

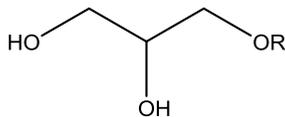


# Certificate

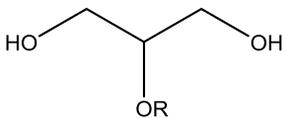
## CONJUGATED LINOLEIC ACIDS - TRIGLYCERIDES

USP Catalog No.: 1357090  
USP Lot No.: F100V0

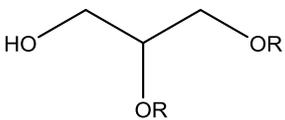
Conjugated Linoleic Acids—Triglycerides are derived from plant seed oils. They consist of NLT 77% conjugated linoleic acids—triglycerides and NLT 78% of the total fatty acids are conjugated linoleic acids (CLAs), and contain a 1:1 ratio of the active conjugated linoleic isomers (C18:2 *cis*-9, *trans*-11 and C18:2 *trans*-10, *cis*-12). The material is stabilized with tocopherols. The mixture contains the following:



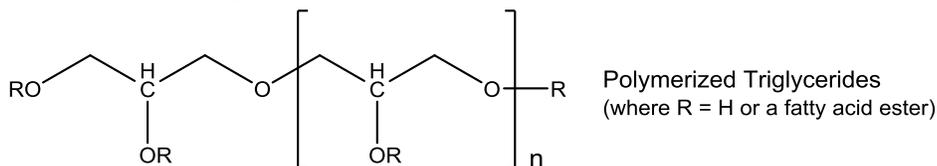
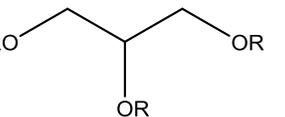
CLA-Monoglycerides  
(where R is a fatty acid ester)



CLA-Diglycerides  
(where R is a fatty acid ester)



CLA-Triglycerides  
(where R is a fatty acid ester)



Polymerized Triglycerides  
(where R = H or a fatty acid ester)

CAS No.: NA

Molecular Formula: NA

Molecular Weight: NA



The fatty acids present in the Candidate Lot found by Fatty Acid Composition (PF 44(2), Conjugated Linoleic Acids - Fats and Fixed Oils <401>, Procedures, Fatty Acid Composition):

<b>Palmitic Acid</b>		
Molecular Formula: C <sub>16</sub> H <sub>32</sub> O <sub>2</sub>	Molecular Weight: 256.42	CAS No.: 57-10-3
<b>Stearic Acid</b>		
Molecular Formula: C <sub>18</sub> H <sub>36</sub> O <sub>2</sub>	Molecular Weight: 284.48	CAS No.: 57-11-4
<b>Oleic Acid</b>		
Molecular Formula: C <sub>18</sub> H <sub>34</sub> O <sub>2</sub>	Molecular Weight: 282.46	CAS No.: 112-80-1
<b>Linoleic Acid</b>		
Molecular Formula: C <sub>18</sub> H <sub>32</sub> O <sub>2</sub>	Molecular Weight: 280.45	CAS No.: 60-33-3
<b>CLA Isomer <i>cis</i> 9 <i>trans</i> 11 (Rumenic Acid)</b>		
Molecular Formula: C <sub>18</sub> H <sub>32</sub> O <sub>2</sub>	Molecular Weight: 280.45	CAS No.: 2540-56-9
<b>CLA Isomer <i>trans</i> 10 <i>cis</i> 12 (10-<i>trans</i>,12-<i>cis</i>-Linoleic acid)</b>		
Molecular Formula: C <sub>18</sub> H <sub>32</sub> O <sub>2</sub>	Molecular Weight: 280.45	CAS No.: 2420-56-6
<b>CLA Isomer <i>trans</i> 9 <i>trans</i> 11 (9-<i>trans</i>,11-<i>trans</i>-Linoleic acid)</b>		
Molecular Formula: C <sub>18</sub> H <sub>32</sub> O <sub>2</sub>	Molecular Weight: 280.45	CAS No.: 544-71-8



**LABEL TEXT**

For use with specified USP compendial tests.  
Not for use as a drug. See SDS prior to use  
at [www.usp.org/sds](http://www.usp.org/sds).



**REFERENCE  
STANDARD**

**CONJUGATED LINOLEIC ACIDS -  
TRIGLYCERIDES 3 x 100 mg**

Labeled for qualitative use.  
Protect from light. Store in a  
refrigerator.

**See certificate for any additional information.**

USP, 12601 Twinbrook Pkwy,  
Rockville, MD, +1-301-881-0666  
Cat. No. 1357090 Material mfd. in Germany

LOT: F100V0



For use with specified USP compendial tests.  
Not for use as a drug. See SDS prior to use  
at [www.usp.org/sds](http://www.usp.org/sds).



**REFERENCE  
STANDARD**

**CONJUGATED LINOLEIC ACIDS -  
TRIGLYCERIDES 100 mg**

Labeled for qualitative use. Protect from  
light. Store in a refrigerator.

