

REVISIÓN

Bibliographical summary on high performance liquid chromatography of lipids: IV 1985-1994

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RESUMEN

Compendio bibliográfico sobre cromatografía líquida de alta eficacia de lípidos: IV 1985-1994.

En el presente compendio, y siguiendo la tradición empezada por K. Aitzetmüller con la recopilación de los trabajos aparecidos desde 1961 y continuada posteriormente por los presentes autores a partir de 1975, se presenta un estudio bibliométrico sobre las publicaciones aparecidas entre los años reseñados en el título; como base de datos se ha tomado el Chem. Abstr. fundamentalmente. En este estudio se indican los temas que más han sido tratados por los investigadores y las revistas más o menos especializadas en los mismos. El número total de trabajos revisados asciende a 1680, superior en 680 al número de trabajos aparecidos en la década anterior. Se hace especial hincapié en las reviews aparecidos. (Inglés).

PALABRAS-CLAVE: *Bibliométrico (estudio) – Cromatografía líquida de alta eficacia – Lípido – Revisión (artículo).*

SUMMARY

Bibliographic summary on high performance liquid chromatography of lipids: IV 1985-1994.

The present summary, following the tradition begun by K. Aitzetmüller with the works published from 1961 and continued by the present authors from 1975, is a compilation of articles appearing between the years given in the title; the database used was primarily Chem. Abstr. The study indicates the most frequent topics of research and the more specialised journals. The total number of works reviewed is 1680, 680 more than those appearing in the previous decade. Special emphasis is given to the reviews includes. (English).

KEY-WORDS: *Bibliometric (study) – High performance liquid chromatography – Lipid – Review (paper).*

K. Aitzetmüller (1) published in 1975 an interesting bibliographical study on high performance liquid chromatography of lipids, which reviewed most of the works appearing on this topic since the technique was first employed for such compounds. Years later, the present authors continued the work, publishing the three parts of the series «Bibliographical summary on high performance liquid chromatography of lipids» (2)

(3) (4), a bibliographic study of the works published between 1975 and 1984. The present article continues the work, and includes 1680 references for the years 1985 to 1994 (both inclusive). It includes some references that were published prior to 1985 but not collected in the three previous articles. Chem. Abstr. was used as the main database. Given the enormous number of references appearing (680 more than in the previous decade), it was thought inappropriate to detail all in the present summary, but to classify them, relating the various common topics with the years in which they were published and with the journals in which they appeared. With this aim, a thesaurus of key words has been built up (Table I), which enables all the references to be classified and which basically coincides with the previously published articles (2) (3) (4).

A first analysis of this database is given in Diagram 1, and shows how the topics published more often during this period are the same as those of the previous decade. Only those relating to the vitamins have a similar percentage (21.6 against 21,3%), which shows a similar interest for the topic on the part of the different researchers; the remainder have decreased in percentage although the absolute number of works has increased.

Diagram 2 shows the number of works by year. It should be noted that there is no obvious trend for the annual number of articles to increase continually, and it seems that since 1991 these topics are of less interest, measured as percentage of annual articles.

Diagram 3 shows the number of works by journal. It can be seen that most of the journals published a single work during the decade, and only a very few published more than 10 works relating to the topic, although 42% of the works published are from those journals that published more than 10 works on HPLC of lipids. Naturally, of all the journals, the most outstanding, for the high number of works published, is J. Chromatogr., which is responsible for 21,5% of all the articles appearing during the decade. Diagram 4 shows the annual distribution of the articles from J. Chromatogr. It can be seen that this distribution is more or less uniform. Diagram 5 shows the distribution of the works appearing in that journal, by topic. This

Table I
Thesaurus of key words

N.º	KEY WORDS
1	Fatty acids
2	Polyunsaturated fatty acids
3	Prostaglandins and eicosenoids
4	Derived fatty acids
5	Esters of fatty acids
6	Lipids
7	Neutral lipids
8	Acylglycerols
9	Mono and/or diacylglycerols
10	Triacylglycerols
11	Waxes
12	Polar lipids
13	Phospholipids
14	Glycolipids
15	Ether lipids
16	Alteration compounds: oxidative and thermal
17	Free radicals
18	Oils and fats
	Lipoids
19	Fat alcohols
20	Sterols
21	Steroids
22	Terpenes
23	Vitamins
24	Vitamin A and carotenes
25	Vitamin D
26	Vitamin E and tocopherols
27	Hydrocarbons
	Other topics
28	Chlorophylls
29	Antioxidants
30	Coenzyme A and Acylcoenzyme A
31	Lipases y phospholipases
32	Lipoproteins
33	Patents
R	Reviews

