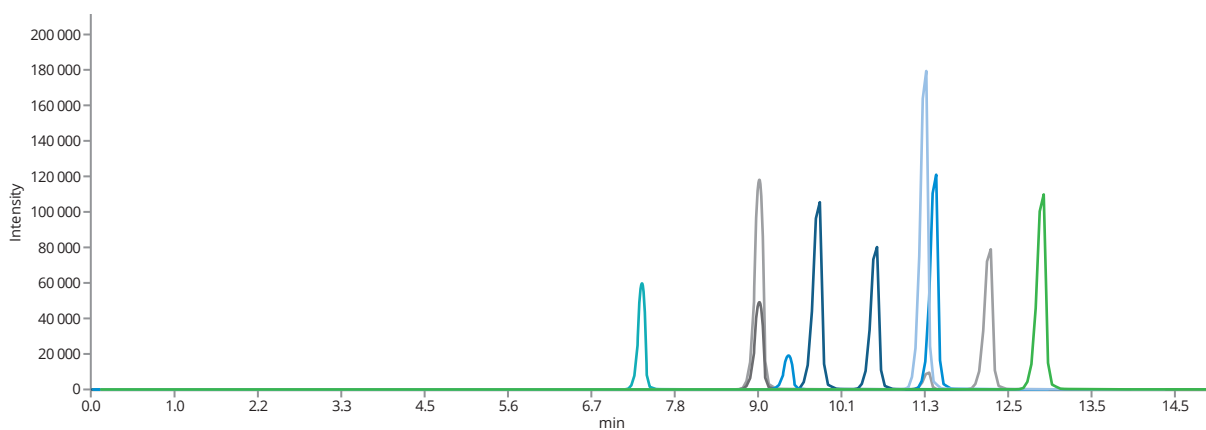


Ceramides

Ceramides are a family of fatty acids molecules. They play a role in skin's barrier function and also promote brain development and maintain cell function. They are widely used as a moisturizer in various cosmetic and personal products. The application shows a sensitive LC/MS method for fast determination of diverse group of ceramides.



Mixture of ceramides on ARION® column

This method was developed by Mgr. Tomáš Oždian, PhD. based on:
Dimple Kauhanen, Marko Sysi-Aho, Kaisa M Koistinen, Reijo Laaksonen, Juha Sinisalo, Kim Ekroos. Development and validation of a high-throughput LC-MS/MS assay for routine measurement of molecular ceramides. Anal Bioanal Chem. 2016 May;408(13):3475-83. doi: 10.1007/s00216-016-9425-z. PMID: 26922344.