**See certificate for any additional information.**

USP, 12601 Twinbrook Pkwy, Rockville, MD, +1-301-881-0666  
Cat. No. 1357090 Lot: F100V0  
Material mfd. in Germany

*Jeri L. Joth*

*Quality Assurance*

**Assigned Value**

Please refer to the USP Reference Standard label for the assigned value of the specific lot. If the lot was developed for qualitative use, it will not have an assigned value.

**Valid Use Date**

It is the responsibility of the user to ascertain that a particular lot of a USP Reference Standard has official status either as a "Current lot" or as a "Previous lot" within the assigned valid use date. The online USP Reference Standards Catalog and the online USP Store at [www.usp.org](http://www.usp.org) are updated daily. USP recommends referring to one of these sources prior to using a USP Reference Standard to make sure the lot is valid for use.

**Storage**

Storage conditions are lot-specific and may change from one lot to another. If no specific directions or limitations are provided on the USP Reference Standard label, the conditions of storage shall include storage at room temperature and protection from moisture, light, freezing, and excessive heat.

**Instructions for Use**

Follow the instructions provided on this Certificate, on the label of the USP Reference Standard, and in the associated USP documentary standard(s). Please refer to General Chapter <11> for additional information.

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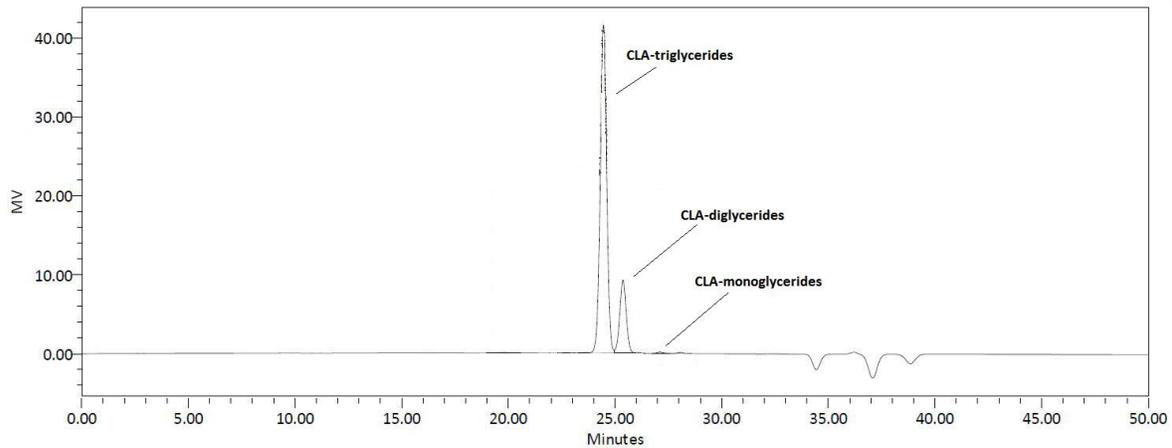
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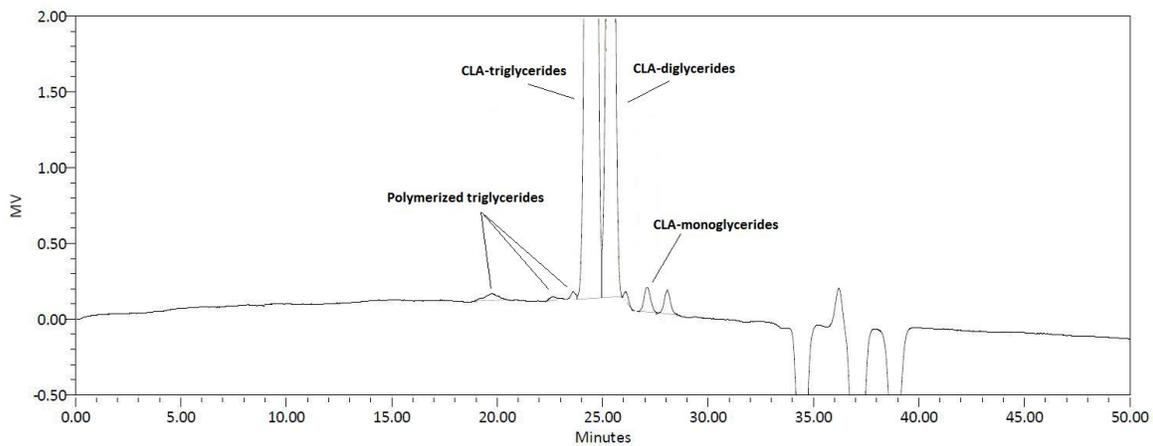
# Typical Chromatogram

## USP Conjugated Linoleic Acids - Triglycerides RS

<b>Catalog Number:</b> 1357090
<b>Lot:</b> F100V0
<b>Monograph:</b> Conjugated Linoleic Acids - Triglycerides
<b>Publication:</b> USP/NF
<b>Test:</b> Content of Conjugated Linoleic Acids, Tri-, Di-, Monoglycerides and Polymerized Triglycerides
<b>Sample:</b> Prepare as described under <i>Standard Solution</i>



Expanded scale:



This chromatogram is supplied for information only, unless otherwise specified in an applicable monograph or general chapter.