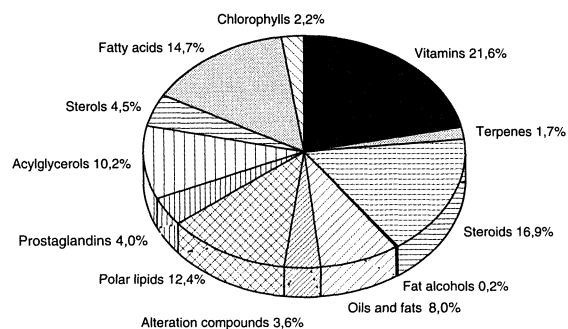
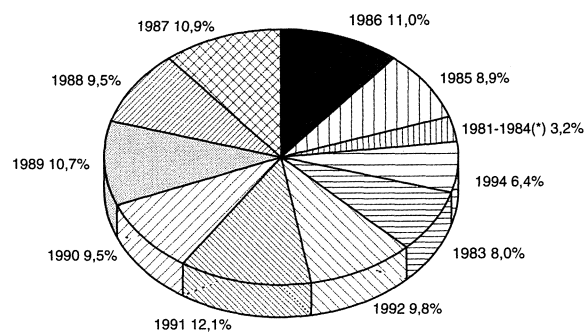


Diagram 1
Distribution by key word of the 1680 scientific articles



(*) Scientific articles not included in the three previous parts of the series (2), (3) and (4)

Diagram 2
Distribution by year of the 1680 scientific articles.

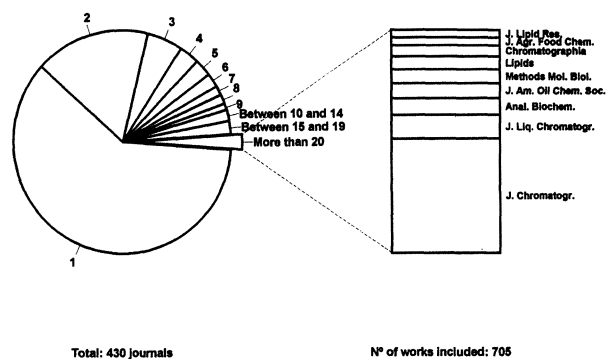
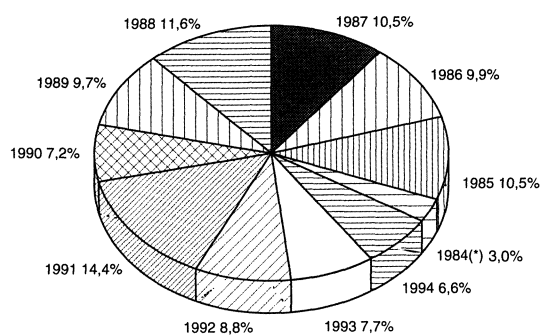


Diagram 3
Distribution of the journals by the number of scientific articles they have published



(*) Scientific articles not included in the three previous parts of the series (2), (3) and (4)

Diagram 4
Distribution by year of the scientific articles appearing in J. Chromatogr.

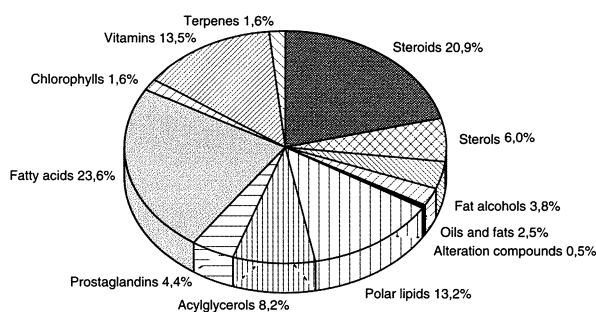


Diagram 5
Distribution by key word of the articles appearing in J. Chromatogr.

distribution coincides in the main with the general one of Diagram 1, indicating that J. Chromatogr. includes a large number of articles that represent, to a high degree, the research being undertaken world-wide on these topics.

Table II shows those journals that have published 10 or more works on HPLC of lipids during the decade, listing them by year and showing the topics published in accord with the thesaurus of key words given in Table I. The works appearing in J. Chromatogr. are not included, as they have been commented on above.

Table III shows all the reviews appearing during the decade; the authors consider that these reviews may be of interest to researchers who are beginning in HPLC of lipids, and their inclusion here, gathered together, may help when searching the specialised bibliography.