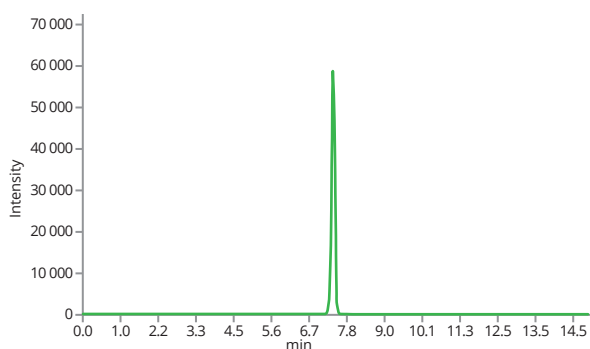
Palacký University
Olomouc



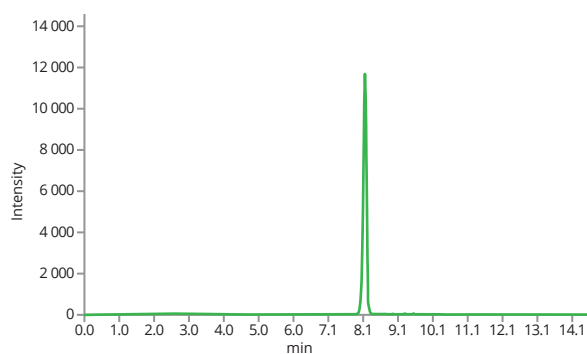
Ceramides

Column	ARION® C18 Plus, 2.2 µm		
Dimensions	50 mm × 2.1 mm		
Part number	ARI-5720-EG21		
Mobile phase	A: 50mM ammonium acetate in water + 0.1% formic acid B: 50mM ammonium acetate in isopropanol/ACN (4:3) + 0.1% formic acid		
Gradient elution	Time	A (%)	B (%)
	0	100	0
	1.5	85	15
	4.5	15	85
	12	0	100
	15	85	15
Flow rate	300 µL/min		
Temperature	40 °C		
Detection	MS/MS		
Injection volume	10 µL		
Analytes	1. Ceramide C14:0 2. Ceramide C16:0 3. Ceramide C17:0 4. Ceramide C17:0 5. Ceramide C18:1 6. Ceramide C20:0 7. Ceramide C22:0 8. Ceramide C24:0 9. Ceramide C24:1 10. Ceramide C26:0		

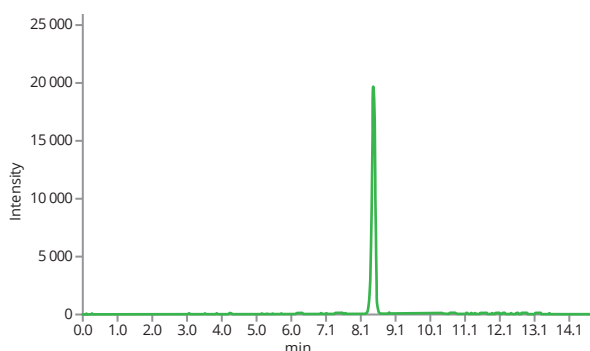
Ceramides



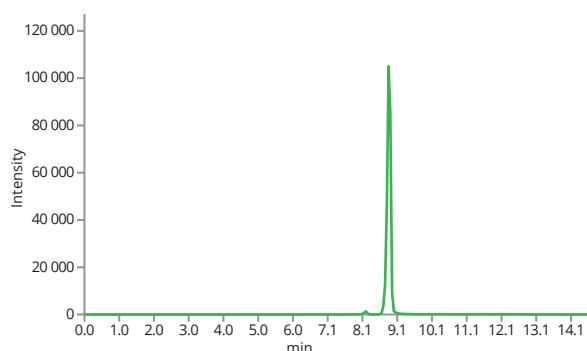
Ceramide C14:0 (+)
Qualifier 510.5 > 264 [35 0V], RT: 7.41



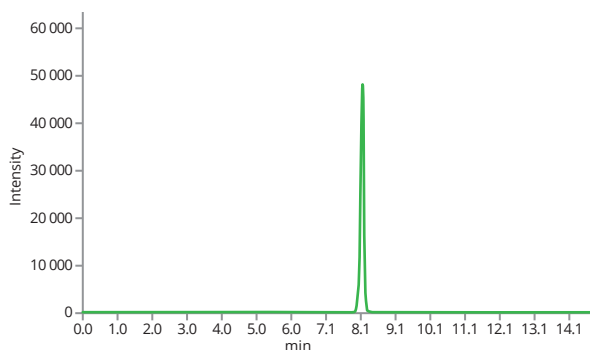
Ceramide C16:0 (+)
Qualifier 538.5 > 264 [35 0V], RT: 8.06



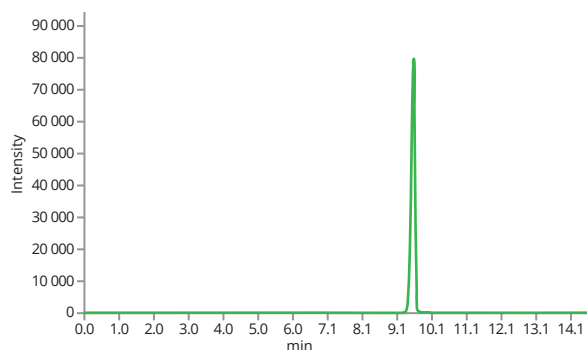
Ceramide C17:0 (+)
Qualifier 552.5 > 264 [35 0V], RT: 8.41