Note: These chromatograms were obtained with methods in *PF 44(2)*

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USP Certificate

USP Template No.: CERT1-06

Template Effective Date: September 11, 2018

Certificate Date: 24Jun2019

Certificate Version: 00

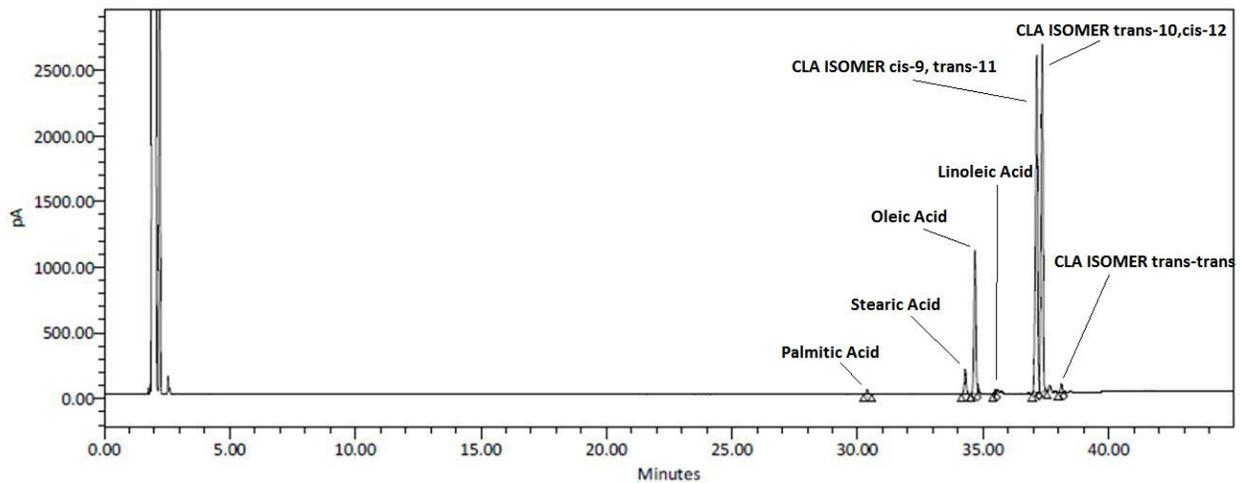
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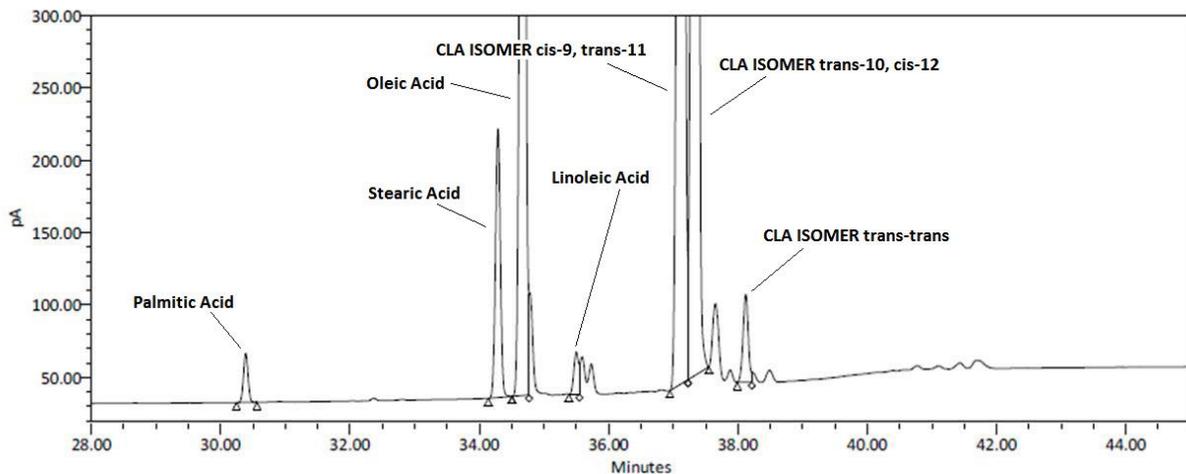
# Typical Chromatogram

## USP Conjugated Linoleic Acids - Triglycerides RS

<b>Catalog Number:</b> 1357090
<b>Lot:</b> F100V0
<b>Monograph:</b> Conjugated Linoleic Acids - Triglycerides
<b>Publication:</b> USP/NF
<b>Test:</b> Content of Conjugated Linoleic Acids, <i>Fats and Fixed Oils</i> , <401>, Procedures, Fatty Acid Composition
<b>Sample:</b> Prepare as described under <i>Standard Solution</i>



Expanded Scale:



This chromatogram is supplied for information only, unless otherwise specified in an applicable monograph or general chapter.

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