Table II
Journals with 10 or more articles, excluding J. Chromatogr., listed by year and indicating the main topics included in their articles

Journals	Year	K.W. (*)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34		
Anal. Biochem.	1984				1		1		1				1	1																								
Anal. Biochem.	1985		1				1										1						1		1	1		1										
Anal. Biochem.	1986		2	1	1	1	1	2									1								2	1		1									1	
Anal. Biochem.	1987		2	1	1	1		1						1	1	1							1															
Anal. Biochem.	1988		2	1	1	1											2						1		1	1												
Anal. Biochem.	1989		2	1				4						2	2								1		1		1											
Anal. Biochem.	1990		1					1					1	1								1													1			
Anal. Biochem.	1991						3	1					1	1	1							1		1		1												
Anal. Biochem.	1992		1					1					1	1																		1						
Anal. Biochem.	1993		1					2					2	2	1							2		1			1								1			
Anal. Biochem.	1994		1					3					3	2	2																							
Anal. Chem.	1985							1	1	1		1											3															
Anal. Chem.	1986							2	1	1		1		1	1																							
Anal. Chem.	1987							1					1	1									3															
Anal. Chem.	1988			1																				1														
Anal. Chem.	1989		1																																			
Anal. Chem.	1991																																				1	
Anal. Chem.	1992							1					1	1																								
Anal. Chem.	1993																							2	2													
Anal. Chem.	1994							1					1	1										1	1													
Anal. Sci.	1985		1			1		1					1	1																								
Anal. Sci.	1986							1																														
Anal. Sci.	1989		1																				2															
Anal. Sci.	1991			1																																	1	
Anal. Sci.	1992		1																				1															
Biomed. Chromatogr.	1986																						1															
Biomed. Chromatogr.	1987			2																						1	1											
Biomed. Chromatogr.	1989																						1															
Biomed. Chromatogr.	1990																	2						3														
Biomed. Chromatogr.	1991		1																																			
Biomed. Chromatogr.	1992		1																																			
Clin. Chem	1986																							1		1	1											
Clin. Chem	1987																							1														
Clin. Chem	1988		1																								1	1										
Clin. Chem	1989		1																																			
Clin. Chem	1991								1	1	1																											

Table II
Journals with 10 or more articles, excluding J. Chromatogr., listed by year and indicating the main topics included in their articles. (Continuation)

Journals	Year	K.W. (*)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34			
Clin. Chem	1993		1																						2	2		1							1				
Clin. Chem	1994		1																							2	2		1										
Chromatographia	1984																							1															
Chromatographia	1986		1					1	1	1		1													1	1	1												
Chromatographia	1987		1					1	1	1		1												2												1			
Chromatographia	1988							2	1	1		1		1										2															
Chromatographia	1989							1	1	1		1									1			2															
Chromatographia	1990							1																2	1												1		
Chromatographia	1991																				1			2		1	1												
Chromatographia	1992							1						1	1											1	1												
Chromatographia	1993																									4	4										1		
Chromatographia	1994		1			1	1	1																		1	1												
Fette, Seifen, Anstrichm.	1984		1			1	1	1						1	1									1															
Fette, Seifen, Anstrichm.	1985							1	1	1		1																											
Fette, Seifen, Anstrichm.	1986							1						1	1								3	1															
Fette, Seifen, Anstrichm.	1987		1																																				
Fette, Seifen, Anstrichm.	1988							3	3	3		2											2																
Fette, Seifen, Anstrichm.	1989							1	1	1		1											1																
Fette, Seifen, Anstrichm.	1991		1					1	1	1		1											1																
Fette, Seifen, Anstrichm.	1992																					1		1		2				2									
Fette, Seifen, Anstrichm.	1993							1	1	1		1													1		1												
Food Chem.	1986																									1	1												
Food Chem.	1987		1					1																															
Food Chem.	1988							1						1	1																								
Food Chem.	1990		1					1	1	1		1														1	1												
Food Chem.	1991																									5	4	1	1									1	
Food Chem.	1992		1		1	1																				3	3			1									
Food Chem.	1993																							1															
Food Chem.	1994																																						
Grasas y Aceites	1987							2	2	2		2										2																	
Grasas y Aceites	1988		1	1	1	1	1	3	3	3	1	3	1	1	1	1	1	1	1	1	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Grasas y Aceites	1989		1					2																														2	
Grasas y Aceites	1991							1																			1	1											
HRC CC. (**)	1984																								2														
HRC CC. (**)	1986							1																	2														
HRC CC. (**)	1987							1	1	1	1	1											1		1														
J. Agr. Food Chem.	1985																										1	1											
J. Agr. Food Chem.	1986																										1	1											
J. Agr. Food Chem.	1987		1																								4	4											
J. Agr. Food Chem.	1988																																						
J. Agr. Food Chem.	1989		1																								3	3											
J. Agr. Food Chem.	1990							1						1	1										1		1	1											
J. Agr. Food Chem.	1991							1																													2		
J. Agr. Food Chem.	1992																										2	2										2	
J. Agr. Food Chem.	1993																										1	1											
J. Agr. Food Chem.	1994							1	1	1		1													1		1	1											
J. Am. Oil Chem. Soc.	1985							4	2	2		2		1	1								2		1													1	
J. Am. Oil Chem. Soc.	1986		1					2	1	1		1		1	1																								
J. Am. Oil Chem. Soc.	1987							3	3	3	1	2															1	1											
J. Am. Oil Chem. Soc.	1989		2					1						1	1																								
J. Am. Oil Chem. Soc.	1990							3	1	1		1		2	2											1													
J. Am. Oil Chem. Soc.	1991		1					9	7	7		6		1	1												1												
J. Am. Oil Chem. Soc.	1992		1					6	4	4		3		1	1																								
J. Am. Oil Chem. Soc.	1993							5	4	3		3		1	1	1											1												
J. Am. Oil Chem. Soc.	1994							1	1	1	1																1												
J. High Resolut. Chromatogr.	1989																																						
J. High Resolut. Chromatogr.	1990							3	2	2		2		1	1																								
J. High Resolut. Chromatogr.	1991																																						