Ceramide C18:0 (+)
Qualifier 566.5 > 264 [35 0V], RT: 8.79

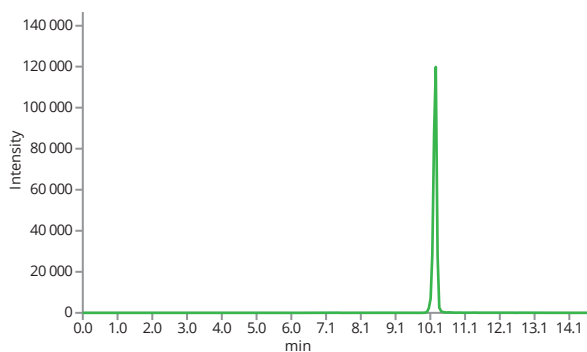


Ceramide C18:1 (+)
Qualifier 564.5 > 264 [35 0V], RT: 8.11

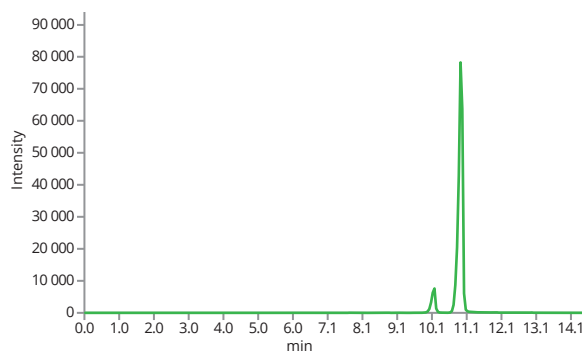


Ceramide C20:0 (+)
Qualifier 594.5 > 264 [35 0V], RT: 9.51

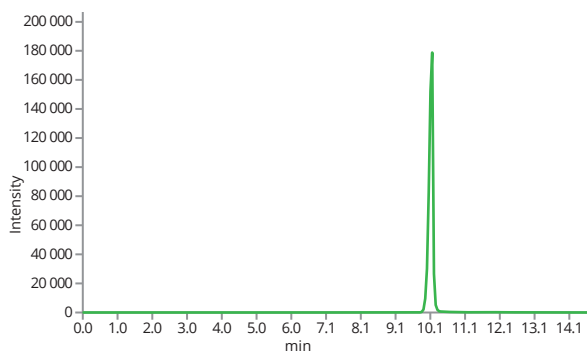
Ceramides



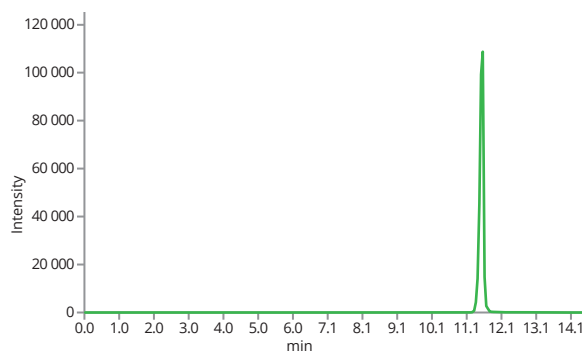
Ceramide C22:0 (+)
Qualifier 622.5 > 264 [35 0V], RT: 10.22



Ceramide C24:0 (+)
Qualifier 650.5 > 264 [35 0V], RT: 10.9



Ceramide C24:1 (+)
Qualifier 648.5 > 264 [35 0V], RT: 10.12



Ceramide C26:0 (+)
Qualifier 678.5 > 264 [35 0V], RT: 11.52