Table II
Journals with 10 or more articles, excluding J. Chromatogr., listed by year and indicating the main topics included in their articles. (Continuation)

Journals	Year	K.W. (*)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34			
J. High Resolut. Chromatogr.	1992							1	1	1		1																											
J. High Resolut. Chromatogr.	1993							1																	2	1		1											
J. Lipid Res.	1984		1					2						1		1																							
J. Lipid Res.	1985							2															1																
J. Lipid Res.	1986							3						2	2								2														1		
J. Lipid Res.	1987		1					1						1																									
J. Lipid Res.	1988		1		1		1	1	1			1											1			1	1		1										
J. Lipid Res.	1989		1		1	1		1						1	1	1									1	1	1												
J. Lipid Res.	1990							3	2	2	1	1														1	1												
J. Lipid Res.	1991							1	1	1	1	1																											
J. Lipid Res.	1992							1						1	1		1									1	1												
J. Liq. Chromatogr.	1984		1	1	1	1														1				1		1	1												
J. Liq. Chromatogr.	1985				1			1						1	1					1						3	2						1						
J. Liq. Chromatogr.	1986							1							1	1							1	1		3	2	1											
J. Liq. Chromatogr.	1987		2	1	1	1		4	2	2	1	1		2	2										1	1	1												
J. Liq. Chromatogr.	1988				2																					1	1												
J. Liq. Chromatogr.	1989																							2		3	1												
J. Liq. Chromatogr.	1990							1	1	1		1													1	1	1		1		1								
J. Liq. Chromatogr.	1991							2						2	2								2	6		2	2												
J. Liq. Chromatogr.	1992		2					1						1	1							1	1		1														
J. Liq. Chromatogr.	1993		3					2	2	2		2						1		1		1	1		1	1	1		1								1		
J. Liq. Chromatogr.	1994		1	1				4	2	2	1	1		2	2		1							3		2	2		2										
J. Micronutr. Anal.	1985																									1			1										
J. Micronutr. Anal.	1986																									1			1										
J. Micronutr. Anal.	1987																			2					5	2		3											
J. Micronutr. Anal.	1988																									2	1	1		1									
J. Micronutr. Anal.	1989																									4	3		1										
J. Micronutr. Anal.	1990																									2	1												
J. Micronutr. Anal.	1991																									2	2											1	
J. Pharm. Biomed. Anal.	1985																						1	2															
J. Pharm. Biomed. Anal.	1986																								1														
J. Pharm. Biomed. Anal.	1987				1																				1														
J. Pharm. Biomed. Anal.	1988																									2	2		2										
J. Pharm. Biomed. Anal.	1989																								1														
J. Pharm. Biomed. Anal.	1990																									1	1												
J. Pharm. Biomed. Anal.	1991				1																					1	1												
J. Pharm. Biomed. Anal.	1992																								1														
J. Pharm. Biomed. Anal.	1994							1						1	1									1	1														
Jpn. Kokai Tokkyo Koho	1986				1																																	2	
Jpn. Kokai Tokkyo Koho	1987																										1	1		1									1
Jpn. Kokai Tokkyo Koho	1988				1	1																				1													1
Jpn. Kokai Tokkyo Koho	1990							4						3	3	1					1																	3	
Jpn. Kokai Tokkyo Koho	1991							1						1	1			1																				2	
Jpn. Kokai Tokkyo Koho	1992							1	1	1		1									1																	1	
Jpn. Kokai Tokkyo Koho	1993							1						1	1											1	1							1					
Lipids	1984		1		1	1																																	
Lipids	1985			1				3	2	2	1	1																											
Lipids	1986							2						2	2																								
Lipids	1987							3	2	2	2			1	1																								
Lipids	1988		1					2						2	2											1			1										
Lipids	1989		2					2	1	1	1	1		1	1									2															
Lipids	1990							7	5	5	2	2		1	1			1		1																			
Lipids	1991							3	2	2	1	1						2		1																			
Lipids	1992							3	2	2		1		1	1																								
Lipids	1993							7	5	5	2	3		2	2			1																					
Lipids	1994																																						
Methods Enzymol.	1985																							3		1	1											2	
Methods Enzymol.	1986																									2	1	1											
Methods Enzymol.	1987				1			3						3	3	3																						1	

Table II
Journals with 10 or more articles, excluding J. Chromatogr., listed by year and indicating
the main topics included in their articles. (Continuation)

Journals	Year K.W. (*)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34			
Methods Enzymol.	1988						1						1	1	1																							
Methods Enzymol.	1989												1	1	1																							
Methods Enzymol.	1990	2	2		2	2											2							10	10		2									2		
Methods Enzymol.	1991	1																																				
Methods Enzymol.	1992																							10	10		1									1		
Methods Enzymol.	1993																							4	4													
Methods Enzymol.	1994						1						1	1										2			2							1				
Rev. Franç. Corps Gras	1985			1															1																			
Rev. Franç. Corps Gras	1986						2	1	1		1		1	1					2																			
Rev. Franç. Corps Gras	1987						1	1	1		1								1																			
Rev. Franç. Corps Gras	1988						2						1	1	1						1																	
Rev. Franç. Corps Gras	1989						1	1	1		1																											
Rev. Franç. Corps Gras	1991						2	2	2		2																											
Rev. Franç. Corps Gras	1993						1	1	1	1	1								1																		1	
Riv. Ital. Sost. Gras.	1986																																				1	
Riv. Ital. Sost. Gras.	1987						1	1	1		1													1	1												1	
Riv. Ital. Sost. Gras.	1989						1	1	1		1								1		1			2			2											
Riv. Ital. Sost. Gras.	1990																			2			1	1	1		1											
Riv. Ital. Sost. Gras.	1991				1	1	1	1	1		1									1																		
Riv. Ital. Sost. Gras.	1992						1	1	1	1										1																		
Riv. Ital. Sost. Gras.	1994																			1																		
Yukagaku	1984	1		1																																		
Yukagaku	1986						1	1	1		1																											
Yukagaku	1987																							1			1											
Yukagaku	1989						1																														1	
Yukagaku	1990						2						1	1																								
Yukagaku	1991						2	2	2	1	1																											
Yukagaku	1992	1					2	1	1				1	1						1		1																
Yukagaku	1993	1	1				1	1	1		1																											

(*) K. W. Key Word according to Table I.

(**) HRC CC. J. High Resolut. Chromatogr. Commun.

Table III
 Reviews published in the decade, classified by author and indicating
 the main topics included in their articles

Reference	K.W. (+)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33				
2		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*			
3		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		
4		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		
5																			*																			
6								*					*	*																								
7								*																														
8																									*													
9																							*															
10																								*	*													
11		*																																				
12		*																																				
13								*	*	*																												
14			*																																			
15																									*	*												
16																								*														
17																			*																			
18																										*	*											
19																										*	*											
20																									*													
21		*																																				
22								*					*	*																								
23		*				*	*	*	*	*																												
24		*	*	*																																		
25																								*														
26																									*	*												
27								*					*	*																								
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29								*					*	*	*																							
30																																						
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Table III
Reviews published in the decade, classified by author and indicating
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Reference	K.W. (+)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33				
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(+) K. W. Key Word according to Table I.

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